



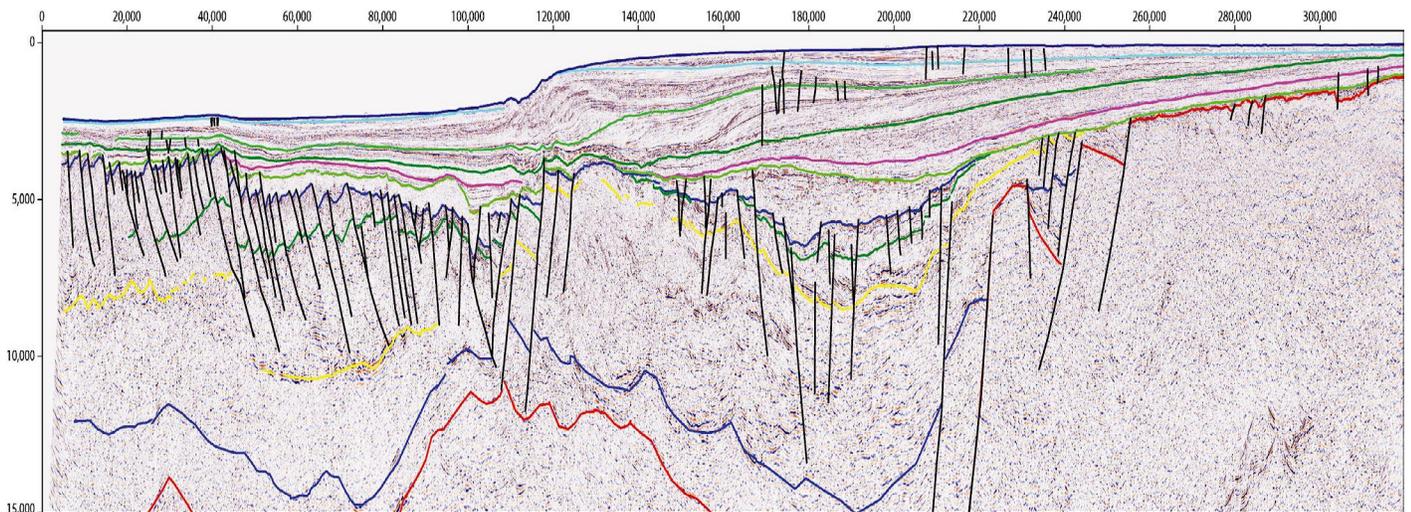
Bibliography of Indonesian Geology

# BIBLIOGRAPHY OF THE GEOLOGY OF INDONESIA AND SURROUNDING AREAS

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J.T. VAN GORSEL

## IXb. CIRCUM-INDONESIA- SE (SW Pacific, NW and NE Australia margins, NE Indian Ocean)



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## IXb. CIRCUM-INDONESIA- SE (SW Pacific, NW and NE Australia)

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This chapter IXb of the bibliography contains 205 pages with 1637 references on the geology of areas adjacent to the East and South sides of the Indonesian region, i.e. the SW Pacific, NW and NE Australia and the NE Indian Ocean (but not including SE Asia regional and Papua New Guinea and papers, which are grouped with Chapters I.2 and VII respectively). It is subdivided into four chapters.

The reason for including these titles in this Bibliography of Indonesia geology is that the regional geology of Indonesian regions can be better understood with knowledge of the geology across its borders. Many geological similarities exist between the geology of parts of Indonesia and adjacent regions. Circum-Indonesia regions listed in this volume with likely contiguous geology in the Indonesian region include:

- |                                   |  |
|-----------------------------------|--|
| - SW Pacific                      | ties to: West Papua (north of Central Range)   |
| - Papua New Guinea                | ties to: West Papua                            |
| - NW Australian margin- Timor Sea | ties to: Arafura Sea, South Timor, West Papua  |
| - NE Australian margin            | ties to: Papua New Guinea, W Papua Birds Head. |

### IX.10. SW Pacific (incl. New Caledonia, Solomon Islands)

This chapter of the bibliography contains 567 papers on the SW Pacific region, which, West of the main Pacific Ocean plate, is a complex collage of marginal oceanic basins, separated by active and inactive oceanic subduction zones/ volcanic arcs. (Figure IX.10.1). It is dotted with numerous volcanic seamounts, the largest of which is the Cretaceous Ontong Java Plateau.

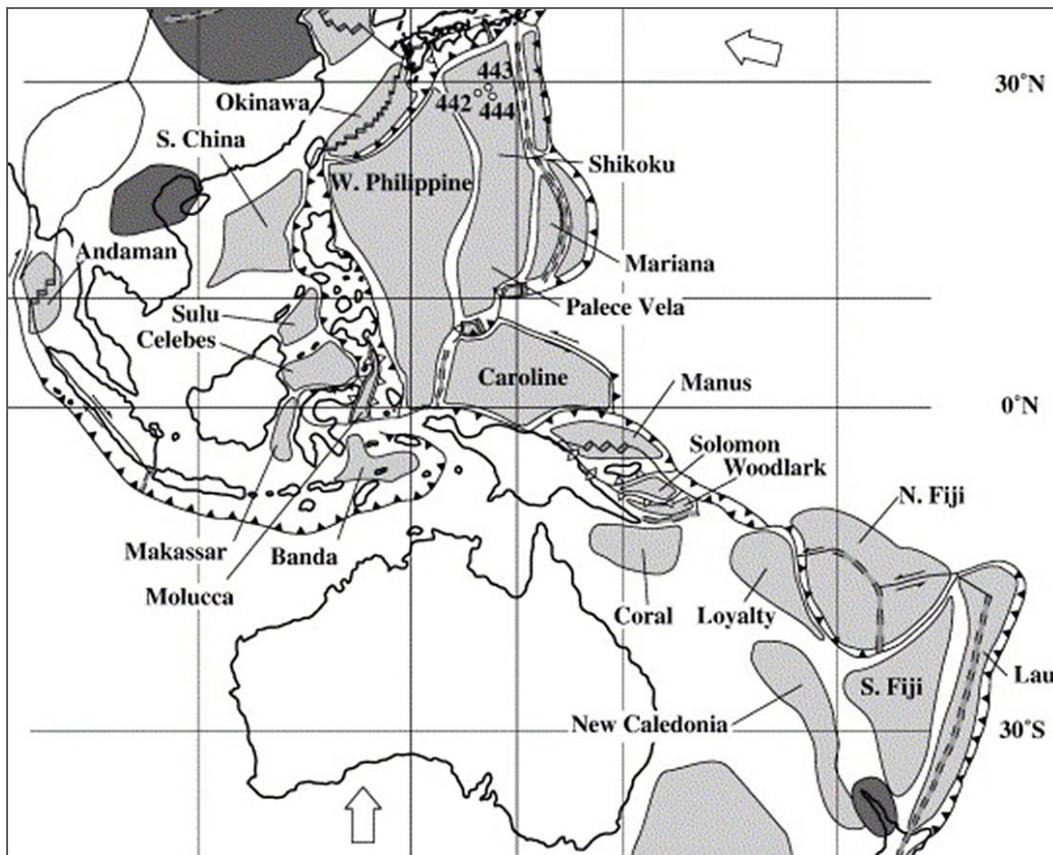


Figure IX.10.1. SW Pacific area marginal basins and active subduction zones (Komiya and Maruyama, 2007).

One remarkable feature along the entire West Pacific is the common presence of marginal basins, at both the East Asia and East Australia margins, which formed by extension/ seafloor spreading above a retreating subduction zone. Most authors view this as driven by slab rollback of Pacific Ocean west-dipping subduction system(s).

This chapter includes many papers on New Caledonia, which is a microcontinent that rifted off the NE margin of Australia in Cretaceous time and collided with an intra-oceanic arc system in Eocene time, making it one of the classic, well-studied examples of 'ophiolite obduction'.

It also includes some regional papers from the New Zealand area and the 'Zealandia' region of deepwater submerged continental rises (Lord Howe Rise, Fairway Ridge, Norfolk Ridge) between New Caledonia and New Zealand, that all were once part of the long-lived Paleozoic- Triassic accretionary margin of East Australia/ NE Gondwana

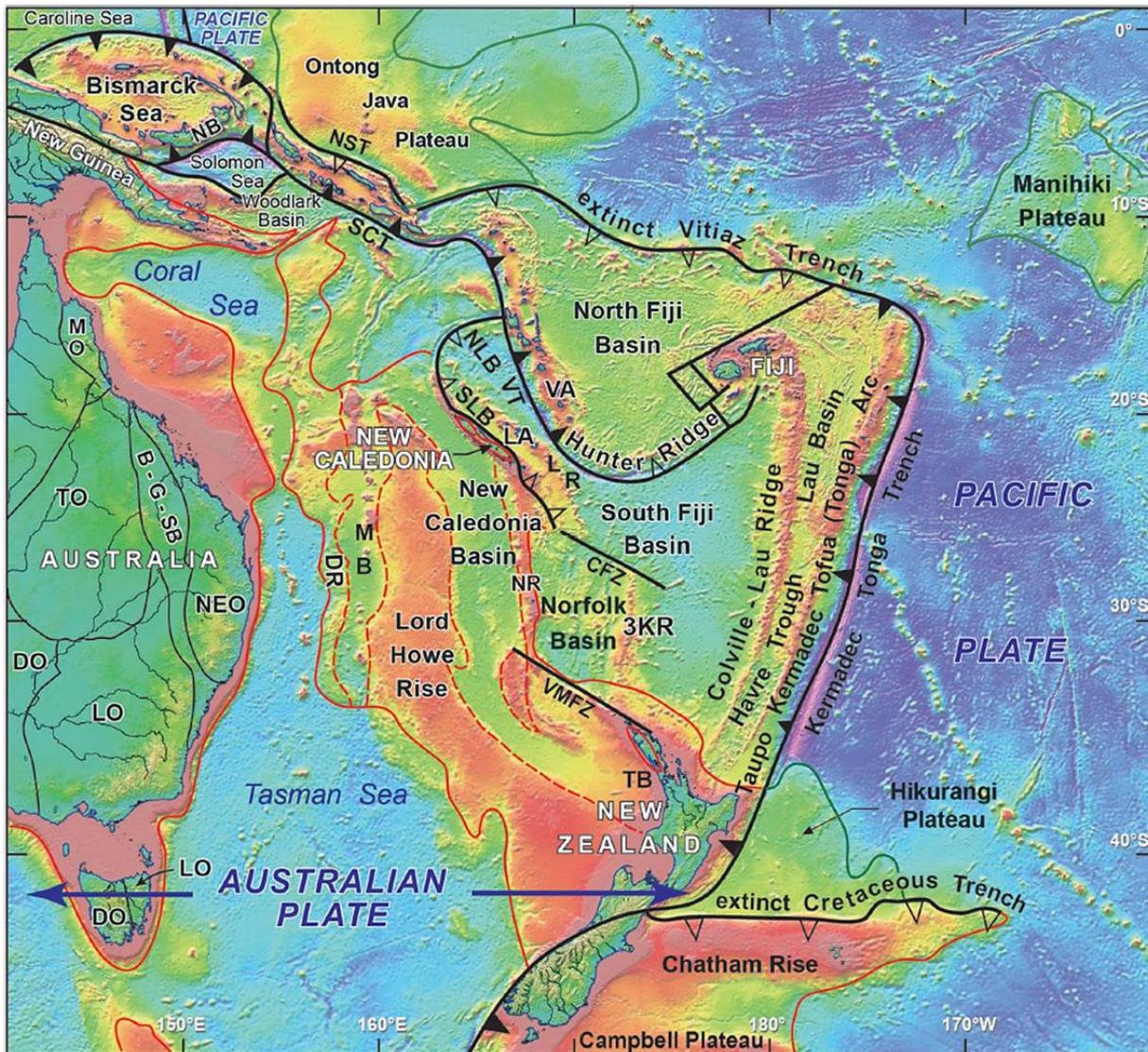


Figure IX.10.2. Major elements of the SW Pacific, on satellite gravity map. Continental or thinned continental or mixed crust= orange; oceans and marginal basins= blue and green. (from Glen et al. 2016). The composite terrane that combines the Lord Howe Rise, Norfolk Ridge, New Caledonia and New Zealand is often called Zealandia, which was part of the Paleozoic- Early Mesozoic East Australian Gondwana accretionary margin, until Late Cretaceous opening of the Tasman Sea

### IX.14. NE Indian Ocean

This chapter of the bibliography contains 50 references on the NW Indian region, which borders Indonesia South and SW of Java and Sumatra. It is an entirely oceanic domain, with ages of oceanic crust varying from latest Jurassic (~ 150 Ma) south of Java to Middle Eocene (~43 Ma) off west Sumatra (Figure IX.14.1).

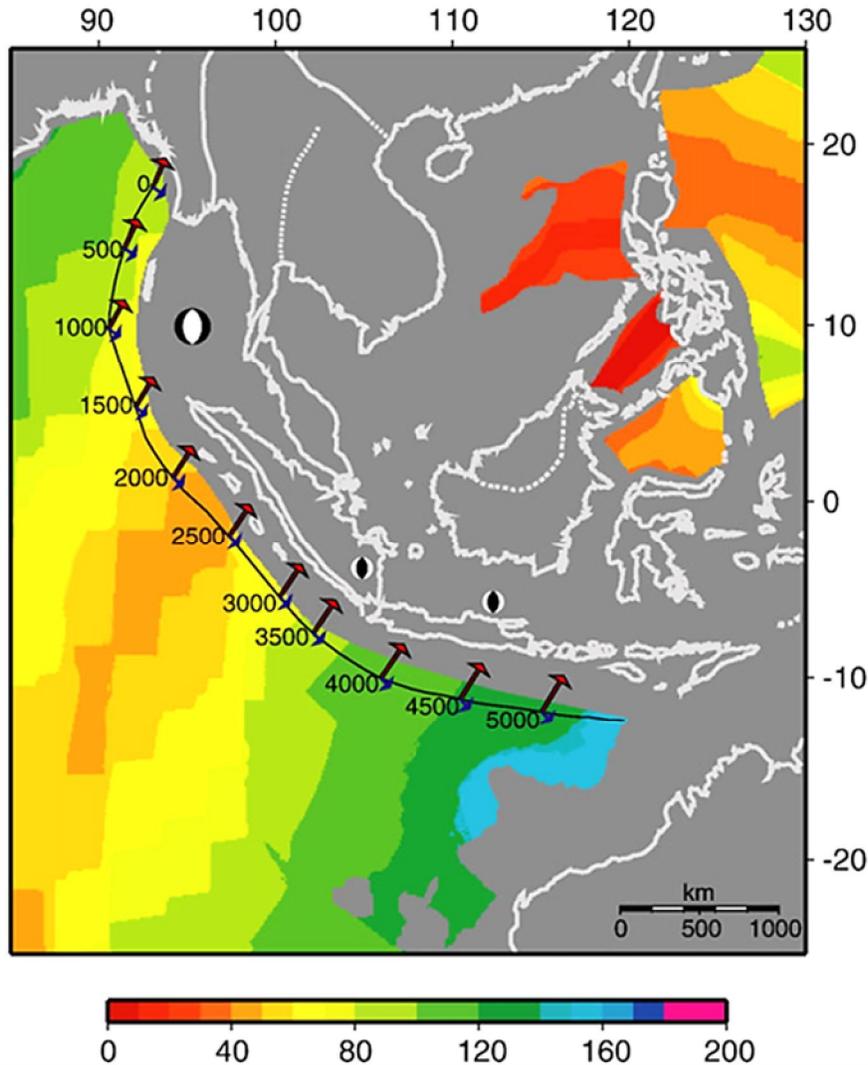


Figure IX.14.1. Ages of NE Indian Ocean oceanic crust along the Sunda- Java Trench, varying from latest Jurassic (~150 Ma) in East, SW of Sumba, to Middle Eocene (<43 Ma) at the extinct spreading center of the Wharton Ridge off NW Sumatra (Whittaker et al. 2007). Red arrows: 5 Myr motions direction and distance.

A major feature of this part of the Indian Ocean crust is the Wharton Ridge, an extinct spreading center that was active from Late Jurassic to ~43 Ma (e.g. Heine et al. 2004). Most of this ridge has been subducting under Java- Sumatra since ~70 Ma (Whittaker et al. 2007), but remnants remain as a bathymetric ridge off NW Sumatra today.

The Indian Ocean Plate is currently subducting under Java and Sumatra along the 3200km long Sunda-Java trench. The oceanic plate has already completely been consumed East of Sumba, in the Banda Arc- NW Australian continental margin collision zone.

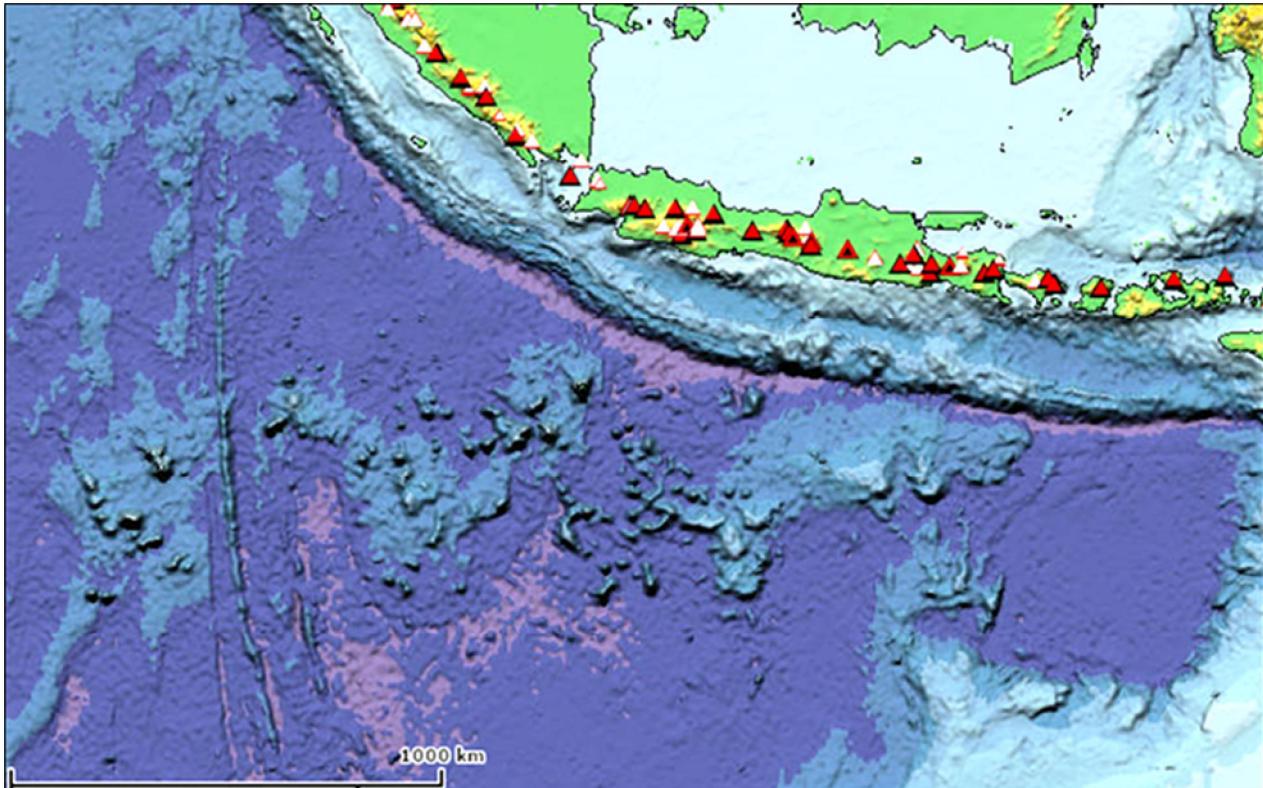
The differences in ages of subducting Indian Ocean crust and position of major transform faults may help explain some of the observed variations in subduction rates, arc volcanism, dip of subducting plate and lateral changes in depths of earthquake activity.

The effect of subduction of the Wharton Ridge under Sumatra between 15-0 Ma was discussed by Whittaker et al. (2007).

### **Seamounts/ volcanic ridges**

Numerous volcanic seamounts have been identified on NE Indian Ocean floor (Taneja and O'Neill 2014), One of the larger seamounts formed an island, Christmas Island ~350km south of westernmost Java. The Roo Rise Plateau South of East Java is a large, submarine volcanic seamount complex with an area of ~100,000 km<sup>2</sup>, crustal thickness 12-18km, and it rises ~2.0-2.5 km above the surrounding Indian Ocean floor (Figure IX.14.2).

The Roo Rise, is now colliding with the subduction trench South of Java. It is probably resisting subduction, as evidenced by the indentation of ~50 km of the trench/ accretionary prism deformation front. It is associated with extensive slumping of slope sediments near the collision zone and is causing uplift of the entire forearc region (Masson et al. 1990, Kopp et al. 2006, Shulgin et al. 2011).



*Figure IX.14.2. NE Indian Ocean bathymetry, showing large seamounts (Christmas Island, Roo Rise, etc.) and N-S trending fracture zones.*

Late Eocene and Pliocene volcanic episodes were identified (Taneja et al. 2015)

### **Oceanography**

Many of the papers in this Indian Ocean chapter deal with oceanographic and paleoclimate changes in young ocean floor sediments.

### IX.15. NW Australian margin

This chapter of the bibliography contains 733 references on the NW Australian continental margin, which is a rifted, passive continental margin, created by a Middle-Late Jurassic rift-breakup event.

The geology spans a very wide range of ages from Proterozoic to Recent, mostly in intra-continental rift and (since Late Jurassic) passive margin extensional settings. Its unusually thick sediment cover that exceed 20km. This geologic province continues into the Indonesian region in the Arafura Sea and West Papua (South of the Central Range).

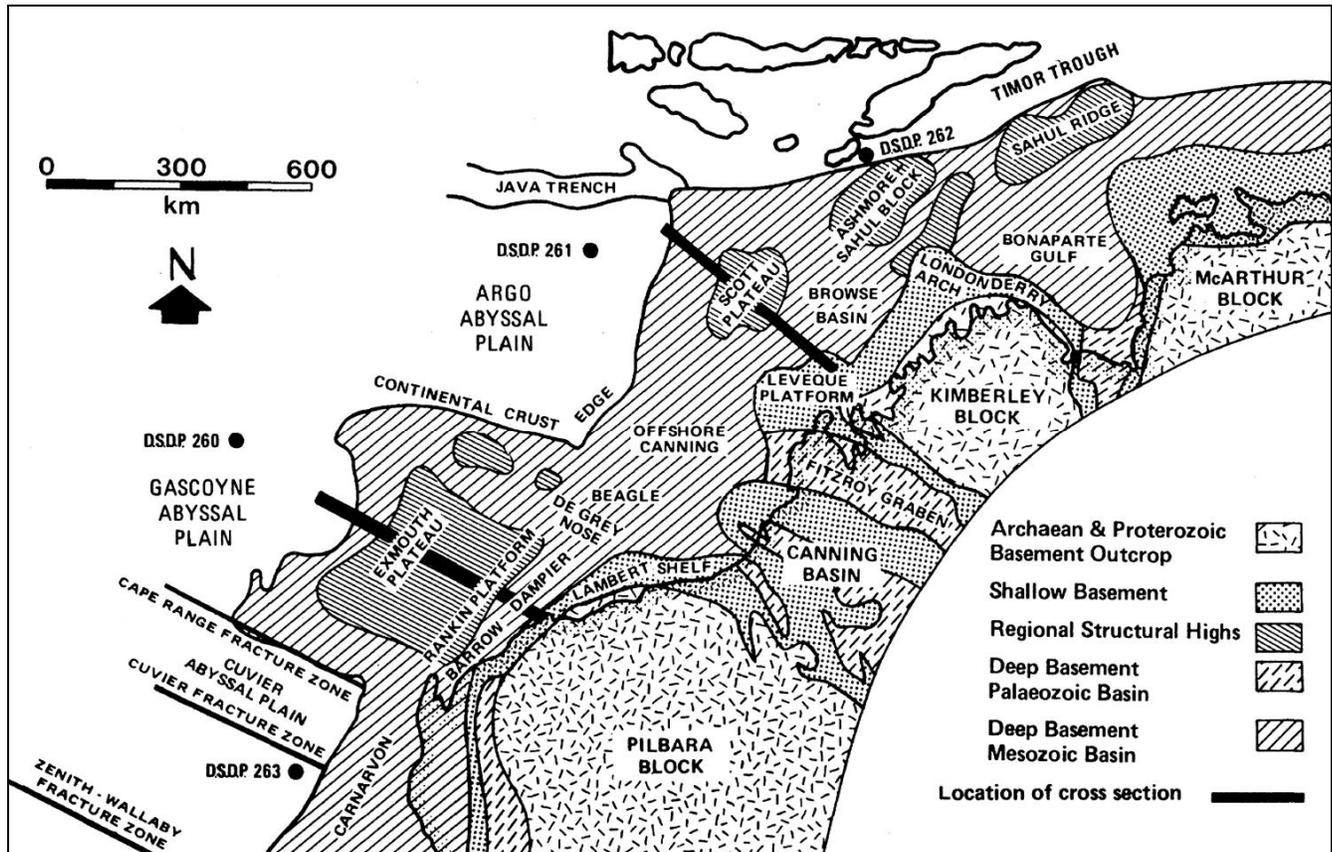


Figure IX.15.1. Tectonic elements of the Australia NW margin (Powell 1982).

The NW Australian margin is now in different stages of collision with the Banda Arc.

- pre-collisional western part of NW Australia margin (Carnarvon- Browse basins): passive margin facing Indian Ocean (Argo Abyssal Plain), with oceanic crust of latest Jurassic- Cretaceous age;
- syn-collisional: Timor Sea region, where continental crust of the NW margin (Bonaparte- Arafura basins area) is currently bending down into the Timor Trench (Timor- Tanimbar Trough- Barakan Basin) as it is subducting under the forearc south of the Sumba- Timor- Tanimbar sector of the Banda Arc;
- post collisional: West Papua sector, rimmed by Central Range foldbelt, with obducted ophiolite belt.

An important aspect of the NW Australia margin is its relatively thin Precambrian crust (<20km) and unusually thick sediment cover (up to >20km). This appears to be the result of unusually widespread early extensional event in Late Carboniferous- Early Permian time, that included excessive lower crustal ductile thinning (Etheridge 1992, O'Brien 1993, AGS) 1994). (Figure IX.15.2).

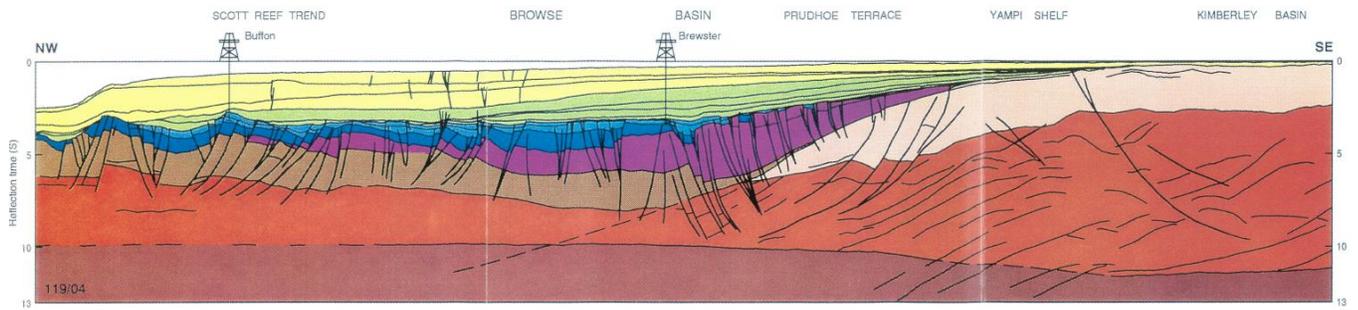


Figure IX.15.2. Regional cross-section of Australia NW margin at the Browse basin- Kimberley Block. The Moho (top mantle; base red) shallows from ~35 km under the Kimberley Block in SE to ~23 km under the Browse Basin, which is underlain by ~10km thick thinned Precambrian crust (red) and thick 'Westralian' Carboniferous- Permian- Triassic interior rift- sag section (up to 8km?; light brown- purple- dark blue). A less dramatic Middle Late Jurassic extensional event (light blue sediments) led to the Indian ocean breakup. Post-breakup passive margin section is in light green (Cretaceous) and yellow (Cenozoic) (AGSO 1994).

The NW Shelf has been subdivided in different geological sectors/ basins, that originated as different segments of Devonian and Permo-Carboniferous intra-continental rifting systems, separated by transform faults.

An interesting model is Figure IX.15.3, showing the different domains of Jurassic asymmetric rifting after the Late Jurassic breakup. It also shows the predicted rift styles at the conjugate margin of the plate that rifted off in Late Jurassic time (~155 Ma; the elusive 'Argoland').

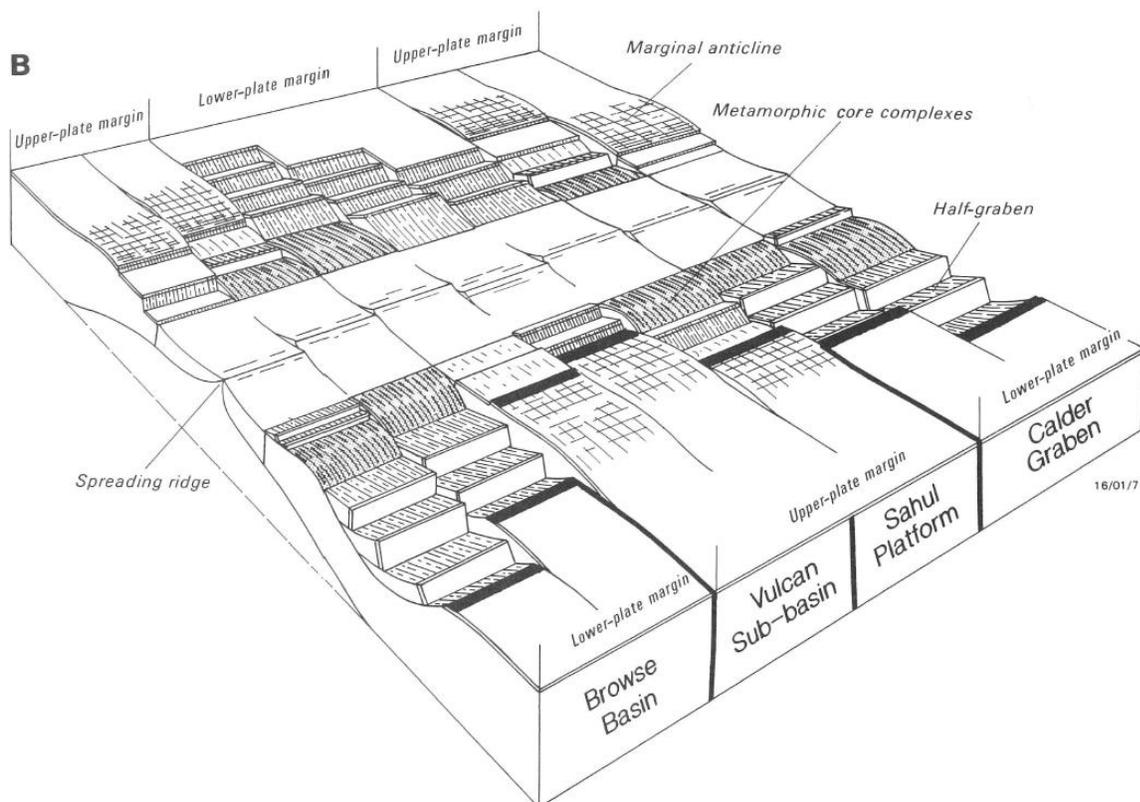


Figure IX.15.3. Schematic model of the structural configuration of the NW Shelf/Timor Sea region after continental break-up in Late Jurassic time. This cartoon shows an rift system segmented by transform faults that separate sectors of different asymmetric rift polarity. It also shows the predicted pre-Cretaceous rift configuration of the elusive 'Argoland' terrane, shown here at the top in the early phase of separation (O'Brien 1993).

The Australia NW Shelf area is a significant oil and gas province. Most of the oil and gas occurrences are in Jurassic and Triassic clastic reservoirs in rotated fault blocks below the Lower Cretaceous regional seal. The area is mostly a gas province, which for a long time was not a commercially viable commodity, but is now home to several LNG export projects.

The NW Australian oil-gas province continues eastward into the Joint Development zone South of Timor Leste (with Bayu Undan and Sunrise-Troubadour gas fields) and further East into Indonesian waters, where the Abadi gas field was discovered.

## IX.16. NE Australian margin ('Tasmanides')

This chapter contains 289 references on the geology of the NE and East margin of Australia. This has been part of the polyphase, accretionary orogenic margin of Eastern Gondwana in Paleozoic- Triassic time, and its geology is very different from the NW Australia margin with its long history of intra-cratonic and and passive margin rifting (Figure IX.16.1).

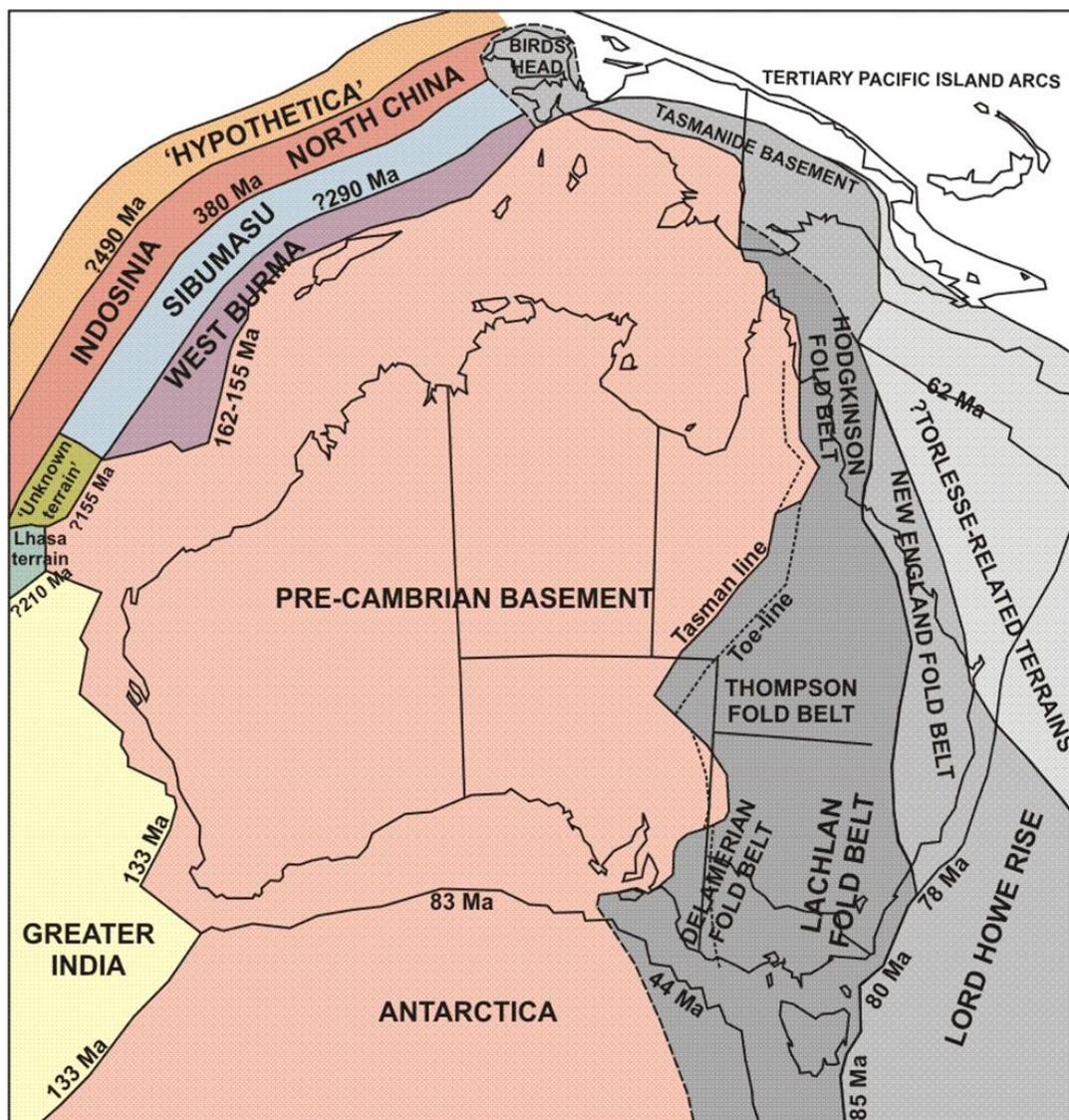


Figure IX.16.1. Restored basement terranes of the Australian region. In NW showing hypothetical positions of terranes that rifted off the NW margin in Devonian, Permian and Jurassic times and which are now in SE Asia. In the NE and East are Paleozoic- Triassic accreted terranes along the active margin of NE Gondwana with its long-lived Paleo-Pacific subduction (from Martin Norvick 2002; after Veevers 2000).

The reason for including this in the Indonesia bibliography is because this accretionary belt continues under Papua New Guinea South of the main foldbelt, and also in Eastern Indonesia, where the Birds Head of West Papua and the Banggai-Sula islands show basement with characteristics of this Paleozoic- Triassic active margin. These probably represent microcontinental plates that were dispersed from somewhere along this NE margin in Cretaceous- Early Paleogene time (Pigram and Panggabean 1984, Struckmeyer et al. 1993, etc.).

The wide system of accretionary terranes is collectively referred to as the 'Tasmanides' (eg. Glen 2005). They form a complicated system of successive foldbelts with multiple accretionary systems with ophiolites, volcanic arc terranes, etc.

The easternmost, youngest part of Tasmanides system is the New England Orogen, which formed as a result of long-lived Late Devonian- Triassic west-dipping subduction of the Panthalassan Ocean (Paleo-Pacific) (e.g. Korsch 2004).

The margin is characterized by:

1. Active margin tectonostratigraphic assemblage involving Late Silurian- Permian age sediments (e.g. Henderson et al. 1993);
2. Late Permian- Triassic granites (mainly Middle-Late Triassic; 260-220 Ma?), signifying a continental margin magmatic arc above a west-dipping subduction zone (Figure IX.16.3). ;
3. Late Permian- Middle Triassic west-directed thin-skinned folding-thrusting creating imbricated Devonian- Permian marine sediments at east margin of Bowen foreland basin margin ('Hunter- Bowen orogeny'; Fergusson 1991);
4. Followed by relative quiescence, except in areas affected by Late Cretaceous- Early Paleogene Tasman Sea- Coral Sea rifting/ breakup.

This 'Tasmanide' orogenic belt extends northward as basement of autochthonous Papua New Guinea. and is also remarkably similar to basement characteristics of detached terranes now in northern PNG (Kubor, etc.) and in Eastern Indonesia (Birds Head of West Papua, Banggai-Sula, etc.; e.g. Pigram and Panggabean 1984, Struckmeyer et al. 1993, Amiruddin 2009). Radiometric ages and detrital zircons from these terranes cluster around 240 Ma (Ladinian) (Decker et al. 2017, etc.)

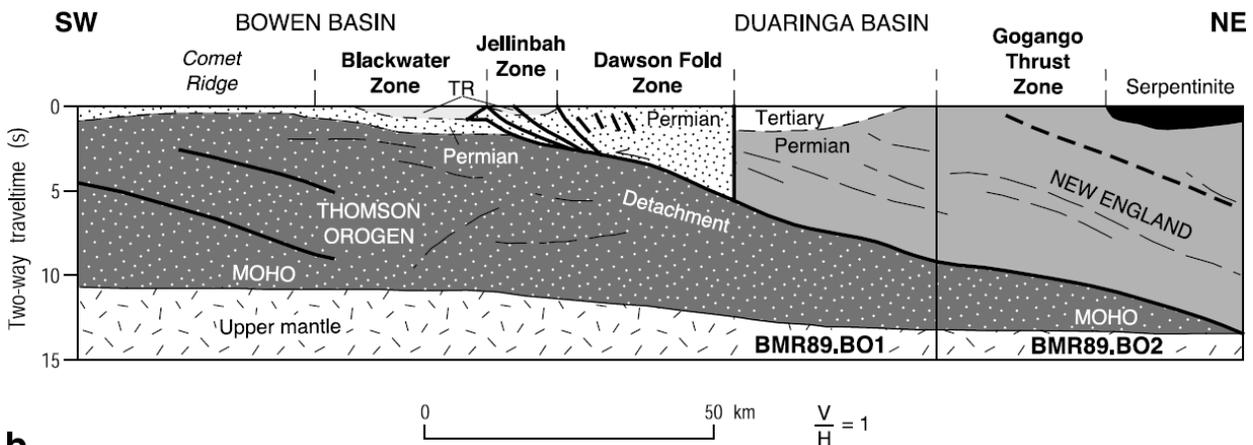


Figure IX.16.2. Cross-section of the Permian- Triassic Bowen basin and New England foldbelt (Korsch 2004).

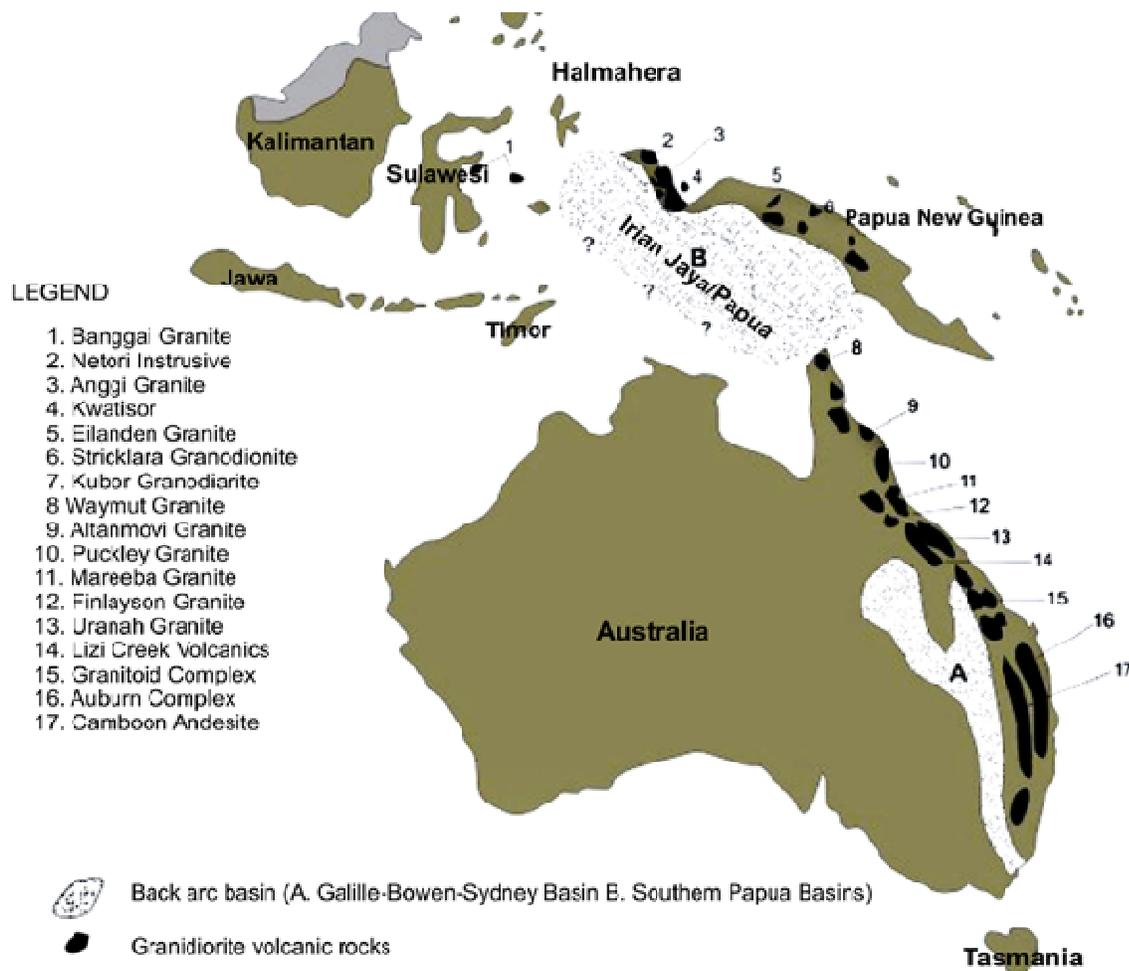


Figure IX.16.3. Permo- Triassic granitic plutons along East Australian margin and in dispersed terranes of northern New Guinea (PNG, Birds Head) and Banggai-Sula, marking remnants of mainly Late Permian- Middle Triassic magmatic arc/ subduction along the active East Gondwanan margin (Amiruddin 2009).

#### **Latest Cretaceous- Early Paleogene extension**

The eastern part of the Tasmanides collapsed in Late Cretaceous- E Paleogene time, leading to opening of the Tasman Sea and Coral Sea marginal oceanic basins. This caused the separation of large sections of the former accretionary margin from the East Australian margin, which are now the vast area of the mostly submerged 'Zealandia' terranes (Lord Howe Rise, Fairway Ridge, Norfolk Ridge, Torlesse Terrane, etc.) and NE to New Caledonia (see also SW Pacific chapter).

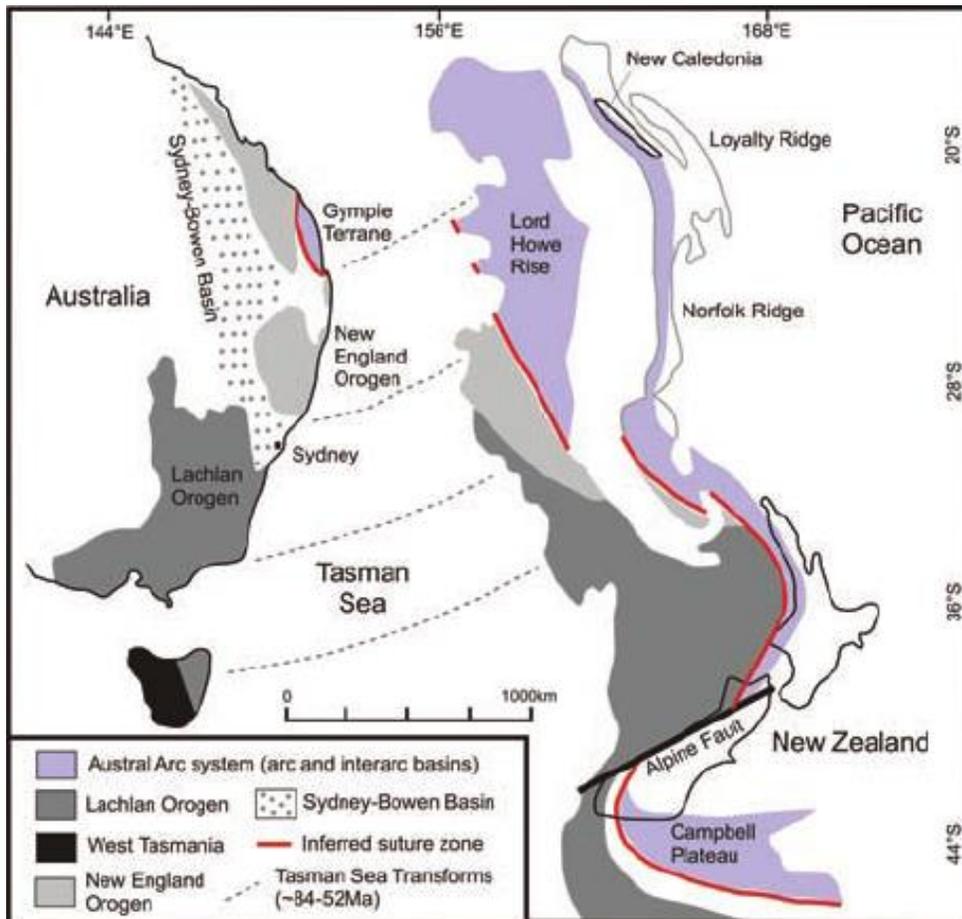


Figure IX.16.4. Correlation of Paleozoic- Early Mesozoic orogens ('Tasmanides') between the East Australia margin and the 'Zealandia' rifted terranes, that separated from East Gondwana/ Australia after Cretaceous- Early Paleogene opening of the Tasman Sea (Li et al. 2012).

Expressions of this Late Cretaceous- Early Paleogene rift event can be expected in the terranes that rifted off this part of the NE Australian margin and ended up in northern New Guinea and Eastern Indonesia (although probably not in the same non-marine facies as East Queensland). One likely candidate in the Indonesian region is in the eastern Birds Head- Bintuni Basin, where there is a well-documented thickening and deepening facies of the latest Cretaceous (Maastrichtian-) earliest Eocene interval. This sand-bearing section is usually called Waripi Formation, is up to ~3000' thick (thickest in NNW, and thought to be sourced from there), mainly composed of deep marine clastics and contains gas reservoirs in Paleocene turbidite sandstones in the Wiriagar Deep gas field (e.g. Mardani and Butterworth 2016).

## **IXb. CIRCUM-INDONESIA (SW Pacific, NW and NE Australia)**

### ***IX.10. SW Pacific (incl. New Caledonia, Solomon Islands)***

Acharya, H.K. (1979)- Seismicity of the Southern Philippine Sea. *Marine Geology* 29, p. 25-32.  
(*Philippine Sea Plate almost completely surrounded by island arcs. Earthquake activity in S Philippine Sea at low-to-moderate levels at Palau-Kyushu Ridge, Central Basin Fault and W Philippine Basin*)

Adachi, Y., H. Inokuchi, Y. Otofujii, N. Isezaki & K. Yaskawa (1987)- Rotation of the Philippine Sea Plate inferred from paleomagnetism of the Palau and Yap islands. *Rock magnetism and paleogeophysics, Japan*, 14, p. 72-74.

(online at:

<http://peach.center.ous.ac.jp/rprep/Rock%20Magnetism%20and%20Paleogeophysics%20vol14%201987.pdf>)  
(*Paleomag work on 16 sites in Palau Islands on S end of Kyushu-Palau Ridge suggest ~60°CW rotation, similar to results from other parts of W Philippine Sea*)

Adams, C.J. (2010)- Accretionary complexes in eastern Australia and New Zealand: matching their sediment sources and destinations. In: S. Buckman & P.L. Blevin (eds.) *Proc. Conf. New England Orogen 2010 (NEO 2010)*, Armidale, p. 5-11.

(*Accretionary rocks of Carboniferous-Cretaceous in Torlesse Terrane of New Zealand derived from continental sources of plutonic and metamorphic rocks. Sources must be dominated by Permian-Triassic granitoids, and thought to originate at E Australian continental margin. Detrital zircon age patterns in sandstones from New England Orogen (NEO) and Torlesse Terrane suggest common sediment sources in Carboniferous magmatic arcs in NEO, but Late Permian-Cretaceous of Torlesse with major 230-265 Ma age peak suggests displacement of accretionary activity, outboard of NEO in Middle-Late Permian, after E Permian rift event*)

Adams, C.J. (2011)- Lost terranes of Zealandia: possible development of late Paleozoic and early Mesozoic sedimentary basins at the Southwest Pacific margin of Gondwanaland, and their destination as terranes in southern South America. *Andean Geol.* 37, 2, p. 442-454.

(*Metasedimentary rocks in Chilean archipelago have significant Mesoproterozoic, latest Neoproterozoic-Cambrian and Devonian-Carboniferous detrital zircon age components in common with 'lost terranes of Zealandia'*)

Adams, C.J., M.E. Barley, I.R. Fletcher & A.L. Pickard (1998)- Evidence from U-Pb zircon and <sup>40</sup>Ar/<sup>39</sup>Ar muscovite detrital mineral ages in metasandstones for movement of the Torlesse suspect terrane around the eastern margin of Gondwanaland. *Terra Nova* 10, 4, p. 183-189.

(*Detrital zircon and Ar/Ar muscovite ages from Triassic metasandstones of New Zealand Torlesse Terrane four components: (1) major Triassic-Permian (210-270 Ma), (2) minor Permian-Carboniferous (280-350 Ma) granitoids, (3) minor E-M Paleozoic metamorphics (420-460 Ma) and (4) minor Late Precambrian-Cambrian igneous and metamorphic complexes (480-570 Ma). Ages compatible with granitoid terranes of N New England Orogen in NE Australia. Torlesse Terrane originated at NE Australian margin, then moved 2500 km S by Late Cretaceous (90 Ma) (Conclusion questioned by Murray (2003): although similar age range, little or no muscovite in Permian Triassic granites of New England foldbelt)*)

Adams, C.J., H.J. Campbell, I.J. Graham & N. Mortimer (1998)- Torlesse, Waipapa and Caples suspect terranes of New Zealand: integrated studies of their geological history in relation to neighbouring terranes. *Episodes* 21, 4, p. 235-240.

(*Review of Permian-Cretaceous of Torlesse, Waipapa and Caples sedimentary terranes of E New Zealand, originally part of E Gondwana margin*)

Adams, C.J., H.J. Campbell & W.L. Griffin (2007)- Provenance comparisons of Permian to Jurassic tectonostratigraphic terranes in New Zealand: perspectives from detrital zircon age patterns. *Geol. Magazine* 144, 4, p. 701-729.

*(Zircon ages for 20 Cretaceous-Carboniferous sandstones from 7 terranes of E New Zealand. Persistent, large Triassic-Permian (main peaks in ~240-265 Ma range) and few Devonian-Silurian populations. Extensive Triassic-Permian zircon sources only in New England Fold Belt and Hodgkinson Province of NE Australia and continuations into Tasman Sea)*

Adams, C.J., D. Cluzel & W.L. Griffin (2009)- Detrital-zircon ages and geochemistry of sedimentary rocks in basement Mesozoic terranes and their cover rocks in New Caledonia, and provenances at the eastern Gondwanaland margin. *Australian J. Earth Sci.* 56, p. 1023-1047.

*(Older (>250 Ma), zircons in New Caledonia sediments >90% Early Paleozoic and Precambrian ages (500-700 Ma). Surprisingly few zircons in M Permian- E Triassic (245-270 Ma) age range, presumably due to depocenters and barriers between area and New England Orogen)*

Adams, C.J. & S. Kelley (1998)- Provenance of Permian-Triassic and Ordovician metagraywacke terranes in New Zealand: evidence from  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of detrital micas. *Geol. Soc. America (GSA) Bull.* 110, p. 422-432.

*(Permo-Triassic ages of detrital muscovite in New Zealand Torlesse terrane similar to ages of granites in New England foldbelt (but these granites contain very rare muscovite; Murray 2003))*

Adams, C.J., R.J. Pankhurst, R. Maas, I.L. Millar (2005)- Nd and Sr isotopic signatures of metasedimentary rocks around the South Pacific margin and implications for their provenance. *Geol. Soc., London, Spec. Publ.* 246, p. 113-141.

*(Nd-Sr isotope database of Paleozoic- Mesozoic metasedimentary successions enables characterization of New Zealand terranes)*

Agard, P. & A. Vitale-Brovarone (2013)- Thermal regime of continental subduction: the record from exhumed HP-LT terranes (New Caledonia, Oman, Corsica). *Tectonophysics* 601, p. 206-215.

*(Thermal evolutions of shift from oceanic subduction to continental collision retrieved from three well-documented fossil settings, incl. New Caledonia, that were not modified by later collision or metamorphism. Continental cover units subducted over short time (~10 My) represent cold underplated material that buffers subduction thermal regime)*

Aitchison, J.C., G. L. Clarke, S. Meffre & D. Cluzel (1995)- Eocene arc-continent collision in New Caledonia and implications for regional southwest Pacific tectonic evolution. *Geology* 23, 2, p. 161-164.

*(New Caledonia geology four main tectonic phases: (1) E Mesozoic development of subduction-related terranes and accretion to Gondwana (NE Australia) margin; (2) Late Cretaceous passive margin development and sea-floor spreading during Gondwana breakup; (3) Late Eocene arrival of thinned Gondwana margin crust at SW-facing subduction zone (Loyalty-D'Entrecasteaux arc), resulting in collisional orogenesis and obduction of ophiolitic nappe from NE; and (4) detachment faulting during extensional collapse, resulting in unroofing of metamorphic core complexes)*

Aitchison, J.C., T.R. Ireland, G.L. Clarke, D. Cluzel, A.M. Davis & S. Meffre (1998)- Regional implications of U/Pb SHRIMP age constraints on the tectonic evolution of New Caledonia. *Tectonophysics* 299, 4, p. 333-343.

*(Ages for zircons from plagiogranites (considered to be late stage differentiates of basic magma in ophiolite complex) indicate latest Carboniferous- earliest Permian age for basement of Koh terrane in Central Chain Mts of New Caledonia (pre-Upper Cretaceous obduction). Ophiolites ages of  $302\pm 7$  Ma and  $290\pm 5$  Ma, respectively. Similar to plagiogranites in Dun Mountain Ophiolite Belt/ Maitai terrane of New Zealand)*

Aitchison, J.C., S. Meffre & D. Cluzel (1995)- Cretaceous/Tertiary radiolarians from New Caledonia. *Geol. Soc. New Zealand, Misc. Publ.* 81A, p. 1-70.

Ali, J.R. & J.C. Aitchison (2000)- Significance of palaeomagnetic data from the oceanic Poya Terrane, New Caledonia, for SW Pacific tectonic models. *Earth Planetary Sci. Letters* 177, p. 153-161.

*(Paleomagnetic study of pillow basalts and associated pelagic sediments of Late Cretaceous-Paleocene Poya Terrane nappe that was thrust SW over New Caledonia island in M Eocene. Data from four outcrops suggests*

formation at  $\sim 37.8^\circ (\pm 12.1^\circ)$ . S. Poya Terrane formed close to New Caledonian portion of Indo-Australia plate, consistent with tectonic models suggesting Poya Terrane formed in marginal basin NE of New Caledonia during break-up of E Gondwana)

Ali, J.R. & J.C. Aitchison (2002)- Paleomagnetic-tectonic study of the New Caledonia Koh Ophiolite and the mid-Eocene obduction of the Poya Terrane. *New Zealand J. Geol. Geophysics* 45, p. 313-322.  
(online at: [www.tandfonline.com/doi/pdf/10.1080/00288306.2002.9514976](http://www.tandfonline.com/doi/pdf/10.1080/00288306.2002.9514976))  
(Paleomagnetic study on allochthonous Late Paleozoic Koh Ophiolite of New Caledonia. Large spread of directions, impossible to deduce latitude of ophiolite formation: 'subequatorial to mid-latitude S Hemisphere location' strongest justifiable statement. Overprint equates to paleolatitude of  $37.6 \pm 6.2^\circ\text{S}$  and may correspond to position of New Caledonia when overthrust by oceanic Poya Terrane in M Eocene)

Aronson, J.L. & G.R. Tilton (1971)- Probable Precambrian detrital zircons in New Caledonia and Southwest Pacific continental structure. *Geol. Soc. America (GSA) Bull.* 82, p. 3449-3456.  
(Detrital zircons from Cretaceous arkosic sandstone of SW New Caledonia mainly clear, euhedral and of Late Cretaceous age. Also 1% rounded colored grains, probably with age of 1000 Ma or more. Old grains probably derived from Lord Howe Rise, a foundered extension of Australian continent)

Audet, M.A. (2009)- Le massif du Koniambo, Nouvelle-Caledonie. Formation et obduction d'un complexe ophiolitique du type SSZ. Enrichissement en nickel, cobalt et scandium dans les profils residuels. *Doct. Thesis Universite de Quebec, Montreal*, p. 1-294. (Unpublished)  
(online at: <http://portail-documentaire.univ-nc.nc/userfiles/TheseMarcAntoineAudet2008.pdf>)  
(On Koniambo ophiolitic complex in New Caledonia and distribution of nickel, cobalt, scandium in weathered profile. Various geological units in study area are inverted structural assemblages of ophiolite suite, affected by passage through supra-subduction environment. Contrast with less dismembered ultramafic sequences of Massif du Sud. Late Eocene obduction)

Auzende, J.M., G. Beneton, G. Dickens, N. Exon, C. Francois, D. Hodway, F. Juffroy, Y. Lafoy, A. Leroy, S. van de Beuque & O. Voutay (2000)- Mise en evidence de diapirs mesozoiques sur la bordure orientale de la ride de Lord Howe (Sud-Ouest Pacifique): campagne ZoNeCo 5. *Comptes Rendus Academie Sciences, Paris, Ser. 2*, 330, 3, p. 209-215.  
(Evidence of Mesozoic salt or mud diapirs on the eastern side of the Lord Howe Rise)

Auzende, J.M., G.R. Dickens, S. Van de Beuque, N.F. Exon, C. Francois, Y. Lafoy & O. Voutay (2000)- Thinned crust in southwest Pacific may harbor gas hydrate. *EOS, Trans. AGU*, 81, 17, p. 182-185.  
(online at: <http://onlinelibrary.wiley.com/doi/10.1029/00EO00127/pdf>)  
(Lord Howe Rise large, complex, and poorly studied fragment of thinned continental crust submerged 750-3000m beneath C Tasman Sea. Deep seismic profiles revealed extensive bottom simulating reflector at E slope of LHR, likely representing base of gas hydrate)

Auzende, J.M., L. Kroenke, J. Collot, Y. Lafoy & B. Pelletier (1996)- Compressive tectonism along the eastern margin of Malaita Island (Solomon Islands). *Marine Geophysical Res.* 18, p. 289-304.

Auzende, J.M., S. Van de Beuque, M. Regnier, Y. Lafoy & P. Symonds (2000)- Origin of the New Caledonian ophiolites based on a French- Australian seismic transect. *Marine Geology* 162, p. 225-236.  
(New deep-seismic profiles between New Hebrides Arc and Australian margin S of New Caledonia image S prolongation of overthrust ophiolites and allow new interpretation of Eocene compressive tectonism along New Caledonia-Norfolk Ridge. Obduction of entire oceanic lithosphere of Loyalty Basin is consistent with age and origin of ophiolite. Variations in tectonic style along strike in N-S trending part of Norfolk Ridge produced ophiolite exposures related to uplifted and partially overthrust upper mantle slivers in S part of Loyalty Basin)

Avias, J. (1953)- Contribution a l'etude stratigraphique et paleontologique de la Nouvelle-Caledonie centrale. *Sciences de la Terre, Nancy* 1, p. 1-276.

*(‘Contribution to the study of the stratigraphy and paleontology of Central New Caledonia’. Stratigraphy of mainly NE dipping sediments outcropping SW of main ophiolite belt. Youngest folded sediments of Eocene age, unconformably overlain by ?Miocene. Carboniferous-Permian multi-colored tuffs and greywackes with mollusc *Maitaia trechmanni* (= *Atomodesma*), M-Late Triassic greywackes with *Halobia* and *Spiriferina*, etc., Late Triassic greywackes with *Monotis* and *Clavigera*, E Jurassic greywackes with ammonites (*Arnioceras* and others), Late Jurassic greywackes with *Belemnopsis*, Cretaceous sands and carbonaceous shales with *Kosmaticeratinae*, *Trigoniidae*, etc., Eocene shales and tuffs with calcareous lenses, etc.)*

Avias, J. (1961)- On some new points of view adopted concerning the stratigraphic and correlative knowledge of the sedimentary structures of New Caledonia. Proc. 9th Pacific Science Congress Bangkok 1957, 12, p. 325-327.

*(online at: <http://archive.org/details/geologyandgeophy032600mbp>)*

*New review of cephalopods from New Caledonia confirms presence of Lower Triassic Meekoceras. Great similarities between U Permian and Lw Trias of New Caledonia and "ceratites sandstones" of Himalayan Salt Range and rocks of same age on Timor. During most of Cretaceous New Caledonia was emerged, with sedimentation re-starting with great Senonian transgression. Main time of folding is Oligocene. Angular unconformity at base U Triassic suggest orogenic phase similar to Lower Bowen orogeny in E Australia)*

Avias, J. (1967)- Overthrust structure of the main ultrabasic New Caledonian massives. Tectonophysics 4, p. 531-541.

*(Great New Caledonian ultrabasic massifs are E-to-W overthrust masses of peridotites on sedimentary and volcano-sedimentary basement of island)*

Bache, F., N. Mortimer, R. Sutherland, J. Collot, P. Rouillard, V. Stagpoole & A. Nicol (2014)- Seismic stratigraphic record of transition from Mesozoic subduction to continental breakup in the Zealandia sector of eastern Gondwana. Gondwana Research 26 (2014) 106061078.

*(SW Pacific between Australia, New Zealand and New Caledonia is block of continental crust (Zealandia) that moved away from Australia and Antarctica after long period of subduction beneath E Gondwana. Seismic-profiles identify intra-continental basins related to Gondwana margin, overlain by ~mid-Cretaceous breakup/separation erosional unconformity and Cretaceous- Eocene retrogradational megasequence, overlain by pelagic carbonate rocks)*

Baker, P.E., M. Coltorti, L. Briquieu, T. Hasenaka, E. Condliffe & A.J. Crawford (1994)- Petrology and composition of the volcanic basement of Bougainville Guyot, Site 831. In: J.Y. Collot et al. (eds.) Proc. Ocean Drilling Program (ODP), Initial Reports 134, p. 363-373.

*(online at: [www-odp.tamu.edu/publications/134\\_sr/volume/chapters/sr134\\_18.pdf](http://www-odp.tamu.edu/publications/134_sr/volume/chapters/sr134_18.pdf))*

*(Basement of Bougainville Guyot andesitic hyalobreccias derived from submarine arc volcano. Dated by K/Ar at ~37Ma. Formation attributed to reaction of andesitic magma and seawater. More mafic andesites at base, to overlying more acid andesites. Andesites have affinities with low-K arc tholeiite series. Bougainville Guyot may form part of Eocene proto-island arc along S side of d'Entrecasteaux Zone, above S-dipping subduction zone)*

Baldwin, S.L., T. Rawling & P.G. Fitzgerald (2007)- Thermochronology of the New Caledonia high-pressure terrane: implications for Middle Tertiary plate boundary processes in the Southwest Pacific. In: M. Cloos et al. (eds.) Convergent margin terranes and associated regions, Geol. Soc. America, Spec. Publ. 419, p. 117-134.

*(Young blueschist- eclogite facies rocks in NE New Caledonia record Eocene subduction metamorphism (44 Ma) and exhumation (40-34 Ma) and Oligocene (<34 Ma) juxtaposition against other basement terranes)*

Ballance, P.F. (1999)- Simplification of the Southwest Pacific Neogene arcs: inherited complexity and control by a retreating pole of rotation. In: C. MacNiocail (ed.) Continental tectonics, Geol. Soc. London, Spec. Publ. 164, p. 7-19.

*(Neogene arc activity in SW Pacific began simultaneously at 25 Ma on three differently oriented sectors, Norfolk-Three Kings, Colville, Northland-Reinga. Inception of arc magmatism at 25 Ma triggered by 20° increase in convergence angle between N-moving Australia and NW-moving Pacific plate, and increase in convergence rate from ~20 to 30-40 mm/yr. Between 25-15 Ma three subduction zones required)*

Ballance, P.F., D.W. Scholl, T.L. Vallier, A.J. Stevenson, H. Ryan & R.H. Herzer (1989)- Subduction of a Late Cretaceous seamount of the Louisville chain at the Tonga Trench: a model of normal and accelerated tectonic erosion. *Tectonics* 8, p. 953-962.

*(Louisville Ridge is 4000 km long, NNW-trending chain of seamounts (2-2.5 km high, 10-40 km diameter), with underlying crustal swell (1.5 km high and 100+ km wide) in SW Pacific. NW end of Ridge collides with deep Tonga Trench (>10 km), which lacks accretionary complex. Effects of hotspot-ridge collision with sediment-starved trench: (1) impacting seamounts are subducted rather than accreted; (2) inner trench wall is tectonically eroded arc-ward, possibly at 50 km/My. Arc substrate rocks uplifted by impacting seamounts)*

Barclay, W., J.A. Rodd, J.C. Pflueger, K.R. Havard & S.P. Helu (1993)- Oil plays in the kingdom of Tonga, Southwest Pacific. *Petroleum Expl. Soc. Australia (PESA) Journal* 21, p. 79-92.

*(Tonga area in SW Pacific in E part of long Tertiary island-arc chain extending from PNG to New Zealand. Within chain basins with Tertiary reef developments, some with commercial oil and gas accumulations. On Tongatapu Island five wells drilled near oil seeps, but none reached Eocene reef limestone target)*

Barker, S.J., C.J.N. Wilson, J.A. Baker, M.A. Millet, M.D. Rotella, I.C. Wright & R.J. Wysoczanski (2013)- Geochemistry and petrogenesis of silicic magmas in the intra-oceanic Kermadec Arc. *J. Petrology* 54, 2, p. 351-391.

Baubron, J.C., J.H. Guillon & J. Recy (1976)- Geochronologie par la methode K-Ar du substrat volcanique de l'île Mare, Archipel des Loyaute (Sud-Ouest Pacifique). *Bull. Bur. Rech. Geol. Minieres* (2), sect. 4, 3, p. 165-175.

*('Geochronology by the K-Ar method of the substrate of the volcanic island of Mare, Loyalty Islands archipelago (Southwest Pacific)'. Basalt outcrops in center of uplifted atoll of Mare Island, Loyalty Islands, show final of volcanic edifice were oceanic basalts of 9-11 Ma)*

Beavan, J., P. Tregoning, M. Bevis, T. Kato & C. Meertens (2002)- Motion and rigidity of the Pacific Plate and implications for plate boundary deformation. *J. Geophysical Research* 107, B10, 2261, p. 19/1- 19/15.

Beckmann, J. P. (1976)- Shallow water foraminifers and associated microfossils from Sites 315, 316 and 318, DSDP Leg 33. In: S.O. Schlanger et al. (eds.) *Initial Reports Deep Sea Drilling Project (DSDP) 33*, p. 467-489.

*(online at: [www.deepleadring.org/33/volume/dsdp33\\_13.pdf](http://www.deepleadring.org/33/volume/dsdp33_13.pdf))*

*(Shallow-water fossils at C Pacific DSDP Sites 315-316 include Late Cretaceous larger foraminifera Pseudorbitoides, Asterorbis and Sulcoperculina, partly reworked into Tertiary. At Site 318 it ranges from Eocene to Plio-Pleistocene)*

Belasky, P. & B.N. Runnegar (1993)- Biogeographic constraints for tectonic reconstructions of the Pacific region. *Geology* 21, p. 979-983.

*(Suspect terranes in W North America contain Permian and Triassic genera endemic to Tethyan region)*

Bell, T.H. & R.N. Brothers (1985)- Development of P-T prograde and P-retrograde, T-prograde isogradsic surfaces during blueschist to eclogite regional deformation/metamorphism in New Caledonia, as indicated by progressively developed porphyroblast microstructures. *J. Metamorphic Geol.* 3, p. 59-78.

*(N New Caledonian Eocene schist belt four phases of metamorphism: D1-D2 increasing P and T from lawsonite-albite chlorite assemblages through lawsonite-glaucophane-Mn garnet rocks (blueschists) to deeper lawsonite omphacite-almandine jadeite gneisses (lawsonite eclogites), followed by D3-D4 phase of recrystallization, under P retrograde but T prograde conditions, generating coarse deeper gneisses as pressure-retrogressed eclogites)*

Bergen, J.A. (2004)- Calcareous nannofossils from ODP Leg 192, Ontong Java Plateau. In: J.G. Fitton, et al. (eds.) *Origin and evolution of the Ontong Java Plateau*, *Geol. Soc. London, Spec. Publ.* 229, p. 113-132.

*(M Miocene- Aptian nannofossils from ODP Leg 192 sites 1183-1187, Ontong Java Plateau, SW Pacific)*

Black, P.M. (1970)- Coexisting glaucophane and riebeckite-arfvedsonite from New Caledonia. *American Mineralogist* 55, p. 1061-1064.

Black, P.M. (1977)- Regional high-pressure metamorphism in New Caledonia: phase equilibria in the Ouegoa district. *Tectonophysics* 43, p. 89-107.

*(In N New Caledonia 150km long high-pressure metamorphic belt. Appearance/disappearance of pumpellyite, lawsonite, Na-amphibole, omphacite, graphite, epidote, almandine and barroisitic hornblende show NE-ward progressive metamorphic sequence from lawsonite-albite schists to glaucophane-albite-epidote-almandine schists to eclogitic graphitic quartzo-feldspathic gneiss. T estimations from oxygen isotopes 250°C for lawsonite, 380°C for epidote and 400°C for almandine isograds and 550°C for highest grade rocks)*

Black, P.M. (1993)- Tectonism, magmatism and sedimentary basin development, Paleozoic to Paleogene, New Caledonia. In: G.H. Teh (ed.) *Proc. Symposium on the Tectonic framework and energy resources of the western margin of the Pacific Basin, Kuala Lumpur 1992*, *Bull. Geol. Soc. Malaysia* 33, p. 331-341.

*(online at: [www.gsm.org.my/products/702001-101004-PDF.pdf](http://www.gsm.org.my/products/702001-101004-PDF.pdf))*

*(New Caledonia is emergent portion of Norfolk Ridge N of New Zealand. Three pre-Cretaceous basement terranes, stitched together by E Cretaceous metamorphism, deformation and intrusions. Late Cretaceous-Paleogene extensional sedimentary basin formation, followed by E Oligocene obduction of New Caledonian ultramafic sheet. West Caledonian Fault)*

Black, P.M. & R.N. Brothers (1977)- Blueschist ophiolites in the melange zone, northern New Caledonia. *Contrib. Mineralogy Petrology* 65, p. 69-78.

*(Regional melange zone, 150 km long x 30 km wide, forms S boundary and structural capping to high-pressure blueschist belt in N New Caledonia. Disrupted country rocks in melange zone are Mesozoic metagreywackes and Eocene chert-limestone sequences, penetrated from below by tectonically injected ophiolite slivers containing metamorphosed serpentinite, gabbro, dolerite, basalt, tuff, chert and shale (ocean crust). Age (41 Ma), metamorphic environment (350° C at 7 kb), and mineral association (acmitic jadeite- epidote-lawsonite-high Si phengite) different from adjacent high-pressure schist belt, indicating separate structural site)*

Black, P.M. & R.N. Brothers (1989)- High pressure metamorphism of ophiolites in Northern New Caledonia. *Ofioliti* 13, p. 89-99.

Black, P.M., R.N. Brothers & K. Yokoyama (1988)- Mineral parageneses in eclogite-facies meta-acidites in northern New Caledonia. In: D.C. Smith (ed.) *Eclogites and eclogite facies rocks, Developments in Petrology* 12, Elsevier, Amsterdam, p. 271-289.

Black, P.M., P. Maurizot, E.D. Ghent, & M.Z. Stout (1993)- Mg-Fe carpholites from aluminous schists in the Diahot region and implications for preservation of high-pressure/low-temperature schists, northern New Caledonia. *J. Metamorphic Geol.* 11, p. 455-460.

*(Mg-Fe carpholite common in Diahot region of N New Caledonia in aluminous schists, indicating T of 230-320° C and P >7 kbar. High-P/low-T schists owe rapid uplift and preservation to vertical component of transcurrent faulting)*

Blake, M.C., R.N. Brothers & M.A. Lanphere (1977)- Radiometric ages of blueschists in New Caledonia. In: *Proc. Int. Symposium on Geodynamics in the South West Pacific, Noumea, Technip, Paris*, p. 276-282.

Blake, M.C., W.P. Irwin & R.G. Coleman (1969)- Blueschist-facies metamorphism related to regional thrust faulting. *Tectonophysics* 8, 3, p. 237-246.

Bloomer, S.H., B. Taylor, C.J. MacLeod, R.J. Stern, P. Fryer, J.W. Hawkins & L. Johnson (1995)- Early arc volcanism and the ophiolite problem: a perspective from drilling in the Western Pacific. In: B. Taylor & J. Natland (eds.) *Active margins and marginal basins of the Western Pacific, American Geophys. Union (AGU) Geophys. Monograph* 88, p. 1-30.

*(Initial phases of volcanism in intra-oceanic Izu-Bonin-Mariana forearcs developed nearly synchronously in M-L Eocene over zone 1000s of km long and up to 300km wide)*

Brocher, T.M. (ed.) (1985)- Investigations of the Northern Melanesian Borderland. Circum-Pacific Council Energy Mineral Resources, Houston, Earth Science Ser. 3, p. 1-199.

Brothers, R.N. (1970)- Lawsonite-albite schists from northernmost New Caledonia. *Contrib. Mineralogy Petrology* 25, 3, p. 185-202.

*(In NW New Caledonia metamorphism of Cretaceous-Eocene sediments-volcanics, related to large peridotite bodies. Three metamorphic zones E of ultramafic line: aragonite-lawsonite, calcite-lawsonite, and calcite-lawsonite-glaucophane. Highest ratio of P to T (aragonite-lawsonite zone) adjacent to peridotites)*

Brothers, R.N. (1974)- High-pressure schists in Northern New Caledonia. *Contrib. Mineralogy Petrology* 46, 2, p. 109-127.

*(Regional Oligocene- E Miocene (38-21 Ma) high-P metamorphism in NE (oceanward) dipping convergence zone produced schist belt adjacent to thrust-melange zone along NE margin of New Caledonia. At same time W-ward obduction of basalt-gabbro-peridotite massif. Continuous progression from lawsonite-albite facies through glaucophane greenschists to eclogitic albite-epidote amphibolites)*

Brothers, R.N. (1987)- Regional geology of New Caledonia and northern North Island, New Zealand. In: Pacific Rim Congress 87, Gold Coast 1987, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 61-63.

*(New Caledonia and N New Zealand similar Late Paleozoic- Paleocene rock units, but differ in subsequent geological histories. New Caledonia Late Eocene obduction of oceanic crust. N New Zealand Late Oligocene ophiolite obduction and extensive Late Tertiary- Quaternary volcanics)*

Brothers, R.N. & M.C. Blake (1973)- Tertiary plate tectonics and high-pressure metamorphism in New Caledonia. *Tectonophysics* 17, p. 337-358.

*(Sialic basement of New Caledonia is Permian-Jurassic greywacke sequence, folded and metamorphosed to prehnite-pumpellyite or greenschist facies by Late Jurassic. Cretaceous-Eocene sediments unconformably overlie basement and extend outwards onto oceanic crust. Tertiary tectonism in three phases. (1) Late Eocene obduction of peridotite nappe onto S New Caledonia from NE, without significant metamorphism in underlying rocks; (2) Oligocene thrust tectonics in N part of island accompanied major E-W subduction zone, at least 30 km wide, with imbricate system of melanges and high-P lawsonite-bearing assemblages, overprinted on Mesozoic prehnite-pumpellyite metagreywackes; (3) Post-Oligocene transcurrent faulting along NW-SE line parallel to W coast, causing 150 km of dextral offset of front of Eocene ultramafic nappe)*

Brothers, R.N. & A.R. Lillie (1988)- Regional geology of New Caledonia. In: A.E.M. Nairn, F.G. Stehli & S. Uyeda (eds.) *The ocean basins and margins 7, The Pacific Ocean*, Plenum Press, New York, p. 325-374.

*(see also Lillie & Brothers, 1970)*

Brothers, R.N. & K. Yokoyama (1982)- Comparison of the high-pressure schist belts of New Caledonia and Sanbagawa, Japan. *Contrib. Mineralogy Petrology* 79, 2, p. 219-229.

*(High-pressure schist terranes of New Caledonia and Sanbagawa developed along oceanic sides of sialic forelands by tectonic burial metamorphism. Parent rocks chemically similar (volcanic-sedimentary trough or trench sequences). Total pressures higher for New Caledonia, etc.)*

Brown, J.L., A.G. Christy, D.J. Ellis & R.J. Arculus (2014)- Prograde sulfide metamorphism in blueschist and eclogite, New Caledonia. *J. Petrology* 55, 3, p. 643-670.

*(Sulfide inclusions in New Caledonia blueschist and eclogite)*

Bruns, T.R., A.K. Cooper, D.M. Mann & J.G. Vedder (1986)- Seismic stratigraphy and structure of sedimentary basins in the Solomon Islands region. In: J.G. Vedder et al. (eds.) *Geology and offshore resources of Pacific*

island arcs - central and western Solomon Islands, Circum-Pacific Council Energy and Mineral Resources, Earth Sci. Ser. 4, p. 177-223.

Bruns, T.R., J.G. Vedder & R.C. Culotta (1989)- Structure and tectonics along the Kilinailau Trench, Bougainville-Buka region, Papua New Guinea. In: J.G. Vedder & T.R. Bruns (ed.) Geology and offshore resources of Pacific Island arcs; Solomon Islands and Bougainville, Papua New Guinea regions, Circum-Pacific Council Energy and Mineral Resources, Earth Sci. Ser. 12, p. 93-123.

Buys, J., C. Spandler, R.J. Holm & S.W. Richards (2014)- Remnants of ancient Australia in Vanuatu: implications for crustal evolution in island arcs and tectonic development of the southwest Pacific. *Geology* 42, p. 939-942.

*(W belt of Vanuatu intra-oceanic arc with Late Eocene- Miocene Ar-Ar ages. Island arc chemistry, but inherited zircon grains with age populations at ~2.8-2.5 Ga, 2.0-1.8 Ga, 1.75-1.5 Ga, 850-700 Ma, 530-430 Ma and 330-220 Ma, generally matching ages of crustal blocks of Australian continent. Part of Vanuatu arc basement probably comprises NE Australian continental material, that was rifted prior to Cenozoic)*

Burns, R.E. & J.E. Andrews (1973)- Regional aspects of deep sea drilling in the southwest Pacific. Initial Reports Deep Sea Drilling Project (DSDP) 21, p. 897-906.

Cabioch, G., T. Correge, L. Turpin, C. Castellaro & J. Recy (1999)- Development patterns of fringing and barrier reefs in New Caledonia (southwest Pacific). *Oceanologica Acta* 22, 6, p. 567-578.

*(Distributional patterns of 125-ka-old reef bodies around New Caledonia suggest increasing tendency of island subsidence to N, SW and more markedly seaward, controlled by isostatic readjustments and margin collapse)*

Calmant, S., B. Pelletier, P. Lebellegard, M. Bevis, F.W. Taylor & D.A. Phillips (2003)- New insights on the tectonics along the New Hebrides subduction zone based on GPS results. *J. Geophysical Research* 108, B6, 2319, 17, p. 1-22.

Cameron, W.E. (1989)- Contrasting boninite-tholeiite associations from New Caledonia. In: A.J. Crawford (ed.) *Boninites*, Unwin Hyman, London, p. 314-336.

Campbell, H.J. (1994)- The Triassic bivalves *Daonella* and *Halobia* in New Zealand, New Caledonia, and Svalbard. *New Zealand Geol. Survey Paleont. Bull.* 66 (Inst. Geol. & Nuclear Sciences Mon. 4), p. 1-165.

*(All but two of New Zealand and New Caledonian Triassic halobiids are cosmopolitan. Ladianian-Norian)*

Campbell, H.J. (1995)- Permian-Triassic links between Southeast Asia and New Zealand. In: Proc. Int. Symposium Geology of SE Asia and adjacent areas, *J. Geology, Geol. Survey Vietnam, Hanoi*, 5-6, p. 304-305.

*(Abstract only; Permian- Triassic marine sequences in New Zealand two tectonostratigraphic terranes. W Province is continental fragment of Australian Gondwana. E Province is series of accreted terranes: island arcs with Permian- Jurassic histories and sedimentary complex derived from Permo-Triassic granitoid source. Origin of these terranes may be near N Queensland or SE Asia)*

Campbell, H.J. & J.A. Grant-Mackie (1984)- Biostratigraphy of the Mesozoic Baie de St.-Vincent Group, New Caledonia. *J. Royal Soc. New Zealand* 14, 4, p. 349-366.

*(Upper Triassic (with widespread Halobia, Monotis)- Lower Jurassic marine succession, >1000m thick)*

Campbell, H.J., J.A. Grant-Mackie & J.P. Paris (1985)- Geology of the Moindou-Teremba area, New Caledonia. Stratigraphy and structure of the Teremba Group (Permian- Lower Triassic) and Baie de St-Vincent Group (Upper Triassic- Lower Jurassic). *Geologie de la France, BRGM*, 1, p. 19-36.

Campbell, J.D. (1974)- *Heterastridium* (Hydrozoa) from Norian sequences in New Caledonia and New Zealand. *J. Royal Soc. New Zealand* 4, 4, p. 447-453.

*(online at: [www.tandfonline.com/doi/pdf/10.1080/03036758.1974.10419387](http://www.tandfonline.com/doi/pdf/10.1080/03036758.1974.10419387))*

*(Globular fossils with vermicularly-sculptured surfaces identified as pelagic hydrozoan Heterastridium conglobatum in Upper Norian Monotis shell bed on l'Île Hugon, New Caledonia. Less well-preserved specimens in Nelson and Southland, New Zealand (also known from U Triassic limestones on Timor, Ceram, Hallstatt Limestone of Alps, etc.; JTvG)*

Carson, C.J., G.L. Clarke & R. Powell (2000)- Hydration of eclogite, Pam Peninsula, New Caledonia. *J. Metamorphic Geol.* 18, p. 79-90.

*(Garnet glaucophanite and greenschist facies assemblages formed by recrystallization of barroisite-bearing eclogite facies metabasites in N New Caledonia. Eclogite preserved in domains that experienced no fluid influx following loss of this fluid. Garnet glaucophanite formed at  $P \approx 16$  kbar during semi-pervasive fluid influx. Fluid influx focused in shear zones resulted in chlorite-albite greenschist facies minerals that reflect  $P \approx 9$  kbar)*

Carson, C.J., R. Powell & G.L. Clarke (1999)- Calculated mineral equilibria for eclogites in CaO-Na<sub>2</sub>O-FeO-MgO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>-H<sub>2</sub>O: application to the Pouebo Terrane, Pam Peninsula, New Caledonia. *J. Metamorphic Geol.* 17, 1, p. 9-24.

*(High-P, medium T metamorphics of Pouebo terrane of Pam Peninsula, NE New Caledonia with barroisite- and glaucophane-bearing eclogite. Metamorphic evolution experienced clockwise P-T path that reached  $P = 19$  kbar and  $T = 600^\circ\text{C}$ . Eclogitic mineral assemblages preserved because decompression consumed rocks' fluid. ( $19$  kbar =  $\sim 70$  km at  $10$  kbar per  $35$ - $40$  km; JTvG))*

Cathelineau, M., B. Quesnel, P. Gautier, P. Boulvais, C. Couteau & M. Drouillet (2016)- Nickel dispersion and enrichment at the bottom of the regolith: formation of pimelite target-like ores in rock block joints (Koniambo Ni deposit, New Caledonia). *Mineralium Deposita* 51, 2, p. 271-282.

*(In New Caledonia richest Ni silicate ores occur in fractures within bedrock and saprolite, generally several 10's- 100m below present-day surface)*

Cawood, P.A., C.A. Landis, A.A. Nemchin & S. Hada (2002)- Permian fragmentation, accretion and subsequent translation of a low latitude Tethyan seamount to the high-latitude east Gondwana margin: evidence from detrital zircon age data. *Geol. Magazine* 139, p. 131-144.

*(New Zealand S Island Te Akatarawa Terrane, enclosed in Torlesse Terrane: Late Permian detrital zircons from turbidites above fusulinid-coral limestone block melange 15 My younger than Kungurian fusulinid limestone, indicating collapse of Permian oceanic seamount on entering subduction zone along Gondwana Pacific margin. N New England Orogen most likely source for Te Akatarawa sandstones. Turbidites differ from adjoining Torlesse Permian- M Triassic sands, which also have colder water affinities. Warm-water limestones and 15 My period between sedimentation and accretion onto continental margin require limestone formed in low-latitude, probably off NE Australian- New Guinea margin)*

Chablais, J., T. Onoue & R. Martini (2010)- Upper Triassic reef-limestone blocks of southwestern Japan: new data from a Panthalassan seamount. *Palaeogeogr. Palaeoclim. Palaeoecology* 293, p. 206-222.

*(Norian-Rhaetian reef-limestone in Sambosan Accretionary Complex, S Japan formed in atoll-type system on mid-oceanic seamount surrounded by deep-water radiolarian cherts in Panthalassic Ocean. Reef-boundstone facies framebuilders are abundant coralline sponges and microbial crusts. Rare corals and algae. Similarities with coeval Upper Triassic reefs of S Peri-Tethys area, especially with Omani seamounts, suggest more S Hemisphere origin for U Triassic Japanese reefs than predicted by previous reef studies)*

Chaisson, W.P. & R.M. Leckie (1993)- High resolution Neogene planktonic foraminifer biostratigraphy of Site 806, Ontong Java Plateau (Western Equatorial Pacific). In: W.H. Berger et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results, 130*, College Station, Texas, p. 137-178.

*(online at: [www-odp.tamu.edu/publications/130\\_SR/VOLUME/CHAPTERS/sr130\\_10.pdf](http://www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_10.pdf))*

*(E Miocene- Pliocene planktonic foram biostratigraphy of Site 806. Dominance of surface dwellers (*P. kugleri*, *P. mayeri*, *D. altispira*, *Globigerinoides* spp.) in E-M Miocene replaced by more equitable distribution of surface, intermediate (*G. menardii*), and deep (*Streptochilus* spp.) dwellers in Late Miocene, reflecting shoaling of thermocline along Equator following closing of Indo-Pacific Seaway (Late Miocene,  $\sim 8$ - $10$  Ma) and initiation of large-scale glaciation in Antarctic (latest Miocene;  $\sim 5$ - $6$  Ma))*

Challinor, A.B. & J.A. Grant-Mackie (1989)- Jurassic Coleoidea of New Caledonia. *Alcheringa* 13, 4, p. 269-304.

*(Coleoid belemnites of New Caledonia widespread in W Coast M Jurassic tuffaceous sst, but rare in Central Chain U Jurassic offshore facies. Strong development of Dicoelites suggests Indonesian affinity, but New Caledonian taxa cannot be confidently assigned to either New Zealand or Indonesian belemnite subprovince)*

Chandler, M.T., P. Wessel, B. Taylor, M. Seton, S.S. Kim & K. Hyeong (2012)- Reconstructing Ontong Java Nui: implications for Pacific absolute plate motion, hotspot drift and true polar wander. *Earth Planetary Sci. Letters* 331, p. 140-151.

*(Ontong Java-Manihiki-Hikurangi super-plateau model)*

Chandler, M.T., P. Wessel & W.W. Sager (2013)- Analysis of Ontong Java Plateau palaeolatitudes: evidence for large-scale rotation since 123 Ma? *Geophysical J. Int.* 194, 1, p. 18-29.

*(Ontong Java Plateau paleolatitudes suggest ~40° of CW rotation since formation at ~123 Ma. Mean palaeolatitude value of Ontong Java remains largely unchanged)*

Chapman, F. (1932)- On a rock containing *Discocyclina* and *Assilina* found near Mt. Oxford, South Island, New Zealand. *Records Canterbury (N.Z.) Museum* 3, p. 483-489.

*(Records of Assilina, Heterostegina, and Discocyclina from Eyre River, N Canterbury. With new species Discocyclina speighti and D. novaezelandiae (all seven species united in Asterocyclina speighti by Finlay (1946) and Cole (1962))*

Chaproniere, G.C.H. (1994)- Middle and Late Eocene larger foraminifers from Site 841 (Tongan Platform). In: J. Hawkins et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results*, 135, p. 231-243.

*(online at: [www-odp.tamu.edu/publications/135\\_SR/VOLUME/CHAPTERS/sr135\\_15.pdf](http://www-odp.tamu.edu/publications/135_SR/VOLUME/CHAPTERS/sr135_15.pdf))*

*(Eocene (Lutetian) larger foraminifera Nummulites, Discocyclina, Asterocyclina, Halkyardia in ODP Hole 841B, NE of New Zealand. Lack of Pellatispira- Spiroclypeus suggests zone Ta. Reworked Eocene Pellatispira in Upper Miocene)*

Chaproniere, G.C.H. (1994)- Middle and Late Eocene, Neogene and Quaternary foraminiferal faunas from Eua and Vavau islands, Tonga Group. In: A.J. Stevenson et al. (eds.) *Geology and submarine resources of the Tonga-Lau-Fiji region. SOPAC Techn. Bull.* 8, p. 21-44.

*(Two larger foram assemblages in Eocene limestones on Eua Island, Tonga: (1) late M Eocene zones Ta3/ P14 without Pellatispira and (2) latest Eocene/Tb/P17 with Pellatispira). M Miocene/N14 deep-water volcanoclastics with evidence for reworking from Zones N9 -N10. Pliocene-Pleistocene reefal limestones often contain larger forams from Eocene. All samples from Vavau with Plio-Pleistocene shallow water forams)*

Chaproniere, G.C.H. & C. Betzler (1993)- Larger foraminiferal biostratigraphy of Sites 815, 816, and 826, Leg 133, northeastern Australia. In: J.A. McKenzie et al. (eds.) *Proc. Ocean Drilling Project (ODP), Scient. Results* 133, p. 39-49.

*(Marion Plateau large carbonate platform off NE Queensland. Shallow water carbonates of early M Miocene (N9-N12) age (lower Tf stage). Coralline algae and Halimeda main bioclasts)*

Chardon, D., J.A.J. Austin, G. Cabioch, B. Pelletier, S. Sastrup & F. Sage (2008)- Neogene history of the northeastern New Caledonia continental margin from multichannel reflection seismic profiles. *Comptes Rendus Geoscience* 340, 1, p. 68-73.

*(Seismic profiles along NE margin of New Caledonia Ridge show Late Miocene extensional faulting that disrupted E-M-Miocene clastic wedge, etc.)*

Chardon, D. & V. Chevillotte (2006)- Morphotectonic evolution of the New Caledonia Ridge (Pacific southwest) from post-obduction tectonosedimentary record. *Tectonophysics* 420, p. 473-491.

*(Study of two post-obduction fluvial sedimentary systems on mainland New Caledonia and offshore seismic lines. Two regional river aggradation cycles, each preceded by deep river incision phase, in Chattian and in E*

*Miocene. Extensional tectonics initiated in E Neogene led to collapse of latest Oligocene phase of planation. Early slip on normal faults associated with ridge-normal extension, later faults ridge-parallel to ridge-oblique extension, resulting from shift to transtensional regime driven by initiation of E-verging subduction of Australian plate beneath Pacific plate starting in late M Miocene)*

Chen, M.C., C. Frohlich, F.W. Taylor, G. Burr & A. Quarles van Ufford (2011)- Arc segmentation and seismicity in the Solomon Islands arc, SW Pacific. *Tectonophysics* 507, p. 47-69.

*(16 segments identified in Solomon Islands Arc, mainly based on seismicity patterns and drowning/ uplift of coral reef terraces. Average length 75km (30-130km). Grouped in 3 supersegments correspond to forearc areas of the Bougainville Islands, New Georgia islands and Guadalcanal-Makira. Main convergence from SSW (San Cristobal Trench), but before ~5 Ma subduction polarity reversal mainly from NNE? (North Solomons Trench))*

Chevillotte, V., D. Chardon, A. Beauvais, P. Maurizot & F. Colin (2006)- Long-term tropical morphogenesis of New Caledonia (Southwest Pacific): importance of positive epeirogeny and climate change. *Geomorphology* 81, 3-4, p. 361-375.

*(Mapping of relict lateritic land surfaces over 1600m of relief of mainland New Caledonia to evaluate morphogenesis of island since emergence in E Oligocene. Eight island-scale erosion levels)*

Chevillotte, V., P. Douillet, G. Cabioch, Y. Lafoy, Y. Lagabrielle & P. Maurizot (2005)- Evolution geomorphologique de l'avant-pays du Sud-Ouest de la Nouvelle-Caledonie durant les derniers cycles glaciaires. *Comptes Rendus Geoscience* 337, 7, p. 695-701.

*('Geomorphological evolution of the foreland of SW New Caledonia during the last glacial cycles')*

Chun, Y.Y. & L.W. Kroenke (1993)- A plate tectonic reconstruction of the Southwest Pacific, 0-100 Ma. *Proc. Ocean Drilling Project (ODP), Leg 130, Scient. Results*, p. 697-709.

*(online at: [www-odp.tamu.edu/publications/130\\_SR/VOLUME/CHAPTERS/sr130\\_43.pdf](http://www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_43.pdf))*

*(Reconstructions of SW Pacific paleogeography back to 100 Ma. Successive periods of convergence along five paleo-subduction zones that formed concomitantly with changes in Indo-Australia and Pacific plate motions from Eocene to Late Miocene. Episodes of basin formation along W and SW margins of Pacific Plate and along E and NE margins of Indo-Australian Plate since Late Cretaceous include Tasman (85-55 Ma), New Caledonia (74-65 Ma), Coral Sea (63-53 Ma), Loyalty (52-40 Ma), d'Entrecasteaux (34-28 Ma), Caroline (34-27 Ma), Solomon Sea (34-28 Ma), S Fiji (34-27 Ma), N Fiji (10-0 Ma), and Lau, Woodlark, and Manus (5.5-0 Ma) basins. Seamount chains developed over Tasmantid, Lord Howe, Louisville and Samoa hotspots)*

Cisowski, S.M., M. Fuller, R.B. Haston & M. Koyama (1990)- Paleomagnetic evidence from land-based and ODP cores for clockwise rotation and northward translation of the Phillipine Sea plate. In: Fifth Circum-Pacific Energy and Mineral Resources Conference, Honolulu, Hawaii, AAPG Search and Discovery Art. 90097.

*(Abstract only)*

*(Onland and deep-sea core paleomagnetic data from around Philippine Sea plate. Data from Palau islands suggest 70°CW rotation and N-ward translation since M Oligocene. Data from Guam, Saipan, ODP Leg 126, all support 70-110° CW rotation and ~15° N-ward translation of W Philippine Sea plate since M Oligocene of the Philippine Sea plate since the mid-Oligocene. N-ward translation and clockwise rotation of Philippine Sea plate established oblique subduction along proto-Philippine margin, which could account for 600 km of subducted slab beneath E Celebes Sea)*

Clarke, G.L., J.C. Aitchison & D. Cluzel (1997)- Eclogites and blueschists of the Pam Peninsula, NE New Caledonia: a reappraisal. *J. Petrology* 38, 7, p. 843-876.

*(online at: <http://petrology.oxfordjournals.org/content/38/7/843.full.pdf+html>)*

*(Late Eocene high-P rocks of Pam Peninsula three zones: (1) uppermost ferroglaucofane-lawsonite zone of Cretaceous-Eocene metasediments and metavolcanics (2) blueschist facies (3) lowermost metabasic eclogites of uncertain age. Metamorphism and deformation tied to 44-51 Ma (M Eocene) thrusting of sedimentary and ophiolitic nappes over eclogites in SW direction. Mica ages constrain end of metamorphism by 37 Ma)*

Cloud, P.E., R.G.Schmidt & H.W. Burke (1956)- Geology of Saipan, Mariana Islands; Part 1, General geology. U.S. Geol. Survey (USGS) Prof. Paper, 280-A, p. 1-123.

(online at: <http://pubs.usgs.gov/pp/0280a/report.pdf>)

(Saipan is one of more southerly of Mariana Islands at E side of Philippine Sea. Consists of Eocene volcanic core enveloped by Late Eocene- Early Miocene limestones. See also papers on smaller and larger foraminifera (Todd 1957, Cole 1957, calcareous algae (Johnson 1957) etc.))

Cluzel, D. (1998)- Le 'flysch post-obduction' de Nepoui, un bassin transporté? Consequences sur l'age et les modalités de l'obduction tertiaire en Nouvelle-Calédonie (Pacifique sud-ouest). Comptes Rendus Academie Sciences, Paris, IIA, 327, 6, p. 419-424

(*The 'post-obduction flysch' of Nepoui, a transported basin? Inference on age and setting of the Tertiary obduction in New Caledonia (SW Pacific). Bartonian Nepoui flysch not of post-obduction character; only Miocene conglomerate with erosion products of ophiolitic nappe. Nepoui flysch older than parts of autochthonous terranes and unlikely post-dates obduction. May be piggy-back basin transported by Poya Nappe during obduction. Obduction probably younger than previously postulated pre-U Bartonian age*)

Cluzel, D., C.J. Adams, S. Meffre, H. Campbell & P. Maurizot (2010)- Discovery of Early Cretaceous rocks in New Caledonia: new geochemical and U-Pb zircon age constraints on the transition from subduction to marginal breakup in the Southwest Pacific. J. Geology 118, 4, p. 381-397.

(*Zircon dating of Permian-Mesozoic arc volcanics suggests subduction in New Caledonia not extinct in Late Jurassic (~150 Ma), but still active in late Early Cretaceous (~130-95 Ma). Rift magmatism that preceded margin breakup migrated E from ~130 Ma in E Australia to 110 Ma (110-82 Ma) in New Zealand, to ~89 Ma (89-83 Ma) in New Caledonia, generating large volumes of silicic magma. Marginal basins opened synchronously at ~83 Ma. Australian marginal breakup final effect of S-ward unzipping of Gondwana*)

Cluzel, D., C.J. Adams, P. Maurizot & S. Meffre (2011)- Detrital zircon records of Late Cretaceous syn-rift sedimentary sequences of New Caledonia: an Australian provenance questioned. Tectonophysics 501, p. 17-27.

(*Late Cretaceous coastal clastics of New Caledonia contemporaneous with latest stages of E Australian marginal rifting. Detrital zircon populations dominated by E Cretaceous, E Paleozoic and Precambrian and may be local recycled provenance. New Caledonia already isolated from Australia in Coniacian (~89-85 Ma), consistent with faunal and floral endemism at that time*)

Cluzel, D., J.C. Aitchison, G.L. Clarke, S. Meffre & C. Picard (1994)- Point de vue sur l'évolution tectonique et géodynamique de la Nouvelle-Calédonie. Comptes Rendus Hebd. Seances Academie Sciences, Paris, ser. 2, 319, p. 683-690.

(*Brief summary of tectonic-geodynamic evolution of New Caledonia: (1) Permian- Late Jurassic intra-oceanic arc deposits obducted onto 'pre-Permian' metamorphic terrane; (2) accretion to E Gondwana in latest Jurassic; (3) Late Cretaceous- Paleocene breakup of Gondwana margin; (4) collision with Eocene subduction zone of Loyalty Basin; (5) Late Eocene ophiolite obduction*)

Cluzel, D., J.C. Aitchison, G.L. Clarke, S. Meffre & C. Picard (1995)- Denudation tectonique du complexe a noyau métamorphique de haute pression tertiaire (Nord de la Nouvelle-Calédonie, Pacifique, France), Données cinématiques. Comptes Rendus Academie Sciences, Paris 321, p. 57-64.

(*Tectonic denudation of the high pressure Tertiary metamorphic core complex (North New Caledonia)*)

Cluzel, D.J., C. Aitchison & C. Picard (2001)- Tectonic accretion and underplating of mafic terranes in the Late Eocene intraoceanic fore-arc of New Caledonia (Southwest Pacific): geodynamic implications. Tectonophysics 340, p. 23-59.

(*Late Eocene tectonic accretion, subduction, underplating and obduction of mafic terranes in intra-oceanic forearc setting in New Caledonia. Late Eocene tectonic complex three major terranes: (1) overlying ultramafic mainly harzburgitic allochthonous Ophiolitic Nappe (2) Poya Terrane intermediate mafic, mainly basaltic off-scraped melange with km-scale slices of oceanic upper crust, (originally formed as Campanian- Late Paleocene S Loyalty oceanic marginal basin that opened at same time as Tasman Sea), parts of which metamorphosed into*

*eclogite/blueschist facies metamorphic complex (Pouebo Terrane) and (3) lower, continental basement, which is northern part of the Norfolk Ridge terrane(s)*

Cluzel, D., D. Bosch, J.L. Paquette, Y. Lemennicier et al. (2005)- Late Oligocene post-obduction granitoids of new Caledonia: a case for reactivated subduction and slab break-off. *The Island Arc* 14, p. 254-271.

*(In S New Caledonia, Late Oligocene granodiorite and adamellite intruded into ultramafic allochthon emplaced in Late Eocene. High-medium-K calc-alkaline granitoids geochemical and isotopic features of volcanic arc magmas uncontaminated by crust-derived melts, probably generated in post- Eocene and pre-Miocene subduction. Late Oligocene subduction described here may be extended S into N New Zealand allochthons)*

Cluzel, D., D. Chiron & M.D. Courme (1998)- Discordance de l'Eocene superieur et evenements pre-obduction en Nouvelle-Caledonie (Pacifique sud-ouest). *Comptes Rendus Academie Sciences, Paris* 327, p. 485-491.

*(‘Upper Eocene unconformity and pre-obduction events on New Caledonia’. New Caledonia intra-Eocene unconformity with ~50m thick U Eocene (Tb) carbonates and >400m of Upper Priabonian flysch and olistostrome unconformably overlies eroded pre-Cretaceous- M Eocene rocks (in pelagic facies) (= foreland basin phase during ophiolite obduction?; JTvG))*

Cluzel, D., F. Jourdan, S. Meffre, P. Maurizot & S. Lesimple (2012)- The metamorphic sole of New Caledonia ophiolite; 40Ar/39Ar, U-Pb, and geochemical evidence for subduction inception at a spreading ridge. *Tectonics* 31, 3, TC3016, p. 1-16.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2011TC003085/pdf>)*

*(Amphibolite lenses below serpentinite sole at base of Peridotite Nappe recrystallised in high-T amphibolite facies, unlike blueschists and eclogites of Eocene metamorphic complex. Amphibolites MORB geochemical features, similar to Late Paleocene-Eocene BABB components of allochthonous Poya Terrane. Mafic rocks recrystallised at ~56 Ma and belong to oceanic crust of lower plate of subduction/obduction system and recrystallised when subducted below young-hot oceanic lithosphere. This and occurrence of slab melts at ~53 Ma suggest subduction inception near spreading ridge of S Loyalty Basin at ~58 Ma)*

Cluzel, D., P. Maurizot, J. Collot & B. Sevin (2012)- An outline of the geology of New Caledonia; from Permian-Mesozoic Southeast Gondwanaland active margin to Cenozoic obduction and supergene evolution. *Episodes* 35, 1, p. 72-86.

*(online at: [www.episodes.co.in/Contents/2012/march/p72-86.pdf](http://www.episodes.co.in/Contents/2012/march/p72-86.pdf))*

*(Recent review of New Caledonia geology. Three phases: (1) E Permian-E Cretaceous Gondwanan phase, marked by subduction along SE Gondwanaland margin, with New Caledonia located in fore-arc region in which volcanic-arc detritus accumulated; (2) Late Cretaceous- Eocene marginal rifting isolated with short period of shallow water terrigenous sedimentation associated with minor volcanic activity, followed by pelagic sediments; (3) NE-dipping Eocene subduction zone to E of New Caledonia consumed E Australian Plate and ended with Late Eocene obduction when Norfolk Ridge blocked subduction zone)*

Cluzel, D. & S. Meffre (2002)- L'unité de la Boghen (Nouvelle-Caledonie, Pacifique sud-ouest): un complexe d'accrétion jurassique. Données radiochronologiques préliminaires U-Pb sur les zircons détritiques. *Comptes Rendus Geoscience* 334, p. 867-874.

*(‘The Boghen terrane (New Caledonia, SW Pacific): a Jurassic accretionary complex; preliminary U-Pb radiochronological data on detrital zircons’. Presence of 191-200 Ma detrital zircons in Boghen terrane metasediments that were metamorphosed at 150 Ma suggests Jurassic sedimentary precursors (probably as Jurassic accretionary complex along E Gondwana active margin), metamorphosed soon after deposition. Terrane formerly considered ‘pre-Permian basement’. Detrital zircons three zircon age populations: Late Carboniferous- Liassic (190-305 Ma; 23%), Neo- Mesoproterozoic (540-1400 Ma; 54%) and Paleoproterozoic (1800-2300 Ma; 23%), consistent with derivation from Permian- Mesozoic SE Gondwana arc system and Antarctic continent)*

Cluzel, D., S. Meffre, P. Maurizot & A.J. Crawford (2006)- Earliest Eocene (53 Ma) convergence in the Southwest Pacific: evidence from pre-obduction dikes in the ophiolite of New Caledonia. *Terra Nova* 18, 6, p. 395-402.

*(Chemistry and age of mafic and felsic dikes of supra-subduction zone character in mantle peridotite of S New Caledonia ophiolite, with zircon ages of  $52.8 \pm 0.2$  Ma (no inherited zircons). Suggest subduction-related magmatism began before 53 Ma. Obduction in SW Pacific unrelated to reorientation of Pacific plate motion at ~43 Ma. Post-obduction granitoids intruded ophiolite and autochthonous basement at ~27-24 Ma)*

Cluzel, D., M. Ulrich, F. Jourdan, S. Meffre, J.L. Paquette, M.A. Audet, A. Secchiari & P. Maurizot (2016)- Early Eocene clinostatite boninite and boninite-series dikes of the ophiolite of New Caledonia; a witness of slab-derived enrichment of the mantle wedge in a nascent volcanic arc. *Lithos* 260, p. 429-442.

*(Clinostatite-bearing boninites from serpentinite sole of Cenozoic ophiolite of New Caledonia Ar/Ar dated as ~47.4 and 50.4 Ma. Coarser grained, similar felsic dikes with U-Pb zircon ages of ~54 Ma. Geochemical features similar to Cape Vogel boninites and similarly generated by hydrous melting of depleted peridotite. Magmas generated by slab melting during early stages of intra-oceanic subduction)*

Coleman, P.J. (1962)- An outline of the geology of Choiseul, British Solomon Islands. *J. Geol. Soc. Australia* 8, 2, p. 135-157.

*(Choiseul island 100 x 20 miles in size, one of larger of Solomon Islands. Structurally the island is a mass of fault blocks, active from E Miocene -present. Basement amphibolite schists, overlain by >2000' thick andesites, basalts and basaltic pillow lavas, with minor intrusives; Lower Miocene grits and ~300' thick biostromal calcarenite on lavas; >1000' of subgreywackes and volcanic sandstones; ~2000' of Pliocene calcarenites and calcilitites; Quaternary volcanics from two extant volcanic cones and slabs of uplifted limestone reef masses. Also slab-like body of flat-lying, ~500' thick pre-Miocene? Siruka serpentinitic peridotites overlying schists)*

Coleman, P. (1963)- Tertiary larger Foraminifera of the British Solomon Islands, Southern Pacific. *Micropaleontology* 9, p. 1-38.

*(U Oligocene- Recent sedimentary successions in British Solomon Islands with 32 species of larger foraminifera, including Cycloclypeus, Katacycloclypeus, Lepidocyclina, Miogypsina, Miogypsinoidea and Spiroclypeus. Three distinct faunas: Aquitanian, Burdigalian and Pliocene-Recent)*

Coleman, P.J. (1966)- Upper Cretaceous (Senonian) bathyal pelagic sediments with *Globotruncana* from the Solomon Islands. *J. Geol. Soc. Australia* 13, 2, p. 439-447.

*(Pelagic oozes overlying basal basaltic lavas on Malaita, Solomon Islands, contain up to 20% planktonic foraminifera, <5% acid-insoluble clay, associated with radiolarian chert and with finely disseminated manganese. Foraminifera include Globotruncana arca, G. havanensis, G. lapparenti and G. tricarinata, indicating probably Late Senonian age. These sediments are oldest in Solomon group)*

Coleman, P.J. (1966)- The Solomon Islands as an island arc. *Nature* 211, p. 1249-1251.

*(Solomon Islands ~800 mile long chain in SW Pacific, mainly composed of arc volcanics. On Pacific side (north) with Lower Cretaceous- Eocene basic, submarine lavas. Central region with widespread Lower Eocene metamorphics (Choiseul schists), intruded and overlain by U Eocene- Oligocene andesites. Etc.)*

Coleman, P.J. (1970)- Geology of the Solomon and New Hebrides Islands as parts of the Melanesian re-entrant, Southwest Pacific. *Pacific Science* 24, p. 284-314.

*(Solomon Islands and New Hebrides Archipelago examples of fractured island arcs. Both are crustal blocks, 20-30 km thick, and isolated from neighboring blocks. Their generalized stratigraphic columns remarkably similar and complete. Deep fracturing is dominant structural style, with differential uplifts of up to 6000m)*

Coleman, P.J. (1978)- Reflections on outer Melanesian Tertiary larger foraminifera. *Bull. Bureau Mineral Res. Geol. Geophys.* 192 (Crespin Volume), p. 31-36.

*(Four main Tertiary larger foraminifera assemblages between N coast New Guinea and Fiji: Late Eocene, Late Oligocene- E Miocene, E-M Miocene and Late Miocene)*

Coleman, P.J. (1980)- Plate tectonics background to biogeographic development in the Southwest Pacific over the last 100 million years. *Palaeogeogr. Palaeoclim. Palaeoecology* 31, p. 105-121.

*(India, Australia, Greater New Zealand and Antarctica all part of Gondwana in Jurassic. N margin of NE Gondwana (New Guinea), E (New Caledonia-Norfolk Ridge) and SE margins (New Zealand) were active margins. New Guinea edge was volcanic island arc setting. Bordering arc system along New Caledonia- New Zealand E edge made up Inner Melanesian Arcs. Rangitata Orogeny culminated in E Cretaceous, followed by uplift, metamorphism and regression, over much of Greater New Zealand. Regression in Australia in Late Cretaceous (100-65 m.y.). Main Late Cretaceous event was creation of Tasman Sea (78-56 Ma). Coral Sea opened by spreading and sinistral strike-slip of part of New Guinea N of Papuan Mobile Belt at same time)*

Coleman, P.J. (1989)- Petroleum potential of Solomon Islands, a review of opportunities for exploration. Bureau Mineral Res., Canberra, p. 1-24.

*(online at: <http://ict.sopac.org/VirLib/CP0011a.pdf>)*

*(Solomon Islands arc system has an igneous basement of arc tholeiites and basalts and intrusives, mostly of E Tertiary age, overlain by sedimentary-volcanic section extending through Holocene. Most of basinal areas younger than Late Oligocene)*

Coleman, P.J. (1991)- Dynamic strike-slip fault systems with respect to the Solomon Islands, and their effect on mineral potential. Marine Geology 98, p. 167-176.

*(Solomon Islands example of volcanic arc split by major strike-slip faults along obliquely convergent boundary)*

Coleman, P.J. (1997)- Australia and the Melanesian arcs: a review of tectonic settings. AGSO J. Australian Geol. Geophysics 17, 1, p. 113-125.

*(online at: [www.ga.gov.au/corporate\\_data/81483/Jou1997\\_v17\\_n1\\_p113.pdf](http://www.ga.gov.au/corporate_data/81483/Jou1997_v17_n1_p113.pdf))*

*(Review of pre- and post-plate tectonic interpretations of NE Australia- SW Pacific area)*

Coleman, P.J. & B.D. Hackman (1974)- Solomon Islands. In: A.M. Spencer (ed.) Mesozoic-Cenozoic orogenic belts: data for orogenic studies, Geol. Soc., London, Spec. Publ., p. 453-461.

*(Solomon islands double chain of islands trending WNW-ESE ~800 km E of PNG, but connected with it by Bismarck Archipelago. Mobile belt in intra-oceanic setting. Three zones (1) SW: Plio-Pleistocene volcanoes (2) Central: thick Tertiary volcanoclastics and lavas on partly metamorphic 'Basement' (3) NE: Pacific Province with U Cretaceous- Tertiary pelagic sediments on lavas. Deformation by faulting began in late Cretaceous and Paleocene times with further phases in Oligocene, U. Miocene/L. Pliocene and Quaternary)*

Coleman, P. and L. Kroenke (1981)- Subduction without volcanism in the Solomon Islands arc. Geo-Marine Letters 1, p. 129-134.

*(Solomon arc lacks subduction-associated volcanism in E part, due to collision of submarine Ontong Java Plateau with Solomon arc at ~8 Ma and consequent flip in subduction. Collision most forceful over E half, so new, N-plunging slab of Indo-Australian plate remained in collisional contact with thick oceanic crust (>40 km) and lithosphere of Ontong Java Plateau along face of cooled depleted refractory mantle; there is no intervening asthenospheric wedge, and therefore no magma production)*

Coleman, P. & R.A. MacTavish (1964)- Association of larger and planktonic foraminifera in single samples from Middle Miocene sediments, Guadalcanal, Solomon Islands, Southwest Pacific. Royal Soc. Western Australia 47, 1, p. 13-24.

Coleman, P. & R.A. MacTavish (1967)- Association of Early Miocene planktonic and larger foraminifera from the Solomon Islands, Southwest Pacific. Australian J. Sci. 29, 10, p. 373-375.

Coleman, P.J. & G.H. Packham (1976)- The Melanesian borderlands and India-Pacific platesø boundary. Earth-Science Reviews 12, p. 197-233.

*(Melanesian Borderlands extend from New Guinea to Tonga and occupy border position between India and Pacific plates. Seven regions: Bismarck Sea, Solomon Block, Coral Sea, New Hebrides and S Fiji Basins, New Hebrides Block, Fiji Plateau and Lau Basin, Fiji Platform and Lau and Tonga Ridges)*

Coleman, R.G. (1967)- Glaucophane schists from California and New Caledonia. *Tectonophysics* 4, 4-6, p. 479-498.

*(In California and New Caledonia outcrop patterns and structures show belt of blueschist facies metamorphism of eugeosynclinal rocks parallel to large ultramafic bodies, indicating tectonic relationship between metamorphism and tectonic emplacement. Mineral assemblages in blueschist facies under conditions where pressure is dominant over temperature, requiring extremely low thermal gradients. In New Caledonia age of metamorphism 21-38 Ma from radiometric dating of on muscovite and glaucophane in high-P schist belt)*

Coleman, R.G. (1971)- Plate tectonic emplacement of upper mantle peridotites along continental edges. *J. Geophysical Research* 76, 5, p. 1212-1222.

*(Large oceanic-mantle crustal slabs thrust over or into continental edges contemporaneously with blueschist metamorphism in New Caledonia and New Guinea. 'Obduction' zones lack volcanic activity, and may result from initial stage of compressional impact between oceanic and continental lithospheric plate. Serpentinites represent alteration developed during tectonic emplacement into wet sediments of continental plate, which produces less dense and plastic envelope that facilitates further tectonic movement)*

Colley, H. (1984)- An ophiolite suite in Fiji? In: *Ophiolites and oceanic lithosphere*, Geol. Soc. London, Spec. Publ. 13, p. 333-340.

*(In SW Viti Levu rocks formerly described as part of island-arc succession may be upper part of ophiolite suite. Foraminiferal oozes, cherts, red clays, Fe-Mn metalliferous sediments, fine-grained volcanic turbidites and reworked polymict lapillistones can be equated with Layer 1 of oceanic lithosphere)*

Colley, H. & W.H. Hindle (1984)- Volcano-tectonic evolution of Fiji and adjoining marginal basins. In: B.P. Kokelaar & M.F. Howells (eds.) *Marginal basin geology: volcanic and associated sedimentary and tectonic processes in modern and ancient marginal basins*, Geol. Soc., London, Spec. Publ. 16, p. 151-162.

*(From Eocene- M Miocene, Fiji was part of N-facing Outer Melanesia arc system, stretching from PNG to Tonga. Oligocene back-arc spreading S of Fiji led to formation of Minerva Plain (S Fiji Basin). M Miocene polarity reversal in arc segments W of Fiji. Fiji compressive event followed by progressive isolation from subduction regime as arc segments rotated away. Change in Fiji volcanism from arc andesites and tholeiites to alkalic ocean island basalts. Most recent arc rotation resulted in opening of Lau Basin between Fiji and Tonga, and divorce of Fiji from subduction influence with start of ocean island basalt volcanism in M Pliocene)*

Collignon, M. (1977)- Ammonites neocretacees de la Nouvelle-Caledonie. *Bull. Bur. Rech. Geol. Minieres (France)*, sect. 4, 1, p. 7-36.

*('Upper Cretaceous ammonites from New Caledonia'. Coniacian- Campanian ammonites in quartz-rich shallow marine sediments overlying Koh ophiolite. Includes new species Caledonites australis, etc)*

Collot, J. (2009)- Evolution geodynamique du domaine Ouest offshore de la Nouvelle-Caledonie et de ses extensions vers la Nouvelle-Zelande. Ph.D. Thesis, Universite de Bretagne Occidentale, Brest, p. 1-290.

*(online at: <http://tel.archives-ouvertes.fr/docs/00/54/01/73/PDF/JCOLLOT-PhD-2009-light.pdf>)*

*('Geodynamic evolution of the western offshore domain of New Caledonia and its extensions towards New Zealand'. Major review of New Caledonia area geology/ geodynamics. Updated chronostratigraphy of Fairway and New Caledonia basins and associated ridges. Phases of basins evolution: (1) M Cretaceous formation of Fairway-Aotea Basin in continental intra-arc or backarc position; (2) Latest Late Eocene deformation of N New Caledonia Basin, synchronous with New Caledonia ophiolite obduction; (3) Regional Eocene-Oligocene subsidence of Lord Howe Rise, Fairway-Aotea Basin, Fairway Ridge, New Caledonia Basin, Norfolk Ridge)*

Collot, J.Y. & M.A. Fischer (1989)- Formation of forearc basins by collision between seamounts and accretionary wedges: an example from the New Hebrides subduction zone. *Geology* 17, p. 930-933.

*(Seamounts that collide with accretionary wedges can cause deep, sub-circular reentrants at ~4km depth in lower forearc slope of New Hebrides Arc that eventually fill to become forearc basins. Reentrants result from tectonic erosion as wedge rocks are oversteepened and jostled aside by the subducting seamount)*

Collot, J.Y. & M.A. Fischer (1991)- The collision zone between the North d'Entrecasteaux Ridge and the New Hebrides Island Arc: 1. Sea Beam morphology and shallow structure. *J. Geophysical Research* 96, B3, p. 4459-4478.

Collot, J.Y. & M.A. Fischer (1994)- The D'Entrecasteaux zone- New Hebrides island arc collision zone: an overview. In: J.Y. Collot et al. (eds.) *Proc. Ocean Drilling Program (ODP), Initial Reports 134*, p. 19-31. (online at: [www-odp.tamu.edu/Publications/134\\_IR/VOLUME/CHAPTERS/ir134\\_02.pdf](http://www-odp.tamu.edu/Publications/134_IR/VOLUME/CHAPTERS/ir134_02.pdf))  
(On colliding d'Entrecasteaux Zone (with N d'Entrecasteaux Ridge with Paleogene MORB basement and Bougainville Guyot M Eocene volcano) and C New Hebrides Island Arc. N d'Entrecasteaux Ridge collision deforming island-arc basement. Bougainville Guyot clogged trench and indented arc slope by 10km. Landward of Bougainville Guyot, 500m-thick wedge, including imbricated U Oligocene- Lw Miocene reefal limestones with U Eocene reefal debris and M Eocene pelagic sediments, possibly formed by tectonic accretion of guyot material)

Collot, J., L. Geli, Y. Lafoy, R. Vially, D. Cluzel, F. Klingelhofer & H. Nouze (2008)- Tectonic history of northern New Caledonia Basin from deep offshore seismic reflection: relation to late Eocene obduction in New Caledonia, Southwest Pacific. *Tectonics* 27, 6, p. 1-20.  
(Seismic data from W New Caledonia offshore allow correlation between DSDP hole 208 on Lord Howe Rise and deep water New Caledonia Basin. Eocene/Oligocene unconformity deeper than previously thought. S Loyalty Basin obducted in Early Oligocene, New Caledonia Basin subsided under effect of loading)

Collot, J.Y., H.G. Greene, M.A. Fisher, and E. Geist (1994)- Tectonic accretion and deformation of the accretionary wedge in the North d'Entrecasteaux Ridge- New Hebrides island arc collision zone: evidence from multichannel seismic reflection profiles and Leg 134 Results. In: J.Y. Collot et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results, 134*, p. 363-373.

Collot, J., R.H. Herzer, Y. Lafoy & L. Geli (2009)- Mesozoic history of the Fairway- Aotea Basin: implications regarding the early stages of Gondwana fragmentation, *Geochem. Geophys. Geosystems* 10, Q12019, p. 1-24.  
(Fairway Ridge is buried continental ridge, separating Late Cretaceous Fairway Basin from New Caledonia Basin. Opening of Fairway-Aotea Basin predates opening of Tasman Sea. Lord Howe, Fairway and Norfolk ridges part of remnant late Early Cretaceous continental arc, fragmented into three pieces in mid-Cretaceous in slab retreat process)

Collot, J., Y. Lafoy & L. Geli (2011)- Structural provinces of the Southwest Pacific, explanatory notes. *Geol. Survey of New Caledonia-DIMENC/ Ifremer, Noumea*, p. 1-39. (online at: [www.dimenc.gouv.nc/portal/page/portal/dimenc/telechargements/tele\\_geologie/NEWCALEDONIA\\_ang-A5-v18.pdf](http://www.dimenc.gouv.nc/portal/page/portal/dimenc/telechargements/tele_geologie/NEWCALEDONIA_ang-A5-v18.pdf))  
(Useful review and synthesis of SW Pacific oceanic basins, continental ribbon-like terranes derived from active Gondwana margin, tectonic events, etc.)

Collot, J.Y., S. Lallemand, B. Pelletier, J.P. Eissen, G. Glacon, M.A. Fisher, H.G. Greene et al. (1992)- Geology of the d'Entrecasteaux-New Hebrides arc collision zone: results from a deep submersible survey. *Tectonophysics* 212, 3-4, p. 213-241.  
(Seven submersible dives in water depths 900- 5350m over New Hebrides island arc- d'Entrecasteaux Zone collision zone. Bougainville guyot is M Eocene island arc volcano, capped with Late Oligocene and younger reef limestones, and in early stage of subduction. Guyot possibly emerged above sea level in M-L Miocene)

Collot, J.Y., A. Malahoff, J. Recy, G. Latham & F. Missegue (1987)- Overthrust emplacement of New Caledonia ophiolite: geophysical evidence. *Tectonics* 6, 3, p. 215-232.  
(Geophysical studies support inferences from outcrop geology that in Late Eocene an ophiolite sheet exposed on New Caledonia was thrust S-ward over Pre-Permian- Eocene sedimentary, volcanic, and metamorphic rocks. Outcropping ultramafic complex consists of ~3 km thick layered sequence of harzburgite, dunite, wehrlite, serpentinite, and gabbro. Absence of pillow basalts and sheeted dikes on land suggests removal by thrust faulting or erosion. Geological model shows 10km-thick slab of oceanic crust and mantle material extending continuously from ophiolite on New Caledonia to oceanic crust of Loyalty Basin)

Collot, J.Y., F. Missegue & A. Malahoff (1982)- Anomalies gravimetriques et structure de la croute dans la region de la Nouvelle-Caledonie: enracinement des peridotites. Travaux Doc. Orstom 147, p. 549-564.  
(online at: [http://horizon.documentation.ird.fr/exl-doc/pleins\\_textes/pleins\\_textes\\_6/Tra\\_d\\_cm/02429bis.pdf](http://horizon.documentation.ird.fr/exl-doc/pleins_textes/pleins_textes_6/Tra_d_cm/02429bis.pdf))  
(*'Gravity anomalies and structure of the crust in New Caledonia area: roots of peridotites'. Late Eocene obduction of 10km thick ophiolite complex onto New Caledonia from N. Initially rigid sheet broken up by extensional tectonics*)

Collot, J., M. Patriat, S. Etienne, P. Rouillard, F. Soetaert, C. Juan, B. Marcaillou et al. (2017)- Deepwater fold-and-thrust belt along New Caledonia's western margin: relation to post-obduction vertical motions. Tectonics 36, 10, p. 2108-2122.  
(*W margin of New Caledonia with 200 km long deepwater fold-and-thrust belt interpreted as gravity-driven system, after oversteepening of margin slope by post-obduction isostatic rebound. the margin. Thrust faults deeply rooted along low-angle floor thrust and connected to New Caledonia Island along major detachment*)

Collot, J.Y., P. Rigolot & F. Missegue (1988)- Geologic structure of the northern New Caledonia Ridge, as inferred from magnetic and gravity anomalies: Tectonics 7, p. 991-1013.  
(*Bathymetric, gravity and magnetic data over N New Caledonia ridge show geological units of New Caledonia island extend N-ward under Grand Lagon Nord, Grand Passage and d'Entrecasteaux reefs. Cretaceous- Eocene basaltic complex of coastal area overlain by ophiolite remnants as far N as W d'Entrecasteaux reefs*)

Collot, J., M. Vende-Leclerc, P. Rouillard, Y. Lafoy & L. Geli (2011)- Structural provinces of the Southwest Pacific, Map. Geol. Survey of New Caledonia/ Ifremer.  
(online at: [www.ifremer.fr/drogm\\_eng/content/download/44864/634564/file/SWPAC\\_StructuralProvinces\\_Map\\_v1-HighResv2.pdf](http://www.ifremer.fr/drogm_eng/content/download/44864/634564/file/SWPAC_StructuralProvinces_Map_v1-HighResv2.pdf))

Collot, J., M. Vende-Leclerc, P. Rouillard, Y. Lafoy & L. Geli (2012)- Map helps unravel complexities of the southwestern Pacific Ocean, EOS Transactions AGU, 93, 1, p. 1-2.

Covellone, B.M., B. Savage & Y. Shen (2015)- Seismic wave speed structure of the Ontong Java Plateau. Earth Planetary Sci. Letters 420, p. 140-150.  
(*Ontong Java Plateau formed around 120 Ma. Region of fast shear wave speeds (>4.75 km/s) down to >100km beneath plateau. Wave speeds similar to cratonic environments and consistent with compositional anomaly that resulted from residuum of eclogite entrainment during plateau formation. Surfacing plume head entrained eclogite from deep mantle and accounts for anomalous buoyancy of plateau and fast wave speeds*)

Cowley, S., P. Mann, M.F. Coffin, F. Millard & T.H. Shipley (2004)- Oligocene to Recent tectonic history of the central Solomon intra-arc basin as determined from marine seismic reflection data and compilation of onland geology. Tectonophysics 389, p. 267-307.  
(*Reflection seismic from C Solomon intra-arc basins constrains Tertiary sedimentary and tectonic history of Solomon Island arc and its convergent interaction with Cretaceous Ontong Java oceanic plateau. Four distinct tectonic phases, from Paleocene-Miocene extension to Pliocene Ontong Java- Solomon Arc collision, Late Pliocene- Pleistocene subduction along San Christobal Trench and late basin subsidence*)

Crawford, A.J., L. Beccaluva & G. Serri (1981)- Tectono-magmatic evolution of the West Philippine-Mariana region and the origin of boninites. Earth Planetary Sci. Letters 54, 2, p. 346-356.  
(*In W Philippine-Mariana region Tertiary arc magmatism and back-arc extensional pulses not synchronous. Arc volcanism ceases within few Myrs of development of back-arc basin and recommences oceanward on new arc during final stages in development of back-arc basin. Boninites appear to be erupted after arc magmatism and immediately before eruption of MORB-type lavas*)

Crook, K.A.W. & L. Belbin (1978)- The Southwest Pacific area during the last 90 million years. J. Geol. Soc. Australia 25, 1, p. 23-40.

(Maps of SW Pacific area at 90, 60, 53, 83, 29, 21 and 10 Ma. Four stages in regional paleogeographic development: I (80-60 Ma): Tasman Basin and New Caledonia Trough formed; II (60-53 Ma): Coral Sea Basin formed; III (53-21 Ma): Great Melanesian marginal sea formed, bounded by Cenozoic island arcs IV (21 Ma-present): Much of N part of Melanesian marginal sea consumed during retrograde motion of island arcs)

DøAntonio, M., I. Savov, P. Spadea, R. Hickey-Vargas & J. Lockwood (2006)- Petrogenesis of Eocene oceanic basalts from the West Philippine Basin and Oligocene arc volcanics from the Palau-Kyushu Ridge drilled at 20°N, 135°E (Western Pacific Ocean). *Ophiolite* 31, 2, p. 157-171.

(*W Philippine Basin back-arc basin opened within Philippine Sea Plate (PSP) between current position of Palau-Kyushu Ridge (PKR) and margin of E Asia. Spreading at Central Basin Fault from 54-30 Ma. PKR active since ~48-35 Ma constituting single volcanic arc with Izu-Bonin-Mariana (IBM) Arc. At ~42 Ma spreading direction changed from NE-SW to N-S, stopping at ~30 Ma. Late phase of spreading and volcanism between 30-26 Ma (M Oligocene). ODP Leg 195 Site 1201 is in WPB, ~100 km W of PKR, on 49 Ma crust. From ~35 to 30 Ma, pelagic sedimentation at Site 1201 was followed by turbidite sedimentation, fed mostly by arc-derived volcanics. PKR volcanics are porphyritic basalts and andesites. New isotope data point to Indian Ocean MORB-like character of Site 1201 basement basalts, suggesting WPB volcanism tapped upper mantle domain distinct from Pacific Plate*)

Davey, F.J. (2005)- A Mesozoic crustal suture on the Gondwana margin in the New Zealand region. *Tectonics* 24, 4, TC4006, p. 1-17.

(*Seismic data offshore South Island suggests NE dipping paleosubduction zone, possibly related to docking of Brook Street oceanic island arc terrane to Gondwana margin in Triassic*)

De Broin, C.E., F. Aubertin & C. Ravenne (1977)- Structure and history of the Solomon-New Ireland region. In: *Int. Symposium on Geodynamics in South-West Pacific*, Technip, Paris, p. 37-49.

De Chetelat, E., (1947)- La genese et l'evolution des gisements de nickel de la Nouvelle-Caledonie. *Bull. Soc. Geol. France*, ser. 5, 17, p. 105-160.

(*The genesis and evolution of the nickel deposits of New Caledonia'*)

De Jersey, N.J. & J.A. Grant-Mackie (1989)- Palynofloras from the Permian, Triassic and Jurassic of New Caledonia. *New Zealand J. Geol. Geophys.* 32, p. 463-476.

(*online at: [www.tandfonline.com/doi/abs/10.1080/00288306.1989.10427554](http://www.tandfonline.com/doi/abs/10.1080/00288306.1989.10427554)*)

(*Late Permian- M Jurassic palynomorphs from 33 marine sediment samples, similar to age-equivalent floras from New Zealand and E Australia. Triassic palynoflora assigned to cool-temperate Ipswich microflora, compositionally intermediate between SE Queensland and New Zealand palynofloras. Oldest sample Permian with Alisporites (= Falcisporites) australis, and without Lunatisporites pellucidus, suggesting upper Upper Stage 5 or Playfordiaspora crenulata and Protohaploxylinus microcorpus Zone. Also E Triassic P. samoilovichii Zone, without Alisporites australis. Etc.*)

Deprat, J. (1905)- Les depots eocenes neo-caledoniens et leur analogie avec ceux de la region de la Sonde. *Bull. Soc. Geologique France*, ser. 4, 5, p. 485-516.

(*online at: <http://ia802704.us.archive.org/2/items/bulletindelasoci451905soci/bulletindelasoci451905soci.pdf>*)  
(*'The Eocene deposits of New Caledonia and their analogy to the Sunda region'. Conglomerates, sandstones, tuffs and limestones with Eocene LF Orthophragmina (= Discocyclina and Asterocyclina; incl. new species umbilicata), Nummulites and rare Alveolina. Faunas very similar to those described from Java by Verbeek*)

Deprat, J. (1909)- Sur la presence de *Pellatispira* dans l'Eocene de Nouvelle Caledonie. *Bull. Soc. Geologique France*, ser. 4, 9, p. 288-289.

(*'On the presence of Pellatispira in the Eocene of New Caledonia'. Short note on occurrence of Eocene larger foram Pellatispira, associated with Discocyclina and Nummulites in New Caledonia*)

Deschamps, A. & S. Lallemand (2002)- The West Philippine Basin: an Eocene to Early Oligocene back arc basin opened between two opposed subduction zones. *J. Geophysical Research* 107, B12, p. 1-24.

*(W Philippine Basin back arc basin developed between two opposed subduction zones. Rifting started at 55 Ma, spreading ended at 33/30 Ma. Initial spreading axis parallel to paleo-Philippine Arc, new spreading ridge propagated from E part of basin. Spreading mainly from second axis with CCW rotation of spreading direction. Gagau and Palau-Kyushu ridges transform margins accommodating opening. Arc volcanism along Palau-Kyushu Ridge (E margin) during opening, paleo-Philippine Arc decreased activity between 43-36 Ma. W margin compressive event in Late Eocene- E Oligocene. In W of basin, spreading system disorganized due to presence of mantle plume. After end of spreading, amagmatic extension between 30-26 Ma in central basin)*

Deschamps, A. & S. Lallemand (2003)- Geodynamic setting of Izu-Bonin-Mariana boninites. In: R.D. Larter & P.T. Leat (eds.) Intra-oceanic subduction systems; tectonic and magmatic processes, Geol. Soc., London, Spec. Publ. 219, p. 163-185.

*(online at: [www.gm.univ-montp2.fr/IMG/pdf/Deschamps\\_Lallemand\\_2003\\_GeolSocLondon.pdf](http://www.gm.univ-montp2.fr/IMG/pdf/Deschamps_Lallemand_2003_GeolSocLondon.pdf))*

*(Izu-Bonin-Mariana forearc characterized by occurrence of boninite-like lavas (mainly M-L Eocene age). Three tectonic settings that favor formation of boninites in back-arc basins. Boninites in Bonin Islands probably formed near termination of volcanic arc, at transition between subduction zone and transform fault)*

Deschamps, A., S. Lallemand & S. Dominguez (1999)- The last spreading episode of the West Philippine Basin revisited. Geophysical Research Letters 26, 14, p. 2073-2076.

*(Bathymetric data and backscatter imagery reveal fine structures of fossil spreading axis, from which we infer episodes of oblique deformation and diminished magmatic supply resulting from cessation of spreading. NE-SW seafloor fabric NE of Benham volcanic plateau, oblique to more common E-W and NW-SE fabrics known in WPB. Cross-cut during final, amagmatic, extensional phase to produce a N130° -trending deep rift valley)*

Deschamps, A., P. Monie, S. Lallemand, K. Hsu & K.Y. Yeh (2000)- Evidence for Early Cretaceous oceanic crust trapped in the Philippine Sea Plate. Earth Planetary Sci. Letters 179, p. 503-516.

*(online at: [www.gm.univ-montp2.fr/IMG/pdf/Deschamps.pdf](http://www.gm.univ-montp2.fr/IMG/pdf/Deschamps.pdf))*

*(N Huatung Basin small oceanic basin E of Taiwan. New Early Cretaceous Ar/Ar ages of gabbros dredged on oceanic basement highs. Old ages consistent with E Cretaceous ages of Lanyu Island (Luzon Arc) radiolarian assemblages. Best fit of magnetic anomalies is opening of Huatung Basin in E Cretaceous (131-119 Ma). Basin may be fragment of 'proto-South China Sea' or possibly 'New Guinea Basin' trapped by Philippine Sea Plate)*

Deschamps, A., K. Okino & K. Fujioka (2002)- Late amagmatic extension along the central and eastern segments of the West Philippine Basin fossil spreading axis. Earth Planetary Sci. Letters 203, p. 277-293.

*(Tectono-magmatic processes along spreading axis of W Philippine Basin during conclusion of last spreading phase at 33/30 Ma. Opening from E-W-trending spreading system followed by late phase of NE-SW extension in C and E parts of basin. Late event probably associated with onset of E-W opening of Parece-Vela Basin along E border of WPB at 30 Ma)*

Deschamps, A., R. Shinjo, T. Matsumoto, C.S. Lee, S.E. Lallemand & S. Wu (2008)- Propagators and ridge jumps in a back-arc basin, the West Philippine Basin. Terra Nova 20, 4, p. 327-332.

*(New bathymetric data from western W Philippine Basin suggests 5 sequences of propagating rifts, probably triggered by mantle flow away from thermal anomaly responsible for origin of Benham and Urdenata plateaus. NE of Benham plateau, a left-lateral fracture zone turned into NE-SW-trending spreading axis)*

Dickinson W.R. (2008)- Tectonic lessons from the configuration and internal anatomy of the Circum-Pacific orogenic belt. In: J.E. Spencer & S.R. Titley (eds.) Ores and orogenesis: Circum-Pacific tectonics, geologic evolution and ore deposits, Arizona Geol. Soc. Digest 22, p. 5-18.

Diessel, C., R. Brothers & P. Black (1978)- Coalification and graphitization in high-pressure schists in New Caledonia. Contrib. Mineralogy Petrology 68, p. 63-78.

*(N portion of Tertiary high P schist belt in New Caledonia metamorphic progression from W to E from lawsonite-albite facies through glaucophanitic greenschists to eclogitic albite-epidote amphibolites: Belt flanked to W by Upper Cretaceous-Eocene metasediments of prehnite-pumpellyite grade, with abundant carbonaceous material showing progressive metamorphism from coal to graphite. In prehnite-pumpellyite*

*metasediments phytoclasts progressively coalified to anthracite. Graphite first appears at lawsonite isograd. Beyond ferroglaucophane isograd all phytoclasts completely graphitized)*

Dimalanta, C., A. Taira, G.P. Yumul, H. Tokuyama & K. Mochizuki (2002)- New rates of western Pacific island arc magmatism from seismic and gravity data. *Earth Planetary Sci. Letters* 202, p. 105-115.  
(*Oceanic island arcs in SW Pacific study area with crustal thickness of 20-30 km. Arc magmatic addition rates of 30-95 km<sup>3</sup>/km/Myr, nearly twice as high as previous estimates of arc magmatic addition rates)*)

Dubois, J., C. Ravenne, A. Aubertin, J. Louis, R. Guillaume, J. Launay & L. Montadert (1974)- Continental margins near New Caledonia. In: C.A. Burk & C.L. Drake (eds.) *The geology of continental margins*, Springer, New York, p. 521-535.

Dubois, J., J. Launay & J. Recy (1974)- Uplift movements in New Caledonia- Loyalty Islands area and their plate tectonics interpretation. *Tectonophysics* 25, p. 133-150.  
(*Four phases of uplift identified on New Caledonia: (1) Peneplanation of peridotites: peridotites subjected to intense erosion since E Miocene; (2) Post-Miocene asymmetrical uplift after peneplanation to elevations up to 1300m and possible tilt to W, possibly partly post-erosional isostatic re-equilibrium; (3) Recent subsidence phase of ~200m and (4) Recent uplifted coastal terraces 2-6m asl. Loyalty Archipelago series of uplifted atolls since 2 Ma, with decreasing altitudes from SE to NW)*)

Dugas, F. & J.F. Parrot (1978)- Reconstitution de la ceinture eocene du Sud-Ouest Pacifique. *Comptes Rendus Academie Sciences, Paris*, D 287, 7, p. 671-674.  
(*online at: [http://horizon.documentation.ird.fr/exl-doc/pleins\\_textes/pleins\\_textes\\_5/b\\_fdi\\_08-09/09434.pdf](http://horizon.documentation.ird.fr/exl-doc/pleins_textes/pleins_textes_5/b_fdi_08-09/09434.pdf))  
(‘Reconstruction of the Eocene belt of the SW Pacific’. Originally straight and continuous NE-dipping Eocene subduction zone from E New Guinea to Solomon Islands, New Hebrides and New Caledonia, now modified by Oligo-Miocene and Recent subduction zones and transcurrent faults. Ophiolitic massifs and metamorphic soles obducted to S/ SW linked to this Eocene intra-oceanic subduction zone)*)

Dupuy, C., J. Dostal & M. Leblanc (1981)- Geochemistry of an ophiolitic complex from New Caledonia. *Contrib. Mineralogy Petrology* 76, p. 77-83.  
(*Ophiolites of New Caledonia composed of ultramafics overlain by mafic rocks, all affected by low P metamorphism. Mafic rocks similar to recent mid-ocean ridge rocks)*)

Eade, J.V. (1988)- The Norfolk Ridge system and its margins. In: A.E.M. Nairn, F.G. Stehli & S. Uyeda (eds.) *The ocean basins and margins 7, The Pacific Ocean*, Plenum Press, New York, p. 303-324.

Eissen, J.P., A.J. Crawford, J. Cotten S. Meffre, H. Bellon & M. Delaune (1998)- Geochemistry and tectonic significance of basalts in the Poya Terrane, New Caledonia. *Tectonophysics* 284, p. 203-219.  
(*Widespread ‘West Coast basalt’ part of 20-500m-thick nappe below ophiolite nappe of New Caledonia (Poya Terrane basalts; PTB). Interbedded radiolarian cherts of Late Cretaceous (Campanian) age, but K-Ar ages almost all Eocene (~39-49 Ma), presumably reflecting resetting related to emplacement of overriding harzburgite nappe. PTB form parautochthonous sheet below main harzburgitic nappe of New Caledonian ophiolite, genetically unrelated to ophiolite, and interpreted to be 70-85-Ma-old rift tholeiites formed during opening E New Caledonia Basin)*)

Emery, K.O., J.I. Tracey & H.S. Ladd (1954)- Geology of Bikini and nearby atolls, Marshall Islands. U.S. Geol. Survey (USGS) Prof. Paper 260-A, p. 1-264.  
(*online at: <http://pubs.usgs.gov/pp/0260a/report.pdf>)  
(*Drilling on Bikini island to depth of 2556’, encountered Oligocene (?) - Recent limestone: 0-850’, Recent and Plio-Pleistocene- Recent; 850-2070’ Miocene; 2070-2556’ Oligocene(?). Entire section accumulated in shallow water, lagoonal environment, indicating continuing or periodic submergence)*)*

Exon, N.F., G.R. Dickens, J.M. Auzende, Y., Lafoy, P.A. Symonds & S. Van de Beuque (1998)- Gas hydrates and free gas on the Lord Howe Rise, Tasman Sea. *Petroleum Expl. Soc. Australia (PESA) Journal* 26, p. 148-158.

Exon, N.F., Y. Lafoy, P.J. Hill, G.R. Dickens & I. Pecher (2007)- Geology and petroleum potential of the Fairway Basin in the Tasman Sea. *Australian J. Earth Sci.* 54, 5, p. 629-645.

*(Fairway Basin poorly known N-S-trending basin in 1500-3000m of water on E slope of Lord Howe Rise. Three segments, probably formed by thinning of continental crust during Late Cretaceous- Paleocene breakup of Lord Howe Rise and surrounding continental ridges. Eocene compression (tied to overthrusting on New Caledonia?) lead to uplift and erosion of N Lord Howe Rise, and reversal of faulting in basin. By Oligocene time area again in bathyal depths, with pelagic ooze and turbidites accumulation. Cretaceous- Recent sediments 2000-4000m thick)*

Exon, N.F., P.G. Quilty, Y. Lafoy, A.J. Crawford & J.M. Auzende (2004)- Miocene volcanic seamounts on northern Lord Howe Rise: lithology, age and origin. *Australian J. Earth Sci.* 51, 2, p. 291-300.

*(Small volcanic cones on NE Lord Howe Rise in water depths 750-1150m. Interbedded E Miocene micrites(N8?; ~16-15 Ma) in upper volcanoclastics represent calcareous ooze deposited with (or later than) volcanic pile, in pelagic depths. Covered with ferromanganese crust up to 7cm thick)*

Falloon, T.J., L.V. Danyushevsky, A.J. Crawford, S. Meffre, J.D. Woodhead & S.H. Bloomer (2008)- Boninites and adakites from the northern termination of the Tonga Trench: implications for adakite petrogenesis. *J. Petrology* 49, 4, p. 697-715.

*(online at: <https://academic.oup.com/petrology/article/49/4/697/1467522/Boninites-and-Adakites-from-the-Northern>)*

*(Adakitic rocks dredged from N termination of Tonga Trench. Zircon ages 2.5 Ma, contemporaneous with boninite magmatism in area. High-SiO<sub>2</sub> adakites in area where transition from steep Pacific subduction to transform fault plate boundary created slab window/ slab edge. Adakites result from direct melting of slab edge as result of juxtaposition of subducting slab against hot mantle derived from Samoan plume)*

Falvey, D.A., J.B. Colwell, P.J. Coleman, H.G. Greene et al. (1991)- Petroleum prospectivity of the Pacific island arcs: Solomon islands and Vanuatu. *Australian Petrol. Expl. Assoc. (APEA) J.* 1991, p. 191-212.

Fang, Y., J. Li, M. Li, W. Ding & J. Zhang (2011)- The formation and tectonic evolution of Philippine Sea Plate and KPR. *Acta Oceanologica Sinica* 30, 4, p. 75-88.

*(Philippine Sea Plate oceanic plate almost entirely surrounded by subduction zones. Kyushu-Palau Ridge believed to be remnant arc on oceanic plate, formed during opening of Parece Vela and Shikoku Basins)*

Fisher, M.A., J.Y. Collot & E.L. Geist (1991)- Structure of the collision zone between Bougainville Guyot and the accretionary wedge of the New Hebrides island arc, southwest Pacific. *Tectonics* 10, 5, p. 887-903.

*(Bougainville guyot fills New Hebrides trench, stands ~3 km above abyssal ocean plain, and is capped by broad carbonate platform Seismic data showing structure in island arc-guyot collision zone. Contact zone marked by discontinuous antiforms)*

Fisher, M.A., J.Y. Collot & E.L. Geist (1991)- The collision zone between the North d'Entrecasteaux Ridge and the New Hebrides Island Arc. Part 2: Structure from multichannel seismic data. *J. Geophysical Research* 96, B3, p. 4479-4495.

*(D'Entrecasteaux zone (DEZ) collides with C New Hebrides island arc and consists of two subparallel ridges that strike east-west, stand 1-2 km above the surrounding oceanic plate, and subduct obliquely (15°)N-ward beneath arc. Rocks dredged from N ridge indicates volcanic origin. Mass wasting deposits locally make up most of accretionary wedge)*

Fitton, J.G. & M. Godard (2004)- Origin and evolution of magmas on the Ontong Java Plateau. In: J.G. Fitton, et al. (eds.) *Origin and evolution of the Ontong Java Plateau.* Geol. Soc. London, Spec. Publ. 229, p. 151-178.

*(E Cretaceous basalts of oceanic Ontong Java Plateau homogeneous composition, mainly low-K tholeiite. Formed in short time (<10 My) around 122 Ma. Most or all of volcanics erupted well below sea level)*

Fitton, J.G., J.J. Mahoney et al. (eds.) (2004)- Origin and evolution of the Ontong Java Plateau. Geol. Soc. London, Spec. Publ. 229, p. 1-374.

*(Collection of papers on Ontong Java Plateau in W Pacific, world's largest igneous province in oceanic environment. Mainly formed around 120- 90 Ma, mid-Cretaceous)*

Fitton, J.G., J.J. Mahoney, P.J. Wallace & A.D. Saunders (2004)- Leg 192 synthesis: origin and evolution of the Ontong Java Plateau. In: J.G. Fitton et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 192, p. 1-18.

*(online at: [www-odp.tamu.edu/publications/192\\_SR/VOLUME/SYNTH/SYNTH.PDF](http://www-odp.tamu.edu/publications/192_SR/VOLUME/SYNTH/SYNTH.PDF))*

*(Mid-Cretaceous Ontong Java Plateau is most voluminous of world's large igneous provinces and represents by far largest known magmatic event on Earth (comparable in size to W Europe). Formed rapidly around 120 Ma (122- >112 Ma). Collision with old Solomon arc resulted in uplift of OJP S margin to create onland exposures of basaltic basement in Solomon Islands (Malaita, Santa Isabel, San Cristobal). Biostratigraphic dating of pelagic sediment intercalated with lava flows suggests magmatism on high plateau extended from ~122-112 Ma, but ReOs isotopic data on basalts from same sites single isochron age of  $121.5 \pm 1.7$  Ma)*

Fitzherbert, J.A., G.L. Clarke & R. Powell (2003)- Lawsonite-omphacite-bearing metabasites of the Pam Peninsula, NE New Caledonia: evidence for disrupted blueschist- to eclogite-facies conditions. J. Petrology 44, 10, p. 1805-1831.

*(online at: <https://petrology.oxfordjournals.org/content/44/10/1805.full.pdf+html>)*

*(Diahot terrane of N New Caledonia with interbedded Cretaceous-Eocene metasediments and metavolcanics that experienced late M Eocene (~40 Ma) high-P metamorphism. Steeply SW-dipping S2 foliation progressively more intense to NE over 15 km. Four zones of metabasites, from SW to NE: (1) Lawsonite blueschist (with omphacite, glaucophane;  $P=1.0$  GPa,  $T=400^\circ\text{C}$ ); (2) Epidote blueschist (lawsonite-clinozoisite-spessartine;  $1.4-1.5$  GPa,  $450-500^\circ\text{C}$ ); (3) Almandine-hornblende blueschist (clinozoisite-hornblende-almandine;  $1.5-1.6$  GPa,  $550-580^\circ\text{C}$ ); (4) Hornblende-paragonite eclogite (clinozoisite-almandine-omphacite;  $1.7$  GPa,  $600-620^\circ\text{C}$ ). P-T array disrupted by tectonic thinning during exhumation. Adjacent Pouebo terrane metabasic eclogite/ glaucophanite ( $1.9$  GPa,  $590^\circ\text{C}$ ), developed at similar depths of 50-60km in subducted leading edge)*

Fitzherbert, J.A., G.L. Clarke & R. Powell (2005)- Preferential retrogression of high-P metasediments and the preservation of blueschist to eclogite facies metabasite during exhumation, Diahot terrane, NE New Caledonia. Lithos 83, p. 67-96.

*(High-P metabasites of Diahot terrane, N New Caledonia occur as spatially restricted lenses, boudins and layers in psammitic to pelitic metasediments. Although interlayered, two types preserve distinct, tectonically disrupted metamorphic profiles in transition from lawsonite blueschist in SW to low-T eclogite in NE)*

Folcher, N., B. Sevin, F. Quesnel, V. Lignier, M. Allenbach, P. Maurizot & D. Cluzel (2015)- Neogene terrestrial sediments: a record of the post-obduction history of New Caledonia. Australian J. Earth Sci. 62, 4, p. 479-492.

*(Thin, poorly studied iron-rich fluvio-lacustrine sediments, mainly derived from erosion of ultramafic regolith in S part of Grande Terre of New Caledonia, document 25 Ma of geological history of island. Ages of formation poorly constrained. Several episodes of post-obduction erosion and sediment fill. Correlation with E Miocene slab break-off, which may have triggered first stage of erosion. Etc.)*

Freinex, S. (1980)- Bivalves neocretaces de Nouvelle-Caledonie. signification biogeographique, biostratigraphique, paleoecologique. Annales Paleontologie (invertebres) 66, 2, p. 67-134.

*(‘Late Cretaceous bivalves of New Caledonia; biogeographic and paleoecologic significance’)*

Freinex, S. (1981)- Faunes de bivalves du Senonien de Nouvelle-Caledonie. Analyses paleobiogeographique, biostratigraphique, paleoecologique. Annales Paleontologie (invertebres) 67, 1, p. 13-32.

*(‘Senonian bivalves of New Caledonia; paleobiogeographic, biostratigraphic and paleoecologic analysis’)*

Freinex, S., J.A. Grant-Mackie & J. Lozes (1974)- Presence de *Malayomaorica* (Bivalvia) dans le Jurassique superieur de la Nouvelle-Caledonie. Bull. Soc. Geologique France, 16, 4, p. 456-464.

*(Presence of Malayomaorica malayomaorica in the Upper Jurassic of New Caledonia'. New subspecies novocaledonica. This Kimmeridgean bivalve genus (originally assigned to Aucella, then Buchia) is widely distributed along margins of Late Jurassic Gondwanaland; JTvG)*

Frost, B. R. K.A. Evans, S.S. Swapp, J.S. Beard & F.E. Mothersole (2013)- The process of serpentinization in dunite from New Caledonia. Lithos 178, p. 24-39.

Fryer, P.B., & M.H. Salisbury (2006)- Leg 195 synthesis: Site 1200- Serpentinite seamounts of the Izu-Bonin/Mariana convergent plate margin (ODP Leg 125 and 195 drilling results). In: M. Shinohara et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 195, p. 1-30.

*(online at: [www-odp.tamu.edu/publications/195\\_SR/VOLUME/SYNTH/SYNTH1.PDF](http://www-odp.tamu.edu/publications/195_SR/VOLUME/SYNTH/SYNTH1.PDF))*

*(Izu-Bonin/Mariana convergent plate margin characterized by non-accretionary forearc with numerous serpentinite seamounts distributed over 90 km wide zone in Mariana system. Seamounts formed primarily by mud volcanism. Mud flows with altered mafic rocks of oceanic plate and island arc origin and slab-derived fragments of high P- low T metabasites (incl. glaucophane schist) that reflect conditions of subduction zone.)*

Gautier, P., B. Quesnel, P. Boulvais & M. Cathelineau (2016)- The emplacement of the peridotite nappe of New Caledonia and its bearing on the tectonics of obduction. Tectonics 35, 12, p. 3070-3094.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1002/2016TC004318/pdf>)*

Genna, A., P. Maurizot, Y. Lafoy & T. Auge (2005)- Controle karstique de mineralisations nickliferes de Nouvelle-Caledonie. Comptes Rendus Geoscience, Paris, 337, 3, p. 367-374.

*(Karst controls on nickel-bearing mineralizations of New Caledonia')*

Ghent, E.D., J.C. Roddick & P.M. Black (1994)- 40Ar/39Ar dating of white micas from the epidote to omphacite zones, northern New Caledonia: tectonic implications. Canadian J. Earth Sci. 31, p. 995-1001.

*(N New Caledonian high-pressure metamorphicss yield Ar/Ar ages of 37±1 Ma (late M Eocene) from white micas in epidote and omphacite zone samples, Whole-rock samples from lawsonite zone 44-51 Ma, probably reflecting detrital and newly grown micas. Epidote and omphacite zone rocks cooled through muscovite closure temperature (~350°C) as coherent cooling unit. Lawsonite zone rocks structurally within about 0.5km of garnet-omphacite rocks, suggesting possibility of post-metamorphic tectonic displacement)*

Gill, J.B. (1987)- Geodynamic and geochemical evolution of the Fiji region. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 125-128.

Gill, J.B. & I. McDougall (1973)- Biostratigraphic and geological significance of Miocene- Pliocene volcanism in Fiji. Nature 241, p. 176-180.

*(Dating of Fijian volcanic rocks enables estimate of 4.9±0.4 Ma for age of Miocene-Pliocene boundary, as defined by first appearance of Sphaeroidinella dehiscens. Change in composition of volcanism in Fiji between ~5-6 Ma may result from migration of site of subduction)*

Gladczenko, T.P., M.F. Coffin & O. Eldholm (1997)- Crustal structure of the Ontong Java Plateau: modeling of new gravity and existing seismic data. J. Geophysical Research 102, B10, p. 22711-22729.

*(Seismic refraction and gravity data of large (>18,000 km<sup>2</sup>), basaltic Early Cretaceous Ontong Java Plateau, NE of Papua New Guinea, has crustal thickness of ~30km)*

Glasby, G.P. (1988)- Manganese in the SW Pacific; a brief review. Ore Geology Reviews 4, p. 125-133.

*(Terrestrial manganese occurs as relatively small-scale deposits in SW Pacific area and was mined in Vanuatu, Fiji, New Caledonia, New Zealand and PNG (E-M Eocene Rigo deposits SE of Port Moresby, associated with E-M Eocene cherts. Manganese nodule widespread on seafloor of equatorial SW Pacific (not elaborated here))*

Glasby, G.P. (1988)- Manganese deposition through geological time: dominance of the post-Eocene deep-sea environment. *Ore Geology Reviews* 4, p. 135-143.

*(Development of widespread Cenozoic deep-sea manganese nodules is reflection of global cooling and development of post-Eocene ocean with cold, well-oxygenated bottom currents. Giant shallow-water manganese deposits of Lower Jurassic to Oligocene associated with anoxia and high sea-level stands. Formation of Cretaceous manganese nodules in Timor may be related to cold bottom waters. Scale of present-day deep-sea manganese nodule formation suggests we live in manganese era)*

Glickson, M. (1988)- Miocene reef-derived deposits in Vanuatu- possible petroleum source rocks. In: H.G. Greene & F.L. Wong (eds.) *Geology and offshore resources of Pacific island arcs- Vanuatu Region, Circum-Pacific Council Energy Min Res.*, Houston, Earth-Sci. Ser. 8, p. 267-274.

Gonord, H. (1970)- Sur la presence d'olistolites et sur la mise en place probable de nappes de glissement dans le flysch eocene du bassin tertiaire de Noumea-Bouloupari (Nouvelle-Caledonie). *Comptes Rendus Academie Sciences, Paris*, 270, D, p. 3010-3013.

*(On the presence of olistoliths and the likely emplacement of nappes in the Eocene of the Tertiary basin of Noumea-Bouloupari (New Caledonia)'. Latest Eocene flysch and olistostrome with ophiolite blocks probably represent time of ophiolite emplacement)*

Gorbatov, A. & B.L.N. Kennett (2003)- Joint bulk-sound and shear tomography for Western Pacific subduction zones. *Earth Planetary Sci. Letters* 210, p. 527-543.

*(Tomographic inversion reveals penetration of subducted slab below 660 km discontinuity at Kurile-Kamchatka trench. Flattening of slabs above this depth observed in Japan and Izu-Bonin subduction zones. Penetration of subducted slab down to 1200 km below S Bonin trench, Mariana, Philippine, and Java subduction zones)*

Grandcolas, P., J. Murienne, T. Robillard, L. Desutter-Grandcolas, H. Jourdan, E. Guilbert & L. Deharveng (2008)- New Caledonia: a very old Darwinian island? *Philos. Trans. Royal Soc., London*, B 363, p. 3309-3317.

*(New Caledonia long considered to be continental island with biota dating back to Gondwanan times, but geological evidence indicate island no older than Oligocene. Local richness can be explained by local radiation and adaptation after colonization but also by many dispersal events)*

Gray, G.G. & I.O. Norton (1988)- A palinspastic Mesozoic plate reconstruction of New Zealand. *Tectonophysics* 155, p. 391-399.

*(Restoration of New Zealand into pre-breakup Gondwanaland configuration. Used trend of Permian ophiolite fragments and their offshore magnetic expressions as datum)*

Greene, H.G., J.Y. Collot, M.A. Fisher & A.J. Crawford (1994)- Neogene tectonic evolution of the New Hebrides island arc: a review incorporating ODP drilling results. In: J.Y. Collot et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results*, 134, p. 19-46.

*(online at: [www-odp.tamu.edu/publications/134\\_sr/VOLUME/CHAPTERS/sr134\\_02.pdf](http://www-odp.tamu.edu/publications/134_sr/VOLUME/CHAPTERS/sr134_02.pdf))*

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Grekoff, N. & Y. Gubler (1951)- Donnees complementaires sur les terrains tertiaires de la Nouvelle-Caledonie. *Revue Inst. Francais Petrole* 6, 8, p. 283-293.

*(Additional data on the Tertiary areas of New Caledonia'. New Caledonia West Coast Tertiary basins with U Eocene (Tb) in reefal (with Pellatispira) and paralic facies, and Miocene (Te-Tf). Oligocene absent. Close lithologic and microfaunal similarity to petroliferous Tertiary of E Borneo, N Celebes and SE New Guinea)*

Griffiths, J.R. (1971)- Reconstruction of the South-West Pacific margin of Gondwanaland. *Nature* 234, p. 203-207.

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Grover, J.C. (1955)- Geology, mineral deposits and prospects of mining development in the British Solomon Islands Protectorate. Geological Survey of the British Solomon Islands, Western Pacific Commission, Memoir 1, p. 1-108.

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Grover, J.C., P.J. Coleman, P.A. Pudsey-Dawson et al. (1960)- The British Solomon Islands, Geological record 1957-1958, Reports on investigations into the geology and mineral resources of the protectorate. Geological Survey of the British Solomon Islands, 3, p. 1-113.

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(Collection of 1957-1958 survey reports)

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Guillon, J.J. (1969)- Donnees nouvelles sur la composition et la structure du grand massif peridotique de Sud de la Nouvelle Caledonie. Cahiers ORSTOM, ser. Geol., 1, 1, p. 7-25.

(online at: [http://horizon.documentation.ird.fr/exl-doc/pleins\\_textes/cahiers/geologie/14988.pdf](http://horizon.documentation.ird.fr/exl-doc/pleins_textes/cahiers/geologie/14988.pdf))

(*'New data on the composition and structure of the large peridotite massif of the South of New Caledonia'. The large peridotite massif of the South rests on various terrains of folded Cretaceous and Eocene rocks, with gently dipping or horizontal basal contact. Mainly composed of hartzburgites with layers of dunites and pyroxenites, In upper parts noritic gabbros. Calc-alkaline sills. Emplacement/ uplift after Late Eocene, but before Miocene as it contains first debris from peridotites*)

Guillon, J.H. (1972)- Essai de resolution structurale d'un appareil ultramafique d'age alpin: les massifs de Nouvelle Caledonie. Implications concernant la structure de l'arc melanesien. Comptes Rendus Academie Sciences, Paris, 274, p. 3069-3072.

(*'Attempt of structural resolution of an ultramafic unit of Alpine age: the massifs of New Caledonia. Implications for the structure of the Melanesian arc'*)

Guillon, J.H. (1974)- New Caledonia. In: A.M. Spencer (ed.) Mesozoic- Cenozoic orogenic belts, Geol. Soc. London, Spec. Publ. 4, p. 445-452.

(*Brief review of New Caledonia geology. Complex orogenic belt, flanked by deep oceans. Geology dominated by 'gliding nappes'. Phases of metamorphism in late Jurassic and Late Eocene. Known geological history of New Caledonia started in Permian with deposition of tuffs. Orogenic phase between Permian-Trias, corresponding to 'Hunter-Bowen orogeny' of E Australia. Thick series of Triassic-Oxfordian greywackes. First phase of metamorphism in U Jurassic. Sedimentation resumed in U Cretaceous, with conglomeratic bed, overlain by pelites. Cretaceous overlain by Eocene cherts and globigerinid limestones, then by (M. Eocene?) flysch-type series. Eocene peridotite emplacement. Etc.*)

Guillon, J.H. (1974)- Les massifs peridotiques de Nouvelle Caledonie- type d'appareil ultrabasique stratiforme de chaine recente. Mem. Office Rech. Scient. Techn. Outre-Mer (ORSTOM) 76, Paris, p. 1-116.

(*'The peridotite massifs of New Caledonia- stratiform ultrabasic body'*)

Guillon, J.H. & H. Gonord (1972)- Premieres donnees radiometriques concernant les basaltes de Nouvelle Caledonie, leurs relations avec les grands evenements de l'histoire geologique de l'arc Melanesien interne au Cenozoique. Comptes Rendus Academie Sci. Paris, D 275, p. 309-312.

*(First radiometric dates on the basalts of New Caledonia, their relationships with the great events of the structural history of the internal Melanesian arc in the Cenozoic'. Includes 32 Ma date for plagiogranite (viewed as 'thrusting intrusions by Parrot and Dugas 1980?))*

Guillon, J.H. & P. Routhier (1971)- Les stades d'evolution et de mise en place des massifs ultramafiques de Nouvelle Calédonie. Bull. Bur. Rech. Geol. Minieres (France) 15, IV, 2, p.  
*(The stages of evolution and emplacement of the ultramafic massifs of New Caledonia'. Emplacement of peridotites-basalts of New Caledonia, which cover 7000km<sup>2</sup> of island, probably in Oligocene time)*

Hackney, R., R. Sutherland & J. Collot (2012)- Rifting and subduction initiation history of the New Caledonia Trough, southwest Pacific, constrained by process-oriented gravity models. Geophysical J. Int. 189, p. 1293-1305.

*(New Caledonia Trough 200-300 km wide, 2300 km long and 1.5-3.5 km deep between New Caledonia and New Zealand. Stratigraphic units: Cretaceous rift sediments, Late Cretaceous- Eocene pelagic drape and ~1.5 km thick Oligocene-Quaternary trough fill contemporaneous with Tonga-Kermadec subduction. Positive free-air gravity anomaly associated with Trough best explained by two-phase model with initial Cretaceous crustal thinning. May also be related to Eocene onset of Tonga-Kermadec subduction zone)*

Hamburger, M.W. & B.L. Isacks (1988)- Diffuse backarc deformation in the Southwestern Pacific. Nature 332, p. 599-604.

*(Earthquake distribution and focal mechanisms from Lau and N Fiji back-arc basins indicate diffuse and shear-dominated deformation. Back-arc region between Tonga and New Hebrides arcs more realistically modelled as giant pull-apart basin, along left step in transform boundary between Pacific Indo-Australian plates)*

Hammarstrom, J.M., C.L. Dicken, G.R. Robinson & A.A. Bookstrom (2013)- Porphyry copper assessment for Tract 009pCu7210, Outer Melanesian Arc II- Melanesia (Solomon Islands, Vanuatu, and Fiji). In: J.M. Hammarstrom et al., Porphyry copper assessment of Southeast Asia and Melanesia, U.S. Geol. Survey, Scient. Invest. Rept. 2010-5090-D, Appendix V, p. 303-329.

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*(Assessment of Eocene-Oligocene to late Miocene-Pleistocene porphyry coppers in Outer Melanesian magmatic arc in Solomon Islands, Vanuatu, and Fiji. Originally part of Eocene- E-M Miocene 'Vitiac Arc, formed by subduction of Pacific Plate beneath Indo-Australian Plate along Vitiac-Tonga Trench system until subduction reversal due to E-M Miocene collision of Ontong Java Plateau (incl. included New Ireland, Bougainville, Solomon Islands, Vanuatu, Fiji). Three known Pliocene porphyry copper deposits: Mt Koloula (Guadalcanal in Solomon Islands), Namosi and Waivaki (Viti Levu, Fiji) (Outer Melanesian in PNG with Panguna deposit on Bougainville and Arie deposit on Manus). Many other prospects))*

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*(Haha-jima (Bonin Islands) entirely formed of Eocene rocks. Uppermost horizon Priabonian limestone with Biplanispira. Underlying Lutetian friable rock with Nummulites boninensis n.sp. in lower half, Aktinocyclus predominant in upper half, Alveolina javanus var. and Eorupertia boninensis persist throughout Lutetian (see also Ujie & Matsumaru, 1977))*

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Hanzawa, S. (1961)- Facies and micro-organisms of the Paleozoic, Mesozoic and Cenozoic sediments of Japan and her adjacent islands. Brill, Leiden, p. 1-420.

Hanzawa, S. (1967)- Three new Tertiary foraminiferal genera from Florida, Saipan and Guam. Trans. Proc. Paleont. Soc. Japan, N.S., 65, p. 19-25.

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*(Incl. new genus Tayamaia from Aquitanian of Saipan and Quasirotaia from Pliocene of Guam)*

Harrington, H.J. (1998)- The basement geology of Lord Howe Rise and Norfolk Ridge predicted by projections from Australia, New Zealand and New Caledonia. South Pacific Technology Conference Abstracts, South Pacific Commission, Suva, p. 33-36.

Haston, R.B. & M. Fuller (1991)- Paleomagnetic data from the Philippine Sea Plate and their tectonic significance. *J. Geophysical Research- Solid Earth*, 96, B4, p. 6073-6098.

*(Paleomagnetic data from Guam and Saipan can be interpreted as (1) small scale local rotation of blocks along plate margin, or (2) rotation of Philippine Sea plate as a whole. Reconstruction model suggests Philippine Sea plate rotated up to 80° CW and moved N ~20° since Eocene. Data cannot distinguish between backarc origin or trapped crust origin for W Philippine Sea province)*

Haston, R., M. Fuller & E. Schmidtke (1988)- Paleomagnetic results from Palau, West Caroline islands: a constraint on Philippine Sea plate motion. *Geology*, 16, p. 654-657.

*(Paleomagnetic results from the Palau Islands indicate 60°-70° CW rotation since M Oligocene time. Rotation interpreted to represent motion of Philippine Sea plate and not local rotation (ubiquitous CW rotations in paleomagnetic data from around Philippine Sea plate. This strong clockwise rotation of the Philippine Sea plate provides a mechanism for oblique subduction and related transcurrent motion along the margin of the Philippine archipelago)*

Hegarty, K.A. & J.K. Weissel (1988)- Complexities in the development of the Caroline plate region, western equatorial Pacific. In: A.E.M. Nairn & F.G. Stehli (eds.) *The Ocean Basins and Margins 7B, The Pacific Ocean*, Plenum, New York, p. 277-301.

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*(online at: [www.cushmanfoundation.org/specpubs/sp26.pdf](http://www.cushmanfoundation.org/specpubs/sp26.pdf))*

*(Pliocene benthic foraminifera from DSDP Hole 586A on Ontong Java Plateau, NE of New Guinea. Benthic fauna 262 taxa. Three assemblages: (1) Nuttallides umbonifera-dominated assemblage, reflecting well-oxygenated water, undersaturated with respect to calcite, (2) Cibicidoides wuellerstorfi, Epistominella exigua, Globocassidulina subglobosa, Oridorsalis umbonatus and Pullenia bulloides, similar to present fauna on Ontong Java Plateau, associated with deep oxygen minimum layer of Pacific Intermediate Water, reflecting reduced O2 content associated with episodes of upwelling; (3) Uvigerina peregrina-dominated assemblage reflects episodes of further depletion in O2 due to intensified upwelling or changes in thermohaline circulation)*

Hickey-Vargas, R. (1991)- Isotope characteristics of submarine lavas from the Philippine Sea: implications for the origin of arc and basin magmas of the Philippine tectonic plate. *Tectonophysics* 107, p. 290-304.

*(Igneous rocks from Philippine Sea tectonic plate from DSDP Legs 31, 58 and 59 analyzed for Sr, Nd and Pb isotope ratios. Four geochemically distinct magma sources required for Philippine plate magmas).*

Hickey-Vargas, R. (1998)- Origin of the Indian Ocean-type isotopic signature in basalts from Philippine Sea plate spreading centers: an assessment of local versus large-scale processes. *J. Geophysical Research* 103, B9, p. 20963-20979.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/98JB02052/epdf>)*

*(Basalts erupted from spreading centers on Philippine Sea plate between 50 Ma- present have the distinctive isotopic characteristics of Indian Ocean mid-ocean ridge basalt, such as high 208Pb/204Pb and low 143Nd/144Nd. This may indicate that upper mantle of Philippine Sea plate originated as part of existing Indian Ocean domain, or, less likely, that local processes duplicated these isotopic characteristics in sub-Philippine Sea plate upper mantle. Philippine Sea plate MORB likely originated over rapidly growing Indian Ocean upper mantle domain that had spread into area between Australia/New Guinea and SE Asia before 50 Ma)*

Hickey-Vargas, R. (2005)- Basalt and tonalite from the Amami Plateau, northern West Philippine Basin: new Early Cretaceous ages and geochemical results, and their petrologic and tectonic implications. *Island Arc* 14, p. 653-665.

*(Basalts and tonalites dredged from Amami Plateau in N West Philippine Basin geochemical characteristics of intra-oceanic island arc rocks. Hornblende  $^{40}\text{Ar}/^{39}\text{Ar}$  isochron ages of ~115-118 Ma. W Philippine Basin opened within complex of Jurassic- Paleocene island arc terranes, now scattered in northern West Philippine Basin, the Philippine Islands and Halmahera)*

Hickey-Vargas, R., M. Bizimis & A. Deschamps (2008)- Onset of the Indian Ocean isotopic signature in the Philippine Sea Plate: Hf and Pb isotope evidence from Early Cretaceous terranes. *Earth Planetary Sci. Letters* 268, 3, p. 255-267.

*(Basalts from Paleocene-Recent Philippine Sea Plate back arc basins have Pb/ Hf-Nd isotopic characteristics of Indian Ocean mid-ocean ridge basalts. Isotopic composition of E Cretaceous terranes in Philippine Sea Plate (Huatung Basin) have Indian MORB Hf-Nd isotopic signature, but Pb isotope ratios intermediate between Indian and Pacific MORB. W Philippine Basin basalts stronger Indian Pb isotope signature than Huatung Basin rocks. Indian MORB characteristics of E Cretaceous Huatung Basin support idea that mantle sources with signature existed prior to opening of present day Indian Ocean and that Tethyan oceanic basalts, now found throughout S Eurasia, shared them)*

Hickey-Vargas, R., J.M. Hergt & P.Spadea (1995)- The Indian Ocean-type isotopic signature in western Pacific marginal basins; origin and significance. In: B. Taylor & N. James (eds.) *Active margins and marginal basins of the western Pacific*, American Geophys. Union (AGU), Geophys. Monograph 88, p. 175-197.

*(W Pacific marginal basins flooded by basalts with Indian Ocean Sr-Nd-Pb isotopic characteristics, suggesting their spreading ridges tap into Indian Ocean upper mantle domain, which must extend to E side of Philippine Sea and Indo-Australian plates and extends below W Philippine and Celebes Sea basins at time of opening. Basalts from Celebes Sea (ODP sites 767, 770) N-MORB character, with Sr, Nd and Pb isotope ratios close to Indian Ocean MORB)*

Hilde, T.W.C. (1983)- Sediment subduction versus accretion around the Pacific. *Tectonophysics* 99, p. 381-397. *(Sediment subduction common around Circum-Pacific. Bending-induced graben structures of subducting plates major factor for sediment subduction and tectonic erosion)*

Hilde, T.W.C. & C.S. Lee (1984)- Origin and evolution of the West Philippine Basin: a new interpretation. *Tectonophysics* 102, p. 85-104.

*(W Philippine Basin two distinct spreading phases. From 60-45 Ma spreading NE-SW, relative to present orientation. At ~45 Ma spreading direction changed to more N-S direction with reconfiguration of C Basin Spreading Center into short E-W segments offset by closely spaced N-S transform faults. Spreading slowed and ceased at 35 Ma B.P. Thus, W Philippine Basin originated at 45 Ma by trapping of normal ocean crust W of initial subduction along Palau-Kyushu trend. 45-35 Ma period represents dying phase of spreading on C Basin Spreading Center following isolation of W Philippine Basin from plate driving forces of Pacific)*

Hilde, T.W.C. & S. Uyeda (1983)- Trench depth: variation and significance. In: T.W.C. Hilde & S. Uyeda (eds.) *Geodynamics of the Western Pacific-Indonesian region*, American Geophys. Union (AGU) and Geol. Soc. America (GSA) *Geodyn. Ser.* 11, p. 75-89.

*(Circum-Pacific trench depths ~5-11km and increase with age. Subduction rates also greater with greater trench depth, suggesting negative buoyancy is significant driving force for plate motion. Backarc region trenches deeper than Pacific basin perimeter trenches, partly due to increased depth of backarc basins, which results from compensation of non-equilibrated portions of subducted lithosphere in asthenosphere under backarc regions. Indonesian trenches unusually shallow for age of subducting oceanic crust)*

Hilde, T.W.C., S. Uyeda & L. Kroenke (1976)- Tectonic history of the Western Pacific. In: C.L. Drake (ed.) *Geodynamics: progress and prospects*, American Geophys. Union (AGU), *Spec. Publ.* 5, p. 1-15.

*(Plate reconstructions of W Pacific region since Jurassic. Showing Borneo as part of Indochina margin in Jurassic-Cretaceous, until Late Cretaceous rifting-opening of South China Sea)*

Hilde, T.W.C., S. Uyeda & L. Kroenke (1977)- Evolution of the Western Pacific and its margins. *Tectonophysics* 38, p. 145-165.

*(Evolution of W Pacific since M Mesozoic. Subduction along Asian plate margin throughout this time has resulted in general N-ward movement of plates surrounding Asia. An E-W spreading ridge system extended from Pacific into Tethys Sea and migrated N as oceanic plates subducted along Asia. As plates S of these ridge segments started to subduct at Asian margin, new spreading ridges formed far to S, rifting India from Antarctica at ~100 Ma and Australia from Antarctica at ~52 Ma. Subduction of Pacific ridge system in N and SW Pacific resulted in change of direction in Pacific plate motion from NNW to WNW at ~45 Ma. Etc.)*

Hodell, D.A. & A.Vayavananda (1993)- Middle Miocene paleoceanography of the western Equatorial Pacific (DSDP Site 289) and the evolution of *Globorotalia (Fohsella)*. *Marine Micropaleontology* 22, 4, p. 279-310.  
*(Evolution of planktonic foram lineage Globorotalia (Fohsella) Miocene between 23.7-11.8 Ma, which forms basis for subdivision of early M Miocene zones N10-N12. Most rapid changes in morphology of Fohsella between 13- 12.7 Ma, coinciding with increase in  $d18O$  ratios.  $O$  values suggest change in depth stratification associated with expansion of thermocline in W Equatorial Pacific. After adapting to deeper water habitat at 13.0 Ma, Fohsella lineage became extinct at 11.8 Ma during period of shoaling of thermocline)*

Hoernle, K., F. Hauff, P. van den Bogaard, R. Werner, N. Mortimer, J. Geldmacher, D. Garbe-Schonberg & B. Davy (2010)- Age and geochemistry of volcanic rocks from the Hikurangi and Manihiki oceanic plateaus. *Geochimica Cosmochimica Acta* 74, 24, p. 7196-7219.

*(Ar/Ar age and geochemical data show Hikurangi Plateau basement lavas (118-96 Ma) similar to Ontong Java Plateau (~120 and 90 Ma; primarily Kwaimbaita-type composition). Manihiki Plateau Site 317 lavas (117 Ma) similar to Singgalo lavas on Ontong Java Plateau. Alkalic seamount lavas (99-87 Ma and 67 Ma) on Hikurangi Plateau and adjacent Kiore Seamount derived from different mantle source (see also Timm et al. 2011)*

Hoffmeister, J.E. (1932)- Geology of Eua, Tonga. *Bernice P. Bishop Museum Bull.* 96, p. 1-93.

*(online at: <http://hbs.bishopmuseum.org/pubs-online/pdf/bull96.pdf>)*

*(Report of 1926 and 1928 surveys of Eua at S end of Tongan archipelago. Nucleus of volcanics, with coating of limestone, of Late Eocene and Late Tertiary ages. Six terraces, up to 760' altitude. Includes chapter by G.L. Whipple (p. 79-86) on Late Eocene larger forams from Eua, incl. Nummulites, Asterocyclina, Pellatispira ruteni and new species Pellatispira fulgeria (=Biplanispira) (see also Cole 1970))*

Honza, E. (1991)- The Tertiary Arc Chain in the Western Pacific. *Tectonophysics* 187, p. 285-303.

*(Reconstruction of Tertiary Arc Chain of W and SW Pacific rim since initiation in Eocene-Oligocene. From W Pacific to E margin of Australia: Bonin, Mariana, Yap, Palau, Halmahera, N New Guinea- W Melanesia, Solomon, Vanuatu, and Tonga-Kermadec Arcs. Associated with formation and consumption of backarc basins. Four stages in evolution: (1) arc chain from M Eocene- earliest Oligocene; (2) Oligocene formation of backarc basins; (3) occurrence of double arcs on inner side of arc chain in E-M Miocene and (4) reversal of arc polarities due to collisions since late Miocene. Backarc basins open 15 My after initiation of volcanic arc. Several to 10 Myrs after opening, backarc spreading terminates. In case of arc collision, reversal of arc polarity occurs if there is oceanic crust on backarc side)*

Horibe, Y., K.R. Kim & H. Craig (1987)- Hydrothermal methane plumes in the Mariana back-arc spreading center. *Nature* 324, p. 131-133.

*(Large plumes of methane-enriched water in Mariana Trough back-arc basin and also in summit crater of Loihi Seamount (present site of Hawaiian hotspot). Mariana vents enriched in methane without corresponding enrichment in  $3He$ )*

Hottinger, L. (1975)- Late Oligocene larger foraminifera from Koko Guyot, Site 309. *Initial Reports Deep Sea Drilling Project (DSDP)* 32, p. 825-826.

*(online at: [www.deepseadrilling.org/32/volume/dsdp32\\_32.pdf](http://www.deepseadrilling.org/32/volume/dsdp32_32.pdf))*

*(Occ. Late Oligocene Spiroclypeus tidoenganensis and Heterostegina assilinoidea on top of Koko Guyot seamount between Japan and Hawaii)*

Howell, D.G. (1980)- Mesozoic accretion of exotic terranes along the New Zealand segment of Gondwanaland. *Geology* 8, 10, p. 487-491.

*(Permian- M Cretaceous strata in New Zealand grouped in 4 tectonostratigraphic terranes. Present distribution of terranes inferred to represent accretionary processes along Gondwanaland margin. Accretion intermittent until M Cretaceous time, followed by rifting that broke New Zealand away from Australia)*

Howell, D.G., E.R. Schermer, D.L. Jones, Z. Ben-Avraham & E. Scheibner (1985)- Preliminary tectonostratigraphic terrane map of the Circum-Pacific. Region. Circum-Pacific Council for Energy and Mineral Resources, American Assoc. Petrol. Geol. (AAPG), Tulsa.  
*(Map at 1:17M scale and explanatory notes by US Geological Survey personnel)*

Huang, C.Y., Y. Yen, P.M. Liew, D.J. He, W.R. Chi & M.S. Wu (2013)- Significance of indigenous Eocene larger foraminifera *Discocyclina dispansa* in Western Foothills, Central Taiwan: a Paleogene marine rift basin in Chinese continental margin. *J. Asian Earth Sci.* 62, p. 425-437.  
*(Early M Eocene larger foram Discocyclina dispansa in inner shelf sediments of C Taiwan. Calcareous nannoplankton of zones NP14-15 in overlying clastics. Part of M Eocene syn-rift sequence, unconformably covered by latest Oligocene-Miocene post-rift sequence)*

Hughes, G.W. (1989)- The micropaleontology of sedimentary units from the Solomon Islands. In: J.G. Vedder & T.R. Bruns (ed.) *Geology and offshore resources of Pacific Island arcs; Solomon Islands and Bougainville, Papua New Guinea regions*, Circum-Pacific Council Energy and Mineral Resources, Earth Sci. Ser. 12, p. 227-237.  
*(Brief review of Solomon Island micropaleontological work. Mainly Plio-Pleistocene with planktonic foraminifera, also Late Oligocene and E Miocene limestone with Lepidocyclina)*

Hughes, G.W. (2004)- Accretion of the Ontong Java plateau to the Solomon arc: a historical perspective. *Tectonophysics* 389, p. 127-136.  
*(On geologic fieldwork on N Malaita island, Solomon Islands. Mainly Cretaceous pillow basalts and pelagic limestones, part of now-exposed mid-Cretaceous ocean floor)*

Hutchison C.S. (1987)- Displaced terranes of the Southwest Pacific. In: Z. Ben Avraham (ed.) *The evolution of the Pacific Ocean margins*, Oxford Monographs Geol. Geophysics 8, p. 161-175.

Iaffaldano, G. (2012)- The strength of large-scale plate boundaries: constraints from the dynamics of the Philippine Sea plate since ~5Ma. *Earth Planetary Sci. Letters* 357-358, p. 21-30.  
*(On convergence of fast-moving Philippine Sea plate towards Eurasia since subduction initiation at ~5 Ma. Because Philippine slab reaches depths shallower than 410km transition zone in upper mantle, its weight unlikely to provide sufficient driving force to shear trailing plate over viscous mantle at observed rates)*

Iba, Y. & S. Sano (2007)- Mid-Cretaceous step-wise demise of the carbonate platform biota in the Northwest Pacific and establishment of the North Pacific biotic province. *Palaeogeogr. Palaeoclim. Palaeoecology* 245, p. 262-282.  
*(Cretaceous carbonate platform biota flourished from Berriasian- E Albian interval in Japan, Sakhalin, indicating Tethyan biotic realm. Step-wise disappearance in latest Aptian- M Albian of rudists, dasycladacean and red algae, hermatypic corals, stromatoporoids, nerineacean gastropods, orbitolinid foraminifera, etc.)*

Ishikawa, A., T. Kuritani, A. Makishima & E. Nakamura (2007)- Ancient recycled crust beneath the Ontong Java Plateau: isotopic evidence from the garnet clinopyroxenite xenoliths, Malaita, Solomon Islands. *Earth Planetary Sci. Letters* 259, p. 134-148.  
*(Sr, Nd, Hf and Pb isotope investigation of garnet clinopyroxenite xenoliths from Malaita, Solomon Islands, indicate pollution of S Pacific mantle by the subduction or delamination of Neoproterozoic granulitic lower crust (0.5-1 Ga). Crustal recycling possibly around suture of Rodinia supercontinent, part of which resurfaced during mantle upwelling responsible for creating Cretaceous Ontong Java Plateau)*

Ishikawa, A., E. Nakamura & J.J. Mahoney (2005)- Jurassic oceanic lithosphere beneath the southern Ontong Java Plateau: evidence from xenoliths in alnoite, Malaita, Solomon Islands. *Geology* 33, 5, p. 393-396.

*(Xenoliths of spinel lherzolite and gabbro from alnoite intrusion in S Ontong Java Plateau on Malaita yield Sm-Nd age of ~160 Ma and initial  $\epsilon$ Nd value of ~+8. Plateau basement is ~120 Ma with initial  $\epsilon$ Nd of +3.7- +6.5. Xenoliths appear to represent normal Pacific oceanic lithosphere, formed ~40 My before plateau, indicating S part of plateau was emplaced off axis on mature seafloor. Closest 160 Ma seafloor to Malaita is >1800 km to N)*

Ishikawa, A., D.G. Pearson & C.W. Dale (2011)- Ancient Os isotope signatures from the Ontong Java Plateau lithosphere: tracing lithospheric accretion history. *Earth Planetary Sci. Letters* 301, p. 159-170.

*(Re-Os isotopes in peridotite xenoliths from Malaita, Solomon Islands suggest xenoliths represent virtually entire thickness of S part of subplateau lithospheric mantle (<120 km). Shallowest plateau lithosphere (< 85 km) dominated by fertile lherzolites from ~160 Ma Pacific lithosphere. Basal section of subplateau lithospheric mantle (~95-120 km) enriched in refractory harzburgites with Proterozoic model ages of 0.9-1.7 Ga)*

Ishizuka, O., R.N. Taylor, M. Yuasa & Y. Ohara (2011)- Making and breaking an island arc: a new perspective from the Oligocene Kyushu-Palau arc, Philippine Sea. *Geochem. Geophys. Geosystems* 12, 5, p. 1-40.

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*(Kyushu-Palau Ridge is 2600km long remnant island arc, separated from active Izu-Bonin-Mariana arc by Shikoku and Parece Vela spreading-rift basins at ~25 Ma. KPR active between 25-48 Ma, but majority of exposed volcanism between 25-28 Ma)*

Itaya, T., R. Brothers & P. Black (1985)- Sulfides, oxides and sphene in high-pressure schists from New Caledonia. *Contrib. Mineralogy Petrology* 91, 2, p. 151-162.

*(In New Caledonia high-pressure schists pyrite, pyrrhotite, chalcopyrite, rutile and sphene are common)*

Ito, G. & P.D. Clift (1998)- Subsidence and growth of Pacific Cretaceous plateaus. *Earth Planetary Sci. Letters* 161, p. 85-100.

*(On creation and subsidence of mid-Cretaceous Ontong Java, Manihiki, and Shatsky oceanic plateaus)*

Johnson, H. (1991)- Petroleum geology of Fiji. *Marine Geology* 98, p. 313-352.

*(Most petroleum exploration in Fiji in shallow-water basins around Viti Levu, Bligh Water and Bau Waters Basins. Five deep wells drilled offshore and on Viti Levu in 1980-1982, all dry, with minor shows of gas and oil fluorescence. Wells with >2500m of mainly Miocene and younger sediments, but some Oligocene or older volcanogenic rocks also intersected. mainly volcanoclastics. E-M Miocene shallow-water limestone targets not encountered. No source rocks identified in wells or outcrops, but anomalous amounts of pentane in seabed sediments off N Viti Levu suggest that thermogenic hydrocarbons generated)*

Johnson, H. & J. Pflueger (1991)- Potential Mio-Pliocene reef traps in the Iron Bottom Basin, Solomon Islands. In: K.A.W. Crook (ed.) *The geology, geophysics and mineral resources of the South Pacific*, *Marine Geology* 98, p. 177-186.

*(Iron Bottom Basin N of Honiara, Guadalcanal, C Solomons Trough, with up to 4.5 km of Late Oligocene-Quaternary sediments with potential for hydrocarbons. Seismic profiles with mound-like anomalies, possibly Mio-Pliocene and Pliocene shelf-edge reefs, forming potential traps for hydrocarbons)*

Johnson, J.H. (1954)- Fossil calcareous algae from Bikini atoll. U.S. Geol. Survey (USGS) Prof. Paper, 260-M, p. 537-543.

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*(online at: <http://pubs.usgs.gov/pp/0280e-j/report.pdf>)*

*(Eocene- Recent algae from Saipan are mainly red algae, some are green. 18 genera and 88 species described. Calcareous algae can be rock builders. Main use is in paleoecology; of limited use in stratigraphy)*

Johnson, J.H. & B.J. Ferris (1950)- Tertiary and Pleistocene coralline algae from Lau, Fiji. *Bernice P. Bishop Museum Bull.* 201, p. 1-27.

Johnston, S.T. (2004)- The New Caledonia- D'Entrecasteaux orocline and its role in clockwise rotation of the Vanuatu- New Hebrides Arc and formation of the N Fiji Basin. In: A.J. Sussman & A.B.Weil (eds.) Orogenic curvature: integrating paleomagnetic and structural analyses, Geol. Soc. America (GSA), Spec. Paper 383, p. 225-236.

*(Bend of N end of ribbon continent extending N from Northland Peninsula, New Zealand, through New Caledonia and Loyalty Islands and into submarine d'Entrecasteaux ridge (the NNNE ribbon continent) formed as result of oroclinal orogeny))*

Johnson, T. & P. Molnar (1972)- Focal mechanisms and plate tectonics of the southwest Pacific. J. Geophysical Research 77, 26, p. 5000-5032.

*(Australian plate underthrusts Pacific plate to the ENE under Solomon and New Hebrides islands and overthrusts Pacific to E along Tonga-Kermadec arc and New Zealand North Island. Also NNE-SSW convergence of Pacific and Australian plates in NW New Guinea. Plate motions near Bismarck Archipelago complex because of presence of at least three additional small plates. Solomon Sea plate moving ~NW with respect to Australian plate and underthrusting Pacific plate to NE along Solomon arc)*

Jolivet, L., P. Huchon & C. Rangin (1989)- Tectonic setting of Western Pacific marginal basins. Tectonophysics 160, p. 23-47.

*(Reconstructions of W Pacific marginal basins between 56 Ma- Present, accounting for rapid motion of 'exotic terranes' along W Pacific convergent zone. Marginal basins may open in variety of tectonic settings).*

Joplin, G.A. (1937)- An interesting occurrence of lawsonite in glaucophane-bearing rocks from New Caledonia. Mineralogical Mag. 24, p. 534-537.

*(online at: [www.minersoc.org/pages/Archive-MM/Volume\\_24/24-157-534.pdf](http://www.minersoc.org/pages/Archive-MM/Volume_24/24-157-534.pdf))*

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*(new model of the plate tectonic development of the southwest Pacific integrates the continental geology of New Zealand with the age structure of the surrounding oceanic crust)*

Karig, D.E. (1971)- Origin and development of marginal basins in the western Pacific. J. Geophysical Research 76, 11, p. 2542-2561.

*(One of first models to propose origin of W Pacific/ Indonesian marginal oceanic basins by back-arc extension due to retreat of subduction trench and volcanic arc. Marginal basins in Indonesia now inactive; no new crust oceanic-type is generated)*

Karig, D.E. (1974)- Evolution of arc systems in the Western Pacific. Annual Review Earth Planetary Sci. 2, p. 51-75.

Kelley, K.A., T. Plank, T.L. Grove, E.M. Stolper, S. Newman & E. Hauri (2006)- Mantle melting as a function of water content beneath back-arc basins. J. Geophysical Research 111, B09208, p. 1-27.

*(Mainly based on data from Pacific marginal basins. Subduction zone magmas are characterized by high concentrations of water, more than Mid-Ocean Ridge Basalts. In magmatic arc systems magma genesis is caused by flux of water from dehydrating, subducting slab, lowering mantle solidus, which drives melting of mantle wedge. In back-arc basins H<sub>2</sub>O % decreases with distance from volcanic arc)*

Kleinpell, R.M. (1954)- Neogene smaller Foraminifera from Lau, Fiji. Bernice P. Bishop Museum Bull. 211, p. 1-96.

*(Descriptions of M Miocene- Pleistocene smaller foraminifera from Lau Islands, E of Fiji. Shallow marine faunas, associated with larger foraminifera Lepidocyclina, Miogypsina, etc.)*

Klingelhoefer, F., Y. Lafoy, J. Collot, E. Cosquer, L. Geli, H. Nouze & R. Vially (2007)- Crustal structure of the basin and ridge system west of New Caledonia (Southwest Pacific) from wide angle and reflection seismic data. *J. Geophysical Research* 112, B11102, p. 1-18.

*(Two 2004 deep offshore reflection seismic profiles SW and S of New Caledonia: (1) N profile across Lord Howe Rise (crustal thickness 23 km and continental crust velocities), Fairway Basin (crust 12-15 km; thinned continental origin), Fairway Rise (22 km, continental) and New Caledonian Basin (crust 10 km thick, high velocities, uncharacteristic for either thinned continental or oceanic crust); (2) S profile through Norfolk Rise (continental), New Caledonia Basin (velocities, crustal thickness and basement roughness typical oceanic crust), Fairway Basin. Deep reflector in upper mantle imaged under New Caledonian Basin on N profile)*

Knesel, K. M., B.E. Cohen, P.M. Vasconcelos & D.S. Thiede (2008)- Rapid change in drift of the Australian plate records collision with Ontong Java plateau. *Nature* 454, p. 754-757.

*(Short-lived slowdown in N-ward motion and W-ward deflection of Australian plate between 26-23 Ma, tied to arrival of Greenland-sized volcanic Ontong Java Plateau at Melanesian (N Solomon/ Vitiaz) Trench)*

Knight, C.L., R.B. Fraser & A. Baumer (1973)- Geology of the Bougainville copper orebody, New Guinea. In: N.H. Fisher (ed.) *Metallic provinces and mineral deposits in the Southwest Pacific*, Bureau Mineral Res., Geol. Geoph., Bull. 141, p. 59-67.

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*(Cu-Au-Mo 'porphyry copper' orebody near E coast of Bougainville Island, at S side of complex intrusive into Miocene andesitic volcanic suite)*

Kodama, K., B.H. Keating & C.E. Helsley (1983)- Paleomagnetism of the Bonin Islands and its tectonic significance. *Tectonophysics* 95, p. 25-42.

*(Bonin Islands on NE margin (27°N) of Philippine Sea. Composed of Eocene arc volcanics, with interbedded limestones classic M and Late Eocene larger foram assemblages, incl. *Pellatispira*. Islands have undergone N-ward migration of at least 30° from equatorial region, together with (possibly clockwise) rotation of 30°->90°)*

Komiya, T. & S. Maruyama (2007)- A very hydrous mantle under the western Pacific region: implications for formation of marginal basins and style of Archean plate tectonics. *Gondwana Research* 11, p. 132-147.

Konter, J.G. (2007)- The origin and geologic evolution of seamounts in the Pacific Ocean. Ph.D. Thesis University of California, San Diego, p. 1-207.

Korenaga, J. (2005)- Why did not the Ontong Java Plateau form subaerially? *Earth Planetary Sci. Letters* 234p. 385-399.

*(Bulk of gigantic Ontong Java oceanic plateau formed at ~120 Ma in submarine environment. Rapid construction of massive igneous body below sea level impossible to explain with proposed plume head or bolide impact hypotheses. Entrainment of dense fertile mantle by rapid seafloor spreading proposed to account for voluminous magmatism in submarine environment. Dense source mantle may explain anomalous subsidence history as well as minor magmatism at ~90 Ma)*

Koyama, M., S.M. Cisowski & P. Pezard (1992)- Paleomagnetic evidence for northward drift and clockwise rotation of the Izu-Bonin forearc since the Early Oligocene. In: B. Taylor et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results* 126, p. 353-370.

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*(Paleomagnetic study of deep-marine sediments and volcanic rocks drilled by ODP Leg 126 in Izu-Bonin forearc suggest 10°-14° N-ward drift since Oligocene- E Miocene and up to ~80° clockwise rotation since E Oligocene time, possibly reflecting large CW rotation of entire Philippine Sea Plate over past 40 My)*

Krebs, W. (1975)- Formation of Southwest Pacific island arc-trench and mountain systems: plate or global-vertical tectonics? *American Assoc. Petrol. Geol. (AAPG) Bull.* 59, 9, p. 1639-1666.

*(Origin of SW Pacific island arc-trench systems explained in terms of 'global vertical tectonics')*

Kroenke, L.W. (1972)- Geology of the Ontong Java Plateau. Hawaii Institute of Geophysics, Techn. Rept. HIG 72-5, p. 1-118.

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(online at: <http://ict.sopac.org/VirLib/TB0006.pdf>)

(Including chapter 3: Papua New Guinea: a montage of island arcs, incl. Late Eocene (Bewani- Torricelli), Oligocene (Finisterre-New Britain), Miocene (New Guinea Mobile Belt), Pliocene- Holocene (Schouten- New Britain))

Kroenke, L.W., J.M. Resig & R.M. Leckie (1993)- Hiatus and tephrochronology of the Ontong Java Plateau: correlation with regional tectono-volcanic events. In: W.H. Berger et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 130, p. 423-444.

(online at: [www-odp.tamu.edu/publications/130\\_SR/VOLUME/CHAPTERS/sr130\\_25.pdf](http://www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_25.pdf))

(Hiatus in sedimentary section and ash occurrences in SW Pacific correlate well with changes in plate motion of Indo-Australian and Pacific plates, seafloor-spreading history, initiation and cessation of SW Pacific subduction events, related periods of explosive arc volcanism and proximal intraplate volcanism)

Kroenke, L.W., P. Wessel & A. Sterling (2004)- Motion of the Ontong Java Plateau in the hot-spot frame of reference: 122 Ma- present. In: J.G. Fitton et al. (eds.) Origin and evolution of the Ontong Java Plateau, Geol. Soc., London, Spec. Publ. 229, p. 9-20.

(New model of Pacific absolute plate motion between 140- 0 Ma used to track paleogeographic positions of Ontong Java Plateau (OJP) from the time (~122 Ma) and location (~43°S) of formation to present location N of Solomon Islands)

Lacroix, A. (1941)- Les glaucophanites de la Nouvelle Calédonie et les roches qui les accompagnent, leur composition et leur genèse. Mem. Acad. Sciences France 65, p. 1-103.

(*The glaucophane-bearing rocks of New Caledonia and associated rocks, their composition and genesis*)

Lacroix, A. (1942)- Les peridotites de la Nouvelle Calédonie, leurs serpentinites et leurs gîtes de nickel et de cobalt, les gabbros qui les accompagnent. Mem. Acad. Sciences France 66, p. 1-143.

(*The peridotites of New Caledonia, their serpentinites and their associated layers of nickel and cobalt and gabbros*)

Ladd, H.S. & J.E. Hoffmeister (1945)- Geology of Lau, Fiji. Bernice P. Bishop Museum Bull. 181, p. 1-399.

Lafoy, Y. & J.M. Auzende (2000)- Les hydrates de gaz: generalités et spécificité du gisement potentiel de la zone économique de la Nouvelle-Calédonie. Report Service des Mines Energie Nouvelle-Calédonie, p. 1-26.

(online at: [www.zoneco.nc/IMG/pdf/lafoy\\_et\\_al\\_2000\\_les\\_hydrates\\_de\\_gaz\\_en\\_nouvelle\\_caledonie.pdf](http://www.zoneco.nc/IMG/pdf/lafoy_et_al_2000_les_hydrates_de_gaz_en_nouvelle_caledonie.pdf))

(On gas hydrates in the economic zone SW of New Caledonia. Deep water Bottom Simulating Reflector indicate gas hydrates layers, possibly related to degassing of underlying hydrocarbon basin)

Lafoy, Y., I. Brodien, R. Vially & N.F. Exon (2005)- Structure of the basin and ridge system west of New Caledonia (Southwest Pacific): a synthesis. Marine Geophysical Res. 26, p. 37-50.

(Development of Fairway Basin in Late Cretaceous (95-65 Ma) by continental stretching. End of continental stretching in Fairway and W Caledonia Basins (65-62 Ma) contemporaneous with onset of Paleocene oceanic spreading in New Caledonia Basin central segment (62-56 Ma), isolating Gondwanaland block to W from Norfolk block to E)

Lafoy, Y., B. Pelletier, J.M. Auzende, F. Missegue & L. Mollard (1994)- Tectonique compressive Cénozoïque sur les rides de Fairway et Lord Howe entre Nouvelle-Calédonie et Australie. Comptes Rendus Académie Sciences Paris, IIa, 319, p. 1063-1069.

*('Cenozoic compressional tectonics on the Fairway and Lord Howe Ridges between New Caledonia and Australia')*

Lagabrielle, Y. & A. Chauvet (2008)- The role of extensional tectonics in shaping Cenozoic New-Caledonia. *Bull. Soc. Geologique France* 179, 3, p. 315-329.

*(New-Caledonia island with ultramafic nappe thrust over continental and arc-derived basement as result of the closure of back-arc basin in Late Eocene. W and E edges of island are delineated by N140 trending normal faults. Onland main boundary of ultramafic nappe, also trend N140, all reflecting faults that accommodated extension and tectonic thinning peridotite nappe and its basement)*

Lagabrielle, Y., A. Chauvet, M. Ulrich & S. Guillot (2013)- Passive obduction and gravity-driven emplacement of large ophiolitic sheets: The New Caledonia ophiolite (SW Pacific) as a case study? *Bull. Soc. Geologique France* 184, p. 545-556.

*(300km long New Caledonia ophiolite: (1) lacks sheeted dykes and pillow basalts; (2) peridotite nappe thrust over basaltic formations of Poya terrane formerly thought to be from different oceanic environment; (3) flat basal contact of ultramafic sheet and peridotite nappe not thickened during obduction but experienced extension. This suggests peridotites not emplaced by tectonic force applied to rear. Poya terrane basalts may originate from same oceanic basin as peridotites and may represent original cover of Peridotite nappe. Continuous passive uplift of subducted units beneath oceanic lithosphere drove uplift of ophiolite and led to erosion and to initiation of sliding of basaltic layer. In Priabonian (end Eocene), products of erosion of basaltic layer deposited together with sediments from Norfolk passive oceanic margin, now in accretionary wedge. Obduction process ended with gravity sliding of oceanic mantle sheet, contemporaneous with exhumation of HP-LT units of Pouebo and Diahot. Gravity sliding by occurrence of continuous serpentine sole)*

Lagabrielle, Y., P. Maurizot, Y. Lafoy, G. Cabioch, B. Pelletier, M. Regnier, I. Wabete & S. Calman (2005)- Post-Eocene extensional tectonics in Southern New Caledonia (SW Pacific): insights from onshore fault analysis and offshore seismic data. *Tectonophysics* 403, p. 1-28.

*(Extensional events affected New Caledonia after Late Eocene obduction of peridotite nappe, in sedimentary pile and ophiolites. Extensional faulting in S New Caledonia started probably in Oligocene and still active after M Miocene)*

Laird, M.G. & J.D. Bradshaw (2004)- The break-up of a long-term relationship: the Cretaceous separation of New Zealand from Gondwana. *Gondwana Research* 7, 1, p. 273-286.

*(New Zealand part of Late Paleozoic- Mesozoic Gondwana convergent margin, with terrane accretion, uplift and erosion. Rapid change to extensional tectonics in mid-Cretaceous (Albian), marked by angular unconformity separating deformed 'basement' from less-deformed 'cover' strata. Coniacian uplift and erosion just prior to sea-floor spreading, resulted in 'break-up' unconformity. In Late Santonian (~85 Ma) diachronous, widespread low-relief erosion surface, overlain by fine-grained deposits coincided with onset of sea-floor spreading, passive margin subsidence, and final separation of New Zealand from Gondwana)*

Lallemand, S. (2016)- Philippine Sea Plate inception, evolution, and consumption with special emphasis on the early stages of Izu-Bonin-Mariana subduction. *Progress in Earth and Planetary Science* 3, 15, p. 1-26.

*(online at: <http://progearthplanetsci.springeropen.com/articles/10.1186/s40645-016-0085-6>)*

*(Izanagi slab detachment beneath E Asia margin at ~60-55 Ma likely triggered splitting of proto-PSP under plume influence at ~54-48 Ma, leading to formation of long-lived W Philippine Basin and short-lived oceanic basins. Shortening across paleo-transform boundary evolved into thrusting within Pacific Plate at ~52-50 Ma, allowing it to subduct beneath newly formed PSP, which was composed thick Mesozoic terranes and thin oceanic lithosphere. First magmas from subducting Pacific crust beneath young oceanic crust near upper plate spreading centers at ~49 Ma were boninites. As Pacific crust reached greater depths at ~45 Ma composition of lavas evolved into high-Mg andesites, then arc tholeiites and andesites. Serpentinite mud volcanoes in Mariana fore-arc may have formed above remnants of paleo-transform boundary between proto-PSP and Pacific Plate)*

Landmesser, C.W. (1977)- Evaluation of potential hydrocarbon occurrence in the Solomon Islands. *South Pacific. Marine Geol. Notes* 1, 5, p. 47-53.

Langmuir, C.H., A. Bezos, S. Escrig & S.W. Parman (2006)- Chemical systematics and hydrous melting of the mantle in back-arc basins. In: Back-Arc Spreading Systems: Geological, Biological, Chemical, and Physical Interactions, American Geophys. Union (AGU), Geophys. Monogr. 166, p. 87-146.

*(Chemical systematics of Scotia, Mariana, Lau, and Manus back-arc basins. In back-arc basins, on the arc side of spreading center, where water is added, shallow hydrous melting is important. On back side, dry melting under relatively anhydrous conditions occurs, similar to open ocean ridges. Mixing between melts from dry and wet sides leads to characteristic spectra of parental BABB compositions)*

Larson, R.L. & C.G. Chase (1972)- Late Mesozoic evolution of the western Pacific Ocean. Geol. Soc. America (GSA), Bull. 83, p. 3627-3644.

*(Three sets of Late Mesozoic magnetic anomalies in Pacific Ocean suggests five spreading centers, joined at two triple points. Oldest part of Pacific Ocean just E of Mariana Trench and E Jurassic in age)*

Larson, R.L. (1991)- Latest pulse of Earth: evidence for a mid-Cretaceous superplume. Geology 19, p. 547-550.

*(Between 120-80 Ma 50-75% increase in Earth's oceanic crust formation, with spreading rate increases (especially in Pacific Ocean). Pulse decreased from 100-80 Ma, dropped significantly at 80 Ma, and continued decrease from 80-30 Ma. Mid-Cretaceous pulse interpreted as response to superplume that originated at ~125 Ma and erupted beneath mid-Cretaceous Pacific basin)*

Larson, R.L. (1997)- Superplumes and ridge interactions between Ontong Java and Manihiki Plateaus and the Nova-Canton Trough. Geology 25, 9, p. 779-782.

*(Initial pulse of volcanism on Ontong Java and Manihiki Plateaus before 123-124 Ma and largely ceased by ~122 Ma, while intervening Pacific-Phoenix spreading ridge probably disrupted between 120-115 Ma by formation of Nova-Canton Trough rift system)*

Lee, C.S. (1983)- Origin and evolution of the West Philippine Basin (tectonics, magnetics). Ph.D. Thesis Texas A&M University, College Station, p. 1-120.

*(West Philippine Basin formed by seafloor spreading from Central Basin Spreading Center in two different spreading phases: NE-SW symmetric spreading at 60-45 Ma and N-S oriented spreading from 45-35 Ma)*

Leitch, E.C. (1984)- Marginal basins of the SW Pacific and the preservation and recognition of their ancient analogues: a review. In: B.P. Kokelaar & M.F. Howells (eds.) Marginal basin geology, Geol. Soc., London, Spec. Publ. 16, p. 97-108.

*(SW Pacific marginal basins floored by oceanic lithosphere formed by (1) sea-floor spreading behind active magmatic arcs (back-arc basins) and (2) rifting of continental crust without obvious connection to arc (small ocean basins). Basins opened rapidly. Thick sediment piles adjacent to emergent continental margins or active arcs, with thin pelagic sediments, ash, and fine grained turbidites on basin floors. Ancient back-arc basins identifiable on basis of temporal relations to magmatic arcs and volcanic influence in sedimentary sequence, but distinguishing between small and major ocean basins often difficult. Most basins close by subduction)*

Lewis, S.D., D.E. Hayes & C. L. Mrozowski (1982)- The origin of the West Philippine basin by inter-arc spreading In: G. R. Balce & F. Zanoria (eds.) Geology and tectonics of Luzon and Marianas region, Proc. CCOP-IOC-SEATAR Workshop, Manila, Spec. Publ., 1, p. 31-51.

Li, R.Q. & K. Sashida (2011)- Additional note on Earliest Cretaceous Entactinarians (Radiolaria) from the Mariana Trench. Paleontological Research 16, 1, p. 26-36.

*(Well-preserved earliest Cretaceous radiolarians from tuffaceous claystone sample collected from seamount flank of Mariana Trench slope. Several new genera)*

Li, R.Q. & K. Sashida (2013)- Morphological variability and phylogeny of the Upper Tithonian?-Berriasian Vallupinae (Radiolaria) from the Mariana Trench. J. Paleontology, 87, 6, p. 1186-1194.

*(Common U Tithonian- Berriasian Vallupinae radiolaria in tuffaceous claystone from Mariana Trench. 17 radiolarian species, including three new)*

Li, R.Q. & K. Sashida & Y. Ogawa (2011)- Earliest Cretaceous initial spicule-bearing spherical radiolarians from the Mariana Trench. *J. Paleontology*, 85, p. 92-101.

*(Well-preserved earliest Cretaceous radiolarians from tuffaceous claystone from seamount flank of Mariana Trench. Families Centrocbidae and probably Entactiniidae identified)*

Li, Y.B., J.I. Kimura, S. Machida, T. Ishii, A. Ishiwatari, S. Maruyama, H.N. Qiu, T. Ishikawa et al. (2013)- High-Mg adakite and low-Ca boninite from a Bonin fore-arc seamount: Implications for the reaction between slab melts and depleted mantle. *J. Petrology* 54, 6, p. 1149-1175.

*(online at: <https://academic.oup.com/petrology/article/54/6/1149/1409047>)*

*(In Izu-Bonin-Mariana initial subduction-related boninitic magmatism between 48-44 Ma. High-Mg adakites and low-Ca boninites dredged from Bonin Ridge fore-arc seamount, with overlapping ages or adakite magmatism occurred slightly later than boninite magmatism. Both magma types could be generated by partial melting of depleted mantle source fluxed by water-rich slab-derived melts in subduction environment)*

Lillie, A.R. (1970)- The structural geology of lawsonite and glaucophane schists of the Ouegoa district, New Caledonia. *New Zealand J. Geol. Geophysics* 13, 1, p. 72-116.

*(online at: [www.tandfonline.com/doi/pdf/10.1080/00288306.1970.10428207](http://www.tandfonline.com/doi/pdf/10.1080/00288306.1970.10428207))*

*(In N New Caledonia glaucophane in variety of layered rocks ranging from phyllites with Cretaceous Inoceramus fossils to coarsely crystalline gneisses. Lawsonite in finer-grained rocks. Age of metamorphism probably Oligocene. Coarse glaucophanites and gneisses among serpentinites. No clear evidence of vast, overthrust ultrabasic sheet directed to W or SW as cause for high-pressure metamorphosis.)*

Lillie, A.R. (1975)- Structures in the lawsonite- glaucophane schists of New Caledonia. *Geol. Magazine* 112, p. 225-234.

*(General strike of bedding and foliation is NW-SE and dip to SW or SSW or vertical, but most folds and lineations plunge roughly to SW. This pattern of folds preceded and succeeded by regional folding along horizontal axes)*

Lillie, A.R. & R.N. Brothers (1970)- The geology of New Caledonia. *New Zealand J. Geol. Geophysics* 13, 1, p. 145-183.

*(online at: [www.tandfonline.com/doi/pdf/10.1080/00288306.1970.10428210](http://www.tandfonline.com/doi/pdf/10.1080/00288306.1970.10428210))*

*(Extensive review of New Caledonia geology. See also Brothers & Lillie (1988))*

Lister, G.S. L.T. White, S Hart & M.A Forster (2012)- Ripping and tearing the rolling-back New Hebrides slab. *Australian J. Earth Sci.* 59, 6, p. 899-911.

*(Modeling of evolution of New Hebrides slab suggests Australian lithosphere tore as it began to subduct, and is still ripping today. S-ward motion of N-dipping flap enabled by W-ward propagation of active rip, accompanied by S-ward foundering of new transform segments. Subduction transform foundering reflected by steps in height of subducted slab)*

Loocke, M., J.E. Snow & Y. Ohara (2013)- Melt stagnation in peridotites from the Godzilla Megamullion Oceanic Core Complex, Parece Vela Basin, Philippine Sea. *Lithos* 182-183, p. 1-10.

*(Godzilla Megamullion in Parece Vela backarc basin of Izu-Bonin-Mariana system largest known example of Oceanic Core Complex (OCC) (55x155km) in extinct Miocene backarc spreading ridge. Peridotites recovered include fertile (Iherzolites), depleted (harzburgites) and plagioclase-bearing groups. Melt stagnation studied via incidence of plagioclase-bearing peridotites and chemistry of Cr-spinels in plag-bearing samples)*

Lytle, M.L. (2013)- Geochemical constraints on mantle sources and melting conditions in Pacific back-arc basins. Ph.D. Thesis, University of Rhode Island, p. 1-406.

Macpherson, C.G. & R. Hall (2001)- Tectonic setting of Eocene boninite magmatism in the Izu-Bonin-Mariana forearc. *Earth Planetary Sci. Letters* 186, p. 215-230.

*(online at: [http://searg.rhul.ac.uk/pubs/macpherson\\_hall\\_2001%20IBM%20boninites.pdf](http://searg.rhul.ac.uk/pubs/macpherson_hall_2001%20IBM%20boninites.pdf))*

*M Eocene boninites generated over large region during early history of Izu-Bonin Mariana (IBM) arc, but boninites not recognised in younger subduction zones. Thermal anomaly or mantle plume influenced magmatic and tectonic development of W Pacific from M Eocene until present day)*

Madrigal, P., E. Gazel, K.E. Flores, M. Bizimis & B. Jicha (2016)- Record of massive upwellings from the Pacific large low shear velocity province. *Nature Communications* 7, 13309, p. 1-12.  
(online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5105175/pdf/ncomms13309.pdf>)

Mahoney, J., D.M. Storey, K. Spencer & M. Pringle (1993)- Geochemistry and age of the Ontong Java Plateau. In: M.S. Pringle et al. (eds.) *The Mesozoic Pacific: geology, tectonics and volcanism*, American Geoph. Union (AGU) Geophys. Monograph 77, p. 233-261.  
(online at: [www.mantleplumes.org/WebDocuments/Mahoney93\\_GeoMon77.pdf](http://www.mantleplumes.org/WebDocuments/Mahoney93_GeoMon77.pdf))  
(*Basement rocks of Ontong Java Plateau tholeiitic basalts that appear to record very high degree of partial melting, like those found in Iceland. Mean Ar/Ar ages of ODP Site 807 lavas and basement from Malaita island 122.4 ± 0.8 Ma (Aptian). Pb-Nd-Sr isotopes indicate hotspot-like source*)

Mallick, D.L.J. (1973)- Review of the mineral deposits of the New Hebrides. In: N.H. Fisher (ed.) *Metallogenic provinces and mineral deposits in the Southwestern Pacific*, Bureau Mineral Res. Geol. Geoph., Bull. 141, p. 13-31.  
(online at: [https://www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=108](https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=108))

Mann, P. & A. Taira (2004)- Global tectonic significance of the Solomon Islands and Ontong Java Plateau convergent zone. *Tectonophysics* 389, p. 137-190.  
(*Ontong Java Plateau of SW Pacific Ocean is largest and thickest oceanic plateau on Earth. Currently colliding with Solomon Islands island arc. 80% of Ontong Java Plateau crust is subducted under Solomon island arc; only uppermost basaltic and sedimentary part of crust (~7 km) preserved on overriding plate by subduction-accretion processes (consistent with observed imbricate structural style of plateaus and seamount chains preserved in other orogenic belts)*)

Marlow, N.S., S.V. Dadisman & N.F. Exon (eds.) (1988)- *Geology and offshore resources of Pacific Islands arcs- New Ireland and Manus region, Papua New Guinea*. Circum-Pacific Council Energy and Mineral Resources, Houston, Earth Science Ser. 9, p. 1-288.

Matsubara, Y. & T. Seno (1980)- Paleogeographic reconstruction of the Philippine Sea plate at 5 m.y. *Earth Planetary Sci. Letters* 51, p. 406-414.

Matsuoka, A. (1991)- Middle Jurassic radiolarians from the Western Pacific. In: *Proc. Shallow Tethys 3*, Sendai 1990, Saito Ho-on Kai Spec. Publ. 3, p. 697-707.  
(*First record of Jurassic sediments in W Pacific at ODP Site 801, C Pigafetta basin. Oldest faunas of Tricolocapsa conexa Zone, Bathonian-Callovian age. Faunas compare well with Tethyan and Japanese faunas*)

Matsuoka, A. (1992)- Jurassic and Early Cretaceous radiolarians from Leg 129, Sites 800 and 801, Western Pacific Ocean. In: R.L. Larson et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results 129*, p. 203-220.  
(online at: [www-odp.tamu.edu/publications/129\\_SR/VOLUME/CHAPTERS/sr129\\_10.pdf](http://www-odp.tamu.edu/publications/129_SR/VOLUME/CHAPTERS/sr129_10.pdf))  
(*Seven M Jurassic - Lower Cretaceous radiolarian zones from Sites 800 and 801, ODP Leg 129 in W Pacific: Dibolachras tythopora (Hauterivian), Cecrops septemporatus, (U. Valanginian), Pseudodictyomitra carpatica (Berriasian- E Valanginian), P. primitiva, (Kimmeridgean-Tithonian), Cinguloturris carpatica Oxfordian), Stylocapsa spiralis (~U Callovian) and Tricolocapsa conexa (Bathonian- E Callovian). (Most Tan Sin Hok (1927) species of Archaeodictyomitra (A. brouweri= Eucyrtidium brouweri, A. excellens= Lithomitra excellence, A. pseudoscalaris= Stichomitra pseudoscalaris), Eucyrtis (E. hanni= Lithocampe hanni) and Pseudodictyomitra (P. lilyae= Dictyomitra lilyae) range up into D. tythopora/Hauterivian and down through P. carpatica/ Berriasian; P. lilyae only in U Valanginian-Hauterivian; JTvG)*)

- Matsuoka, A. (1995)- Late Jurassic tropical Radiolaria: *Vallupus* and its related forms. *Palaeogeogr. Palaeoclim. Palaeoecology* 119, p. 359-369.  
*(Vallupus Territory is tropical radiolarian realm of Panthalassa and Tethys in Latest Jurassic- early Cretaceous. Vallupinae radiolarian subfamily restricted to Late Jurassic in low- and middle-latitudes of W Pacific, E Asia, Mediterranean regions, etc.. Probably accumulated within 25° of Jurassic paleoequator)*
- Matthews, K.J., M. Seton, N. Flament & R.D. Muller (2012)- Late Cretaceous to present-day opening of the Southwest Pacific constrained by numerical models and seismic tomography. In: *Eastern Australasian Basins Symposium IV, Brisbane 2012*, p. 1-15.
- Matthews, K.J., S.E. Williams, J.M. Whittaker, D. Muller, M. Seton & G.L. Clarke (2015)- Geologic and kinematic constraints on Late Cretaceous to mid Eocene plate boundaries in the Southwest Pacific. *Earth-Science Reviews* 140, p. 72-107.  
*(New plate tectonic reconstruction for Late Cretaceous- M Eocene (~85-45 Ma) of SW Pacific. Subduction has been active E of Lord Howe Rise and N of New Zealand since at least 85 Ma. From >85 Ma, and possibly 100 Ma, until 55 Ma S Loyalty Basin opened to E of New Caledonia associated with W-directed slab roll-back. At ~55 Ma NE dipping subduction initiated in S Loyalty Basin and consumed basin between ~55-45 Ma)*
- Maurizot, P. (2011)- First sedimentary record of the pre-obduction convergence in New Caledonia: formation of an Early Eocene accretionary complex in the north of Grande Terre and emplacement of the Montagnes Blanches nappe. *Bull. Soc. Geologique France* 182, 6p. 479-491.  
*(New Caledonia lies at N tip of Norfolk ridge continental fragment, which separated from E Gondwana margin in Late Cretaceous. Late Cretaceous- Paleogene sedimentary succession of N New Caledonia mainly pelagics with minimal terrigenous input, deformed in M Eocene SW-verging accretionary complex. Change to active-margin regime flysch-type deposits as reflected in change from with pelagic micrites to pink marls at end of E Eocene (Late Ypresian, zone E7; ~50 Ma). System prograded S-wards until Late Eocene collisional stage, when continental Norfolk Ridge entered convergence zone and blocked it)*
- Maurizot, P. & M. Vende-Leclerc (2009)- New Caledonia Geological map, 1:500,000. Direction de l'Industrie et des Mines, New Caledonia.  
*(online at: <https://dimenc.gouv.nc/sites/default/files/download/13036078.pdf>)*
- McDougall, I., B.J.J. Embleton & D.B. Stoen (1981)- Origin and evolution of Lord Howe Island, Southwest Pacific. *J. Geol. Soc. Australia* 28, 1-2, p. 155-176.  
*(Lord Howe Island eroded remnant of Late Miocene shield volcano (~6.4-6.9 Ma) on Lord Howe seamount chain, produced by movement of Australian plate over magma source/ hot spot. Nova Bank, at N end of chain, may reflect volcanic activity at ~23 Ma. Adjacent Lord Howe Rise is continental crustal block that separated from E Australia by Tasman Sea seafloor spreading between 80-60 Ma (Late Cretaceous- E Tertiary))*
- McDougall, I. & G.J. van der Lingen (1974)- Age of the rhyolites of the Lord Howe Rise and the evolution of the southwest Pacific Ocean. *Earth Planetary Sci. Letters* 21, p. 117-126.  
*(On Mid-Cretaceous pre-Tasman breakup rhyolitic volcanism. Drilling at DSDP site 207 on Lord Howe Rise bottomed in rhyolitic rocks, dated as  $93.7 \pm 1.1$  Ma. At this time Lord Howe Rise, with continental-type structure, thought to have been emergent and adjacent E margin of the Australian-Antarctic continent. After 94 Ma and before deposition of Maastrichtian (70-65 Ma) rifting and formation of Tasman Basin began)*
- McNeill, D.F. & A. Pisera (2010)- Neogene lithofacies evolution on a small carbonate platform in the Loyalty Basin, Mare, New Caledonia. In: W.A. Morgan, A.D. George et al. (eds.) *Cenozoic carbonate systems of Australasia*, Soc. Sedimentary Geology (SEPM), Spec. Publ. 95, p. 243-255.  
*(Biofacies succession of 40 km wide Mio-Pliocene Mare carbonate platform in Loyalty Islands. Change in biotic assemblages across subaerial discontinuity from Late Miocene fringing reef and rhodolith shelf built around volcanic core, to 2m thin bed of E Pliocene acervulinid foraminifera-algal (foralgalith) macroids that forms base of massive coral-dominated atoll. Mio-Pliocene boundary subaerial exposure followed by*

*reflooding in E Pliocene. Switch to coral-dominated atoll in Pliocene likely reflects (global?) trend of decreased coralline red algae)*

McTavish, R.A. (1966)- Planktonic foraminifera from the Malaita Group, British Solomon Islands. *Micropaleontology* 12, p. 1-36.

*(Malaita Gp. of Malaita Island rel. uninterrupted deep marine section from U Eocene (Globigerina linaperta and G. ampliapertura zones) to U Miocene-Pliocene (Sphaeroidinellopsis seminulina and Globigerina dutertrei zones))*

Meffre, S. (1995)- The development of arc-related ophiolites and sedimentary sequences in New Caledonia. Ph.D. Thesis, University of Sydney, p. 1-236. *(Unpublished)*

Meffre, S., J.C. Aitchison & A.J. Crawford (1996)- Geochemical evolution and tectonic significance of boninites and tholeiites from the Koh ophiolite, New Caledonia. *Tectonics* 15, p. 67-83.

*(online at: [https://espace.library.uq.edu.au/view/UQ:366623/UQ366623\\_OA.pdf](https://espace.library.uq.edu.au/view/UQ:366623/UQ366623_OA.pdf))*

*(Central Chain ophiolites in New Caledonia are fragments of supra-subduction zone ophiolite, overlain by pelagic cherts and thick M Triassic- U Jurassic volcanoclastic sequence. Koh ophiolite formed by two tholeiitic magmatic episodes separated by boninites: (1) cumulate gabbros, dolerites, plagiogranites and pillow lava sequence; (2) high-Ca boninitic unit (3) tholeiitic pillow basalts and dykes. Boninitic volcanics formed during initiation of rifting of young oceanic crust, associated with propagation of back arc basin spreading centre. Thick blanket of calc-alkaline volcanoclastic sediments above ophiolite indicates proximity to mature arc)*

Meister, C., P. Maurizot & J.A. Grant-Mackie (2010)- Early Jurassic (Hettangian-Sinemurian) ammonites from New Caledonia (French Overseas Territory, Western Pacific). *Paleontological Research* 14, 2, p. 85-118.

*(17 Hettangian- E Sinemurian ammonite taxa from SW coast of New Caledonia in Triassic- M-Jurassic volcanoclastic turbidites series named New Zealand graywacke. Strong paleogeographic affinities with W Tethys, less strong affinities with E Pacific areas, and endemic elements. Part of collage of terranes accreted during Permian-Lower Cretaceous on E Gondwanan margin)*

Meijer, A. (1980)- Primitive arc volcanism and a boninite series; example from western Pacific Island arcs. In: *The tectonic and geologic evolution of Southeast Asian seas and islands*, American Geophys. Union (AGU), Geophys. Monograph Ser. 23, p. 269-282.

*(Several W Pacific islands of Mariana-Bonin arcs with olivine-bronzite andesites, known as boninites. Production of boninite may require high geothermal gradients in mantle overlying subduction zone, as in subduction under young, hot Philippine Sea plate)*

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*(Radiometric and paleontologic ages of samples from chiefly volcanic sections on Guam, Saipan, and Palau Islands: Facpi Fm on Guam dated at ~43.8 Ma (late M Eocene); Palau Islands volcanic units of late Eocene(?), E Oligocene and E Miocene age; Mariana active arc minimum age of 1Ma)*

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*(Tomographic images of subducting Pacific plate beneath Izu-Bonin-Mariana arc show progression from shallow dipping to vertical from N to S along arc)*

Mitchell, A.H.G. (1970)- Facies of an Early Miocene volcanic arc, Malekula Island, New Hebrides. *Sedimentology* 14, p. 201-243.

*(On Malekula Island pre-Miocene pelagic red mudstones in tectonic contact with thick marine E Miocene island arc succession of volcanoclastic rocks (intruded by basaltic and andesitic dykes and sills), detrital limestones, pelagic sediments and rare lava flows. Carbonate detritus from reefs bordering volcanic islands)*

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*('Initial results of the Nautile dives Campaign SUPSO1 ride on the collision zone of the Loyalty Arc of the New Hebrides (SW Pacific)'. Pelletier 2007: Submersible dives off Mare Island along E flank of ridge recoverd volcanic breccias (32 Ma), alkaline rhyolites, U Oligocene (27 Ma) alkali basalts, E Miocene (20 Ma) backarc basalts and algae and reefal limestones with reworked Eocene- Oligocene and Mio-Pliocene fauna)*

Monzier, M., J. Daniel & P. Maillet (1990)- La collision 'Ride de Loyaute/ Arc de Nouvelles Hebrides' (Pacifique Sud-Ouest). In: *Actes du Colloque Tour du Monde Jean Charcot, Paris 1989, Oceanologica Acta, Spec. Vol. 10*, p. 43-56.

*('The collision of the Loyalty Ridge and New Hebrides arc (SW Pacific)'. Collision between Loyalty Ridge (part of Indo-Australian Plate) and S end of New Hebrides arc started ~300,000 years ago)*

Mortimer, N. (2004)- New Zealand's geological foundations. *Gondwana Research* 7, p. 261-272.

*(New Zealand is fragment of Gondwana that, before Late Cretaceous sea floor spreading, was contiguous with Australia and Antarctica. Only about 10% of continental crust in wider New Zealand region (Zealandia) emergent above sea level as North and South Islands. Cambrian- E Cretaceous basement nine major volcano-sedimentary terranes, three composite regional batholiths, and three regional metamorphic-tectonic belts that overprint terranes and batholiths)*

Mortimer, N., P.B. Gans, M. Palin, S. Meffre, R.H. Herzer & D.N.B. Skinner (2010)- Location and migration of Miocene-Quaternary volcanic arcs in the SW Pacific region. *J. Volcanology Geothermal Res.* 190, p. 1-10.

*(New radiometric ages from rocks in SW Pacific region. Ssynthesis of available SW Pacific data show reasonably complete record of subduction-related volcanism from at least 23 Ma-now, but process of back-arc basin formation is highly episodic and asymmetric)*

Mortimer, N., I.J. Graham, C.J. Adams, A.J. Tulloch & H.J. Campbell (2005)- Relationships between New Zealand, Australian and New Caledonian mineralised terranes: a regional geological framework. In: *Proc. 2005 New Zealand Minerals and Mining Conf.*, p. 151-159.

*(online at: [www.nzpam.govt.nz/cms/pdf-library/minerals/conferences-1/151\\_papers\\_42.pdf](http://www.nzpam.govt.nz/cms/pdf-library/minerals/conferences-1/151_papers_42.pdf))*

*(Reconstruction of New Zealand, New Caledonia, etc. terranes, all part of E Gondwanan active margin prior to opening of Tasman Sea in Cretaceous after 90 Ma (partly based on Gaina et al. 1998))*

Mortimer, N. & D. Parkinson (1996)- Hikurangi Plateau: a Cretaceous large igneous province in the southwest Pacific Ocean. *J. Geophysical Research* 101, B1, p. 687-696.

*(First dredge samples s from Hikurangi Plateau basement volcanics/volcaniclastics of pre-Late Cretaceous age. All samples extensive seafloor weathering to phyllosilicate- and zeolite-bearing assemblages. Petrology similar to other Cretaceous large igneous provinces in W Pacific (e.g., Manihiki, Ontong Java Plateaus)*

Mortimer, N. & A. Tulloch (1996)- The Mesozoic basement of New Zealand. In: *Mesozoic Geology of the Eastern Australia Plate Conference, Geol. Soc. Australia, Extended Abstract* 43, p. 391-399.

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*(Pre-Late Cretaceous Torlesse and Waipapa basement terranes identified in Wanganui Basin, and Murihiku Terrane in eastern Taranaki Basin)*

Mosher, D.C. (1993)- Seismic stratigraphy of the Ontong Java Plateau, western equatorial Pacific: its paleoceanographic significance. Ph.D. Thesis Dalhousie University, Halifax, p. 1-191.

*(Seismic stratigraphy study of flank of large deep water carbonate Ontong Java Plateau. Sediment column >1000m thick at top of plateau, consisting of mainly pelagic sediments)*

Moutte, J. (1982)- Chromite deposits of the Tiebaghi ultramafic massif, New Caledonia. Economic Geology and Bull. Soc. Economic Geology 77, p. 576-591.

*(Tiebaghi ultramafic massif in N New Caledonia produced 80% of chromite of island. Part of large ultramafic nappe with complex tectonic history, involving several phases of folding and fracturing. Tiebaghi Series with successive upward appearance of olivine and spinel, orthopyroxene, clinopyroxene. Succession, on cm-m scale, of dunite, peridotite, and pyroxenite. Chromite deposits at three levels, mainly near transition harzburgite and lherzolite, with chromite-rich layers of large lateral extent)*

Mrozowski, C.L. & D.E. Hayes (1979)- The evolution of the Parece Vela Basin, Eastern Philippines. Earth Planetary Sci. Letters 46, p. 49-67.

*(Parece Vela Basin is oceanic back-arc basin in E Philippine Sea)*

Mrozowski, C.L., S.D. Lewis & D.E. Hayes (1982)- Complexities in the tectonic evolution of the West Philippine Basin. Tectonophysics 82, p. 1-24.

*(Oceanic W Philippine Basin three sub-basins with different tectonic histories. Magnetic anomalies 21(?) -17 in main basin and do not extend into S or NW sub-basin. S sub-basin may have formed immediately before a ridge jump to main basin spreading axis or may be younger than main basin. NW sub-basin originated as part of main basin, but has undergone deformation which did not affect main basin, possibly related to subduction along E Luzon margin in mid-Tertiary. Gagua Ridge is uplifted sliver of oceanic crust)*

Muir, R.J., T.R. Ireland, S.D. Weaver, J.D. Bradshaw et al. (1998)- Geochronology and geochemistry of a Mesozoic magmatic arc system, Fiordland, New Zealand. J. Geol. Soc., London, 155, p. 1037-1053.

*(Median Tectonic Zone in E Fiordland, SW New Zealand is tectonically disrupted belt of mainly M-Jurassic- E Cretaceous (168–137 Ma) I-type magmatic arc rocks related to subduction along Palaeo-Pacific margin of Gondwana. Carboniferous age granitoids in SW Fiordland along W side and within zone. Triassic plutonic rocks E of zone)*

Murphy, M., H. Parker, A. Ross & M.A. Audet (2013)- Ore-thickness and nickel grade resource confidence at the Koniombo nickel laterite (a conditional simulation voyage of discovery). Geostatistics Banff 2004, 1, Springer Verlag, p. 469-478.

Musgrave, R.J. (2013)- Evidence for Late Eocene emplacement of the Malaita Terrane, Solomon Islands: implications for an even larger Ontong Java Nui oceanic plateau. J. Geophysical Research 118, 6, p. 2670-2686.

*(Most tectonic models for Solomon Islands Arc invoke Miocene collision with Ontong Java Plateau to halt cessation of Pacific Plate subduction, initiate Australian Plate subduction, and emplace Malaita Terrane, which shares basement age and geochemistry of OJP. Paleomagnetic evidence required Malaita Terrane to have been fixed to Solomon arc from at least Late Eocene, supported by arc-derived turbidites within Late Eocene-Miocene limestones. OJP may have formed part of larger Ontong Java Nui, which separated by spreading during Cretaceous)*

Nairn, A.E.M., F.G. Stehli & S. Uyeda (eds.) (1985)- The ocean basins and margins 7A, The Pacific Ocean-part 1. Plenum Press, New York, p. 1-748.

Nairn, A.E.M., F.G. Stehli & S. Uyeda (eds.) (1988)- The ocean basins and margins 7B, The Pacific Ocean-part 2. Plenum Press, New York, p. 1-642.

Neal, C.R., J.J. Mahoney, L.W. Kroenke, R.A. Duncan & M.G. Petterson (1997)- The Ontong Java Plateau. In: J. Mahoney & F. Coffin (eds.) Large Igneous Provinces: continental, oceanic, and planetary flood volcanism, American Geophys. Union (AGU), Geophys. Monogr. 100, p. 183-216.  
(Alaska-size Ontong Java Plateau basalt province in SW Pacific two principal ages: ~122 and ~90 Ma, probably from single mantle plume)

Neall, V.E. & S.A. Trewick (2008)- The age and origin of the Pacific islands: a geological overview. Philos. Trans. Royal Soc. London, B 363, p. 3293-3308.

(online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2607379/pdf/rstb20080119.pdf>)

(Pacific Ocean evolved from Panthalassic Ocean that first formed at ~750 Ma with breakup of Rodinia. First ocean floor ascribed to current Pacific plate formed by 160 Ma, W of spreading centre in C Pacific. Islands of Pacific originated as: linear chains of volcanic islands (mantle plume or propagating fracture origin), atolls, uplifted coralline reefs, fragments of continental crust (New Zealand, Chatham Islands, New Caledoni), obducted portions of adjoining lithospheric plates and islands resulting from subduction along convergent plate margins. 11 linear volcanic chains identified)

Nicholson, K.N., P. Maurizot, P.M. Black, C. Picard, A. Simonetti, A. Stewart & A. Alexander. (2011)- Geochemistry and age of the Noumea Basin lavas, New Caledonia: evidence for Cretaceous subduction beneath the eastern Gondwana margin. Lithos 125, p. 659-674.

(Noumea Basin, SW New Caledonia, contains lavas with continental arc signatures. Arc volcanism active during Late Cretaceous (88-103 Ma= late Albian-Turonian). Subduction along E Gondwana margin may have extended to New Zealand. Bimodal chemistry in NZ and NC may be result of slab detachment and roll-back)

Nicolas, A. (1989)- Bogota Peninsula and NE Districts of New Caledonia- Wadi Tayin in Oman coastal complex of Newfoundland: possible origin in transform faults. In: Structures of ophiolites and dynamics of oceanic lithosphere, Chapter 4, Kluwer Academic Publ., p. 127-157.

Nicora, A., I. Premoli Silva & A. Arnaud Vanneau (1995)- Paleogene larger foraminifer biostratigraphy from Limalok Guyot, Site 871. In: J.A. Haggerty et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 144, p. 127-139.

(online at: [www-odp.tamu.edu/publications/144\\_sr/VOLUME/CHAPTERS/sr144\\_06.pdf](http://www-odp.tamu.edu/publications/144_sr/VOLUME/CHAPTERS/sr144_06.pdf))

(E-M Eocene platform limestone with *Discocyclina*, *Asterocyclina*, *Nummulites*, *Alveolina*, overlying Cretaceous volcanics and limestones on guyot in Marshall Islands)

Nishimura, A. (1992)- Carbonate bioclasts of shallow-water origin at Site 793. In: B. Taylor, K. Fujioka et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 126, p. 231-234.

(online at: [www-odp.tamu.edu/publications/126\\_SR/VOLUME/CHAPTERS/sr126\\_15.pdf](http://www-odp.tamu.edu/publications/126_SR/VOLUME/CHAPTERS/sr126_15.pdf))

(Occ. Late Eocene limestone clasts with larger foraminifera *Pellatispira*, *Biplanispira* and *Asterocyclina* found reworked as gravity flows in deeper water Oligocene sediments at W Pacific Site 793 on Izu-Bonin Arc at 31°N)

Nishiwaki, C. (1981)- Tectonic control of porphyry copper genesis in the Southwestern Pacific island arc region. Mining Geology 31, 167, p. 131-146.

(online at: [www.journalarchive.jst.go.jp/](http://www.journalarchive.jst.go.jp/)..)

(In Japanese with English abstract) (Distribution of porphyry coppers in SW Pacific region confined to island arcs in collisional tectonic regime, including: (1) mobile zone between two facing subduction zones (Philippines, Solomons); (2) Arc-arc collision (Sabah); (3) Continent-arc collision (Papua New Guinea). Many other island arcs like Kuril, Japan, Izu-Bonin, Mariana, Ryukyu, Sunda and Sumatra no large concentration of copper of this type)

Norton, I.O. (1995)- Plate motions in the North Pacific: the 43 Ma nonevent. Tectonics 14, 5, p. 1080-1094.

(Hawaiian-Emperor seamount chain in N Pacific Ocean commonly considered produced by motion of Pacific plate over hotspot. If hotspot remained fixed, 60° change in trend between Hawaiian and Emperor portions of chain results from change in direction of Pacific plate relative to mantle at 43 Ma (M Eocene). However, no

*significant plate reorganizations in Pacific and surrounding plates after this, so Emperor portion of seamount chain probably formed by non-stationary hotspot)*

Norvick, M.S., R.P. Langford, N. Rollet, T. Hashimoto, K.L. Higgins & M.P. Morse (2008)- New insights into the evolution of the Lord Howe Rise (Capel and Faust basins), offshore eastern Australia, from terrane and geophysical data analysis. In: J.E. Blevin et al. (eds.) Eastern Australasian basins symposium III, Energy security for the 21st century, Sydney, Petroleum Expl. Soc. Australia (PESA), Spec. Publ., p. 291-310.

*(Capel and Faust basins off NE Australia. Capel Basin with several depocentres up to 150x40 km wide, with Lower Cretaceous synrift volcanics, Turonian-Maastrichtian synrift clastic megasequences and Maastrichtian-Recent postrift bathyal phase. Smaller graben characterise Faust Basin to E and S. Stratigraphic complexity was driven by multiple extension events. Subsequent discrete seafloor spreading events. Etc.)*

Nouze, H., E. Cosquer, J. Collot, J.P. Foucher, F. Klingelhoefer, Y. Lafoy & L. Geli (2009)- Geophysical characterization of bottom simulating reflectors in the Fairway Basin (off New Caledonia, Southwest Pacific), based on high resolution seismic profiles and heat flow data. Marine Geol. 266, p. 80-90.

*(Seismic data collected to investigate nature of Bottom Simulating Reflector in part of Fairway Basin on E flank of Lord Howe Rise SW of New Caledonia. Two main reflectors documented. Deeper BSR likely diagenetic, related to Opal-A/ Opal-CT transition front (too deep to be related to methane hydrates))*

Oakley, A.J., B. Taylor & G.F. Moore (2008)- Pacific Plate subduction beneath the central Mariana and Izu-Bonin fore arcs: new insights from an old margin. Geochem. Geophys. Geosystems 9, 6, doi:10.1029/2007GC001820, p. 1-28.

Ohara, Y. (2006)- Mantle process beneath Philippine Sea back-arc spreading ridges: a synthesis of peridotite petrology and tectonics. Island Arc 15, p. 119-129.

Ohara, Y. (2016)- The Godzilla Megamullion, the largest oceanic core complex on the earth: a historical review. Island Arc 25, 3, p. 193-208.

*(Godzilla Megamullion in Parece Vela Basin in Philippine Sea is largest known oceanic core complex on Earth. Philippine Sea evolved with E-ward progression of backarc spreading and arc migration. Presence of abundant plagioclase-bearing peridotite and systematic temporal changes in deformation microstructures and composition of plagioclase and amphibole in gabbroic mylonites and ultramylonites. Zircon U-Pb ages of gabbroic and leucocratic rocks indicate terminal phase of Parece Vela Basin spreading was with significant decline in spreading rate and asymmetry accompanying formation of Godzilla Megamullion)*

Ohara, Y., K. Fujioka, T. Ishii & H. Yurimoto (2003)- Peridotites and gabbros from the Parece Vela backarc basin: unique tectonic window in an extinct backarc spreading ridge. Geochem. Geophys. Geosystems 4, 7, p. 1-22.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2002GC000469/epdf>)*

*(Serpentinized peridotite and gabbro from extinct Parece Vela Basin spreading ridge in Philippine Sea. Small degree of mantle melting, including presence of huge mullion structure (Godzilla Mullion))*

Ohara, Y., K. Fujioka, O. Ishizuka & T. Ishii (2002)- Peridotites and volcanics from the Yap arc system: implications for tectonics of the southern Philippine Sea Plate. Chemical Geology 189, p. 35-53.

*(Metamorphosed rocks and gabbros of Parece Vela Basin origin predominate on Yap Islands and for upper part of forearc remnant arc volcanics of ~25 Ma age exist. Also arc volcanics of 11-7 Ma age in forearc. Depleted arc-type mantle peridotites exposed along faults in lower part of forearc landward slope. Yap arc- N Yap Escarpment system may form as incipient arc at propagating tip of Parece Vela Rift at ~25 Ma)*

Ohara, Y., S. Kasuga & T. Ishii (1996)- Peridotites from the Parece Vela Rift in the Philippine Sea: upper mantle material exposed in an extinct backarc basin. Proc. Japan. Academy, Ser. B, 72, p. 118-123.

*(online at: [https://www.jstage.jst.go.jp/article/pjab1977/72/6/72\\_6\\_118/\\_pdf](https://www.jstage.jst.go.jp/article/pjab1977/72/6/72_6_118/_pdf))*

*(First? report of serpentized peridotites and gabbros dredged from axial zone of Parece Vela Basin in 1995. Central zone of the Parece Vela Basin characterized by N-S trending chain of depressions forming right-step en-echelon alignment. Peridotites residues of partial melting of primitive mantle peridotites)*

Ohara, Y., K. Okino & J.E. Snow (2011)- Tectonics of unusual crustal accretion in the Parece Vela Basin. In: Y. Ogawa et al. (eds.) *Accretionary prisms and convergent margin tectonics in the Northwest Pacific Basin, Modern Approaches in Solid Earth Sciences 8*, Springer, p. 149-168.

Ohara, Y., T. Yoshida, Y. Kato & S. Kasuga (2001)- Giant megamullion in the Parece Vela backarc basin. *Marine Geophysical Res.* 22, 1, p. 47-61.

*(High-resolution bathymetric studies of extinct intermediate-spreading Parece Vela Basin identified large mullion structure, here termed a giant megamullion, order of magnitude larger than similar structures in slow-spreading Mid-Atlantic Ridge. Giant megamullion slightly elevated mantle Bouguer anomaly, and yields serpentized peridotites and gabbros, suggesting exposed oceanic crust and upper mantle. Also off-axis rugged 'chaotic terrain' of isolated and elevated blocks capped by corrugated lineations)*

Ohde, S. & H. Elderfield (1992)- Strontium isotope stratigraphy of Kita-daito-jima Atoll, North Philippine Sea: implications for Neogene sea-level change and tectonic history. *Earth Planetary Sci. Letters* 113, 4, p. 473-486.

*(Chronology of 432 m Late Oligocene- Recent core from Kita-daito-jima atoll on Philippine Sea plate. Atoll growth continuous between 18.8-24.3 Ma. Hiatuses and ages of dolomitization indicate sea-level falls of ~80m at ~17-16 Ma, ~30m at ~16-15 Ma, ~125m at ~11 Ma, and ~90m at ~5 Ma and at ~2 Ma)*

Okino, K., Y. Ohara, T. Fujiwara, S.M. Lee, K. Koizumi, Y. Nakamura & S. Wu (2009)- Tectonics of the southern tip of the Parece Vela Basin, Philippine Sea Plate. *Tectonophysics* 466, p. 213-228.

*(Parece Vela Basin formed as backarc basin behind proto Mariana arc from late Oligocene- M Miocene)*

Okino, K., Y. Ohara, S. Kasuga & Y. Kato (1999)- The Philippine Sea: new survey results reveal the structure and the history of the marginal basins. *Geophysical Research Letters* 26, 15, p. 2287-2290.

*(New bathymetric and magnetic maps of Philippine Sea seafloor suggest more complicated history than proposed before)*

Onoue, T., J. Chablais & R. Martini (2009)- Upper Triassic reefal limestone from the Sambosan accretionary complex in Japan and its geological implication. *J. Geol. Soc. Japan*, 115, 6, p. 292-295.

*(online at: <https://archive-ouverte.unige.ch/unige:3944>)*

*(U Triassic massive reefal limestone in latest Jurassic- earliest Cretaceous Sambosan Sambosan accretionary complex in Japan accumulated on mid-oceanic seamount in Panthalassa Ocean. Smaller foraminifera include *Alpinophagmium perforatum*, *Agathammina austroalpina*, *Aulatortus sinuosus*, etc. Corals dominated by *Retiophyllia*)*

Onoue, T. & H. Sano (2007)- Triassic mid-oceanic sedimentation in Panthalassa Ocean: Sambosan accretionary complex, Japan. *Island Arc* 16, 1, p. 173-190.

*(Sambosan accretionary complex of SW Japan formed in latest Jurassic earliest Cretaceous time. Four stratigraphic successions: (1) M-U Triassic (Carnian) basalts (oceanic island basalt); (2) U Triassic shallow-water limestone and (3) limestone breccia (seamount-top and upper seamount-flank); and (4) middle M Triassic- lower U Jurassic siliceous rocks and pelagic carbonates (ocean floor))*

Onoue, T. & G.D. Stanley (2008)- Sedimentary facies from Upper Triassic reefal limestone in the Sambosan accretionary complex in Japan. *Facies* 54, p. 529-547.

*(Microfacies of E- M Norian reefal limestone of Sambosan Accretionary Complex, SW Japan. Seven major facies types, recording patch reef development on mid-oceanic seamount in Panthalassa Ocean. Strong Tethyan affinities of corals (dominated by *Retiophyllia*, also *Distichophyllia norica* = '*Montlivaltia norica* Frech' also known from Timor, Austria) and foraminifera (incl. *Agathammina austroalpina*)*

Onoue, T., T. Nikaido, L.R. Zamoras & A. Matsuoka (2011)- Preservation of larval bivalve shells in a radiolarian chert in the Late Triassic (Early Norian) interval of the Malampaya Sound Group, Calamian Island, western Philippines. *Marine Micropaleontology* 79, 1, p. 58-65.

*(Thin larval bivalve shells occur in E Norian radiolarian chert in Liminangcong Fm, part of Late Jurassic to Early Cretaceous subduction-related accretionary complex in N Palawan Block. 'Bivalve chert' accumulated in open-ocean realm of Panthalassa Ocean. Possibly halobiid bivalves with planktonic larval mode of life)*

Otsuki, K. (1990)- Westward migration of the Izu-Bonin Trench, northward motion of the Philippine Sea Plate, and their relationships to the Cenozoic tectonics of Japanese island arcs. *Tectonophysics* 180, p. 351-367.

*(Izu-Bonin Trench wandered ~400 km E froms present position during Paleogene and migrated W thereafter)*

Ozawa, T. & K. Kanmera (1984)- Tectonic terranes of Late Paleozoic rocks and their accretionary history in the Circum-Pacific region viewed from fusulinacean paleobiogeography. In: Proc. Circum-Pacific Terrane Conference 1983, Stanford University Publ., Geol. Sciences 28, p. 158-160. *(Abstract only?)*

Pabst, S., T. Zack, I.P. Savov, T. Ludwig, D. Rost, S. Tonarini & E.P. Vicenzi (2012)- The fate of subducted oceanic slabs in the shallow mantle: insights from boron isotopes and light element composition of metasomatized blueschists from the Mariana forearc. *Lithos* 132-133, p. 162-179.

*(Serpentine muds from South Chamorro Seamount contain metamafic clasts that experienced blueschist-facies metamorphism. Schists represent fragments from slab-mantle interface at ~27 km depth)*

Packham, G.H. (1973)- A speculative Phanerozoic history of the South-west Pacific. In: P.J. Coleman (ed.) *The Western Pacific, island arcs, marginal seas, geochemistry*, University of Western Australia Press, Perth, p. 369-388.

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*(‘Synthesis of the geology of New Caledonia’. Includes record of Turonian to Campanian inoceramids)*

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*(‘On the Eocene age of the ophiolite nappe emplacement of New Caledonia, peri-Australian oceanic nappe, deducted from new observations on the Nepoui series’)*

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*(‘New Caledonia from the Permian to the Miocene: cartographic data and geotectonic hypotheses’)*

Paris, J.P. & R. Lille (1977)- New Caledonia: evolution from Permian to Miocene. Mapping data and hypothesis about geotectonics. In: *Int. Symp. Geodynamics in the Southwest Pacific*, Noumea, New Caledonia, Editions Technip, Paris, p. 195-208.

Park, C.H., K. Tamaki & K. Kobayashi (1990)- Age-depth correlation of the Philippine Sea back-arc basins and other marginal basins in the world. *Tectonophysics* 181, p. 351-371.

*(Basement depths of Philippine Sea range from 3200-6000m, with ages from 0-60 Ma. Depth of Philippine Sea ~800m deeper than that of major ocean floors of same age. Young back-arc basins (<10 Ma) both shallower and deeper than major oceans, depending on dip angles of corresponding subducting slabs: shallower back-arc basins above gently dipping slabs, deeper basins over steeply dipping slabs. Back-arc basins older than 15 Ma, always deeper than major oceans and follow age-depth curve of Philippine Sea back-arc basins)*

Parrot, J.F. & F. Dugas (1980)- The disrupted ophiolitic belt of the southwest Pacific: evidence of an Eocene subduction zone. *Tectonophysics* 66, 4, p. 349-372.

*(PNG, Solomon, New Hebrides and New Caledonia ophiolitic massifs formed in intra-oceanic subduction zone in Eocene in SW Pacific, as suggested by age of ophiolite-related metamorphic soles. When subduction involves continental crust, amphibolites-blueschists form (PNG, New Caledonia). When subduction in intra-oceanic environment (Solomon islands, New Hebrides) only amphibolites and greenschists formed. Ophiolitic belt created by Eocene subduction disrupted by later transcurrent faults, more recent spreading phenomena and two other subductions (Oligocene-Miocene and Recent))*

Pearce, J.A., P.D. Kempton & J.B. Gill (2007)- Hf-Nd evidence for the origin and distribution of mantle domains in the SW Pacific. *Earth Planetary Sci. Letters* 260, p. 98-114.

*(Pb and Hf-Nd isotopes can be used to distinguish lavas of SW Pacific as derived from two mantle domains: (1) Pacific-like character and (2) Indian-like character (present today under Lau Basin, Fiji and N Fiji Basin))*

Pearson, P.N. (1995)- Planktonic foraminifer biostratigraphy and the development of pelagic caps on guyots in the Marshall Islands Group. In: J. Haggerty et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results* 144, p. 21-59.

*(online at: [www-odp.tamu.edu/publications/144\\_sr/VOLUME/CHAPTERS/sr144\\_02.pdf](http://www-odp.tamu.edu/publications/144_sr/VOLUME/CHAPTERS/sr144_02.pdf))*

*(Five Marshall Islands group seamounts drilled on ODP Leg 144, three with thick caps of unconsolidated latest Oligocene- Holocene pelagic sediment (Limalok/ Site 871, Lo-En/ Site 872, Wodejebato/ Site 873). Significant hiatus between drowning of M Eocene carbonate platform/ Cretaceous volcanics and onset of pelagic sediment accumulation)*

Pelletier, B. (2007)- Geology of the New Caledonia region and its implications for the study of the New Caledonian biodiversity. In: C. Payri & B. Richer de Forges (eds.) *Compendium of marine species in New Caledonia, Forum Biodiversite des Ecosystemes coralliens, Documents Scient. Techn. IRD*, 117, p. 19-32.

*(online at: <http://nouvelle-caledonie.ird.fr/science-en-partage/editions/...>)*

*(Concise review of New Caledonia geology. Loyalty Ridge considered to be Eocene island Arc in most reconstructions; possibly links to Eocene D'Entrecasteaux zone subduction zone)*

Pelletier, B., M. Meschede, T. Chabernaud, P. Roperch & X. Zhao (1994)- Tectonics of the Central New Hebrides Arc, North Aoba Basin. In: H.G. Greene et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results* 134, p. 431-444.

*(online at: [www-odp.tamu.edu/publications/134\\_sr/volume/chapters/sr134\\_24.pdf](http://www-odp.tamu.edu/publications/134_sr/volume/chapters/sr134_24.pdf))*

*(Late Miocene- Pleistocene tectonic history recorded in N Aoba Basin and relation to onshore geology of New Hebrides Island Arc-d'Entrecasteaux Zone collision)*

Petterson, M.G. (2004)- The geology of north and central Malaita, Solomon Islands; the thickest and most accessible part of the world's largest (Ontong Java) ocean plateau. In: J.G. Fitton et al. (eds.) *Origin and evolution of the Ontong Java Plateau, Geol. Soc., London, Spec. Publ.* 229, p. 63-81.

*(Geology of Malaita reflects position as obducted part of Ontong Java Plateau. Cretaceous deep water basalt basement sequence up to 3-4 km thick, overlain by 1-2 km-thick Cretaceous-Pliocene pelagic sediments. Pelagic section starts with Aptian-Albian bedded radiolarian chert and is punctuated by alkaline basalt volcanism in Eocene (44 Ma) and intrusion of alnoites in Oligocene. All deformed by intense M Pliocene event)*

Petterson, M.G., T. Babbs, C.R. Neal, J.J. Mahoney et al. (1999)- Geological-tectonic framework of Solomon Islands, SW Pacific: crustal accretion and growth within an intra-oceanic setting. *Tectonophysics* 301, p. 35-60.

*(Solomon Islands complex collage of crustal units or terrains (here called 'Solomon block'), formed and accreted within an intra-oceanic environment since Cretaceous)*

Petterson, M.G., C.R. Neal, J.J. Mahoney, L.W. Kroenke, A.D. Saunders, T.L. Babbs et al. (1997)- Structure and deformation of north and central Malaita, Solomon Islands: tectonic implications for the Ontong Java Plateau-Solomon arc collision, and for the fate of oceanic plateaus. *Tectonophysics* 283, p. 1-33.

*(Island of Malaita represents obducted S margin of Ontong Java Plateau. Basement of Malaita formed during first plateau-building magmatic event at ~122 Ma (~Aptian), then drifted N, amassing a 1-2 km of Cretaceous-Pliocene pelagic sediment (Aptian radiolarian chert and U Aptian-Eocene planktonic foram limestones), punctuated by alkaline basalt volcanism in Eocene at ~44 Ma and ultramafic (alnoite) intrusive activity in Oligocene at ~34 Ma. Short compressive to transpressive deformation event in M Pliocene)*

Phinney, E., P. Mann, M.F. Coffin & T.H. Shipley (1999)- Sequence stratigraphy, structure, and tectonic history of the southwestern Ontong Java Plateau adjacent to the North Solomon Trench and Solomon Island Arc. *J. Geophysical Research* 104, B9, p. 20449-20446.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/1999JB900169/pdf>)*

*(Ontong Java Plateau is largest and thickest oceanic plateau on Earth and actively converging on Solomon island arc. Seismic data from SW Ontong Java Plateau/ N Solomon Trench show 3 megasequences: OJ1 E Cretaceous upper igneous crust of OJ Plateau and correlates with basalt dated at 122-125 Ma on Malaita island; OJ2 late Cretaceous marine mudstone (122 -92 Ma); OJ3 late Cretaceous- Quaternary pelagic cover. At 92 Ma second mantle plume caused widespread volcanism on plateau. At ~15 Ma S Ontong Java Plateau deformed by normal faults during approach to N Solomon Trench. From 4 to 0 Ma, Malaita Accretionary Prism formed during collision)*

Phinney, E., P. Mann, M.F. Coffin & T.H. Shipley (1999)- Sequence stratigraphy, structural style, and age of deformation of the Malaita accretionary prism (Solomon arc-Ontong Java Plateau convergent zone). *Tectonophysics* 389, p. 221-246.

*(Malaita accretionary prism formed during late Neogene (5-0 Ma) convergence between ~33km thick crust of Ontong Java oceanic plateau and 15km thick Solomon island arc)*

Pickard, A.L., C.J. Adams & M.E. Barley (2000)- Australian provenance for Upper Permian to Cretaceous rocks forming accretionary complexes on the New Zealand sector of the Gondwanaland margin. *Australian J. Earth Sci.* 47, 6, p. 987-1007.

*(Detrital zircon ages for Permian-Cretaceous turbiditic quartzo-feldspathic sandstones from Torlesse and Waipapa terranes of New Zealand. Major Permian-Triassic (especially ~240-250 Ma) and minor E Paleozoic-Mesoproterozoic age peaks indicate sediment from New England Orogen, NE Australia. Late Permian- M Triassic Torlesse/ Waipapa turbidite fans linked to uplift of orogen during 265-230 Ma (Late Permian- M Triassic) Hunter-Bowen event. Post-Triassic depocentres received sediment from relict orogen and from Jurassic and Cretaceous volcanic provinces now offshore from S Queensland and N NSW. Meso- and Neoproterozoic age components cannot be matched with source terranes in Australian-Antarctic Precambrian craton, and possibly originated in Proterozoic cores of Cathaysia and Yangtze Blocks of SE China)*

Pillet R., D. Rouland, G. Roult & D.A. Wiens (1999)- Crust and upper mantle heterogeneities in the Southwest Pacific from surface wave phase velocity analysis. *Physics Earth Planetary Interiors* 110, p. 211-234.

*(New tomographic imaging shows large velocities contrasts along Solomon, New Hebrides and Fiji-Tonga trenches. Lowest anomalies under N and S Fiji basins and Lau Basin, highest values beneath Pacific plate and E part of Indian plate downgoing under N Fiji Basin. Continental regions (E Australia, New Guinea, Fiji Islands, New Zealand) low velocities, due to thick continental crust, whereas Tasmanian, D'Entrecasteaux and N and Fiji basins suggestive of thinner oceanic crust)*

Pirard, C., J. Hermann & H. St.C. O'Neill (2015)- Petrology and geochemistry of the crust-mantle boundary in a nascent arc, Massif du Sud Ophiolite, New Caledonia, SW Pacific. *J. Petrology*, 54, 9, p. 1759-1792.

*(online at: <http://petrology.oxfordjournals.org/content/early/2013/05/30/petrology.egt030.full.pdf>)*

*(Massif du Sud ophiolite, New Caledonia, one of largest exposed ultramafic bodies on Earth. Ophiolite consists of mantle section of ultra-depleted harzburgite, overlain by large dunite zone and with gabbros at top of massif. Massif du Sud represents crust- mantle section in nascent arc)*

Piroutet, M. (1917)- Etude stratigraphique sur la Nouvelle Calédonie. Thesis Doct. Sciences, Faculté Sci. Paris, Protat Freres, Macon, p. 1-313. *(Unpublished)*

*('Stratigraphic studies of New Caledonia')*

Potel, S. (2001)- Very low-grade metamorphism of northern New Caledonia. Ph.D. Thesis Universitat Basel, p. 1-206.

(online at: <http://www1.uni-giessen.de/fbr08/geolith/pdf-homepage/Thesis%20Potel.pdf>)

Potel, S. (2007)- Very low-grade metamorphic study in the pre-Late Cretaceous terranes of New Caledonia (southwest Pacific Ocean). *Island Arc* 16, p. 291-305.

*(Pre-Late Cretaceous terranes from C New Caledonia metamorphosed under very low-grade conditions by two high-P/low-T events: (1) Late Jurassic (2) Eocene, overprinting Late Jurassic metamorphism in N part of area)*

Potel, S., R. Ferreiro Mahlmann, W.B. Stern, J. Mullis & M. Frey (2006)- Very low-grade metamorphic evolution of pelitic rocks under high-pressure/ low-temperature conditions, NW New Caledonia (SW Pacific). *J. Petrology* 47, 5, p. 991-1015.

(online at: <http://petrology.oxfordjournals.org/content/47/5/991.full.pdf+html>)

*(P-T gradient in Late Eocene low-T/high-P metamorphic belt in N New Caledonia increases from SW to NE. Metapelites in pumpellyite-prehnite and blueschist zones contain lawsonite, Mg-carpholite, Fe-stilpnomelane and Fe-glaucophane, indicating progression of metamorphic conditions from <0.3 GPa/ 250°C in kaolinite-rock in SW, up to 1.5 GPa/ 410°C in lawsonite- glaucophane-bearing sample in NE of Diahot terrane)*

Pownall, J.M., G.S. Lister & W. Spakman (2017)- Reconstructing subducted oceanic lithosphere by reverse-engineering slab geometries: The northern Philippine Sea Plate. *Tectonics* 36, 9, p. 1814-1834.

*(On restoring pre-subduction configuration of Ryukyu and Shikoku slabs, NW Philippine Sea)*

Premoli, C. (1987)- Gold mineralization of New Caledonia. In: Pacific Rim Congress 87, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 373-378.

Premoli Silva, I. (1986)- A new biostratigraphic interpretation of the sedimentary record recovered at Site 462, Leg 61, Nauru Basin, Western Equatorial Pacific. Initial Reports Deep Sea Drilling Project (DSDP) 89, p. 311-319.

(online at: [www.deepseadrilling.org/89/volume/dsdp89\\_07.pdf](http://www.deepseadrilling.org/89/volume/dsdp89_07.pdf))

*(Upper Cretaceous- Pleistocene section above basaltic complex in Hole 462 in Nauru Basin, S of Marshall Islands. Campanian- Maastrichtian with larger foraminifera Pseudorbitoides, Vaughanina, Lepidorbitoides(?), Orbitocyclina, Asterorbis and Sulcoperculina. Late Oligocene with Miogypsina ubaghsi and reworked Eocene)*

Premoli Silva, I. & C. Brusa (1981)- Shallow-water skeletal debris and larger foraminifers from Deep Sea Drilling Project Site 462, Nauru Basin, Western Equatorial Pacific. Initial Reports Deep Sea Drilling Project (DSDP) 61, p. 439-473.

(online at: [www.deepseadrilling.org/61/volume/dsdp61\\_05.pdf](http://www.deepseadrilling.org/61/volume/dsdp61_05.pdf))

*(U Cretaceous- Pleistocene section above basaltic complex in Hole 462 in Nauru Basin, S of Marshall Islands)*

Premoli Silva, I., A. Nicora & A. Arnaud Vanneau (1995)- Upper Cretaceous larger foraminifer biostratigraphy from Wodejebato Guyot, Sites 873 through 877. In: J.A. Haggerty et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 144, p. 171-197.

(online at: [www-odp.tamu.edu/publications/144\\_sr/VOLUME/CHAPTERS/sr144\\_09.pdf](http://www-odp.tamu.edu/publications/144_sr/VOLUME/CHAPTERS/sr144_09.pdf))

*(occ. Pseudorbitoides, Omphalocyclus, Orbitoides, Asterorbis, Sulcoperculina off N Marshall Islands)*

Premoli Silva, I., A. Nicora, A. Arnaud Vanneau, A.F. Bud, G.F. Caiman & J.P. Masse (1995)- Paleobiogeographic evolution of shallow-water organisms from the Aptian to the Eocene in the western Pacific. In: J.A. Haggerty, I. Premoli Silva et al. (eds.) Proc. ODP, Scient. Results 144, p. 887-893.

*(Shallow-water organisms from four guyots in W Pacific show changes in bioprovinces through time. Tethyan low-latitude bioprovince characterizes Early Aptian worldwide. Late Albian mainly cosmopolitan forms, with elements restricted to Caribbean-C American region or Mediterranean, suggest two bioprovinces differentiated at low latitude. Late Campanian-Maastrichtian under influence of Caribbean, but foram assemblages also*

*include Mediterranean elements, suggesting colonization occurred both W-ward and E-ward. In latest Paleocene-early Eocene prevalent migration from Mediterranean to Pacific)*

Prinzhofer, A. (1981)- Structure et petrologie d'un cortège ophiolitique: le Massif du Sud (Nouvelle Calédonie). Doct. Thesis Ecole Nat. Super. Mines Paris, p. 1-237. *(Unpublished)*  
*(Cluzel et al. (2012): Only known attempt to radiometric dating of New Caledonia ultramafic complex. Gabbro sample yielded Sm-Nd age of Early Cretaceous ( $131 \pm 5$  Ma), but deemed to be less reliable)*

Prinzhofer, A. & A. Nicolas (1980)- The Bogota Peninsula, New Caledonia: a possible oceanic transform fault. *J. Geology* 88, p. 387-398.  
*(N part of Bogota Peninsula at NE coast of New Caledonia dextral shear zone within ultramafic nappe of sheared peridotites with syntectonic dikes and hydrothermal alteration that occurred in oceanic upper mantle environment (transform fault))*

Prinzhofer, A., A. Nicolas, D. Cassard, J. Moutte, M. Leblanc, J.P. Paris & M. Rabinovitch (1980)- Structures in the New Caledonia peridotites-gabbros: implications for oceanic mantle and crust. *Tectonophysics* 69, p. 85-112.  
*(Peridotite-gabbro nappe of Massif du Sud remarkably homogeneous structures over 6000 km<sup>2</sup>. Contacts between lithological units horizontal. Flow lineations in mantle rocks oriented N-S, suggesting E-W trending oceanic ridge)*

Quesnel, B. (2015)- Alteration supergène, circulation des fluides et déformation interne du massif de Koniambo, Nouvelle-Calédonie: implication sur les gisements nickelifères lateritiques. Doct. Thesis Université Rennes, p.  
*(online at: <https://core.ac.uk/download/pdf/46807769.pdf>)*  
*('Supergene alteration, circulation of fluids and internal deformation of the Koniambo Massif, New Caledonia: implication for the nickeliforous lateritic deposits')*

Quesnel, B., C.L.C. de Veslud, P. Boulvais, P. Gautier, M. Cathelineau & M. Drouillet (2017)- 3D modeling of the laterites on top of the Koniambo Massif, New Caledonia: refinement of the per descensum lateritic model for nickel mineralization. *Mineralium Deposita* 52, 7, p. 961-978.  
*(Weathering of peridotite nappe in New Caledonia created common laterites and some of largest nickel deposits in world. Koniambo nickel ore deposit three kinds of geometry: (1) thick (20-40m) laterite over saprolite, mainly on topographic highs; (2) a thin laterite cover on areas with gentle slopes; (3) exposure of saprolite without laterite cover. Highest Ni on slopes where laterite cover thin or absent, lowest Ni in topographic highs under thickest laterite cover)*

Quesnel, B., P. Gautier, P. Boulvais, M. Cathelineau, P. Maurizot, D. Cluzel, M. Ulrich et al. (2013)- Syn-tectonic, meteoric water-derived carbonation of the New Caledonia peridotite nappe. *Geology*, 41, 10, p. 120-125.  
*(Serpentine sole of New Caledonia peridotite nappe at Koniambo with many magnesite veins, emplaced during pervasive top-to-SW shear deformation. O and C isotopes of magnesite suggest origin from meteoric fluids)*

Quesnel, B., P. Gautier, M. Cathelineau, P. Boulvais, C. Couteau & M. Drouillet (2016)- The internal deformation of the peridotite nappe of New Caledonia: a structural study of serpentine-bearing faults and shear zones in the Koniambo Massif. *J. Structural Geol.* 85, p. 51-67.  
*(Koniambo peridotite nappe upper level at least two deformation events (1) with growth of antigorite (WNW-ESE extension), (2) with growth of polygonal serpentine (NW-SE compression). Lower level coincides with the 'serpentine sole' of nappe, consisting of massive tectonic breccias overlying layer of mylonitic serpentinites. Intermediate level with several m-thick conjugate shear zones accommodating NE-SW shortening)*

Quilty, P.G. (1993)- Tasmantid and Lord Howe seamounts: biostratigraphy and palaeoceanographic significance. *Alcheringa* 17, p. 27-53.

Quinn, T.M., F.W. Taylor & A.N. Halliday (1994)- Strontium-isotopic dating of neritic carbonates at Bougainville Guyot (Site 831), New Hebrides Island Arc. In: J.Y. Collot et al. (eds.) Proc. Ocean Drilling Program (ODP), Initial Reports 134, p. 89-95.

(online at: [www-odp.tamu.edu/publications/134\\_sr/VOLUME/CHAPTERS/sr134\\_06.pdf](http://www-odp.tamu.edu/publications/134_sr/VOLUME/CHAPTERS/sr134_06.pdf))

(ODP Site 831 penetrated 727.5 m of carbonate over andesite basement, 707.5 m of neritic carbonates overlain by 20m of pelagic carbonate. Basal 497m of neritic limestone totally calcitized. Sr isotopes stratigraphic conclusions: (1) Pleistocene (102.4-391.1 mbsf); (2) Miocene (410.3- 669.5 mbsf); and (3) Oligocene (678.8-727.50 mbsf. Several samples near bottom show reversed age vs. depth trend, probably product of post-depositional rock-water interaction)

Rangin, C., E.A. Silver & K. Tamaki (1995)- Closure of Western Pacific marginal basins: rupture of the oceanic crust and the emplacement of ophiolites. In: B. Taylor & J. Natland (eds.) Active margins and marginal basins of the Western Pacific, American Geophys. Union (AGU), Geophys. Monograph 88, p. 405-417.

(Most marginal basins of W Pacific region opened in Cenozoic time and many presently closing (Celebes Sea, Sulu Sea, Japan Sea). Oceanic floors of marginal basins deformed locally before consumed along young subduction zones, with parts of sedimentary section and crust incorporated into accretionary wedges. Initial flexural stage affecting crust before rupture local process)

Ranken, B., R.K. Cardwell & D.E. Karig (1984)- Kinematics of the Philippine Sea Plate. *Tectonics* 3, 5, p. 555-575.

(Philippine Sea Plate of SW Pacific. New set of Eurasia-Philippine, Pacific-Philippine and Caroline-Pacific plate rotation vectors)

Rawling, T.J. (1998)- Oscillating orogenesis and exhumation of high-pressure rocks in New Caledonia, SW Pacific. Ph.D. Thesis, Monash University, Melbourne, p. (Unpublished)

Rawling, T.J. & G.S. Lister (1999)- Oscillating modes of orogeny in the Southwest Pacific and the tectonic evolution of New Caledonia. In: U. Ring et al. (eds.) Exhumation processes: normal faulting, ductile flow and erosion, *Geol. Soc., London, Spec. Publ.* 154, p. 109-127.

(High-pressure schist of New Caledonia reflects two switches from large-scale crustal shortening to extensional tectonism: (1) high P metamorphism associated with ophiolite obduction from NE, followed by exhumation in late Middle- Late Eocene (~40-36 Ma); (2) mega- folding, followed by M-L Miocene?basin and range style normal faulting)

Rawling, T.J. & G.S. Lister (2002)- Large-scale structure of the eclogite-blueschist belt of New Caledonia. *J. Structural Geol.* 24, 8, p. 1239-1258.

(Eclogite-blueschist belt of New Caledonia. Early shear zones and high-P metamorphism associated with M Eocene (~38-45 Ma) overthrusting of ultramafic sheet. Extensional tectonism plays major role in exhumation and final exposure of high-P metamorphic rocks. Middle-stage shear zones related to large-scale continental extension, during which high-P rocks were exhumed. Extended crust subsequently folded during renewed compression, producing orogen-scale antiform throughout high-P belt. Late stage shear zones formed during younger extension. Young normal faults caused late block-faulting. Earlier interpretations of Oligocene metamorphic core complex model rejected: allochthonous slices of high-P rocks are draped over younger, lower-grade rocks in core of antiform)

Regnier, M (1988)- Lateral variation of upper mantle structure beneath New Caledonia determined from P-wave receiver function: evidence for a fossil subduction zone. *Geophysical J. Int.* 95, p. 561-577.

(P wave velocities from earthquakes suggest N-dipping low velocity zone below New Caledonia, possibly remnant of Eocene subduction zone below New Caledonia continental block (which separated from Gondwana in Late Cretaceous))

Resig, J.M., V. Buyannanonth & K.J. Roy (1976)- Foraminiferal stratigraphy and depositional history in the area of the Ontong Java Plateau. *Deep Sea Research* 23, 5, p. 441-456.

*(Foraminifera from 54 cores from Ontong Java Plateau identified outcrops as old as Late Eocene. Relationship between radiolarian concentrations and bathymetry suggest slopes accumulated in deeper water than synchronous deposits on plateau surface, indicating topographic high existed at least since Early Tertiary)*

Richards, J.R., J.A. Cooper & P.J. Coleman (1966)- Potassium- Argon measurements of the age of basal schists in the British Solomon Islands as an island arc. *Nature* 211, 5055, p. 1251-1252.  
*(Basal schists of Choiseul Island mainly amphibolites, probably derived from basic lavas. Radiometric ages)*

Richter, C. & J.R. Ali (2015)- Philippine Sea Plate motion history: Eocene-Recent record from ODP Site 1201, central West Philippine Basin. *Earth Planetary Sci. Letters* 410, p. 165-173.  
*(Sediments at ODP Site 1201 lower sequence of volcanoclastic turbidites sourced from Palau-Kyushu Ridge and upper succession of Late Oligocene- E Pliocene red deep-sea clays. Paleolatitudes derived from sediments support N-ward movement of plate since Eocene. Basaltic basement indicates paleoposition of ~7.1° S in M Eocene)*

Ridgway, J. (1987)- Neogene displacements in the Solomon Islands Arc. *Tectonophysics* 133, p. 81-93.  
*(Present double chain configuration of Solomon Island arc can be explained by Neogene displacement of formerly single linear chain of islands. Central part of original arc (Bougainville, Choiseul, Santa Ysabel, Guadalcanal and San Cristobal) displaced to NE as consequence of attempted subduction of Woodlark spreading system. Malaita arose on NE side of arc due to interaction between arc and Pacific Ocean floor. Volcanic islands of New Georgia group formed to SW in response to subduction of spreading ridge)*

Riedel, W.R. (1957)- Geology of Saipan, Mariana Islands, Part 3, Paleontology, Eocene Radiolaria. U.S. Geol. Survey (USGS) Prof. Paper, 280-G, p. 257-263.  
*(online at: <http://pubs.usgs.gov/pp/0280e-j/report.pdf>)*  
*(Sixteen species of Radiolaria representing single faunal zone from two Eocene formations)*

Riedel, W.R. (1952)- Tertiary Radiolaria in western Pacific sediments. *Goteborgs Kungliga Vetenskaps Vitterhets-Samhallets Handlingar*, B, 6, 3, p. 1-18.  
*(First to suggest that radiolarian assemblages described by Tan Sin Hok (1927) from Roti are of Cretaceous age, not Late Neogene)*

Rodd, J.A. (1993)- New reef targets for oil and gas exploration in Fiji, Southwest Pacific. In: G.H. Teh (ed.) *Proc. Symposium on the Tectonic framework and energy resources of the western margin of the Pacific Basin*, Kuala Lumpur 1992, *Bull. Geol. Soc. Malaysia* 33, p. 313-330.  
*(Fiji Oligocene- Pliocene basins on and adjacent to Eocene- M Miocene Outer Melanesian volcanic island arc. One oil seep and oil-gas shows in wells demonstrate hydrocarbon generation. Potential reservoirs in Late Miocene and Pliocene carbonates. Seven wells drilled in 1980-1982, none reached target)*

Rodd, J.A. (1994)- New reef targets for oil and gas exploration in Fiji, Southwest Pacific. *Oil and Gas J.* 92, 10, p. 86-93.  
*(Condensed version of Rodd (1993))*

Rodgers, K.A. (1976)- Ultramafic and related rocks from southern New Caledonia. *Bull. Bur. Rech. Geol. Minieres (France)*, Sect. 4, 2, p. 33-55.

Roser, B.P. & R.J. Korsch (1999)- Geochemical characterization, evolution and source of a Mesozoic accretionary wedge: the Torlesse terrane, New Zealand. *Geol. Magazine* 136, p. 493-512.  
*(Compositions of quartzo-feldspathic Permian-Cretaceous sandstones of Torlesse terrane, New Zealand, display progressive changes. Torlesse derived from relatively unweathered source with granodioritic bulk composition)*

Routhier, P. (1953)- Etude geologique du versant occidental de la Nouvelle Calédonie entre le Col de Boghen et la Pointe d'Arama. *Mem. Soc. Geologique France* 32, 67, p. 1-271.

*('Geological study of the western slope of New Caledonia between the Col de Boghen and Arama Point'. Documentation of Jurassic-Cretaceous sediments, Eocene flysch of Bourail basin, Oligocene age of peridotites, northern metamorphic complex, etc.)*

Ruellan, E. & Y. Lagabrielle (2005)- Subductions et ouvertures oceaniques dans le Sud-Ouest Pacifique. *Geomorphologie: relief, processus, environnement* 2/2005, p. 121-142.  
(online at: <http://geomorphologie.revues.org/307>)

*('Subductions and oceanic spreading in the Southwest Pacific'. Review of SW Pacific subduction and spreading zones. Links between subduction and back-arc oceanic spreading obvious everywhere in SW Pacific)*

Ryan, H.F. & P.J. Coleman (1992)- Composite transform-convergent plate boundaries: description and discussion. *Marine and Petroleum Geol.* 9, p. 89-97.  
(Includes discussions of oblique convergence in SW Pacific and Philippines)

Sasaki, T., T. Yamazaki & O. Ishizuka (2014)- A revised spreading model of the West Philippine Basin. *Earth Planets Space* 66:83, p. 1-9.  
(online at: <https://earth-planets-space.springeropen.com/articles/10.1186/1880-5981-66-83>)  
(In West Philippine Basin S of CBF rift seafloor magnetic anomalies Chron C16r- C21n (~36-46 Ma). Age of spreading cessation of ~36 Ma several Myrs older than previous estimates. Palau Basin magnetic lineations from C18n.1n- C15r (~38.5- 35 Ma))

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*(Well-preserved radiolarian faunas in Albian pelagic sediments above basalt from four DSDP Leg 62 sites in W Pacific. 21 new species, but also presence of many 'Tan Sin Hok 1927 species', incl. Conosphaera tuberosa, Archaeodictyomitra pseudoscalaris, Cyrtocapsa asseni, C. grutterinki, C. houwi, C. molengraaffi, Eucyrtidium thiensis, Eucyrtis molengraaffi, Lithocampe pseudochrysalis, Pseudodictyomitra lilyae + ~10 others)*

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*(Reconstructions of SW Pacific, E of Australia. SW Pacific plate boundary W-dipping subduction boundary not only since M Eocene, but established since Late Cretaceous- E Paleogene. From ~82-52Ma, subduction primarily accomplished by >1200km of E and NE-directed rollback of Pacific slab, accommodating opening of New Caledonia, S Loyalty, Coral Sea and Pocklington backarc basins and partly accommodating spreading in Tasman Sea. S Loyalty and Pocklington backarc basins subducted in Eocene- E Miocene along newly formed New Caledonia and Pocklington subduction zones, culminating in SW/ S-ward obduction of ophiolites in New Caledonia, Northland and New Guinea in latest Eocene- earliest Miocene. Formation of these new subduction zones triggered by change in Pacific-Australia relative motion at ~50Ma. Two additional phases of E-ward rollback of Pacific slab in Oligocene- E Miocene and latest Miocene- Present (up to ~400km). Two new subduction zones in Miocene (Trobriand, New Britain- New Hebrides))*

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(*Philippine Sea back arc spreading and arc volcanism episodic. Probable back arc spreading in W Philippine Basin between ~52-37 Ma. Tholeiitic volcanism on Palau-Kyushu arc possibly from ~42- 29 Ma. Cessation of this volcanism coincided with initiating of new Parece Vela Basin back arc spreading. W half of sundered arc left behind as remnant arc (Palau-Kyushu Ridge). Parece Vela back arc spreading continued from 30 Ma to ~18-14 Ma. No significant arc volcanism in Philippine Sea from ~30- 20 Ma. Etc.*)

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*predating Tasman Sea spreading centres, followed by short period (~83- 80 Ma) of uplift and erosion, possibly representing break-up unconformity; (2) West Coast-Taranaki rift phase, producing N-NE-trending half-grabens in shelfal Taranaki Basin in latest Cretaceous-Paleocene (~80-55 Ma). Rift narrow (<150 km wide), orthogonal to Zealandia phase rifting, affecting mainly W Zealandia and did not progress to full break-up)*

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*(W Pacific produced >75% of marginal basins on Earth. Discussion of models of formation of numerous Eocene-Recent back arc marginal basins (in Indonesia: Sulu Sea, Celebes Sea, Banda Sea, Moluccas Sea, Makassar Straits, Andaman Sea))*

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Tapster, S.R. (2013)- A record of plateau- arc collision: the crustal and tectonic evolution of Guadalcanal, Solomon Islands. Ph.D. Thesis University of Leicester , p. 1-271.

*(online at: <https://www.bgs.ac.uk/research/bufi/downloads/S176SimonTapster2014Thesis.pdf>)*

*(Convergence between Ontong Java Plateau (world's largest and thickest oceanic plateau) and intra-oceanic Solomon Island Arc, represents youngest arc- plateau collision, and prime example of subduction zone polarity reversal. Collision implicated as cause of several Cenozoic plate motion changes. Guadalcanal Island magmas emplaced at ~23.7 Ma contain Eocene-Archean-aged zircons first evidence of continent-derived material in Solomon Island Arc. Microcontinental plateau- arc collision likely caused transfer of zircons to Guadalcanal's crust and triggered Eocene-aged ophiolite obduction in arc. Changes to magma geochemistry at ~23 Ma coeval*

*with resumption of typical plate motions, following slowing and deflection of Australian Plate at ~26–23 Ma and slab detachment at ~23 Ma, after Ontong Java Plateau collision. Arc magmatism rejuvenated before ~7.7 Ma. Slab detachment crucial for causing M Miocene reversal of subduction zone polarity)*

Tapster, S., N.M.W. Roberts, M.G. Petterson, A.D. Saunders & J. Naden (2014)- From continent to intra-oceanic arc: zircon xenocrysts record the crustal evolution of the Solomon island arc. *Geology* 42, 12, p. 1087-1090.

*(Latest Oligocene (26-24 Ma) Umasani pluton on Guadalcanal in intra-oceanic Solomon island arc (SW Pacific Ocean) with Eocene- Archean-age zircon xenocrysts. Older zircon populations of ~39-33 Ma, 71-63 Ma correlate with previous magmatism in arc. ~96 Ma zircon population may be derived from Cretaceous ophiolite basement crust or region-wide continental rift-related magmatism. E Cretaceous- Archean zircon xenocryst ages imply continental origins and cryptic source within arc crust. Caution with use of zircons to determine provenance and setting of ancient arc terranes)*

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*(Timing of flood basalt volcanism of Ontong Java Plateau estimated from paleomagnetic and paleontologic data. Much of plateau formed rapidly in <3 Myrs in E Aptian. Origin tied to impingement at base of oceanic lithosphere by head of large mantle plume. Formation of OJP may have led to rise in sea level that induced global oceanic anoxia. Carbon dioxide emissions likely contributed to mid-Cretaceous greenhouse climate, but did not provoke major biologic extinctions)*

Taylor, B. (2006)- The single largest oceanic plateau: Ontong Java-Manihiki-Hikurangi. *Earth Planetary Sci. Letters* 241, p. 372-380.

*(Ontong Java Plateau is largest oceanic mafic igneous province. Emplaced at ~120 Ma, with smaller magmatic pulse of ~90 Ma. Manihiki and Hikurangi Plateaus now separated from OJP by ocean basins, but originally formed as one plateau with Ontong Java)*

Taylor, B. & A.M. Goodliffe (2004)- The West Philippine Basin and the initiation of subduction, revisited. *Geophysical Research Letters* 31, 12, L12602, p. 1-4.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2004GL020136/epdf>)*

*(New bathymetry and existing geophysical data suggest direction of W Philippine Basin seafloor spreading rotated 100° CCW between 49 and 33 Ma. Mindanao Fracture Zone separates WPB from Palau Basin to S. WPB opening was contemporaneous with early Izu-Bonin-Mariana subduction, whose arc volcanism began by 50 Ma, producing >1000 km of arc-parallel spreading in Mariana segment of Eocene IBM arc/forearc. Initial IBM subduction cut across pre-existing structures (remnant arcs, fracture zones and spreading fabric))*

Taylor, B. & F. Martinez (2003)- Back-arc basin basalt systematics. *Earth Planetary Sci. Letters* 210, p. 481-497.

*((see also corrigendum, vol. 214, p. 679) Mariana, E Scotia, Lau and Manus back-arc basins spreading rates from slow (<50 mm/yr) to fast (>100 mm/yr) and extension axes located from 10-400 km behind their island arcs. Composition of lavas from active backarc basin spreading centers include arc-like components and MORB-like end-members. Axial lava compositions from these basins indicate melting of mid-ocean ridge basalt-like sources, but with added previously depleted, water-rich arc-like components)*

Tejada, M.L.G., J.J. Mahoney, R.A. Duncan & M.P. Hawkins (1996)- Age and geochemistry of basement and alkalic rocks of Malaita and Santa Isabel, Solomon Islands, southern margin of Ontong Java Plateau. *J. Petrology* 37, 2, p. 361-394.

*(online at: <http://petrology.oxfordjournals.org/content/37/2/361.full.pdf>)*

*(Basaltic basement of Malaita and Santa Isabel islands part of Ontong Java plateau magmatism, 1600km away. Ar-Ar ages of Malaita Older Series and Sigana Basalt lavas  $121.3 \pm 0.9$  Ma and  $92.0 \pm 1.6$  Ma, suggesting two short-lived, voluminous plateau-building episodes. Younger Series in S Malaita Ar- Ar age of 44 Ma. Juxtaposed against OJP crust in Santa Isabel is ~62-46 Ma 'ophiolitic' assemblage of Pacific MORB-like basalts, probably formed in arc-backarc setting before Late Tertiary collision of OJP and old N Solomon Trench)*

Tejada, M.L.G., J.J. Mahoney, C.R. Neal, R.A. Duncan & M.G. Petterson (2002)- Basement geochemistry and geochronology of Central Malaita, Solomon Islands, with implications for the origin and evolution of the Ontong Java Plateau. *J. Petrology* 43, 3, p. 449-484.

(online at: <http://petrology.oxfordjournals.org/content/43/3/449.full.pdf+htm>)

*(Sections of basalt basement in C Malaita 0.5–3.5 km thick and resemble expanded version of Ontong Java Plateau at ODP Site 807. Ar-Ar ages of 121-125 Ma identical to Site 807, S Malaita, Ramos, Santa Isabel and DSDP Site 289. The ~90 Ma eruptive episode seen in Santa Isabel, San Cristobal, and Sites 803 and 288 not present. C Malaitan basalts two distinct ocean-island-like mantle sources, not from normal ocean-ridge-type mantle. Plume-head may account for geochemical characteristics, but observed stratigraphic succession requires special conditions for latter model. Other features of Ontong Java Plateau that do not fit plume-head model: at least two important, geochemically similar eruptive episodes ~30 My apart, lack of obvious plume-tail trace, and lack of evidence for emergence/uplift)*

Timm, C., B. Davy, K. Haase, K.A. Hoernle, I.J. Graham, C.E.J. de Ronde, J. Woodhead, D. Bassett et al. (2014)- Subduction of the oceanic Hikurangi Plateau and its impact on the Kermadec arc. *Nature Communications* 5, 4923, p. 1-9.

(online at: [www.nature.com/articles/ncomms5923](http://www.nature.com/articles/ncomms5923))

*(Large igneous province subduction at oceanic Hikurangi Plateau beneath S Kermadec arc, off N New Zealand. Large portion of Hikurangi Plateau (missing Ontong Java Nui piece) already subducted)*

Timm, C., K. Hoernle, R. Werner, F. Hauff, P. van den Bogaard, P. Michael, M.F. Coffin & A. Koppers (2011)- Age and geochemistry of the oceanic Manihiki Plateau, SW Pacific: new evidence for a plume origin. *Earth Planetary Sci. Letters* 304, p. 135-146.

*(Basement samples from Manihiki Plateau mainly tholeiites with minor basaltic andesites and hawaiites, with mean age of  $124.6 \pm 1.6$  Ma. Geochemistry of Manihiki Plateau best explained by plume with three components, including recycled oceanic crustal-type component. Similarity in age and geochemical composition of Manihiki, Hikurangi and Ontong Java basement lavas)*

Tissot, B. & A. Noesmoen (1958)- Les bassins de Noumea et de Bourail (Nouvelle Calédonie). *Revue Inst. Français Petrole* 13, 5, p. 739-760.

*(The Noumea and Bourail basins, New Caledonia'. Study of Eocene foreland basin)*

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*(Bogota Peninsula shear zone interpreted as paleotransform fault in mantle section of New Caledonia ophiolite, with rotated foliation, pyroxenite dikes and 3km wide mylonitic zone. Ophiolite obduction and Neogene extension may have been controlled by preexisting fabrics and structures in oceanic lithosphere)*

Todd, E. (2011)- The youngest rocks from an old arc and the oldest rocks from a juvenile one: the memoirs of a SW Pacific subduction zone. Ph.D. Thesis University of California, Santa Cruz, p. 1-275.

*(History of Fiji-Tonga-Kermadec volcanic arc system, active for at least 50 My, resulting from W-ward subduction of Pacific Plate beneath Australian Plate)*

Todd, R. (1957)- Geology of Saipan, Mariana Islands, Part 3. Paleontology, Smaller foraminifera. U.S. Geol. Survey (USGS) Prof. Papers, 280-H, p. 265-320.

(online at: <http://pubs.usgs.gov/pp/0280e-j/report.pdf>)

*(Descriptions of planktonic and smaller benthic foraminifera from Late Eocene (172 species), Late Oligocene (61 species) E-M Miocene (161 species) sediments. Recent foram faunas dominated by Indo-Pacific reef genera Calcarina, Baculogypsina and also Marginopora)*

Todd, R. (1966)- Smaller foraminifera from Guam. U.S. Geol. Survey (USGS) Prof. Paper 403-I, p. 113-141.

(online at: <http://pubs.usgs.gov/pp/0403i/report.pdf>)

*(Eocene- Recent smaller foraminifera from Guam; see also Cole 1966)*

Todd, R. (1970)- Smaller foraminifera of Late Eocene age from Eua, Tonga. U.S. Geol. Survey (USGS) Prof. Paper 640-A, p. 1-21.

(online at: <http://pubs.usgs.gov/pp/0640a/report.pdf>)

(Rich foram fauna, 95% planktonics, 16 species, incl. *Hantkenina*, *Pseudohastigerina*, *Globorotalia cerroazulensis*, *Globigerina ampliapertura*, *G. gortanii*, etc., Probably latest Eocene *G. gortanii* zone. Also diverse smaller benthic foram fauna, dominated by *Lenticulina*, also *nodosarids*, *buliminids*, *Oridorsalis*, *Asterigerina*, *Gyroïdina*, etc. Depth of deposition probably 200m or more)

Todd, R. & R. Post (1954)- Smaller foraminifera from Bikini drill holes. U.S. Geol. Survey (USGS) Prof. Paper, 260-N, p. 547-568.

(online at: <http://pubs.usgs.gov/pp/0260m/report.pdf>)

(Miocene- Recent smaller foram faunas from Bikini Atoll dominated by miliolids and peneroplids. Upper 95' of wells dominated by *Calcarina spengleri* (reef deposition). Deeper also *C. hispida*, *Baculogypsina sphaerulata* (reef; 115-136', *Rotalia calcar* and *Calcarina delicata* n. sp. (below 179'). *Austrotrillina striata* n.sp.)

Tregoning, P. (2002)- Plate kinematics in the western Pacific derived from geodetic observations. J. Geophysical Research 107, B1, 2020, p. 7/1- 7/8.

Tregoning, P., F. Tan, J. Gilliland, H. McQueen & K. Lambeck (1998)- Present-day crustal motion in the Solomon Islands from GPS observations. Geophysical Research Letters 25, 19, p. 3627-3630.

(Global Positioning System measurements in Solomon Islands show active deformation between Pacific Plate and Solomon Arc block. Convergence at San Cristobal Trench  $\sim 52 \pm 4$  mm/yr, with no apparent local deformation. Guadalcanal and Makira islands mainly moving with Pacific Plate, but probably minor decoupling from Pacific Plate of 14-23 mm/yr in direction of 75-85°)

Trescases, J.J. (1975)- L'évolution géochimique supergène des roches ultrabasiqes en zone tropicale- Formation des gisements nickelifères de Nouvelle-Calédonie. Mémoires ORSTOM 78, p.

(online at: <https://dimenc.gouv.nc/sites/default/files/download/trescases.pdf>)

(*The supergene geochemical evolution of ultrabasic rocks in tropical zones - Formation of the nickel-bearing deposits of New Caledonia*)

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(online at: [www.tandfonline.com/doi/pdf/10.1080/00288306.1991.9514449](http://www.tandfonline.com/doi/pdf/10.1080/00288306.1991.9514449))

(Granite dredged off basement horst on W margin of Challenger Plateau W of New Zealand yields  $335 \pm 7$  Ma crystallisation age. Granite brecciated and hydrothermally altered around 95 Ma (major extension event?))

Tulloch, A.J., J. Ramezani, N. Mortimer, J. Mortensen, P. van den Bogaard & R. Maas (2009)- Cretaceous felsic volcanism in New Zealand and Lord Howe Rise (Zealandia) as a precursor to final Gondwana breakup. In: U. Ring & B. Wernicke (eds.) Extending a continent: architecture, rheology and heat budget. Geol. Soc. London, Spec. Publ. 321, p. 89-118.

(*New radiometric ages for seven Cretaceous rhyolites, tuffs and granites from Zealandia spanning 30 Ma period from arc magmatism to continental break-up. 112 Ma tuffs known only from E Province, with Cretaceous normal fault system. 101 and 97 Ma rhyolites and tuffs occur across entire width and half length of Zealandia from near paleotrench to continental interior, indicating widespread and instantaneous extension. Extension directions all oriented  $\sim 30^\circ$  oblique to margin. Zealandia rifting controlled by either  $>83$  Ma capture of Zealandia by Pacific Plate and/or  $<83$  Ma Zealandia-West Antarctica spreading*)

Turner, C.C. & G.W. Hughes (1982)- Distribution and tectonic implications of Cretaceous-Quaternary sedimentary facies in Solomon Islands. Tectonophysics 87, p. 127-146.

(*Sedimentary rocks of Solomon Islands- Bougainville Arc include Early Cretaceous- Eocene deep marine pelagic ooze, Oligocene- Miocene calcisiltite with thin tuffaceous beds, open marine Oligocene to Recent*)

*hemipelagics and volcanogenic clastics, and Late Oligocene- Recent shallow marine carbonates. Pre-Oligocene pelagic sediments deposited contemporaneously with, and subsequent to, extrusion of oceanic tholeiite. Island arc volcanism commenced along length of Solomons in Oligocene)*

Ujie, H. & K. Matsumaru (1977)- Stratigraphic outline of Haha-Jima (Hillsborough Island). Bonin Islands. Mem. Nat. Science Museum, Tokyo, 10, p. 5-18. *(in Japanese)*  
(online at: <http://ci.nii.ac.jp/naid/110004312860>)

*(Haha-Jima Island in S Japan Izu-Bonin arc, Philippine Sea, with 21 species of Eocene larger foraminifera in limestones associated with Eocene arc volcanics. M Eocene (Lutetian- Biarritzian) assemblages with large Nummulites boninensis, N. perforatus, Asterocyclina, etc. Late Eocene oolitic calcarenite rich in Pellatispira, Fasciolites javana boninensis, Fabiania, etc.)*

Ulrich, M. (2010)- Peridotites et serpentinites du complexe ophiolitique de la Nouvelle-Caledonie. Etudes petrologiques, geochemiques et mineralogiques sur l'evolution d'une ophiolite de sa formation a son alteration. Doct. Thesis Universite de la Nouvelle Caledonie and Universite Joseph Fourier, Grenoble, p. 1-273.

(online at: <http://tel.archives-ouvertes.fr/docs/00/50/98/48/PDF/Ulrich.pdf>)

*('Peridotites and serpentinites of the ophiolitic complex of New Caledonia- petrographic, geochemical and mineralogical studies of the evolution of the ophiolite from its formation to its alteration'. New Caledonia one of world's largest ophiolites (500km long, 50km wide' 2 km thick). Emplaced during Eocene, ophiolite is thrust over magmatic Poya terrane, composed of basalts from mid-ocean ridges, back arc basins and ocean islands. Age of ophiolite formation Late Cretaceous to E Eocene. Obduction completed by ~34 Ma)*

Ulrich, M., C. Picard, S. Guillot, C. Chauvel, D. Cluzel & S. Meffre (2010)- Multiple melting stages and refertilization as indicators for ridge to subduction formation: the New Caledonia ophiolite. Lithos 115, p. 223-236.

*(Two periods in tectonic evolution of SW Pacific: Campanian-Paleocene opening of marginal basins, followed by convergence during starting at Paleo-Eocene boundary (~55 Ma). Lherzolites from N part of New Caledonia ophiolite may be comparable to abyssal peridotites, formed in Late Cretaceous -Paleocene during opening of S Loyalty Basin (Poya terrane). Lherzolites underwent second stage of partial melting during E Eocene in forearc environment, responsible for boninitic melts and depleted peridotites (i.e. harzburgites) of bulk of ophiolite)*

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(online at: [www.terrapub.co.jp/journals/EPS/pdf/2004/5610/56100967.pdf](http://www.terrapub.co.jp/journals/EPS/pdf/2004/5610/56100967.pdf))

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*('Geologic evolution of the peri-Caledonian domain (SW Pacific)')*

Van de Beuque, S., J.M. Auzende, Y. Lafoy, G. Bernardel, A. Necessian, M. Regnier et al. (1998)- Transect sismique continu entre l'arc des Nouvelles-Hebrides et la marge orientale de l'Australie: programme FAUST (French Australian Seismic Transect). Comptes Rendus Academie Sciences Paris, Ser. 2, 327, p. 761-768.

*('Continuous seismic transect between the New Hebrides Arc and the eastern Australian Margin: FAUST (French Australian Seismic Transect) program')*

- Van de Beuque, S., J.M. Auzende, Y. Lafoy & F. Missegué (1998)- Tectonique et volcanisme tertiaire sur la ride de Lord Howe (Sud-Ouest Pacifique). *Comptes Rendus Academie Sciences, Paris, Ser. 2*, 326, p. 663-669.  
(*Tectonics and volcanism on the Lord Howe Rise (SW Pacific)*)  
(*Geophysical data suggests two major events on Lord Howe Rise: (1) U Eocene- M Oligocene erosional phase due to emersion, synchronous with U Eocene obduction of New Caledonian ophiolites; (2) volcanic phase from U Oligocene to end of subsidence of ridge*)
- Van de Beuque, S., H.M. Stagg, J. Sayers, J.B. Willcox & P.A. Symonds (2003)- Geological framework of the northern Lord Howe Rise and adjacent areas. *Geoscience Australia, Canberra, Record 2003/01*, p. 1-92.  
(*online at: [https://www.ga.gov.au/products/servlet/controller?event=FILE\\_SELECTION&catno=41856](https://www.ga.gov.au/products/servlet/controller?event=FILE_SELECTION&catno=41856)*)  
(*Lord Howe Rise 1600km long, and underlain by continental crust detached from E Australia during Tasman Sea margin breakup from 85-52 Ma). In E shallow, planated ?Paleozoic basement overlain by few 100m of Cenozoic oozes. In center rift basin(s) (Capel, Gower, Monawai). In W Dampier Ridge system of unknown origin. DSDP Site 208 penetrated U Cretaceous (Maastrichtian) sediments in central rift of Lord Howe Rise*)
- Van der Linden, W.J.M. (1969)- Extinct mid-ocean ridges in the Tasman Sea and in the Western Pacific. *Earth Planetary Sci. Letters* 6, p. 483-491.  
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- Van Deventer, J. & J.A. Postuma (1973)- Early Cenomanian to Pliocene deep-marine sediments from North Malaita, Solomon Islands. *J. Geol. Soc. Australia* 20, 2, p. 145-150.  
(*Carbonates with volcanic lithic components deposited in deep-water environment in Tomba Anticline, NW Malaita. Pelagic Foraminifera indicate U Albian age for oldest rocks of Kwai River section (Planomalina buxtorfi, Rotalipora ticinensis, etc.), also Senonian- Maastrichtian (Globotruncana), Paleocene, Eocene, M and U Miocene and Pliocene. Suggests uninterrupted deep-water sedimentation from Albian- Pliocene in this area*)
- Varol, O. (1989)- Calcareous nannofossil study of the central and western Solomon Islands. In: J.G. Vedder & T.R. Bruns (eds.) *Geology and offshore resources of Pacific Island arcs; Solomon Islands and Bougainville, Papua New Guinea regions, Circum-Pacific Council Energy and Mineral Resources, Houston, Earth Science Ser.12*, p. 239-268.  
(*Latest Cretaceous- Late Pleistocene calcareous nannofossils identified from Solomon Islands. 18 new species*)
- Vially, R., Y. Lafoy, J.M. Auzende & R. France (2003)- Petroleum potential of New-Caledonia and its offshore basins. *AAPG Int. Conf., Barcelona 2003*, p. 1-6. (*Extended Abstract*)  
(*online at: [www.searchanddiscovery.com/abstracts/pdf/2003/intl/extend/ndx\\_83008.pdf](http://www.searchanddiscovery.com/abstracts/pdf/2003/intl/extend/ndx_83008.pdf)*)  
(*Unexplored New-Caledonia deep offshore basins appear to have petroleum potential, and can be considered as frontier basins for hydrocarbon exploration. N part (Grande Terre latitude) main target for conventional exploration with thick sedimentary layers and tilted fault blocks traps*)
- Vitale Brovarone, A. & P. Agard (2013)- True metamorphic isograds or tectonically sliced metamorphic sequence? New high-spatial resolution petrological data for the New Caledonia case study. *Contrib. Mineralogy Petrology* 166, 2, p. 451-469.  
(*Metamorphic belt of N New Caledonia HP metamorphism marked by gradual evolution from very low-grade lawsonite-bearing to high-grade epidote-bearing eclogite assemblages. New metamorphic dataset indicates two tectono-metamorphic domains, separated by P gap of 0.6 GPa, or ~20 km, but no T gap: (1) rich in metasediments with continuous metamorphic gradient starting at ~300°C and 0.8 GPa, reaching blueschist-eclogite transition at 500-520°C and 1.8 GPa; (2) rich in meta-ophiolites with constant metamorphism at 520-550°C and ~2.4 GPa. Isograds in blueschist, metasediment continuous metamorphic gradient corresponding to ~35 km of accreted material, later affected by decompressional thinning. Most significant metamorphic break lithological contrast (metasediment-rich vs. metamafic/ultramafic-rich domains)*)
- Von Stackelberg, U. & U. von Rad (1990)- Geological evolution and hydrothermal activity in the Lau and North Fiji Basins, Southwest Pacific Ocean. *Geol. Jahrbuch D92*, p. 1-660.

Vozenin-Serra, C. & S.M. Cheboldaeff (1993)- Paleoxylologie du Trias superieur de Nouvelle-Caledonie; les bois a vaisseaux fibriformes et leur interet phylogenetique. Comptes Rendus Academie Sciences, Paris, Ser 2, 316, 6, p. 861-865.

*(Occurrence of fibriform vessel-bearing woods in Late Triassic of Moindou area, SW New-Caledonia, suggests possible origin of Angiosperms in this area)*

Vozenin-Serra, C. & J. Grant-Mackie (1996)- Les bois noriens des terrains Murihiku- Nouvelle-Zelande- interet paleophytogeographique. Palaeontographica B 241, 5-6, p. 99-125.

*(The Norian wood fossils from the Murihiku- New Zealand terranes; phytogeographic significance)*

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*(online at: <http://ir.canterbury.ac.nz/handle/10092/5730>)*

*(Torlesse terranes in New Zealand E Province are large accretionary complexes with quartzo-feldspathic sandstones. Two terranes in South Island: Permian-Late Triassic Rakaia terrane and Late Jurassic- Early Cretaceous Pahau terrane. All studies point to continental arc/cratonic provenance)*

Wandres, A.M. & J.D. Bradshaw (2005)- New Zealand tectonostratigraphy and implications of conglomeratic rocks for the configuration of the SW Pacific of Gondwana. In: A.P.M. Vaughan et al. (eds.) Terrane processes at the margins of Gondwana, Geol. Soc., London, Spec. Publ. 245, p. 179-216.

*(Overview of New Zealand tectonics, as part of Paleozoic- mid-Cretaceous Gondwana active margin, now dispersed in E Australia, SW Pacific, New Zealand and Antarctica)*

Wandres, A.M., J.D. Bradshaw, S. Weaver, R. Maas, T. Ireland & N. Eby (2004)- Provenance of the sedimentary Rakaia sub-terrane, Torlesse Terrane, South Island, New Zealand: the use of igneous clast compositions to define the source. Sedimentary Geology 168, p. 193-226.

*(Permian to Late Triassic Rakaia sub-terrane is accretionary complex with large volume of quartzo-feldspathic sandstones. Zircon ages of igneous clasts define 3-4 periods of magmatism: minor Early Permian (292-277 Ma) and major Late Permian- M Triassic (258-243 Ma), Carboniferous (356-325 Ma) and Cambrian. Broad correlation with Amundsen and Ross provinces of Marie Byrd Land, Antarctica)*

Weissel, J.K. (1981)- Magnetic lineations in marginal basins of the Western Pacific. Philosophical Trans. Royal Soc. London, A, 300, 1454, p. 223-247.

*(Small basins of W Pacific Ocean classified into (1) probable marginal basins formed through back-arc extension (Bismarck, Fiji, Lau, Japan Sea, etc.), (2) possible back-arc basins (Andaman, Sulu, Celebes, W Philippine, Banda, Caroline, S Fiji, New Hebrides) and (3) not back-arc (Woodlark, S China Sea, Coral Sea, Solomon, Tasman). Magnetic lineations in back-arc basins, resembling mid-oceanic spreading systems)*

Weissel, J.K. & R.N. Anderson (1978)- Is there a Caroline plate? Earth Planetary Sci. Letters 41, p. 143-159.

*(Marine geophysical data from Caroline Sea region suggest separate Caroline plate currently exists. Interaction with Philippine Plate along S Yap Trench, Palau Trench and rift system in Ayu Trough)*

Wells, R.E. (1989)- The oceanic basalt basement of the Solomon Islands arc and its relationship to the Ontong Java Plateau-insights from Cenozoic plate motion models. In: J.G. Vedder & T.R. Bruns (ed.) Geology and offshore resources of Pacific Island arcs; Solomon Islands and Bougainville, Papua New Guinea regions, Circum-Pacific Council Energy and Mineral Resources, Earth Sci. Ser. 12, p. 7-22.

Wessel, P. & L.W. Kroenke (1998)- The geometric relationship between hot spots and seamounts: implications for Pacific hot spots. Earth Planetary Sci. Letters 158, 1-2, p. 1-18.

*(Hot spots and seamounts produced by them provide geometric and temporal evidence for changes in absolute plate motion. Main limitation in using hot-spot-produced seamounts in plate tectonic reconstructions arises from sources of error and ambiguity of radiometric age estimates. Hotspot-produced seamounts have seafloor crustal flow lines that intersect at hot spot location. Hawaii, Louisville, Caroline, Cobb and Bowie hot spots have clear representations in Cumulative Volcano Amplitude images)*

Wessel, P. & L.W. Kroenke (2000)- Ontong Java Plateau and late Neogene changes in Pacific plate motion. *J. Geophysical Research, Solid Earth*, 105, B12, p. 28255-28277.

*(Late Neogene collision between Ontong Java Plateau and N margin of Australia plate, starting at 6 Ma, intensifying at 4-2 Ma, still continuing causing CCW rotation of Pacific plate, as inferred from hotspot volcanism, inducing right-lateral shear stress along Pacific plate divergent boundary (San Andreas, Alpine faults). Also triggered circum-Pacific tectonism, with trench migration and back arc rifting. Slab pull dominant plate tectonic driving force)*

Wessel, P. & L.W. Kroenke (2007)- Reconciling late Neogene Pacific absolute and relative plate motion changes. *Geochem. Geophys. Geosystems* 8, 8, p. Q08001, p. 1-12.

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Wessel, P. & S. Lyons (1997)- Distribution of large Pacific seamounts from Geosat/ERS-1: implications for the history of intraplate volcanism, *J. Geophysical Research* 102, B10, p. 22459-22476.

*(8882 individual seamounts identified on Pacific Ocean Plate. Seamount density greatest in C Pacific. Majority of large seamounts in W region of Pacific Plate, on older crust. Seamount density, peaks at 100-130 Ma crust, suggesting highest magmatism in Cretaceous. Seamount heights tend to increase with increasing age of lithosphere at time of seamount formation. Seamount intraplate volcanism at maximum level in M-Late Cretaceous (~70-120 Ma))*

Westermann, G.E.G., N. Hudson & J. Grant-Mackie (2000)- Bajocian (Middle Jurassic) Ammonitina of New Zealand. *New Zealand J. Geol. Geophysics* 43, p. 33-57.

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*(Relatively rich, previously unknown fauna of Ammonitina from Bajocian of SW Auckland. No obvious similarities with New Guinea faunas)*

Westermann, G.E.G., N. Hudson & J. Grant-Mackie (2002)- New Jurassic Ammonitina from New Zealand: Bathonian-Callovian Eurycephalitinae. *New Zealand J. Geol. Geophysics* 45, 4, p. 499-525.

*(online at: [www.tandfonline.com/doi/abs/10.1080/00288306.2002.9514988](http://www.tandfonline.com/doi/abs/10.1080/00288306.2002.9514988))*

*(Low diversity M Jurassic ammonoid fauna from SW Auckland province, North Island, New Zealand)*

Whattam, S.A. (2009)- Arc-continent collisional orogenesis in the SW Pacific and the nature, source and correlation of emplaced ophiolitic nappe components. *Lithos* 113, p. 88-114.

*(SW Pacific ophiolitic nappes of Papua-New Guinea, New Caledonia and Northland (New Zealand), emplaced on former margin of E Australia, provide record of Paleogene cyclical episodes of arc-continent collisional orogenesis)*

Whattam, S.A., J. Malpas, J.R. Ali & I.E.M. Smith (2008)- New SW Pacific tectonic model: cyclical intraoceanic magmatic arc construction and near-coeval emplacement along the Australia-Pacific margin in the Cenozoic. *Geochem. Geophys. Geosystems* 9, 3, Q03021, p. 1-34.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2007GC001710/epdf>)*

*(Reconstructions for NE margin of Australia- E-most PNG, where Papua Ultramafic Belt, New Caledonia and Northland ophiolites formed and emplaced in cyclical fashion above extensive NE dipping Cenozoic intra-oceanic arc system which diachronously propagated (N-S) along E margin of Australian Plate. These 'infant arc' ophiolites are fragments of supra-subduction zone lithosphere, generated in earliest stages of magmatic arc formation that were emplaced shortly after (<20 Ma) as result of forearc-Australian Plate collision)*

Wheat, C. G., P. Fryer, K. Takai & S. Hulme (2010)- South Chamorro Seamount, 13°7.00'N, 146°00.00'E. *Oceanography* 23, 1, p. 174-175.

*(online at: [www.tos.org/oceanography/archive/23-1\\_wheat.pdf](http://www.tos.org/oceanography/archive/23-1_wheat.pdf))*

*(Sixteen large, active serpentinite mud volcanoes in Mariana forearc, between Mariana Trench and volcanic island arc (Fryer et al., 2006). Up to 50 km in diameter and rising up to 2.4km above seafloor)*

White, N.C., M.J. Leake, S.N. McCaughey & B.W. Parris (1995)- Epithermal gold deposits of the Southwest Pacific. *J. Geochemical Exploration* 54, 2, p. 87-136.

*(BHP data tabulation for 137 epithermal gold deposits and prospects in Australia (30), Fiji (2), Indonesia (43), New Zealand (22), Palau and Yap (2), Papua New Guinea (18), Philippines (19) and Solomon Islands)*

Wilckens, O.R. (1925)- Stratigraphie und Bau von Neu-Caledonien. *Geol. Rundschau* 16, 2, p. 128-142.

*(online at: [https://www.digizeitschriften.de/dms/img/?PID=PPN345572157\\_0016%7Clog26](https://www.digizeitschriften.de/dms/img/?PID=PPN345572157_0016%7Clog26))*

*(‘Stratigraphy and structure of New Caledonia’. Mainly literature compilation. Peridotites not Pre-Tertiary, but post-Eocene)*

Willcox, J.B. & J. Sayers (2002)- Geological framework of the Central Lord Howe Rise (Gower Basin) region with consideration of its petroleum potential. *Geoscience Australia Record* 2002/011, p. 1-49.

*(Online at: [https://www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=36063](https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=36063))*

*(Undrilled deep water Gower Basin forms part of ‘Central Rift Zone’ in Tasman Sea formed during separation of Lord Howe Rise from NE Australia continent (New England foldbelt) by oblique extension. Lord Howe Rise is ‘ribbon’ of crust ~1600 km x 250-600 km wide. Rifting probably started in Late Jurassic, followed by breakup and dispersal in latest Santonian- E Eocene. Gower Basin sediment fill 1.5-3.0 km, maximum 4+ km)*

Willcox, J.B., J. Sayers, H.M.J. Stagg & S. van de Beuque (2001)- Geological framework of the Lord Howe Rise and adjacent ocean basins. In: K.C. Hill & T. Bernecker (eds.) *Eastern Australasian Basins Symposium*, a refocused energy perspective for the future, *Petroleum Expl. Soc. Australia (PESA)*, Spec. Publ. p. 211-225.

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Winterer, E.L. (1991)- The Tethyan Pacific during Late Jurassic and Cretaceous times. *Palaeogeogr. Palaeoclim. Palaeoecology* 87, p. 253-265.

Wood, R.A. (1991)- Structure and seismic stratigraphy of the western Challenger Plateau. *New Zealand. J. Geol. Geoph.* 34, 1, p. 1-9.

*(online at: [www.tandfonline.com/doi/pdf/10.1080/00288306.1991.9514433](http://www.tandfonline.com/doi/pdf/10.1080/00288306.1991.9514433))*

*(Challenger Basin at W margin of the Challenger Plateau, >2 km of sediment, probably formed in early stages of Late Cretaceous rifting in Tasman Sea. Major phase of submarine basaltic volcanism at ~38 Ma. Challenger Plateau is thinned continental crust, separated from Antarctica-Australia when Gondwana margin fragmented in Late Cretaceous (with basement including Carboniferous granite; Tulloch et al. 1991))*

Wood, R.A. (1993)- The Challenger Plateau. In: P.F. Balance (ed.) *South Pacific sedimentary basins, Sedimentary Basins of the World*, Elsevier, p. 351-364.

Woodhall, D. (1985)- Geology of the Lau Ridge. In: D.W. Scholl & T.W. Vallier (eds.) *Geology and offshore resources of Pacific island arcs- Tonga Region, Circum-Pacific Council Energy Min Res., Earth-Sci. Ser. 2*, p. 351-378.

Wright, N.M., R.D. Muller, M. Seton & S.E. Williams (2015)- Revision of Paleogene plate motions in the Pacific and implications for the Hawaiian-Emperor bend. *Geology* 43, 5, p. 455-458.

*(Modeling of Farallon/Vancouver-Pacific-Antarctic seafloor spreading history from 67 to 33 Ma based on magnetic anomalies and fracture identifications. Increase from 75 to 182 mm/yr in Pacific-Farallon spreading rates between 57-40 Ma, not accompanied by changes in spreading direction)*

Wright, N.M., M. Seton, S.E. Williams & R.D. Muller (2016)- The Late Cretaceous to recent tectonic history of the Pacific Ocean basin. *Earth-Science Reviews* 154, p. 138-173.

Yamazaki, T., M. Takahashi, Y. Iryu, T. Sato, M. Oda, H. Takayanagi et al. (2010)- Philippine Sea Plate motion since the Eocene estimated from paleomagnetism of seafloor drill cores and gravity cores. *Earth Planets and Space* 62, p. 495-502.

(online at: [www.terrapub.co.jp/journals/EPS/pdf/2010/6206/62060495.pdf](http://www.terrapub.co.jp/journals/EPS/pdf/2010/6206/62060495.pdf))

*(Paleomag data suggest N part of Philippine Sea Plate was near equator at 50 Ma, majority of N-ward shift between ~50-25 Ma and very little N-ward movement after 15 Ma. Clockwise rotation of ~90° since Eocene)*

Yan, C.Y. & L.W. Kroenke (1993)- A plate tectonic reconstruction of the SW Pacific 0-100 Ma. In: E.M. Maddox (ed.) *Proc. Ocean Drilling Program (ODP), Scient. Results*, 130, p. 697-709.

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*(Reconstruction of SW Pacific paleogeography back to 100 Ma. Eocene- Late Miocene phases of convergence along five different paleo-subduction zones that formed with changes in Indo-Australian and Pacific plate motions: Papuan-Rennell-New Caledonia-Norfolk (55-40 Ma), Manus-N Solomon-Vitiaz (43-25 Ma), New Guinea- proto-Tonga-Kermadec (27-10 Ma), New Britain-San Cristobal-New Hebrides (12-0 Ma), and Tonga-Kermadec (10-0 Ma) trenches. Episodes of basin formation since Late Cretaceous: Tasman (85-55 Ma), New Caledonia (74-65 Ma), Coral Sea (63-53 Ma), Loyalty (52-40 Ma), d'Entrecasteaux (34-28 Ma), Caroline (34-27 Ma), Solomon Sea (34-28 Ma), S Fiji (34-27 Ma), N Fiji (10-0 Ma), and Lau, Woodlark, and Manus (5.5-0 Ma) basins. Seamount chains developed over Tasmantid, Lord Howe, Louisville and Samoa hotspots)*

Yen, H.Y., Y.S. Lo, Y.L. Yeh, H.H. Hsieh, W.Y. Chang, C.H. Chen, C.R. Chen & M.H. Shih (2015)- The crustal thickness of the Philippine Sea Plate derived from gravity data. *Terrestrial Atmospheric Oceanic Sci.* 26, 3, p. 253-259.

*(Gravity modeling indicates crustal thickness in Spart of W Philippine Basin nearly homogeneous at ~5km. Average crustal thickness of Palau Kyushu Ridge >10 km. In E PSP crustal thickness increases to E. Also relatively thin and low density mantle under Parece Vela Basin as consequence of back-arc spreading)*

Yokoyama, K., R.N. Brothers & P.M. Black (1986)- Regional eclogite facies in the high pressure metamorphic belt of New Caledonia. In: B.E. Evans & E.H. Brown (eds.) *Blueschists and eclogites*, Geol. Soc. America (GSA) Mem. 164, p. 407-423.

*(New Caledonia mid-Tertiary metamorphic belt continuous progression from lawsonite zone through epidote zone (blueschist facies) into omphacite zone (eclogite facies). Isogradic surfaces dips 10° to SW. Epidote zone thickness 300-500m and omphacite zone 500m)*

Zellmer, K. & B. Taylor (2001)- A three-plate kinematic model for Lau Basin opening. *Geochem. Geophys. Geosystems* 2, 2000GC000106, p. 1-26.

Zhang, G.L. & C. Li (2016)- Interactions of the Greater Ontong Java mantle plume component with the Osborn Trough. *Nature, Scientific Reports* 6, 37561, p. 1-8.

(online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5116616/pdf/srep37561.pdf>)

*(Ontong Java-Manihiki-Hikurangi plateau originated from Cretaceous mantle plume, and rifted apart by two spreading ridges. Manihiki-Hikurangi plateaus rifted apart by Osborn Trough, with basaltic crust of 103.7 ± 2.3 Ma. Osborn Trough is abandoned segment of early Pacific spreading ridge)*

Zhang, Y., S.Z. Li, Y.H.Suo, L.L. Guo, S. Yu, S. J. Zhao, I D.Somerville, R.H. Guo, Y.B. Zang, Q.L. Zheng & D.L. Mu (2016)- Origin of transform faults in back-arc basins: examples from Western Pacific marginal seas. *Geological J.* 51, Suppl. 1, p. 490-512.

*(Study of transform faults in 4 marginal basins in W Pacific, i.e. S China Sea, Okinawa Trough, W Philippine Basin and Shikoku-Parece Vela Basin. Transform faults in all basins generally NNE-trending)*

Zhong, S., M. Ritzwoller, N. Shapiro, W. Landuyt, J. Huang & P. Wessel (2007)- Bathymetry of the Pacific plate and its implications for thermal evolution of lithosphere and mantle dynamics. *J. Geophysical Research, Solid Earth*, 112, B6, B06412, 18p.

*(After removing effects of sediments, seamounts, and large igneous provinces, ocean depths increase uniformly with age from ~2700-3100m at mid-ocean ridges to >5000m after ~70 Ma. Increasing more slowly after that)*

Zonenshayn, L.P. & V.V. Khain (1990)- Eocene-Miocene plate tectonic history of Melanesia. *Int. Geology Review* 32, 6, p.565-577.

*(Late Cretaceous-Eocene Melanesian island arc with subduction zone dipping NE beneath Pacific Ocean been reconstructed from distribution of island-arc complexes in N New Guinea, New Caledonia and North Island of New Zealand. Marked change in movement of Pacific plate with respect to Australia and Eurasia at 43 Ma. E Miocene collision between Melanesian arc and passive margin of Australia. At same time, spreading axis was at rear of Melanesian arc, from which Caroline basin was formed)*

#### **IX.14. NE Indian Ocean**

Adisaputra, Mimin K. (1995)- Quaternary plankton foraminifera biozonation in Indian Ocean, South of Jawa. Bull. Marine Geological Inst. 10, 1, p.

Adisaputra, Mimin K. & Hartono (2004)- Late Miocene- Holocene biostratigraphy of single core in Roo Rise, Indian Ocean South of East Jawa. Bull. Marine Geol. Inst. 19, 1, p. 27-48.

Adisaputra, Mimin K. & M. Hendrizon (2008)- Hiatus pada kala Eosen-Miosen Tengah di tinggian Roo, Samudera Hindia, Selatan Jawa Timur, berdasarkan biostratigrafi nannoplankton. J. Geologi Kelautan 6, 3, p. p. 154-166.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/159/149>)

'Hiatus between Eocene and Upper Miocene on the Roo Rise, Indian Ocean S of East Java, based on nannoplankton biostratigraphy')

Adisaputra, Mimin K. & H. Yuniarto (2013)- Biostratigrafi foraminifera Kuartar pada Bor inti MD 982152 da 982155 dari Samudra Hindia. Bull. Marine Geol. 11, 2, p. 55-66

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/231/221>)

'Biostratigraphy of Quaternary foraminifera in cores MD 982152 and 982155 from the Indian Ocean'. Two 32 and 43m long IMAGES Expedition piston cores from SW and S of Jawa with Quaternary Globorotalia truncatulinoides Zone, subdivided into three subzones:., Globorotalia crassaformis hessi, Globigerinella calida calida, Beella digitata)

Banerjee, B., S.M. Ahmad, W. Raza & T. Raza (2017)- Paleooceanographic changes in the Northeast Indian Ocean during middle Miocene inferred from carbon and oxygen isotopes of foraminiferal fossil shells. Palaeogeogr. Palaeoclim. Palaeoecology 466, p. 166-173.

(C and O isotope records of foraminifera from ODP site 758 in NE Indian Ocean on Ninetyeast Ridge. Climatic events recorded: 1. M Miocene Climate Optimum (17-15 Ma), (2) Monterey Excursion (17-14 Ma), (3) Et Antarctica Ice sheet formation (13.8 Ma), (4) Initiation of Indian summer monsoon with waning of Antarctica Ice sheet (12.3-10.4 Ma), and (5) cooling event (10.2-9.6 Ma))

Baumgartner, P.O. (1993)- Early Cretaceous radiolarians of the Northern Indian Ocean (Leg 123: sites 765, 766 and DSDP Site 261): the Antarctic Tethys connection. In: D. Lazarus & P. De Wever (eds.) Proc. Internrad VI, Marine Micropaleontology 21, p. 329-352.

(Neocomian radiolarians from Sites 765 (Argo Abyssal Plain) and 766 (lower Exmouth Plateau) dominated by non-Tethyan, Circum-Antarctic forms, with weak Tethyan influence (Holocryptocanium, Cryptamphorella, Archeodictyomitra brouweri, Parvicingula, etc.). Radiolaria at Argo Basin Sites 765 and 261 reflect restricted oceanic conditions in latest Jurassic-Barremian. Argo Basin was paleoceanographically separated from Tethys during Late Jurassic and part of Cretaceous by position at higher paleolatitudes and/or by enclosing land masses. Absence of most Tethyan radiolarian species in Valanginian-Hauterivian interpreted as time of strong influx of Circum-Antarctic cold water following spreading between SE India and W Australia. Reappearance and gradual increase of Tethyan taxa, still with dominant Circum-Antarctic species result of more equitable climatic conditions in Barremian- E Aptian and establishment of connection with Tethys Ocean in E Aptian)

Curry, J., F.J. Emmel, D.G. Moore & R.W. Raitt (1982)- Structure, tectonics and geological history of the northeastern Indian Ocean. In: A.E. Nairn & F.G. Stehli (eds.) The ocean basins and margins 6, The Indian Ocean, Plenum Press, New York, p. 399-450.

(Study of areas around Bay of Bengal, Andaman Sea, Sunda Arc off Sumatra and W Java)

Davies, T.A., R.B. Kidd & A.T.S. Ramsay (1995)- A time-slice approach to the history of Cenozoic sedimentation in the Indian Ocean. Sedimentary Geology 96, 1-2, p. 157-179.

(Study of changing patterns of sediment accumulation in Indian Ocean through Cenozoic. Paleogene sedimentation rates generally low, suggesting weak ocean circulation and stable, well-stratified conditions. Vigorous thermohaline circulation of Neogene resulted in substantial widespread sedimentation)

Dehn, J., J.W. Farrell & H.U. Schminke (1991)- Neogene tephrochronology from Site 758 on Ninety East Ridge: Indonesian arc volcanism of the past 5 Ma. In: J. Weissel et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 121, p. 273-295.

(online at: [www-odp.tamu.edu/publications/121\\_SR/VOLUME/CHAPTERS/sr121\\_14.pdf](http://www-odp.tamu.edu/publications/121_SR/VOLUME/CHAPTERS/sr121_14.pdf))

*(Pliocene-Recent pelagic sediments in ODP Leg 121- Site 758 on N Ninetyeast Ridge, N Indian Ocean W of N tip of Sumatra, with several 100 rhyolitic tuff layers, ranging in thickness from few mm to 34cm. Ashes believed to be from Sumatra sector of Sunda Arc. Four youngest ash layers correlate to last four eruptions of Toba caldera between 0.075 and 1.2 Ma. Thickest tuffs < 2 My old. Ash Layer D just below paleomagnetic boundary separating Brunhes and Matuyama Chrons and between oxygen isotope stages 19.2 and 20.23 does not correlate to any previously described eruption from Toba caldera. Layer E occurs middle of stage 21, dated at 0.775 Ma, tentatively correlated with 'Old Toba Tuff' although that was dated at 0.84 Ma (Diehl et al. 1987) (NB: O-isotope stratigraphy ages recalibrated since then; Layer D biotite Ar-Ar age of 800 ±20ka by Hall and Farrell 1995; Old Toba Tuff dated as 789 ±12 ka by Izett and Obradovich 1994; see also Mark et al. 2017))*

Deplus, C., M. Diament, H. Hebert, G. Bertrand, S. Dominguez, J. Dubois, J. Malod et al. (1998)- Direct evidence of active deformation in the eastern Indian oceanic plate. *Geology* 26, 2, p. 131-134.

(online at: [http://www.ipgp.fr/~sibilla/pdf/Deplus\\_1998\\_Geology.pdf](http://www.ipgp.fr/~sibilla/pdf/Deplus_1998_Geology.pdf))

*(Geophysical and bathymetric evidence of active left-lateral strike-slip deformation in NE Indian Ocean plate, east of Ninetyeast Ridge, at long N-S strike faults (transforms of former Wharton Ridge spreading center?))*

Fullerton, L.G., W.W. Sager & D.W. Handschumacher (1989)- Late Jurassic- Early Cretaceous evolution of the Eastern Indian Ocean adjacent to Northwest Australia. *J. Geophysical Research, Solid Earth*, 94, B3, p. 2937-2953.

*(New aeromagnetic data off NW Australia constrains tectonic model of seafloor evolution in Argo, Cuvier, and Gascoyne abyssal plains. Complete set of anomalies from M26- M16 in Argo Abyssal Plain shows spreading started at or prior to M26 (E Kimmeridgean) and propagated outward until at least M24 time. Anomalies M10 (late Tithonian)- M0 (basal Aptian), record separation of Australia and India in Cuvier and Gascoyne abyssal plains. At M4-M5 time (~Barremian-Hauterivian boundary) 10° clockwise change in spreading direction on Cuvier-Gascoyne spreading system)*

Geersen, J., J.M. Bull, L.C. McNeill, T.J. Henstock, C. Gaedicke, N. Chamot-Rooke & M. Delescluse (2015)- Pervasive deformation of an oceanic plate and relationship to large >Mw 8 intraplate earthquakes: the northern Wharton Basin, Indian Ocean. *Geology* 43, 4, p. 359-362.

*(Earthquakes in N Wharton Basin demonstrate pervasive brittle deformation between Ninetyeast Ridge and Sunda subduction zone. Evidence of recent strike-slip deformation along N-S fossil fracture zones and Miocene conjugate Riedel shears in sediment section and oblique to N-S fracture zones)*

Glass, B.P., D.R. Chapman & M.S.Prasad (1996)- Ablated tektite from the central Indian Ocean. *Meteoritics Planetary Science* 31, 3, p. 365-369.

(online at: <http://adsabs.harvard.edu/full/1996M%26PS...31..365G>)

*(Ablated button-shaped tektite, 12mm in diameter from Central Indian Ocean seafloor at 5300m water depth. Compositionally similar to high-Mg australites and microtektites in deep-sea sediment from Indian Ocean, suggesting Australian tektite field also covers most of Indian Ocean)*

Gopala Rao, D., K.S. Krishna, A.I. Pillipenko, V. Subrahmanyam, V.I. Dracheva & N.F. Exon (1994)- Tectonic and sedimentary history of the Argo Abyssal Plain, eastern Indian Ocean, AGSO *J. Australian Geol. Geophysics* 15, p. 165-176.

(online at: [https://d28rz98at9flks.cloudfront.net/81389/Jou1994\\_v15\\_n1\\_p165.pdf](https://d28rz98at9flks.cloudfront.net/81389/Jou1994_v15_n1_p165.pdf))

*(Argo Abyssal plain early emplacement of oceanic crust and volcanic edifices in Late Jurassic and E Cretaceous, followed by cooling and marked subsidence until Miocene)*

Grevemeyer, I., E.R. Flueh, C. Reichert, J. Bialas, D. Klaschen & C. Kopp (2001)- Crustal architecture and deep structure of the Ninetyeast Ridge hotspot trail from active-source ocean bottom seismology. *Geophysical J. Int.* 144, p. 414-431.

*(550km long seismic reflection and refraction transect across Ninetyeast Ridge, Indian Ocean, which was created between ~90- 38 Ma above Kerguelen mantle plume. Normal oceanic crust W and E of ridge/ edifice, with crustal thickness average 6.5- 7 km. Crust under ridge bent downward by loading, and hotspot volcanism underplated pre-existing crust, leading to crustal thickness up to ~24km. Underplating continued to E under Wharton Basin)*

Hall, C.M. & J.W. Farrell (1995)- Laser  $^{40}\text{Ar}/^{39}\text{Ar}$  ages of tephra from Indian Ocean deep-sea sediments: Tie points for the astronomical and geomagnetic polarity time scales. *Earth Planetary Sci. Letters* 133, 3/4, p. 327-338.

*(Two Neogene ash layers from ODP Site 758 (Ninetyeast Ridge) dated by laser  $^{40}\text{Ar}$   $^{39}\text{Ar}$ . Ash-D (= possible 'Old Toba Tuff') age of  $800 \pm 20$  ka, consistent with 780 ka age of overlying Brunhes-Matuyama transition and age for oxygen isotope stage 19.1. Ash-I, near top of Nunivak subchron possible eruption age of  $4.43 \pm .03$  Ma)*

Hoernle, K., F. Hauff, R. Werner, P. van den Bogaard, A.D. Gibbons, S. Conrad & R.D. Muller (2011)- Origin of Indian Ocean Seamount Province by shallow recycling of continental lithosphere. *Nature Geoscience* 4, p. 883-887.

*(Seamounts in Christmas Island Seamount Province in NE Indian Ocean not linear trail of volcanoes and unlikely formed above mantle plume or fracture zone. Ages of seamounts 47-136 Ma, decreasing from E to W and 0-25 Myr younger than underlying oceanic crust, consistent with formation near mid-ocean ridge. Enriched geochemical signal indicates recycled continental lithosphere in source. Seamount province formed where W Burma began separating from Australia-India in Late Jurassic, forming new mid-ocean ridge. Seamounts formed through shallow recycling of delaminated continental lithosphere in mantle that was passively upwelling beneath mid-ocean ridge)*

Holbourn, A.E.L. & M.A. Kaminski (1995)- Lower Cretaceous benthic foraminifera from DSDP Site 263: micropalaeontological constraints for the early evolution of the Indian Ocean. *Marine Micropaleontology* 26, p. 425-460 .

*(NW Australian margin DSDP Site 263 E Cretaceous with 66 agglutinated and 31 calcareous taxa: Three assemblages: (1) high-diversity Valanginian-Barremian *Bulbobaculites-Recurvoides*; (2) moderately diverse Aptian-Albian *Rhizammina-Ammodiscus-Glomospira*; (3) low diversity Albian-younger of sparse agglutinants, nodosariids and rotaliids. Shelf- lower slope assemblages, deepening after initial breakup of E Gondwana margin in Valanginian. Absence of many cosmopolitan forms suggests faunal differentiation in Austral realm)*

Jacob, J., J. Dymant & V. Yatheesh (2014)- Revisiting the structure, age, and evolution of the Wharton Basin to better understand subduction under Indonesia. *J. Geophysical Research, Solid Earth*, 119, 1, p. 169-190.

*(Large part of Wharton Basin of N Indian Ocean presently missing, subducted under Indonesia. Gravity and magnetic anomalies show basin characterized by fossil spreading ridge (which became inactive in Late Eocene; ~36.5 Ma), offset by N-S fracture zones. Magnetic anomalies 18-34 (38-84 Ma) identified on both flanks)*

Krishna, K.S., D.G. Rao, M.V. Ramana, V. Subrahmanyam, K.V.L.N.S. Sarma, A. I. Pilipenko, V.S. Sheherbakov & I.V.R. Murthy (1995)- Tectonic model for the evolution of oceanic crust in the northeastern Indian Ocean from the Late Cretaceous to the Early Tertiary. *J. Geophysical Research, Solid Earth*, 100, B10, p. 20011-20024.

Kuznetsova, K.I. (1974)- Distribution of benthonic foraminifera in Upper Jurassic and Lower Cretaceous deposits at Site 261, DSDP Leg 27, in the Eastern Indian Ocean. In: J.J. Veevers et al. (eds.) *Initial Reports Deep Sea Drilling Project (DSDP) 27*, p. 673-681.

*(Latest Jurassic(?)- E Cretaceous foraminifera from Argo abyssal plain DSDP site 261 suggest gradual basin deepening with time and increase in agglutinated forms)*

Ludden, J.N. & B. Dionne (1992)- The geochemistry of oceanic crust at the onset of rifting in the Indian Ocean. In: F.M. Gradstein et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Res.* 123, p. 791-799.

(online at: [www-odp.tamu.edu/Publications/123\\_SR/VOLUME/CHAPTERS/sr123\\_42.pdf](http://www-odp.tamu.edu/Publications/123_SR/VOLUME/CHAPTERS/sr123_42.pdf))

*(Basalts of ODP Sites 765 and 766 erupted on NW Australian continental margin at onset of rifting of Indian Ocean at 155Ma. Geochemically distinct from those erupting at present Mid-Indian Ocean Ridge. Isotope characteristics of Site 765 basalts similar to present-day Mid-Indian Ocean Ridge basalts. Indian Ocean mantle domain distinct from Pacific Ocean since Jurassic. (Stagg et al. 1999: K-Ar age of basaltic hyaloclastite directly above basaltic basement at SE Argo Abyssal Plain Site 765 gave  $155.3 \pm 3.4$  Ma age (~Kimmeridgean), older than Valanginian/E Cretaceous age suggested by oldest overlying sediment))*

Mahoney, J.J., R. Frei, M.L.G. Tejada, X.X. Mo, P.T. Leat & T.F. Nagler (1998)- Tracing the Indian Ocean mantle domain through time: isotopic results from old West Indian, East Tethyan, and South Pacific seafloor. *J. Petrology* 39, p. 1285-1306.

(online at: <http://petrology.oxfordjournals.org/content/39/7/1285.full.pdf+html>)

*(Isotopic difference between modern Indian Ocean and Pacific or N Atlantic Ocean ridge mantle (e.g. lower  $^{206}\text{Pb}/^{204}\text{Pb}$  for a given  $e\text{Nd}$  and  $^{208}\text{Pb}/^{204}\text{Pb}$ ) could reflect processes that occurred before initial breakup of Gondwana. Alternatively, Indian Ocean isotopic signature could be more ancient upper mantle feature inherited from asthenosphere of E Tethyan Ocean, which formerly occupied much of present Indian Ocean region)*

Matthews, K.J., R.D. Muller & D.T. Sandwell (2016)- Oceanic microplate formation records the onset of India-Eurasia collision. *Earth Planetary Sci. Letters* 43, p. 204-214.

*(Seafloor tectonic fabric in Indian Ocean from satellite gravity gradient data reveals extinct Pacific-style oceanic microplate ('Mammerickx Microplate') W of 90E Ridge. Formed at Indian- Antarctic ridge, during chron 21n(o) (~47.3Ma; around E-M Eocene boundary). With rotated abyssal hill fabric. Probably plate reorganization linked to India-Eurasia collision (initial 'soft' collision))*

Mutterlose, J. (1992)- Early Cretaceous belemnites from the East Indian Ocean and their paleobiogeographic implications In: F.M. Gradstein et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results*, 123, p. 443-450.

(online at: [www-odp.tamu.edu/publications/123\\_SR/VOLUME/CHAPTERS/sr123\\_22.pdf](http://www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_22.pdf))

*(ODP Holes 761B-766A (Legs 122-123) off NW Australia Exmouth Plateau yielded Lower Cretaceous (Berriasian-Hauterivian) belemnites, including Belemnopsis cf. jonkeri, Belemnopsis ex gr. moluccana s.l., Hibolithes and Duvalia. Assemblages close affinities to Belemnopsis moluccana group from Indonesia and included in Neocomian Indo-Pacific Subprovince of Tethyan Realm)*

Norton, I.O. & J.G. Sclater (1979)- A model for the evolution of the Indian Ocean and the breakup of Gondwanaland. *J. Geophysical Research* 84, p. 6803-6830.

*(Magnetic anomaly and fracture zone information used to develop tectonic history of Indian and S Atlantic oceans and positions of Gondwana continents back to 115 Ma. Incl. Eocene separation between Australia and Antarctica with Australia joining Indian plate)*

Olierook, H.K.H., R.E. Merle, F. Jourdan, K. Sircombe, G. Fraser, N.E. Timms, G. Nelson, K.A. Dadd, L. Kellerson & Borissova (2015)- Age and geochemistry of magmatism on the oceanic Wallaby Plateau and implications for the opening of the Indian Ocean. *Geology* 43, 11, p. 971-974.

*(Plagioclase and zircon dating indicate that portion of the Wallaby Plateau off W Australia formed at ~124 Ma (E Aptian), i.e. >6 My younger than oldest oceanic crust in adjacent abyssal plains. Eruption made possible at 124 Ma via opening of Indian Ocean during breakup of Greater India and Australia along Wallaby-Zenith FZ)*

Pattan, J.N., N.J.G. Pearce, G. Parthiban, V.C. Smith, A.V. Mudholkar & N.R. Rao (2013)- The origin of ferromanganese oxide coated pumice from the Central Indian Ocean Basin. *Quaternary Int.* 313-314, p. 230-239.

*(Pumice clasts coated with ferro-manganese oxide from pumice field on C Indian Ocean floor with ~95% glassy matrix, rhyolitic. Glass and mineral (orthopyroxene) chemistry differs from tuffs of Toba Caldera Complex. Fe-Mn oxide coating suggests pumice probably predates activity from Toba caldera. Similarities to rhyolitic eruptives from Sumatra and possibly of Late Miocene- Late Pleistocene age)*

- Pattan, J.N., M.S. Prasad & E.V.S.S.K. Babu (2010)- Correlation of the oldest Toba Tuff to sediments in the central Indian Ocean Basin. *J. Earth System Science* 119, 4, p. 531-539.  
(online at: [www.ias.ac.in/article/fulltext/jess/119/04/0531-0539](http://www.ias.ac.in/article/fulltext/jess/119/04/0531-0539))  
(Ash layer in association with Australasian microtektites of ~0.77 Ma old in two sediment cores ~450 km apart in C Indian Ocean, ~3100 km SW of Toba caldera. Chemically identical to Ash layer-D in ODP site 758 from Ninetyeast Ridge and ash in S China Sea, previously correlated to oldest(?) Toba Tuff eruptions of Toba caldera, Sumatra)
- Pattan, J.N., P. Shane & V.K. Banakar (1999)- New occurrence of Youngest Toba Tuff in abyssal sediments of the Central Indian Basin. *Marine Geology* 155, 243-248.
- Pattan, J.N., P. Shane, N.J.G. Pearce, V.K. Banakar & G. Parthiban (2001)- An occurrence of ~74 ka Youngest Toba tephra from the western continental margin of India. *Current Science* 80, 10, p. 1322-1326.  
(online at: [http://drs.nio.org/drs/bitstream/2264/267/1/Curr\\_Sci\\_80\\_1322.pdf](http://drs.nio.org/drs/bitstream/2264/267/1/Curr_Sci_80_1322.pdf))  
(Dispersed volcanic ash layer in core from 2300m water depth on W continental margin of India. Composition of glass shards indistinguishable from of Youngest Toba ash of ~74 ka, N Sumatra)
- Powell, T.S. & B.P. Luyendyk (1982)- The sea-floor spreading history of the eastern Indian Ocean. *J. Marine Geophysical Res.* 5, 3, p. 225-247.  
(*E Indian Ocean between NW Australia and Java Trench two rifting/ sea-floor spreading events: Late Jurassic in Argo Abyssal Plain, followed by Early Cretaceous spreading in Cuvier and Perth Abyssal Plains*)
- Prasad, M.S. (1994)- New occurrences of Australasian microtektites in the Central Indian Basin. *Meteoritics Planetary Science* 29, 1, p. 66-69.
- Prasad, M.S., S.M. Gupta & V.N. Kodagali (2003)- Two layers of Australasian impact ejecta in the Indian Ocean? *Meteoritics Planetary Science* 38, 9, 1373-1381.  
(*Flanged button tektite on Indian Ocean floor, at shallower level than ~750 ka microtektite horizon at 60-125mm below ocean floor*)
- Prasad M.S., V.P. Mahale & V.N. Kodagali (2007)- New sites of Australasian microtektites in the Central Indian Ocean: implications for the location and size of source crater. *J. Geophysical Research- Planets* 102, E6, E06007, p. 1-11.  
(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2006JE002857/epdf>)  
(*Fifteen new Australasian microtektite sites in C Indian Ocean, now to 61 microtektite sites in oceans. Contours joining highest values of square of correlation coefficient of all known data sites define source area in NE Thailand- C Laos (18° N and 104 °E. Calculated crater diameter 33-120 km)*)
- Prasad, M.S. & M. Sudakhar (1999)- Australian minitektites discovered in the Indian Ocean. *Meteoritics Planetary Science* 34, p. 179-184.  
(*Box core samples in Indian Ocean yied minitektites (>1-3.75 mm long), occurring with microtektites belonging to 0.77 Ma Australasian tektite strewn field*)
- Qin, Y. & S.C. Singh (2015)- Seismic evidence of a two-layer lithospheric deformation in the Indian Ocean. *Nature Communications* 6, 8298, 12p.  
(online at: [www.nature.com/articles/ncomms9298](http://www.nature.com/articles/ncomms9298))  
(*Wharton Basin in Indian Ocean with active intra-plate deformation, with earthquakes rupturing entire lithosphere. In Wharton Basin direction of maximum stress is NW-SE, and deformation is accommodated along N5°E-trending re-activated fracture zones with left-lateral strike-slip movements. Seismic reflection profiles show faults down to 45 km depth. Lithospheric mantle deformation divided into two layers: upper fractured fluid-filled serpentized layer and lower pristine brittle lithospheric mantle where great earthquakes initiate*)
- Robinson, P.T. & D.J. Whitford (1974)- Basalt from the Eastern Indian Ocean, DSDP Leg 27. In: J.J. Veivers et al. (eds.) *Initial Reports Deep Sea Drilling Project (DSDP) 27*, p. 551-559.

(online at: [www.deepseadrilling.org/27/volume/dsdp27\\_26.pdf](http://www.deepseadrilling.org/27/volume/dsdp27_26.pdf))

*(Basalt recovered from Perth, Argo, and Gascoyne abyssal plains. Late Jurassic-Cretaceous age basalts at Sites 259 and 261 quartz-normative tholeiites and olivine tholeiites, chemically similar to ocean ridge basalts, representing ancient oceanic crust formed during early rifting off W Australia. Basalt sills at Site 260, 261 postdate E-M Albian sediments and represent younger intraplate activity)*

Sager, W.W., L.G. Fullerton, R.T. Buffler & D.W. Handschuhmacher (1992)- Argo Abyssal Plain lineations revisited: implications for the onset of seafloor spreading and tectonic evolution of the eastern Indian Ocean. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 123, p. 659-669.

(online at: [www-odp.tamu.edu/publications/123\\_SR/VOLUME/CHAPTERS/sr123\\_36.pdf](http://www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_36.pdf))

*(Oldest magnetic anomalies of oldest oceanic crust of Argo Abyssal Plain variously interpreted as Late Jurassic or earliest Cretaceous (20 My difference). Preferred model is Late Jurassic age, oldest lineament M26 (163 Ma, ~Callovian))*

Sandiford, M., D. Coblenz & W.P. Schellart (2005)- Evaluating slab-plate coupling in the Indo-Australian plate. *Geology* 33, 2, p. 113-116.

*(Seismicity in C Indian Ocean used to evaluate extent of slab-plate coupling in Indo-Australian plate. Effective slab pull < ~10% of total negative buoyancy operating on subducting slab)*

Scheibnerova, V. (1974)- Aptian-Albian benthonic foraminifera from DSDP Leg 27, Sites 259, 260 and 263, Eastern Indian Ocean. In: J.J. Veevers & J.R. Heirtzler (eds.) Initial Reports Deep Sea Drilling Project (DSDP) 27, p. 697-741.

(online at: [www.deepseadrilling.org/27/volume/dsdp27\\_36.pdf](http://www.deepseadrilling.org/27/volume/dsdp27_36.pdf))

*(Lower Cretaceous benthic foraminifera from Leg 27 (Sites 259, 260, 263) off Exmouth Plateau, NW Australia, all in same paleogeographic province as coeval sediments on adjacent continents Australia, India and S Africa, i.e. non-tropical Austral bioprovince)*

Scheibnerova, V. (1977)- Synthesis of the Cretaceous benthic foraminifera recovered by the Deep Sea Drilling Project in the Indian Ocean. In: J.R. Heirtzler et al. (eds.) Indian Ocean geology and biostratigraphy; studies following Deep-Sea Drilling legs 22-29, American Geophys. Union (AGU), Spec. Publ. 9, p. 585-597.

(online at: [www.agu.org/books/sp/v009/SP009p0585/SP009p0585.pdf](http://www.agu.org/books/sp/v009/SP009p0585/SP009p0585.pdf))

Scheibnerova, V. (1978)- Some Cretaceous foraminifera from Leg 26 of the DSDP in the Indian Ocean. *BMR Bull. Australian Geol. Geophysics* 192 (Crespin volume), p. 137-163.

(online at: [https://d28rz98at9flks.cloudfront.net/68/Bull\\_192.pdf](https://d28rz98at9flks.cloudfront.net/68/Bull_192.pdf))

*(64 species of planktonic and benthic foraminifera mainly from Site 258, Naturaliste Plateau. Mostly Albian, with some species of Late Cretaceous (Cenomanian-Campanian) ages. Almost all species also known from other parts of Austral biogeoprovince)*

Singh, S.C., H. Carton, A.S. Chauhan, S. Androvandi, A. Davaille, J. Dymant, M. Cannat & N.D. Hananto (2011)- Extremely thin crust in the Indian Ocean possibly resulting from plume-ridge interaction. *Geophysical J. Int.* 184, 1, 2942, p. 29-42.

(online at: <https://academic.oup.com/gji/article/184/1/29/606196>)

*(Thickness of crust created at ocean spreading centres depends on spreading rate and melt production in mantle. It is ~5-8 km for crust formed at slow and fast spreading centres and 2-4 km at ultra-slow spreading centres away from hotspots and mantle anomalies. Crust is generally thin at fracture zones and thick beneath hotspots and large igneous provinces. Crust generated at fast Wharton spreading centre at 55-58 Ma only 3.5-4.5 km thick over 200 km segment of Wharton Basin as suggested by interpreted Moho on seismic reflection and refraction data. This is thinnest crust ever observed in fast spreading environment, and likely formed by interaction between Kerguelen mantle plume and Wharton spreading centre at ~55 Ma)*

Stein, C.A., S. Cloetingh & R. Wortel (1989)- Seasat-derived gravity constraints on stress and deformation in the northeastern Indian Ocean. *Geophysical Research Letters* 16, p. 823-826.

Taneja, R. & C. O'Neill (2014)- Constraining the age and origin of the seamount province in the Northeast Indian Ocean using geophysical techniques. *Marine Geophysical Res.* 35, 4, p. 395-417.

*(Christmas Island Seamount Province S of Java-Sunda Trench with numerous submerged volcanic seamounts, and Cocos (Keeling) and Christmas Islands. Regional gravity model of crustal structure under Cocos (Keeling) Island constrain thickness of limestone to 900-2100m. Pliocene episode of volcanism at Christmas Island from flexure-induced cracks in subduction fore-bulge, Eocene phase associated with low velocity seismic zone rising from lower mantle. Modelling also supports existence of older, undated volcanic core to Christmas Island)*

Taneja, R., C. O'Neill, M. Lackie, T. Rushmer, P. Schmidt & F. Jourdan (2015)-  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronology and the paleoposition of Christmas Island (Australia), Northeast Indian Ocean. *Gondwana Research* 28, 1, p. 391-406.

*(Christmas Island episodes of volcanism: (1) Eocene (43-37 Ma), (2) Pliocene (4.3 Ma), (3) possible unexposed Late Cretaceous event. Late Eocene (38-39 Ma) paleomagnetic data suggest paleolatitude of  $43.5^{\circ} \pm 10^{\circ}$  S, further S ( $\sim 30^{\circ}$  S) than existing plate reconstruction models. Pliocene ( $\sim 4$  Ma) paleolatitude of  $\sim 13^{\circ}$  S. Late Eocene ages at Christmas Island correlate with cessation of spreading of Wharton Ridge ( $\sim 43$  Ma))*

Trueman, N.A. (1965)- The phosphate, volcanic and carbonate rocks of Christmas Island (Indian Ocean). *J. Geol. Soc. Australia* 12, 2, p. 261-283.

*(Christmas Island consists of interbedded volcanic and carbonate rocks, mainly of Eocene and Miocene age. Volcanic rocks successively more basic, varying from andesite to limburgite. Phosphate deposits three main mineral groups: apatite, barrandite and crandallite-millisite)*

### **IX.15. NW Australia margin**

Abbassi, S., S.C. George, D.S. Edwards, R. di Primio, B. Horsfield & H. Volk (2014)- Generation characteristics of Mesozoic syn- and post-rift source rocks, Bonaparte Basin, Australia: new insights from compositional kinetic modelling. *Marine Petroleum Geol.* 50, p. 148-165.

Abbassi, S., B. Horsfield, S.C. George, D.S. Edwards, H. Volk & R. di Primio (2014)- Geochemical characterisation and predicted bulk chemical properties of petroleum generated from Jurassic and Cretaceous source rocks in the Vulcan Sub-basin, Bonaparte Basin, North West Shelf of Australia. *Organic Geochem.* 76, p. 82-103.

*(Mesozoic source rocks in Vulcan Sub-basin of Bonaparte Basin contain Types II, II/III and III kerogen. In Vulcan Sub-basin, marine Lw Cretaceous Echuca Shoals Fm and U Jurassic-Lower Cretaceous U Vulcan Fm fair- moderate quality organic matter and marginally mature. Marine M-U Jurassic lower Vulcan and fluvio-deltaic Lw-M Jurassic Plover Fms good quality organic matter and mature for hydrocarbon generation)*

Abbassi, S., R. di Primio, B. Horsfield, D.S. Edwards, H. Volk, Z. Anka & S C. George (2015)- On the filling and leakage of petroleum from traps in the Laminaria High region of the northern Bonaparte Basin, Australia. *Marine Petroleum Geol.* 59, p. 91-113.

*(3D petroleum systems model of N Bonaparte Basin indicates potential Nancar Trough source kitchen could be expelling hydrocarbons from numerous Jurassic source rocks into traps on Laminaria High. Lower Cretaceous Echuca Shoals Fm immature for hydrocarbon generation in this region. Hydrocarbon generation in Nancar Trough started in Early Cretaceous, in response to elevated heat flow during syn-rift phase. Second and main phase of generation started in M Eocene and is ongoing)*

Abbott, S.T., D. Caust, N. Rollet, M.E. Lech, R. Romeyn, K. Romine, K. Khider & J. Blevin (2016)- Seven Cretaceous low-order depositional sequences from the Browse Basin, North West Shelf, Australia: a framework for CO<sub>2</sub> storage studies. In: AAPG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Art. 51224, 26p.

*(online at: [www.searchanddiscovery.com/documents/2016/51224abbott/ndx\\_abbott.pdf](http://www.searchanddiscovery.com/documents/2016/51224abbott/ndx_abbott.pdf))*

*(Seismic stratigraphy of Browse Basin Cretaceous. Seven main depositional sequences, controlled by tectonic events associated with separation of Greater India and Antarctica from Australia. Main direction of progradation from WNW in E Cretaceous and from N in Late Cretaceous. Sequence K10 (late Tithonian- E Valanginian) sand-rich, deltaic package that includes distinctive lowstand wedge)*

Abbott, S.T., K. Khider, A. Kelman & K. Romine (2016)- Facies architecture of the K10 supersequence in the Browse Basin: when sequence stratigraphy meets lithostratigraphy. APPEA 56th Conf. Exhib., Brisbane, The APPEA J. 56, 2, p. 568-.

*(Sequence stratigraphic mapping of K10 supersequence (Berriasian-Valanginian; Brewster Mb). Deposition of K10 started at onset of rifting between Greater India and N Carnarvon Basin. Sediment sourced from uplifted areas resulted in deposition of Barrow Delta in Exmouth and Barrow sub-basins and smaller K10 sand-rich progradational sequence in Caswell subbasin. Gas reservoir in Ichthys-Prelude and Burnside fields)*

Adamson, K.R., S.G. Lang, N.G. Marshall, R.J. Seggie, N.J. Adamson & K.L. Bann (2013)- Understanding the Late Triassic Mungaroo and Brigadier deltas of the Northern Carnarvon Basin, North West Shelf, Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, 29 p

AGSO NW Shelf Study Group (1994)- Deep reflections on the North West Shelf: changing perceptions of basin formation. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth 1994, p. 63-76.

*(Australian NW shelf main basin forming events: (1) Late Devonian- E Carboniferous extension, creating NE trending Fitzroy Trough and Petrel Basin; (2) mid-Carboniferous- E Permian major extension, creating Westralian superbasin with thick Permo-Triassic 'sag-phase' deposits; (3) Late Triassic- E Jurassic transpressional reactivation creating M-L Jurassic source rock depocenters and uplifting adjacent blocks)*

Al-Hinaai, J. & J. Redfern (2014)- The late Carboniferous basal Grant Group unconformity, Canning Basin, Australia: a complex surface recording glacial tectonic and halotectonic processes. *Australian J. Earth Sci.* 61, 5, p. 703-717.

*(Relief on basal Permian Base Grant Group angular unconformity in Canning Basin, with steep-sided, often U-shaped NE-SW trending paleovalleys, up to 525m deep, 12 km wide. Surface modified during Triassic-Jurassic Fitzroy Movement, resulting in fault reactivation and en-echelon wrench-related anticlines. 'Sombbrero structures': Silurian fill of depressions, turned into mounds after withdrawal of Late Ordovician salt)*

Al-Hinaai, J. & J. Redfern (2015)- Tectonic and climatic controls on the deposition of the Permo-Carboniferous Grant Group and Reeves Formation in the Fitzroy Trough, Canning Basin, Western Australia. *Marine Petroleum Geol.* 59, p. 217-231.

*(Angular unconformity at base Reeves Fm, recording M Carboniferous Meda Transpressional Movement, separates two extensional phases in Canning Basin. Extensional faulting ceased before deposition of Permian Grant Group. Sakmarian Grant Gp subdivision partly climate-controlled: glacially eroded Base Grant Group unconformity overlain by glacial facies. Deglaciation and relative rise in base level gave rise to middle mudstone unit of Calytrix Fm. Absence of glacial signature in upper Clianthus Fm reflects waning ice sheet)*

Ambrose, G.J. (2004)- Jurassic sedimentation in the Bonaparte and northern Browse basins: new models for reservoir- source rock development, hydrocarbon charge and entrapment. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geol. Survey, p. 125-142.

Ambrose, G. (2006)- Untested hydrocarbon column in Thornton-1 in the Timor Sea encourages a Plover deep oil play. *PESA News* 80, p.

*(Plover Unit C lower delta plain coaly probably good source facies; Possible thin oil-bearing sands in Plover Unit B in Thornton 1 (= below Toarcian mfs))*

Amir, V., R. Hall & C.F. Elders (2010)- Structural evolution of the Northern Bonaparte Basin, Northwest Shelf Australia. *Proc. 34<sup>th</sup> Ann. Conv. Indon. Petroleum Assoc.*, IPA10-G-210, 17p.

*(Structural interpretation of N Bonaparte Sahul Platform-Laminaria High from 3D seismic. Three main stages: (1) M Triassic? extension (NNE-SSW trending normal faults); (2) Late Jurassic-Early Cretaceous rifting (breakup event; E-W to ENE-WSW trending normal faults); and (3) Neogene Australia-Banda Arc continental collision in Timor (NE-SW trending faults). Late Jurassic extension was about half that of Triassic rift phase)*

Anderson, A.D., M.S. Durham & A.J. Sutherland (1993)- The integration of geology and geophysics to post-well evaluations- example from Beluga 1, offshore N Australia. *Australian Petrol. Explor. Assoc. (APEA) J.* 33, 1, p. 15-21.

Apthorpe, M. (1988)- Cainozoic depositional history of the North West Shelf. In: P.G. & R.R. Purcell (eds.) *The Northwest Shelf of Australia. Proc. Petroleum Expl. Soc. Australia (PESA), NW Shelf Symposium, Perth 1988.*

Apthorpe, M.C. (1979)- Depositional history of the Upper Cretaceous of the Northwest Shelf based upon foraminifera. *Australian Petrol. Explor. Assoc. (APEA) J.* 19, 1, p. 74-89.

Apthorpe, M. (1994)- Towards an Early to Middle Jurassic palaeogeography for the North West Shelf: A marine perspective. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 201-210.*

*(Summary of E-M Jurassic (Hettangian- Bathonian) marine sequences in 19 petroleum exploration wells across NW Shelf. Six marine pulses recognised, and their distribution indicated. Deposited at no greater than shelf water depths, but faunal similarities with Europe, etc., suggest contact with waters of Neo-Tethys Ocean)*

Apthorpe, M. (2003)- Early to lowermost Middle Triassic Foraminifera from the Locker Shale of Hampton-1 well, Western Australia. *J. Micropalaeontology* 22, 1, p. 1-27.

*(online at: <https://www.j-micropalaeontol.net/22/1/2003/jm-22-1-2003.pdf>)*

*(Marine smaller foraminifera from 350m shale section from upper Lower Triassic to lowermost M Triassic (Spathian-Lower Anisian) in Hampton 1 well, Carnarvon Basin. Differs from coeval fauna from same area (Heath & Apthorpe, 1986). New fauna contains some 'Tethyan' genera, previously recorded from S China and Alps, including Duostomina, Krikoumbilica, Gsollbergella, Trocholina, Endothyra and Endothyranella)*

Archbold, N.W. (1983)- Studies on Western Australian Permian brachiopods 3. The Family Linoproductidae Stehli 1954. Proc. Royal Soc. Victoria 95, 4: p. 237-254.  
*(Incl. Productus spp., Globiella foordi, Globiella flexuosa, etc.)*

Archbold, N.W. (1988)- Permian brachiopoda and bivalvia from Sahul Shoals No. 1, Ashmore Block, Northwestern Australia. Proc. Royal Soc. Victoria 100, p. 33-38.  
*(Brachiopod- bivalve fauna of Late Permian fine, light-grey, biomicrite limestone in Sahul Shoals 1 well, off NW Australia: Streptorhynchid fragments, Waagenoconcha, Neospirifer, Elival sp., Gjelispinifera sp., Etheripecten and Cyrtorostra. Fauna interpreted to indicate paleogeographic proximity of Late Permian Sahul Shoals limestone and Maubisse Fm of Timor (but Permian brachiopod provinciality rel. poorly defined?; JTvG))*

Archbold N.W. (1998)- Correlations of the Western Australian Permian and Permian Ocean circulation patterns. Proc. Royal Soc. Victoria. 110, 1-2, p. 85-106.  
*(18 brachiopod zones in Permian, but only 4 in Bonaparte Basin; speculations on Permian paleo-circulation)*

Archbold N.W. (1998)- Marine biostratigraphy and correlation of the West Australian Permian basins. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium 2, p. 141-151.  
*(Marine Permian strata of onshore Perth, Carnarvon, Canning and Bonaparte basins traditionally correlated by means of marine invertebrate faunas. Brachiopods in particular evolved rapidly and were abundant in W Australian marine Permian. An integrated sequence of 17 brachiopod zones ranging in age from E Permian (Asselian) to Late Permian (Dzhulfian) occurs in W Australia)*

Archbold, N.W. (2000)- Palaeobiogeography of the Australasian Permian. Mem. Assoc. Australasian Palaeont. 23, p. 287-310.  
*(In Permian present Australian continent was part of E Gondwana which itself was S region of Pangaea. Australia was surrounded by elements of New Zealand to the E and SE, New Caledonia to the SE, Irian Jaya to the N, Timor and the Cimmerian continental fragments to the NW, S Tibet, the Himalaya and Peninsular India to the W and SW and Antarctica to the S.)*

Archbold, N.W. & J.M. Dickins (1991)- Australian Phanerozoic time scales, 6. Permian. Bureau Mineral Res. Geol. Geoph., Record 1989/36, p. 1-18.  
*(online at: [www.ga.gov.au/corporate\\_data/14384/Rec1989\\_036.pdf](http://www.ga.gov.au/corporate_data/14384/Rec1989_036.pdf))  
(Australian and Tethyan time scales and biozonations for Permian))*

Archbold, N.W. & J.M. Dickins (1996)- Permian. In: G.C. Young & J.R. Laurie (eds.) An Australian Phanerozoic time scale, Chapter 6, Oxford University Press, p. 127-135.

Archbold, N.W., J.M. Dickins & G.A. Thomas (1993)- Correlation and age of marine Permian formations of Western Australia. In: S.K. Skwarko (ed.) Palaeontology of the Permian of Western Australia. Geol. Survey West. Australia Bull. 136, p. 11-18.

Archbold, N.W., J. M. Dickins & G.A. Thomas (1993)- Correlation and age of Permian marine faunas in Western Australia. Geol. Survey Western Australia Bull. 136, p. 11-18.

Archbold, N.W. & T. Hogeboom (2000)- Subsurface brachiopoda from borehole cores through the Early Permian sequence of the Carnarvon Basin, Western Australia: correlations with palynological biostratigraphy. Proc. Royal Soc. Victoria 112, p. 93-109.

*(Early Permian brachiopods from five wells in onshore Carnarvon Basin, tied to spore-pollen zonation)*

Arditto, P.A. (1996)- A sequence stratigraphic study of the Callovian fluvio-deltaic to marine succession within the ZOCA region. Australian Petroleum Prod. Expl. Assoc. (APPEA) J. 36, p. 269-283.

*(Callovian marine succession (Elang Fm) across area 'A' of Zone of Cooperation (ZOCA) in Timor Sea coastal plain- nearshore marine section with three 3rd-order sequences: (1) base of oldest sequence in Plover Fm, and corresponds to Wanaea digitata/W. indotata zone boundary. Callovian Unconformity is 3rd-order sequence boundary or disconformity)*

Arevalo-Lopez, H.S. & J.P. Dvorkin (2017)- Rock-physics diagnostics of a turbidite oil reservoir offshore northwest Australia. Geophysics 82, 1, p. MR1-MR13.

*(Rock physics data from 4 wells in offshore Stybarrow field oil reservoir, Exmouth Basin, 65 km offshore NW Australia. Reservoir composed of turbiditic sandstones interbedded with claystones of E Cretaceous (Valanginian- Berriasian) age)*

Backhouse, J. (1988)- Late Jurassic and Early Cretaceous palynology of the Perth Basin, Western Australia. Bull. Geol. Survey Western Australia 135, p. 1-233.

Backhouse, J. (1990)- Permian palynostratigraphic correlations in south-western Australia and their geological implications. Review Palaeobotany Palynology 65, p. 229-237.

*(In Collie basin, SW Australia, Stockton Fm tillitic unit, overlain by Collie Coal Measures. Palynoflora at transition Stockton-Collie in Granulatisporites confluens Oppel zone, which also contains Protohaploxylinus limpidus. It is overlain by Pseudoreticulatispora pseudoreticulata zone, etc.. In Perth Basin at least 1620m of Permian coal measures, overlain by 243m of sandstone without coals)*

Backhouse J. (1991)- Permian palynostratigraphy of the Collie Basin, Western Australia. Review Palaeobotany Palynology 67, p. 237-314.

Backhouse, J. (1998)- Palynological correlation of the Western Australian Permian. In: G.R. Shi, N.W. Archbold & M. Grover (eds.) Strzelecki Int. Symp. Permian of eastern Tethys: biostratigraphy, palaeogeography and resources. Proc. Royal Soc. Victoria. 110, p. 107-114.

*(10 palynozones in Permian Canning, Carnarvon, Perth, Bonaparte Basins)*

Backhouse, J. & B.E. Balme (2002)- Late Triassic palynology of the Northern Carnarvon Basin. Minerals and Energy Research Inst. Western Australia, Report 226, p. 1-168.

*(Revised regional palynological zonal scheme for Late Triassic. With formal subzones for N Carnarvon Basin, and high-resolution correlation for wells on Rankin Trend)*

Backhouse, J., B.E. Balme, R. Helby, N.G. Marshall & R. Morgan (2002)- Palynological zonation and correlation of the latest Triassic, Northern Carnarvon Basin. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 179-201.

*(Revised Norian-Rhaetian palynological zonation for NW Shelf (spores-pollen and dinocysts). Five significant palynofloral bioevents)*

Bailey, W.R., J. Underschultz, D.N. Dewhurst, G. Kovack, S. Mildren & M. Raven (2006)- Multi-disciplinary approach to fault and top seal appraisal; Pyrenees-Macedon oil and gas fields, Exmouth Sub-basin, Australian NW Shelf. Marine Petroleum Geol. 23, 2, p. 241-259.

*(Pyrenees-Macedon fields in Exmouth subbasin of N Carnarvon Basin currently underfilled relative to available closure despite being regional focal point for Cretaceous- Recent charge. Vertical leakage may have controlled column heights, possibly via dynamic failure along pre-existing faults and conductive fractures, and lateral leakage across reservoir against thief zone fault juxtapositions)*

Baillie, P.W. & E. Jacobson (1995)- Structural evolution of the Carnarvon Terrace, Western Australia. The APEA Journal 35, 1, p. 321-332.

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*Jurassic- Cretaceous cap rocks. Gas accumulations mostly trapped by fault seal in thin sands, and originated from overmature source sequence, possibly Permian or Lower Triassic shale)*

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*(Permian/Carboniferous- Neocomian rifting along NE Gondwanaland transformed intracratonic basin along E Tethyan continental margin to new passive margin along NW Australia, fronting new Indian Ocean. Subsequent sedimentation thin (starved passive margin). Eight seismic stratigraphic packages of three clastic depositional wedges and carbonate blanket deposit. Evolution: (1) intracratonic sedimentation (Norian-Rhaetian), (2) rift*

onset and initial breakup (Hettangian-Calloviaan), (3) second rift to final breakup (Calloviaan-Hauterivian), (4) postbreakup and rift to drift transition (Hauterivian-Cenomanian), and (5) mature ocean phase to incipient collision (Turonian-Holocene). Hauterivian age of breakup on S Exmouth Plateau corresponds with uplift of Tithonian-Valanginian sediments and progradation of Hauterivian sediment wedge N from Cape Range Fracture Zone. At Cenomanian-Turonian boundary sediment supply on S Exmouth Plateau shifted from N-prograding clastic source to carbonate-dominated blanket. Folding related to collision farther N increased slopes on S Exmouth Plateau starting in Eocene, producing submarine erosion and re-sedimentation in Cenozoic oozes)

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*(Upper Triassic calcareous nannofossils from Wombat Plateau, Australia NW Shelf. U Triassic nannofossil assemblages dominated by Prinsiosphaera triassica. Evolutionary lineage for earliest known coccoliths proposed, with Crucirhabdus primulus as ancestor. U Triassic divided based on first occurrences of C. primulus and Eoconusphaera zlambackensis in U Norian. Upper Triassic assemblages from Wombat Plateau similar to those from Alps)*

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*(Correlation of Upper Triassic sediments at four Wombat Plateau sites of ODP Sites 759, 760, 761 and 764). Late Carnian- Norian clastics overlain by Rhaetian section dominated by carbonates. Carnian characterized by Samaropollenites speciosus pollen zone, Norian by Minutosaccus crenulatus palynozone, Suessia listeri and H. balmei dinozones and foram Triasina oberhauseri; Rhaetian age by Ashmoripollis reducta palynozone, Rhaetogonyaulax rhaetica dinozone and forams Triasina hantkeni and Involutina liassica. Nannofossil Prinsiosphaera triassica occurs through (Late?) Norian- Rhaetian)*

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*(Oldest rocks exposed on Dampier Peninsula N of Broome are Late Jurassic marine shale, limestone and glauconitic siltstone, conformably overlain by E Cretaceous marine sandstones and siltstone. On islands of Buccaneer Archipelago NE of tip of Peninsula, Aptian quartzites overlap steeply folded Precambrian rocks. To SE, along Fitzroy River, late Jurassic beds overlap U Triassic and Permian formations. Triassic Blina Shale with Lingula and 'Estheria' (=conchostracans Isaura ipsviensis). Jurassic with Tethyan Tithonian Calpionella aff. C. alpina, Belemnopsis alfurica-gerardi group, Kosmatia, Buchia malayomaorica, etc.)*

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*(Dampier Land between Derby and Broome. Late Jurassic Langey Beds with Buchia malayomaorica, Belemnopsis gerardi group, two species of Calpionella in Tithonian, etc., all similar to East Indonesia Late Jurassic assemblages. Early Neocomian Jowlaenga Fm with Hibolites and bivalves. Neocomian Broome sst with plants only. Neocomian Leveque sst with Inoceramus spp., Aptian Melligo quartzite with bivalves)*

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(*Palynological examination of dredge samples from Rowley Terrace, Scott and Exmouth Plateaux, and N Carnarvon Terrace. Samples represent (1) U Triassic (Rhaetian)- M Jurassic (Bathonian) paludal- restricted-marine sequence (2) U Jurassic (Oxfordian-Kimmeridgian) shallow-marine; (3) Lower Cretaceous (Valanginian-Aptian) open-marine*)
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*(Latest Oligocene limestone at Cape Range, W Australia, with Tertiary Lower Te stage larger foraminiferal fauna (Eulepidina, Heterostegina borneensis) and Zone N3 planktonic foram fauna (Globorotalia (T.) kugleri)*

*without Globigerinoides primordius. Also presence of Lacazinella sp. cf. L. wichmanni, presumably reworked from Eocene)*

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(*NW Australian Permian with 34 species of productid brachiopods from Carnarvon, Canning and Irwin basins, mainly of Artinskian age. Absence of 'bizarre productids', like Lyttonidae and Richthofenidae. Closest affinities to Permian of Timor (Basleo; 4 species), then Indian Salt Range. Dissimilar to brachiopods of Eastern Australia*)

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Colwell, J.B., U. Rohl, U. von Rad & E. Kristan-Tollmann (1994)- Mesozoic sedimentary and volcanoclastic rocks dredged from the northern Exmouth Plateau and Rowley Terrace, offshore northwest Australia. *AGSO J. Australian Geol. Geophysics* 15, 1, p. 11-42.

(online at: [www.ga.gov.au/corporate\\_data/49408/Jou1994\\_v15\\_n1.pdf](http://www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf))

(*Dredging on N Exmouth Plateau and Rowley Terrace margin shows Late Triassic (Norian-Rhaetian; with Aulatortus, Triasina, etc.) reef and peri-reefal carbonates and E Jurassic shelfal limestone (with Involutina liassica), with facies and foram- ostracod microfaunas similar to those of other S Tethyan margins, including N Calcareous Alps. Also volcanics emplaced along margin in Late Triassic-M Jurassic, probably start of rifting between Australia- Greater India. (N.B.: Involutina liassica may also be found in Rhaetian-age limestones, so E Jurassic age not proven?; JTvG)*)

Colwell, J.B. & U. von Stackelberg (1981)- Sedimentological studies of Cainozoic sediments from the Exmouth and Wallaby Plateaus, off Northwest Australia. *BMR J. Australian Geol. Geophysics* 6, p. 43-50.

(online at: [www.ga.gov.au/corporate\\_data/81059/Jou1981\\_v6\\_n1\\_p043.pdf](http://www.ga.gov.au/corporate_data/81059/Jou1981_v6_n1_p043.pdf))

(*Cores of Quaternary/Tertiary sediments in Exmouth and Wallaby Plateau areas off NE Australia. Quaternary sediments show variations in composition with water depth, reflecting change in biogenic components and aragonite (~800m) and carbonate (~4100-4800m) compensation depths. Four major facies, from relatively coarse carbonate sands on continental shelf to planktonic foram oozes on slope to siliceous clays on abyssal plains. Tertiary cores mainly consist of Oligocene or Miocene foraminiferal nanno oozes/ chalks. Volcanoclastic sandstone with phosphatic nodules on E margin of the Wallaby Plateau*)

Courgeon, S., J. Bourget & S.J. Jorry (2016)- A Pliocene-Quaternary analogue for ancient epeiric carbonate settings: The Malita intrashelf basin (Bonaparte Basin, northwest Australia). *American Assoc. Petrol. Geol. (AAPG) Bull.* 100, 4, p. 565-595.

(*Pliocene-Quaternary of Bonaparte Basin very wide shelf with >600km wide carbonate platform and 200km-wide Malita intrashelf basin. Late Pliocene transgression over irregular topography due to flexural reactivation*)

of Malita graben. Late Quaternary renewed flexural deformation initiated second transgressive cycle, resulting in progressive demise and burial of carbonate platforms in ISB center)

Crawford, A.J. & U. von Rad (1994)- The petrology, geochemistry and implications of basalts dredged from the Rowley Terrace- Scott Plateau and Exmouth Plateau margins, northwestern Australia. AGSO J. Australian Geol. Geophysics 15, 1, p. 43-54.

(online at: [www.ga.gov.au/corporate\\_data/49408/Jou1994\\_v15\\_n1.pdf](http://www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf))

(Extensive Callovian-Oxfordian? (~155 Ma) basalts along margin of Scott Plateau and Rowley Terrace, reflecting onset of 'breakup' of 'Argoland' from this segment of NW Australian passive margin))

Crespin, I. (1936)- The larger foraminifera of the Lower Miocene of Victoria. Bureau Mineral Res., Canberra, Palaeontological Bull. 2, p. 3-15.

(occ. *Lepidocyclina* (incl. stellate forms), *Cyclocypeus*, *Austrotrillina howchini*. No *Miogypsina*; no thin sections)

Crespin, I. (1941)- The genus *Cyclocypeus* in Victoria. Proc. Royal Soc. Victoria 53, 2, p. 301-314.

Crespin, I. (1943)- The genus *Lepidocyclina* in Victoria. Proc. Royal Soc. Victoria 55, 2, p. 157-194.

(online at: <http://takata.slv.vic.gov.au/...>)

Crespin, I. (1948)- Indo-Pacific influences in Australian Tertiary foraminiferal assemblages. Trans. Royal Soc. South Australia 72, p. 133-142.

(online at: <http://biostor.org/cache/pdf/a3/b1/d1/a3b1d10cd1bc317f6d1f51f919509a18.pdf>)

(Early review of occurrences of 'Indo-Pacific' larger foraminifera in Tertiary of Australia))

Crespin, I. (1950)- Australian Tertiary microfaunas and their relationships to assemblages elsewhere in the Pacific Region. J. Paleontology 24, p. 421-429.

(Two major sedimentary provinces in Australia: Austral-Indo-Pacific province and Bass Strait province)

Crespin, I. (1952)- Two species of *Lepidocyclina* from Cape Range, NW Australia. Cushman Found. Foraminiferal Research 3, 1, p. 28-32.

(Description of large Early Miocene *Lepidocyclina* (*Eulepidina*) *badjirraensis* and *L. (E.) manduensis* from Mandu calcarenite, Carnarvon Basin, NW Australia)

Crespin, I. (1956)- Migration of foraminifera in Tertiary times in Australia. In: Papers on Tertiary micropalaeontology, Bureau Mineral Res. Geol. Geoph., Report 25, p. 1-16.

(online at: [https://d28rz98at9flks.cloudfront.net/14939/Rep\\_025.pdf](https://d28rz98at9flks.cloudfront.net/14939/Rep_025.pdf))

(Paleo-Eocene larger forams *Discocyclina* and *Asterocyclina* world-wide in distribution, but *Pellatispira* and *Alveolina* more closely related to Indo-Pacific. Late Eocene planktonic forams in SW Victoria. Indo-Pacific climate conditions throughout Australia at several times in Mio-Pliocene, etc.)

Crespin, I. (1963)- Lower Cretaceous arenaceous foraminifera of Australia. Bureau Mineral Res. (BMR) Geol. Geophysics, Bull. 66, p. 1-105.

(online at: [https://d28rz98at9flks.cloudfront.net/176/Bull\\_066.pdf](https://d28rz98at9flks.cloudfront.net/176/Bull_066.pdf))

(Mainly descriptions of small arenaceous benthic foraminifera from Great Artesian Basin, roughly of Aptian-Albian age)

Crostella, A. & C.J. Boreham (2000)- Origin, distribution and migration patterns of gas in the Northern Carnarvon Basin. Petroleum Expl. Soc. Australia (PESA) Journal 28, p. 7-20.

(Widespread gas in Cretaceous in Onslow Terrace, Peedamullah Shelf and inner Exmouth subbasin dry and considered to have biogenic input. Indications of biodegraded residual oil in  $\gamma$  area (Roller, Skate oilfields in innermost Barrow subbasin) probably biodegraded by same bacterial processes that produced dry gas. Age of hydrocarbon charge Late Tertiary.)

Crostella, A., R.P. Iasky, K.A. Blundell, A.R. Yasin & K.A.R. Ghori (2000)- Petroleum geology of the Peedamullah Shelf and Onslow Terrace, Northern Carnarvon Basin, Western Australia. Western Australia Geological Survey, Report 73, p. 1-119.

(online at: [www.dmp.wa.gov.au/documents/REPORT\\_73\\_CDWEB\(4\).pdf](http://www.dmp.wa.gov.au/documents/REPORT_73_CDWEB(4).pdf))

*(Peedamullah Shelf and Onslow Terrace formed during Carboniferous- Jurassic rifting episodes. Shelf remained elevated area during Jurassic, whereas thick Jurassic succession was deposited in deep-water rift to NW. Oil was sourced from pre-Jurassic section. E Permian Lyons Group marine sedimentation including glacial erratics, until Sakmarian when carbonate and mud (Callytharra Formation) were deposited)*

Crowell, J.C. & L.A. Frakes (1971)- Late Paleozoic glaciation, IV. Australia. Geol. Soc. America (GSA) Bull. 82, p. 2515-2540.

Crowell, J.C. & L.A. Frakes (1971)- Late Palaeozoic glaciation of Australia. J. Geol. Soc. Australia 17, p. 115-155.

*(Carboniferous- E Permian glaciation covered large part of Australia continent. In W Australia E Permian ice centres located on Yilgarn Block, Pilbara Block (SW of Canning Basin) and on Kimberley Block. Evidence for glaciation mainly ice-rafted debris and fluvial-glacial and glacial-marine strata that reached as far N as Bonaparte Gulf Basin. Rapid growth of continental glaciers near end of Carboniferous corresponds with rapid shift of paleolatitude when Gondwanaland moved to near-polar position and Paleo-Pacific lay nearby to provide source of moisture)*

Curry, J.S., J.M. Lorenzo & G.W. O'Brien (2000)- Polarity of continent-island arc collision since late Miocene: Timor Sea, N.W. Shelf, Australia. AAPG 2000 Annual Mtg Abstracts, p. 35.

*(Late Miocene-to-Recent collision of NW Australian shelf with Outer Banda Island Arc results in downward flexing of Australian lithosphere toward arc. Normal faulting on Australian Shelf occurs as flexural stresses exceed plate strength. Collision began in Late Miocene W of Timor, progressed eastward during the Pliocene, and continues E. Normal faults W of 124.5°E terminate vertically in the Miocene section. Normal faults from 124.5°E to 125.5°E terminate at the Miocene-Pliocene boundary. From 125.5- ~128°E, faults terminate in E Pliocene section. Normal faults from ~128- 131°E terminate at or near sea floor E of 131° E, motion of Australian lithosphere is subparallel to plate boundary and no faulting is evident)*

Daim, F.L. & P.G. Lennox (1998)- A new tectonic model for the evolution of the Northern Carnarvon Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 435-445.

*(Creation of N Carnarvon Basin was by multi-stage ductile movement of lower crust, in general northerly direction, from Exmouth Plateau, towards assumed decompression zones S bounding fault of Canning Basin)*

Dawson, G.C., B. Krapez, I.R. Fletcher et al. (2002)- Did Late Palaeoproterozoic assembly of proto-Australia involve collision between the Pilbara, Yilgarn and Gawler Cratons? Geochronological evidence from the Mount Barren Group in the Albany-Fraser Orogen of Western Australia. Precambrian Research 118, p. 195-220.

De Boer, R.A. (2003)- The Puffin sandstone, Timor Sea, Australia: anatomy of a submarine fan. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geol. Survey, p. 373-390.

*(Upper Campanian-Maastrichtian submarine fan system in Browse, Vulcan, with minor oil in Puffin 1; up to 900m thick; 6 depositional lobes)*

De Carlo, E.H. & N.F. Exon (1992)- Ferromanganese deposits from the Wombat plateau, Northwest Australia. In: U. von Rad et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 122, p. 335-345.

(online at: [www-odp.tamu.edu/publications/122\\_SR/VOLUME/CHAPTERS/sr122\\_18.pdf](http://www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_18.pdf))

*(Ferromanganese crusts, nodules and Fe-Mn-rich sediments dredged from water depths of 2000-4600m, on Wombat Plateau adjacent to Argo Abyssal Plain. Ferromanganese deposits from ODP sites up to 40 cm thick and formed on long-exposed deep sea floor, probably in Late Cretaceous-Eocene times)*

- De Deckker, P. & Y. Yokoyama (2009)- Micropalaeontological evidence for Late Quaternary sealevel changes in Bonaparte Gulf, Australia. *Global and Planetary Change* 66, p. 85-92.  
(*Micropaleo of 5m core from 116m water depth in Bonaparte basin records sealevel trends from ~40-12 ka. Supports ~120m relative sea level drop at Last Glacial Maximum before ~19 ka, followed by rapid marine transgression*)
- De Lurio, J.L. & L.A. Frakes (1999)- Glendonites as a palaeoenvironment tool: implications for Early Cretaceous high latitude climate in Australia. *Geochimica Cosmochimica Acta* 63, 7, p. 1039-1048.  
(*Glendonites (calcite pseudomorphs after metastable ikaite) in Late Aptian interval of Eromanga Basin, Australia and in other E Cretaceous basins at high paleolatitudes. Ikaite precipitation in marine environment requires cold temperatures (<4°C), high alkalinity, etc.*)
- De Ruig, M.J., M. Trupp, D.J. Bishop, D. Kuek, D.A. Castillo (2000)- Fault architecture and the mechanics of fault reactivation in the Nancarrow Trough/Laminaria area of the Timor Sea, northern Australia. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 40, 1, p. 174-193.
- Dettmann, M.E & G. Playford (1969)- Palynology of the Australian Cretaceous: a review. In: K.S.W. Campbell (ed.) *Stratigraphy and Palaeontology, Essays in honour of Dorothy Hill*, Australian National University Press, Canberra, p. 174-210.
- DiCaprio, L., M. Gurnis & D. Muller (2009)- Long-wavelength tilting of the Australian continent since the Late Cretaceous. *Earth Planetary Sci. Letters* 278, p. 175-185.  
(*Global sea level and pattern of marine inundation on Australian continent are inconsistent, partly due to anomalous downward tilting of continent to NE by 300m since Eocene. Tilting occurred as Australia approached subduction systems in SE Asia and is recorded by progressive inundation of N margin. Mantle convection induced topography may be of same magnitude as global sea level change*)
- Dickins, J.M. (1978)- Climate of the Permian in Australia: the invertebrate faunas. *Palaeogeogr. Palaeoclim. Palaeoecology* 23, p. 33-46.  
(*Permian climate stages in Australia: A (Sakmarian) cold water from present latitude 20° S-wards. Faunas associated with glacial deposits low diversity with *Deltopecten*, *Eurydesma*, *Keeneia* and *Trigonotreta*. Ends with eustatic rise in sea level; B (Sakmarian- E Artinskian) cool, with entry of Tethyan forms (*Spriferella*, etc.). *Eurydesma* and *Keeneia* persist in E Australia; C- D (Artinskian-Kungurian) slow warming in W Australia; Stage F (latest Permian) Tethyan faunas, incl. *Leptodus* in N, indicating tropical temperatures*)
- Dickins, J.M., J. Roberts & J.J. Veevers (1969)- Permian and Mesozoic Geology of the Northeastern Part of the Bonaparte Gulf Basin. *Geological Papers 1969, Bureau Mineral Res. Geol. Geoph. Bull.* 125, p. 75-93.  
(*online at: [www.ga.gov.au/corporate\\_data/125/Bull\\_125.pdf](http://www.ga.gov.au/corporate_data/125/Bull_125.pdf)*)
- Direen, N.G., H.M.J. Stagg, P.A Symonds & J.B. Colwell (2008)- Architecture of volcanic rifted margins: new insights from the Exmouth- Gascoyne margin, Western Australia. *Australian J. Earth Sci.* 55, p. 341-363.  
(*Outer continental margin of Exmouth Plateau, adjacent to Gascoyne Abyssal Plain, developed in E Cretaceous as volcanic-rifted margin during breakup between W Australia and India. New broad, dense and magnetised volcanic-margin transitional crust zone with seaward-dipping reflectors developed between outer rifted continental crust of Exmouth Plateau and true oceanic crust (see also Rey et al. (2008))*)
- Di Toro, G.A.E. (1995)- Angel Formation turbidites in the Wanaea field area, Dampier Sub-basin, North-West Shelf, Australia. In: K.T. Pickering et al. (eds) *Atlas of deep water environments*, Springer, Dordrecht, p. 260-266.  
(*Angel Fm sand-dominated submarine fan sequence deposited through most of Dampier subbasin. U Jurassic (Tithonian) age and in Wanaea area structureless sandstones interbedded with argillaceous siltstones*)

Dixon, M. & D.W. Haig (2004)- Foraminifera and their habitats within a cool-water carbonate succession following glaciation, Early Permian (Sakmarian), Western Australia. *J. Foraminiferal Research* 34, 4, p. 308-324.

Dixon, T.E. (2013)- Palynofacies and palynological analysis of Late Triassic sediments from the Kentish Knock-1 well (Northern Carnarvon Basin): reconstruction of vegetation history, interpretation of climate and sea level changes and placement in regional zonation. M.Sc. Thesis, University of Oslo, p. 1-54.  
(online at: <https://www.duo.uio.no/bitstream/handle/10852/35834/Masterxthesis-TxDixon.pdf?sequence=1>)  
(*Palynology of 2310m -2355m interval, Late Triassic Mungaroo Fm, of Kentish Knock-1 well, distal Australia NW shelf*)

Dolby, J.H. & B.E. Balme (1976)- Triassic palynology of the Carnarvon Basin, Western Australia. *Review Palaeobotany Palynology* 22, p. 105-168.

(*Five Triassic palynological assemblage zones in wells from Carnarvon Basin: I. Kraeuselisporites saeptatus (Griesbachian-Smithian, II. Tigrisporites playfordii (Smithian-Anisian), III. Staurosaccites quadrifidus (Anisian-Carnian), IV. Samaropollenites speciosus (Carnian) and V. Minutosaccus crenulatus (Carnian-?Norian). Provincialism in M-L Triassic floras:(1) Onslow microflora on NW Shelf, with mixed Gondwanan-European elements. (2) Ipswich microflora: less diverse Falcisporites-dominated assemblages in E and S Australia; European elements not present*)

Dore, A.G. & I.C. Stewart (2002)- Similarities and differences in the tectonics of two passive margins: the Northeast Atlantic Margin and the Australian North West Shelf. In: M. Keep & S. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. West Australian Basin Symposium, Petroleum Expl. Soc. Australia (PESA), Perth, p. 89-117.

(*Regional review and plate reconstructions of Australian NW shelf*)

Driscoll, N.W. & G.D. Karner (1998)- Lower crustal extension across the Northern Carnarvon Basin, Australia: evidence for an eastward dipping detachment. *J. Geophysical Research, Solid Earth* 103, B3, p. 4975-4991.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/97JB03295>)

(*N Carnarvon basin 4 extension events:(1) broadly distributed late Permian event, (2) localized Rhaetian event responsible for inception of Barrow and Dampier subbasins, (3) localized Callovian fault reactivation in Barrow-Dampier subbasins and (4) Tithonian-Valanginian event that generated large post-Valanginian regional subsidence across N Carnarvon basin with only minor brittle deformation and erosional truncation. (4) requires significant lower crustal and mantle extension across N Carnarvon, implying existence of E-dipping, intracrustal detachment with ramp-flat-ramp geometry, effectively thinning lower crust and lithospheric mantle. Detachment breached surface close to continent-ocean boundary W of Exmouth Plateau. Flat component of detachment at mid-crustal depths (~15 km) across plateau and ramped beneath Australian continent. Lower crustal ductile extension viable mechanism to generate large regional subsidence with little upper crustal brittle deformation*)

Duddy, I.R., P.F. Green, H.J. Gibson & K.A. Hegarty (2004)- Regional palaeo-thermal episodes in northern Australia. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geol. Survey, p. 125-142.

(*Kilometer-scale uplift and erosion in Late Triassic-E Jurassic is major feature of E onshore Canning Basin, corresponding to structuring associated with Fitzroy Movement (White Hills 1 well geohistory curve suggests 2500 m of uplift and erosion between 230 and 180 Ma)*)

Dumont, T. (1992)- Upper Triassic (Rhaetian) sequences of the Australian Northwest Shelf recovered on Leg 122: sea-level changes, Tethyan rifting, and overprint of Indo-Australian breakup. In: U. Von Rad, B.U. Haq et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results 122*, p. 197-211.

(*U Triassic shallow-marine sediments recovered in N part of Exmouth Plateau (Wombat Plateau), a few km from continent/ocean boundary. Capped by erosional post-rift unconformity with 80 My hiatus. Youngest sediments below post-rift unconformity Rhaetian platform limestones. Rhaetian series two shallowing-upward sequences. Many similarities between Wombat U Triassic and European Tethyan Mesozoic*)

Durrant, J.M., R.E. France, M.V. Dauzacher & T. Nilsen (1990)- The southern Bonaparte Gulf basin; new plays. The Australian Petrol. Explor. Assoc. (APEA) J. 30, 1, p. 52-67.

Dyksterhuis, S. & R.D. Muller (2008)- Cause and evolution of intraplate orogeny in Australia. *Geology* 36, 6, p. 495-498.

Dyksterhuis, S., R.D. Muller & R.A. Albert (2005)- Paleostress field evolution of the Australian continent since the Eocene. *J. Geophysical Research* 110, B05102, p. 1-13.

*(Reconstructions of plate boundary configuration and age-area distribution of ocean crust around Australia since Eocene to obtain estimates for ridge push, slab pull, and collisional forces acting on Indian-Australian plate. Stress directions over N Australian continent in E Miocene different from present stress directions. Orientations in E Eocene controlled mainly by ridge push from spreading in Wharton Basin in Indian Ocean)*

Dyson, I.A. (1998)- Stratigraphy and sedimentology of the *M. australis* sandstone, Barrow and Dampier sub-basins. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, p. 503-512.

*(Lower Cretaceous glauconitic sandstone in M. australis palynozone Barrow and Dampier sub-basins of Carnarvon Basin. Shallow marine/ valley fill facies, three depositional sequences, part of retrogradational set)*

Edgerley, D.W. (1974)- Fossil reefs of the Sahul Shelf, Timor Sea. In: A.M. Cameron et al. (eds.) Proc. 2nd Int. Coral Reef Symposium, 2, Great Barrier Reef Committee, Brisbane, p. 627-637.

*(Sahul Shelf in Timor Sea, NW Australia, with numerous drowned reefs. Area once was region of prolific reef growth comparable to Great Barrier Reef. Incl. chain of reefs at continental shelf edge, rising from <300m, in area from Ashmore Reef to Sahul Shoal to Echo Shoal ('broken barrier' of Fairbridge 1950). Etc.)*

Edwards, D.S., C.J. Boreham, J. Chen, E. Grosjean, A.J. Mory, J. Sohn & J.E. Zumberge (2013)- Stable carbon and hydrogen isotopic compositions of Paleozoic marine crude oils from the Canning Basin; comparison with other west Australian crude oils. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p.

*(Oils at Cudalgarra 1, Dodonea 1 and Pictor 2 generated by several G. prisca-rich Ordovician source rocks. Oils at Blina and Janpam N 1 derived from Devonian source rock in Fitzroy Trough. Majority of produced oils from Lennard Shelf from E Carboniferous source rocks in Fitzroy Trough)*

Edwards, D.S., J.M. Kennard, J.C. Preston, R.E. Summons et al. (2000)- Bonaparte Basin; geochemical characteristics of hydrocarbon families and petroleum systems. AGSO Research Newsl. 33, p. 14-19.

*(Bonaparte Basin explored for >20 years, with oil production from several fields (Jabiru, Challis-Cassini, Laminaria-Corallina, Elang and the depleted Skua field) and proposed production from giant gas/condensate fields (Bayu-Undan, Sunrise-Loxton Shoals-Troubadour, Petrel-Tern). Two Paleozoic and seven Mesozoic oil families can be identified)*

Edwards, D.S., J.M. Kennard, J.C. Preston, C. Boreham et al. (2001)- Geochemical evidence for numerous Mesozoic petroleum systems in the Bonaparte and Browse basins, northwestern Australia. AAPG 2001 Ann. Mtg., p. 55-56. (Abstract)

*(Nine distinct oil families. Two Paleozoic in Petrel Sub-basin. U Jurassic in Swan Graben sourced majority of oils produced from Vulcan Sub-basin. In ZOCA three oil families: (1) mixed marine- terrestrial in Jurassic-Cretaceous Plover, Elang, Frigate Fms and Flamingo Group, (2) condensate from Sunrise-1 with marine carbonate biomarker signature, (3) oils in fractured Darwin Fm marine signature; from Cretaceous Echuca Shoals Fm and related to Browse Basin Cornea and Gwydion oils. Three families of oils with dominant terrestrial organic matter over Browse and Bonaparte Basins and in transition zone. One can be mapped to E-M Jurassic Plover Fm. This system is least understood but wide geographic distribution.)*

Edwards, D.S., J.C. Preston, J.M. Kennard et al. (2003)- Geochemical characteristics of hydrocarbons from the Vulcan Sub-basin, western Bonaparte Basin, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geol. Survey, p. 169-200.

(online at: [www.ret.gov.au/resources/...](http://www.ret.gov.au/resources/))

*(Two end-members of oils in Jurassic Vulcan basin, Australia NW Shelf: (1) marine source, tied to Oxfordian Lower Vulcan; (2) terrigenous, tied to fluvio-deltaic shales/ coals, probably E-M Jurassic Middle Plover Fm)*

Edwards, D.S., R.E. Summons, J.M. Kennard et al. (1997)- Geochemical characteristics of Palaeozoic petroleum systems in northwestern Australia. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 37, p. 351-379.

Ellis, G. (1993)- Late Aptian-Early Albian radiolarian biostratigraphy and palaeoceanography of the Windalia radiolarite (type section), Camarvon Basin, Western Australia. *Eclogae Geol. Helvetiae* 86, p. 943-995.

(online at: <http://dx.doi.org/10.5169/seals-167268>)

*(Late Aptian (-E Albian?) widespread marine transgression inundated Australia, with extensive radiolarian-rich facies like Windalia Radiolarite in Carnarvon Basin. Type section ~35m thick, with ammonites and belemnites, and with 59 radiolarian taxa, many recorded previously from Tethyan regions. Assemblages are dominated by few non-Tethyan forms (Arachnosphaera exilis, etc.), considered to be endemic elements of 'Austral' faunal realm. (Incl. Tan Sin Hok- Roti species Artocapsa ultima, Hemicryptocapsa capita, Ellipsoxiphus? rugosa, etc.))*

Ellis, G.J., A. Pitchford & R.H. Bruce (1999)- Barrow island oil field. The Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 39, 1, p. 158-175.

Erskine, R. D. & P.R. Vail (1988)- Seismic stratigraphy of the Exmouth Plateau. In: A.W. Bally (ed.) Atlas of seismic stratigraphy, American Assoc. Petrol. Geol. (AAPG), Studies in Geology 2, p. 163-173.

*(Exmouth Plateau with >2000m thick nonmarine- marginally marine Triassic section, overlain by thin, marine latest Triassic (Rhaetian)- Jurassic section. Thin Jurassic section overlain by a >1500m thick Berriasian-Valanginian-age clastic wedge that progrades from SE to NW, overlain by thin Hauterivian-Aptian glauconitic sands on shelf. Overlying Aptian-Tertiary section consists of fine-grained deep marine marls)*

Etheridge, M.A. & G.W. O'Brien (1994)- Structural and tectonic evolution of the Western Australian margin basin system. Petroleum Expl. Soc. Australia (PESA) Journal 22, p. 45-63.

*(Major NW-SE extension in Late Carboniferous- E Permian under much of W Australian margin, thinning crust from ~40 km to 5-20 km (i.e. 100-500% extension) below much of subsequent Mesozoic basins and present shelf. Inversions of Goulburn Graben in Arafura Sea (major angular unconformity between E Permian (Asselian) and Jurassic, and 4-4.5 km of uplift and erosion), most likely during latest Triassic- E Jurassic 'Fitzroy Movement', driven by major Gondwanan plate readjustment. Sense of Fitzroy Movement consistent with N to NNW-directed compression, perhaps with total shortening of 2-5%)*

Exon, N.F. & J.B. Colwell (1994)- Geological history of the outer North West Shelf of Australia: a synthesis. AGSO J. Australian Geol. Geophysics 15, p. 177-190.

(online at: [www.ga.gov.au/corporate\\_data/49408/Jou1994\\_v15\\_n1.pdf](http://www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf))

*(Outer continental margin of NW Australia (N Exmouth Plateau- Rowley Terrace) was stretched in Late Paleozoic, and subsided to form part of Westralian Superbasin on S margin of Tethys. Basin filled with thick Triassic and variable thicknesses of Jurassic sediments, before progressive breakup in Callovian-Valanginian time. Late Triassic mainly fluvio-deltaic with outer shelf, carbonates including reefal buildups on what is now N Exmouth Plateau and Rowley Terrace. Rift volcanics in areas of future breakup, in latest Triassic and earliest Jurassic. Late Middle Jurassic thermal uplift and erosion prior to breakup of Gondwana in N, and major period of faulting and rift volcanism. Callovian breakup led to genesis of Argo Abyssal Plain)*

Exon, N.F., J.B. Colwell, P.E. Williamson & M.T. Bradshaw (1991)- Reefal complexes in Mesozoic sequences: Australia's North West Shelf region. Proc. 20th Ann. Conv. Indon. Petroleum Assoc. (IPA), Jakarta, p. 51-66.

*(Triassic- Early Jurassic carbonate buildups in outer zones of Australia NW Shelf (Wombat Plateau, Rowley margin, etc.) on seismic and in dredge samples. Equivalent rocks possibly in E Indonesia)*

Exon, N.F. & D.C. Ramsay (1990)- Distribution of Triassic reefs in the northern Exmouth Plateau and offshore Canning Basin. Bureau Mineral Res. Geol. Geoph., Record 1990/17, p. 1-50.

(online at: [www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=14309](http://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=14309))

*(ODP Site 764 demonstrated Rhaetian (Latest Triassic) reefs in N of Exmouth Plateau area, and indicates suitable conditions for reefal development on NW Shelf)*

Exon, N.F., U. Ruhl, J.B. Colwell & B.B. West (1992)- Mesozoic reef complexes in the Carnarvon and Canning Basins, Australia. AAPG Int. Conf., Sydney 1992, Search and Discovery Art. 91015 (*Abstract only*)  
*(ODP Leg 122 cored 200m of Late Triassic reefal carbonates in Site 764 on N Exmouth Plateau Later dredging by BMR showed common reef buildups and shelf carbonates in Late Triassic of N Carnarvon and W Canning basins. Seismic from N Carnarvon indicate reefs first became established in Rhaetian, when paleolatitude was 25-30° S, and may have persisted until Callovian when area had moved to 35-40° S. Large number of buildups identified in N Carnarvon S of ODP sites, presumed to be Jurassic buildups, sitting on horst blocks of Triassic fluvio-deltaic sediments, commonly several 100m thick, 2 km wide, >10 km long)*

Exon, N.F. & U. Von Rad (1994)- The Mesozoic and Cainozoic sequences of the Northwest Australian margin, as revealed by ODP core drilling and related studies. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth 1994, p. 181-200.  
*(Results of ODP legs 122 and 123, coring six sites on Exmouth and Wombat plateaus, and two sites on abyssal plains nearby. U Triassic sequence cored on Wombat Plateau consists ~600m of marine Nd-prograding Carnian-Norian fluvio-deltaic sediments (Mungaroo Fm), and 300m of Rhaetian reefal and lagoonal carbonates. Major thermal uplift, faulting and erosion (and volcanism in outer Canning Basin) preceded Callovian-Oxfordian breakup that led to Argo Abyssal Plain formation (155 Ma by K/ Ar age of oldest oceanic crust at Site 765. Etc.)*

Exon, N.F., U. Von Rad & U. Von Stackelberg (1982)- The geological development of the passive margins of the Exmouth Plateau off Northwest Australia. Marine Geology 47, p. 131-152.  
*(Exmouth Plateau large sunken continental block off NW Shelf, formed during Mesozoic breakup of Australia and Greater India. N margin formed in Callovian (155 Ma), when continental fragment moved off to NW. Early rift Late Triassic-E Jurassic volcanics (213-192 Ma) over thick Triassic paralic sequence. N of E-W hinge line several 1000m of E-M Jurassic pre-breakup carbonates and coals. Breakup along series of rifted and sheared segments, with NE-trending Callovian horsts and grabens. Horsts planed off in Late Jurassic- E Cretaceous. Margin was covered by few 100m of Late Cretaceous- Cenozoic pelagic carbonate as it sank to present depth of 2000-2500m. NE-trending West margin formed by Neocomian (120-125 Ma) rifting, as India moved off to NW. Triassic paralic sequence unconformably overlain by thin Late Jurassic and younger marine beds, indicating area was high in E-M Jurassic. NW South margin formed by shearing in Neocomian. Thick Triassic paralics unconformably overlain by thick Late Jurassic-Neocomian delta, suggesting area was high in E-M Jurassic, but depocentre before and after)*

Exon, N.F. & J.B. Willcox (1980)- The Exmouth Plateau: stratigraphy, structure and petroleum potential. Bureau Mineral Res. Geol. Geoph. Bull. 199, p. 1-52.  
*(online at: [www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=52](http://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=52))  
(Exmouth Plateau and adjacent lower continental slopes in water depths of 800-5000m, off NW Shelf petroleum province. Crust ~20 km thick, with 5 km of Paleozoic and 5 km of Mesozoic and younger beds over Precambrian basement. Major Late Triassic unconformity separates block-faulted older sediments from gently warped younger ones. In Paleozoic and most of Mesozoic area was embayment of Tethys, with deposition of paralic and shallow marine clastics. In Late Cretaceous-Cenozoic carbonate deposition was dominant)*

Exon, N.F., P.E. Williamson, U. von Rad, B.U. Haq & S. O'Connell (1989)- Ocean drilling finds Triassic reef play off N.W. Australia. Oil and Gas J., Oct. 30, p. 46-52.  
*(Site 764 of Leg 122 of Ocean Drilling Program cored 200m of U Triassic (Rhaetian) reef complex off N margin of Exmouth plateau)*

Eyles, C.H. & N. Eyles (2000)- Subaqueous mass flow origin for Lower Permian diamictites and associated facies of the Grant Group, Barbwire Terrace, Canning Basin, Western Australia. Sedimentology, 47, p. 343-356.

Eyles, C.H., A.J. Mory & N. Eyles (2003)- Carboniferous- Permian facies and tectono-stratigraphic successions of the glacially influenced and rifted Carnarvon Basin, Western Australia. Sedimentary Geology 155, p. 63-86.

*(Carnarvon Basin of W Australia is rift basin with up to 5 km late Carboniferous-early Permian glacially influenced marine sedimentary strata, accumulated along uplifted and glaciated margin of Pilbara Craton. Three stratigraphic successions: (I) rapidly deposited (30m/Ma) glacially influenced marine strata (Lyons Group, with Westphalian- E Sakmarian palynomorphs); (II) Callythara and Cordalia Fm fossiliferous shales recording reduced sedimentation rates; (III) Moogooloo Sst)*

Eyles, N. & P. de Broekert (2001)- Glacial tunnel valleys in the Eastern Goldfields of Western Australia cut below the Late Paleozoic Pilbara ice sheet. *Palaeogeog., Palaeoclim., Palaeoecol.* 171, p. 29-40.

Eyles, N., C.H. Eyles, S.N. Apak & G.M. Carlsen (2001)- Permian- Carboniferous tectono-stratigraphic evolution and petroleum potential of the northern Canning basin, Western Australia. *American Assoc. Petrol. Geol. (AAPG) Bull.* 85, 6, p. 989-1006.

Eyles, N., C.H. Eyles & A.D. Miall (1983)- Lithofacies types and vertical profile models; an alternative approach to the description and environmental interpretation of glacial diamict and diamictite sequences. *Sedimentology* 30, p. 393-410.

Eyles, N., A.J. Mory & J. Backhouse (2002)- Carboniferous- Permian palynostratigraphy of West Australian rift basins: resolving tectonic and eustatic controls during Gondwanan glaciations. *Palaeogeogr. Palaeoclim. Palaeoecology* 184, p. 305-319.

*(Late Carboniferous- E Permian up to 2-3 km thick glacially-influenced siliciclastic successions in 7 NW Australia basins (Bonaparte, Canning, Carnarvon, Collie, N and S Perth). Tripartite successions of glacial-deglaciation cycles (diamictite/ shale/ sandstone) of different ages and marked variations in thickness. Tectonostratigraphic model and palynological zonation chart)*

Eyles, N., A. Mory & C.H. Eyles (2006)- A 50-million year-long record of glacial to post-glacial marine environments preserved in a Carboniferous- Lower Permian graben, Northern Perth Basin, Western Australia. *J. Sedimentary Res.* 76, 3-4, p. 618-632.

*(Perth Basin intracratonic rift with 12 km Carboniferous- Cretaceous. M Carboniferous- Lower Permian (Serpukhovian-Kungurian, ~50 My) 2 km glacially influenced marine strata recording transition from glacial to postglacial conditions at high (70°) paleolatitudes. Thickness reflects abundant supply of sediment from adjacent ice-covered Yilgarn Craton and continued subsidence along Darling-Urella fault system. Sedimentology highlights key role of glacial meltwaters rather than direct glacial processes)*

Fairbridge, R.W. (1953)- The Sahul Shelf, northern Australia: its structural and geological relationships. *J. Royal Soc. Western Australia* 37, p. 1-33.

*(Discussion of Sahul Shelf between Timor Trough- N Australia. Shelf edge abnormally deep, around 550m, much shallower than Sunda Shelf edge. Shelf terraces at 3-5, 10-15, 25-30 and 55-60 fathoms (1 fathom= 1.83m). Isolated coral reefs at edges of shelf and shelf terraces. Includes brief discussion of geology of Aru Islands)*

Falvey, D.A. & J.C. Mutter (1981)- Regional plate tectonics and the evolution of Australia's passive continental margins. *BMR J. Australian Geol. Geophysics* 6, p. 1-29.

*(Passive continental margins around Australia evolved through progressive dissection of E Gondwanaland in five episodes, starting at 155 Ma off NW Australia, 120 Ma in SW, 80 Ma in SE, 65 Ma in NE, and 55 Ma S of Australia. Breakup/ seafloor spreading preceded by sedimentary basin subsidence in fault-bounded rifts, starting 40-50 My before breakup. Such rifting often preceded by broader, intra-cratonic style basin subsidence 50-100 My before breakup. Post breakup subsidence rapid, but sedimentation usually interrupted by submarine erosion in shallow rapidly subsiding ocean basin)*

Forman, D.J. & D.W. Wales (1981)- Geological evolution of the Canning Basin, Western Australia. *Bureau Mineral Res. Geol. Geoph., Bull.* 210, p. 1-91.

*(online at: [https://s3-ap-southeast-2.amazonaws.com/corpdata/60/Bull\\_210.pdf](https://s3-ap-southeast-2.amazonaws.com/corpdata/60/Bull_210.pdf))*

Foster, C.B. & J.B. Waterhouse (1988)- The *Granulatisporites confluens* Opper-zone and early Permian marine faunas from the Grant Formation of the Barbwire Terrace, Canning Basin, Western Australia. Australian J. Earth Sci. 35, p. 135-157.

*(Diverse plant microfossil assemblage in core of marine, glaciogene Grant Fm in Canning Basin with 68 palynomorph species (ferns, lycopods, gymnosperms and algae). Assemblage assigned to Granulatisporites confluens Opper-zone (first described from Argentina, also in India, Africa and Antarctica). Associated marine fauna diverse, with 20 species of molluscs and brachiopods. Presence of Strophalosia cf. subcircularis links to younger Asselian faunas of E and S Australia and India. G. confluens zone assemblages also known from offshore Bonaparte, Collie and Troubridge Basins (Late Asselian- Sakmarian?))*

Frankowicz, E. & K.R. McClay (2010)- Extensional fault segmentation and linkages, Bonaparte Basin, outer North West Shelf, Australia. American Assoc. Petrol. Geol. (AAPG) Bull. 94, 7, p. 977-1010.

FROG Tech Pty (2005)- OZ SEEBASE Study 2005. Public Domain report to Shell Development Australia.

*(online at: [www.frogtech.com.au/ozseebase-details/](http://www.frogtech.com.au/ozseebase-details/))*

*(GIS and PDF versions of extensive study of Australia Basement geology, terranes, tectonic history and basins)*

Fuji, T., G.W. O'Brien, P. Tingate & G. Chen (2004)- Using 2D and 3D basin modelling to investigate controls on hydrocarbon accumulation in the Vulcan sub-basin, Timor Sea, Northwestern Australia. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 2004, p. 93-122.

Gaina, C., R.D. Muller, B.J. Brown & T. Ishihara (2003)- Microcontinent formation around Australia. Geol. Soc. Australia Spec. Publ. 22, p. 399-410. *(also in Geol. Soc. America, Spec. Paper 372, p. 405-416)*

*Microcontinents of Australian origin in Tasman Sea and Indian Ocean include E Tasman Rise, Gilbert Seamount, Seychelles, Elan Bank (Kerguelen Plateau), possibly fragments of Lord Howe Rise and Norfolk Ridge, Wallaby Plateau. Tasman Sea continental fragments formed by ridge jumps onto adjacent continental margins after sea-floor spreading in S Tasman Sea commenced. E Tasman Plateau separated from Lord Howe Rise at ~83 Ma. Most microcontinents formed by re-rifting of young continental margin in vicinity of mantle plume stem. Weak inner flank of rifted margin weakens further when passing over mantle plume, causing nearby spreading ridge to jump onto this zone of weakness, isolating passive margin segment and leaving narrow passive margin behind)*

Gardner, R.L., N.R. Daczko, J.A. Halpin & J.M. Whittaker (2015)- Discovery of a microcontinent (Gulden Draak Knoll) offshore Western Australia: implications for East Gondwana reconstructions. Gondwana Research 28, 3, p. 1019-1031.

*(Dredged samples from Gulden Draak Knoll show it is rifted continental fragment at boundary between W Perth Abyssal Plain and Wharton Basin, Indian Ocean. Comprises granulite facies basement with Cambrian granite)*

Gartrell, A.P. (2000)- Rheological controls on extensional styles and the structural evolution of the Northern Carnarvon Basin, North West Shelf, Australia. Australian J. Earth Sci. 47, p. 231-244.

Gartrell, A.P. & M. Lisk (2005)- Potential new method for paleostress estimation by combining three-dimensional fault restoration and fault slip inversion techniques: first test on the Skua Field, Timor Sea. In: P. Boulton & J. Kaldi (eds.) Evaluating fault and cap rock seals, AAPG Hedberg Series 2, p. 23-36.

*(Fault restorations suggest stress regime responsible for Late Miocene fault activity near Skua oil field in Timor Sea differs from present-day stress regime. Late Miocene extensional regime, present-day transtensional stress regime. Widespread late Tertiary extensional faulting, decreasing fault activity to present day. Most hydrocarbon leakage associated with fault reactivation in present-day stress regime)*

Gartrell, A., M. Lisk & J.R. Unterschultz (2002)- Controls on the trap integrity of the Skua oil field, Timor Sea. In: M. Keep & S.J. Moss (eds.)- The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 389-407.

*(Fill-spill model for Skua oil field challenges importance of Mio-Pliocene fault reactivation as principal control on trap integrity. Restoration shows important role of pre-existing fault intersections)*

Gartrell, A., Y. Zhang, M. Lisk & D. Dewhurst (2004)- Enhanced hydrocarbon leakage at fault intersections: an example from the Timor Sea, Northwest Shelf, Australia. *J. Geochemical Exploration* 78-79, p. 361-365.

Gartrell, A., Y. Zhang, M. Lisk & D. Dewhurst (2004)- Fault intersections as critical hydrocarbon leakage zones: integrated field study and numerical modelling of an example from the Timor Sea, Australia. *Marine Petroleum Geol.* 21, 9, p. 1165-1179.

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*(Available online; high-level overview of W. Australia activity and discoveries)*

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George, A.D., K.M. Trinajstić & N. Chow (2009)- Frasnian reef evolution and palaeogeography, SE Lennard Shelf, Canning Basin, Australia. In: P. Koenigshof (ed.) *Devonian change: case studies in palaeogeography and palaeoecology*, Geol. Soc., London, Spec. Publ. 314, p. 73-107.

*(Frasnian (Devonian) reef complexes of SE Lennard Shelf, N Canning Basin, developed on tilt-block highs and evolution was controlled by fault-related subsidence)*

George, S.C., M. Ahmed, K. Liu & H. Volk (2004)- The analysis of oil trapped during secondary migration. *Organic Geochem.* 35, p. 1489-1511.

Geoscience Australia (2010)- Regional geology of the northern Carnarvon Basin, Offshore Petroleum acreage release. p. 1-24.

*(online*

*at:*  
[www.ret.gov.au/Documents/par/geology/carnarvon/documents/Northern%20Carnarvon%20Basin%20REGIONAL%20geology.pdf](http://www.ret.gov.au/Documents/par/geology/carnarvon/documents/Northern%20Carnarvon%20Basin%20REGIONAL%20geology.pdf))

Ghori, K.A.R., A.J. Mory & R.P. Iasky (2005)- Modeling petroleum generation in the Paleozoic of the Carnarvon Basin, Western Australia: implications for prospectivity. *American Assoc. Petrol. Geol. (AAPG) Bull.* 89, p. 27-40.

*(Modeling of Paleozoic succession in Carnarvon Basin shows potential source rock intervals reached maximum generation- migration in Carboniferous-Permian. Best Paleozoic oil-prone source beds thin beds in carbonate-dominated Silurian- Devonian on Gascoyne Platform, but Devonian source beds restricted to N parts. Maturity increases from immature in S-SE to mature in N-NW. Best gas-prone source in Lower Permian of Merlinleigh Subbasin. Best U Permian oil-gas source beds in Peedamullah Shelf, where they are mature in NW)*

Gibbons, A., J.M. Whittaker & P. Muller (2010)- Revised plate tectonic history of the West Australian margin reveals how the Gascoyne Terrane docked at West Burma. *ASEG-PESA 21<sup>st</sup> Int. Geoph. Conf.*, Sydney 2010, p. 1-4.

Gibbons, A.D., U. Barckhausen, P. van den Bogaard, K. Hoernle, R. Werner, J.M. Whittaker & R.D. Muller (2012)- Constraining the Jurassic extent of Greater India: tectonic evolution of the West Australian margin. *Geochem. Geophys. Geosystems* 13, 5, Q05W13, p. 1-25.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2011GC003919/epdf>)*

*(New model for Jurassic N extent of Greater India constrained by revised seafloor spreading anomalies, fracture zones and crustal ages based on drillsites/dredges from abyssal plains along W Australian margin and Wharton Basin, where unexpected sliver of Jurassic seafloor (153 Ma) was found embedded in Cretaceous (95 Ma) seafloor. NeoTethyan sliver must have originally formed along W extension of spreading centre that formed Argo Abyssal Plain, separating W extension of W Argoland/W Burma from Greater India as ribbon terrane)*

Gibson-Poole, C.M., S.C. Lang, J.E. Streit, G.M. Kraishan & R.R. Hillis (2002)- Assessing a basin's potential for geological sequestration of carbon dioxide: an example from the Mesozoic of the Petrel sub-basin, NW Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 439-462.

Giles, D., P.G. Betts & G.S. Lister (2004)- 1.8-1.5-Ga links between the North and South Australian cratons and the Early-Middle Proterozoic configuration of Australia. *Tectonophysics* 380, p. 27-41.

Glenister, B.F., C. Baker, W.M. Furnish & J.M. Dickins (1990)- Late Permian ammonoid cephalopod *Cyclolobus* from Western Australia. *J. Paleontology* 64, 3, p. 399-402.

*(Single specimen of Cyclolobus persulcatus Rothpletz (1892) from Hardman Fm, Canning Basin. Youngest Permian ammonoid known from Australia. Originally described from W TimorBobanaro melange, where commonly associated with type Timorites curvicostatus and other Late Permian 'Amarassi fauna')*

Glenister, B.F., C. Baker, W.M. Furnish & G.A. Thomas (1990)- Additional Early Permian ammonoid cephalopods from Western Australia. *J. Paleontology* 64, 3, p. 392-399.

*(Svetlanoceras irwinense (Teichert and Glenister, 1952), etc., from basal Callytharra Fm oldest ammonoids from Permian of Carnarvon Basin (~Sakmarian))*

Glenister, B.F. & W.M. Furnish (1961)- The Permian ammonoids of Australia. *J. Paleontology* 35, 4, p. 673-736.

*(19 species of ammonoids known from Early-Late Permian of Australia, mainly from sedimentary basins of W Australia. Agathiceras, Metalegoceras, Propinacoceras, etc.. Pseudoschistoceras gigas (Smith) from Bitauini beds of Timor figured and compared with P. simile Teichert)*

Glenister, B.F., F.S. Rogers & S.K. Skwarko (1993)- Ammonoids. In: S.K. Skwarko (ed.) The palaeontology of the Permian of Western Australia, Geol. Survey Western Australia, Perth, Bull. 136, p. 54-63.

*(online at: <http://dmpbookshop.eruditetechnologies.com.au/product/palaeontology-of-the-permian-of-western-australia.do>)*

*(E Permian ammonoid faunas of W Australia (Perth, Carnarvon basins) strikingly provincial (tied to Boreal Realm with dominance of Metalegoceratidae and Paragastrioceratidae, and lacking Tethyan Perrinitidae). Late Permian ammonoids tend to be cosmopolitan)*

Glenn, K.C. & V. Passmore (1998)- Carpentaria, Bamaga and Karumba Basins biozonation and stratigraphy 1998, Chart No.16. Geoscience Australia (AGSO), Canberra, Chart 16.

*(online at: [https://d28rz98at9flks.cloudfront.net/76687/Chart\\_16\\_Carpentaria\\_Basin.pdf](https://d28rz98at9flks.cloudfront.net/76687/Chart_16_Carpentaria_Basin.pdf))*

Glenton, P.N., J.T. Sutton, J.G. McPherson, M.E. Fittall, M.A. Moore, R.G. Heavysse & D. Box (2013)- Hierarchical approach to facies and property distribution in a basin-floor fan model, Scarborough gas field, North West Shelf, Australia. In: Int. Petroleum Technology Conference (IPTC 2013), Beijing, IPTC 17037, p. 1-15.

*(Scarborough gas field discovered in 1979 in Carnarvon Basin, 285 km off shore in water depths of 900-1000m, with ~16 Tcf GIP dry gas in low-relief anticline. Reservoir E Cretaceous basin-floor fan turbidite sands, sourced from N-ward-prograding Barrow Gp fluvio-deltaic system, ~50 km S of Scarborough. Reservoir interval three-tiered fan sequence. Dominant reservoir quartzose m-f-grained sandstones, largely unlithified, with porosities >30% and permeabilities of 100's-1000's mD)*

Glikson, A.Y., D. Jablonski & S. Westlake (2010)- Origin of the Mt Ashmore structural dome, West Bonaparte Basin, Timor Sea. *Australian J. Earth Sci.* 57, 4, p. 411-430.

*(Mt Ashmore dome in W Bonaparte Basin structural dome below major pre-Oligocene/post-Late Eocene unconformity and above 6km-deep-seated basement high. Microbrecciation suggest possible impact origin. Age if Mt Ashmore dome contemporaneous with Late Eocene impact cluster)*

Goktas, P. (2013)- Morphologies and controls on development of Pliocene-Pleistocene carbonate platforms: Northern Carnarvon Basin, Northwest Shelf of Australia. M.Sc. Thesis, University of Texas at Austin, p. 1-72.

(online at: <https://repositories.lib.utexas.edu/handle/2152/22220>)

*(Interpretation of 3D seismic data over four Plio-Pleistocene flat-topped carbonate platforms on NW Shelf)*

Goktas, P., J.A. Austin, C.S. Fulthorpe & S.J. Gallagher (2016)- Morphologies and depositional/erosional controls on evolution of Pliocene-Pleistocene carbonate platforms: Northern Carnarvon Basin, Northwest Shelf of Australia. *Continental Shelf Research* 124, p. 63-82.

Goncharov, A. (2003)- Basement and crustal structure of the Bonaparte and Browse basins, Australian northwest margin. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geol. Survey, p. 551-566.

*(Basement and crustal structure of Bonaparte and Browse basins substantially different to each other. Bonaparte Basin up to 22 km of sediment, Browse Basin up to 12-14 km. Sedimentation in Bonaparte and Browse basins initiated in region with relatively thick crust. Bonaparte Basin deepest Moho directly beneath deepest basement. More typical inverse relationship between Moho topography and depth to basement is observed in Browse Basin)*

Gorter, J.D. (1994)- Triassic sequence stratigraphy of the Carnarvon Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 397-413.

*(Thirteen depositional sequences in Triassic of offshore Carnarvon Basin. Ages constrained by conodonts)*

Gorter, J.D. (1998)- Revised Upper Permian stratigraphy of the Bonaparte Basin. In: *The sedimentary basins of Western Australia 2*. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2*, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, p. 213-228.

*(Four regionally extensive Upper Permian limestones in Bonaparte Basin. Regional extent and mappability of these carbonates dictates revision of Upper Permian sequences)*

Gorter, J.D. (1999)- Evidence for a widespread Late Eocene (?) meteor bombardment of the northern Bonaparte Basin, offshore northern Australia, and its effect on hydrocarbon prospectivity. *Petroleum Expl. Soc. Australia (PESA) Journal* 27, p. 25-40.

*(Fohn-1 exploration well in offshore N Bonaparte basin with 350 m thick breccia lens interpreted as buried impact crater formed in late Eocene erosion surface. Trace element geochemistry includes anomalous platinum group element values, including iridium. Fohn South with raised outer rim and 30 other smaller circular features at same stratigraphic horizon may all be impact craters)*

Gorter, J.D. & S.W. Bayford (2000)- Possible impact origin for the Middle Miocene (Serravallian) Puffin structure, Ashmore Platform, Northwest Australia. *Australian J. Earth Sci.* 47, 4, p. 707-714.

*(Circular structure on seismic possible impact crater (but in Gorter et al. 2002 interpreted as E Miocene patch reef)*

Gorter, J.D. & J.M. Davies (1999)- Upper Permian carbonate reservoirs of the North West Shelf and Northern Perth Basin, Australia. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 39, 1, p. 343-362.

Gorter, J.D. & I. Deighton (2002)- Effects of igneous activity in the offshore northern Perth Basin- evidence from petroleum exploration wells, 2D seismic and magnetic surveys. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. West Australian Basins Symposium, Perth 2002, p. 874-899.

Gorter, J.D. & A.Y. Glikson (2000)- Origin of a late Eocene to pre-Miocene buried crater and breccia lens at Fohn-1, North Bonaparte Basin, Timor Sea: a probable extraterrestrial connection. *Meteoritics Planetary Science* 35, 2, p. 381-392.

*(online at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1945-5100.2000.tb01784.x/epdf>)*

*(Seismic data and >350 thick, Pllatinum Group Elements-rich carbonate breccia lens intersected by Fohn-1 well in Timor Sea, interpreted in terms of buried 4.8 km-wide impact crater of late Eocene- Oligocene age. Original crater at least 1400m deep)*

Gorter, J.D., P.J. Jones, R.S. Nicoll & C.J. Golding (2005)- A reappraisal of the Carboniferous stratigraphy and the petroleum potential of the southeastern Bonaparte Basin (Petrel sub-basin), NW Australia. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 2005, p. 275-295.

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*(Several sedimentary basins in W Australia contain Late Permian or older petroleum reservoir rocks, overlain by thick (400- 2000m) Early Triassic shaly sequences. Age of base Triassic shales re-assessed)*

Gorter, J., S.E. Poynter, S.W. Bayford & A. Caudullo (2008)- Glacially influenced petroleum plays in the Kulshill Group (Late Carboniferous- Early Permian) of the southeastern Bonaparte Basin, Western Australia. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 2008, p. 69-112.

*(Glacial deposits in Lower Kulshill Group (Late Carboniferous-E Permian) in cores from onshore wells in SE Bonaparte Basin and extend at least 100 km to N. Trap oil and gas in Turtle and Barnett wells. Overlying organic-rich Treachery Shale reflects rapid deglaciation in Granulatisporites confluens palynozone in (late Asselian-) E Sakmarian)*

Gorter, J.D., J.P. Rexilius, S.L. Powell & S.W. Bayford (2002)- Late Early to Mid-Miocene patch reefs, Ashmore Platform, Timor Sea- evidence from 2D and 3D seismic surveys and petroleum exploration wells. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 355-375.

*(Pascal 1 and Lucas 1 wells on Ashmore Platform penetrated E Miocene patch reefs with Lepidocyclina spp. Nearby seismic structures, including 'impact crater' at Puffin, also likely of reefal origin. In Lucas 1 well Late Eocene argillaceous packstone at 1090-1199 m contains abundant Operculiniids, Amphistegina, Asterigerina and common Lacazinella)*

Gorter, J.D., V. Ziolkowski & S.W. Bayford (1998)- Evidence of Lower Triassic reservoirs with possible hydrocarbon charge in the southern Bonaparte Basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, p. 229-235.

*(Sandstone interval in Lower Triassic Mt Goodwin Fm in wells in S Bonaparte Basin commonly associated with mappable seismic reflector. Seismic profiles show brightening of this event, and direct hydrocarbon indicators strongly imply presence of source rocks in pre-Triassic section).*

Gradstein, F.M. (1992)- Legs 122 and 123, Northwestern Australia margin- a stratigraphic and palaeogeographic summary. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 123, p. 801-816. *(online at: [www-odp.tamu.edu/Publications/123\\_SR/VOLUME/CHAPTERS/sr123\\_43.pdf](http://www-odp.tamu.edu/Publications/123_SR/VOLUME/CHAPTERS/sr123_43.pdf))*

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(online at: [www.ga.gov.au/corporate\\_data/49408/Jou1994\\_v15\\_n1.pdf](http://www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf))

(Dredge samples from 3625-4480m of Rowley Terrace contain bivalves of Tethyan affinity in Late Triassic reefal limestone (*Paleocardita aff. globiformis*) and E Jurassic oolitic calcarenite (*Pseudopecten dugong n.sp.*)

Greenhalgh, J., D. Rajeswaran & T. Paten (2015)- A new look at the prospectivity of the Caswell Sub-Basin, Australian NWS. Proc. SE Asia Petroleum Expl. Soc. (SEAPEX) Conf. 2015, Singapore, 7.1, 22p. (Extended Abstract + Presentation)

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Grice, K., J. Backhouse, R. Alexander, N. Marshall & G.A. Logan (2005)- Correlating terrestrial signatures from biomarker distributions,  $\delta^{13}C$ , and palynology in fluvio-deltaic deposits from NW Australia (Triassic-Jurassic). Organic Geochem. 36, p. 1347-1358.

(Organic geochemistry and palynology used to establish palaeoenvironmental conditions of Triassic-Jurassic fluvio-deltaic deposits in Delambre-1 well. Changes in higher plant biomarker distributions correlate with (1) brackish water environments; (2) changes in composition of spore and pollen assemblages; (3) sedimentary facies; and (4) stable carbon isotopic composition of higher plant biomarkers. Changes are all consistent with climatic shifts in NW Australia in Late Triassic- M Jurassic. Combustion marker benzopyrene abundant in samples with *Falcisporites australis* pollen. Decline of *F. australis* and rapid emergence of *Corollina spp.*-dominated assemblages marks rapid-pollen extinction event at end of Triassic. Triassic-Jurassic boundary increase in higher plant biomarkers (*cadalene* and *simonellite*) in prodeltaic facies)

Griffin, W.L., E.A. Belousova, S.R. Shee, N.J. Pearson & S.Y. O'Reilly (2004)- Archean crustal evolution in the northern Yilgarn Craton: U-Pb and Hf-isotope evidence from detrital zircons. Precambrian Res. 131, p. 231-282.

(U-Pb and Hf-isotope analyses of zircons from N Yilgarn Craton and adjacent Capricorn Orogen, E of Perth, W Australia. Oldest crustal components 3.7 Ga. Main zircon population around ~2700 Ma. 1.8-2.3 Ga magmatism associated with Capricorn Orogen (between Yilgarn- Pilbara cratons). 540 Ma episode in NE part of craton involved metamorphism or remelting of 2.7-3.0 Ga crust of E Goldfields Province)

Grosjean, E., D.S. Edwards, T.J. Kuske, L. Hall, N. Rollet & J. Zumberge (2016)- The source of oil and gas accumulations in the Browse Basin, North West Shelf of Australia: a geochemical assessment. AAPG/SEG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Art. 10827, 39p. (Abstract + Presentation)

(online at: [www.searchanddiscovery.com/pdfz/documents/2016/10827grosjean/ndx\\_grosjean.pdf.html](http://www.searchanddiscovery.com/pdfz/documents/2016/10827grosjean/ndx_grosjean.pdf.html))

(Browse Basin significant gas province with EUR 36 TCF gas and 1148 MMb condensate in Ichthys, Prelude/Concerto, Crux, etc. fields. Charged from gas-prone source rocks in E-M Jurassic Plover Fm. Oil-prone source rocks in U Jurassic Lower Vulcan and Lower Cretaceous Echuca Shoals Fms charge limited. Sub-economic oil in Browse Basin only in C Caswell sub-basin (Caswell) and on Yampi Shelf (Cornea, Gwydion), where oil-gas in Cretaceous reservoirs, derived from marine organic matter in E Cretaceous Echuca Shoals Fm)

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(online at: <https://dro.deakin.edu.au/eserv/DU:30048942/guzel-palaeobiogeographic-2012.pdf>)

*(Jurassic- E Cretaceous marine ostracod faunas of W Australia. E Jurassic ostracod faunas of W end of Tethys and NW Australia (E end of S Tethys) little variation in depositional conditions along N Gondwana marine shelf. By Late Jurassic distinctive Indian Ocean ostracod fauna developed. By Barremian- Aptian Austral Province initiated)*

Haig, D.W. (1992)- Aptian-Albian foraminifers from the Cuvier Abyssal Plain and comparison with coeval faunas from the Australian region. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 123, p. 291-297.

*(online at: [www-odp.tamu.edu/publications/123\\_SR/VOLUME/CHAPTERS/sr123\\_14.pdf](http://www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_14.pdf))*

*(79 U Aptian-Albian foram species from ODP Site 766, off W Australia. Uppermost Albian age near top (equivalent of Rotalipora appenninica Zone), but deeper correlation tentative due to absence of index species. Mid-Cretaceous faunas from W Australia represent middle- high paleolatitudes in S Hemisphere. Benthic assemblages belong to Marssonella Association. Australian fauna lacks many families present in Tethyan (low-latitude) faunas. Late Albian planktonic foraminifers from Site 766 similar to those from Papuan Basin)*

Haig, D.W. (2018)- Permian (Kungurian) foraminifera from Western Australia described by Walter Parr in 1942: reassessment and additions. Alcheringa, 30p. *(in press)*

*(Study of well-preserved late E Permian siliceous agglutinated Foraminifera originally recorded by Parr from Quinmanie Shale and lower Wandagee Fm in Merlinleigh sub-basin of S Carnarvon Basin)*

Haig, D.W., M. Smith & M.C. Apthorpe (1997)- Middle Eocene Foraminifera from the type Giralia calcarenite, Gascoyne Platform, southern Carnarvon Basin, western Australia. Alcheringa, 21, p. 229-245.

*(M Eocene larger foram assemblage from Giralia calcarenite of Gascoyne Platform, NW Australia. Limestone one sequence with maximum thickness of 40-50m, reflecting maximum flooding event. With larger foraminifera Discocyclina, Asterocyclina and Nummulites (but no Pellatispira as reported by Chapman and Crespin, 1935). Rare Distichoplax algae near base)*

Haig, D.W., D.K. Watkins & G. Ellis (1996)- Mid-Cretaceous calcareous and siliceous microfossils from the basal Gearle Siltstone, Giralia Anticline, Southern Carnarvon Basin. Alcheringa 20, 1, p. 41-68.

*(Diverse assemblage of E Albian foraminifera (Hedbergella planispira Zone), radiolaria and nannoplankton (CC8a Subzone) in basal beds of Gearle Siltstone in Giralia Anticline. Transition from Aptian Windalia Radiolarite to Gearle Siltstone may reflect marine transgressive pulse. Deposition of basal Gearle Siltstone coincident with major increase in bathymetry in Papuan, Laura and other basins in E Australia)*

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Haines, P.W., M.T.D. Wingate & C.L. Kirkland (2013)- Detrital zircon U-Pb ages from the Paleozoic of the Canning and Officer Basins, Western Australia; implications for provenance and interbasin connections. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p.

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*(Review of E Cretaceous plate tectonic history of SW margin of Australia, including Perth and Mentelle basins, largely following Gibbons et al. (2012) model)*

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*(Submarine Naturaliste Plateau off SW Australia is block of continental origin exhumed during Cretaceous breakup between Australia and Antarctica. Reworked Mesoproterozoic (ca. 1230-1190 Ma) zircons from*

granite and orthogneiss samples dredged from S margin of plateau. Igneous rocks metamorphosed during Cambrian Pinjarra Orogeny at ~515 Ma. Protoliths affinities to Mesoproterozoic crust in Albany-Fraser-Wilkes Orogen (Australia-Antarctica))

Haq, B.U., U. von Rad, S. O'Connell, A. Bent, et al. (1990)- Proceedings of the Ocean Drilling Program (ODP), Initial Reports 122, College Station, TX, p. 1-818.

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(Neogene collision between Australia and Banda Arc modified adjacent Browse and Bonaparte Basins. Two trends: (1) continuous long-wavelength amplification of Permo-Carboniferous basement topography, and (2) flexure and normal faulting of Triassic-Recent sedimentary cover)

Haston, R.B. & J.J. Farrelly (1993)- Regional significance of the Arquebus 1 well, Browse Basin, NW Shelf, Australia. Australian Petrol. Explor. Assoc. (APEA) J. 33, 1, p. 28-38.

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(Paper on systematical mapping of 6702 seafloor geomorphic features around Australia: Plateaus, basins, terraces, reefs (4172), etc.. Australian margin relatively underrepresented in shelf and rise and over-represented in slope areas, reflecting mainland bounded on three sides by rifted continent-ocean margins and associated large marginal plateaus)

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(Anisian foraminifera from Lawley No. 1 well, Dampier sub-basin, NW Shelf. Well-preserved, non-Tethyan assemblage of 34 species, 10 new. Anisian age of material based on palynological evidence (T. playfordi zone))

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Heine, C. (2002)- The tectonic evolution of the Northwest Shelf of Australia and southern Southeast Asia. M.Sc. Thesis Ruhr-Universitat Bochum and University of Sydney, p. 1-94.  
(online at: [www.earthbyte.org/people/christian/media/Heine\\_02\\_MScThesis\\_e-version.pdf](http://www.earthbyte.org/people/christian/media/Heine_02_MScThesis_e-version.pdf))  
(Argo and Gascoyne Abyssal Plains off NW Australia are only preserved patches of Tethyan ocean floor; rest destroyed by subduction. W Burma Block identified as continental fragment breaking up from NW Shelf in Late Jurassic and accreted to SE Asian mainland in Santonian-Coniacian (85-80Ma) near W Thailand)

Heine, C. & R.D. Muller (2005)- Late Jurassic rifting along the Australian Northwest Shelf: margin geometry and spreading ridge configuration. Australian J. Earth Sci. 52, p. 27-39.  
(online at: [ftp://ftp.es.usyd.edu.au/pub/christian/permanent/Heine\\_05\\_LtJurassicRiftingNWShelf.AJES.pdf](ftp://ftp.es.usyd.edu.au/pub/christian/permanent/Heine_05_LtJurassicRiftingNWShelf.AJES.pdf))  
(Magnetic anomaly record of Argo and Gascoyne Abyssal Plains re-interpreted, showing continental breakup in Argo and Gascoyne started simultaneously in Oxfordian with M25A (= E Kimmeridgean?; JTvG) as oldest anomaly. Sea-floor spreading continued until M14 (Valanginian), separating W Burma Block and possibly other continental fragments like Sikuleh Terrane of W Sumatra from N Australian margin)

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*(Cenozoic progressive flooding of Australia requires downward tilting of Australian Plate towards SE Asian subduction system. Reconstruction of flooding history for last 70 Ma on continental scale. S low caused by sinking slab material from E Gondwana subduction zone in Cretaceous. N low first straddles N Australia in Oligocene, attributable to material subducted N and NE of Australia. Apparent Late Cenozoic N-ward tilt of Australia function of S Australia moving away from Gondwana subduction-related dynamic topography low in Oligocene, followed by drawing down of N Australia as it overrode slab burial ground under much of N Australia since Miocene. Without mantle convection most of Australia's continental shelves would be exposed)*

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*(Magnetic anomalies in Argo Abyssal Plain identified as M10 to M25, increasing in age from Java Trench to NW Shelf of Australia. Argo Abyssal Plain is bounded by 5600m contour and reaches max. depth of 5730m. Joey Rise limits Argo Abyssal Plain on SW. Numerous diapir-like structures)*

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*(Late Permian- Cretaceous dinoflagellate zonation, which is now preferred tool for dating Mesozoic sediments of Australian NW Shelf- New Guinea. Falcisporites superzone ranges from Late Permian- latest Triassic or Hettangian. Protohaploxy)*

Helby, R., R. Morgan & A.D. Partridge (2004)- Updated Jurassic- Early Cretaceous dinocyst zonation, NWS Australia. Geoscience Australia Publ. ISBN 1 920871 01 2.

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Helby, R.J. & A.D. Partridge (1977)- A palynological reconnaissance of BMR stratigraphic drilling in Mesozoic rocks of the Carpentaria Basin. Esso Australia Ltd., Palaeontological Report 1977/22, p. 1-25.

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*(Bathonian- Aptian palyno-biostratigraphic zonation)*

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*(NW Australia passive margin intersects E termination of Java trench of Sunda arc subduction zone and W western termination of Timor Trough at Banda arc collision zone. Differential relative motion between these sectors reactivated former rift margin of NW Australia, evidenced by Pliocene-Quaternary deformation along 1400km long offshore fault system. Earthquake focal mechanisms consistent with dextral motion along NE trending fault planes. Faults crosscut Late Miocene unconformities eroded over M Miocene inversion structures. Onset of deformation consistent with time of collision of Scott Plateau between 3 Ma-present. Example of intraplate deformation resulting from kinematic transitions along distant plate boundary)*

- Hillis, R.R. (1991)- Australia- Banda Arc collision and in situ stresses in the Vulcan Subbasin (Timor Sea) as revealed by borehole breakout data. *Exploration Geophysics* 22, 1, p. 189-193.  
*(Boreholes in Vulcan Sub-basin elliptical cross-section, formed in response to in situ stress. Long axes of breakouts 130-170°N trend, implying NE-ENE-oriented maximum horizontal stress. This orientation not controlled by compression from Australia/ Banda Arc collision zone, but consistent with models of stress distribution in Indo-Australian plate based on plate-driving forces at all of its boundaries)*
- Hillis, R.R. (1992)- Evidence for Pliocene erosion at Ashmore Reef (Timor Sea) from the sonic velocities of Neogene limestone formations. *Exploration Geophysics* 23, p. 489-495.  
*(Sonic velocity of Miocene Oliver Fm at Ashmore Reef-1 well anomalously fast, probably due to 1.3 km of Pliocene erosion. Erosion was synchronous with subsidence of present-day Timor Trough and uplift of Timor island, so is believed to be linked with collision between Australian Continent and Indonesian Banda Island Arc)*
- Hillis, R.R. (1998)- The Australian stress map. *Petroleum Expl. Soc. Australia (PESA) News* 37, p. 40-43.
- Hillis, R.R., J.J. Meyer & S.D. Reynolds (1998)- The Australian stress map. In: ASEG 13th Int. Geoph. Conf. Exhib., *Exploration Geophysics (Melbourne)* 29, 3-4, p. 420-427.  
*(Australian stress map (mainly from borehole breakouts) indicates high level of horizontal compression in Australian Continent. Maximum horizontal stress oriented NE-SW from New Guinea along NW Shelf to Bonaparte and Canning Basins. To W ~50° rotation to 100°N in Carnarvon Basin. Max. horizontal stress oriented 010-020°N in Bowen Basin of Queensland and Amadeus Basin of C Australia)*
- Hillis, R.R., S.D. Mildren, C.J. Pigram & D.R. Willoughby (1996)- The North West Shelf stress map. *PESA News* 22, p. 42-47.  
*(NW Shelf stress map, based on analysis of borehole breakouts, indicates direction of maximum contemporary horizontal compression in upper few km of crust. Regional stress direction is consistently oriented ~050° 060°N (SW-NE) from onshore Canning Basin, Bonaparte basin to New Guinea. Between Canning and Carnarvon Basins max orientation swings ~ 40° to 090°-100°N (WNW-ESE.)*
- Hillis, R.R., S.D. Mildren, C.J. Pigram & D.R. Willoughby (1997)- Rotation of horizontal stresses in the Australian North West continental shelf due to the collision of the Indo-Australian and Eurasian plates. *Tectonics* 16, 2, p. 323-335.  
*(40° rotation of regional maximum horizontal stress orientation between W (Carnarvon Basin) and E (Bonaparte Basin) end of Australian NW Shelf. Borehole breakouts in Carnarvon Basin show  $\sigma_{max}$  orientation of 90°-100°N. Regional  $\sigma_{max}$  orientation from New Guinea through Bonaparte Basin to Canning Basin is 50°-060°N. Between Canning and Carnarvon  $\sigma_{max}$  rotates to 90°-100°N. Banda Arc collisional zone not generating significant net push; 50°-060°N  $\sigma_{max}$  orientation of much of N Australian margin probably controlled by New Guinea orogen)*
- Hillis, R.R., M. Sandiford, S.D. Reynolds & M.C. Quigley (2008)- Present-day stresses, seismicity and Neogene-to-Recent tectonics of Australia's passive margins: intraplate deformation controlled by plate boundary forces. In: H. Johnson et al. (eds.) *The nature and origin of compression in passive margins*, Geol. Soc., London, Spec. Publ. 306, p. 71-90.  
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*(Results of 1977 RV Valdivia marine geological survey. Scott Plateau between Argo Abyssal Plain in W and Roti Basin in N is foundered continental block at depth of 2000-3000m. Dominant fault direction is NW to WNW, an ancient strike direction on Australian continent. W margin probably formed as NE-trending rifts and NW-trending transforms during Late Jurassic breakup. Argo Abyssal Plain 5000-5730m deep, overlain by ~400m of Late Jurassic-Cretaceous sediments, unconformably overlain by 200m of Tertiary sediment. Callovian breakup was preceded by period of basic volcanism and shallow marine sedimentation, followed by restricted shallow marine conditions in the Late Jurassic, and bathyal carbonate sedimentation by Late Cretaceous. Manganese crusts up to 1 cm thick at all dredge stations on Scott Plateau)*

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*(Carnarvon Basin of W Australia two distinct parts: (1) southern, onshore, N-trending sub-basins with up to 7km of mainly Paleozoic sediments, and (2) northern, offshore, NE trending sub-basins, up to 15 km deep, with thick Mesozoic and Cenozoic sequences as well as Paleozoic sediments)*

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Hocking, R.M. (1992)- Jurassic deposition in the southern and central North West Shelf, western Australia. Geol. Survey Western Australia, Perth, Record 1992/7, p. 1-101.

Hocking, R.M., A.J. Mory & I.R. Williams (1994)- An atlas of Neoproterozoic and Phanerozoic basins of Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, p. 21-44.

*(W Australia (mainly onshore) basins:(1) Neoproterozoic (Savory, Amadeus, Officer), (2) Paleozoic (Gunbarrel, S Bonaparte, Ord, Canning, S Carnarvon); (3) Mesozoic-Cainozoic (N Bonaparte, Browse, Roebuck, N Carnarvon; grouped into Westralian Superbasin). Perth- Collie basins both Paleozoic and Mesozoic elements)*

Hoffman, N. & K.C. Hill (2004)- Structural-stratigraphic evolution and hydrocarbon prospectivity of the deep-water Browse Basin, North West Shelf, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geol. Survey, p. 393-409.

Holford, S.P., N. Schofield, C.A.L. Jackson, C. Magee, P.F. Green & I.R. Duddy (2013)- Impacts of igneous intrusions on source and reservoir potential in prospective sedimentary basins along the Western Australian continental margin. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 4, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, 11p.

Hollis, J.A., C.J. Carson & L.M. Glass (2009)- SHRIMP U-Pb zircon geochronological evidence for Neoproterozoic basement in western Arnhem Land, northern Australia. Precambrian Research 174, p. 364-380.

*(Pine Creek Orogen, W Arnhem Land, on N periphery of North Australian Craton with metamorphosed Paleoproterozoic sediments with Neoproterozoic zircon detritus, particularly in 2530-2510 Ma and ca. 2670-2640 Ma age range. Pine Creek orogen itself thermal-compressional event around 1865- 1855 Ma)*

Hopper, J.R., J.C. Mutter, R.L. Larson, C.Z. Mutter, P. Buhl et al. (1992)- Magmatism and rift margin evolution; evidence from northwest Australia. Geology 20, 9, p. 853-857.

*(Deep seismic observations from NW Australia show Cuvier margin is volcanic passive margin that formed as Greater India rifted away from Australia in E Cretaceous. Formation of Cuvier Basin and rapid initial sea-floor spreading resulted in emplacement of exceptionally thick oceanic crust, while contemporaneous spreading off adjacent Exmouth Plateau formed normal-thickness oceanic crust)*

Horstman, E.L (1988)- Source maturity, overpressures and production, North West Shelf, Australia. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Expl. Soc. Australia (PESA), p. 529-538.

Howarth, V. & T.M. Alves (2016)- Fluid flow through carbonate platforms as evidence for deep-seated reservoirs in Northwest Australia. *Marine Geology* 380, p. 17-43.

Howe, J.R.W., R.J. Campbell & J.P. Rexilius (2003)- Integrated uppermost Campanian-Maastrichtian calcareous nannofossil and foraminiferal biostratigraphic zonation of the northwestern margin of Australia. *J. Micropalaeontology* 22, 1, p. 29-62.

(online at: <https://www.j-micropalaeontol.net/22/29/2003/jm-22-29-2003.pdf>)

(uppermost Campanian-Maastrichtian calcareous microfossil zonation based on ODP holes on Exmouth Plateau and petroleum exploration wells from Vulcan sub-basin. NW Australian margin at this time transitional between cool-water Austral Province to S and warm-water Tethyan Province to N. Many Tethyan marker-species missing or have different ranges. U Campanian- lower U Maastrichtian disconformity on NW margin)

Huber, B.T. (1992)- Paleobiogeography of Campanian-Maastrichtian foraminifera in the southern high latitudes. *Palaeogeogr. Palaeoclim. Palaeoecology* 92, p. 325-360.

(On Late Cretaceous planktonic forams; mainly near Antarctica)

Hull, J.N.F. & C.M. Griffiths (2002)- Sequence stratigraphic evolution of the Albian to Recent section of the Dampier Sub-basin, North West Shelf Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 617-639.

(In Dampier sub-basin Albian-Santonian sequences progressive increase in water depth and carbonate content, reaching maximum with widespread Santonian calcilutites. Following major relative sea level fall at base Oligocene a strongly prograding carbonate margin established, persisting to present day. Late Miocene- Recent section significant basinward thickening and onlap above N17-1 SB, implying renewed tectonic subsidence associated with collision of Australia and SE Asia in Late Miocene)

Huston, D.L., R.S. Blewett & D.C. Champion (2012)- Australia through time: a summary of its tectonic and metallogenic evolution. *Episodes* 35, 1, p. 23-43.

(online at: [www.episodes.co.in/contents/2012/march/p23-43.pdf](http://www.episodes.co.in/contents/2012/march/p23-43.pdf))

Iasky, R.P., A.J. Mory, K.A. Blundell & K.A.R. Ghori (2002)- Prospectivity of the Peedamullah Shelf and Onslow Terrace revisited. In: M. Keep & S.J. Moss (eds.) The sedimentary Basins of Western Australia 3, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 741-759.

(Pennsylvanian?- Early Sakmarian glacially influenced marine strata of Lyons Group investigated on Peedamullah Shelf, adjacent to Mermaid Nose)

Imbert, P. & S. Ho (2012)- Seismic-scale funnel-shaped collapse features from the Paleocene- Eocene of the North West Shelf of Australia. *Marine Geology* 332-334, p. 198-221.

(Cluster of funnel-shaped seismic anomalies offshore Carnarvon basin, Australia NW shelf, in Paleogene deep-water carbonates and marls. Individual depressions typically circular, >1 km wide and few 100m deep. Interpreted as collapse structures caused by thermal gas hydrates moving upsection. Three episodes in study area. May have developed as consequence of global hyperthermal events).

Ingram, B. & R. Morgan (1988)- The development and status of the Mesozoic palynostratigraphy of the North West Shelf, Australia. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Expl. Soc. Australia (PESA), p. 581-590.

(Palynology has become dominant biostratigraphy tool in Mesozoic section of NW Shelf (Helby, Morgan and Partridge 1987 scheme new industry standard))

Ingram, G.M., S. Eaton & J.M.M. Regtien (2000)- Cornea case study: lessons for the future. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 40, 1, p. 56-65.

Ishiwa, T., Y. Yokoyama, Y. Miyairi, M. Ikehara & S. Obrochta (2016)- Sedimentary environmental change induced from late Quaternary sea-level change in the Bonaparte Gulf, northwestern Australia. *Geoscience Letters* 3.33, p. 1-11.

(online at: <https://geoscienceletters.springeropen.com/articles/10.1186/s40562-016-0065-0>)

*(Bonaparte Gulf of NW Australian continental margin among widest in world (up to 500km), with shallow carbonate terraces and platforms exposed during periods of lower sea level. Switch from siliciclastic to carbonate-dominated sedimentation during last glaciation at ~26 ka, associated with local sea-level fall of -90m)*

Ishiwa T., Y. Yokoyama Y. Miyairi, S. Obrochta, T. Sasaki, A. Kitamura, A. Suzuki et al. (2016)- Reappraisal of sea-level lowstand during the Last Glacial Maximum observed in the Bonaparte Gulf sediments, northwestern Australia. *Quaternary Int.* 397, p. 373-379.

*(Sea-level minimum at Last Glacial Maximum occurred at 20.8 ka and LGM durations shorter than reported)*

Ito, M., S. O'Connell, A. Stefani & P. Borella (1992)- Fluviodeltaic successions at the Wombat Plateau: Upper Triassic siliciclastic-carbonate cycles. In: U. von Rad, B.U. Haq et al (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results* 122, p. 109-

(online at: [www-odp.tamu.edu/publications/122\\_SR/VOLUME/CHAPTERS/sr122\\_06.pdf](http://www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_06.pdf))

*(Carnian-Norian sediments at ODP Sites 759 and 760 on Wombat Plateau ~600m thick transgressive-regressive cycles in deltaic system. Sands dominated by monocrystalline quartz, probably derived from acidic plutonic and volcanic rocks in continental block. Av. ratio of monocrystalline quartz: feldspar: lithic fragments (Qm:F:Lt) is 71:22:7, indicating source from transitional continental and cratonic interior terranes. Mica up to 11%, metasedimentary lithics <0.7%, but generally absent. Upper Carnian sediments more feldspathic and with some volcanic fragments, indicating onset of rifting with volcanism in Gondwana continental block. Around barriers and/or delta lobes, carbonate shoals/banks probably developed)*

Jablonski, D.J. (1997)- Recent advances in the sequence stratigraphy of the Triassic to Lower Cretaceous succession in the Northern Carnarvon Basin, Australia. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 36, 1, p. 429-454.

Jablonski, D. & A.J. Saitta (2004)- Permian to Lower Cretaceous plate tectonics and its impact on the tectono-stratigraphic development of the Western Australian margin. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 44, 1, p. 287-327.

Jason, R., G. McMurtrie & J. Keall (2004)- Hydrocarbon potential of the Outer Browse Basin, NW Australia. *Proc. Deep water and frontier exploration in Asia & Australasia Symp, Indon. Petroleum Assoc. (IPA), Jakarta*, p. 497-507.

*(Outer Browse Basin frontier area believed to contain distal extensions of Browse Basin petroleum systems: large gas condensate discoveries in Mesozoic horst blocks, reservoired in Jurassic deltaic sediments, or small oil discoveries in E Cretaceous sandstones in drapes over Mesozoic horsts or basement highs. Maginnis-1 2002 well failed to encounter Jurassic reservoir and penetrated thicker than anticipated M Jurassic volcanic section)*

Jenkins, C.C., R.M. Chiquito, P.N. Glenton, A.A. Mills, J. McPherson, M.C. Schapper & M.A. Williams (2008)- Reservoir definition at the Jansz/Jo gas field, NW Shelf, Australia: a case study of an integrated project from exploration to development. In: *Proc. Int. Petroleum Techn. Conf. (IPTC) Kuala Lumpur*, 32p.

*(Extensive description of Jansz field, 2000 discovery 250 km off NW coast of Australia, in 1100-1400m water. Jansz/Jo is structural/ stratigraphic trap with gas in U Jurassic (Oxfordian) shallow-marine mud-rich sandstone reservoir, up to 65 m thick)*

Jenkins, C.C., A. Duckett, B.A. Boyett, P.N. Glenton, A.A. Mills, M.C. Schapper, M.A. Williams & J.G. McPherson (2017)- The Jansz-Jo gas field, Northwest Shelf Australia: a giant stratigraphic trap. In: R.K. Merrill & C.A. Sternbach (eds.) *Giant fields of the decade 2000-2010, American Assoc. Petrol. Geol. (AAPG) Mem.* 113, Chapter 16, p. 305-322.

*(Jansz-Lo gas field large stratigraphic trap over 2000 km<sup>2</sup>, with both structural (faulted anticline) and stratigraphic (reservoir pinch-out) components. Stratigraphic component defined by reservoir extent, (depositional downlap to NW and erosional truncation by U Jurassic and Lw Cretaceous unconformities to SE). Original gas in place for Oxfordian sandstone reservoir 11-33 TCF)*

Jenkins, C.C., D.M. Maughan, J.H. Acton, A. Duckett, B.E. Korn & R.P. Teakle (2003)- The Jansz gas field, Carnarvon Basin, Australia. *The Australian Petrol. Prod. Explor. Assoc. (APPEA) J.*, 43, 1, p. 303-324.  
*(Large gas discovery in stratigraphic/ subunconformity trap in U Jurassic sandstones of Carnarvon Basin)*

Jitmahantakul, S. & K. McClay (2013)- Late Triassic-Mid Jurassic to Neogene extensional fault systems in the Exmouth Sub-basin, northern Carnarvon Basin, North West Shelf, Western Australia. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, 22p.

*(Exmouth sub-basin major NE- to NNE-trending Mesozoic -Cenozoic depocentre in intra-passive margin N Carnarvon Basin. Late Triassic (Rhaetian)- M Jurassic (Callovian) W-directed extension produced N-S to NE-SW striking domino-style extensional fault systems that formed rift basin, segmented into 4 depocentres by E-W striking accommodation zones. Three systems of extensional faults: 1. Rhaetian-Callovian planar fault systems of major rift phase; 2. Late Berriasian- E Valanginian post-rift planar domino fault arrays; 3. Late Cretaceous-Neogene polygonal fault arrays formed during passive margin subsidence and sedimentation)*

Jonasson, K. E. (2001)- Atlas of petroleum fields onshore Canning Basin. Dept. Mineral and Petroleum Res. 2, 1, 72p.

Jones, A.T., G.A. Logan, J.M. Kennard & N. Rollet (2005)- Reassessing potential origins of synthetic aperture radar (SAR) slicks from the Timor Sea region of the Northern West Shelf on the basis of field and ancillary data. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 45, p. 311-331.

Jones, A.T., G.A. Logan, J.M. Kennard, P.E. O'Brien, N. Rollet, M. Sexton & K.C. Glenn (2005)- Testing natural hydrocarbon seepage detection tools on the Yampi Shelf, northwestern Australia. Geoscience Australia Survey S267, Post Survey Report, GA Record 2005/15, p. 1-50.

Jones, H.A. (1973)- Marine geology of the northwest Australian continental shelf. Bureau Mineral Res. Geol. Geoph., Bull. 136, p. 1-102.

*(online at: [www.ga.gov.au/corporate\\_data/104/Bull\\_136.pdf](http://www.ga.gov.au/corporate_data/104/Bull_136.pdf))*

Jones, P.J. & C.B. Foster (1985)- Late Permian (Kazanian) ostracods and associated palynomorphs, from the Petrel Sub-basin, northwestern Australia. *Mem. Assoc. Australasian Palaeontologists (AAP)* 27, p. 33-51.

*(Marine ostracod fauna from limestone cuttings of Pearce Mb (497-502 m) of Hyland Bay Fm in Barnett 1 well in SE Petrel basin. Contains Graphiadactyllis formosa and other species known from Late Permian (Kazanian) of Russian Platform. Associated with APP 43 (=Dulhuntyispora dulhuntyi) spore-pollen zone)*

Jones, P.J. & R.S. Nicoll (1985)- Late Triassic conodonts from Sahul Shoals No. 1, Ashmore Block, northwestern Australia. *BMR J. Australian Geol. Geophysics* 9, p. 361-364.

*(online at: [www.ga.gov.au/corporate\\_data/81199/Jou1984\\_v9\\_n4\\_p361.pdf](http://www.ga.gov.au/corporate_data/81199/Jou1984_v9_n4_p361.pdf))*

*(Late Triassic conodont Epigondolella primitia recovered from core at ~1885m in BOCAL 1970 Sahul Shoals 1 well on Ashmore Block, NW Australia. In upper part of 1955m thick Triassic sequence. Dated as latest Carnian-earliest Norian. Sample interval within Samaropollenites speciosus Zone of Onslow Microflora. E. primitia also known from Timor, Sumatra, Malay Peninsula, Austrian Alps, etc.)*

Jones, R.W., P.A. Ventris, A.A.H. Wonders, S. Lowe, H.M. Rutherford, M.D. Simmons, T.D. Varney, J. Athersuch, S.J. Sturrock, R. Boyd & W. Brenner (1993)- Sequence stratigraphy of Barrow Group (Berriasian-Valanginian) siliciclastics, North-West Shelf, Australia, with emphasis on the sedimentological and palaeontological characterization of systems tracts. In: D.G. Jenkins (ed.) *Applied Micropalaeontology*, Kluwer Academic Publ., Dordrecht, p. 193-223.

*(Five Barrow Group (Berriasian-Valanginian) siliciclastic sequences described from NW Shelf, Australia, and calibrated against global third-order cycles)*

Jones, W., A. Tripathi, R. Rajagopal & A. Williams (2011)- Petroleum prospectivity of the West Timor Trough. (PESA) News 114, p. 61-65.

*(Brief seismic-based review of W Timor Trough. Jurassic sediments missing in wells on Ashmore Platform, but new seismic data indicates thicker Jurassic strata in NE, particularly in Timor Graben)*

Jules, R., J.R. Ye & Q. Cao (2016)- Geological conditions and hydrocarbon accumulation processes in the Sahul Platform, Northern Bonaparte Basin, Australia. Int. J. Geosciences 7, p. 792-827.

*(online at: [http://file.scirp.org/pdf/IJG\\_2016062913404548.pdf](http://file.scirp.org/pdf/IJG_2016062913404548.pdf))*

*(Sahul Platform in N Bonaparte Basin between Timor Trough to N and Malita Graben to S. With Sunset-Loxton Shoals and Chuditch gas fields in M Jurassic Plover Fm sandstone. Hydrocarbons migrated mainly from U Jurassic Frigate Shale source rock in Malita Graben to Sunset-Loxton Shoals field in Late Cretaceous (66 Ma). In Chuditch field hydrocarbon migration initiated in Late Miocene (7.5 Ma) from Plover Fm source rock)*

Kaiko, A.R. (1998)- Thermal history analysis of the Barrow and Dampier Sub-basins, North West Shelf, Western Australia. B.Sc. (Hons) Thesis University of South Australia, p. 1-681.

*(online at: <http://search.ror.unisa.edu.au/media/researcharchive/open/9915960302001831/53112361830001831>)*

*(On causes of apparent vitrinite reflectance suppression in Jurassic-Cretaceous of Barrow- Dampier subbasins)*

Kaiko, A.R. & A.M. Tait (2001)- Post-rift tectonic subsidence and palaeo-water depths in the northern Carnarvon Basin, western Australia. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 2001, p. 367-379.

*(Subsidence history of N Carnarvon Basin dominated by thermal sag following E-M Jurassic rifting. Miocene wrench-related uplift (several 100m) caused local basin inversion)*

Kaiko, A.R. & P.R. Tingate (1996)- Suppressed vitrinite reflectance and its effect on thermal history modelling in the Barrow and Dampier sub-basins. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 1996, p. 428-443.

*(Jurassic-Cretaceous formations of predominantly marine origin yield vitrinite reflectance values that are often lower than expected. Two possible explanations: (1) recent increase in thermal gradients occurred; or (2) vitrinite reflectance is suppressed, related to the marine environment of deposition)*

Kaoru, M., Y. Kurata, D.J. Christiansen & J. Scott (2004)- The Crux gas-condensate discovery, northern Browse Basin, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geol. Survey, p. 67-79.

Karner, G.D. & N.W. Driscoll (1999)- Style, timing and distribution of tectonic deformation across the Exmouth Plateau, northwest Australia, determined from stratal architecture and quantitative basin modeling. In: C. Mac Niocaill & P.D. Ryan (eds.) Continental Tectonics, Geol. Soc., London, Spec. Publ. 164, p. 271-311.

*(Tectonic events responsible for formation of Exmouth Plateau varied in space and time. Deformation broadly distributed in Late Permian event (widespread 'intra-cratonic' Locker Shales and Mungaroo Fm). Late Triassic-E Jurassic extension more localized and formed Exmouth, Barrow and Dampier sub-basins. Callovian and Kimmeridgean extension resulted in seafloor spreading. Regional extension in Tithonian- Valanginian generated widespread regional subsidence. After initiation of seafloor spreading, inversion phase with minor reactivation of fault systems. Post-Valanginian subsidence requires significant lower crustal and mantle extension across Exmouth Plateau in Tithonian-Valanginian, which should be accompanied by large injection of heat)*

Keall, J.M. & P.J. Smith (2000)- The impact of late tilting on hydrocarbon migration, eastern Browse Basin, Western Australia. AAPG Int. Conf. Exhibition, Bali 2000, American Assoc. Petrol. Geol. (AAPG) Bull. 84; 9, p. 1445-1446 (Abstract only)

*(Discoveries of oil in Gwydion-1 (1995) and Cornea-1 (1996) on E margin of Browse Basin confirmed presence of oil source in E Cretaceous- Late Jurassic source rocks, with migration of >50 km from kitchen areas to W. Wells drilled along E side of basin have residual oil columns, suggesting traps had greater structural closure at*

*time of charge. Uplift and erosion in Miocene resulted in tilting of traps, causing reduction in amount of closure and spilling of oil updip)*

Keall, J.M. & P.J. Smith (2003)- The Argus-1 gas discovery, northern Browse Basin, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geol. Survey, p. 37-52.

*(N Browse 2000 discovery in tilted Triassic-Jurassic fault block with >240m dry gas column mainly in Oxfordian shallow marine sandstones)*

Keep, M. (2000)- Neogene tectonic influences on petroleum systems in the Browse Basin and Timor Sea, North West Shelf, Australia. AAPG Int. Conf. Bali 2000. *(Extended abstract)*

Keep M., A. Bishop & I. Longley (2000)- Neogene wrench reactivation of the Barcoo Sub-basin, northwest Australia: implications for Neogene tectonics of the northern Australian margin. *Petroleum Geoscience* 6, 3, p. 211-220.

*(Barcoo Basin is S part of Browse Basin. Barcoo Fault system is Miocene reactivation of older structures, resulting in right-lateral wrench zone. Exact timing of inversion uncertain, but probably mainly M Miocene)*

Keep, M., M. Clough & L. Langhi (2002)- Neogene tectonic and structural evolution of the Timor Sea region. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 341-353.

*(Two major and one minor Neogene structural reactivation events: Earliest Miocene (25-23 Ma; rel. minor; =New Guinea collision?), Late Miocene (11- 5.5 Ma; related to Sumba collision/ uplift or New Guinea collision/ folding; 8 Ma seems widespread Indo-Australian event) and late E Pliocene (~3 Ma- present-day; =Timor collision). Dominantly right-lateral transpression in Browse, left-lateral transtension in Timor Sea)*

Keep, M. & M. Harrowfield (2008)- Elastic flexure and distributed deformation along Australia's North West Shelf: Neogene tectonics of the Bonaparte and Browse basins. In: H. Johnson et al. (eds.) The nature and origin of compression in passive margins, Geol. Soc., London, Spec. Publ. 306, p. 185-200.

*(Neogene collision between Australia and Banda Arc modified adjacent Bonaparte and Browse basins of NW Australia. Modification both continuous long-wavelength amplification of Permo-Carboniferous basement topography and flexure and normal faulting of Triassic-Recent sedimentary cover)*

Keep, M., M. Harrowfield & W. Crowe (2007)- The Neogene tectonic history of the North West Shelf, Australia. *Exploration Geophysics* 38, p. 151-174.

*(Continental collision in vicinity of Timor Island (Banda Orogen) influences Neogene deformation in Timor Sea, but little effect in Carnarvon Basin. Location of deformation changes from outboard in Timor Se, to inboard in Carnarvon Basin, with neotectonic events controlled by basement boundaries in Carnarvon Basin. Virtually all Neogene faults in Browse and Bonaparte Basins have normal displacement. Minor compressional inversional structures associated with latest Oligocene- E Miocene arc collision at N margin of Australia/ PNG)*

Keep, M., J. Hengesh & B. Whitney (2012)- Natural seismicity and tectonic geomorphology reveal regional transpressive strain in northwestern Australia. *Australian J. Earth Sci.* 59, 3, p. 341-354.

*(Temporary seismic network in NW Australia recorded 28 earthquakes, with dominantly strike-slip solutions)*

Keep, M. & S.J. Moss (2000)- Basement reactivation and control of Neogene structures in the Outer Browse Basin, North west Shelf. *Exploration Geophysics* 31, p. 424-432.

*(Late Permian- Early Triassic NE-SW extensional faults with minor reactivation in Cenomanian-Turonian, but more pronounced transpression in M Oligocene and M-L Miocene)*

Keep, M., C.M. Powell & P.W. Baillie (1998)- Neogene deformation of the North West Shelf. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth 1998, p. 81-91.

*(Changing angles of collision between the Indo-Australian and Eurasian plates result in a variety of reactivation structures along the NW Shelf. Zones of high strain/ reactivation strongly partitioned into discrete areas. Neogene deformation major impact on petroleum accumulations, both enhancing or breaching earlier traps)*

Kennard, J.M. (1996)- Petrel Sub-basin study 1995-1996, Geohistory modelling. Australian Geol. Survey Org. (AGSO) Record 1996/43, p. 1-120.

*(online at: [https://d28rz98at9flks.cloudfront.net/22673/Rec1996\\_043.pdf](https://d28rz98at9flks.cloudfront.net/22673/Rec1996_043.pdf))*

*(Most wells show uplift and erosion of 400-1000m of Permian- E Triassic sediments during Late Triassic-earliest Jurassic 'Fitzroy Movement'/ basin inversion (peak of Fitzroy Movement probably in late Middle Triassic (Ladinian))*

Kennard, J.M., I. Deighton, D.S. Edwards et al. (1999)- Thermal history modelling and transient heat pulses: new insights into hydrocarbon expulsion and 'hot flushes' in the Vulcan Sub-basin, Timor Sea. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 39, 1, p. 177-207.

*(Good overview of Vulcan Basin; Late Tithonian submarine fans in Paqualin/Swan graben)*

Kennard, J.M., I. Deighton, D.S. Edwards, C.J. Boreham & A.G. Barrett (2002)- Subsidence and thermal history modelling: new insights into hydrocarbon expulsion from multiple petroleum systems in the Petrel Sub-basin, Bonaparte Basin. In: M. Keep & S. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basin Symposium, Petroleum Expl. Soc. Australia (PESA), Perth, p. 409-437.

*(Thermal history analysis of E Carboniferous- Permian petroleum systems in Petrel. Modelled oil- gas expulsion from postulated oil-prone source in Lower Carboniferous Milligans Fm in two offshore depocentres N and S of Turtle-Barnett High. Expulsion commenced in Late Carboniferous, peaked in E Permian, prior to onset of Late Triassic 'Fitzroy Movement' uplift. Expulsion from Lower Permian Keyling Fm restricted to central and outer portions of Petrel Deep. Expulsion from outer Petrel Deep in Late Permian-E Triassic. C Petrel Deep peaked in E Triassic, with minor expulsion in Late Triassic-Cretaceous. Gas expulsion from U Permian Hyland Bay Fm limited to outboard limits of Petrel Sub-basin. Timing is Jurassic-Cretaceous, with peak in mid-late Cretaceous)*

Kennard, J.M., I. Deighton, D. Ryan, D.S. Edwards & C.J. Boreham (2003)- Subsidence and thermal history modelling: new insights into hydrocarbon expulsion from multiple petroleum systems in the Browse Basin. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geol. Survey, p. 412-435.

Kennard, J.M., D.S. Edwards, T.E. Ruble, C.J. Boreham et al. (2000)- Evidence for a Permian petroleum system in the Timor Sea region, northwestern Australia. AAPG Int. Conf. Exhibition, Bali 2000, American Assoc. Petrol. Geol. (AAPG) Bull. 84, 9 *(Abstract only)*

Kennard, J.M., M.J. Jackson, K.K. Romine, K.K. Shaw & P.N. Southgate (1994)- Depositional sequences and associated petroleum systems of the Canning Basin, WA. In: P.G & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Petrol. Expl. Soc. Western Australia, p. 657-676.

Kennard, J.M., M.J. Jackson, K.K. Romine & P.N. Southgate (1994)- Canning Basin project Stage II- Geohistory modelling, AGSO Record, 1994/67, p. 1-242.

*(online at: [https://d28rz98at9flks.cloudfront.net/14787/Rec1994\\_067.pdf](https://d28rz98at9flks.cloudfront.net/14787/Rec1994_067.pdf))*

*(Geohistory analysis of 32 Canning Basin wells. Multiple Ordovician- Triassic tectonic events (Ordovician-Silurian Samphire Marsh Extension, E Devonian Prices Creek Uplift, M-L Devonian Pillara Extension, mid-Carboniferous Meda Transpression, E Permian- Triassic Point Moody Extension and Late Triassic- E Jurassic Fitzroy Transpression) resulted in three subsidence phases, each ended by uplift phase. Large anticlines with up to 2600m of erosion of Permian- E Triassic strata formed during Fitzroy Transpression)*

Kennard, J.M., P.N. Southgate, M.J. Jackson, P.E. O'Brien, N. Christie-Blick, A.E. Holmes & J.F. Sarg (1992)- New sequence perspective on the Devonian reef complexes and the Frasnian-Famnenian boundary, Canning Basin, Australia. Geology 20, p. 1135-1138.

*(Late Devonian barrier reef complex crops out as ~350 km long and 3-50km wide NW-SE linear belt at N margin of Canning Basin, fringing Proterozoic Kimberley block. 15 Frasnian-Tournaisian sequences mapped)*

Killick, M.F. & P.H. Robinson (1994)- The good and bad of diagenesis; a review of sandstone reservoirs in the North Bonaparte Basin. In: P. & G. Purcell (eds.) The sedimentary basins of Western Australia. Proc. Petr. Expl. Soc. Australia Symposium 1, Perth, p. 275-288.

*(U Jurassic- Lower Cretaceous sandstones in N Bonaparte Basin range from fluvial channels to basin floor fans. Gross similarities in diagenetic histories. Reservoir quality primarily controlled by depositional setting. Clean blocky sands of M Jurassic Plover Fm higher porosity-permeability than more argillaceous Sandpiper sands. Major diagenetic events: (1) widespread precipitation of carbonate cements in Cretaceous; and (2) quartz cementation, initiated before carbonate precipitation, but probably peaked in M Tertiary. Some hydrocarbon migration may have occurred before late kaolinite precipitation, preserving reservoir quality)*

King, E. (2008)- Seismic stratigraphy of the intra-Barrow Group, Barrow sub-basin, Northwest Shelf, Australia. M.Sc. Thesis University of Adelaide, School of Petroleum, p. 1-126.

*(online at: <https://digital.library.adelaide.edu.au/dspace/bitstream/2440/59013/2/02whole.pdf>)*

*(Seismic stratigraphy of basal Cretaceous (Berriasian- E Valanginian) Barrow Delta, S of Barrow island. Large shelf-margin fluvial-deltaic system built out to NE. Eleven 2nd-order sequences, with lowstand, transgressive and highstand systems tracts. Within Sequence 1 higher-order sequences with numerous lowstand system wedges and associated channel features)*

Kivior, T. (2005)- Characterising top seal in the Vulcan Sub-Basin, North West Shelf, Australia. B.Sc. (Hons) Thesis, University of Adelaide, Australian School of Petroleum, p. 1-390.

*(online at: <https://digital.library.adelaide.edu.au/dspace/bitstream/2440/59638/2/02whole.pdf>)*

Kivior, T., J. G. Kaldi & R.M. Jones (2000)- Late Jurassic and Cretaceous Seals of the Vulcan Sub-Basin. AAPG Int. Conf. Bali 2000, AAPG Search and Discovery Art. 9091, 1p. *(Abstract only)*

*(Paleo-oil columns in Vulcan Sub-Basin suggest trap breach, either via top seal or fault leakage. Late Jurassic-Cretaceous with four significant shale-marl seal intervals, capable of supporting 100m hydrocarbon columns)*

Kivior, T., J.G. Kaldi & S.C. Lang (2002)- Seal potential in Cretaceous and Late Jurassic rocks of the Vulcan subbasin. The Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 41, p. 203-224.

*(Almost all Late Jurassic and Cretaceous seals in Volcan sub-basin capable of holding back hydrocarbon columns greater than present or paleocolumns encountered. This suggests hydrocarbon leakage unlikely to have occurred as result of top seal capillary failure)*

Klootwijk, C. (1996)- Phanerozoic configurations of Greater Australia: evolution of the North West Shelf. Part 1: Review of reconstruction models. Australian Geol. Survey Org. (AGSO), Record 1996/51, p. 1-105.

*(online at: [www.ga.gov.au/webtemp/1209383/Rec1996\\_051.pdf](http://www.ga.gov.au/webtemp/1209383/Rec1996_051.pdf))*

*(Review of SE Asia- NW Australia plate tectonic evolution models. Models show general agreement for original position of Sibumasu block opposite NW Australia, with N China block in near proximity. Positions of S China and Indochina blocks less clear, but possibly located off N Greater India, perhaps near W Australia)*

Klootwijk, C. (1996)- Phanerozoic configurations of Greater Australia: evolution of the North West Shelf. Part 2: Palaeomagnetic and geologic constraints on reconstructions. Australian Geol. Survey Org., Canberra, Record 1996/52, p. 1-85.

*(online at: [www.ga.gov.au/corporate\\_data/23691/Rec1996\\_052.pdf](http://www.ga.gov.au/corporate_data/23691/Rec1996_052.pdf))*

*(Paleomagnetic constraints on Paleozoic-Mesozoic stripping of Gondwana's NE margin. This occurred through separation of extensive ribbon-continents rather than individual fragments. Ribbon continents and fragments of Gondwanan origin identified in wide zone of Asia, peripheral to Siberian Platform)*

Klootwijk, C. (1996)- Phanerozoic configurations of Greater Australia: evolution of the North West Shelf. Part 3: Palaeomagnetic data base. Australian Geol. Survey Org., Canberra, Record 1996/53, p.

Klootwijk, C. (1998)- Phanerozoic polepath loops and their correlation with basin development and resource accumulation. AGSO Research Newsletter 29, 3p.

Klootwijk, C. (2010)- A heretic view of the Alice Springs Orogeny: Australia-Asia collision and tectonic extrusion. 20th Australian Geological Convention, Canberra 2010, Geol. Soc. Australia, Abstracts 98, p. 94-95. (Abstract only)

*(Paleomagnetic data show N-ward excursion of Australia of >30° of latitude, which may have started in E Devonian and peaked in M-L Visean when promontory of Australian craton in central New Guinea reached latitudes of 30°-40° N, and possibly collided with C Asian Orogenic Belt, closing Paleasian Ocean)*

Klootwijk, C. (2010)- Australia's controversial Middle-Late Palaeozoic pole path and Gondwana-Laurasia interaction. *Palaeoworld* 19, p. 174-185.

*(Alternative paleomagnetic pole path indicates substantial N-ward excursion of Australia/ NE Gondwana in E Carboniferous, possibly starting in E Devonian, with New Guinea continental promontory of Australia reaching latitudes of 30°- 40°N by Visean(?))*

Klootwijk, C. (2013)- Middle-Late Paleozoic Australia-Asia convergence and tectonic extrusion of Australia. *Gondwana Research* 24, 1, p. 5-54.

*(Paleomagnetic data from Carboniferous of W Tamworth Belt, S New England Orogen, show N-ward excursion over ~30°, that probably started in E Devonian. At M-L Visean peak, C New Guinean promontory of Australian craton reached 30°-40°N, within latitude range of W Central Asian Orogenic Belt. Devonian-Carboniferous convergence with this belt proposed as driver for tectonism throughout Australia and C Asia Orogenic Belt)*

Kloss, O., G.R. Wood, J. Benson, S.C. Lang et al. (2003)- A revised depositional model for the Cape Hay Formation, Petrel Field, northern Australia. In: G.K. Ellis, P.W. Baillie & T.J. Munson (eds.) *Timor Sea Petroleum Geoscience, Proc. Timor Sea Symp.*, Darwin 2003, p. 503-519.

*(Petrel Field in Bonaparte Basin is large gas resource in Late Permian Cape Hay Formation, interpreted as transgressive, sandy tide-dominated, restricted estuarine fill succession)*

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*(Change in paleolatitude of areas off NW Australia since E Cretaceous determined from paleomagnetism of cores from ODP Leg 123 and DSDP Leg 27. E Cretaceous paleolatitudes for Sites 766 and 261 around 37°S, lower latitude than expected from Australian apparent polar wander path (APWP). Mid Cretaceous- Paleogene paleolatitudes for Site 765 also lower than predicted by APWP. (NB: results incompatible with present-day relative positions?; Site 261 is 5° N of Site 765 today, but in Cretaceous shown as 5° S of Site Site 765; JTvG))*

Korn, B.E., Teakle, D.M Maughan & P.B. Siffleet (2003)- The Geryon, Orthrus, Maenad and Urania gas fields, Carnarvon Basin, Western Australia. *The Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 43, 1, p. 285-301.

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Kristan-Tollmann, E. & J. Colwell (1991)- Alpiner Enzesfelder Kalk (Unter-Lias) vom Exmouth-Plateau NW von Australien. *Mitteilungen Osterreichischen Geol. Gesellschaft* 84, p. 301-308.

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*('Alpine Enzesfelder Limestone (Lower Liassic) from the Exmouth plateau, NW of Australia'. Lower Liassic yellow echinoid-mollusc limestone samples dredged from submarine Exmouth Plateau from >2000m water depth. Similar to Enzesfeld Fm in Northern Limestone Alps in Austria and also from Timor. Sample 96 DR 30 with distinct foram fauna with *Involutina liassica*, *I. turgida*, *Trocholina* spp., etc. (although these may be found in latest Triassic; abundant *I. liassica* usually signifies lowermost Liassic). Part of Alpine Late Triassic- Jurassic facies belt that stretches for >15,000 km from Alps to Australia-PNG)*

Kristan-Tollmann, E. & F. Gramann (1992)- Paleontological evidence for the Triassic age of rocks dredged from the Northern Exmouth Plateau (Tethyan foraminifers, echinoderms, and ostracodes). In: U. von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 122, p. 463-474.

*(Limestone samples from ODP site 764 and Sonne cruise 1979 dredge samples from N side Wombat Plateau have Norian- Rhaetian fauna, similar to other Tethyan/ 'Alpine' foram faunas, including Timor and PNG, suggesting close similarity of faunal communities throughout Tethys realm)*

Labutis, V.R. (1994)- Sequence stratigraphy and the North West shelf of Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 159-180.

*(Permian- Paleocene sequence stratigraphic framework for NW Shelf based on biozonation of Helby et al. (1987), Exxon models of sequence stratigraphy and the time scale of Harland (1982). Provides insight into timing, rifting history and type of tectonic deformation affecting NW Shelf)*

Labutis, V.R., A.D. Ruddock & A.P. Calcraft (1998)- Stratigraphy of the southern Sahul Platform. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 38, 1, p. 115-136.

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*(Sequence stratigraphic framework for Cretaceous- M Miocene of Barcoo sub-basin of Browse Basin, to evaluate stratigraphic trap potential from seismic and 4 wells. Six 2nd-order mega-sequences recognized, each subdivided into 2-7 3rd-order depositional sequences. Base Cretaceous- Top Turonian dominated by major progradational-aggradational siliciclastic margin, with up to 40 km of progradation to NW. Major transgression in Late Cretaceous caused margin backstepping. Cenozoic section also prograded to NW, but thinner than underlying Cretaceous strata, and is less prospective due to shallow burial and lack of traps. To date, no fields discovered)*

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*(Tectonic subsidence curves around Roebuck 1 well show striking Permo-Carboniferous rifting phase related to Neotethys (means Mesotethys?; JTvG) rifting and Late Jurassic-Early Cretaceous event coeval with Argo Abyssal Plain spreading. Permo-Carboniferous episode greater effect on proximal Dampier Sub-basin subsidence than Argo rifting. Two modes of extension: Late Paleozoic (widespread) and Mesozoic (localised))*

Langhi, L. & G.D. Borel (2008)- Reverse structures in accommodation zone and early compartmentalization of extensional system, Laminaria High (NW shelf, Australia). Marine Petroleum Geol. 25, p. 791-803.

*(Late Jurassic rift phase key to accumulation of hydrocarbons in Timor Sea. On Laminaria High Oxfordian-Kimmeridgian E-W faults forms structural traps with discoveries. Secondary reverse structures act as secondary hydrocarbon traps and/or as migration barriers (flower structure in extensional setting))*

Langhi, L., N.B. Ciftci & G.D. Borel (2011)- Impact of lithospheric flexure on the evolution of shallow faults in the Timor foreland system. Marine Geology 284, p. 40-54.

*(Laminaria High lithosphere flexure associated with collision of Australian NW margin and Banda volcanic arc is mechanism for Neogene fault development and reactivation of Jurassic structures. Initiation of faulting during Late Miocene when Laminaria High entered flexed area (forebulge). Maximum fault growth between Late Pliocene and Early Pleistocene when Laminaria High was located near forebulge hinge)*

Langhi, L., N.B. Ciftci & D. Dewhurst (2011)- Structural trap modification associated with foreland lithospheric flexure. AAPG Ann. Conv. Exh., Houston 2011, Poster, Search and Discovery Art. 40780, 5p.

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Langhi, L., Y. Zhang, A. Gartrell, J. Underschultz & D. Dewhurst (2010)- Evaluating hydrocarbon trap integrity during fault reactivation using geomechanical three-dimensional modeling: an example from the Timor Sea, Australia. *American Assoc. Petrol. Geol. (AAPG) Bull.* 94, 4, p. 567-591.  
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(Sediments on Van Diemen Rise, Sahul Shelf, E Timor Sea, mainly skeletal calcareous sand. Several sinuous channels cut through terraces and banks during subaerial exposure of carbonate shelf during Last Glacial Maximum. At ~18 000 BP sea level was -120 m below present shoreline; only narrow marine shelf near edge of present continental shelf. Shoals on narrow shelf focus of coral reef growth. Calcrete concretions formed on exposed land surface. Today entirely clastic sedimentation <50 m, derived from wet-season river input. Large foraminifera and coralline algae dominate shallow banks and rises. Halimeda-dominated assemblages on outermost shelf edge banks)
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(Pilbara, Yilgarn and Kimberley cratons not major protosources during M-U Triassic. Detrital zircon ages of Berriasian Brewster Mb sandstone from Burnside 1 in Caswell sub-basin main components 1890-1730 Ma (12%; Halls Creek orogen?), 1660-1370 Ma (13%) and 1240-1100/820 Ma (~54%). Subordinate components 2750-2380 Ma (~7%; Yilgarn?) and 730-550 Ma. Triassic euhedral zircon grains of volcanic origin in most Mungaroo Fm samples suggest volcanic event proximal to Exmouth Plateau at this time)
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*(Grooved surfaces in Late Paleozoic Grant Group in C Grant Range cut by glacial ice. Orientation of grooves and sedimentary structures indicate ice motion from SSE. Pebbles of banded iron formation in associated marine diamictites suggest that ice originated in Pilbara Block and extended 400 km into Canning Basin)*

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*(Four Mesozoic petroleum systems identified in Caswell sub-basin. Source rocks in subbasin sufficient maturities to have transformed most of kerogen into hydrocarbons, with most expulsion from Late Cretaceous- Present. In Barcoo Sub-basin only source rocks within the J10-J20 supersequences sufficient maturity for generation. Predominantly gas-prone kerogen in Jurassic-Cretaceous)*

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*(Lower Barrow Group in N Carnarvon basin is latest Tithonian- E Valanginian prograding shelf-margin system with ~100-500m high clinoforms. 3D seismic shows high-order clinothems with cyclicity of ~40,000 yrs. Falling to flat shelf-edge trajectories associated with sediment bypass; rising shelf-edge trajectories linked with increasing sediment storage on shelf. Fluvial-dominated coastlines steep slope clinoforms; wave-dominated coastlines low-angle slope clinoforms. Turbidite systems mostly short-lived, fed by multiple small rivers forming linear ramp systems. Due to shallow configuration of margin (<500m), short slopes and high sand ratio, turbidite systems smaller scale (<50 km) and shorter lived than most modern turbidite systems (100-1000 km))*

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*(Samples dredged from Exmouth Plateau by RV Sonne yielded Late Sinemurian forams Ichthyolaria and Geinitzina. First record of marine rocks of this age from Australia)*

Quilty, P.G. (1984)- Cretaceous foraminiferids from Exmouth Plateau and Kerguelen Ridge, Indian Ocean. Alcheringa 8, p. 225-241.

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Quilty, P.G. (1990)- Triassic and Jurassic foraminiferid faunas, northern Exmouth Plateau, Eastern Indian Ocean. J. Foraminiferal Research 20, 4, p. 349-367.

*(Triassic (Rhaetian) and Jurassic (Callovian) foraminiferid faunas documented for first time in Australia from samples dredged on Exmouth Plateau off NW Australia. Triassic fauna diverse, with distinctly Tethyan characteristics. Callovian fauna diverse and cosmopolitan in character)*

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*(Foraminifera from RV Sonne sample dredged from 4438-4049 m water depth on Wallaby Plateau SW margin. Oxfordian/Kimmeridgean foram fauna, older than previously known ages in region and predates initiation of seafloor spreading along W Australian margin. Low diversity fauna, dominated by Conicospirillina, Conorboides and Lenticulina. Shallow marine deposition. Area subsided ~4000m since deposition)*

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*(Seismic lines along margin of Argo Abyssal Plain. N Exmouth Plateau and Rowley Terrace margin underlain by thinned continental crust. At end of M Jurassic period of thermal uplift, faulting, volcanism and erosion over zone within 100-150 km of future abyssal plain, creating widespread angular unconformity, culminating in breakup in Callovian-Oxfordian, and 'Argo Landmass' drifted NW, leaving oceanic crust behind)*

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Redfern, J. & B.P.J. Williams (2002)- Canning Basin Grant Group glaciogenic sediments: part of the Gondwanan Permo-Carboniferous hydrocarbon province. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth 2002, p. 851-871.

*(Permo-Carboniferous Grant Gp of Canning Basin, W Australia, predominantly glacial in origin. Basal Hoya Fm diamictites, etc. comparable with similar facies in Permo-Carboniferous glaciogenic sediments from other Gondwanan basins)*

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*(E Cretaceous Barrow Group of offshore N Carnarvon Basin was major deltaic system, formed during late stages of continental rifting. Three major depocenters: Exmouth and Barrow subbasins and S Exmouth Plateau. Overcompaction of pre-Cretaceous sediments in S Carnarvon Basin and pervasive reworking of Permian and Triassic palynomorphs in Barrow Group, suggests onshore S Carnarvon Basin originally contained thicker sedimentary succession that was uplifted and eroded prior to breakup. Anomalously rapid tectonic subsidence during Barrow Gp deposition, despite minimal contemporaneous upper crustal extension, suggests period of depth-dependent extension or dynamic topography preceding breakup)*

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(Large breakup-related volcanic complex on E Cretaceous Gascoyne Margin, W Australia. Three main volcanic seismic facies units related to volcanism: (1) landward flows, (2) seaward dipping reflections and (3) volcanic protrusions. Also domes, Moho, sill intrusions, etc.. Galah Rise volcanic complex dominated by 100-200 km long, NE-striking volcanic ridges surrounded by sets of deep-marine emplaced SDRs. Magmatism sparse on shear margin, massive near outer corner and decreases NE-wards along rifted margin segment and away from fracture zone)

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Riding, J.B. & R. Helby (2001)- Some stratigraphically significant dinoflagellate cysts from the Early Cretaceous (Aptian and Albian) of Australia. *Mem. Assoc. Australasian Palaeont.* 24, p. 225-235.

Riding, J.B., D.J. Mantle & J. Backhouse (2010)- A review of the chronostratigraphical ages of Middle Triassic to Late Jurassic dinoflagellate cyst biozones of the North West Shelf of Australia. *Review Palaeobotany Palynology* 162, 4, p. 543-575.

(Reassessment of ages of 20 M Triassic- Jurassic dinoflagellate cyst zones of NW Shelf (relatively minor modifications of Helby, Morgan and Partridge 1987, 2004 zonations))

Riding, J.B., G.E.G. Westermann & D.P.F. Darbyshire (2010)- New evidence for the age of the Athol Formation (Middle Jurassic; Bajocian) in the Tusk-1 and Tusk-2 wells, offshore Carnarvon Basin, Western Australia. *Alcheringa* 34, 1, p. 21-35.

(Co-occurrence of ammonites (*Pseudotoites robiginosus*) with palynomorphs in Athol Fm of Tusk-1 and 2 wells, off Carnarvon Basin, confirms E Bajocian age of *Dissiliodinium caddaense* dinoflagellate zone. Ammonite *Pseudotoites* prominent in E Bajocian of Indo-Pacific Realm (onshore W Australia, S Andes, W New Guinea (where identified previously as *Stephanoceras cf. humphriesianum forma indica*). Athol Fm indicates E Bajocian marine transgression onto Australian block)

Rinke-Hardekopf, L., S. Back, L. Reuning & J. Bourget (2016)- Channel-levee systems in a tropical carbonate slope environment and the influence of syn-sedimentary deformation, Browse Basin, Australian North-West

Shelf. AAPG 2016 Ann. Con. Exhib., Calgary, Search and Discovery Article 10901, 14p. (*Abstract and Presentation*)

*(Miocene of Browse Basin with one of largest Neogene tropical paleo-barrier reef systems. M-L Miocene carbonate slope with multiple channel and channel-levee complexes. Mature stage larger channel-systems 12- >20km long, with 150- >200m incision depth. Some channels with levee complexes up to 850m wide)*

Robb, M.S., B. Taylor & A.M. Goodliffe (2005)- Re-examination of the magnetic lineations of the Gascoyne and Cuvier Abyssal Plains, off NW Australia. *Geophysical J. Int.* 163, p. 42-55.

*(Exmouth and Cuvier margins of NW Australia and adjacent Gascoyne and Cuvier Abyssal Plains formed when Greater India rifted and separated from Australia during Late Jurassic and E Cretaceous. Time of final continental breakup similar along middle Exmouth (at M10N or M11; Late Valanginian) and Cuvier (at M10N) margins. Intervening S Exmouth margin spreading at M7- M4 time (Late Hauterivian; with excess magmatism)*

Roberts, J. (1971)- Devonian and Carboniferous brachiopods from the Bonaparte Gulf basin, Northwestern Australia. *Bureau Mineral Res. Geol. Geoph. Bull.* 122, 1, Text, p. 1-319.

*(online at: [www.ga.gov.au/corporate\\_data/144/Bull\\_122Vol1.pdf](http://www.ga.gov.au/corporate_data/144/Bull_122Vol1.pdf))*

*(Monograph on systematics and zonations of Devonian- Carboniferous brachiopods of the Bonaparte Gulf Basin. Frasnian-Famennian faunas much in common with platform' faunas in Europe and N America. Tournaisian fauna many endemic forms. Visean- E Namurian faunas close to Europe and N Africa)*

Roberts, J. (1971)- Devonian and Carboniferous brachiopods from the Bonaparte Gulf basin, Northwestern Australia. *Bureau Mineral Res. Geol. Geoph. Bull.* 122, 2, p. 1-133.

*(online at: [www.ga.gov.au/corporate\\_data/144/Bull\\_122Vol2.pdf](http://www.ga.gov.au/corporate_data/144/Bull_122Vol2.pdf))*

*(Plates of Roberts 1971)*

Robinson, P.H. & K.B. McInerney (2004)- Permo-Triassic reservoir fairways of the Petrel Sub-basin, Timor Sea. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geol. Survey, p. 295-312.

Robinson, P.H., H.S. Stead, J.B. O'Reilly & N.K. Guppy (1994)- Meanders to fans: a sequence stratigraphic approach to Upper Jurassic- Lower Cretaceous sedimentation in the Sahul Syncline, North Bonaparte Basin. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Expl. Soc. Australia (PESA), Perth 1994, p. 223-242.

*(In Sahul Syncline up to 2000m of Late Jurassic- E Cretaceous with 11 depositional sequences. Include Callovian fluvial to shoreface sands and Oxfordian- Berriasian offshore shales, Valanginian massive progradation and aggradation that filled the trough with highstand shales and minor sands. From M Valanginian-earliest Aptian veneer of marine, glauconitic shale marked end of Sahul Syncline as structural entity)*

Rohead-O'Brien, H. & C. Elders (2018)- Controls on Mesozoic rift-related uplift and syn-extensional sedimentation in the Exmouth Plateau. In: Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-8. (*Extended Abstract*)

*(online at: [http://www.publish.csiro.au/EX/ASEG2018abM2\\_2B](http://www.publish.csiro.au/EX/ASEG2018abM2_2B))*

*(Exmouth Plateau of N Carnarvon Basin, NW Australia, multi-phase extensional history. Initially formed as basin during Permo-Carboniferous rifting event that thinned crust and led to large volumes of Triassic sediment accumulation. Fault activity of second rift phase began in latest Triassic, mainly on NNE-SSW and NE-SW trending faults. Rotation of Triassic fault blocks continued in Jurassic, with erosion of pre-rift sediments. Latest Jurassic infilled of half-grabens and deposition onto highs limited in W as area was starved of sediment. E Cretaceous progradation of Barrow Delta resulted in infilling of previously starved half-grabens)*

Rohl, U., T. Dumont, U. Von Rad, R. Martini & L. Zaninetti (1991)- Upper Triassic Tethyan carbonates off Northwest Australia (Wombat Plateau, ODP Leg 122). *Facies* 25, p. 211-252.

*(Wombat Plateau U. Carnian and Norian deltaics, overlain by Rhaetian reefal carbonates. Foraminiferal assemblages closest affinity to Seram, also similarities with other regions like Europe)*

Rohl, U., U. Von Rad & G. Wirsing (1992)- Microfacies, paleoenvironment, and facies-dependent carbonate diagenesis in Upper Triassic platform carbonates off Northwest Australia. In: U. Von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 122, p. 129-159.

(online at: [www-odp.tamu.edu/publications/122\\_sr/VOLUME/CHAPTERS/sr122\\_07.pdf](http://www-odp.tamu.edu/publications/122_sr/VOLUME/CHAPTERS/sr122_07.pdf))

*(ODP 122 identified 900m U Triassic (Carnian- Rhaetian) early rift sediments on Wombat (N Exmouth) Plateau. Carnian-Norian dominated by fluviodeltaic sediments with many carbonate intercalations. Sequence boundary at base of 'Rhaetian transgression' (215 Ma), overlain by shallowing-upward cycles from bioturbated wackestones to dolomitic algal bindstones, with reef development at platform margin. Open shelf limestone-marl alternations grade into bioclastic and oolitic grainstones, into calcisponge patch reefs and coral reefs. Reef growth ended with sequence boundary, followed by latest Rhaetian sea-level rise. Diagenetic successions of Rhaetian carbonates suggest Wombat Plateau horst was locally subaerially eroded, probably in Callovian-Oxfordian)*

Rohrman, M. (2013)- Intrusive large igneous provinces below sedimentary basins: An example from the Exmouth Plateau (NW Australia). *J. Geophysical Research, Solid Earth*, 118, 8, p. 4477-4487.

*(Exmouth Plateau with breakup-related 150 × 400 km sill complex, intruding mainly Triassic sedimentary rocks between Late Jurassic and E Cretaceous. Sill complex likely sourced by mafic or ultramafic magma chamber at base of crust, seismically imaged as high-velocity body and covering ~16x 104 km<sup>2</sup>)*

Rohrman, M. (2015)- Delineating the Exmouth mantle plume (NW Australia) from denudation and magmatic addition estimates. *Lithosphere* 7, 5, p. 589-600.

*(Late Jurassic Exmouth mantle plume upwelling at highly extended and subsided continental fragment bounded by present-day subsea Sonne and Sonja Ridges and includes Cuvier margin and Cape Range fracture zone. Region characterized by ~2.6 km of denudation and ~500m of tectonic uplift, with erosion products acting as source material for E Cretaceous Lower Barrow delta. ~40% of the seismically detected magmatic underplate melt related, with effective underplate ~4 km thick near locus of uplift. Plume-induced domal uplift preceded magmatism and breakup. Plume activity followed by W- propagating hotspot track, possibly terminating in Greater India (Tibet))*

Rollet, N., S.T. Abbott, M.E. Lech, D. Caust, R. Romeyn, K. Romine, J. Blevin, K. Khider et al. (2016)- Cretaceous stratigraphic play fairways and risk assessment in the Browse Basin: implications for CO<sub>2</sub> Storage. AAPG/SEG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Art. 80513, 29p.

(online at: [www.searchanddiscovery.com/documents/2016/80513rollet/ndx\\_rollet.pdf](http://www.searchanddiscovery.com/documents/2016/80513rollet/ndx_rollet.pdf))

*(Browse basin with large undeveloped gas resources (36 Tcf gas, 1148 MMB condensate). Gas rel. high in CO<sub>2</sub> (~ 8%). Study of Cretaceous deltaic and submarine fan sandstone reservoirs for CO<sub>2</sub> sequestration)*

Rollet, N., D. Edwards, E. Grosjean, T. Palu, S. Abbott, M. Lech, J. Totterdell, D. Nguyen et al. (2017)- Reassessment of the petroleum prospectivity of the Browse Basin, offshore North West Australia. In: SE Asia Petroleum Expl. Soc. (SEAPEX) Exploration Conf. 2017, Singapore, Session 3, 35p. *(Abstract + Presentation)*

*(Browse Basin with large gas-condensate accumulations and small light oil accumulations mostly in Cretaceous. Large undeveloped gas resources (41 TCF), development of Ichthys and Prelude fields. Seven supersequences from late Tithonian- Maastrichtian (K10-K60))*

Rollet, N., D. Edwards, E. Grosjean, T. Palu, L. Hall, J. Totterdell, C. Boreham & A. Murray (2018)- Regional Jurassic sediment depositional architecture, Browse Basin: Implications for petroleum systems. In: Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-8. *(Extended Abstract)*

(online at: [www.publish.csiro.au/ex/pdf/ASEG2018abMI\\_3B](http://www.publish.csiro.au/ex/pdf/ASEG2018abMI_3B))

*(Review of sequence stratigraphy of J10-J20 (Plover Fm) and J30-J50+ K10 (Vulcan Fm) supersequences, and paleogeography of Browse Basin. Large gas-condensate fields along Scott Reef Trend (Calliance, Brecknock, Torosa), in C and NW Caswell subbasin (Ichthys, Prelude, Crown, Proteus, Lasseter), and in Crux field in Heywood Graben, sourced from multiple horizons in Jurassic- basal Cretaceous)*

Rollet, N., E. Grosjean, D. Edwards, T. Palu, S. Abbott, J., Totterdell, M.E. Lech, K. Khider et al. (2016)- New insights into the petroleum prospectivity of the Browse Basin: results of a multi-disciplinary study. *The APPEA J.* 56, 1, p. 483-494.

*(Browse Basin hosts large gas accumulations. Drilling focused in C Caswell Sub-basin (Ichthys, Prelude), and Brecknock-Scott Reef Trend. New sequence stratigraphy of Cretaceous succession and structural framework. Complex charge history, with fluids from multiple Mesozoic source rocks (Lw- M Jurassic J10-J20, Plover Fm), U Jurassic- lowermost Cretaceous J30-K10, Vulcan Fm) and Lower Cretaceous K20-K30, Echuca Shoals Fm))*

Rollet, N., G.A. Logan, J.M. Kennard, P.E. O'Brien, A.T. Jones & M. Sexton (2006)- Characterisation and correlation of active hydrocarbon seepage using geophysical data sets: an example from the tropical, carbonate Yampi Shelf, Northwest Australia. *Marine Petroleum Geol.* 23, 2, p. 145-164.

*(Imaging of active hydrocarbon seepage in Australia, on Yampi carbonate Shelf, in 50 and 90m water. Seepage evidenced by gas plumes in water column, hard-grounds, pockmark fields and mounds)*

Romine, K.K., J.M. Durrant, D.L. Cathro & G. Bernardel (1997)- Petroleum play element prediction for the Cretaceous- Tertiary basin phase, Northern Carnarvon Basin. *The Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 37, p. 315-339.

Rosleff-Soerensen, B., L. Reuning, S. Back & P. Kukla (2011)- Seismic geomorphology and growth architecture of a Miocene barrier reef, Browse Basin, NW Australia. *Marine Petroleum Geol.* 29, 1, p. 233-254.

*(Browse Basin non-tropical carbonate ramp in Eocene- E Miocene, changing to tropical rimmed platform in M Miocene. First reef structures in early M Miocene as narrow linear belts oblique to shelf strike direction. Subsequent progradation forms barrier reef of >40 km. Three ridges separated by progradational steps. Second and third step separated by karst horizon, probably global sea-level fall near Serravallian/ Tortonian boundary. E Tortonian sea-level rise drowned barrier-reef system and later also patch reefs in platform interior. First reefs developed simultaneous to maximum transport capacity of Indonesian Throughflow, Late Miocene reef drowning followed restriction of this seaway and Leeuwin current)*

Rosleff-Soerensen, B., L. Reuning, S. Back & P. Kukla (2016)- The response of a basin-scale Miocene barrier reef system to long-term, strong subsidence on a passive continental margin, Barcoo Sub-basin, Australian North West Shelf. *Basin Research* 28, 1, p. 103-123.

*(250 km long M-U Miocene barrier reef in S Browse Basin. Main controls for evolution: subsidence, global eustatic variations and antecedent topography. Sr-age of base of reef in Barcoo 1 well 11.8 Ma. High Miocene subsidence rates mainly caused by accelerated tectonic subsidence related to Australian- Eurasian Plates collision 250-500 km N of study area. Local Miocene tectonic reactivation of older structural grain (transpressional anticlines) served as preferential sites for reef growth)*

Ross, M.I. & P.R. Vail (1994)- Sequence stratigraphy of the lower Neocomian Barrow Delta, Exmouth Plateau, northwestern Australia. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth 1994, p. 435-447.

*(Berriasian- E Valanginian northward-prograding Barrow Delta system at S Exmouth Plateau, Sequence stratigraphic interpretation based on seismic data and 25 wells shows latest Berriasian switch of depocenter from W Exmouth Plateau to E Barrow Rift. Superimposed on shift are seven eustatic cycles in Berriasian and four in E Valanginian (but only basinally restricted lowstand system tracts)*

Ryan, G.J., G. Bernardel, J.M. Kennard, A.T. Jones, G.A. Logan & N. Rollet (2009)- A pre-cursor extensive Miocene reef system to the Rowley Shoals reefs, Western Australia: evidence for structural control of reef growth or natural hydrocarbon seepage? *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 49, p. 337-361.

*(Numerous Miocene reefs and related carbonate buildups in Rowley Shoals region, NW Shelf, forming part of >1600 km Miocene reef tract, which extended N into Browse-Bonaparte basins and S to North West Cape in Carnarvon Basin, comparable in length to modern Great Barrier Reef)*

Sanchez, C.M., C.S. Fulthorpe & R.J. Steel (2012)- Miocene shelf-edge deltas and their impact on deepwater slope progradation and morphology, Northwest Shelf of Australia. *Basin Research* 24, 6, p. 683-698.

*(Late-middle Miocene- Pliocene siliciclastics in offshore N Carnarvon Basin, NW Shelf, interpreted as prograding delta deposits)*

Sandiford, M. (2007)- The tilting continent: a new constraint on the dynamic topographic field from Australia. *Earth Planetary Sci. Letters* 261, p. 152-163.

*(N Australian margin broad shelf and Neogene record of stratal onlap. Southern shelf typically <100 km wide and record of progressive offlap with Neogene paleo-shorelines hundreds of kilometres inland, at elevations up to ~250m above present-day sea level. This continental-scale 'reciprocal' stratigraphy implies 250-300m N-down vertical motion with respect to sea level since M Miocene)*

Sandiford, M., M. Quigley, P. De Broekert & S. Jakica (2009)- Tectonic framework for the Cenozoic cratonic basins of Australia. *Australian J. Earth Sci.* 56, p. 5-18.

*(Variations in Cenozoic marine inundation of Australia point to tectonic regime involving three modes of deformation. At longest wavelength continent has experienced SW-up/NE-down tilting of 300m towards Indonesia-W Pacific subduction realm since Late Eocene. At intermediate wavelengths undulations of ~100m reflecting lithospheric buckling due to intraplate stress from plate-boundary forcing)*

Sarti, M., A. Russo & F.R. Bosellini (1992)- Rhaetian strata, Wombat Plateau: analysis of fossil communities as a key to paleoenvironmental change. In: U. von Rad, B.U. Haq et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scient. Results*, 122, p. 181-195.

*(Latest Triassic/ Rhaetian reefal carbonate buildups penetrated on Wombat Plateau. First colonization by sponge-dominated community, followed by coral-dominated community with associated hydrozoans-tabulozoans constituting main core of pinnacle reef complex, reflecting shallowing of environment of deposition. Rhaetian pinnacle assemblage is low-energy, bank-margin 'reef complex')*

Schuchert, C. (1932)- Upper Paleozoic glaciations of Australia. *American J. Science, Ser. 5*, 23, 138, p. 540-548. *(Brief discussion of five Carboniferous- Permian glacial episodes in Australia. No figures)*

Scibiorski, J.P., M. Micenko & D. Lockhart (2005)- Recent discoveries in the Pyrenees Member, Exmouth sub-basin: a new oil play fairway. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 2005, p. 233-252.

*(S Exmouth oil fields in Latest Tithonian- E Berriasian P. iehiense zone lowstand sands in rotated fault blocks, sourced by Late Jurassic Dingo claystone, sealed by intra-Hauterivian unconformity shales)*

Scott, J. (1994)- Source rocks of West Australian basins- distribution, character and models. In P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium*, Perth 1994, p. 141-158.

Shafik, S. (1990)- Late Cretaceous nannofossil biostratigraphy and biogeography of the Australian western margin. *Bureau Mineral Res. Geol. Geoph., Canberra, Report* 295, p. 1-164.

*(online at: [www.ga.gov.au/corporate\\_data/15207/Rep\\_295.pdf](http://www.ga.gov.au/corporate_data/15207/Rep_295.pdf))*

*(Turonian- Maastrichtian nannofossils from onshore Carnarvon and Perth basins and comparison with 10 other localities in Indo-Pacific region, incl. PNG. Three temperature-controlled biogeographic realms in Maastrichtian: (1) Austral (Perth Basin), (2) Extratropical (Carnarvon) and (3) Tropical (PNG) (Maastrichtian with *Watznaueria barnesae*, *Micula murus*, etc.))*

Shafik, S. (1994)- Significance of calcareous nannofossil-bearing Jurassic and Cretaceous sediments on the Rowley Terrace, offshore northwest Australia. *AGSO J. Australian Geol. Geophysics* 15, 1, p. 71-88.

*(online at: [www.ga.gov.au/corporate\\_data/49408/Jou1994\\_v15\\_n1.pdf](http://www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf))*

*(Nannofossils from dredge samples of Rowley Terrace. Relatively rare in Jurassic paralic pre-breakup sequence. Two nannofloras of E Toarcian and E Bajocian ages, reflecting transgressive events. More open marine conditions in Cretaceous, with oldest nannofloras Valanginian age, with both Austral/Boreal and Tethyan elements, suggesting surface-water connection between E Cretaceous juvenile ocean NW of Australia and S Tethyan ocean. Late Cretaceous nannofloras suggest positions in Extratropical Nannoprovince in Campanian*

*(coeval nannofloras from Carnarvon Basin in S Extratropical Nannoprovince, Papuan Basin in Tropical Nannoprovince)*

Shamrock, J.L. & D.K. Watkins (2012)- Eocene calcareous nannofossil biostratigraphy and community structure from Exmouth Plateau, Eastern Indian Ocean (ODP Site 762). *Stratigraphy* 9, p. 1-54.

*(Nannofossils from ODP Leg 122- Hole 762C with ~240m of Eocene pelagic chalk off NW Australia: ~250 Eocene species. Major changes in nannofossil assemblages correspond to paleoenvironmental shifts such as PETM (Paleocene-Eocene thermal maximum) and EECO (Early Eocene climatic optimum). Eight new species: Calcidiscus ellipticus, Cruciplacolithus nebulosus, C. opacus, Cyclicargolithus parvus, Hexadelus archus, Hayella situliformis var. ovata, Markalius latus, Pedinocyclus annulus)*

Shen, J.W., G.E. Webb & J.S. Jell (2008)- Platform margins, reef facies, and microbial carbonates; a comparison of Devonian reef complexes in the Canning Basin, Western Australia, and the Guilin region, South China. *Earth-Science Reviews* 88, p. 33-59.

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*(New model of shear wave speeds in Australian upper mantle. Slow wave propagation under Paleozoic fold belts in E Australia, increasing W across Proterozoic and reaching maximum in Archean cratons. High wave speeds associated with Precambrian shields extend beyond Tasman Line, which marks E limit of Proterozoic outcrop, suggesting parts of Paleozoic fold belts underlain by Proterozoic lithosphere. N Australia craton extends offshore into PNG and under Indian Ocean. Precambrian cratons without thick high-speed 'keel' near passive margins, suggesting processes associated with continental break-up may have destroyed once present tectosphere)*

Simons, F. J. & R.D. van der Hilst (2003)- Seismic and mechanical anisotropy and the past and present deformation of the Australian lithosphere. *Earth Planetary Sci. Letters* 211, p. 271-286.

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*(online at: <http://jfr.geoscienceworld.org/content/38/3/251.full.pdf>)*

*(Late Miocene-Pleistocene planktonic foram zonation and numerical age calibration of datum levels)*

Sircombe, K.N. & M.J. Freeman (1999)- Provenance of detrital zircons on the Western Australia coastline-implications for the geologic history of the Perth basin and denudation of the Yilgarn craton. *Geology* 27, 10, p. 879-882.

*(Detrital zircon samples from W Australia placer deposits dominated by Neoproterozoic and Mesoproterozoic ages (little from nearby Archean Yilgarn craton). Dominant ages consistent with derivation from Proterozoic orogens marginal to Yilgarn craton. Peaks around 550 Ma and ~680-700 Ma (Leeuwin Block/Pinjara orogenic belt), ~1200 Ma (Albany-Fraser belt), ~2500-2700 (Yilgarn craton))*

Skwarko, S.K. (ed.) (1993)- Palaeontology of the Permian of Western Australia. *Geol. Survey Western Australia Bull.* 136, p. 1-417.

*(Mainly inventory of W Australian Permian fossils. Little stratigraphic detail. No comparisons to Timor faunas)*

Smith, B.L. & R.B. Lawrence (1989)- Aspects of exploration and development, Vulcan sub-basin, Timor Sea. *Australian Petrol. Explor. Assoc. (APEA) J.* 29, p. 546-556.

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*(Early paper identifying wrench faulting in Fitzroy Trough, the mobile N margin of Canning Basin: superimposed Mesozoic en-echelon compressional anticlines and normal fault structures, indicative of right lateral movements of marginal cratonic blocks)*

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*(salt/ anhydrite in Paqualin, Swan diapirs)*

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*(In Roebuck (= offshore Canning) Basin three phases of 'Fitzroy Movement': (1) Ladinian large transpressional 'flower structures' along N Turtle Hinge Zone; (2) Norian major en echelon anticlines in Fitzroy Trough and subtle unconformity in the Phoenix 1, 2 wells; (3) Sinemurian change from predominantly back-stepping to prograding and aggrading sedimentation)*

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Spry, T.B. & I. Ward (1997)- The Gwydion discovery: a new play fairway in the Browse Basin. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 37, 1, p. 87-104.  
*(3 gas, one oil-gas zone in Barremian- Albian sands on Yampi Shelf)*

Stagg, H.M.J. (1978)- The geology and evolution of the Scott Plateau. The Australian Petrol. Explor. Assoc. (APEA) J. 18, p. 34-43.

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*(online at: [www.ga.gov.au/corporate\\_data/60864/Rec2004\\_013.pdf](http://www.ga.gov.au/corporate_data/60864/Rec2004_013.pdf))*  
*(Exmouth Plateau is marginal plateau in water depths of 800- >3000m, part of N Carnarvon Basin. Most of plateau underlain by 10-15 km of faulted sediment section, mainly deposited during extension that preceded breakup from Australia of Argo Land in M Jurassic and Greater India in E Cretaceous. Since last breakup Plateau largely sediment-starved, with only few 100m of mid-Cretaceous-Cenozoic marine sediments. Margins of plateau geologically very distinctive)*

Stagg, H.M.J. & J.B. Colwell (1994)- the structural foundations of the Northern Carnarvon Basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth 1994, p. 349-364.

Stagg, H.M.J. & N.F. Exon (1981)- Geology of Scott Plateau and Rowley Terrace. Bureau Mineral Res. Geol. Geoph. Bull. 213, p. 1-47.

*(online at: [www.ga.gov.au/corporate\\_data/62/Bull\\_213.pdf](http://www.ga.gov.au/corporate_data/62/Bull_213.pdf))*  
*(Scott Plateau of NW Shelf is subsided W margin to Browse Basin, and was probably paleohigh in Permian-Jurassic, shedding sediments into Browse Basin to E and Rowley Sub-basin to S. Since break-up of continental margin in Callovian, plateau gradually subsided to present depth of 1000-3500m, and now covered by ~1 km U Cretaceous-Cainozoic sediments, mainly carbonates. Basement of possible Kimberley Block equivalents probably no more than 2-4 km below seabed)*

Stagg, H.M.J., J.B. Willcox, P.A. Symonds, G.W. O'Brien, J.B. Colwell, P.J. Hill, C.S. Lee, A.M.G. Moore & H.I.M. Struckmeyer (1999)- Architecture and evolution of the Australian continental margin. AGSO J. Australian Geol. Geophysics 17, 5/6, p. 17-33.

(online at: [www.ga.gov.au/corporate\\_data/81551/Jou2000\\_v17\\_n5-6\\_p017.pdf](http://www.ga.gov.au/corporate_data/81551/Jou2000_v17_n5-6_p017.pdf))

*(Review of continental margins of Australia. Normally rifted NW and oblique-slip W margins have polyphase rift/drift history with progressive separation of continental blocks from Permo-Carboniferous- E Cretaceous. Multiple tectonic episodes produced geologically complex margin with strong imprint of volcanism. Continental shelf and marginal plateaux generally underlain by thick Phanerozoic sediments of Westralian Superbasin; areas of shallow crystalline basement are rare. Phanerozoic generally thick and flat-lying. Extension of upper crust observed only adjacent to inboard confined deep rifts and on outermost margin. Upper crustal extension rarely >20%; basins formed largely as result of lower crustal extension. Goulburn Graben inversion may be related to Late Triassic 'Fitzroy Movement')*

Stanley, G.D. (1994)- Upper Triassic spongiomorph and coral association dredged off the northwestern Australian shelf. AGSO J. Australian Geol. Geophysics 15, 1, p. 127-133.

(online at: [https://d28rz98at9flks.cloudfront.net/81385/Jou1994\\_v15\\_n1\\_p127.pdf](https://d28rz98at9flks.cloudfront.net/81385/Jou1994_v15_n1_p127.pdf))

*(U Triassic corals and spongiomorphs dredged during BMR Cruise 95 from Rowley Terrace, off Canning Basin, NW Australia. Branching spongiomorph (Spongiomorpha sp.) and two corals (Pamiroseris rectilamellosa, Retiophyllia tellae) indicate Late Triassic (Norian-Rhaetian) age. Although different in composition, Rowley Terrace occurrences may be E-ward extension of Wombat Plateau reefs, along rifted margin of Gondwana)*

Stein, A., K. Myers, C. Lewis et al. (1998)- Basement control and geoseismic definition of the Cornea discovery, Browse Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 421-431.

Stephenson, A. E. & S.J. Cadman (1994)- Browse Basin, Northwest Australia: the evolution, palaeogeography and petroleum potential of a passive continental margin. Palaeogeogr. Palaeoclim. Palaeoecology 111, p. 337-366.

Stephenson, M.H. (1998)- Preliminary correlation of palynological assemblages from Oman with the *Granulatisporites confluens* Opper Zone of the Grant formation (lower Permian), Canning Basin, Western Australia. J. African Earth Sci. 26, 4, p. 521-526.

*(Presence of Granulatisporites confluens indicates Asselian-Tastubian (lowermost Permian) age for glaciogene sediments in Amal-6 borehole, Oman. In part coeval with glaciogene sediments of Canning Basin, W Australia)*

Stilwell, J.D., M. Dixon, B. Lehner & S. Gamarra (2011)- Jurassic- Cretaceous boundary ammonite *Blanfordiceras* (Mollusca, Cephalopoda) from Fortissimo-1 wildcat well, Browse basin, Northwest Shelf, Australia. J. Paleontology 85, 3, p. 551-554.

*(First record in Australia of Latest Tithonian (146.5-145.5 Ma) ammonite Blanfordiceras wallichi in core from Upper Swan Fm in well in Browse Basin, NW shelf. Associated microplankton initially identified as 'basal Cretaceous' Pseudoceratium iehiense or overlying Kalyptea wisemaniae Zone)*

Stilwell, J.D., P.G. Quilty & D.J. Mantle (2012)- Paleontology of Early Cretaceous deep-water samples dredged from the Wallaby Plateau: new perspectives of Gondwana break-up along the Western Australian margin. Australian J. Earth Sci. 59, 1, p. 29-49.

*(Samples from deep-water escarpments of Wallaby marginal plateau (400 km W of Carnarvon). Previously only modern carbonate, tholeiitic basalts and volcanoclastic rocks sampled. Claystones-sandstones from 3015-5159 m water depths are E Cretaceous (latest Berriasian- Barremian-Aptian) paralic- shallow marine deposits, straddling and post-dating breakup and opening of Cuvier Abyssal Plain. This, with recent identification of Oxfordian-Kimmeridgian foraminifera from same location, indicates presence of pre-breakup sedimentary section beneath parts of Wallaby Plateau)*

Struckmeyer, H.I.M (ed.) (2006)- Petroleum geology of the Arafura and Money Shoal Basins. Geoscience Australia, Canberra, Report 2006/22, p. 1-65.

(online at: [www.ga.gov.au/corporate\\_data/63995/Rec2006\\_022.pdf](http://www.ga.gov.au/corporate_data/63995/Rec2006_022.pdf))

*(Arafura Basin is Neoproterozoic- Paleozoic intracratonic basin that extends from onshore N Australia across Arafura Sea into Indonesian waters. It is overlain by the M Jurassic-Cenozoic Money Shoal Basin. Oil shows in*

*Arafura 1 and Goulburn 1 wells, but no commercial discoveries)*

Struckmeyer, H.I.M., J. E. Blevin, J. Sayers, J.M. Totterdell, K. Baxter & D.L. Cathro (1998)- Structural evolution of the Browse Basin, North West Shelf: new concepts from deep seismic data. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA), p. 345-367. *(Browse Basin developed in Carboniferous- E Permian as response to N-NW extension, accommodated along NE-striking large normal faults, leading to breakup in E Permian. Rifting created Caswell and Barcoo sub-basins. Contractional reactivation of Paleozoic faults in Late Triassic- E Jurassic, resulting in partial inversion of half-graben. E Jurassic extension accommodated by numerous smaller faults, which caused collapse of many Triassic anticlines. Extension as upper crustal simple shear and lower crustal/upper mantle pure shear during breakup in M Jurassic. Widespread Callovian erosion, associated with continental breakup and initiation of seafloor spreading in Argo Abyssal Plain. Tertiary collision of Australian- Eurasian Plates produced inversion structures in M-L Miocene, along Paleozoic fault trends in Barcoo subbasin, and extensive normal faulting in N Caswell subbasin)*

Struckmeyer, H.I.M. & J.M. Totterdell (co-ord.) (1990)- Australia: evolution of a continent. BMR Palaeogeographic Group, Bureau Mineral Res. (BMR), Geol. Geophysics, Canberra, p. 1-97. *(online at: [www.ga.gov.au/metadata-gateway/metadata/record/22137/](http://www.ga.gov.au/metadata-gateway/metadata/record/22137/)) (Schematic paleogeographic maps of Australia since Cambrian)*

Swart, R.H. (1998)- Revision of Permian pleurotomarian gastropods from the Carnarvon and Bonaparte basins. In: G.R. Shi, N.W. Archbold & M. Grover (eds.) Strzelecki international symposium on Permian of eastern Tethys; biostratigraphy, palaeogeography and resources. Proc. Royal Soc. Victoria 110, 1-2, p. 163-172.

Swift, M.G. & D.A. Falvey (1990)- Heat flow and heat flow models in evaluating the oil prospectivity of the Exmouth Plateau, Northwest Australia. In: B. Elishewitz (ed.) Proc. CCOP Heat Flow Workshop III, Bangkok 1988, CCOP Techn. Publ. 21, p. 65-78.

Swift, M.G., H.M J. Stagg & D.A. Falvey (1988)- Heat flow regime and implications for oil maturation and migration in the offshore northern Carnarvon Basin. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia. Proc. North West Shelf Symposium, Petroleum Expl. Soc. Australia (PESA), p. 539-551. *(Present day heat-flow distribution in Exmouth Plateau region compiled from seabed measurements and oil wells. Area of high heat-flow (~90 mW/m<sup>2</sup>) near Barrow Island, decreasing W-ward to moderate-low (as low as 17 mW/ 1m<sup>2</sup>) over center of Exmouth Plateau. Some process diverting heat away from Exmouth Plateau Arch)*

Symonds, P.A., C.D.N. Collins & J. Bradshaw (1994)- Deep structure of the Browse Basin: implications for basin development and petroleum exploration. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 315-331. *(Primary architecture of Browse Basin of Australian NW Shelf largely result of NE-SW ?Late Devonian- E Carboniferous intra-cratonic upper crustal extension, and NW-N-oriented M Carboniferous- E Permian full-lithosphere extension. Up to 11 km of sediment fill. During extension, crust beneath Browse thinned from 35 km to 10km by removal and stretching of upper and lower crust, leaving mid-crust largely intact. Later deformation events: Late Permian- E Triassic (Bedout Movement), M-L Triassic, and Late Triassic- E Jurassic (Fitzroy Movement) inversion events, post-breakup (Callovian-Oxfordian) margin sag, and ?Late Miocene transpressional anticlines in some areas)*

Symonds, P.A., S. Planke, O. Frey & J. Skogseid (1998)- Volcanic evolution of the Western Australian continental margin and its implications for basin development. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symp., p. 33-54. *(2000km long- 500km wide volcanic province along NW Australian margin around times of continental breakup. Oxfordian (150 Ma) in age in Argo abyssal plain in N, Valanginian (136 Ma) in age in Gascoyne, etc. in S)*

Tandon, K., J.M. Lorenzo & G.W. O'Brien (2000)- Effective elastic thickness of the northern Australian continental lithosphere subducting beneath the Banda orogen (Indonesia): inelastic failure at the start of continental subduction. *Tectonophysics* 329, p. 39-60.

*(Pliocene-Recent continent-island arc collision of N Australian continental lithosphere across Banda orogen from Roti to Kai Plateau formed underfilled foreland basin within Timor-Tanimbar-Aru Trough. Australian continental lithosphere N of Timor believed to be detached from oceanic lithosphere. Effective Elastic Thickness of N Australian continental lithosphere derived using elastic half-beam model. EET varies from 27-75 km, highest near C Timor. Almost cessation of normal faulting in Late Miocene- E Pliocene)*

Tao, C., G. Bai, J. Liu, C. Deng, X. Lu, H. Liu & D. Wang (2013)- Mesozoic lithofacies palaeogeography and petroleum prospectivity in North Carnarvon Basin, Australia. *J. Palaeogeography* 2, 1, p. 81-92.

*(online at: [www.journalofpalaeogeography.org/fileup/PDF/2013-1-81.pdf](http://www.journalofpalaeogeography.org/fileup/PDF/2013-1-81.pdf))*

*(Six Late Triassic- Cretaceous paleogeographic maps of N Carnarvon Basin)*

Teichert, C. (1940)- Marine Jurassic of East Indian affinities at Broome, north-western Australia. *J. Royal Soc. Western Australia* 26, p. 103-119.

*(Oxfordian-Kimmeridgean faunal assemblages from artesian wells at Broome, W Australia, characterized by pelecypod Buchia (= Malayomaorica; JTvG) and belemnites of Belemnopsis gerardi group, demonstrating presence of marine Late Jurassic between 950- 1550'. Notable similarities to Jurassic faunas of E Indonesia)*

Teichert, C. (1941)- Upper Paleozoic of Western Australia: correlation and paleogeography. *American Assoc. Petrol. Geol. (AAPG) Bull.* 25, 3, p. 371-415.

*(Late Paleozoic in W Australia starts with glacial deposits, probably of Sakmarian- early Kungurian age (E Permian). Permian glaciation of Australia was single major event with strongest refrigeration in Sakmarian. Rich marine faunas arrived in Australia after climax of glaciation. Upper Paleozoic deposited in geosynclinal trough, marginal to Precambrian shield and continuous with Timor geosyncline of East Indies. p. 405: Great differences exist in composition of Late Paleozoic faunas of Timor (echinoderm-cephalopod facies) and W Australia (brachiopod- bryozoan facies),...no identical coral species, etc.)*

Teichert, C. (1947)- Stratigraphy of Western Australia. *American Assoc. Petrol. Geol. (AAPG) Bull.* 31, 1, p. 1-70.

Teichert, C. (1951)- The marine Permian faunas of Western Australia (an interim review). *Palaeont. Zeitschrift* 24, p. 76-90.

*(Marine Permian faunas (~350 species) compared with Tethyan, E Australian and Gondwana faunas. W Australian faunal province affinities with E Tethys (Salt Range, Timor) but dissimilar to E Australian province, although some W Australian elements migrated into N (Queensland) and S (Tasmania) parts of E province)*

Teichert, C. (1959)- Australia and Gondwanaland. *Geol. Rundschau* 47, 2, p. 562-590.

*(Marine nature of W Australia sediments and the compositions of fossil faunas indicate existence of open ocean W of Australia since E Paleozoic time. Fossil land vertebrate faunas suggests isolation of Australian continent since at least Permian time)*

Tesch, P., R.S. Reece, M.C. Pope & J.R. Markello (2018)- Quantification of architectural variability and controls in an Upper Oligocene to Lower Miocene carbonate ramp, Browse Basin, Australia. *Marine Petroleum Geol.* 91, p. 432-454.

Then, J., M. Wilson, I. Copp, M. Buschkuehle & R. Carey (2018)- Depositional, diagenetic and mineralogical controls on porosity development in the Ungani Field, Canning Basin. In: *Proc. Australian Exploration Geoscience Conf. (AEGC 2018)*, Sydney, ASEG Extended Abstracts 2018, 1, p. 1-8. *(Extended Abstract)*

*(online at: [www.publish.csiro.au/ex/pdf/ASEG2018abT5\\_3B](http://www.publish.csiro.au/ex/pdf/ASEG2018abT5_3B))*

*(E Carboniferous Tournaisian Dolomite reservoir in Ungani field on S flank of Fitzroy Trough. Fractured and bioclastic-rich with 'reefal' organisms, but with pervasive dolomitisation. Shallow-moderate burial and marine or evaporative reflux fluids likely responsible for pervasive dolomitisation. Subsequent leaching of calcite)*

Thomas, B.M., P. Hanson, J.G. Stainforth, P. Stamford & L. Taylor (1991)- Petroleum geology and exploration history of the Carpentaria Basin, Australia, and associated infrabasins. In: M.W. Leighton et al. (eds.) Interior cratonic basins, American Assoc. Petrol. Geol. (AAPG) Mem. 51, p. 709-725.

Thompson, M.J. (2013)- Offshore West Australian basins, fuelling a decade of conventional prosperity for industry and Woodside. Sedimentary Basins of Western Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p.

Thompson, N.B., C. Buessenschuett, L. Clydsdale, C.J. Cubitt, R.C. Davis, M.K. Johnson et al. (2003)- The North West Shelf of Australia- a Woodside perspective. Proc. 2003 SE Asia Petrol. Expl. Soc. (SEAPEX) Exploration Conf., Singapore, p. 1-43.

*(Major review of evolution of NW Shelf of Australia, a major Mesozoic gas province with minor oily sweet spots. Since exploration drilling started in 1953, 754 exploration wells drilled (Dec 2001), discovering 2.6 billion bbls of oil, 2.6 billion bbls of condensate and 152 TCF gas in 233 fields. Most of traps sands in rift-related horsts and tilted blocks, or sands in overlying drape structures. 97% of resources reservoired under dominantly Cretaceous regional seal. Same as Longley et al. 2002)*

Thompson, N.B., M.L. Taylor & N.C. Taylor (1998)- Reservoir geology of the Perseus Field, North West Shelf, Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 527-534.

*(Perseus Field giant gas accumulation, in structural/stratigraphic trap on Rankin Trend. Gas reservoired in Bathonian- Callovian deltaic sandstones of Legendre Formation, which subcrop U Jurassic-Lower Cretaceous Main Unconformity in graben between Goodwyn and North Rankin horsts. Six third-order sequences within W. digitata, W. indotata and C. halosa dinoflagellate zones)*

Thurrow, J. (1988)- Sedimentology of the Argo and Gascoyne abyssal plains, NW Australia: Report on Ocean Drilling Program Leg 123. Carbonates and Evaporites 3, 2, p. 201-212.

Thurrow, J. & U. von Rad (1992)- Bentonites as tracers of earliest Cretaceous post-breakup volcanism off Northwestern Australia. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results, 123, p. 89-106.

*(online at: [www-odp.tamu.edu/publications/123\\_SR/VOLUME/CHAPTERS/sr123\\_04.pdf](http://www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_04.pdf))*

*(Bentonites in Berriasian- Valanginian pelagic sediments on and around Wombat- Exmouth Plateau are altered volcanic ash layers, and tied to continental breakup and rapid subsidence during 'juvenile ocean phase')*

Tilbury, L., C.J. Clayton, T.J. Conroy, G. Philip, G.A. Boyd, G.A. Johnson et al. (2009)- Pluto- a major gas field hidden beneath the continental slope. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 2009, p. 243-268.

*(Pluto 2005 gas discovery in Carnarvon Basin in tilted fault block. Gross gas column 209m in Triassic Mungaroo Fm sands and Tithonian sands, sealed by Cretaceous Forestier and Muderong Fm shales)*

Tindale, K., N. Newell, J. Keall & N. Smith (1998)- Structural evolution and charge history of the Exmouth Sub-basin, Northern Carnarvon Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 447-472.

*(Exmouth sub-basin forms part of Exmouth Barrow-Dampier intra-cratonic rift system of N Carnarvon Basin. With significant thicknesses of U Jurassic Dingo Claystone, principal hydrocarbon source facies in region. Exmouth Sub-basin complex tectonic history, with at least two phases of uplift and erosion in Cretaceous (Valanginian, E Santonian), and Tertiary inversion/ tilting. Also multiphase hydrocarbon charge history)*

Tortopoglu, B. (2015)- The structural evolution of the northern Carnarvon Basin, northwest Australia. M.Sc. Thesis, Colorado School of Mines, Golden, p. 1-170. *(online at:*

*[https://dspace.library.colostate.edu/bitstream/handle/11124/20135/Tortopoglu\\_mines\\_0052N\\_10771.pdf?sequence=1](https://dspace.library.colostate.edu/bitstream/handle/11124/20135/Tortopoglu_mines_0052N_10771.pdf?sequence=1)*

*(N Carnarvon Basin rift-dominated basin, with five phases of extension (Pre-Top Permian, Top Permian, Base Jurassic, Middle Jurassic, and Late Jurassic) and the Base Cretaceous inversion. Magnitude of rift phases increased during M and Late Jurassic extension)*

Tovagliari, F. (2013)- Depositional history and paleogeography of the Jurassic Plover Formation in Calliance and Brecknock fields, Browse Basin, North West Shelf, Australia: Ph.D. Thesis, University of Western Australia, p. 1-361 + Enclosures.

*(online at: [research-repository.uwa.edu.au/files/3245318/Tovagliari\\_Federico\\_2013\\_Part\\_1.pdf](http://research-repository.uwa.edu.au/files/3245318/Tovagliari_Federico_2013_Part_1.pdf))*

*(Sequence stratigraphic framework of E-M Jurassic Plover reservoirs in Calliance and Brecknock fields)*

Tovagliari, F. & A.D. George (2012)- Sedimentology and image-log analysis of the Jurassic deltaic Plover Formation, Browse Basin, Australian North West Shelf. AAPG Ann. Conv. Exhib., Long Beach, Search and Discovery Art. 50714, 19p. (Abstract + Presentation)

*(online at: [http://www.searchanddiscovery.com/documents/2012/50714tovagliari/ndx\\_tovagliari.pdf](http://www.searchanddiscovery.com/documents/2012/50714tovagliari/ndx_tovagliari.pdf))*

*(Plover Fm E-M Jurassic syn-rift deltaic system, with 5 second-order sequences of ~5-9 Ma duration)*

Tovagliari, F. & A.D. George (2014)- Stratigraphic architecture of an Early-Middle Jurassic tidally influenced deltaic system (Plover Formation), Browse Basin, Australian North West Shelf. Marine Petroleum Geol. 49, p. 59-83.

*(Stratigraphic architecture and evolution of major E-M Jurassic fluvio-deltaic system (Plover Fm). Five 3rd-order sequences record progradational (S1, S2 and S4) and retrogradational (S3 and S5) phases of delta evolution. Common S-directed sediment dispersal in S2 and S3 and increasingly complex with W-directions in S4 and S5. Two rift-related depositional phases separated by phase of uplift between S3- S4. See also corrigendum in Vol. 54, p. 139-140)*

Tovagliari, F., A.D. George, T. Jones & H. Zwingmann (2013)- Depositional and volcanic history of the Early to Middle Jurassic deltaic reservoirs in Calliance and Brecknock Fields (Plover Formation), Browse Basin, North West Shelf, Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 1-20.

Towner, R.R. & D.L. Gibson (1983)- Geology of the onshore Canning Basin, Western Australia. Bureau of Mineral Resources, Geology and Geophysics Bulletin 215, p. 1-51.

*(online at: [https://s3-ap-southeast-2.amazonaws.com/corpdata/11/Bull\\_215.pdf](https://s3-ap-southeast-2.amazonaws.com/corpdata/11/Bull_215.pdf))*

*(Canning Basin of NW Australia large, intracratonic basin between Halls Creek Province and Pilbara Block, with up to 18 km thick faulted and folded Phanerozoic sediments. Five major periods of sedimentation; each with marine and continental phases, separated by intervals of erosion: (1) E Ordovician mainly marine sediments; (2) Silurian- E Carboniferous: initially evaporitic marine, with thick Devonian reef-carbonates; (3) Late Carboniferous marine and continental sedimentation, initially under glacial conditions, warming into E Triassic, followed by major compressional tectonism, probably in E Jurassic; (4) late E Jurassic- E Cretaceous with regional transgression; (5) Cenozoic. Text followed by extensive report by Yeates et al. 1975)*

Tucker, S.P. (2009)- Post-rift marine transgression of the southern Browse Basin margin: controls on hydrocarbon reservoir development and exploration potential. Australian Petrol. Prod. Explor. Assoc. (APPEA) J. 2009, p.

Turner, S., L.B. Bean, M. Dettmann, J.L. McKellar, S. McLoughlin & T. Thulborn (2009)- Australian Jurassic sedimentary and fossil successions: current work and future prospects for marine and non-marine correlation. GFF (Geol. For. Forhand.), Stockholm, 131, 1, p. 49-70.

*(online at: [http://pdfserve.informaworld.com/38517\\_914071552.pdf](http://pdfserve.informaworld.com/38517_914071552.pdf))*

*(Review of Jurassic stratigraphies and fossils across Australia)*

Tyler, I.M. & R.M. Hocking (2001)- A revised geological framework for Western Australia. West Australian Geol. Survey Record 2002/5, p. 1-7.

*(online at: [www.doir.wa.gov.au/documents/gswa/gsdPap\\_Tyler\\_and\\_Hocking.pdf](http://www.doir.wa.gov.au/documents/gswa/gsdPap_Tyler_and_Hocking.pdf))*

Tyler, I.M., R.M. Hocking & P.W. Haines (2012)- Geological evolution of the Kimberley region of Western Australia. *Episodes* 35, 1, p. 298-306.

(online at: [www.episodes.org/index.php/epi/article/viewFile/59916/46873](http://www.episodes.org/index.php/epi/article/viewFile/59916/46873))

*(History of Kimberley cratonic region in NW Australia began in Paleoproterozoic with rifting along N Australian Craton margin at 1910-1880 Ma, followed by plate collision as part of 1870-1790 Ma events that formed Diamantina Craton within supercontinent Nuna (Hooper Orogeny, Halls Creek Orogeny, etc.))*

Vachard, D., D.W. Haig & A.J. Mory (2014)- Lower Carboniferous (middle Visean) foraminifers and algae from an interior sea, Southern Carnarvon Basin, Australia. *Geobios* 47, p. 57-74.

*(Moderately diverse foraminifera fauna in Yindagindy Fm. Cosmopolitan genus Koninckopora and Plectinopsis suggest M Visean age)*

Van Aarssen, B.G.K., R. Alexander & R.I. Kagie (1996)- The origin of Barrow Sub-basin crude oils: a geochemical correlation using land-plant biomarkers. *The Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 36, 1, p. 465-476.

*(New biomarker technology used in sediments and oils-condensates from Barrow Sub-basin. Plant fingerprint established in M-U Jurassic rock samples from Koolinda-1 well. Crude oils from area match closely with Oxfordian (W. spectabilis dinozone) of Koolinda-1 sediments. Four oils correlated with slightly older sediments. Five condensates did not fit higher plant fingerprint of Jurassic in Koolinda-1 and may be from older source rocks)*

Van Aarssen, B.G.K., R. Alexander & R.I. Kagie (1998)- Higher plant biomarkers on the North West Shelf: application in stratigraphic correlation and palaeoclimate reconstruction. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2*, Proc. Petroleum Expl. Soc. Australia (PESA) Symposium, Perth, p. 123-128.

*(Biomarkers(retene, cadene, etc.) tied to higher land plants in Middle-Late Jurassic sequences on NW Shelf. Results show significant climate change in Oxfordian, probably led to dominance of conifer type trees. Palaeoclimate in Carnarvon Basin changed in cyclic fashion during Jurassic, coinciding with second-order sea level changes)*

Van Aarssen, B.G.K., R. Alexander & R.I. Kagie (1998)- Molecular indicators for palaeoenvironmental changes. *Petroleum Expl. Soc. Australia (PESA) Journal* 26, p. 98-105.

*(Similar to Van Aarssen et al. 1998, above)*

Van Tuyl, J., T.M. Alves & L. Cherns (2018)- Pinnacle features at the base of isolated carbonate buildups marking point sources of fluid offshore Northwest Australia. *Geol. Soc. America (GSA) Bull.*, 19p. *(in press)*

(online at: <https://pubs.geoscienceworld.org/gsa/gsabulletin/article/530065/pinnacle-features-at-the-base-of-isolated>)

*(Seismic data show most Late Oligocene-Miocene isolated carbonate buildups in Browse Basin underlain by bright spots, dim spots and other evidence of fluid accumulation, suggesting buildups formed preferentially on pinnacles formed by mud volcanoes or methanogenic carbonates)*

Van Tuyl, J., T.M. Alves & L. Cherns (2018)- Geometric and depositional responses of carbonate build-ups to Miocene sea level and regional tectonics offshore northwest Australia. *Marine Petroleum Geol.* 94, p. 144-165.

(online at: <https://www.sciencedirect.com/science/article/pii/S0264817218300801>)

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(Bonaparte Gulf Basin of NW Australia extends beneath Timor Sea. Rel. complete Paleozoic section of shelfal marine sediments. U Devonian- Lower Carboniferous sediments known only in S, where unconformably overlies Precambrian, Cambrian and Lower Ordovician rocks, and unconformably overlain by U Carboniferous-Permian sediments. Faulting along E margin in Frasnian. Frasnian- E Tournaisian carbonate reef complexes on NW part of platform. Shale covered platform in E Visean. In Permian, step faults along E margin reactivated)*

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*(Deeply incised N margin of Exmouth Plateau dredged along seismic reflection profiles in 2000-5600m water. With: (1) Late Triassic- E Liassic mixed early rift volcanics (K-Ar ages 213, 192 Ma), (2) Late Triassic- M Jurassic shallow water carbonate (with microfacies similar to coeval platform carbonates in Alps and Mediterranean area of Tethys Ocean), (3) ?Late Triassic- M Jurassic uplifted and weathered coals and very mature quartz sandstones, (4) latest Triassic- earliest Jurassic red biomicrites shoals and basinal hemipelagic micrites with redeposited calciturbidites. Uplifted horst blocks like Wombat Plateau subaerially eroded in Jurassic or earliest Cretaceous. Following breakup to form Argo Abyssal Plain in earliest Cretaceous deposition of (5) Lower Cretaceous marginal marine claystones, followed by (6) hemipelagic late Lower Cretaceous radiolarian clays. From Turonian increasingly pelagic deposition)*

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*(Late Jurassic extensional structuring in Vulcan sub-basin (between Browse and Bonaparte) at or immediately after time of continental breakup to W. Deep salt layer (Silurian- Devonian?) may act as detachment surface. Salt-related detachment explains nature of deep grabens at Swan and Paqualin and also occurrence of salt diapirs in these grabens (627m in Paqualin 1 well, Swan diapir). Renewed normal faulting, tied to Timor collision, began in Late Miocene, peaking in Pliocene, not active today)*

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*(Diverse, warm-water Late Oligocene-Recent planktonic foram faunas on Wombat and Exmouth plateaus, despite N-ward drift of Australia across 10°-15° latitude since E Miocene. Invasions of cool-water species during periods of global cooling in late M Miocene (replacement of warm water Paragloborotalia mayeri by Globorotalia partimlabiata), Late Miocene (common cool-water Globorotalia conoidea just after coiling change in Neogloboquadrina humerosa) and Pleistocene (common cool-water Globorotalia inflata))*

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*(Late Norian (Triasina oberhauseri) and Rhaetian (Triasina hantkeni) forams from ~250m thick Late Triassic reefal-platform carbonate section in ODP cores from Wombat Plateau at edge of Argo Abussal Plain, NW Australia. Reefal carbonate platform with inner shelf (intertidal to lagoon), patch reef, and outer shelf facies. Close affinity to microfauna of Seram. First record of Galeanella? laticarinata outside Seram)*

Zhan, Y. & A.J. Mory (2013)- Structural interpretation of the Northern Canning Basin, Western Australia. West Australian Basins Symposium, Perth 2013, Session 9, p. 1-17.

*(Seismic profiles in N Canning Basin reveal major WNW-oriented strike-slip fault zone in Fitzroy Trough, generated during Late Triassic-E Jurassic 'Fitzroy Transpression'. With NW-oriented fault splays indicative of right-lateral slip. Deformation at this time also produced N-S compression and E-W extension)*

Zhen, Y.Y. & R.S. Nicoll (2009)- Biogeographic and biostratigraphic implications of the *Serratognathus bilobatus* Fauna (Conodonts) from the Emanuel Formation (Early Ordovician) of the Canning Basin, Western Australia. Records Australian Museum, Sydney 61, p. 1-30.

*(Discovery of Serratognathus bilobatus in E Ordovician Emanuel Fm of Canning Basin indicates biogeographic link between Australia and E Gondwanan plates in E Ordovician and formation of 'Australasian Province'. S. bilobatus fauna from Canning Basin is more diverse than coeval Chinese Lower Ordovician successions and probably represents assemblage inhabiting relatively deeper water (mid-outer shelf) facies. Also present in Setul Lst, Malaysia. E Ordovician paleobiogeographic reconstruction shows E Gondwana shows Australia- New Guinea in equatorial position)*

### **IX.16. NE Australia margin ('Tasmanides')**

Adams, C. & R. Korsch (2010)- Crossing the Tasman: tracking Torlesse Terrane rocks from New Zealand into the New England Orogen. 20th Australian Geological Convention, Canberra 2010, Geol. Soc. Australia, Abstracts 98, p. 71-72. (*Abstract only*)

*(New Zealand Torlesse Supergroup extensive Permian-Cretaceous accretionary wedge of quartzose greywacke turbidites. Provenances continent-derived, plutonic rock, best match with Carboniferous, Permian and Triassic sources in New England Orogen, with some Cambrian and Ordovician. Jurassic-Cretaceous ages dominant in North Island, Late Permian-Triassic in South Island. Oldest horizons close to S-most edge of terrane, with slivers with Late Carboniferous limestone, probably oceanic seamount and pelagic seafloor assemblages upon which Torlesse was later deposited. Oldest Torlesse records M Permian initiation (~270 Ma) of major Late Permian-Triassic accretionary phase, supplied by erosion of contemporaneous magmatic arcs in E Australia)*

Aitchison, J. (1990)- Significance of Devonian-Carboniferous radiolarians from accretionary terranes of the New England orogen, eastern Australia. *Marine Micropaleontology* 15, p. 365-378.

*(Radiolarians provide age constraints for terranes in New England tectonic collage along E margin of Australia. Djungati terrane two siliceous sediment lithofacies: M Silurian- Late Devonian ocean-floor red, ribbon-bedded cherts and latest Devonian green tuffaceous cherts. Anaiwan terrane with latest Devonian and E Carboniferous radiolarians in cherts and tuffaceous siltstones. Yarrimie Fm of Gamilaroi terrane with Late Devonian (Frasnian) radiolarians and allochthonous blocks of limestone with Givetian conodonts and corals)*

Aitchison, J., M.C. Blake, P.G. Flood & A.S. Jayko (1994)- Paleozoic ophiolite assemblages within the southern New England Orogen of eastern Australia: implications for the growth of the Gondwana margin. *Tectonics*, 13, 1135-1149.

*(Narrow belt of E Cambrian ophiolite crops out near Peel- Manning Fault System, juxtaposed against younger arc and subduction complex terranes. May represent portions of Lachlan Fold Belt basement. M-L Devonian ophiolitic rocks in Yarras Complex comprise basement to Birpai subterrane and represent crustal cross section through rifted island arc. Periodic accretion of island arc systems to E margin of Gondwana suggests multiple phases of subduction with possibility of polarity reversals throughout the history of accretion)*

Aitchison, J. C. & S. Buckman (2012)- Accordion vs. quantum tectonics: insights into continental growth processes from the Paleozoic of eastern Gondwanan. *Gondwana Research* 22, p. 674-680.

*(E Paleozoic Lachlan Fold Belt of E Australia widely regarded as convergent plate margin beneath which Paleo-Pacific (Panthalassic) oceanic lithosphere was continuously subducted, in retreating accretionary orogeny. However, sandstone compositions, chert accumulation and stratigraphic architecture not consistent with this model. Alternative explanation for growth of continental margin includes subduction of oceanic lithosphere outboard of passive Gondwana continental margin under extensive intra-oceanic island arc that now crops out as allochthonous Macquarie arc in foldbelt. Once intervening oceanic lithosphere was eliminated, the arc was emplaced on Gondwana margin. Four such events recognized in Phanerozoic)*

Aitchison, J.C., A.M. Davis, J.M.C. Stratford & F.C.P. Spiller (1999)- Lower and Middle Devonian radiolarian biozonation of the Gamilaroi Terrane New England Orogen, Eastern Australia. *Micropaleontology* 45, 2, p. 138-162.

*(Seven uppermost Lower to M Devonian radiolarian assemblages in Gamilaroi terrane of E Australia. Gamilaroi terrane sedimentation occurred during Early (Pragian) to Late (Frasnian) Devonian in volcanic island arc environment with abundant radiolarians. Assemblages are dominated by spumellarians)*

Aitchison, J.C. & P.G. Flood (1992)- Early Permian transform margin development of the southern New England Orogen, eastern Australia (eastern Gondwana). *Tectonics* 11, 6, p. 1385-1391.

*(S New England orogen evolved from zone of high-angle plate convergence during Carboniferous, into either transform margin or highly oblique-convergent margin by E Permian)*

Aitchison, J.C. & P.G. Flood (1992)- Implications of radiolarian research for analysis of subduction complex terranes in the New England Orogen, NSW, Australia. *Palaeogeogr. Palaeoclim. Palaeoecology* 96, p. 89-102.

Aitchison, J.C. & P.G. Flood (1994)- Gamilaroi Terrane: a Devonian rifted intra-oceanic island-arc assemblage, NSW, Australia. In: J.L. Smellie (ed.) *Volcanism associated with extension at consuming plate margins*, Geol. Soc., London, Spec. Publ. 81, p. 155-168.

*(Devonian Gamilaroi terrane of New England orogen is intra-oceanic island arc, with local rifting. Oceanic crust between Gamilaroi terrane and Gondwana subducted E-wards under W margin of Gamilaroi terrane arc. Gamilaroi terrane obducted onto Gondwana margin in latest Devonian, resulting in subduction flip and subsequent development of E-facing continental margin arc system on top of Gamilaroi terrane)*

Aitchison, J.C., P.G. Flood & F.C.P. Spiller (1992)- Tectonic setting and paleoenvironment of terranes in the southern New England orogen, eastern Australia as constrained by radiolarian biostratigraphy. *Palaeogeogr. Palaeoclim. Palaeoecology* 94, p. 31-54.

*(Radiolarians abundant in Gamilaroi, Djungati and Anaiwan terranes of New England orogen in E Australia. Oldest rocks of Gamilaroi terrane probably Devonian, part of intra-oceanic island arc succession which accreted to E margin of Australia at end of Devonian. Overlain by Carboniferous, continental arc sequence of successor basin. Djungati terrane was part of oceanic basin in M Silurian- Late Devonian, influenced by volcanic island arc activity and tectonically disrupted in latest Devonian- E Carboniferous)*

Aitchison J.C. & T.R. Ireland (1995)- Age profile of ophiolitic rocks across the Late Palaeozoic New England Orogen, New South Wales: implications for tectonic models. *Australian J. Earth Sci.* 42, p. 11-23.

*(Zircon U-Pb ages from ophiolitic and associated rocks across S part of New England Orogen suggest earliest Cambrian- Triassic ages)*

Aitchison J.C., T.R. Ireland, M.C. Blake & P.G. Flood (1992)- 530 Ma zircon age for ophiolite from the New England Orogen: oldest rocks known from eastern Australia. *Geology* 20, p. 125-128.

*(Magmatic zircons from plagiogranite in Weraerao ophiolite terrane, juxtaposed between Devonian terranes in New England tectonic collage. Dated as 530 +/- 6 Ma (E Cambrian))*

Allen, C.M., I.S. Williams, C.J. Stephens, & C.R. Fielding (1998)- Granite genesis and basin formation in an extensional setting: the magmatic history of the northernmost New England Orogen. *Australian J. Earth Sci.* 45, p. 875-888

Armit, R., P. Betts, J. Stewart, I. Whitnall, P. Donchak & L. Hutton (2015)- Ordovician-Late Silurian geodynamics of north Queensland. *Conf. Spec. Group Tect. Struct. Geol., Geol. Soc. Australia*, 2015, 2p. *(Extended Abstract)*

*(Following Delamerian Orogeny, roll-back of W-dipping subduction system in E Ordovician lead to extension of continental crust in overriding plate along E margin of Gondwana. In N Queensland separation of two micro-continental ribbons from Australian continent (now basement rocks in Hodgkinson Province and Barnard Province). Ordovician back arc inversion)*

Arnold, G.O. & J.F. Faulkner (1980)- The Broken River and Hodgkinson Provinces. In: R.A. Henderson & P.J. Stephenson (eds.) *The geology and geophysics of Northeastern Australia*, Geol. Soc. Australia, Queensland Division, Brisbane, p. 175-189.

Babaahmadi, A., R. Sliwa, J. Esterle & G. Rosenbaum (2017)- The development of a Triassic fold-thrust belt in a synclinal depositional system, Bowen Basin (eastern Australia). *Tectonics* 36, p. 51-77.

*(Decollements and resultant structures likely developed in response to mild contraction of E- C Bowen Basin synclinal depositional system during last phase of Permian-Triassic Hunter-Bowen orogeny)*

Babaahmadi, A., R. Sliwa, J. Esterle & G. Rosenbaum (2017)- The evolution of a Late Cretaceous- Cenozoic intraplate basin (Duarina Basin), eastern Australia: evidence for the negative inversion of a pre-existing fold-thrust belt. *Int. J. Earth Sciences*, p 1-16. *(in press)*

*(Duaringa Basin in E Central Queensland is Late Cretaceous?- Paleogene basin (with M-L Eocene oil shales) that developed simultaneously with opening of Tasman and Coral Seas. Basin overlies Permian-Triassic fold-thrust belt. NNW-striking, NE-dipping Duaringa main boundary fault probably inversion of Triassic thrust)*

Bain, J.H.C. & J.J. Draper (1997)- North Queensland Geology. Australian Geol. Survey Org. Bull. 240 and Queensland Dept. Mines and Energy Queensland Geology 9, p. .

Baker, J.C., C.R. Fielding, P. de Caritat & M.M. Wilkinson (1993)- Permian evolution of sandstone composition in a complex back-arc extensional to foreland basin: the Bowen Basin, eastern Australia. J. Sedimentary Petrology 63, p. 881-893.

*(Bowen Basin Permo-Triassic back-arc extensional to foreland basin landward of continental volcanic arc. Started with limited back-arc crustal extension in E Permian, with N-S trending grabens with in W quartz-rich sediment from surrounding continental basement; in E calc-alkaline volcanolithic-rich and volcanoclastic sediment from active volcanic arc. Early extension followed by thermal subsidence accompanied by episodic compression in late E Permian- early Late Permian. In W quartzose sediment from W and S, in E volcanolithic-rich sediment from inactive volcanic arc. Latest Permian flexural loading and increased compression and renewed volcanism in E led to volcanics-rich sediment over entire basin)*

Bammel, B. (2014)- A tectonic reconstruction of accreted terranes along the Paleo-Pacific margin of Gondwana. M.Sc. Thesis, University of Texas, Arlington, p. 1-92.

*(online at: <https://uta-ir.tdl.org/uta-ir/handle/10106/24444>)*

*(Paleo-Pacific margin of S Gondwana consisted of segments of Australian-Antarctic craton, Argentina -Chile, S Africa, etc. Terra Australis orogen is one of largest and longest lived orogens in Earth history. Tasman foldbelt convergent margin from M Cambrian- Late Triassic, associated with generally W dipping subduction)*

Belousova, E.A., W.L. Griffin, S.R. Shee, S.E. Jackson & S.Y. O'Reilly (2001)- Two age populations of zircons from the Timber Creek kimberlites, Northern Territory, as determined by laser-ablation ICP-MS analysis. Australian J. Earth Sci. 48, p. 757-765.

*(Two populations of kimberlitic zircon in Timber Creek kimberlites, N Territory: 1483 ± 15 Ma for main group (inherited) and 179± 2 Ma (E Jurassic emplacement age))*

Black, L.P., R.J. Bultitude, S.S. Sun, J. Knutson & R.S. Blewett (1992)- Emplacement ages of granitic rocks in the Coen Inlier (Cape York): implications for local geological and regional correlation: BMR J. Australian Geol. Geophysics 13, p. 191-200.

*(online at: [https://d28rz98at9flks.cloudfront.net/81317/Jou1992\\_v13\\_n3\\_p191.pdf](https://d28rz98at9flks.cloudfront.net/81317/Jou1992_v13_n3_p191.pdf))*

*(New zircon U-Pb ages define two major short-lived episodes of Paleozoic magmatism in Coen Inlier, N Queensland: (1) E Permian (284 Ma; Weymouth Granite, Twin Humps Adamellite); (2) most granites Late Silurian- E Devonian (~402-408 Ma). Similarities in ages of granites in Coen and Georgetown Inliers)*

Blake, P.R. (2010)- Devonian corals of the Yarrol Province, eastern-central Queensland. Mem. Assoc. Australasian Palaeontol. 38, p. 1-191.

*(Yarrol Province in E-C Queensland contains latest Silurian to Permian rocks. Devonian corals locally abundant. Fairly diverse Late Devonian coral fauna present, with 45 genera and 77 species (incl. Heliolites, etc.). Six coral faunas, three in E Devonian, two in M Devonian, and one in Late Devonian)*

Blewett, R.S. & L.P. Black (1998)- Structural and temporal framework of the Coen Region, north Queensland: implications for major tectonothermal events in east and north Australia. Australian J. Earth Sci. 45, p. 597-609.

*(Coen Region Proterozoic (Yambo, Savannah) and Paleozoic (Pama, Kennedy) Provinces. N Queensland two major crust-forming periods: Proterozoic (1800-1550 Ma) and Paleozoic (430-280 Ma), with intervening 1000 million years of quiescence interrupted by minor Grenville-age modification (1300-1000 Ma). Coen Region intraplate, with plate-margin processes further E)*

Boger, S.D. & D. Hansen (2004)- Metamorphic evolution of the Georgetown Inlier, northeast Queensland, Australia; evidence for an accreted Palaeoproterozoic terrane? J. Metamorphic Geol. 22, p. 511-527.

*(Georgetown Inlier, NE Australia, two separate metamorphic events: (1) contemporaneously with Paleo- to Mesoproterozoic orogenesis; (2) thermal overprint with emplacement of Forsyth Batholith (~1550 Ma))*

Brakel, A.T., J.M. Totterdell, A.T. Wells & M.G. Nicoll (2009)- Sequence stratigraphy and fill history of the Bowen Basin, Queensland. *Australian J. Earth Sci.* 56, 3, p. 401-432.

*(Regional seismic synthesis of 10 km-thick continental-shallow marine succession of Bowen Basin revealed 3 basin-fill episodes and 9 depositional supersequences: (A) E Permian volcanics and half-graben development in separate troughs with fluvio-lacustrine sediments including coal. In subsequent thermal subsidence phase, four marine supersequences (B-E) were generated. Foreland loading in Late Permian-Triassic, with pulses of thrust loading and 4 supersequences (F-I). Later part of F mainly non-marine coal measures. Foreland-loading phase greatest rate of subsidence since initial rift, but little evidence of widespread marine flooding)*

Briggs, D.J.C. (1998)- Permian Productidina and Strophalosiidina from the Sydney-Bowen Basin and New England Orogen: systematics and biostratigraphic significance. *Mem. Assoc. Australasian Palaeont.* 19, 258p.

Bruce, M.C. & Y.L. Niu (2000)- Early Permian supra-subduction assemblage of the South Island terrane, Percy Isles, New England Fold Belt, Queensland. *Australian J. Earth Sci.* 47, p. 1077-1086.

*(South Island of Percy Isles off Queensland dominated by serpentinitised ultramafic rocks. E Permian age (~277 Ma) of calc-alkaline, intermediate volcanics and granitoids from South Island terrane similar to that of Gympie terrane (270-280 Ma) and Berserker terrane of C-E Queensland and may represent different sections of same oceanic arc)*

Bruce, M.C, Y. Niu, T.A. Harbort & R.J. Holcombe (2000)- Petrological, geochemical and geochronological evidence for a Neoproterozoic ocean basin recorded in the Marlborough terrane of the northern New England Fold Belt. *Australian J. Earth Sci.* 47, p. 1053-1064.

*(Marlborough Terrane largest (~700km<sup>2</sup>) ultramafic-mafic complex in E Australia. Terrane is near-horizontal, out-of-sequence thin-skinned nappe sheet and has sea-floor spreading centre origin. Crystallisation age of ~562 Ma suggests Late Neoproterozoic ocean basin. New England Fold Belt may have developed on oceanic crust, following oceanward migration of subduction zone at ~540 Ma)*

Bruhl, D. & S. Pohler (1999)- Tabulate corals from the Moore Creek Limestone (Middle Devonian: Late Eifelian- Early Givetian) in the Tamworth Belt (New South Wales, Australia). In: R. Feist et al. (eds.) *North Gondwana: Mid-Paleozoic terranes, stratigraphy and biota.* Abhand. Geol. Bundesanstalt, Vienna, 54, p. 275-293.

*(M Devonian (Eifelian-early Givetian) Moore Creek Limestone of Tamworth foldbelt in NSW, E Australia, thought to be deposited in intra-oceanic island arc setting. With tabulate corals, incl. Heliolites porosus. Assemblage and depositional setting may be comparable to NE Kalimantan, described by Rutten 1940, 1943)*

Bryan, S.E. (2007)- Silicic large igneous provinces. *Episodes* 30, 1, p. 20-31.

*(online at: [www.episodes.co.in/www/backissues/301/20-31%20Bryan.pdf](http://www.episodes.co.in/www/backissues/301/20-31%20Bryan.pdf))*

*(Review of Large Igneous Provinces, including Cretaceous (~132-95 Ma; Aptian-Albian) Whitsunday and Late Carboniferous- E Permian (~320-280 Ma) Kennedy-Connors-Auburn Group from NE margin of Australia)*

Bryan, S.E., A.G. Cook, C.M. Allen, C. Siegel, D. J. Purdy, J.S. Greentree & I. Tonguc Uysal (2012)- Early-mid Cretaceous tectonic evolution of eastern Gondwana: from silicic LIP magmatism to continental rupture. *Episodes* 35, 1, p. 142-152.

*(Early-mid Cretaceous three major continental-scale events in E Gondwana: (1) emplacement of Silicic Large Igneous Province near continental margin; (2) volcanoclastic fill, transgression and regression of major epicontinental seaway developed over Australian continent; (3) uplift, exhumation and continental rupturing culminating in opening of Tasman Basin at ~84 Ma)*

Bryan, S.E., A.E. Constantine, C.J. Stephens, A. Ewart, R.W. Schon & J. Parianos (1997)- Early Cretaceous volcano-sedimentary successions along the eastern Australian continental margin: implications for the break-up of eastern Gondwana. *Earth Planetary Sci. Letters* 153, p. 85-102.

*(Two large E Cretaceous volcanic-sedimentary provinces in NE Australia (Whitsunday and Great Artesian Basin), and one in SE (Otway/Gippsland). Large E Cretaceous Whitsunday Aptian-Albian volcanic province (125-105 Ma) along E margin of Australia, part of high-K calc-alkaline pyroclastic volcanic belt that extends for >900 km along C-S Queensland coast. Ages 132-95 Ma, mainly ~120-105 Ma (Albian). Represents volcanism related to rifting/ break-up of E Gondwana margin)*

Bryan, S E., A. Ewart, C.J. Stephens, J. Parianos & P.J. Downes (2000)- The Whitsunday Volcanic Province, central Queensland, Australia: Lithological and stratigraphic investigations of a silicic-dominated large igneous province. *J. Volcanology Geothermal Res.* 99, p. 55-78.

*(Silicic Large Igneous Provinces volumetrically dominated by ignimbrite and spatially and temporally associated with plate break-up. E Cretaceous (~132/125-100/95 Ma) Whitsunday Volcanic Province dominated by dacitic-rhyolitic lithic ignimbrites, each 10-100 m thick. Total ignimbrite-dominated sequence >1 km thick. Early explosive dacitic pyroclastic phase succeeded by mixed pyroclastic-effusive phase. Volcanic sequences intruded by gabbro/dolerite to rhyolite dykes, sills and comagmatic granite, and record evolution of multiple vent, low-relief volcanic region, dominated by several large caldera centres)*

Bryan, S.E., R.J. Holcombe, & C.R. Fielding (2001)- The Yarrol terrane of the northern New England Fold Belt: fore-arc or back-arc? *Australian J. Earth Sci.* 48, p. 293-316.

*(Question 'classical' forearc model for Yarrol Basin of N New England Fold Belt)*

Bryan, S.E., R.J. Holcombe, & C.R. Fielding (2003)- Reply- The Yarrol terrane of the northern New England Fold Belt: fore-arc or back-arc? Discussion and Reply. *Australian J. Earth Sci.* 50, p. 278-293.

*(Reply to critical discussion by Murray, Blake et al. (2003) of Bryan et al. (2001) paper)*

Bultitude, R.J. & D.C. Champion (1992)- Granites of the eastern Hodgkinson Province: their field and petrographic characteristics. Dept. of Resource Industries, Queensland, p. 1-202.

Bultitude, R.J., P.J. Donchak, J. Domagala & B.G. Fordham (1993)- The Pre-Mesozoic stratigraphy and structure of the western Hodgkinson Province and environs. Geological Survey of Queensland, Record 1993/29, p. 1-259.

*(Detailed report on Ordovician- Carboniferous stratigraphy of Hodgkinson Province. Ordovician-Silurian limestone-dominated. Devonian turbidite-dominated Chilligoe and Hodgkinson Fms until Late Devonian (Famennian) when E-directed thrusting halted deep-water sedimentation. Area effectively cratonised by numerous Late Carboniferous- E Permian (~320- 275 Ma) granite plutons and subaerial volcanic sequences (part of N Queensland Volcanic-Plutonic Province). M Jurassic-E Cretaceous fluvial- shallow-marine quartzose sands and gravels deposited in W part of region)*

Bultitude, R.J., P.J. Donchak, J. Domagala, B.G. Fordham & D.C. Champion (1990)- Geology and tectonics of the Hodgkinson Province, North Queensland. In: Proc. 1990 Pacific Rim Congress (PACRIM), Gold Coast 1990, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, 3, p. 75-81.

*(Hodgkinson Province is N part of Tasman Orogen, with extensive outcrops of Silurian-Devonian in Queensland. Siliciclastic turbidites dominant, with common mafic volcanics and fossiliferous limestones near W margin. Complex deformational history, numerous thrust faults. Up to five major deformational events, mostly in E-M Carboniferous, pre-dating Late Carboniferous- Late Permian granites. Dominant NNW-NW oriented cleavage pre-dates deposition of M Jurassic- E Cretaceous sediments of Laura Basin. Late Permian- E Triassic deformational event?)*

Bultitude, R.J., P.D.Garrad, P.J.T.Donchak, J. Domagala, D.C. Champion, I.D. Rees et al. (1997)- Cairns Region. In: J.H.C. Bain & J.J. Draper (eds.) North Queensland Geology, Chapter 7, AGSO Bull. 240, p. 225-325.

Burger, D., C.B. Foster & J.L. McKellar (1992)- A review of Permian to Cretaceous palynostratigraphy in Eastern Australia. Bureau Min Res. Geol. Geophys., Canberra, Record 1992/5, p. 1-26.

*(online at: [https://d28rz98at9flks.cloudfront.net/14516/Rec1992\\_005.pdf](https://d28rz98at9flks.cloudfront.net/14516/Rec1992_005.pdf))*

Burrow, C.J., S. Turner & G.C. Young (2010)- Middle Palaeozoic microvertebrate assemblages and biogeography of East Gondwana (Australasia, Antarctica). *Palaeoworld* 19, p. 37-54.  
(*On Silurian- Carboniferous fish remains from Australia and links to other regions*)

Campbell, L.M., R.J. Holcombe & C.R. Fielding (1999)- The Esk Basin- a Triassic foreland basin within the northern New England Orogen. In: P.G. Flood (ed.) *Regional geology, tectonics and metallogenesis, New England Orogen, NEO 09*, University of New England, Armidale 1999, p. 275-284.  
(*Evolutionary history of Esk Basin redefined as consisting of E Permian phase of extension, M-Permian passive thermal subsidence and latest Permian-E Triassic foreland loading, paralleling tectonic evolution of Bowen Basin. Esk Basin developed in depocentre on SE margin of larger Bowen Basin and likely contiguous with it. Continental volcanic-arc active in E-M Triassic in SE Queensland, during hiatus in deformation. Hunter-Bowen Orogeny produced exposed fold-thrust highland by E Triassic arc magmatism migrated W onto continent, and that terminal thrusting of orogenic event occurred prior to end of M Triassic*)

Caprarelli, G. & E.C. Leitch (1998)- Magmatic changes during the stabilisation of a cordilleran fold belt: the Late Carboniferous-Triassic igneous history of eastern New South Wales, Australia. *Lithos* 45, p. 413-430.  
(*Between Late Carboniferous and Late Permian, magmatic arc in New England Fold Belt in NE NSW shifted E-ward and changed in trend from NNW to N. Devonian-Late Carboniferous arc located in W of Fold Belt, Late Permian-Triassic mainly in earlier forearc. Growth of younger arc accompanied by compressional deformation that stabilised New England Fold Belt. During transition two suites of S-type granitoids: Hillgrove at ~305 Ma during compressional and regional metamorphism episode and Bundarra at ~280 Ma during late extensional episode. Termination of earlier arc resulted from shallow breakoff of downgoing plate*)

Cawood, P.A. (1982)- Structural relations in the subduction complex of the Paleozoic New England fold belt, Eastern Australia. *The J. Geology* 90, p. 381-392.

Cawood, P.A. (1984)- The development of the SW Pacific margin of Gondwana: correlations between the Rangitata and New England orogens. *Tectonics* 3, 5, p. 539-553.  
(*Before formation of Tasman Sea, Late Paleozoic-Mesozoic Rangitata Orogen of New Zealand and New Caledonia abutted New England Orogen of E Australia. Similar Permian-Cretaceous igneous and deformational events in two orogens: (1) end of arc volcanism and widespread sedimentation in New England, together with onset of regional deformation and crustal anatexis synchronous with start of volcanism and sedimentation in Rangitata Orogen; (2) E Permian andesitic volcanism in E New England is along-strike extension of Brook Street terrane of New Zealand; (3) Late Permian regional deformation in New England coincides with break in subduction- related igneous activity in New England and Rangitata Orogens and shift in locus of activity; (4) Late Permian-Triassic calc-alkaline igneous activity in New England correlates with pyroclastic material in forearc basin of Rangitata Orogen; (5) cessation of plutonism in New England corresponds with start of Esk Head Melange in New Zealand; (6) Late Cretaceous plutons in New England Orogen similar to final Rangitata orogenesis, both marking initial rifting associated with formation of Tasman Sea*)

Cawood, P.A. (2005)- Terra Australis orogen: Rodinia breakup and development of the Pacific and Iapetus margins of Gondwana during the Neoproterozoic and Paleozoic. *Earth-Science Reviews* 69, p. 249-279.  
(*Pacific Ocean formed through Neoproterozoic rifting of Rodinia and never subsequently closed. Record of ocean opening and inception of ocean convergence/subduction preserved in Neoproterozoic- late Paleozoic Terra Australis Orogen. Orogen pre-dispersal length along E Gondwana margin ~18000 km long, up to 1600 km wide. Subduction of Pacific Ocean established at Gondwana margin by ~570 Ma. Termination of Terra Australis Orogen at ~300-230 Ma associated with assembly of Pangea (Pan-Pacific Gondwanide Orogeny)*)

Cawood, P.A. & G. Buchan (2007)- Linking accretionary orogenesis with supercontinent assembly. *Earth-Science Reviews* 82, p. 217-256.  
(*Assembly of Gondwana and Pangea indicate timing of collisional orogenesis between amalgamating continental bodies synchronous with subduction initiation and contractional orogenesis in accretionary orogens along margins of supercontinents. Final assembly of Gondwana between ~570-510 Ma, amalgamating*)

*East and West Gondwana, coeval with switch from passive margin sedimentation to convergent margin activity along Pacific margin of supercontinent. Subduction initiation along Pacific margin 580-550 Ma. Final stages of assembly of Pangean supercontinent between ~320-250 Ma, with major plate boundary reorganization and regional orogenesis along Pacific margin. E Gondwana margin segment transpressional and transtensional activity from ~305-270 Ma, after which convergence along margin was re-established. In E Australia this involved E-ward migration of arc magmatism into old subduction complex)*

Cawood, P.A. & R.J. Korsch (2008)- Assembling Australia: Proterozoic building of a continent. *Precambrian Research* 166, p. 1-35.

Cawood, P.A. & E.C. Leitch (1984)- Accretion and dispersal tectonics of the southern New England foldbelt, Eastern Australia. In: D.G. Howell (ed.) *Tectonostratigraphic terranes of the Circum-Pacific region*, Circum-Pacific Council Energy and Mineral Resources, Earth Sci. Ser. 1, p. 481-492.

Cawood, P.A., E.C. Leitch, R.E. Merle & A.A. Nemchin (2010)- Earliest Permian non-collisional orogeny and basin formation in the southern New England fold belt sector of the Terra Australis Orogen. 20<sup>th</sup> Australian Geological Convention, Canberra 2010, Geol. Soc. Australia, Abstracts 98, p. 70 (*Abstract only*)  
*(Tablelands Orogeny major tectonothermal event around Carboniferous-Permian boundary, between 305-295 Ma, with HT/LP metamorphism, ending long-lived subduction-related magmatic arc activity in W New England. Followed by development of new E Permian arc (S-type granites) and contemporaneous extensional basins on accretionary complex of older arc system. Major stratigraphic break in Tamworth Belt in latest Carboniferous, with removal of several 1000m of M Devonian- Carboniferous strata before E Permian)*

Cawood, P.A., E.C. Leitch, R.E. Merle & A.A. Nemchin (2011)- Orogenesis without collision: stabilizing the Terra Australis accretionary orogen, eastern Australia. *Geol. Soc. America (GSA) Bull.* 123, 11-12, p. 2240-2255.

*(Convergent margin magmatism along W margin of New England foldbelt ended latest Carboniferous (~305 Ma), followed by short pulse of compressional deformation/ metamorphism. Followed by onset of clastic sedimentation and local calc-alkaline volcanism, dated at 293 Ma in extensional Barnard Basin. Emplacement of S-type granites with high-T metamorphism at 296-288 Ma. Hunter-Bowen orogenic phase regional deformation/ metamorphism at ~265-260 Ma, associated with I-type plutonism and volcanic activity in New England orogen that ceased around 230 Ma, marking end of Gondwanide orogenesis. No evidence that deformation was related to collision with major lithospheric mass. Widespread development of extensional basins in E third of Australia in E Permian indicates controls acting on continental scale, probably changing plate kinematics)*

Cawood, P.A., S.A. Pisarevsky & E.C. Leitch (2011)- Unraveling the New England orocline, east Gondwana accretionary margin. *Tectonics* 30, TC5002, p. 1-15.

*(online at: <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2011TC002864>)*

*(New England orocline developed during Late Carboniferous- E Triassic Gondwanide Orogeny (310-230 Ma), which deformed pre-Permian arc assemblage (W magmatic arc, adjoining forearc basin and E subduction complex). Buckling of arc system about vertical axis during N-ward translation of S segment of arc system against N segment, which is pinned relative to cratonic Gondwana. Final stage of orocline formation (~270-265 Ma; ~M Permian) overlaps with major gap in magmatic activity)*

Champion, D.C. & R.J. Bultitude (1994)- Granites of the eastern Hodgkinson Province. II. their geochemical and Nd-Sr isotopic characteristics and implications for petrogenesis and crustal structure in north Queensland. *Queensland Geological record*, Dept. of Minerals and Energy, Queensland, p. 1-113.

Champion, D.C. & R.J. Bultitude (2003)- Granites of North Queensland. In: P. Blevin et al (eds.) *The Ishihara Symposium: Granites and associated metallogeneses*, Macquarie University, Geoscience Australia Record 2003/14, p. 19-23.

*(online at: [www.ga.gov.au/image\\_cache/GA3675.pdf](http://www.ga.gov.au/image_cache/GA3675.pdf))*

*(N Queensland major episodes of granite formation in: Mesoproterozoic (~1550 Ma), Cambrian-Ordovician (~480-460 Ma; Macrossan Igneous Province), Silurian Devonian (~430-380 Ma; Pama Igneous Province), and Carboniferous- Late Permian (~330-260 Ma; Kennedy Igneous Province; most voluminous, 3 subgroups))*

Chappell, B.W. (1994)- Lachlan and New England: fold belts of contrasting magmatic and tectonic development. *J. and Proc. Royal Soc. New South Wales* 127, p. 47-59.

Chaproniere, G.C.H., C.J. Pigram, P.A. Symonds & P.J. Davies (1990)- The Northeast Australian margin and adjacent areas- a biostratigraphic review and geohistory analysis. *Bureau Mineral Res. Geol. Geoph., Record* 1990/7, p. 1-30.

*(online (without plates) at: [www.ga.gov.au/image\\_cache/GA13885.pdf](http://www.ga.gov.au/image_cache/GA13885.pdf))*

*(Review of M Eocene- Recent biostratigraphy of NE Australian offshore wells in SE Papuan and Capricorn/ S Great Barrier Reef Basins, DSDP Sites in Coral Sea Basin and Lord Howe Rise and dredge samples. Anchor Cay 1 well with Late Eocene Pellatispira. Early Oligocene unconformity in most S Papuan/ Capricorn wells)*

Cohen, B.E. (2012)- The scenic rim of southeastern Queensland, Australia: a history of mid Cenozoic intraplate volcanism. *Episodes* 35, 1, p. 103-109.

*(online at: [www.episodes.co.in/contents/2012/march/p103-109.pdf](http://www.episodes.co.in/contents/2012/march/p103-109.pdf))*

*(SE Queensland intraplate plume-derived mafic volcanism provide record of N-ward Australian plate movement over mantle plume. Major slowdown between 26 -23 Ma is correlated with initial collision of Ontong Java plateau with N subduction margin of Australian plate, which also caused brief changes in direction of Tasmantid and Lord Howe seamount chains and also changed motion of Pacific plate. Little contamination of upper mantle-driven magmas by 36 km thick continental crust, except rhyolites formed during last 1 Myr of slow plate velocity)*

Collins, W.J. (1991)- A reassessment of the 'Hunter-Bowen orogeny': tectonic implications for the southern New England fold belt. *Australian J. Earth Sci.* 38, p. 409-423.

*(All Late Permian deformation in S New England Fold Belt ascribed to single compressive tectonic event: Hunter-Bowen Orogeny (265-250 Ma). E Permian rifting of Carboniferous arc and fore-arc of Tamworth Belt and region W of it produced Sydney Basin and subsidiary meridional troughs in backarc environment. Initial E-W compression in Late Permian produced meridional folds and above W-propagating decollement. Final deformation reactivated ancestral Peel Fault, rotated fault blocks in Tamworth Belt and caused sinistral displacement of tectonostratigraphic units in Tablelands Complex, culminating in Permian dispersal event. Orogenic cycle recorded as massive flooding of Sydney Basin with continental detritus from S New England Fold Belt, in response to uplift of belt, and change from backarc to foreland basin in Late Permian)*

Collins, W.J. & S.W. Richards (2008)- Geodynamic significance of post-collisional S-type granites in circum-Pacific orogens. *Geology* 36, p. 559-562.

*(Delamerian, Lachlan and New England orogens characterized by 'tripartite associations' of (1) belts of S-type granite and associated high T-low P metamorphic complexes, (2) outboard oceanic arc sequences, remnants of which are preserved as greenstones, and (3) intervening, slightly younger back-arc basins into which I-type plutons are emplaced. Four tripartite associations: M Cambrian, Cambrian-Ordovician, Silurian and Carboniferous, each representing distinct phase of arc retreat, magmatism, and back-arc rifting that followed major compressive event associated with closure of precursor back-arc basin)*

Coney, P.J. (1992)- The Lachlan belt of eastern Australia and Circum-Pacific tectonic evolution. *Tectonophysics* 214, p. 1-25.

*(Pacific Ocean basin remarkable permanency through Phanerozoic, with accretionary continental margin orogens showing little evidence of continental collisions (unlike Circum-Atlantic and Tethyan realms). Through Paleozoic- E Mesozoic South America, Antarctica, and Australia were joined along SE, S and SW margins of Pacific Ocean, with Pacific margin orogenic system extending for 20,000 km from NW South America to NE Australia. Lachlan Fold Belt E Paleozoic deep-marine turbiditic facies common along margin, often directly juxtaposed against cratonic interior. Prolonged histories of Late Precambrian- Late Cambrian, then E Silurian- E Mesozoic convergent to transpressive and accretionary tectonics, often accompanied by magmatism)*

- Coney, P.J., A. Edwards, R. Hine, F. Morrison & D. Windrum (1990)- The regional tectonics of the Tasman orogenic system, Eastern Australia. *J. Structural Geol.* 12, p. 519-543.  
*(Tectonic evolution of Tasman orogen four main phases: (1) late Proterozoic- E Paleozoic, generally deep-marine turbiditic sedimentation submarine volcanism, and shifting deformation, metamorphism and plutonism; (2) major mid-Paleozoic deformation, volcanism and plutonism; (3) major accretionary phase in outer New England belt of terranes that culminated in Late Paleozoic and continuing into E Mesozoic; (4) extensional break-up of Gondwanaland in Cretaceous, continuing to present)*
- Craven, S.J., N.R. Daczko & J.A. Halpin (2012)- Thermal gradient and timing of high-T-low-P metamorphism in the Wongwibinda Metamorphic Complex, southern New England Orogen, Australia. *J. Metamorphic Geol.* 30, p. 3-20.  
*(online at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1525-1314.2011.00949.x/pdf>)  
 (Wongwibinda high T- low P Metamorphic Complex in S New England Orogen (variably metamorphosed Devonian-Carboniferous turbidites, intruded by granodiorite/granitoids). Overall increase in metamorphic grade from W to E. Age peak metamorphism ~297 Ma. Zircon U-Pb crystallization age in granodiorite 290.5 Ma, suggesting confirming pluton emplacement post-dates peak HTLP metamorphism (both earliest Permian))*
- Crawford, A.J., S. Meffre & P.A. Symonds (2003)- 120 to 0 Ma tectonic evolution of the southwest Pacific and analogous geological evolution of the 600 to 220 Ma Tasman Fold Belt System. *Geol. Soc. Australia Spec. Publ.* 22, p. 377-397. (or *Geol. Soc. America (GSA), Spec. Paper* 372, p. 383-403).  
*(Elongate microcontinental ribbons (Lord Howe Rise, Norfolk-New Caledonia Ridge) calved off E Australia during ~120-52 Ma extension, with oceanic crust formation from 85-52 Ma, producing Tasman Sea and S Loyalty Basin. Change in Pacific plate motion at ~55 Ma initiated E-directed subduction along recently extinct spreading centre in S Loyalty Basin. Subduction of S Loyalty Basin crust led to arrival at ~38 Ma of 70-60 My old Norfolk Ridge volcanic passive margin at trench, and W-directed emplacement of New Caledonia ophiolite. After locking of subduction zone at 38-34 Ma, subduction jumped E to form new W-dipping subduction zone and Vitiaz arc. Arc splitting episodes fragmented Vitiaz arc to form S Fiji (31-25 Ma) and N Fiji Basins (10 Ma- present). Collision of Ontong Java Plateau with Solomons section of Vitiaz arc resulted in reversal of subduction polarity, and growth of Vanuatu arc. Continued rollback of trench fronting Tonga arc since 6 Ma split this arc to form Lau Basin-Havre Trough. SW Pacific style of crustal growth above rolling-back slab applied to Tasman Fold Belt)*
- Crespin, I. (1947)- Foraminifera in the Permian rocks of Australia. *Bureau Mineral Res. Geol. Geoph., Bull.* 15, p. 1-31.  
*(online at: [www.ga.gov.au/metadata-gateway/metadata/record/206/](http://www.ga.gov.au/metadata-gateway/metadata/record/206/))  
 (On smaller benthic forams from Queensland, New South Wales, Tasmania, W Australia, etc. The only record of two genera of Fusulinid forams is Neoschwagerina and Verbeekina from W Kimberley area in W Australia by Chapman and Parr (1937) (but fusulinid identifications now believed to be erroneous; JTvG))*
- Crespin, I. (1958)- Permian foraminifera of Australia. *Bureau Mineral Res. Geol. Geoph., Bull.* 48, p. 1-207.  
*(online at: [www.ga.gov.au/metadata-gateway/metadata/record/239/](http://www.ga.gov.au/metadata-gateway/metadata/record/239/))  
 (106 species/46 genera of Permian foraminifera, all small benthics, mainly arenaceous. Beds in W Australia from which Chapman and Parr (1937) described fusulinids not Permian but Triassic, and supposed fusulinids are probably fish remains (Brunnschweiler, 1954))*
- Crook, K.A.W. & E.A. Felton (1975)- Tasman Geosyncline greenstones and ophiolites: *J. Geol. Soc. Australia* 22, p. 117-131.  
*(Alpine-type serpentinites rather common in Tasman Geosyncline. Metallogeny affinities with ophiolites, suggesting a common origin as oceanic crust. W Pacific-type geosynclines, such as Tasman Geosyncline, may have developed on oceanic crust of unusual composition)*
- Crouch, S.B.S. (1999)- Geology, tectonic setting and metallogenesis of the Berserker subprovince, northern New England Orogen. *Queensland Govt. Mining J.* 100, p. 6-14.  
*(Glen 2005: Early Permian volcanics, erupted in back-arc or intra-arc setting)*

Davies, P.J., J.A. McKenzie, A. Palmer-Julson et al. (1991)- Introduction. Proc. Ocean Drilling Program (ODP), Initial Reports 133, College Station, p. 5-30.

(online at: [www-odp.tamu.edu/publications/133\\_IR/VOLUME/CHAPTERS/ir133\\_01.pdf](http://www-odp.tamu.edu/publications/133_IR/VOLUME/CHAPTERS/ir133_01.pdf))

(With cross-sections of Queensland and Townsville Troughs)

Davis, B.K., C.C. Bell & M. Lindsay (2002)- A single late orogenic Permian episode of gold mineralization in the Hodgkinson Province, North Queensland, Australia. *Economic Geology* 97, 2, p. 311-323.

(*Quartz-hosted gold deposits in Hodgkinson province widely distributed, emplaced during waning stages of D4, main contractional phase of Permian-Triassic Hunter-Bowen orogeny, associated syn-D4 Whypalla supersuite, indicating mineralization in E Permian or later*)

Davis, B.K., R.A. Henderson & R.J. Bultitude (1998)- Evidence for a major crustal dislocation in the Hodgkinson Province, North Queensland. *Australian J. Earth Sci.* 45, 6, p. 937-942.

(*Late Paleozoic granites intruding multiply deformed Silurian-Devonian strata of Hodgkinson Province, N Queensland, display pronounced WNW-ESE orientations, reflecting zone of structuring during post-D2 regional deformation and reactivated in Hunter-Bowen Orogeny (D4), with overall sinistral displacement*)

Davis, B.K., R.A. Henderson & R. Wysoczanski (1998)- Timing of granite emplacement under conditions of low strain in the northern Tasman Orogenic Zone, Australia. *Tectonophysics* 284, 3, p. 179-202.

(*Granite plutons of Mount Alto and Whypalla supersuites intruded in S of multiply deformed Silurian-Devonian Hodgkinson Province during E Permian. Wall rocks contain evidence for four deformation events. Main stage of granite emplacement during weak contractional D3 deformation*)

Day, R.W., L.C. Cranfield & H. Schwarzbock (1974)- Stratigraphy and structural setting of Mesozoic basins in southeastern Queensland and northeastern New South Wales. In: A.K. Denmead et al. (eds.) *The Tasman Geosyncline, a Symposium*. Geol. Soc. Australia, Queensland Div., p. 319-363.

Day, R.W., C.G. Murray & W.G. Whitaker (1978)- The eastern part of the Tasman Orogenic Zone. *Tectonophysics* 48, p. 327-364.

(*E part of Tasman Orogenic Zone (or Fold Belt System) comprises Hodgkinson-Broken River Orogen in N (Ordovician- E Carboniferous volcanoclastic flysch with shelf carbonate facies sediments) and New England Orogen in centre and S (Silurian-Triassic). Two zones, now separated by Alpine-type ultramafic belts: W: partly on E Paleozoic continental crust with Late Silurian- E Permian volcanic-arc deposits, in E: probably on oceanic crust, with pelagic sediments, flysch and ophiolites of Silurian- E Permian age. New England Orogen viewed as Pacific-type continental margin with calc-alkaline volcanic arc in W, volcanoclastic continental shelf in centre and in E continental slope and oceanic basin*)

De Keyser, F. & K.G. Lucas (1968)- Geology of the Hodgkinson and Laura Basins, North Queensland. Bureau Mineral Res. Geol. Geoph. Bull. 84, p. 1-245.

(online at: [www-a.ga.gov.au/web\\_temp/1187541/Bull\\_084.pdf](http://www-a.ga.gov.au/web_temp/1187541/Bull_084.pdf))

(*Hodgkinson Basin of N Queensland thick folded Paleozoic sediments (incl. limestones with corals Halysites, Favosites, Heliolites, etc.), unconformably overlain by Jurassic- Cretaceous sand-dominated sediments of Laura Basin*)

Denaro, T., C. Ramsden & D. Brown (2007)- Queensland minerals, a summary of major mineral resources, mines and projects. Queensland Department of Mines and Energy, Indooroopilly, p. 1-1005.

(partly online at: [www.lgdi.net/resources/i/docs/11\\_qld\\_mineral\\_4th.pdf](http://www.lgdi.net/resources/i/docs/11_qld_mineral_4th.pdf))

(*Overview of Queensland geology, igneous provinces and mineral occurrences*)

DiCaprio, L., R.D. Muller & M. Gurnis (2010)- A dynamic process for drowning carbonate reefs on the northeastern Australian margin. *Geology* 38, 1, p. 11-14.

(*Australian NE marginal plateaus underwent accelerated tectonic subsidence in Late Miocene- Pliocene that, with second-order global sea-level rises, drowned Miocene carbonate platforms. Mechanism for anomalous*)

*subsidence of mature passive margin uncertain. Plate model shows Late Miocene NE Australia overrode subducted slabs from Eocene Melanesian subduction N of PNG. Surface subsidence induced by sinking slabs may have caused relative sea-level rises outpaced Late Miocene reef growth)*

Dickins, J.M. & E.J. Malone (1973)- Geology of the Bowen Basin, Queensland. Bureau Mineral Res. Geol. Geoph., Bull. 130, p. 1-154.

*(online at: [www.ga.gov.au/corporate\\_data/102/Bull\\_130.pdf](http://www.ga.gov.au/corporate_data/102/Bull_130.pdf))*

*(Bowen Basin of NE Australia is Permian- Triassic basin, overlapped by Mesozoic Surat Basin. Complex tectonic history with pre-Lower Devonian movement and discordances between M-U Devonian and between Carboniferous- Permian on margins, particularly in W, where strongly folded and faulted Carboniferous beds are overlain by relatively flat Permian. In U Permian Bowen Basin cut off from sea by uplift along E margin, and Blackwater Gp (= U Bowen Coal Measures, with rich Glossopteris flora with Taeniopteris) was deposited. Granites on En margin with isotopic age of ~240 Ma emplaced during uplift and are of same age as volcanics in Blackwater Gp. Uplift and folding in Late Triassic. Onset of sedimentation in Great Artesian Basin in Jurassic)*

Direen, N.G. & A.J. Crawford (2003)- The Tasman Line: where is it, what is it, and is it Australia's Rodinian breakup boundary? Australian J. Earth Sci. 50, p. 491-501.

*(Several different interpretations of position of Tasman Line, the boundary between Australian Precambrian craton in W and Early Paleozoic foldbelts in E)*

Dixon, D.A. & G.J. Pope (1987)- Oil shale of the Duaringa Basin, Central Queensland. Fuel 66, 3, p. 305-308.

*(Extensive oil shale deposits in Cenozoic Duaringa Basin of C Queensland. NNW-trending, 180 x 20km half-graben, superimposed on deformed E margin of Permo-Triassic Bowen Basin. Up to 1300m of flat-lying fluvio-lacustrine sediments, with oil shale of M-L Eocene age in two near-surface seams (Rundle and Stuart oil shale deposits) (see also Pope 2000))*

Draper, J.J. (1988)- Permian limestone in the southeastern Bowen Basin, Queensland: an example of temperate carbonate deposition. Sedimentary Geology 60, 1, p. 155-162.

*(Two limestone-bearing sequences in Permian Bowen foreland basin. Mainly skeletal grainstones and packstones with crinoids, bryozoans, brachiopods, molluscs, ahermatypic corals, foraminifera and sponge spicules influenced by cold to cool-temperate climatic conditions at paleolatitude of 60°S)*

Elliott, L. (1989)- The Surat and Bowen Basins. Australian Petroleum Explorers J. 29, p. 398-416.

Elliott, L.G. (1993)- Post-Carboniferous tectonic evolution of eastern Australia. Australian Petrol. Expl. Assoc. (APEA) J. 33, p. 215-236.

Ewart, A., R.W. Schon & B.W. Chappell (1992)- The Cretaceous volcanic-plutonic province of the Central Queensland (Australia) coast- a rift related calc-alkaline province. Trans. Royal Soc. Edinburgh, Earth Sci. 83, p. 327-345.

Ewing, M., L.V. Hawkins & W.J. Ludwig (1970)- Crustal structure of the Coral Sea. J. Geophysical Research 75, p. 1953-1962.

*(Seismic refraction data suggest M-U Paleozoic Tasmanide Belt continues offshore under Queensland Plateau. Coral Sea underlain by normal oceanic crust, with ~2.5 km of sediment cover)*

Exon, N.F. (1976)- Geology of the Surat Basin in Queensland. Bureau Mineral Res. Geol. Geoph., Bull. 166, p. 1-235.

*(online at: [www.ga.gov.au/corporate\\_data/77/Bull\\_166.pdf](http://www.ga.gov.au/corporate_data/77/Bull_166.pdf))*

*(Surat Basin of E Australia S of Bowen Basin and W of New England foldbelt. Contains 2500m of Jurassic and Cretaceous sediments, terrestrial Jurassic, but with two marine incursions in Early Cretaceous. Sequence is almost flat-lying, with few drape or compaction folds and faults. Volcanic debris suggests contemporaneous volcanism in Jurassic and E Cretaceous. Erosion during Late Cretaceous and Early Tertiary. Oligocene and Miocene volcanism around margins of basin)*

Exon, N.F., P.J. Hill, Y. Lafoy, C. Heine & G. Bernardel (2006)- Kenn Plateau off northeast Australia: a continental fragment in the Southwest Pacific jigsaw. *Australian J. Earth Sci.* 53, 4, p. 541-564.  
*(Kenn Plateau was part of E Australia, S of present Marion Plateau. Presumably underlain by Paleozoic-Triassic basement of New England Fold Belt. Overlying sediments probably Late Triassic- Jurassic non-marine sediments, Early Cretaceous rift-volcanics, Late Cretaceous- Eocene synrift and sag marine sediments, etc.. Kenn Plateau started to separate from Queensland at ~63 Ma (Cretaceous- Tertiary boundary)*

Exon, N.F., P.J. Hill, Y. Lafoy, G. Burch, A. Post, C. Heine, P. Quilty, R. Howe & L. Taylor (2005)- The geology of the Kenn Plateau off northeast Australia: results of the Southern Surveyor Cruise SS5/2004 (Geoscience Australia Cruise 270). *Geoscience Australia, Canberra, Record 2005/4*, p. 1-172.  
*(online at: [https://d28rz98at9flks.cloudfront.net/61747/Rec2005\\_004.pdf](https://d28rz98at9flks.cloudfront.net/61747/Rec2005_004.pdf))*  
*(In Late Cretaceous Kenn Plateau was part of Maryborough Basin to W and Capricorn Basin to N. It separated from Australia in earliest Paleocene- M Eocene by moving NE along Cato Fault Zone and rotating 45° CCW).*

Falvey D.A. & L.W.H. Taylor (1974)- Queensland plateau and Coral Sea Basin: structural and time-stratigraphic patterns. *Bull. Australian Soc. Exploration Geophysicists* 5, 4, p. 123-126.  
*(W Coral Sea region contains one major and three minor marginal plateaux, partly surrounding deep abyssal plain. Coral Sea underlain by ~1km sediment and E Eocene oceanic crust. Queensland Plateau continental crust with Paleozoic basement rocks, tectonically part of onshore Tasman Geosyncline. Continental rifts beneath Queensland Trough and plateau/basin margin, with 1-3 km of U Cretaceous sediments on basement. Subsidence followed seafloor spreading in basin. Early Oligocene depositional break. Residual highs along old Paleozoic trends subsided in E Miocene and locally capped by modern coral reefs)*

Feary, C.M., D.C. Champion, R.J. Bultitude & P.J. Davies (1993)- Igneous and metasedimentary basement lithofacies of the Queensland Plateau. *Proc. Ocean Drilling Program (ODP), Scient. Results*, 133, p. 535-540.  
*(online at: [www-odp.tamu.edu/publications/133\\_SR/VOLUME/CHAPTERS/sr133\\_37.pdf](http://www-odp.tamu.edu/publications/133_SR/VOLUME/CHAPTERS/sr133_37.pdf))*  
*(Queensland Plateau basement penetrated at Sites 824 and 825 on W Queensland Plateau. Altered and deformed metasedimentary rocks, cut by relatively undeformed intermediate dikes. Similar to latest Silurian-Devonian Hodgkinson Fm of N Queensland, a greywacke-shale-slate succession with turbiditic structures, cut by Late Paleozoic- E Mesozoic dike swarms, deposited in deep marine, extensional back-arc basin environment in Devonian, with deformation in E-M Carboniferous. Uplift and erosion produced peneplaned surface on which extensive M and Late Cenozoic carbonate reefs developed. Tasman Fold Belt much wider than outcrop width on Australian mainland)*

Fergusson, C.L. (1991)- Thin-skinned thrusting in the northern New England Orogen, central Queensland, Australia. *Tectonics* 10, 4, p. 797-806.  
*(N New England Orogen and E Bowen Basin Late Permian- Middle Triassic deformation event ('Hunter-Bowen Orogeny'). W-directed, thin-skinned tectonics, NNW trending folds in Late Permian sediments)*

Fergusson, C.L. (2010)- Plate driven extension and convergence along the East Gondwana active margin: Late Silurian-Middle Devonian tectonics of the Lachlan Fold Belt, southeastern Australia. *Australian J. Earth Sci.* 57, 5, p. 627-649.

Fergusson, C.L. (2018)- Subduction accretion and orocline development in modern and ancient settings: implications of Japanese examples for development of the New England Orogen of eastern Australia. *J. Geodynamics*, p. *(in press)*  
*(Texas Orocline in S New England Orogen of E Australia nucleated during subduction of seamount chain, resulting in orogenic curvature of Carboniferous subduction complex. Subduction of seamount chain shown by abundant limestone associated with ocean island basalts amongst accreted turbidites in core of orocline)*

Fergusson, C.L. & R.A. Henderson (2015)- Early Palaeozoic continental growth in the Tasmanides of northeast Gondwana and its implications for Rodinia assembly and rifting. *Gondwana Research* 28, 3, p. 933-953

Fergusson, C.L., R.A. Henderson, C.M. Fanning & I.W. Withnall (2007)- Detrital zircon ages in Neoproterozoic to Ordovician siliciclastic rocks, northeastern Australia: implications for the tectonic history of the East Gondwana continental margin. *J. Geol. Soc.*, London, 164, p. 215-225.

*(U-Pb detrital zircon ages in Neoproterozoic- E Paleozoic metamorphosed clastics of NE Australia show two major successions along E Gondwana margin (1) Late Neoproterozoic passive margin, with rifting at ~600 Ma. Most zircon ages 1000-1300 Ma; (2) E Paleozoic active margin of Gondwana that developed on former passive margin, with distinctive 510-600 Ma detrital zircon signature that is widespread in E Gondwana. Also 460-510 Ma zircon ages from local igneous sources)*

Fielding, C.R., T.D. Frank, L.P. Birgenheier, M.C. Rygel, A.T. Jones & J. Roberts (2008)- Stratigraphic imprint of the Late Paleozoic Ice Age in eastern Australia: a record of alternating glacial and nonglacial climate regime. *J. Geol. Soc.*, London, 165, p. 129-140.

*(online at: <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1102&context=geosciencefacpub>)*

*NSW and Queensland Carboniferous- Permian at least eight glacial intervals in mid-Carboniferous (~327 Ma) to early Late Permian (~260 Ma). Glaciations P1 (299–291 Ma: Asselian- E Sakmarian) and P2 (287–280 Ma: late Sakmarian- M Artinskian; appear most widespread glaciations in E Australia, but may reflect greater area covered by subsiding sedimentary basins in E Permian? Gradual demise of glaciation in Late Permian)*

Fielding, C.R., T.D. Frank, L.P. Birgenheier, M.C. Rygel, A.T. Jones & J. Roberts (2008)- Stratigraphic record and facies associations of the Late Paleozoic ice age in eastern Australia (New South Wales and Queensland). *Geol. Soc. America (GSA), Spec. Paper 441*, p. 41-57.

Fielding, C.R., M.A. Martin & K.L. Bann (2015)- Stratigraphy and sedimentology of the Permian succession in the Southwest Bowen Basin, Queensland. In: *Proc. Eastern Australian Basins Symposium (EABS), Petroleum Expl. Soc. Australia (PESA)*, p. 13-27.

Fielding, C.R., R. Sliwa, R.J. Holcombe & A.T. Jones (2001)- A new palaeogeographic synthesis for the Bowen, Gunnedah and Sydney Basins of eastern Australia. In: K.C. Hill & T. Bernecker (eds.) *Eastern Australasian Basins Symposium. Petroleum Expl. Soc. Australia (PESA), Spec. Publ.*, p. 269-278.

Fielding, C.R., R. Sliwa, R. Holcombe & J. Kassan (2000)- A new palaeogeographic synthesis of the Bowen Basin of central Queensland. In: J.W. Beeston (ed.) *Proc. Bowen Basin Symposium 2000, Geol. Soc. Australia*, p. 287-302.

Fielding, C.R., C.J. Stephens & R.J. Holcombe (1997)- Permian stratigraphy and palaeogeography of the eastern Bowen Basin, Gogango overfolded zone and Strathmuir synclinorium in the Rockhampton-Mackay region of Central Queensland. *Geol. Soc. Australia, Spec. Publ.* 19, p. 80-95.

*(Connors-Auburn Arch E Permian continental volcanic arc at E side of Bowen basin. Did not form basin-marginal physiographic feature: Permian strata in Bowen Basin and New England Fold Belt correlative formations and facies assemblages on both sides of Arch)*

Fishwick, S., M. Heintz, B.L.N. Kennett, A.M. Reading & K. Yoshizawa (2008)- Steps in lithospheric thickness within eastern Australia, evidence from surface wave tomography. *Tectonics* 27, TC4009, p. 1-17.

*(Lithospheric thickness of E Australia reconstructed from seismic surface wave tomographic model)*

Fordham, B.G. (1990)- Microfossils and gross structure and stratigraphy of the Silurian-Devonian Chillagoe Formation, western Hodgkinson Province, northeast Australia. *Abstracts, Geol. Soc. Australia* 25, p. 48-49.

*(Abstract only) (E Silurian- E Devonian radiolarian/ conodonts in flysch and limestone of Chillagoe Fm in imbricated thrust slices of Hodgkinson Province. Conodonts have CAI value of 5, consistent with prehnite-pumpellyite to lower greenschist grade)*

Fordham, B. G. (1994)- Complex structure in the Mungana region of the Hodgkinson Province, and significance for exploration programs. In: *Queensland Department of Minerals and Energy Symposium, Queensland Exploration Potential 1994, Handbook 32, Queensland Dept. Minerals and Energy, Brisbane*, p.

Foster, D.A. & D.R. Gray (2000)- Evolution and structure of the Lachlan fold belt (orogen) of Eastern Australia. Annual Review Earth Sci. 2000, p. 47-80.

*(Stepwise shortening and accretion of Lachlan foldbelt, with deformation and metamorphism from Late Ordovician (450 Ma)- E Carboniferous. Dominant events at ~440-430 Ma and 400-380 Ma. Accretion of Lachlan and related Tasmanides belts added ~2.5 Mkm<sup>2</sup> to surface area of Gondwana. Sedimentary, magmatic, and deformational processes converted oceanic turbidite fan system into continental crust of normal thickness)*

Foster, D.A. & D.R. Gray (2008)- Paleozoic crustal growth, structure, strain rate, and metallogeny in the Lachlan Orogen, eastern Australia. In: J.E. Spencer & S.R. Tittley (eds.) Ores and orogenesis: Circum-Pacific tectonics, geologic evolution and ore deposits, Arizona Geol. Soc. Digest 22, p. 213-226.

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Foster, D.A., D.R. Gray, C. Spaggiari G. Kamenov & F.P. Bierlein (2009)- Palaeozoic Lachlan orogen, Australia; accretion and construction of continental crust in a marginal ocean setting: isotopic evidence from Cambrian metavolcanic rocks. In: Geol. Soc., London, Spec. Publ. 318, p. 329-349.

*(Lachlan orogen classic accretionary orogen between Paleo-Pacific subduction zone and Australian craton, probably on basement of mafic oceanic crust along with possible small fragments of older continental crust)*

Fukui, S., T. Tsujimori, T. Watanabe & T. Itaya (2012)- Tectono-metamorphic evolution of high P/T and low-P/T metamorphic rocks in the Tia complex, southern New England Fold Belt, eastern Australia: insights from K-Ar chronology. J. Asian Earth Sci., p. 59, p. 62-69.

*(Tia Complex in S New England Fold Belt is poly-metamorphosed Late Paleozoic accretionary complex. New K-Ar ages and geological data postulate model of E-ward rollback of a subduction zone in E Permian)*

Fukui, S., T. Watanabe, T. Itaya & C. Leitch (1995)- Middle Ordovician high PT metamorphic rocks in eastern Australia: evidence from K-Ar ages. Tectonics 14, 4, p. 1014-1020.

*(K-Ar dating of metamorphic rocks from S part of New England fold Belt indicated 3 metamorphic episodes, at ~260 Ma, between ~340-310 Ma, and ~470 Ma. The 470 Ma event, is High P and identified from blocks in serpentinite melange in lenses close to faulted boundary between Devonian-Carboniferous arc flank/ forearc basin rocks and oceanic rocks of similar age which make up an accretionary subduction complex)*

Gaina, C., R.D. Muller, J.Y. Royer, J. Stock, J. Hardebeck & P. Symonds (1998)- The tectonic evolution of the Tasman Sea: A tectonic puzzle with thirteen pieces. J. Geophysical Research, 103, B6, p. 12,413-12,433.

*(Model for tectonic evolution of Tasman between Australian and Lord Howe Rise plates from 73.6- 52 Ma when spreading ceased. Major tectonic event at 61 Ma), when counterclockwise change in spreading direction occurred, contemporaneous with similar event in SW Pacific Ocean. Tasman Sea rifting propagated from S to N in several stages and several rifts failed. 13 continental blocks acting as microplates between 90- 64 Ma)*

Gaina, C., R.D. Muller, J.Y. Royer & P. Symonds (1999)- Evolution of the Louisiade triple junction. J. Geophysical Research, 104, B6, p. 12,927-12,939.

*(Finite rotations for opening of Coral Sea differ from rotations of Tasman Sea opening, confirming triple junction between Australian Plate, Mellish Rise and Louisiade Plateau during opening of Coral Sea (62-52 Ma). Extension between Mellish Rise and Louisiade Plateau, and extensional and transform motion occurred between Australia and Mellish Rise. Extension in Osprey Embayment may explain small areas of oceanic crust W of Coral Sea Basin. W boundary of Coral Sea was NE-SW strike-slip fault, active between 58 and 52 Ma)*

Gaina, C., W.R. Roest, R.D. Muller & P. Symonds (1998)- The opening of the Tasman Sea: a gravity anomaly animation. Earth Interactions, 2-002, 4, 23p.

*(online at: [www.earthbyte.org/Resources/Movies/ei021.pdf](http://www.earthbyte.org/Resources/Movies/ei021.pdf))*

- Gallagher, K., T.A. Dumitru & A.J.W. Gleadow (1994)- Constraints on the vertical motion of eastern Australia during the Mesozoic. *Basin Research* 6, p. 77-94.  
(*Backstripping and AFT analysis of Eromanga, Surat and Clarence-Moreton basins show linear subsidence in Jurassic, with increasing subsidence towards E. Cretaceous preserved only in Eromanga Basin. Cretaceous probably deposited, then eroded over Surat and Clarence-Moreton Basins. Exhumation started in E in Late Cretaceous-Early Tertiary. Removed section greater in E (~2.5 km) than in W (<1 km). Results suggest platform tilting, related to Jurassic- E Cretaceous subduction along E Australia. Cessation of subduction, and subsequent opening of Tasman Sea in Late Cretaceous accompanied by uplift on E margin and termination of widespread deposition on platform*)
- Gibson, P.J. (1989)- Petrology of two Tertiary oil shale deposits from Queensland, Australia. *J. Geol. Soc., London*, 146, 2, p. 319-331.  
(*In E Central Queensland series of small E Paleogene rift basins with M-L Eocene lacustrine oil shale deposits. Petrography of oil shales in Lowmead and Duaringa Basins*)
- Glen, R.A. (1992)- Thrust, extensional and strike-slip tectonics in an evolving Palaeozoic orogen- a structural synthesis of the Lachlan Orogen of southeastern Australia. *Tectonophysics* 214, p. 341-380.
- Glen, R.A. (2005)- The Tasmanides of Eastern Australia. In: A.P.M. Vaughan et al. (eds.) *Terrane processes at the margins of Gondwana*. *Geol. Soc., London, Spec. Publ.* 246, p. 23-96.  
(*Major review of Tasmanines foldbelt of E Australia. Five Neoproterozoic- Triassic orogenic belts along E margin of Gondwana, with internal Permian-Triassic rift- foreland basin system. Complex deformation ended with E Triassic accretion of intra-oceanic arc*)
- Glen, R.A. (2013)- Refining accretionary orogen models for the Tasmanides of eastern Australia. *Australian J. Earth Sci.* 60, 3, p. 315-370.  
(*SW to NE younging of stratigraphy in S Tasmanides of E Australia has been used to infer continually E-wards-rolling paleo-Pacific plate, but not simple, continuous rollback. E-wards rollback of paleo-Pacific plate from 520-502 Ma (Cambrian) opened vast backarc basin that never closed. Ordovician- Carboniferous, almost vertical stacking of continental margin arcs in New England Orogen indicates constant W-dipping plate boundary. Rollback in E Permian never completely reversed, so Late Permian-Triassic to Cretaceous arcs lie farther E, with rifted fragments in Lord Howe Rise and in New Zealand. N Tasmanides missed out M Cambrian plate boundary. Tasmanides characterised by general absence of material accreted from paleo-Pacific plate and dominance of craton-derived, recycled sedimentary rocks*)
- Glen, R.A., E. Belousova & W.L. Griffin (2016)- Different styles of modern and ancient non-collisional orogens and implications for crustal growth: a Gondwanaland perspective. *Canadian J. Earth Sciences* 53, 11, p. 1372-1415.  
(*Review of non-collisional, convergent margin orogens, commonly called accretionary orogens. Along margin of Australian Plate, New Guinea accretionary orogen, SW Pacific Orogen, Tasmanides (Lachlan Orogen, outboard New England Orogen), etc. All non-collisional orogens involve continental growth, but only New England Orogen and to lesser extent New Guinea Orogen involve significant crustal growth*)
- Glen, R.A. & S. Meffre (2009)- Styles of Cenozoic collisions in the western and southwestern Pacific and their applications to Palaeozoic collisions in the Tasmanides of eastern Australia. *Tectonophysics* 479, p. 130-149.  
(*Several styles of collisions in W and SW Pacific, mainly oblique and strike-slip collisions between island arcs and rifted continental fragments and collisions between forearc lithosphere and continental fragments. The 58 Ma collision along N Australian plate margin in New Guinea, 44-34 Ma collision in New Caledonia and 26-25 Ma collision in N Island New Zealand may be parts of single, S-migrating plate boundary collision. Collision between forearc crust and continental fragment produces subduction flip or rollback, thus avoiding classic arc-continent collision. Pacific style collisions applied to interpretation of Delamerian Orogen and Lachlan Orogen in S Tasmanides with varying degrees of success*)

Goscombe, P.W. & B.A. Coxhead (1995)- Clarence-Moreton, Surat, Eromanga, Nambour, and Mulgildie Basins. In: C.R. Ward et al. (eds.) Geology of Australian coal basins, Geol. Soc. Australia, Coal Geol. Grp., Spec. Publ. 1, p. 489-511.

Gray, D.R., D.A. Foster & F.P. Bierlein (2002)- Geodynamics and metallogeny of the Lachlan Orogen. Australian J. Earth Sci. 49, p. 1041-1056.

*(Paleozoic Lachlan Orogen of E Australia is accretionary orogen made up of structurally thickened oceanic successions, including turbidites from deep-sea fans, andesitic volcanics from remnant island arcs, forearc sediments and slices of oceanic crust. Accretion by collapse of marginal basin during double divergent subduction. Stepwise deformation and metamorphism from Late Ordovician- E Carboniferous times formed three subprovinces. In W Subprovince, Ordovician turbidites host major lode Au deposits (C Victoria). In E Subprovince, porphyry Cu-Au deposits formed in Ordovician oceanic island arc)*

Gray, D.R., D.A. Foster & M. Bucher (1997)- Recognition and definition of orogenic events in the Lachlan Fold Belt. Australian J. Earth Sci. 44, 4, p. 489-501.

*(Unconformities used to establish orogenic framework for Lachlan Fold Belt. Four orogenic pulses between 440-340 Ma (Latest Ordovician- Late Devonian; Lachlan Orogeny) not regional events. M Devonian 'Tabberabberan' event (~380-370 Ma) represents limited deformation during amalgamation of W and C/E subprovinces. Orogeny over much of Lachlan Fold Belt progressive, ongoing and subduction-controlled in complex oceanic, SW Pacific-style setting, analogous to migrating deformation and sedimentation in accretionary wedges above subduction zones)*

Gray, D.R., D.A.Foster, R.J.Korsch & C.V. Spaggiari (2006)- Structural style and crustal architecture of the Tasmanides of eastern Australia, example of a composite accretionary orogen. In: S. Mazzoli et al. (eds.) Styles of continental contraction, Geol. Soc. America (GSA), Spec. Paper 414, p. 119-132.

*(E Australian Tasmanides both thin-skinned thrusting and thick-skinned faulting. Composite orogenic system made up of three orogenic belts: (1) former rifted passive margin to make Delamerian Orogen, (2) turbidite fan system(s) in back-arc setting to make Lachlan Orogen, (3) arc-subduction complex with older accreted components to make New England Orogen. New England Orogen constructed from craton-vergent, fore-arc and magmatic arc sequences, subduction complexes, and ophiolite fragments)*

Gray, D.R., D.A. Foster, R. Maas, C.V. Spaggiari, R.T. Gregory, B.D. Goscombe & K.H. Hoffmann (2007)- Continental growth and recycling by accretion of deformed turbidite fans and remnant ocean basins: examples from Neoproterozoic and Phanerozoic orogens. In: R.D. Hatcher et al. (eds.) The 4D Framework of continental crust. Geol. Soc. America (GSA), Mem. 200, p. 63-92.

Gust, D.A., C.J. Stephens & A.T. Grenfell (1993)- Granitoids of the northern NEO: their distribution in time and space and their tectonic implications. In: J.C. Aitchison & P.G. Flood (eds.) New England Orogen, Eastern Australia, Proc. NEO '93 Conference, University of New England, p. 565-572.

*(Half of exposed granites in N New England foldbelt have E-M Triassic ages, between 230-250 Ma, coeval with overwhelmingly andesitic terrestrial volcanism)*

Haig, D.W. (2008)- Cretaceous foraminiferal biostratigraphy of Queensland. Alcheringa 3, 3, p. 171-187.

*(On distribution of foraminiferids in Aptian-Albian marine deposits of Laura, Carpentaria, Eromanga and Surat Basins. Two main associations: Ammobaculites (hyposaline, cool, shallow water) and Marssonella (normal marine, open shelf). Cool, hyposaline, shallow water conditions prevailed over much of Queensland. Open marine shelf conditions in Albian in Laura and NE Carpentaria Basins. Albian northern seaway to open ocean)*

Haig, D.W. & D. Barnbaum (1978)- Early Cretaceous microfossils from the type Wallumbilla Formation, Surat Basin, Queensland. Alcheringa 2, 2, p. 159-178.

*(Shallow marine fauna of probable Aptian age)*

Hallock, P., K. Sheps, G. Chaproniere & M. Howell (2006)- Larger benthic foraminifers of the Marion Plateau, northeastern Australia (ODP Leg 194): comparison of faunas from bryozoan (Sites 1193 and 1194) and red

- algal (Sites 1196-1198) dominated carbonate platforms. In: F.S. Anselmetti et al. (eds.) Proc. Ocean Drilling Program (ODP), Scient. Results 194, p. 1-31.  
(online at: [www-odp.tamu.edu/publications/194\\_SR/VOLUME/CHAPTERS/009.PDF](http://www-odp.tamu.edu/publications/194_SR/VOLUME/CHAPTERS/009.PDF))  
(Two Neogene carbonate platforms on Marion Plateau, both with common latest Oligocene-Late Miocene larger foraminifera, incl. *Amphistegina*, *Cycloclypeus* (incl. *Katacycloclypeus annulatus*), *Lepidocyclina*, *Miogypsina* and *Operculina*. Five LBF facies assemblages. *Operculina complanata* common in terrigenous mud-rich facies, *Lepidocyclina* spp. dominated in more carbonate-rich facies)
- Harrington, H.J. (1983)- Correlation of the Permian and Triassic Gympie terrane of Queensland with the Brook Street and Maitai terranes of New Zealand. In: Permian Geology of Queensland, Geol. Soc. Australia, Queensland Division, Brisbane, p. 431-436.
- Harrington, H.J. (1987)- Tectonic setting of Permian coal basins of Eastern Australia. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 792-796.  
(Coal basins near E margin of Australia formed in foreland basin setting in front of growing orogen. Terminated and compressed when Gympie volcanic arc accreted to orogen)
- Harrington, H.J. (1987)- Geological units common to eastern Australia and New Zealand. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 801-804.  
(New Zealand is exposed part of subcontinent that separated from Australia when Tasman Sea opened in Late Cretaceous. Three main belts: (1) West: was part of Antarctica, (2) Central: Hokonui and Caples terranes, broadly correlate with Gympie Terrane of E Queensland, which is island arc/ forearc/ accretionary wedge terrane that accreted to Australasia in Mid-Triassic; (3) Torlesse rocks, emplaced over Caples in Triassic, Jurassic and Cretaceous strike-slip episodes)
- Harrington, H.J., A.T. Brakel, J.W. Hunt, A.T. Wells, M.F Middleton, P.E. O'Brien, D.S. Hamilton et al. (1989)- Permian coals of eastern Australia. Bureau Mineral Res., Canberra, Bull. 231, p. 1-407 + Appendices, figures  
(online at: [https://www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=28](https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=28))  
(Extensive report on Permian coals in large areas of E Australia, in 3 basin types: (1) small rifts and valleys with seams up to 30m thick; (2) large interior intracratonic basins (Cooper, Galilee), which formed on E Paleozoic orogen and filled by mainly non-marine sediments;(3) marginal foredeep basins, formed near Permian coast of Australia (Sydney-Bowen Basin, with almost all major black coal mines, 1700 km long, separated from Paleo-Pacific Ocean only by ridge in developing New England-Yarrol Orogen). Interior basins coals separated by lacustrine sediments; marginal basins coals separated by marine sediments. As ice waned in Late Permian, cold-temperate conditions resulted in widespread upper coal measures)
- Harrington, H.J. & R.J. Korsch (1985)- Tectonic model for the Devonian to Middle Permian of the New England Orogen. Australian J. Earth Sci. 32, p. 163-179.
- Harrington, H.J. & R.J. Korsch (1987)- Oroclinal bending in the evolution of the New England- Yarrol Orogen and the Moreton Basin. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 797-800.
- Hashimoto, T., N. Rollet, V. Stagpoole, K. Higgins, P. Petkovic et al. (2010)- Geology and evolution of the Capel and Faust basins: petroleum prospectivity of the deepwater Tasman Sea frontier. New Zealand Petroleum Conf. 2010, p. 1-15.  
(online at: [www.nzpam.govt.nz/cms/pdf-library/petroleum-conferences-1/2010-nzpc-technical-posters-papers/P24\\_Hashimoto\\_abstract.pdf](http://www.nzpam.govt.nz/cms/pdf-library/petroleum-conferences-1/2010-nzpc-technical-posters-papers/P24_Hashimoto_abstract.pdf))
- Hashimoto, T., N. Rollet, K. Higgins, G. Bernandel & R. Hackney (2008)- Capel and Faust Basins: preliminary assessment of an offshore deepwater frontier region. In: J.E. Blevin et al. (eds.) Eastern Australasian Basins

Symposium III- Energy security for the 21st century, Sydney, Petroleum Expl. Soc. Australia (PESA), Spec. Publ., p. 311-315.

*(Capel and Faust basins at NE margin of Tasman oceanic basin, between E Australia and New Caledonia at water depths of 1300-2500m. New data acquired by Geoscience Australia)*

Hashimoto, T., N. Rollet, K. Higgins, V. Stagpoole, P. Petkovic, R. Hackney et al. (2011)- Petroleum prospectivity of the Eastern Australian deepwater frontier basins: insights from the Capel and Faust Basins. Poster AAPG Ann. Conv. Exh., Houston 2011, Search and Discovery Art. 10358, 15p.

*(Large basin depocentres with up to 6 km of sediment in Tasman Sea region between Australia, New Zealand and New Caledonia. Formed during two Cretaceous extensional events preceding final breakup of E Gondwana margin. Syn-rift deposition initially dominated by volcanoclastics, then non-marine to shallow marine clastics)*

Hawkins, P.J. & L.J. Williams (1990)- Review of the geology and economic potential of the Laura Basin. Queensland Resource Industries, Record 1990/2, p. 1-36.

*(online at: <https://qdexguest.deedi.qld.gov.au/...>)*

*(Laura Basin is N-S trending intra-cratonic Jurassic-Cretaceous basin on E of Coen inlier of York Peninsula, with geological history similar to Carpenteria Basin. Onshore part at least 1100m thick)*

Henderson, R.A. (1980)- Structural outline and summary geological history for north-eastern Australia. In: R.A. Henderson, & P.J. Stephenson (eds.) The geology and geophysics of North-eastern Australia, Geol. Soc. Australia, Queensland Division, Brisbane, p. 1-26.

*(Hodgkinson Province of NE Queensland with folded-thrust Silurian- Devonian turbidites interpreted as M Paleozoic accretionary prism)*

Henderson, R.A. (1987)- An oblique subduction and transform faulting model for the evolution of the Broken River Province, northern Tasman Orogenic Zone. Australian J. Earth Sci. 34, p. 237-249.

*(Suggests Marion and Queensland Plateaux underlain by accretionary complex rocks of New England orogen?)*

Henderson, R.A., C.L. Fergusson, E.C. Leitch, V.J. Morand, J.J. Reinhardt & P.F. Carr (1993)- Tectonics of the northern New England Fold Belt. In: P.G. Flood & J.C. Aitchison (eds.) Proc. New England Orogen, eastern Australia (NEO'93) Conf., University of New England, Armidale, p. 505-515.

*(N New England foldbelt classic active margin tectonostratigraphic assemblage of Late Silurian- Permian age, with subduction complex, forearc basin, magmatic arc and backarc extensional elements. Two episodes of contraction: (1) Late Carboniferous (rel. minor) and (2) Late Permian- M Triassic Hunter-Bowen orogeny, transforming assemblage into fold-thrust belt (W-directed thrusting). Discrete belts of ultramafic and metasedimentary assemblages. Magmatic arc granitoids poorly developed here?)*

Higgins, K., T. Hashimoto, N. Rollet, J. Colwell, R. Hackney & P. Milligan (2015)- Structural analysis of extended Australian continental crust: Capel and Faust basins, Lord Howe Rise. In: G.M. Gibson et al. (eds.) Sedimentary basins and crustal processes at continental margins: from modern hyper-extended margins to deformed ancient analogues, Geol. Soc., London, Spec. Publ. 413, p. 9-33.

*(Capel and Faust basins (N Lord Howe Rise) in SW Pacific with multiple large depocentres up to 150 km long and 40 km wide, containing over 6 km of sediment. Basins probably evolved in two E Cretaceous rift episodes leading to final break-up of E Gondwanan margin: oblique rifting along E-W vector in ?Early Cretaceous-Cenomanian and NE-SW orthogonal rifting in ?Cenomanian- Campanian. Pre-rift basement is a collage of several terranes, including Paleozoic orogen with NW-trending basement fabric (New England Orogen))*

Hill, P.J. (1992)- Capricorn and northern Tasman Basins: structure and depositional systems. Exploration Geophysics 23, 2, p. 153-162.

*(Capricorn Basin Late Cretaceous failed rift arm at N end of Tasman rift system. Late Cretaceous- E Paleogene syn-rift continental/restricted marine deposits overlain by Eocene-Recent mainly marine post-rift sediments. Basement structures generally N-NW trend. Discontinuous series of rift basins of various geometries. Mid-Eocene compressional or transpressional event produced minor faulting/ folding and uplift/ erosion, attributed to plate reorganization at ~43 Ma. Late Oligocene volcanism in S Capricorn Basin, with volcanic edifices)*

*exposed on seafloor. In Tasman Basin, 3 km Cenozoic post-breakup sediments over oceanic basement and extended continental crust at base of continental slope)*

Hoffmann, K.L., N. F. Exon, P. G. Quilty & C. S. Findlay (2008)- Mellish Rise and adjacent deep water plateaus off northeast Australia: new evidence for continental basement from Cenozoic micropalaeontology and sedimentary geology. Proc. Eastern Australian Basins Symposium III Sydney, Petroleum Expl. Soc. Australia (PESA), p. 317-323.

*(Mellish Rise, E of Queensland Plateau, buoyant block of continental crust in SW Pacific, in water depths ~1500- 2900m. Paleocene- Quaternary sediments in dredge samples. Common manganese crusts and nodules. Late Eocene tropical larger foram Biplanispira in dredge sample first in Australasian waters (but not figured))*

Hoffmann, K.L., J.M. Totterdell, O. Dixon, G.A. Simpson, A.T. Brakel, A.T. Wells & J.L. Mckellar (2009)- Sequence stratigraphy of Jurassic strata in the lower Surat Basin succession, Queensland. Australian J. Earth Sci. 56, 3, p. 461-476.

*(Non-marine sequence stratigraphy of Early- early Late Jurassic strata in lower part of Surat Basin)*

Holcombe, R.J. & T.A. Little (1994)- Blueschists of the New England Orogen: structural development of the Rocksberg Greenstone and associated units near Mt Mee, southeast Queensland. Australian J. Earth Sci. 41, p. 115-130.

*(Blueschist facies rocks in Late Paleozoic New England Orogen in SE Queensland contains metamorphic structures and fabrics related to both subduction and uplift. Protoliths of Rocksberg Greenstone mafic volcanoclastics and interpreted as remnants of volcanoclastic apron of seamount constructed on oceanic lithosphere. Seamount was dismembered in M Carboniferous. Overprinted by greenschist facies conditions during exhumation from depths of >18 km, which began in Late Carboniferous)*

Holcombe, R.J., C.J. Stephens, C.R. Fielding, D. Gust, T.A. Little et al. (1997)- Tectonic evolution of the northern New England Fold Belt: The Permian-Triassic Hunter-Bowen event. In: P.M. Ashley & P.G. Flood (eds.) Tectonics and metallogenesis of the New England Orogen, Geol. Soc. Australia, Spec. Publ. 19, p. 52-65.

*(New England Fold Belt complex arrangement of terranes, dominated by contractional structures formed during Late Permian- late M Triassic Hunter-Bowen Orogeny (~265-230 Ma). ~35 My period records W-ward (East?; JTvG) migration of continental magmatic arc during period of contraction, and subsequent transition to extensional (and ultimately intra-plate) setting. Half of exposed granitoids intermediate, E-M Triassic (250-230 Ma). Late Triassic (~230-220 Ma) change to extensional regime, with predominantly silicic granites and volcanics, and creation of small N-NW elongate basins (Ipswich, Tarong, etc.) unconformably over folded E-M Triassic rocks)*

Holcombe, R.J., C.J. Stephens, C.R. Fielding, D. Gust, T.A. Little et al. (1997)- Tectonic evolution of the northern New England Fold Belt: Carboniferous to Early Permian transition from active accretion to extension. In: P.M. Ashley & P.G. Flood (eds.) Tectonics and metallogenesis of the New England Orogen, Geol. Soc. Australia, Spec. Publ. 19, p. 66-79.

*(Discussion of transition from active accretion in mid-Carboniferous to widespread extension through Late Carboniferous- E Permian. Transition interpreted in terms of E-ward retreat of convergent slab, and migration of volcanic arc offshore)*

Hoy, D. & G. Rosenbaum (2017)- Episodic behavior of Gondwanide deformation in eastern Australia: insights from the Gympie Terrane: episodic Gondwanide orogeny in Australia. Tectonics 36, 8, p. 1497-1520.

*(Earliest deformation of Gympie Terrane of E Australia during final pulse of Permian- Triassic Hunter-Bowen orogenesis (235-230 Ma; ~ Carnian). No evidence for crustal suture, suggesting terrane accretion not main mechanism behind deformation. Gondwanide Orogeny more likely linked to plate-reorganization)*

Hunt, J.W. (1989)- Permian coals of eastern Australia: geological control of petrographic variation. Int. J. Coal Geology 12, p. 589-634.

*(Coal types and geological controls in E Australia Permian basins (Sydney- Bowen foreland Basins in E, large cratonic Galilee- Cooper basins in W, and small cratonic Blair Athol, Wolfgang and Oaklands Basins))*

Hutton, A.C. (2009)- Geological setting of Australasian coal deposits. In: R. Kininmonth & E. Baafi (eds.) Australasian Coal Mining Practice, Australasian Inst. of Mining and Metallurgy, p. 40-84.

James, N.J., T.D. Frank & C.R. Fielding (2009)- Carbonate sedimentation in a Permian high-latitude, subpolar depositional realm: Queensland, Australia. *J. Sedimentary Res.* 79, 3, p. 125-143.  
*(Lower-Middle Permian limestones from NE Australia New England Foldbelt and Bowen basin typical cold water limestones without corals, fusulinids, etc.)*

Jansson, I.M., S. McLoughlin, V. Vajda & M. Pole (2008)- An Early Jurassic flora from the Clarence-Moreton Basin, Australia. *Review Palaeobotany Palynology* 150, p. 5-21  
*(Low-diversity E Jurassic flora in floodbasin siltstones of Clarence-Moreton Basin. Basin has Late Triassic-Late Jurassic sedimentary section over moderately deformed M-L Paleozoic accretionary prism and intrusive igneous rocks. Palynoflora dominated by Classopollis pollen and attributable to Late Pliensbachian- E Toarcian age (180-185 Ma) upper Corollina (=Classopollis) torosa Zone. Relatively humid paleoclimate)*

Jeon, H., I.S. Williams, B.W. Chappell & V.C. Bennett (2010)- Implications of contrasting patterns of inherited zircon in the Late Palaeozoic granites of the Lachlan and New England fold belts. 20th Australian Geological Convention, Canberra 2010, Geol. Soc. Australia, Abstracts 98, p. 249. *(Abstract only)*  
*(Lachlan Foldbelt granites mostly Silurian-Devonian, some in NE Carboniferous age. Inherited zircons same as detrital zircons in intruded Ordovician sediments. Two inheritance age patterns in Carboniferous (~340-325 Ma) I-type granites. New England fold belt granites Permian-Triassic in age, mainly E Permian (~290 Ma) S-type and Late Permian (~250 Ma) I-types. S-type inherited zircon, mostly Carboniferous age (peaks at 310 and 330 Ma; same age as Carboniferous granites in LFB)*

John, C.M., G.D. Karner, E. Browning, R.M. Leckie, Z. Mateo, B. Carson & C. Lowery (2011)- Timing and magnitude of Miocene eustasy derived from the mixed siliciclastic-carbonate stratigraphic record of the northeastern Australian margin. *Earth Planetary Sci. Letters* 304, p. 455-467.  
*(online at: <https://www.geo.umass.edu/faculty/leckie/John%202011%20EPSL%20Marion%20SL.pdf>)*  
*(Marion Plateau carbonate platform 8 sequences (18.0, 17.2, 16.5, 15.4, 14.7, 13.9, 13.0, 11.9 Ma), controlled by glacio-eustasy as demonstrated by increases in  $\delta^{18}O$  (= deep-sea Miocene isotope events Mi1b, Mbi-3, Mi2, Mi2a, Mi3a, Mi3, Mi4, and Mi5), reflecting increased ice volumes primarily on Antarctica. Backstripping estimates combined with  $\delta^{18}O$  estimates yields sea-level fall amplitudes of 27m at 16.5 and at 15.4 Ma, 33m at 14.7 Ma,  $59 \pm 6$  m at 13.9 Ma. Sea-level fell by 53-69 m between 16.5-13.9 Ma. Implies >90% of E Antarctic Ice sheet formed during M Miocene)*

Jones, A.T. & C.R. Fielding (2004)- Sedimentological record of the late Paleozoic glaciation in Queensland, Australia. *Geology*, 32, p. 153-156.  
*(Glaciation in Queensland, NE Australia, restricted to discrete periods, in Namurian (315 Ma), Westphalian (311 Ma) and Sakmarian (289-293 Ma). Glaciations confined to local (valley or mountain) glaciers)*

Keep, M. (2003)- Physical modelling of deformation in the Tasman Orogenic Zone. *Tectonophysics* 375, p. 37-47.

Kemp, A.I.S., C.J. Hawkesworth, W.J. Collins, C.M. Gray, P.L. Blevin & EIMF (2009)- Isotopic evidence for rapid continental growth in an extensional accretionary orogen: The Tasmanides, eastern Australia. *Earth Planetary Sci. Letters* 284, p. 455-466.  
*(Nd and zircon Hf-O isotope data used to study continental crust formation in Tasmanides (515-230 Ma), which formed by repeated opening and closure of sediment-filled back-arc basins behind long-lived subduction zone. Juvenile magmatic input enhanced during extensional, back-arc rifting episodes that followed crustal thickening, suggesting relationship between slab rollback and continental growth. Juvenile component in Tasmanide igneous rocks increased from Cambrian to Triassic, as subduction zone migrated outboard. Subduction zone retreat formed large tracts of new crust in E Australia at comparable rates to crust generation at modern island arcs)*

Kidane, T.B., M. Fuller & Y.I. Otofujii (2010)- Shipboard paleomagnetic age estimates for an acoustic basement emplacement in Marion Plateau, off northeast Australia. *Australian J. Earth Sci.* 57, 2, p. 231-241.

*(Shipboard paleomagnetic work on olivine basalt cores from bottom of ODP Leg 194 holes 1193C and 1198B give paleolatitude of Marion Plateau at 33.3°S, indicating possible emplacement time for basalt of either 130-110 Ma or 190-165 Ma. Latter result better fit with 40Ar/39Ar age of 162 ±1 Ma for basalt)*

Klootwijk C. (1985)- Paleomagnetism of the Tasman fold belt: indication for mid-Carboniferous large-scale southward displacement of the New England region. In: *Third Circum Pacific Terrane Conf., Extended Abstracts* 14, p. 124-127.

Klootwijk C. (2009)- Sedimentary basins of eastern Australia: paleomagnetic constraints on geodynamic evolution in a global context. *Australian J. Earth Sci.* 56, 3, p. 273-308.

*(L2 loop indicates Late Devonian- M Carboniferous N-ward excursion of NE Gondwanaland. Succeeding early-Late Carboniferous S-ward movement of NE Gondwanaland was extremely fast and created extensional environment, initiating Westralian Superbasin. L3 loop reflects change in rotation of Gondwanaland from CCW (Late Carboniferous) to CW (E Permian), leading to Stephanian initiation of Bowen-Gunnedah-Sydney basins)*

Korsch, R.J. (2004)- A Permian-Triassic retro-foreland thrust system- The New England Orogen, and adjacent sedimentary basins, Eastern Australia. In: *Thrust tectonics and hydrocarbon systems, American Assoc. Petrol. Geol. (AAPG), Mem.* 82, p. 515-537.

*(From Late Devonian to Triassic, E Australia was active, convergent plate margin with W-dipping subduction system. Permian-Triassic development, of major W-directed retroforeland thrust belt in N New England, with the formation of a thick foreland-basin phase in adjacent Bowen Basin to W)*

Korsch, R.J., C.J. Adams, L.P. Black, D.A. Foster, G.L. Fraser, C.G. Murray, C. Foudoulis & W.L. Griffin (2009)- Geochronology and provenance of the Late Paleozoic accretionary wedge and Gympie Terrane, New England Orogen, eastern Australia. *Australian J. Earth Sci.* 56, 5, p. 655-685.

*(New England Orogen result of Late Devonian- Triassic W-dipping subduction system at boundary of E Gondwanaland and Panthalassan Ocean. Late Paleozoic accretionary wedge contains deep-marine trench fill turbidites with in-faulted slices of oceanic crust. Turbidites first-cycle, immature, quartz-poor, volcanic-derived. Dating of detrital zircons and hornblendes show maximum depositional ages of 355-316 Ma for sediments in accretionary wedge, indicating accretionary wedge evolved over 40 Ma, with principal sources from active continental margin volcanic arc. Quartz-rich sandstones from E part of accretionary wedge with Late Paleozoic-Archean zircon ages, indicating quartz-rich detritus from continental interior dominated depocentres)*

Korsch, R.J., C.J. Boreham, J.M. Totterdell, R.D. Shaw & M.G. Nicoll (1998)- Development and petroleum resource evaluation of the Bowen, Gunnedah and Surat Basins, Eastern Australia. *Australian Petrol. Prod. Explor. Assoc. (APPEA) J.* 38, p. 199-237.

Korsch, R.J. & H.J. Harrington (1981)- Stratigraphic and structural synthesis of the New England Orogen. *Australian J. Earth Sci.* 28, p. 205-226.

*(Four principal sets of regional deformations: D1- pre-Late Carboniferous (could extend back into Devonian); D2-Late Carboniferous- E Permian (c. 295 Ma); D3-E Permian (c. 273 Ma); D4-Late Permian (c. 250 Ma).*

Korsch, R.J. & H.J. Harrington (1987)- Oroclinal bending, fragmentation and deformation of terranes in the New England Orogen, Eastern Australia. In: E.C. Leith & E. Scheibner (eds.) *Terrane accretion and orogenic belts, American Geophys. Union (AGU), Geodyn. Ser.* 19, p. 119-127.

*(New England Orogen two pre-Permian terranes which form forearc basin-accretionary wedge couple. Orogen disrupted by major oroclinal bending in late E Permian)*

Korsch, R.J., P.E. O'Brien, M.J. Sexton, K.D. Wake-Dyster & A.T. Wells (1989)- Development of Mesozoic transtensional basins in easternmost Australia. *Australian J. Earth Sci.* 36, p. 13-28.

*(E Australia basins Esk Trough, Ipswich Basin and Clarence-Moreton Basin initiated by transtensional events in Late Permian or Early Triassic)*

Korsch, R.J. & J.M. Totterdell (2009)- Subsidence history and basin phases of the Bowen, Gunnedah and Surat Basins, eastern Australia. *Australian J. Earth Sci.* 56, 3, p. 335-353.

*(E Permian- M Triassic Bowen and Gunnedah Basins and E Jurassic- E Cretaceous Surat Basin complex subsidence history over 200 My: (1) E Permian, rapid subsidence in half-grabens along W margin of Bowen-Gunnedah Basins; extension ceased at ~280 Ma, followed by thermal subsidence with widespread, uniform sedimentation; (2) Late Permian foreland basin phase, driven by thrust loading to E in New England Orogen. very high rates of tectonic subsidence (3) peneplanation in Late Triassic; (4) sedimentation at start of Jurassic, forming Surat Basin, with tectonic subsidence driven by dynamically induced platform tilting; (5) subduction ceased at ~95 Ma, resulting in rapid uplift, due to rebound of lithosphere)*

Korsch, R.J., J.M. Totterdell, D.L. Cathro & M.G. Nicoll (2009)- Early Permian East Australian rift system. *Australian J. Earth Sci.* 56, 3, p. 381-400.

*(E Permian- M Triassic Bowen and Gunnedah back-arc basins developed in response to tectonic events to E (W-dipping subduction system at E Gondwana margin). Initial extension part of major E Permian N-S trending E Australian Rift System from N Queensland to S New South Wales. Denison Trough with producing gasfields. E part of rift system commenced at ~305 Ma and volcanic-dominated. Half-grabens in and W of Bowen Basin non-volcanic, with mechanical extension from ~285-280 Ma (~Artinskian), followed by thermal subsidence)*

Korsch, R.J., J.M. Totterdell, T. Fomin & M.G. Nicoll (2009)- Contractional structures and deformational events in the Bowen, Gunnedah and Surat Basins, eastern Australia. *Australian J. Earth Sci.* 56, 3, p. 477-499.

*(Permian- Triassic Bowen and Gunnedah Basins formed in backarc setting, initially extensional, but switched to contractional in mid-Permian, with major W-directed thrust belt in New England Orogen and foreland basin phase to W in Bowen-Gunnedah. Inversion of E Permian extensional faults as thrusts. During Late Permian-Late Triassic period of rapid subsidence driven by thrust loading several short periods of non-deposition and contraction. Final contractional event in early Late Cretaceous corresponds with cessation of sedimentation in Surat Basin, uplift and reactivation of earlier structures)*

Korsch, R.J., K.D. Wake-Dyster & D.W. Johnstone (1991)- Structure of the Permian-Mesozoic eastern Australian Basins complex, with emphasis on the BMR Bowen Basin deep seismic profiles. *Exploration Geophysics* 22, 1, p. 223-226.

*(Permian Taroom Trough (S extension of Bowen Basin) interpreted as transtensional basin. Small flower structures in overlying Jurassic sediments are transpressional features due to reactivation of faults. Bowen Basin Late Permian- E Triassic sedimentary wedge thickening to E, initiated during period of extension oriented ENE-WSW in latest Carboniferous or earliest Permian)*

Korth, J. (1987)- Analytical studies on Australian oil shales. Ph.D. Thesis, University of Wollongong, p. 1-328.

*(online at: <http://ro.uow.edu.au/theses/1110>)*

*(Analyses of M-L Eocene lacustrine oil shales of upper and lower seams of Duaringa deposit, Queensland. Telalginite (torbanite) with common green algae Botryococcus, Tasmanites and Gloeocapsomorpha; lamalginite (lamosite) mainly with planktonic Pediastrum)*

Kositcin, N., D.C. Champion & D.L. Huston (2009)- Geodynamic synthesis of the North Queensland region and implications for metallogeny. *Geoscience Australia Record* 2009/30, p. 1-196.

*(online at: [www.ga.gov.au/corporate\\_data/69159/Rec2009\\_030.pdf](http://www.ga.gov.au/corporate_data/69159/Rec2009_030.pdf))*

*(Useful overview of N Queensland geology and geodynamic history)*

Leitch, E.C. (1975)- Plate tectonic interpretation of the Palaeozoic history of the New England Fold Belt. *Geol. Soc. America (GSA) Bull.* 86, p. 141-144.

*(M-U Paleozoic paleogeographic elements in New England Fold Belt comprise W volcanic chain, a fore-chain basin, and E non-volcanic arc-platform-trench complex, developed above W-dipping subduction zone.*

*Temporary halts in subduction led to minor deformational episodes. Subduction ceased in E Permian, followed by major orogenesis. Late stage right-lateral movement on Demon Fault displaced paleogeographic elements)*

Leitch, E.C., C.L. Fergusson & R.A. Henderson (2003)- Arc to craton provenance switching in a Late Palaeozoic subduction complex, Wandilla and Shoalwater terranes, New England Fold Belt, eastern Australia. *Australian J. Earth Sci.* 50, p. 919-929.

*(Wandilla and Shoalwater terranes of N New England Fold Belt are Carboniferous accretionary subduction complexes formed at convergent plate boundary along E edge of Gondwana. Sandstones from Wandilla terrane quartz-poor and derived from magmatic arc; Shoalwater terrane quartz-rich and from cratonic region)*

Leitch, E.C., J.V. Morand, C.L. Fergusson, R.A. Henderson & P.F. Carr (2007)- Accretion and post-accretion metamorphism in subduction complex terranes of the New England Fold Belt, eastern Australia. *J. Metamorphic Geol.* 11, 3, p. 309-318.

*(Two regional metamorphic episodes in Late Paleozoic subduction complexes of Queensland: (1) Synaccretion prehnite-pumpellyite and greenschist facies, (2) upper greenschist- upper amphibolite facies episode at ~250 Ma in arc or back-arc setting. Similar pattern for 1000 km along New England Fold Belt)*

Leitch, E.C. & E. Scheibner (1987)- Stratotectonic terranes of the Eastern Australian Tasmanides. In: E.C. Leitch & E. Scheibner (eds.) *Terrane accretion and orogenic belts*, Amer. Geophys. Union (AGU), Geodyn. Ser. 19, p. 1-19.

*(Some 36 tectonostratigraphic terranes accreted along E Australia Tasmanides convergent margin of E cratonic edge of Gondwanaland. Major episodes of amalgamation coincided with widespread deformational episodes. Despite >200 Myr of subduction in Paleozoic- Mesozoic no evidence for major continental collision or large exotic terranes, but mainly magmatic arcs and microcontinental blocks)*

Li, P.F., G. Rosenbaum & D. Rubatto (2012)- Triassic asymmetric subduction rollback in the southern New England Orogen (eastern Australia): the end of the Hunter-Bowen Orogeny. *Australian J. Earth Sci.* 59, 6, p. 965-981.

*(New England Orogen youngest subduction in Australian continent, with history of W-dipping Devonian-Triassic subduction. From M-L Permian- U Triassic (~265-235 Ma) subjected to contractional deformation (Hunter-Bowen Orogeny) and widespread I-type calc-alkaline magmatism. Zircon ages from granites 255-215 Ma. Magmatism during Hunter-Bowen Orogeny along NNE-SSW belt; younger magmatism (235-215 Ma) aligned along N-S belt farther E, suggesting E-ward arc migration, possibly in response to slab rollback. Proposed model involves asymmetric slab rollback, possibly in response to pinning of N part of subduction zone by Gympie Terrane accretion, marking earliest phase of Mesozoic rifting of E Australia)*

Lindner, A.W. (1983)- Geology and geochemistry of some Queensland Tertiary oil shales. In: *Symposium on Geochemistry and chemistry of oil shale*, Seattle, p. 10-19.

*(online at: [https://web.anl.gov/PCS/acsfuel/preprint%20archive/Files/28\\_3\\_SEATTLE\\_03-83\\_0010.pdf](https://web.anl.gov/PCS/acsfuel/preprint%20archive/Files/28_3_SEATTLE_03-83_0010.pdf))*

*(Duaranga Tertiary basin in NE Queensland E Tertiary rift basin, related to Tasman Sea- Coral Sea rifting. With algal-rich lacustrine oil shales (lamosites). Highest grade in Rundle deposits; 25-161m thick (see also Dixon 1987)*

Lipski, P. (2001)- Geology and hydrocarbon potential of the Jurassic- Cretaceous Maryborough Basin. In: K.C. Hill & T. Bernecker (eds.) *Eastern Australasian Basins Symposium, a refocused energy perspective for the future*, Petroleum Expl. Soc. Australia (PESA), Spec. Publ., p. 263-268.

*(Maryborough Basin Late Triassic- E Tertiary basin that straddles coastline of SE Queensland, with up to >6000m of Jurassic- Cretaceous sediments. Late Cretaceous transpressional deformation formed NW-trending anticlines. Source rocks marine and lacustrine shales of Early Cretaceous Maryborough Fm and also coals and shales of E-M Jurassic Tiaro and E Cretaceous Burrum Coal Measures)*

Little, T.A., R.J. Holcombe, G.M. Gibson, R. Offler, P.B. Gans & M.O. McWilliams (1992)- Exhumation of Late Paleozoic blueschists in Queensland, Australia, by extensional faulting. *Geology* 20, p. 231-234.

*(Blueschists in SE Queensland record Carboniferous history of subduction and metamorphism and later thermal overprint from intrusion of Late Carboniferous S-type granitoids at ~306 Ma. By E Permian most of New England orogeny uplifted and eroded and now site of back-arc extensional basins)*

Little, T.A., R.J. Holcombe & R. Sliwa (1993)- Structural evidence for extensional exhumation of blueschist-bearing serpentinite matrix melange, New England Orogen, southeast Queensland, Australia. *Tectonics* 12, p. 536-549.

*(N D'Aguilar block with blueschist blocks in serpentinite matrix melange. Mid-Carboniferous epidote-blueschist metamorphism, intruded by ~306 Ma (latest Carboniferous) granitoids)*

Little, T.A., M.O. McWilliams & R.J. Holcombe (1995)-  $^{40}\text{Ar}/^{39}\text{Ar}$  thermochronology of epidote blueschists from the North D'Aguilar block, Queensland Australia: timing and kinematics of subduction complex unroofing. *Geol. Soc. America (GSA) Bull.* 107, p. 520-535.

*(Epidote blueschists as coherent schists and blocks in serpentinite matrix melange. Formed below 18 km depth in lower plate of metamorphic core complex. Slate from upper plate dated as 315 Ma (Late Carboniferous), interpreted as minimum age for subduction. Exhumation of lower plate schists coeval with overprinting by greenschist facies fabric by ductile stretching and normal faulting. Phengites from lower plate schists  $^{40}\text{Ar}/^{39}\text{Ar}$  plateau ages of ~299-296 Ma (earliest Permian; = time of cooling below ~350°C). Similar cooling ages for different blueschist blocks support view that Australian melange uplifted by extensional tectonic processes unrelated to serpentinite diapirism)*

Lloyd, A.R. (1967)- Neogene foraminifera from H.B.R. Wreck Island No. 1 bore and Heron Island bore, Queensland; their taxonomy and stratigraphic significance. Part 1. Lituolacea and Miliolacea. *Bull. Bureau Mineral Res. Geol. Geophys.* 92, p.

Lloyd, A.R. (1970)- Neogene foraminifera from HBR Wreck Island No. 1 bore and Heron Island bore, Queensland; their taxonomy and stratigraphic significance. Part 2. Nodosariacea and Buliminacea. *Bull. Bureau Mineral Res. Geol. Geophys.* 108, p. 145-225.

*(online at: [www.ga.gov.au/corporate\\_data/160/Bull\\_108.pdf](http://www.ga.gov.au/corporate_data/160/Bull_108.pdf))*

*(Mainly Miocene open marine foraminifera from below Great Barrier Reef)*

MacKenzie, D.E. (1987)- Geology, petrology and mineralization of the Permo-Carboniferous Featherbed Volcanics Complex, Northeastern Queensland. In: E. Brennan (ed.) *Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville*, p. 297-301.

*(Late Carboniferous- E Permian Featherbed Volcanics at W margin of Hodgkinson Basin. Late Carboniferous I-type andesitic-rhyolitic ignimbrites and minor andesite lava, with dioritic-granitic intrusives and Sn, W and base metal mineralization. Main part of complex E Permian, mainly A-type rhyolitic ignimbrite)*

Marsden, M.A.H. (1972)- The Devonian history of northeastern Australia. *Geol. Soc. Australia J.* 19, 1, p. 125-162.

*(Devonian rocks in 'Tasman Geosyncline' 3 tectonic divisions (1) broad mobile platform (2) volcanic-rich New England Geosyncline, and (3) N Queensland complex marine-continental sedimentation on cratonic blocks, with non-volcanic flysch-like sedimentation in marginal Hodgkinson Basin. Devonian rocks affected by intense Late Paleozoic tectonic and igneous activity in E marginal regions, but only minor effects to West)*

Marshallsea, S.J., P.F. Green & J. Webb (2000)- Thermal history of the Hodgkinson Province and Laura Basin, Queensland: multiple cooling episodes identified from apatite fission track analysis and vitrinite reflectance data. *Australian J. Earth Sci.* 47, 4, p. 779-797.

*(Hodgkinson Province and Laura Basin underwent regional Cretaceous cooling, possibly two episodes: mid-Cretaceous (110-100 Ma) and Late Cretaceous (80-70 Ma). Rocks now at outcrop cooled from Cretaceous paleotemperatures between 50-130°C in S and from >100°C in N. In Hodgkinson Province also evidence for E Jurassic cooling episode, with cooling starting at ~200 Ma. Regional extent of Cretaceous cooling episode suggest uplift/ denudation, with removal of 0.8- >3.0 km of Triassic and younger section, starting between ~110 and 80 Ma))*

Matthews, K.J., A.J. Hale, M. Gurnis, R.D. Muller & L. DiCaprio (2011)- Dynamic subsidence of Eastern Australia during the Cretaceous. *Gondwana Research* 19, 2, p. 372-383.

*(Australia's E Cretaceous eastward passage over sinking subducted slabs induced widespread dynamic subsidence and formation of large epeiric sea in E interior)*

McConachie, B.A., J.N. Dunster, P. Wellman, T.J. Denaro, C.F. Pain, M.A. Habermehl & J.J. Draper (1997)- Carpentaria Lowlands and Gulf of Carpentaria regions. In: J.H.C. Bain & J.J. Draper (eds.) *North Queensland Geology*, Australian Geol. Survey Org. (AGSO) Bull. 240, 365-397.

*(Laura Basin, etc.)*

McKellar, J.L. (2002)- Geophysical controls on late Palaeozoic- early Mesozoic geological history and floral succession: eastern Australia in perspective. In: G.A. Brock & J.A. Talent (eds.) *First Int. Palaeontological Congress*, Sydney, Australia, Geol. Soc. Australia, p. 47-84.

Michaelsen, P. & R.A Henderson (2000)- Sandstone petrofacies expressions of multiphase basinal tectonics and arc magmatism: Permian-Triassic north Bowen Basin, Australia. *Sedimentary Geology* 136, p. 113-136.

*(Permian- Triassic sandstones of N Bowen Basin two petrofacies: (A) Lower- mid U Permian quartz-rich, sourced primarily from cratonic basement; (B) U Permian- Lw Triassic volcanolithic, sourced from magmatic arc provenance in New England Orogen. Evidence of contemporaneous volcanism shown by tuffs- tonsteins in Late Permian succession)*

Mortimer, N., F. Hauff & T. Calvert (2008)- Continuation of the New England Orogen, Australia, beneath the Queensland Plateau and Lord Howe Rise. *Australian J. Earth Sci.* 55, 2, p. 195-209.

*(Greywacke, argillite, greyschist and hypabyssal igneous rocks from ODP core on Queensland Plateau and xenoliths in volcanic breccia with 260-240 Ma K-Ar ages dredged from Lord Howe Rise. Low-intermediate detrital quartz contents and age suggest correlation with New England Orogen of E Australia. New England Orogen terranes continue towards New Zealand at least as far as S Lord Howe Rise)*

Muller, R. D., V. S. L. Lim & A. R. Isern (2000)- Late Tertiary tectonic subsidence on the northeast Australian passive margin: response to dynamic topography? *Marine Geology* 162, 2-4, p. 337-352.

*(Accelerated subsidence in Late Miocene-Pliocene off NE Australia difficult to account for by thrust loading in PNG or collision along Australian-Pacific plate boundary. Shear wave tomography displays NNW-SSE trending band of high velocities in upper mantle from Queensland Plateau to Indonesia, probably subducted slab material from Late Eocene- Oligocene subduction N of PNG. Observed post- 9 Ma tectonic subsidence of Queensland and Marion plateaus probably caused by dynamic surface topography due to Australia's NE margin overriding slab burial ground, modulated by flexural deformation resulting from collision tectonics N of Australia)*

Murgulov, V., E. Beyer, W.L. Griffin, S.Y. O'Reilly, S.G. Walters & D. Stephens (2007)- Crustal evolution in the Georgetown Inlier, North Queensland, Australia: a detrital zircon grain study. *Chemical Geology* 245, p. 198-218.

*(Detrital zircon ages of Precambrian Georgetown Inlier. Archean zircons evidence for existence of Archean crustal components in Georgetown Inlier. At least three stages of heating and granitoid magmatism: 1545-1585 Ma, 420 Ma and 340 Ma. Similarities/ differences in crustal evolution of Mt Isa, Broken Hill and Georgetown blocks suggest Proterozoic history of Australian continental margin involved accretion and subsequent dispersal of individual, originally Archean, microcomments)*

Murgulov, V., W. Griffin & S. O'Reilly (2013)- Carboniferous and Permian granites of the northern Tasman orogenic belt, Queensland, Australia: insights into petrogenesis and crustal evolution from an in situ zircon study. *Int. J. Earth Sciences (Geol. Rundschau)* 102, 3, p. 647-669.

*(U-Pb dating and Lu-Hf systematics of zircon in Carboniferous I-type and Permian S- and I-type granites of Hodgkinson Province in N Tasman orogenic belt, Queensland)*

Murray, C.G. (1974)- Alpine-type ultramafics in the northern part of the Tasman Geosyncline- possible remnants of Palaeozoic ocean floor. In: A.K. Denmead et al. (eds.) The Tasman Geosyncline- a symposium, Geol. Soc. Australia, Queensland Division, Brisbane, p. 161-181.

Murray, C.G. (1985)- Tectonic setting of the Bowen Basin. In: Bowen Basin Coal Symposium, Geol. Soc. Australia Abstracts 17, p. 5-16.

Murray, C.G. (1986)- Metallogeny and tectonic development of the Tasman Fold Belt System in Queensland. Ore Geology Reviews 1, p. 315-400.

Murray, C.G. (1987)- Tectonic evolution and metallogenesis of the New England fold belt, Eastern Australia. In: Pacific Rim Congress 87, Gold Coast 1987, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 353-358.

*(New England foldbelt is E part of Tasman foldbelt system. Late Devonian- Early Cretaceous active magmatic margin. Metallogenic deposits mainly associated with extensive Late Permian- Late Triassic granites and silicic volcanics)*

Murray, C.G. (1990)- Tectonic evolution and metallogenesis of the Bowen Basin. In J. W. Beeston (ed.) Bowen Basin Symposium 1990, Proc. Geol. Soc. Australia, p. 201-212.

Murray, C.G. (1997)- From geosyncline to fold belt: a personal perspective on the development of ideas regarding the tectonic evolution of the New England Orogen. Geol. Soc. Australia, Spec. Publ. 19, p. 1-28.

Murray, C.G. (2003)- Granites of the northern New England Orogen. In: P. Blevin et al (eds.) The Ishihara Symposium: Granites and associated metallogenesis, Macquarie University, Geoscience Australia Record 2003/14, p. 101-108.

*(online at: [www.ga.gov.au/image\\_cache/GA3700.pdf](http://www.ga.gov.au/image_cache/GA3700.pdf))*

*(N New England Orogen granites of 4 main age groups: M- Late Devonian (380 Ma; Mt Morgan trondjhemite oceanic island arc); M Carboniferous- E Permian (330-280 Ma; Connors and Auburn Arches; subduction followed by extension), Late Permian- Late Triassic (275-205 Ma; Yarrol; subduction changing to extensional in Late Triassic due to slab rollback) and Early Cretaceous (145-90 Ma; Whitsunday Volcanics; extensional)*

Murray C.G. (2007)- Devonian supra-subduction zone setting for the Princhester and Northumberland serpentinites: implications for the tectonic evolution of the northern New England Orogen. Australian J. Earth Sci. 54, p. 899-925.

Murray, C.G., P.R. Blake, L.J. Hutton, I.W. Whitnall, M.A. Hayword, G.A. Simpson & B.G. Fordham (2003)- Discussion and Reply- Yarrol terrane of the northern New England Fold Belt: forearc or backarc? Australian J. Earth Sci. 50, p. 271-278.

*(Critical discussion of Bryan et al. (2001) paper, which questioned standard tectonic model of New England Orogen as Late Devonian- E Carboniferous classic convergent continental margin with parallel volcanic arc, forearc basin and accretionary wedge assemblages. Bryan et al. model not considered to be viable alternative)*

Murray, C.G., C.L. Fergusson, P.G. Flood, W.G. Whitaker & R.J. Korsch (1987)- Plate tectonic model for the Carboniferous evolution of the New England Fold Belt. Australian J. Earth Sci. 34, p. 213-236.

Mutter, J.C. (1977)- The Queensland Plateau. Bureau Mineral Res. Geol. Geoph., Bull. 179, p. 1-55.

*(online at: [www.ga.gov.au/corporate\\_data/87/Bull\\_179.pdf](http://www.ga.gov.au/corporate_data/87/Bull_179.pdf))*

*(Queensland Plateau of NE Australia large submarine plateau (237,000 km<sup>2</sup>) in 200- 3000m water depth, facing Coral Sea. Basement structure continuation of structural onshore Tasman Geosyncline in SW). Widespread uplift and erosion in Late Cretaceous- M Eocene, forming planar basement surface. Subsidence began in M Eocene, with faulting and differential subsidence of basement surface. Rifting and formation of Queensland and Townsville basins ended by M Oligocene, followed by period of thermal subsidence. Sediment thickness from 300m on basement highs to >1000m in graben structures)*

Mutter, J.C. & D. Jongsma (1978)- The pattern of the Pre-Tasman Sea rift system and the geometry of breakup. Bull. Australian Soc. Exploration Geophysicists 9, 3, p. 70-75.

Mutter, J.C. & G. Karner (1978)- Cretaceous taphrogeny in the Coral Sea. Bull. Australian Soc. Exploration Geophysicists 9, 3, p. 82-87.  
*(Little evidence to support Cretaceous taphrogenesis preceding separation of continental blocks in Coral Sea)*

Mutter, J.C. & G. Karner (1978)- The evolution of the continental margin off Northeast Australia- a review. In: R.A. Henderson (ed.) Geophysics of Northeastern Australia, Geol. Soc. Australia, Brisbane, p. 47-69.

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Neumann, N.L. (2007)- Time-space evolution of the Georgetown and Coen regions. In: N.L. Neumann & L. Geoffrey (eds.) (2007)- Geochronological synthesis and time-space plots for Proterozoic Australia, Geoscience Australia, Canberra, Record 2007/06, p. 74-87.

*(online at: [www.ga.gov.au/image\\_cache/GA10759.pdf](http://www.ga.gov.au/image_cache/GA10759.pdf))*

*(Proterozoic igneous- metamorphic events of Georgetown and Coen inliers of N Queensland mainly 1540-1590 Ma and ~1680-1720 Ma. Georgetown Region also magmatism in Silurian- E Devonian and Carboniferous- Permian. Coen Region also Silurian-Devonian, Late Devonian- E Carboniferous and Carboniferous-Permian magmatism)*

Neumann, N.L. & L. Geoffrey (eds.) (2007)- Geochronological synthesis and time-space plots for Proterozoic Australia. Geoscience Australia, Canberra, Record 2007/06, p. 1-216.

*(online at: [www.ga.gov.au/image\\_cache/GA10759.pdf](http://www.ga.gov.au/image_cache/GA10759.pdf))*

*(Extensive overview of ages of igneous rocks and episodes of metamorphism in Proterozoic across Australia. Very useful for provenance analysis of detrital zircons)*

Norvick, M.S. & M.A. Smith (2001)- Mapping the plate tectonic reconstruction of southern and southeastern Australia and Implications for petroleum systems. Australian Petrol. Prod. Explor. Assoc. (APPEA) J., p. 15-35.

Norvick, M.S., M.A. Smith & M.R. Power (2001)- The plate tectonic evolution of Eastern Australia guided by the stratigraphy of the Gippsland Basin. Petroleum Expl. Soc. Australia (PESA) Eastern Australian Basins Symposium, Melbourne, p. 15-23.

*(Common themes in E Australasia include Triassic-Jurassic subduction, from Papuan Fold Belt to New Zealand, and Late Barremian-Albian volcanogenic sedimentation (back-arc volcanism). Local developments include Lower Cretaceous rift basins in Bass Strait area (N-S extension between Australia- Antarctica), Turonian-Santonian rift basins (E-W Tasman Sea opening). Tasman Sea seafloor spreading started in S in M Santonian (~85 Ma) and stopped in E Eocene (~54 Ma). Later spreading event opened Coral Sea, starting in Paleocene (~62 Ma). Subduction prisms began approaching NE Australasia in E Eocene. Etc.)*

Nott, J. & S. Horton (2000)- 180 Ma continental drainage divide in northeastern Australia: role of passive margin tectonics. Geology 28, 8, p. 763-766.

*(Stratigraphy and sedimentology of Jurassic-Tertiary sediments in Laura and Carpentaria basins in NE Australia show continental drainage divide here remained stationary since M Jurassic. Maximum of only 50m of denudation could have occurred on continental drainage divide here since Cretaceous)*

Nutman, A.P., S. Buckman, H. Hidaka, T. Kamiichi, E. Belousova & J. Aitchison (2013)- Middle Carboniferous- Early Triassic eclogite-blueschist blocks within a serpentinite melange at Port Macquarie, eastern Australia: implications for the evolution of Gondwana's eastern margin. Gondwana Research 24, p. 1038-1050.

*(New England Orogen with suites of Paleozoic- earliest Mesozoic rocks, formed in supra-subduction zone settings at Gondwana E margin. In Port Macquarie serpentinite with blocks of low-T, high-P metamorphic rocks with glaucophane blueschists and lawsonite-bearing eclogites. High-P metasediments contain Archean to 251±6 Ma (Permo-Triassic) detrital zircons, with most grains of M Devonian- Carboniferous age (380-340 Ma). In Lorne Basin to S ≥220 Ma Triassic sedimentary and volcanic rocks unconformably overlie serpentinite melange and provide minimum age of high-P metamorphism. Emplacement of melange with high-P rocks may have been due to docking of Permian oceanic island arc (Gympie terrane in S Queensland?) and Andean-style arc at E Australian margin (New England Orogen 260-230 Ma N-S oriented magmatic belts)*

O'Brien, P.E., R.J. Korsch, A.T. Wells, M.J. Sexton & K. Wake-Dyster (1994)- Structure and tectonics of the Clarence-Moreton Basin. In: A.T. Wells & P.E. O'Brien (eds.) Geology and petroleum potential of the Clarence-Moreton Basin, New South Wales and Queensland, AGSO, Bull. 241, p. 195-216.

Offler, R. & D.A. Foster (2008)- Timing and development of oroclines in the southern New England Orogen, New South Wales. Australian J. Earth Sci. 55, p. 331-340.

Offler, R. & J. Gamble (2002)- Evolution of an intra-oceanic island arc during the Late Silurian to Late Devonian, New England Fold Belt. Australian J. Earth Sci. 49, p. 349-366.

Offler, R. & C. Murray (2011)- Devonian volcanics in the New England Orogen: tectonic setting and polarity. Gondwana Research 19, 3, p. 706-715.

*(Devonian volcanics in New England Orogen formed in intra-oceanic island arc and back arc basin settings. Many samples that formed in BAB have mixed MORB and arc characteristics, believed to be due to subduction component in basaltic magma. Samples with MORB-like compositions originated at spreading centres. Late Devonian basalts more arc-like to W, suggesting W-facing polarity. Two subduction zones in Late Devonian: (1) dipping W beneath Lachlan Orogen, (2) dipping E beneath rifted intra oceanic arc. Obduction of this intra oceanic arc over continental margin of Lachlan Orogen in latest Devonian at ~375 Ma led to development of new W dipping subduction zone oceanward and start of continental, arc magmatism)*

O'Sullivan, P.B., D.A. Foster, B.P. Kohn & A.J.W. Gleadow (1996)- Multiple postorogenic denudation events: an example from the eastern Lachlan fold belt, Australia. Geology 24, 6, p. 563-566.

*(Fission-track results from E part of Lachlan fold belt suggest two distinct episodes of rapid km-scale denudation since M Carboniferous when deformation in fold belt ceased: (1) E Triassic, possibly response to Hunter-Bowen orogeny, affected New England fold belt, Sydney-Bowen basin, and now Lachlan fold belt (2) M Cretaceous, possibly in response to onset of continental extension in Tasman Sea at ~96 Ma, resulting in km-scale denudation over much of SE highlands of Australia)*

Partridge, A.D. (2006)- Australian Mesozoic and Cenozoic palynology zonations (Charts 1-4). In: E. Monteil (coord.) Australian Mesozoic palynology zonations- updated to the 2004 Geologic Time Scale, Geoscience Australia Record 2006/23.

*(online: /www.ga.gov.au/image\_cache/GA14151.pdf, www.ga.gov.au/image\_cache/GA14153.pdf)*

*(Spore-pollen and dinocyst zonations charts: Jurassic- Early Cretaceous for Australia, Late Cretaceous-Cenozoic Gippsland Basin)*

Petrizzo, M.R. (2000)- Upper Turonian-lower Campanian planktonic foraminifera from southern mid-high latitudes (Exmouth Plateau, NW Australia): biostratigraphy and taxonomic notes. Cretaceous Research 21, 4, p. 479-505.

*(Planktonic foraminifera from ODP Holes 762C and 763B Some low latitude (Globotruncana ventricosa, Hedbergella flandrini, Marginotruncana marianosi) and high latitude (Globigerinelloides impensus, Hedbergella sliteri) markers different vertical distribution at mid-high latitudes from low latitudes)*

Passmore, V.L. (1980)- Laura Basin. In: Stratigraphic correlation between sedimentary basins of the ESCAP region, VII, ESCAP Atlas of stratigraphy II, Australia, Japan, Mineral Res. Dev. Ser. 46, p. 23-27.

*(Well cross-section of N-S trending Laura Basin shows ~500-700m sandy Middle- Late Jurassic section (Dalrymple Sst, Gilbert River Fm), unconformably over Hodgkinson Basin Permian. Basin trends offshore under Great Barrier Reef)*

Peters, S.G. (1993)- Polygenetic melange in the Hodgkinson goldfield, Northern Tasman Orogenic Zone. *Australian J. Earth Sci.* 40, 2, p. 115-129.

*(Melange intercalated with multiply deformed Siluro-Devonian shale, greywacke, clast-in-matrix rock, spilite and chert in Hodgkinson goldfield of NE Australia)*

Phillips, G. & R. Offler (2011)- Contrasting modes of eclogite and blueschist exhumation in a retreating subduction system: The Tasmanides, Australia. *Gondwana Research* 19, 3, p. 800-811.

*(Three groups of HP metamorphic blueschists and eclogites in Tasmanides: (1) eclogite-blueschists in thick sedimentary sequences (exhumation by buoyancy of continental slabs); (2) moderate-pressure (< 9 kbar) blueschist of arc to MORB-type composition in sedimentary or serpentinite melange zones (accretionary HP rocks; exhumation by corner flow and/or extensional collapse in accretionary wedge) and (3) eclogites of MORB-type composition within serpentinite (exotic HP rocks; exhumation by slab rollback and trench retreat) (Three groups of blueschists and eclogites in Tasmanides of E Australia: (1) eclogite-blueschists with calc-alkaline/ tholeiitic affinities in thick sedimentary sequences (continental HP rocks; exhumation by buoyancy of continental slabs); (2) moderate-P blueschist of arc to MORB-type composition in sedimentary or serpentinite melange zones (accretionary HP rocks; exhumation by corner flow /or extensional collapse in accretionary wedge) and (3) eclogites of MORB-type composition within serpentinite (exotic HP rocks; discontinuous exhumation triggered by slab rollback and trench retreat) Dominant W-dipping, E-ward migrating subduction zone can explain HP metamorphic rocks in Tasmanides.)*

Pohler, S. (1998)- Devonian carbonate buildup facies in an intra-oceanic island arc (Tamworth Belt, New South-Wales, Australia). *Facies* 39, p. 1-34.

*(E- M Devonian biohermal buildups in Tamworth Belt, possibly comparable to NE Kalimantan Devonian coral)*

Pope, G.J. (2000)- An application of sequence stratigraphy in modelling oil yield distribution, the Stuart oil shale deposit, Queensland, Australia. M.Sc. Thesis Queensland University of Technology, p. 1-121.

*(online at: [https://eprints.qut.edu.au/16145/1/Graham\\_Pope\\_Thesis.pdf](https://eprints.qut.edu.au/16145/1/Graham_Pope_Thesis.pdf))*

*(M-L Eocene lacustrine oil shales of Stuart deposit in Rundle Fm of Duaringa half-graben, C Queensland coast)*

Powell, C.M. (1984)- Late Devonian and early Carboniferous: continental magmatic arc along the eastern edge of the Lachlan Fold belt. In: J.J. Veevers (ed.) *Phanerozoic Earth History of Australia*, Oxford Science Publ., p. 329-240.

Powell, C.M., Z.X. Li & G.A. Thrupp (1990)- Australian Palaeozoic palaeomagnetism and tectonics- I. Tectonostratigraphic terrane constraints from the Tasman Fold Belt. *J. Structural Geol.* 12, p. 553-565.

*(Tasman Fold Belt three N-S orogenic realms: Kanmantoo, Lachlan-Thomson and New England. Kanmantoo Orogen accreted to Australia by Late Cambrian. Lachlan Fold Belt two major amalgamated terranes by M Silurian, progressively covered, from W in Late Silurian-Late Devonian by quartzose overlap assemblage. New England Orogen fragmentary E Paleozoic history, but from Devonian onwards related to series of volcanic island and continental margin magmatic arcs. Docking not demonstrated until mid-Carboniferous)*

Power, P.E. & S.B. Devine (1970)- Surat Basin, Australia- subsurface stratigraphy, history and petroleum. *American Assoc. Petrol. Geol. (AAPG) Bull.* 54, 12, p. 2410-2437.

*(Jurassic- Lower Cretaceous Surat basin is segment of Great Artesian basin. Deposition of fluvial quartzose sands began in Late Triassic E of Surat basin and transgressed W-ward to C and N parts of basin, covering folded and block-faulted Triassic and older rocks. Mainly non-marine deposits, up to 7500' thick. Uplift-erosion event in M Jurassic time. Cretaceous sediments becoming marine. Basin contracted in M Cretaceous due to deformation N and E of basin. Small Jurassic oil-gas fields. Source probably in nonmarine Jurassic rocks, but marine Permian may have contributed)*

- Przeslawski, R., A. Williams, S.L. Nichol, M.G. Hughes, T.J. Anderson & F. Althaus (2011)- Biogeography of the Lord Howe Rise region, Tasman Sea. *Deep Sea Research II*, 58, 7-8, p. 959-969.  
*(Lord Howe Rise is ribbon fragment of continental crust, separated from E Gondwana as Tasman Sea opened in Late Cretaceous. It attained present position once seafloor spreading ended, at ~52Ma, then subsided to present depth by ~23 Ma. LHR supports mixture of endemic species together with species associated with Australian and New Zealand continental margins)*
- Quinn, C.D., I.G. Percival, R.A. Glen & W.J. Xiao (2014)- Ordovician marginal basin evolution near the palaeo-Pacific east Gondwana margin, Australia. *J. Geol. Soc.* 171, 5, p. 723-736.  
*(Ordovician Macquarie Arc in E Lachlan Orogen of SE Australia long considered to be intra-oceanic arc within an accretionary orogen. More likely extensional tectonics at palaeo-Pacific E Gondwana margin in Ordovician with alkalic and calc-alkalic Cu-Au porphyry deposits away from active arc system)*
- Raza, A., K.C. Hill & R.J. Korsch (2009)- Mid-Cretaceous uplift and denudation of the Bowen and Surat Basins, eastern Australia: relationship to Tasman Sea rifting from apatite fission-track and vitrinite-reflectance data. *Australian J. Earth Sci.* 56, p. 501-531.  
*(Peak paleotemperatures/ depth of burial in Bowen and Gunnedah Basins, E Australia, in Early Cretaceous. Late Cretaceous (100-80 Ma) cooling, with erosion of up to 1.9 km of Jurassic- E Cretaceous rock. Uplift widespread along E margin of Gondwanaland, including all of E Australia, New Zealand, Antarctica. Onset of mid-Cretaceous denudation coincided with continental extension after cessation of volcanism and subduction at ~95 Ma, and prior to initiation of seafloor spreading at ~84 Ma and formation of current passive margin)*
- Rey, P.F. & R.D. Muller (2008)- Late Cretaceous-Paleocene evolution of the East Gondwana margin, a new dynamic model for the formation of marginal basins. In: J.E. Blevin et al. (eds.) *Eastern Australasian Basins Symposium III- Energy security for the 21st century*, Sydney, Petroleum Expl. Soc. Australia (PESA), Spec. Publ., p. 267-269.  
*(At ~100 Ma E Gondwana cordillera started oceanward gravitational collapse, until opening of Tasman Sea from ~90 to 52 Ma. Collapse of cordilleran orogens, marginal basin opening and detachment of microcontinents often considered consequence of slab rollback, but along E Gondwana margin Late Cretaceous change in plate motion probably caused switch from contractional to extensional tectonics)*
- Rey, P.F. & R.D. Muller (2010)- Fragmentation of active continental plate margins owing to the buoyancy of the mantle wedge. *Nature Geoscience* 3, p. 257-261.  
*(Mantle-wedge buoyancy may explain collapse of E Gondwana Cordillera along edge of E Australia/ E Antarctic. At 105-90 Ma, change in absolute plate motion reduced subduction velocity, triggering gravitational collapse of orogen and fragmentation of active margin)*
- Roberts, J. (1987)- Carboniferous faunas: their role in the recognition of tectonostratigraphic terranes in the Tasman Belt, eastern Australia. In: E.C. Leitch & E. Scheibner (eds.) *Terrane accretion and orogenic belts*, American Geophys. Union (AGU), Geodyn. Ser. 19, p. 93-102.  
*(Two marine invertebrate assemblages in Carboniferous shelfal successions of Australia: (1) high diversity, warm water, E Carboniferous Cosmopolitan; (2) low diversity, cold water, M-L Carboniferous Gondwanan. In E Carboniferous Yarrol-New England portion of Tasman Tasman Belt may be separate terrane, in near-equatorial position N of Australia, as indicated by paleomagnetic data, and docked later in Carboniferous)*
- Roberts, J., J.C. Claoue-Long & C.B. Foster (1996)- SHRIMP zircon dating of the Permian system of eastern Australia. *Australian J. Earth Sci.* 43, 4, p. 401-421.  
*(SHRIMP zircon dates from Permian ignimbrites and tuffs associated with fossiliferous strata within the Sydney-Bowen Basin and New England Orogen)*
- Roberts, J. & B.A. Engel (1980)- Carboniferous palaeogeography of the Yarrol and New England orogens, eastern Australia. *J. Geol. Soc. Australia* 27, p. 167-186.  
*(During Carboniferous Yarrol and New England Orogens comprised active depositional margin E of cratonised parts of Australia)*

Roberts, J., P.J. Jones & T.B.H. Jenkins (1993)- Revised correlations for Carboniferous marine invertebrate zones of eastern Australia. *Alcheringa* 17, 4, p. 353-376.

*(Update of E Australian faunal zonations and chronostratigraphy of Carboniferous. Gondwanan assemblages succeeding E Carboniferous cosmopolitan faunas cannot be readily correlated with N Hemisphere biozones)*

Rosenbaum, G., P. Li & D. Rubatto (2012)- The contorted New England Orogen (eastern Australia): new evidence from U-Pb geochronology of early Permian granitoids. *Tectonics* 31, TC1006, p. 1-14.

*(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2011TC002960>)*

*(Sharp bends (oroclines) in Paleozoic- E Mesozoic New England Orogen of E Australia, obscured by voluminous magmatism (E Permian granitoids zircon U-Pb ages 296-288 Ma). Phase of younger magmatism (<260 Ma) postdates orocline development. Tectonic model involves early stage of subduction curvature during slab rollback at 300-285 Ma, followed by bending associated with dextral transpression and final tightening possibly by E-W shortening during Late Permian- Triassic (265-230 Ma) Hunter-Bowen orogeny)*

Schellart, W.P., B.L.N. Kennett, W. Spakman & M. Amaru (2009)- Plate reconstructions and tomography reveal a fossil lower mantle slab below the Tasman Sea. *Earth Planetary Sci. Letters* 278, p. 143-151.

*(New P-wave and S-wave mantle tomography models from SW Pacific identify flat-lying high-velocity anomaly below Tasman Sea at ~1100 km depth that cannot be linked to Pacific subduction. Strike NW-SE and ~2200 x 600-900 km in lateral extent. Can be interpreted as middle Cenozoic single NE-dipping New Caledonia fossil subduction zone)*

Seton, M., N. Flament & R.D. Muller (2012)- Subduction history in the Melanesian Borderlands region, SW Pacific. In: *Eastern Australian Basins Symposium IV (EABS IV)*, Brisbane 2012, p. 1-12.

*(online*

*at:*

*[www.earthbyte.org/Resources/Pdf/Seton\\_Melanesian\\_borderlands\\_subduction\\_history\\_EABS4\\_2012.pdf](http://www.earthbyte.org/Resources/Pdf/Seton_Melanesian_borderlands_subduction_history_EABS4_2012.pdf)*

*(Plate kinematic model of E Coral Sea area developed from comparison with seismic tomography. Subduction history in E Coral Sea works well for latest Cenozoic but fails to predict seismically fast material (indicative of cold, subducted material) in lower mantle imaged in seismic tomography models)*

Seton, M., N. Mortimer, S. Williams, P. Quilty, P. Gans, S. Meffre, S. Micklethwaite, S. Zahirovic, J. Moore & K.J. Matthews (2016)- Melanesian back-arc basin and arc development: constraints from the eastern Coral Sea. *Gondwana Research* 39, p. 77-95.

*(E Coral Sea in NE corner of Australian Plate, where interaction between Pacific and Australian plate boundaries, and accretion of Ontong Java Plateau resulted in complex assemblage of back-arc basins, island arcs, continental plateaus and volcanic products. Start of opening of Santa Cruz Basin and S Rennell Trough at ~48 Ma and termination at 25-28 Ma. Simultaneous opening of Melanesian Basin/ Solomon Sea further N suggests single >2000 km long back-arc basin, with triple junction landward of Melanesian subduction zone from Eocene-Oligocene. Cessation of spreading corresponds with reorganization of plate boundaries and initial soft collision of Ontong Java Plateau)*

Shaanan, U. & G. Rosenbaum (2018)- Detrital zircons as palaeodrainage indicators: insights into southeastern Gondwana from Permian basins in eastern Australia. *Basin Research* 30, Suppl. 1, p. 36-47.

*(U-Pb ages from detrital zircon grains from E Permian sediments (~290-297 Ma) in southern New England Orogen. Over 80% of ages Late Carboniferous, from adjacent forearc sediments. Pre-Devonian detritus from SE Gondwanan craton, with peaks of 2000-1500 Ma, 1200-900 Ma (Grenvillian) and. 620-480 Ma)*

Shaanan, U., G. Rosenbaum, D. Hoy & N. Mortimer (2018)- Late Paleozoic geology of the Queensland Plateau (offshore northeastern Australia). *Australian J. Earth Sciences* 65, 3, p. 357-366.

*(Queensland Plateau (off NE Australia) submerged continental block. Detrital zircons from two drill cores that penetrated Paleozoic metasedimentary strata (ODP Leg 133) provide maximum depositional ages of ~319 and 299 Ma. Queensland Plateau probably formed in backarc basin, NE continuation of New England Orogen and/or E Australian Rift System)*

Shaw, S.E. & R.H. Flood (1981)- The New England Batholith, Eastern Australia: geochemical variations in time and space. *J. Geophysical Research* 86, p. 10530-10544.

Sheps, K. (2004)- Quantitative paleoenvironmental analysis of carbonate platform sediments on the Marion Plateau (NE Australia, ODP Leg 194). M.Sc. Thesis, College of Marine Science, University S Florida, p. 1-105.  
(online at: [www.etd.fcla.edu/SF/SFE0000546/kshepstthesis.pdf](http://www.etd.fcla.edu/SF/SFE0000546/kshepstthesis.pdf))  
(*Paleoenvironmental distribution of Large Benthic Foraminifera, etc.*)

Sircombe, K.N. (1999)- Tracing provenance through the isotope ages of littoral and sedimentary detrital zircon, eastern Australia. *Sedimentary Geology* 124, p. 47-67.  
(*Provenance of detrital zircons in 19 littoral and sedimentary deposits in E Australia four age groups: (1) 100-175 Ma = Jurassic-Cretaceous volcanism along E Australian margin; (2) 225-350 Ma = New England Orogen; (3) 350-500 Ma correlated with magmatism in Lachlan Orogen. Ultimate source of Pacific-Gondwana 500-700 Ma ages tentatively identified as Neoproterozoic orogeny along E Antarctic margin. Lachlan Orogen age grouping stronger in S, New England Orogen age grouping stronger in N*)

Sivell, W.J. & J.B. Waterhouse (1988)- Petrogenesis of Gympie Group volcanics: evidence for remnants of an Early Permian volcanic arc in eastern Australia. *Lithos* 21, 2, p. 81-95.  
(*Gympie Group, SE Queensland, tectonomorphically anomalous Lower Permian submarine volcanic sequence composed of mafic basalt- basaltic andesites, breccias and subordinate lavas, with dacitic tuffs and glassy flows. Gympie suite represents immature submarine tholeiitic stage of portion of major intra-oceanic arc that bordered Gondwana, but was fragmented by opening of Tasman Sea*)

Smart, J., K.G. Grimes, H.F. Douth & J. Pinchin (1980)- The Mesozoic Carpentaria and Cainozoic Karumba Basins, North Queensland. *Bureau Mineral Res. Geol. Geoph., Bull.* 202, p. 1-73.  
(online at: [/www.ga.gov.au/corporate\\_data/53/Bull\\_202.pdf](http://www.ga.gov.au/corporate_data/53/Bull_202.pdf))  
(*Mesozoic Carpentaria Basin shallow, saucer-shaped, intra-cratonic downwarp of ~560 000 km<sup>2</sup> with up to ~1200 m of M Jurassic -Albian sediments, underlying most of Gulf of Carpentaria, Cape York Peninsula, and area south of Gulf. E Cretaceous transgression from N caused change to shallow marine conditions, with widespread 5-20m thick low-grade oil shale of mid-Albian Toolebuc Fm*)

Smart, J. & B.R. Senior (1980)- Jurassic-Cretaceous basins of northeastern Australia. In: R.A. Henderson & J.P. Stephenson. (eds.) *The geology and geophysics of Northeastern Australia*, Third Australian Geol. Conv., Townsville, Geol. Soc. Australia, p. 315-328.  
(*On Carpenteria, Laura basins in N Queensland*)

Sommacal, S., L. Pryer, J. Blevin et al. (2008)- Clarence-Moreton SEEBASE TM and Structural GIS Project. FrOG Tech Pty Ltd. Report to NSW DPI, p. 1-37.  
(online at: [www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0007/244339/MR707-Clarence-Moreton-SEEBASE-structural-GIS-project.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0007/244339/MR707-Clarence-Moreton-SEEBASE-structural-GIS-project.pdf))  
(*Clarence-Moreton Basin, with non-marine Late Triassic- E Cretaceous section, formed on basement of probable tightly folded pre-Permian forearc and accretionary wedge material with granitoid intrusions. M-L Triassic early basin deposits include Nymboida and Ipswich coals. Also M Jurassic coal in sag phase across much of basin*)

Spampinato, G.P.T., P.G. Betts, L. Ailleres & R.J. Armit (2015)- Early tectonic evolution of the Thomson Orogen in Queensland inferred from constrained magnetic and gravity data. *Tectonophysics* 651-652, p. 99-120.

SRK Consulting (2010)- Gunnedah Bowen Study. Report to NSW DPI, p. 1-97.  
(Online at: [www.dpi.nsw.gov.au/minerals/resources/petroleum/reports](http://www.dpi.nsw.gov.au/minerals/resources/petroleum/reports))  
(*Major study on coal-bearing Permian-Triassic Gunnedah, Sydney and Bowen Basins, which developed mostly W of the N-trending suture between the Lachlan Foldbelt and New England foldbelts*)

Stratford, J.M.C. & J. C. Aitchison (1996)- Devonian intra-oceanic arc rift sedimentation- facies development in the Gamilaroi terrane, New England orogen, eastern Australia. *Sedimentary Geology* 101, p. 173-192.

*(Silurian-Devonian rocks in Gamilaroi terrane of New England orogen example of intra-oceanic arc rift, with volcanoclastics deposited by debris flows and turbidity currents. Subordinate facies include limestones, crystal-rich volcanoclastic sandstones, volcanic breccias and olistostromes. Felsic volcanics at base of section represent part of original arc and are overlain by volcanoclastic sandstones and mudstones deposited within an arc basin. Lower Devonian (Emsian) limestones. Thick pillow basalts at top of succession)*

Struckmeyer, H.I.M. & P.A. Symonds (1997)- Tectonostratigraphic evolution of the Townsville Basin, Townsville Trough, offshore northeast Australia. *Australian J. Earth Sci.* 44, p. 799-817.

*(Townsville Basin is E-W extensional half-graben, separating Marion and Queensland Plateaus, off NE Australia. No direct control on stratigraphy; timing interpreted from regional context. Up to ~6.5 km sediment in two megasequences: (1) probably Cretaceous synrift in fault-controlled depocentres up to 4 km thick; (2) Tertiary sag-phase up to 3.8 km thick. Half-grabens contain several rotational blocks. Compartmentalised into sub-basins by NNW-NW trending transverse zones, which may represent pre-existing basement structures. Two extensional events. Structuring event during early sag-phase followed by multiple reactivation in ?Late Miocene- E Pliocene. Townsville Basin part of complex rift system of probable Late Jurassic-E Cretaceous age, formed as result of oblique extension that utilised pre-existing Paleozoic structural trends. Comparison with trends of adjacent Queensland Trough suggests formation of both basins independent of (Late Cretaceous-Paleocene) sea-floor spreading in Tasman and Coral Sea Basins)*

Symonds, P.A., J. Fritsch & H. Schluter (1984)- Continental margin around the western Coral Sea Basin: structural elements, seismic sequences and petroleum geological aspects. In: S.T. Watson (ed.) *Trans. Third Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1982, AAPG*, p. 243-252.

*(Coral Sea opposing margins of Queensland and Papuan Plateaus underlain by (Late Cretaceous-Paleocene) rift zone which would have been up to 80 km wide before continental break up. Outer basement highs, with low angle contacts with oceanic crust, in oceanward part of rift zone on both sides of Coral Sea Basin and under lower slope of Eastern Plateau, N Queensland Trough and Osprey Embayment. N Queensland Trough and W margin of Eastern Plateau underlain by grabens with up to 5 km of sediments, part of which may be Mesozoic deltaic sequence similar to that intersected in Anchor Cay 1 well, or deeper water equivalent)*

Symonds, P.A., J.B. Colwell, H.I. Struckmeyer, J.B. Willcox & P.J. Hill (1996)- Mesozoic rift basin development off eastern Australia, *Geol. Soc. Australia Bull.* 43, p. 528-542.

Taylor, L. & D. Falvey (1977)- Queensland Plateau and Coral Sea Basin: stratigraphy, structure and tectonics. *The Australian Petrol. Explor. Assoc. (APEA) J.* 17, 1, p. 13-29.

*(Seismic and gravity show up to 3km thick U Cretaceous-Paleogene rift-valley sequences under offshore NE Australia Queensland and Townsville Troughs)*

Totterdell, J.M., J. Moloney, R.J. Korsch & A.A. Krassay (2009)- Sequence stratigraphy of the Bowen-Gunnedah and Surat Basins in New South Wales. *Australian J. Earth Sci.* 56, 3, p. 433-459.

Tulloch, A., J. Ramezani, K. Faure & A. Allibone (2010)- Early Cretaceous magmatism in New Zealand and Queensland: intra-plate or intra-arc origin?. In: S. Buckman & P.L. Blevin (eds.) *Proc. Conf. New England Orogen 2010 (NEO 2010)*, Armidale, p. 332-335.

*(Mesozoic magmatism in New Zealand dominated by 800+km-long subduction-related Median Batholith. Main phase of magmatism 170-105 Ma, broadly subdivided into 130-105 Ma inboard belt (adakitic) and 170-130 Ma outboard belt. E Cretaceous magmatism in E Australia dominated by Whitsunday Volcanic Province with high-silica rhyolite and bimodal basalt and coeval isolated granitic plutons (mainly 134-120, some 100 Ma), comparable to that of Median Batholith. Apparent absence of Cretaceous subduction zone suggests formation in extensional intra-plate environment (but too old for 84-55 Ma Tasman Sea spreading?))*

Uysal, I.T., M. Glikson, S.D. Golding & F. Audsley (2000)- The thermal history of the Bowen Basin, Queensland, Australia: vitrinite reflectance and clay mineralogy of Late Permian coal measures. *Tectonophysics* 323, 1, p. 105-129.

*(Vinitite Reflectance values from 0.45% Ro in S Bowen Basin to >3.5% Ro in N Bowen Basin. Maximum temperatures of organic maturation of Bowen Basin coals not related to deep burial metamorphism during latest M Triassic- earliest Late Triassic, but to zone of high heat flow in latest Late Triassic)*

Vaughan, A.P.M & R.A. Livermore (2005)- Episodicity of Mesozoic terrane accretion along the Pacific margin of Gondwana: implications for superplume-plate interactions. In: A.P.M. Vaughan et al. (eds.) Terrane processes at the margins of Gondwana. Geol. Soc., London, Spec. Publ. 246, p. 143-178.

*(Discussion of Late Triassic- E Jurassic (202-197 Ma) and Mid-Cretaceous (~116-110 Ma) periods of coincident continental rifting and marginal collision around Paleo-Pacific. Both are times of elevated mantle heat flow and magmatism, followed by periods of high rates of continental extension (Pangea/Gondwana break-up in Late Triassic-E Jurassic; extensional core-complex formation in M Cretaceous), and times of oceanic plate reorganization and major changes in plate velocity. Possibly related to 'superplume events')*

Veevers, J.J., P.J. Conaghan & C.M. Powell (1994)- Eastern Australia. In: J.J. Veevers & C.M. Powell (eds.) Permian-Triassic Pangean basins and foldbelts along the Panthalassan margin of Gondwanaland, Geol. Soc. America (GSA) Mem. 184, p. 11-172.

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*(online at: [www.mdpi.com/2076-3263/3/2/311](http://www.mdpi.com/2076-3263/3/2/311))*

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*(online at: [www.mdpi.com/2076-3263/3/2/331](http://www.mdpi.com/2076-3263/3/2/331))*

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Vos, I.M.A., F.P. Bierlein & J. Webb (2006)- Geochemistry of Early- Middle Palaeozoic basalts in the Hodgkinson Province: a key to tectono-magmatic evolution of the Tasman Fold Belt System in northeastern Queensland, Australia. Int. J. Earth Sciences (Geol. Rundschau) 95, 4, p. 569-585.

*(Hodgkinson Province Late Ordovician- Devonian tholeiitic- calc-alkaline basalts interspersed with marine sedimentary rocks and limestones, metamorphosed to lower greenschist facies. Decreasing volcanic arc affinity of Silurian-Devonian MORB-type basalts. Interpreted to reflect deposition in back-arc basin setting. Onset of basin extension in Silurian, accelerated subsidence through Devonian and halted by basin inversion in Late Devonian. Basin evolution controlled by E-ward stepping subduction zone outboard of Australian Craton)*

Wartenberg, W. (2005)- The concealed Tamworth Belt (New England Orogen)- stratigraphic and geophysical observations depicting a thrust-related geometry in southern Queensland, Australia. Doct. Diss. Rheinischen Friedrich-Wilhelms University, Bonn, 106p.

*(extended abstract online at: <http://hss.ulb.uni-bonn.de/2005/0534/0534-1.pdf>)*

*(Tamworth and Yarrol Belts part of Devonian-Carboniferous fore-arc basin, partly concealed in W by Permian-Triassic Bowen and Gunnedal rift basins. Age equivalent accretionary wedge assemblages in outcrop across E part of orogeny, e.g. Tablelands Complex in NSW and Beenleigh, D'Aguilar, Wandilla and Shoalwater terranes in Queensland. Magmatic arc exposed only in N NEO (Connors and Auburn arcs))*

Waschbusch, P., R.J. Korsch & C. Beaumont (2009)- Geodynamic modelling in aspects of the Bowen, Gunnedah, Surat and Eromanga basins from the perspective of convergent margin processes: Australian J. Earth Sci. 56, p. 309-334.

*(Geodynamic modelling of Bowen, Gunnedah, Surat and Eromanga Basins. Bowen and Gunnedah Basins subsidence in early Late Permian initial foreland phase platform tilting associated with W-directed subduction. Late Permian-E Triassic platform tilting due to foreland loading, as thrust front in New England Orogen migrated W-ward. Surat and Eromanga subsidence also dynamic platform tilting. Uplift of Eastern Highlands in mid-Cretaceous due to rebound of lithosphere after cessation of W-directed subduction)*

Waterhouse, J.B. & W.J. Sivell (1987)- Permian evidence for Trans-Tasman relationships between East Australia, New Caledonia and New Zealand. Tectonophysics 142, p. 227-240.

*(E Permian submarine volcanic sequence of Gympie Group, SE Queensland suggestive of immature submarine, tholeiitic stage of arc development on thin (oceanic) crust. M Carboniferous-Permian calc-alkaline Camboon arc to W developed on continental crust. Volcanics and overlying sediments of Gympie Group similar to volcanic arc and adjoining formations of Nelson-Eglinton-Takitimu areas of New Zealand. Dacitic volcanics in New Caledonia may form young part of same volcanic arc. Overlying Permian sediments further similarities between three regions. New Zealand was locus for actively spreading mid-ocean ridge (Dun Mt Ultramafics/Patuki ophiolite complex), Gympie lay towards end of mid-ocean ridge, New Caledonia close to terminus of volcanic arc and received more terrestrial sediment)*

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Webb, A.W. & I. McDougall (1968)- The geochronology of the igneous rocks of Eastern Queensland. J. Geol. Soc. Australia 15, p. 313-346.

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Webby, B.D. (1987)- Biogeographic significance of some Ordovician faunas in relation to east Australian Tasmanide suspect terranes. In: E.C. Leitch & E. Scheibner (eds.) Terrane accretion and orogenic belts, AGU Geodynamics Ser. 19, p. 103-117.

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*(Revised interpretations of S Tasman Sea magnetic lineations and fracture zones. Simple two-plate spreading system, active between about 82-60 Ma)*

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Pacific Rim Congress 1987, Gold Coast, Australasian Inst. of Mining and Metallurgy (AusIMM), Parkville, p. 495-498.

*(Hodgkinson and Broken River provinces of N part of Tasman Orogen separated by Late Paleozoic igneous rocks, but probably originally continuous. Hodgkinson Province multiply deformed and composed mainly of Silurian-Devonian turbidites, mainly quartz-rich and continent-derived. With probably allochthonous limestone lenses (with E Silurian- E Devonian conodonts))*

Withnall, I.W. & R.A. Henderson (2012)- Accretion on the long-lived continental margin of northeastern Australia. Episodes 35, 1, p. 166-176.

*(online at: [www.episodes.co.in/contents/2012/march/p166-176.pdf](http://www.episodes.co.in/contents/2012/march/p166-176.pdf))*

*(S part of Tasman Orogenic Zone broad tract of crust, ~1000 km across, added to cratonic core of Australia. In N Queensland much smaller volume of new crust generated, expressing slow accretion. As a consequence, three large-scale, successive Paleozoic active margin igneous assemblages form largely co-located and overprinting belts with plutonic suites stitching Tasman Line and extending into craton)*

Withnall, I.W., D.E. Mackenzie, T.J. Denaro, J.H.C. Bain et al. (1997)- Georgetown Region. In: J.H.C. Bain & J.J. Draper (eds.) North Queensland Geology, Australian Geol. Survey Org. Bull. 240/ Queensland Geology 9, p. 19-116.

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*(Granitic plutons intrude Hodgkinson Fm of E Hodgkinson Province, N Queensland. Fabrics show four deformational events. Plutons two supersuites: (1) latest Devonian- earliest Carboniferous, with emplacement age of ~357 Ma (Mt Formartine Suite); (2) Early Permian Wangetti suite (majority of granites). Devonian-Carboniferous granites emplacement associated with first episode of regional orogenesis and development of penetrative fabrics in Hodgkinson-Broken River Fold Belt)*