Issue 5, 21 July, 2016

Australia and New Zealand form the Australia-New Zealand IODP Consortium (ANZIC), and the two countries have access to all IODP activities. This bulletin provides current news, job opportunities, scholarships and events relating to both national and international scientific communities.

For more information contact:
Website: www.iodp.org.au
Website: drill.gns.cri.nz

News from the ANZIC Office

The results of the most recent IODP scheduling meeting have been published and eight proposals in the Australasian region have now been scheduled between 2017 and 2019 (see box on page 2). This is an excellent result for ANZIC, and shows how interesting our science is and how well our scientists can build a case to address global science problems with their international colleagues. The seven expeditions in our immediate region will be of great scientific interest, and the operational investment from the US National Science Foundation alone is of the order of $US110 million. We expect to have more than twenty ANZIC scientists aboard, including several co-chief scientists.

We have already called by email for applications for participation in Expeditions 369, 371 and 374 (deadline 15 August); Expedition 373 (deadline 31 August); and Expeditions 372 and 375 (deadline 2 October). Second calls for these expeditions are set out below.

Tobias Colson (UWA, physical properties) and Sarah Kachovich (UQ, radiolarian specialist) soon join the Sumatra Seismogenic Zone Expedition 362 (6 August to 6 October). Individuals or groups can sign up to live interactive video broadcasts through https://docs.google.com/forms/d/e/1FAIpQLSfKgBl6-xA1tsmiA_lhBCYzAsgn8DhjnUhylyT4Bz7_3oXIsQ/viewform

ANZIC Council met by telephone on 14 June, and among the discussions was how to build first-rate new proposals for when the *JOIDES Resolution* leaves the Atlantic Ocean in 2021 or thereabouts. Rob McKay and Neville Exon are working on a plan for a Regional Workshop (SW Pacific Ocean, Southern Ocean, SE Indian Ocean) to be held in Sydney in mid-2017. More on that shortly, but we are looking for suggestions of expeditions at this stage, using any IODP platforms.

An ANZIC application for scientific participation by University of Queensland microbiologist Maija Raudseppp has been submitted to JAMSTEC for the *Chikyu* IODP Expedition 370 "Temperature Limit of the Deep Biosphere off Muroto" (September 10 to November 10, 2016).

A call for applications from Australians for special funding for analytical work on legacy ocean drilling material led to a good number of applications, which are under final review. Chelsea Korpanty (University of Queensland sedimentologist) has been awarded separate post-cruise analytical funding for her work on Miocene coralline material from the Northwest Shelf Expedition 356.

Three excellent applications to host the highly successful one-week ANZIC Marine Geoscience Masterclass for the next two or three years have been received and reviewed. A New Zealand consortium was the successful bidder. The Masterclass, basically for outstanding second year students, will be advertised soon and held in late November or early December.

The Australian Earth Sciences Convention was held in Adelaide from 26 to 30 June, with the IODP Sessions on 27 & 28 June. Five northern hemisphere scientists and 11 ANZIC scientists gave an excellent series of talks. The program enabled us to report to the geoscience community on the various IODP expeditions of the recent past and plans for the future. There was also an ANZIC Booth at AESC, run by Catherine Beasley. There was a considerable amount of outreach to those not previously aware of IODP, and it generated real interest.

A spectacular line-up of IODP speakers visiting the ANZIC booth, AESC Adelaide 2016

A small lunch was held at University House in Canberra on 30 June, taking advantage of the presence of Jamie Austin, Chairman of the IODP Forum. This brought together key members of the Canberra IODP community, other interested scientists, and representatives of ARC, the Chief Scientist's Office, and the Departments of Industry, Innovation & Science, and Prime Minister & Cabinet. A talk by Jamie Austin was followed by a very animated discussion about the value of IODP to Australia.

Finally, some good publicity for Cornel de Ronde and the Brothers Arc flux expedition 376, to be drilled in 2018:

http://www.earthmagazine.org/article/drilling-gold-inside-submarine-volcano

Neville Exon and Catherine Beasley

Forthcoming expeditions in our region from mid 2017

- Expedition 371 (Tasman Frontier Subduction, Lord Howe Rise, Co-chief Rupert Sutherland, VUW): July 27 to September 26, 2017.
- Expedition 369 (Australia Cretaceous Climate and Tectonics, Naturaliste Plateau): September 26 to November 26, 2017.
- Expedition 372 (Creeping Gas Hydrate Slides & Hikurangi margin LWD, Co-chief Ingo Pecher, Auckland): November 26, 2017 to January 4, 2018.
- Expedition 373 (Alternative platform Antarctic Cenozoic Paleoclimate, George V Land and Adélie Land shelf sediments): December 24, 2017 to February 22, 2018
- Expedition 374 (West Antarctic Ice Sheet Climate, Ross Sea, Lead proponent Rob McKay, VUW): January 4 to March 8, 2018.
- Expedition 375 (Hikurangi subduction margin, Lead proponent Laura Wallace, GNS): March 8 to May 5, 2018.
- Expedition 376 (Brothers Arc Flux, north of New Zealand, Lead proponent Cornel de Ronde, GNS): May 5 to July 5, 2018
- Expedition 378 (South Pacific Paleogene): October 14 to December 14, 2018
- Expedition 379 (Amundsen Sea Ice Sheet History) January 18 to March 20, 2019

JOIDES Resolution will make port calls in Fremantle, Hobart, Townsville, Wellington and Auckland during 2017 and 2018

CALL FOR APPLICATIONS

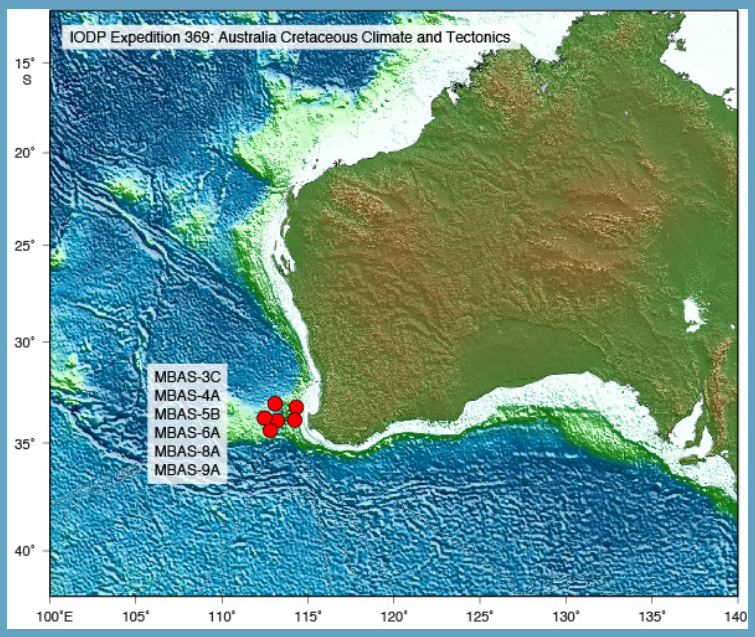
IODP EXPEDITION 369:
Australian Cretaceous Climate and Tectonics

APPLICATION DEADLINE August 15th 2016

Dates: 26 September to 26 November 2017
Ports: Hobart to Fremantle, Australia
Co-chief Scientists: Brian Huber & Richard Hobbs
http://iodp.tamu.edu/scienceops/expeditions/australia_climate_tectonics.html

The Australia Cretaceous Climate and Tectonics Expedition (based on IODP Proposal 760 Full) aims to understand the paleoceanography and tectonics of the Naturaliste Plateau (NP) and Mentelle Basin (MB) off SW Australia. Core and log data from a series of sites in water depths between 850 and 3900 m will investigate: (1) The rise and collapse of the Cretaceous hothouse; (2) the controls on oceanic anoxic events during major carbon cycle perturbations; (3) Cretaceous paleoceanography including deep and intermediate water circulation; (4) Cenozoic to recent paleoceanography including influence of the Tasman gateway opening and Indonesian gateway restriction; and (5) the tectonic, volcanic, and depositional history of the NP and MB prior to Gondwana breakup, as well as after separation from India and subsequently Antarctica.

Opportunities exist for researchers (including graduate students) in all specialties including but not limited to sedimentologists, petrologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.



ANZIC support of participants includes all costs of travel to and from the vessel and two fully funded post cruise meetings with the option of a third. Australian based researchers can also apply for up to $40,000 for analytical expenses on their return.

Australian researchers should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).

IODP
INTEGRATED OCEAN DRILLING PROGRAM

CALL FOR APPLICATIONS

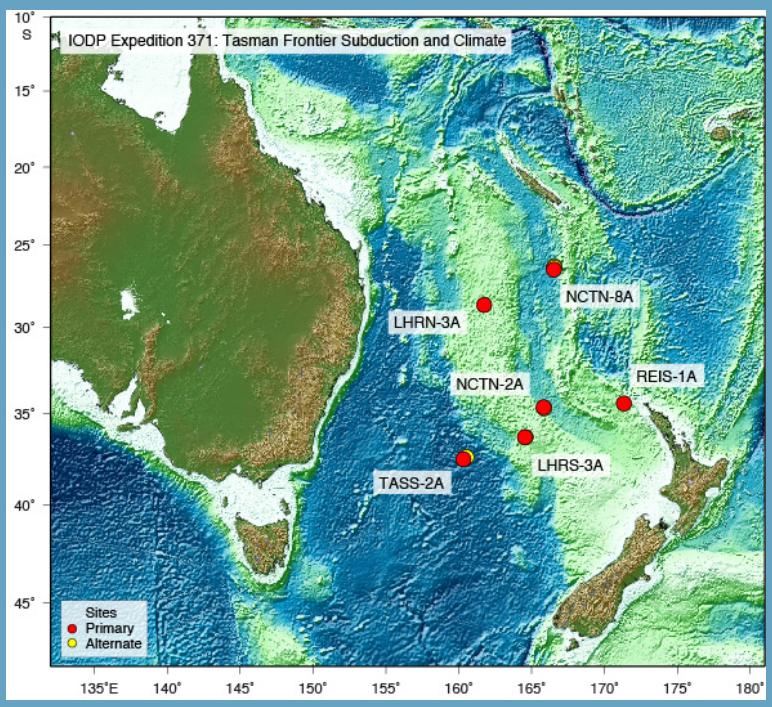
IODP EXPEDITION 371:

Tasman Frontier Subduction Initiation and Paleogene Climate

APPLICATION DEADLINE August 15th 2016

Dates: 27 July to 26 September 2017
Ports: Townsville to Hobart, Australia
Co-chief Scientists: Rupert Sutherland & Gerald Dickens
http://iodp.tamu.edu/scienceops/expeditions/tasman_frontier_subduction_climate.html

The Tasman Frontier expedition (based on IODP Proposals 832 Full2 and 832 Add) will investigate the Eocene Tonga-Kermadec (TK) subduction initiation (SI) and evaluate whether a period of high-amplitude long-wavelength compression led to initiation of TK subduction or determine if alternative geodynamic models were involved. Core and log data from boreholes in the Norfolk Ridge, New Caledonia Trough, Lord Howe Rise and Tasman abyssal plain will provide constraints on seismic stratigraphic interpretations and the timing and length scale of deformation and uplift associated with the largest known global SI event and change in plate motion. The Paleogene and Neogene sediments will also constrain paleoceanographic changes caused by SI as well as tropical and polar climatic teleconnections and the transition from greenhouse to icehouse climate states in a region with large meridional variations in surface water properties in a strategic "Southern Ocean Gateway" setting.



Opportunities exist for researchers (including graduate students) in all specialties including but not limited to sedimentologists, petrologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.

ANZIC support of participants includes all costs of travel to and from the vessel and two fully funded post cruise meetings with the option of a third. Australian based researchers can also apply for up to $40,000 for analytical expenses on their return.

Australian researchers should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).

IODP
INTEGRATED OCEAN DRILLING PROGRAM

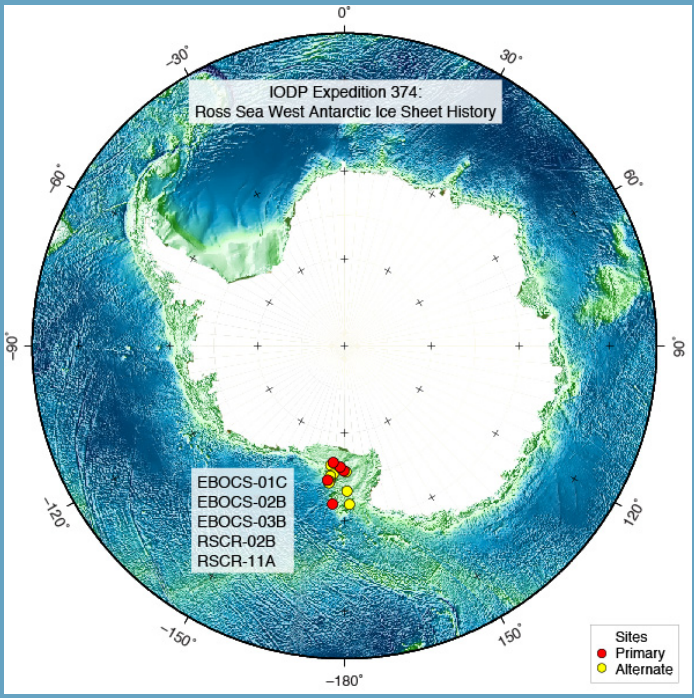
CALL FOR APPLICATIONS

IODP EXPEDITION 374:
Ross Sea West Antarctic Ice Sheet History

APPLICATION DEADLINE August 15th 2016

Dates: 4 January to 8 March 2018
Ports: Wellington to Wellington, New Zealand
Co-chief Scientists: TBD
Staff Scientist: Denise Kulhanek
http://iodp.tamu.edu/scienceops/expeditions/ross_sea_ice_sheet_history.html

The Ross Sea West Antarctic Ice Sheet (WAIS) History Expedition (based on IODP Proposals 751 Full2, 751 Add, &751 Add2) will investigate the relationship between climatic/oceanic change and WAIS evolution through the Neogene and Quaternary. Numerical models indicate that this region is highly sensitive to changes in ocean heat flux and sea level, making it a key target to understand past ice sheet variability under a range of climatic forcings. The proposed drilling is designed to optimize data-model integration for improved understanding of Antarctic Ice Sheet mass balance during climates warmer than present. Core and log data from a transect of six sites from the outer continental shelf to rise in the eastern Ross Sea will be used to: (1) evaluate WAIS contribution to far-field ice volume and sea level estimates; (2) reconstruct ice proximal atmospheric and oceanic temperatures to identify periods of past polar amplification and assess forcings/feedbacks; (3) assess the role of oceanic forcing (e.g., sea level, temperature) on WAIS instability; (4) document WAIS sensitivity to Earth's orbital configuration under varying climate boundary conditions; and (5) reconstruct eastern Ross Sea bathymetry to examine relationships among seafloor geometry, ice sheet instability, and global climate.



Opportunities exist for researchers (including graduate students) in all specialties including but not limited to sedimentologists, petrologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.

ANZIC support of participants includes all costs of travel to and from the vessel and two fully funded post cruise meetings with the option of a third. Australian based researchers can also apply for up to $40,000 for analytical expenses on their return.

Australian researchers should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).

IODP
INTEGRATED OCEAN DRILLING PROGRAM

CALL FOR APPLICATIONS

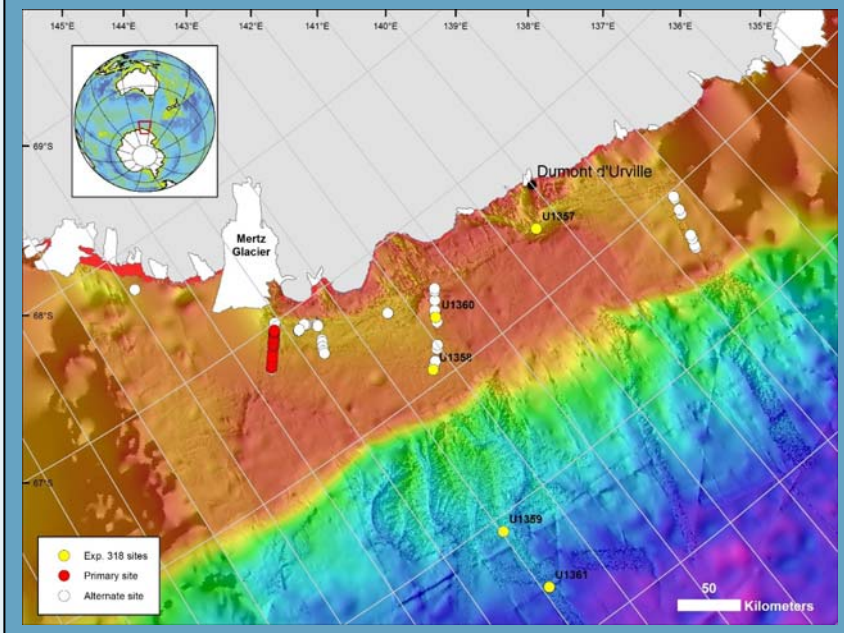
IODP EXPEDITION 373:

Antarctic Cenozoic Paleoclimate

APPLICATION DEADLINE August 31st 2016

Dates: Offshore phase 24 December ,2017-22 February, 2018
Onshore (Bremen Core Repository) TBD
Port: Hobart, Australia
Co-chief Scientists: Dr. Trevor Williams, Texas A&M University, and Dr. Carlota Escutia, Instituto Andaluz de Ciencias de la Tierra, Granada, Spain.
http://www.eso.ecord.org/expeditions/373/373.php

The George V and Adélie Land continental shelf of East Antarctica contains a record of Antarctica's climate and ice history from the warm and vegetated landscapes of Eocene greenhouse climates to latest Eocene glacial inception and the dynamic ice-sheet margins. Because of the gently dipping strata and glacial erosion, sediments of a wide age range reach close to the sea bed and are accessible through shallow drilling by robotic seafloor drills.
The history of this Antarctic margin includes warm-world high-CO_2 environments, which will help to understand Antarctic climate and the limits of ice-sheet stability under future global warming. Up to now there are extremely few well-recovered Eocene sediment sequences from Antarctica, and we aim to fill this gap in knowledge.



Opportunities exist for researchers (including graduate students) in all specialties including but not limited to sedimentologists, petrologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.

ANZIC support of participants includes all costs of travel to and from the vessel and two fully funded post cruise meetings with the option of a third. Australian based researchers can also apply for up to $40,000 for analytical expenses on their return.

Australian researchers should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).

IODP
INTEGRATED OCEAN DRILLING PROGRAM

CALL FOR APPLICATIONS

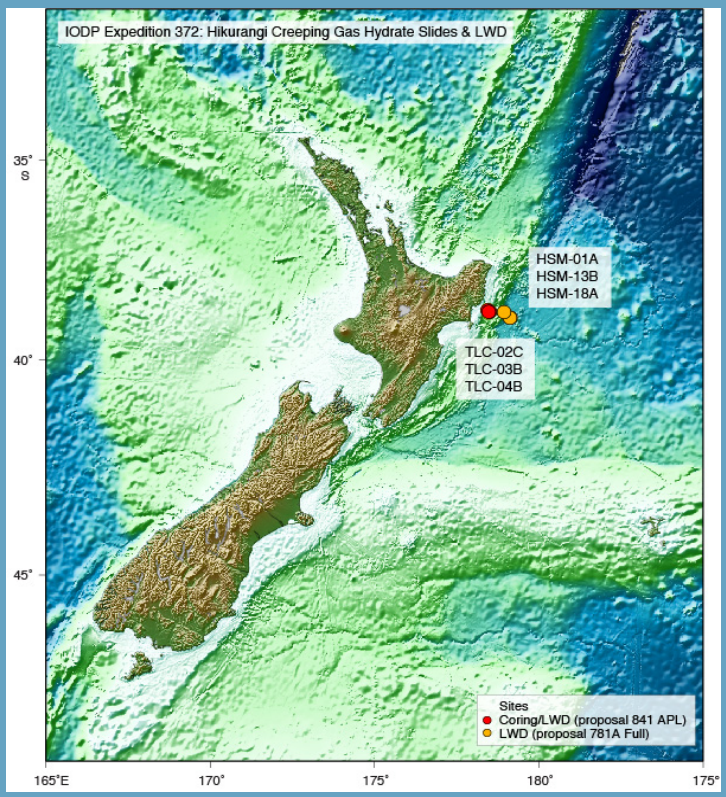
IODP EXPEDITION 372:
Creeping Gas Hydrate Slides and Hikurangi LWD

APPLICATION DEADLINE October 2nd, 2016

Dates: 26 November 2017 to 4 January 2018
Ports: Fremantle, Australia to Wellington, New Zealand
Co-chief Scientists: Ingo Pecher
http://iodp.tamu.edu/scienceops/expeditions/hikurangi_gas_hydrate_slides.html

Expedition 372 has two primary objectives. These are (1) to investigate the relationship between gas hydrate and underwater landslides (IODP proposals 841-APL2 & 841-Add); and (2) to characterize sediment and fault zone structures and physical properties associated with recurring shallow slow slip events along the Hikurangi subduction interface (IODP proposals 781A-Full & 781A-Add).

Submarine slides are thought to occur as catastrophic events, and as such pose a significant geohazard potentially causing tsunamis and damaging seafloor installations. Dissociation of gas hydrate has been proposed as a driver of seafloor destabilization, but there is evidence that gas hydrate itself may lead to seafloor weakening through creeping seafloor deformation. We will test the hypothesis that interstitial gas hydrate, like ice, may exhibit viscous behavior leading to slow deformation as observed in terrestrial rock glaciers. Alternatively, permeability reduction from gas hydrates may lead to overpressure, hydrofracturing, and seafloor weakening. To elucidate how gas hydrates promote creeping behavior, we will collect logging-while-drilling (LWD) data at three sites as well as APC cores, pressurized cores, and penetrometer data at one of the LWD sites.



Opportunities exist for researchers (including graduate students) in all specialties including but not limited to sedimentologists, petrologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.

ANZIC support of participants includes all costs of travel to and from the vessel and two fully funded post cruise meetings with the option of a third. Australian based researchers can also apply for up to $40,000 for analytical expenses on their return.

Australian researchers should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).

IODP
INTEGRATED OCEAN DRILLING PROGRAM

CALL FOR APPLICATIONS

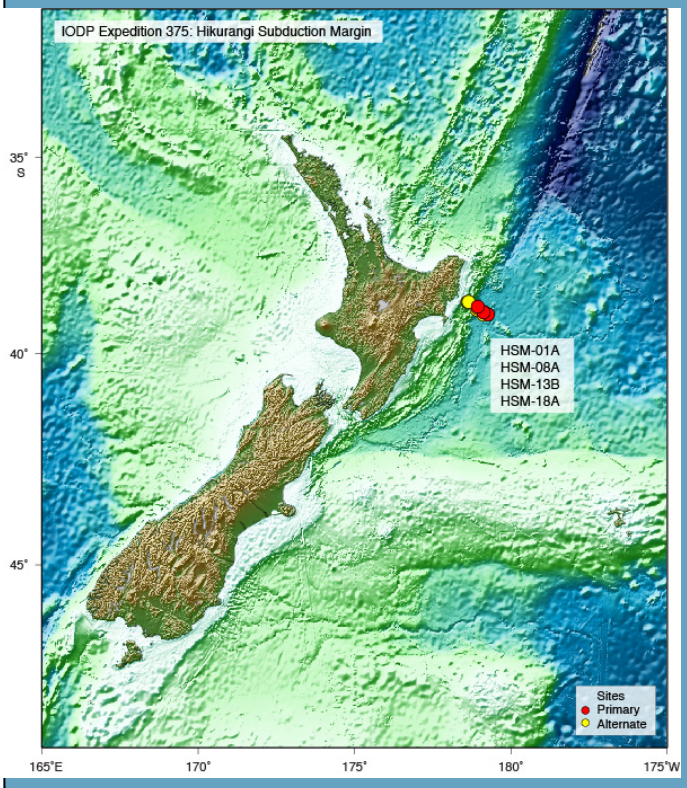
IODP EXPEDITION 375:

Hikurangi Subduction Margin

APPLICATION DEADLINE October 2nd 2016

Dates: 8 March to 5 May 2018
Ports: Wellington to Auckland, New Zealand
Co-chief Scientists: TBD
Staff Scientist: Katerina Petronotis
http://iodp.tamu.edu/scienceops/expeditions/hikurangi_subduction_margin.html

Expedition 375 will investigate slow slip events (SSE) along the northern Hikurangi subduction margin (IODP proposals 781A-Full and 781A-Add). Hikurangi SSE recur every ~2 years so we can monitor changes in deformation rate and associated chemical and physical properties surrounding the SSE source area throughout an entire slow slip cycle. Sampling material from the sedimentary section and oceanic basement of the subducting plate and from primary active thrusts in the outer accretionary wedge, in combination with LWD data, will reveal the rock properties, composition, and lithological and structural character of the active faults involved in the SSE, as well as material that is transported downdip to the SSE source region. Coring and downhole measurements from four sites will be integrated with the LWD data collected during Expedition 372 (see below). In addition, borehole observatories will be installed at the thrust fault site and a site in the upper plate to monitor hydrologic, chemical, and physical processes during the SSE cycle.



Opportunities exist for researchers (including graduate students) in all specialties including but not limited to sedimentologists, petrologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.

ANZIC support of participants includes all costs of travel to and from the vessel and two fully funded post cruise meetings with the option of a third. Australian based researchers can also apply for up to $40,000 for analytical expenses on their return.

Australian researchers should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).

IODP
INTEGRATED OCEAN DRILLING PROGRAM