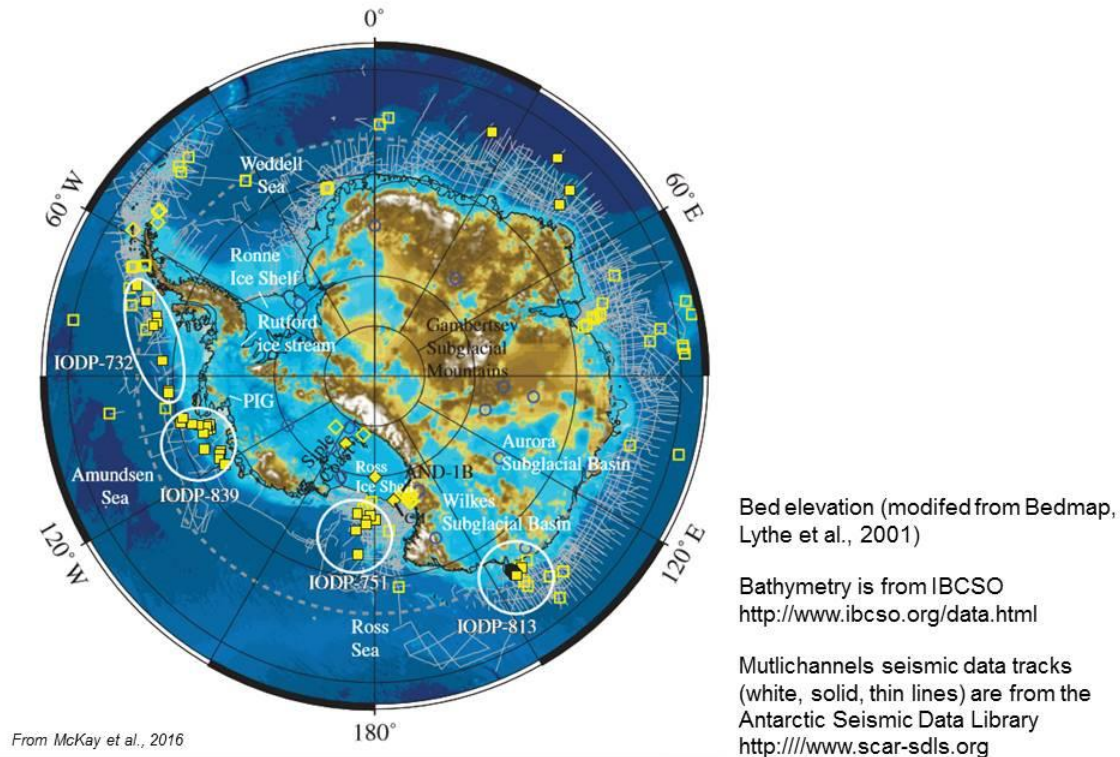


Dear all,

We want to make you aware of upcoming opportunities for Antarctic research with the International Ocean Discovery Program (IODP). Two expeditions are scheduled for the 2017–2019 Antarctic field season. One is a mission-specific platform (MSP) expedition (373) and the other will be aboard the *JOIDES Resolution* (374).



Expedition 373: Antarctic Cenozoic Paleoclimate

Offshore phase: December 2019–February 2020

Onshore phase (Bremen, Germany): mid-2020 for a duration of ~4 weeks

Co-chief scientists: Trevor Williams (williams@iodp.tamu.edu) and Carlota Escutia (cescutia@ugr.es)

Expedition website: <http://www.eso.ecord.org/expeditions/373/373.php>

Application deadline: **31 August 2016**

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 of the Oligocene. Because of the gently dipping strata and glacial erosion, sediments of a wide age range reach close to the seabed and are accessible through shallow drilling by robotic seafloor drills. This history of this Antarctic margin includes warm-world high-CO₂ 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 Antarctic, and we aim to fill this gap in knowledge. The expedition, which is based on IODP Proposal 813-Full and 813-Add, aims to drill, core, and log between eight and eighteen 50-m deep boreholes on the George V Land and Adélie Land continental shelf in East Antarctica, using the British Geological Survey Rockdrill 2 (RD2), deployed from the RV/IB *Nathaniel B. Palmer*, operated by the Lockheed-Martin Antarctic Support Contract ASC) for the U.S. National Science Foundation's U.S. Antarctic Program (USAP).

Expedition 374: Ross Sea West Antarctic Ice Sheet History

Expedition dates: 4 January–8 March 2018

Co-chief scientists:: Rob McKay (robert.mckay@vuw.ac.nz) and Laura De Santis (lidesantis@inogs.it)

Staff Scientist/Expedition Project Manager: Denise Kulhanek (kulhanek@iodp.tamu.edu)

Expedition website:

http://iodp.tamu.edu/scienceops/expeditions/ross_sea_ice_sheet_history.html

Application deadline: **15 August 2016**

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.

Additionally, another *JOIDES Resolution* expedition is scheduled for early 2019. We anticipate the call for applications for this expedition will be issues in mid-2017.

Expedition 379: Amundsen Sea West Antarctic Ice Sheet History

Expedition dates: 18 January–20 March 2019

Expedition website:

http://iodp.tamu.edu/scienceops/expeditions/amundsen_sea_ice_sheet_history.html

Lead Proponents: Karsten Gohl (karsten.gohl@awi.de), Julia Wellner (jwellner@uh.edu) and Claus-Dieter Hillenbrand (hilc@bas.ac.uk)
Staff Scientist/Expedition Project Manager: Adam Klaus (aklaus@iodp.tamu.edu)

Expedition 379 will drill in the heart of the West Antarctic Ice Sheet (WAIS) to recover a record of the marine-based ice sheet over the last several million years. A complete collapse of the WAIS would result in a global sea-level rise of 3.3-4.3 m, yet, knowledge about the past dynamics of the WAIS is poor, in particular during geological times with climatic conditions similar to those expected for the future. The continental shelf and rise of the Amundsen Sea are prime targets for drilling, because the records are expected to yield archives of pure WAIS dynamics unaffected by other ice sheets, and the WAIS sector draining into the Amundsen Sea Embayment (ASE) is currently experiencing the largest ice loss in Antarctica. A series of drill sites are planned for the ASE shelf where seismic data reveal dipping sedimentary sequences that span the time from the pre-glacial depositional phase to the youngest glacial periods. Our strategy is to drill transects from the oldest sequences close to the bedrock-basin boundary at the middle-inner shelf transition to the youngest sequences on the outer shelf in both the western and the eastern ASE. These transects will provide a detailed history of the glacial cycles in the Amundsen Sea region and allow comparison to the WAIS history known from the Ross Sea sector. In addition, deep-water sites on the continental rise of the Amundsen Sea are selected for recovering continuous records of glacially transported sediments and detailed archives of climatic and oceanographic changes throughout glacial-interglacial cycles.

Opportunities on expedition 379 exist for researchers (including graduate students) in many specialties, including (but not limited to) sedimentologists, structural geologists, paleontologists, biostratigraphers, paleomagnetists, petrophysicists, borehole geophysicists, and inorganic/organic geochemists. For those expeditions with applications deadlines passed (373 and 374) there will only be new opportunities if special calls are issued

Applications for participation must be submitted to your IODP Program Member Office:

United States: <http://usoceandiscovery.org/>
Europe and Canada: <http://www.essac.ecord.org/index.php>
Japan: <http://www.j-desc.org/>
China: <http://www.iodp-china.org/>
Brazil: <http://www.iodp-capes.uff.br/>
Australia and New Zealand: <http://iodp.org.au/>
Korea: <http://www.kiodp.re.kr/>
India: <http://www.ncaor.gov.in/iodps>

Questions can be directed to the co-chiefs, proponents, or staff scientist for each expedition.

Cheers,
Denise

on behalf of the expedition proponents/co-chiefs