

# CALL FOR APPLICATIONS

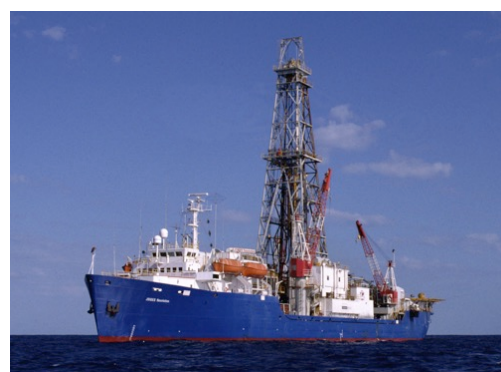
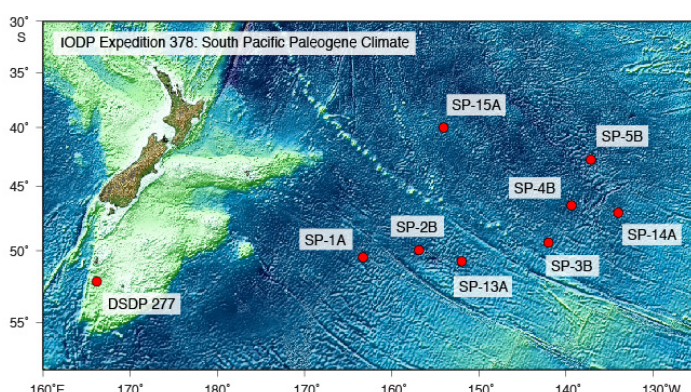
for scientists based in ECORD Member Countries to participate  
in *JOIDES* Resolution Expedition

## South Pacific Paleogene Climate Expedition (378)

*Heat Transport and Water Column Structure During an Extreme Warm Climate*

**14 October – 14 December 2018**

**Application deadline: 15 September 2017**



Expedition 378 will investigate the record of Cenozoic climate and oceanography through a drilling transect in the far southern Pacific Ocean. In particular, it will target sediments deposited during the very warm Late Paleocene and Early Eocene including the Paleocene-Eocene boundary, as well as the Eocene-Oligocene transition to investigate how the Eocene earth maintained high global temperatures and high heat transport to the polar regions despite receiving near modern levels of solar energy input. Investigation of the recovered sediments also will constrain the subpolar Pacific climate, oceanographic structure, and biogeochemical cycling of much of the Cenozoic. These sediments will be used to characterize water masses, deep and shallow ocean temperature, latitudinal temperature gradients, the strength of upwelling, and the strength of the zonal winds to study both the atmospheric and oceanic climatic subsystems.

The planned drilling strategy also will target a continuous sedimentary record at DSDP Site 277 by redrilling a previously spot-cored, classic Paleogene high latitude site. This will provide a crucial, continuous record of the shallow subantarctic South Pacific from the Paleocene to late Oligocene.

This expedition in the South Pacific Ocean is critical to contribute to global reconstructions of the early Cenozoic since appropriate high-latitude records are unobtainable in the Northern Hemisphere of the Pacific. The drilling strategy optimizes the recovery of Paleogene carbonates buried under red clay sequences at present latitudes of 50°S to permit a full range of paleoceanographic proxy-based investigations.

This expedition will also constrain (a) the Southern Ocean CCD history, (b) the record of Antarctic ice cover for the Paleogene through IRD characterization, (c) the development of the Antarctic Circumpolar Current, (d) the poleward extent of the low-productivity sub-tropical gyre, (e) the position of the polar front, (f) sea-surface temperatures and thermal gradients, (g) the breadth and intensity of the high-productivity zone associated with these oceanographic features, (h) the water masses formed in the sub-polar region, (i) the zonal winds and how they relate to oceanic surface circulation, and (j) document the changes in these systems as climate evolves from the warm early Eocene to the cold Antarctic-influence system of the Oligocene.



For more information about the expedition science objectives and the *JOIDES Resolution Expedition Schedule* see <http://iodp.tamu.edu/scienceops/> - this includes links to the individual expedition web pages with the original IODP proposal and expedition planning information.

**WHO SHOULD APPLY:** Opportunities exist for researchers (including graduate students) in all shipboard specialties – including but not limited to sedimentologists, micropaleontologists, paleomagnetists, inorganic/organic geochemists, petrologists, petrophysicists, microbiologists, and borehole geophysicists.

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**The Application Process** is open to scientists in all ECORD member countries. Please download the *Apply to Sail* general application forms from the ESSAC webpage:

- Form Expedition 378: <http://www.ecord.org/expeditions/apply-to-sail/>

Please, fill out all applicable fields and send it to the ESSAC office by email ([essac@geomar.de](mailto:essac@geomar.de)) with the following additional documents until **15 September 2017**:

1. **A letter of interest** outlining your specific expertise, previous involvement in DSDP/ ODP/ IODP expeditions, research interests, primary research goals of your proposed participation.
2. **CV and publication list.**
3. **Young researchers** must additionally provide a **letter of support** from their host institution, including information on post-cruise science support.

All applications should state how you intend to achieve the proposed scientific objectives, with information on the funding scheme and support from your institution or national funding agencies. More information can be found under: <http://www.ecord.org/expeditions/apply-to-sail/>

In addition to the ESSAC application, all applicants must inform their national office or national delegate and send a copy of the application documents. The national offices or national delegates can also provide information regarding travel support, post-cruise funding opportunities, etc.

See <http://www.ecord.org/about-ecord/about-us/> for a list of the national contact persons.

**For further information or questions, please contact the ESSAC Office:**

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