



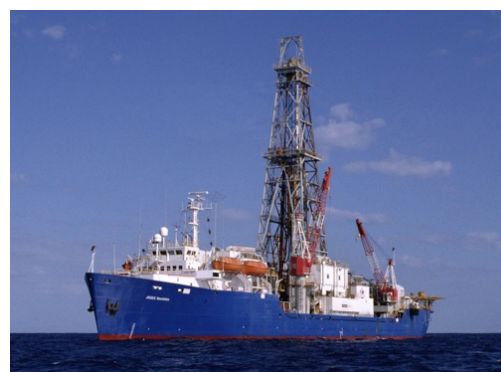
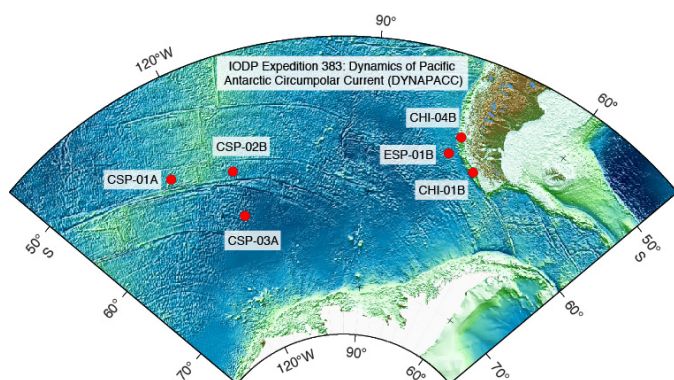
# CALL FOR APPLICATIONS

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

## IODP EXPEDITION 383: Plio-Pleistocene Dynamics of the Pacific Antarctic Circumpolar Current

~20 May to ~20 July 2019

**Application deadline: 1 March 2018**



IODP Expedition 383 will investigate the Pliocene-Pleistocene atmosphere-ocean-cryosphere dynamics of the Pacific Antarctic Circumpolar Current (ACC), and their role in regional and global climate and atmospheric CO<sub>2</sub> based on sediment records with the highest possible stratigraphic resolution.

The expedition will test two major scientific hypotheses: (1) ACC dynamics and Drake Passage throughflow conditioned the global Meridional Overturning Circulation and high-low climate linkages on orbital and submillennial time-scales since the Pliocene. (2) Variations in the Pacific ACC determine the physical and biological characteristics of the oceanic carbon pump and atmospheric CO<sub>2</sub>.

The ACC is the world's largest current system connecting all three major basins of the global ocean (the Pacific, Atlantic and Indian Oceans) integrating and responding to climate signals throughout the globe. By inducing strong upwelling and formation of new water masses, the ACC also fundamentally affects the global meridional overturning circulation (MOC) and the stability of Antarctica's ice sheets, and has been recognized as a key mechanism in regulating variations in atmospheric CO<sub>2</sub> and global climate.

IODP Expedition 383 is based on IODP Proposals 912-Full & 912- Add and will target six primary sites on a transect in the central South Pacific between the modern Polar Front and the Subantarctic Zone, and at the Chilean Margin close to the Drake Passage. Central Pacific sites will document the Plio-Quaternary ACC paleoenvironmental history at water depths ranging from 5100 to 3600 m. At the Chilean Margin the sites provide a depth transect (~1000 - 3900 m) across the major Southern Ocean water masses that will document Plio-Pleistocene changes in the vertical structure of the ACC – a key issue for understanding the role of the Southern Ocean in the global carbon cycle.

The planned drilling strategy is designed for recovering sediment sequences suitable for ultra-high-resolution studies. The proposed sites are located at latitudes and water depths where sediments will allow the application of a wide range of siliciclastic, carbonate, and opal-based proxies for reconstructing surface to deep ocean variations and their relation to atmosphere and cryosphere changes with unprecedented stratigraphic detail.



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.

**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 383: <http://www.ecord.org/expeditions/apply-to-sail/>

Please, fill out all applicable fields and send it to the ESSAC Office by email ([essac@plymouth.ac.uk](mailto:essac@plymouth.ac.uk)) with the following additional documents until **1 March 2018**:

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. **Early career 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 them 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:**

**ECORD Science Support & Advisory Committee**

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