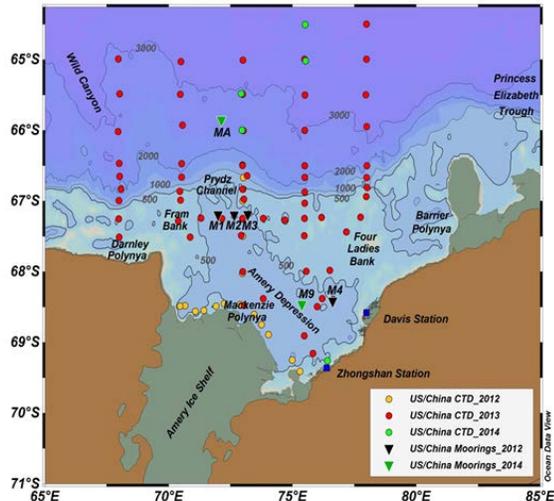


# 2015-12-17: NSF and Chinese-funded researchers study Antarctic bottom-water formation



*Schematic AABW flow pattern. AABW originating from the Weddell Sea (blue arrows), from Ross Sea/Aledie Land coastal region (red arrows) and from Cape Darnley (yellow arrows) are color-coded. Proposed subsurface moorings (MS1, MS2, M1, M3 and M10) are marked in red stars, while black and green dashed lines indicate proposed CTD/LADCP sections. Photo and caption from [Xiaojun Yuan's website](#).*

The project was evaluated by both NSF and the Chinese Arctic and Antarctic Administration (CAA) of SOA. CAA committed to incorporate it as a sub-project to a larger three-year Comprehensive Project (2015-2017) "Polar Environment Comprehensive Inspection and Evaluation", which will receive 3 million Yuan RMB every year for research, access to resources, ship time and personnel costs. In the meantime, FIO of SOA will provide matching funds to assure the completion of the project.

According to the NSF data policy and international agreements to share data under the Antarctic Treaty, observations and other data produced by this collaboration will be made available for others following completion of the work.

The Xuelong departed for Antarctica in November 2015, and will return to China in the spring of 2016.

NSF-supported (#[1443444](#)) researcher Xiaojun YUAN at Lamont-Doherty Earth Observatory, Columbia University and her collaborator, GAO Libao of the Center for Ocean and Climate Research at the First Institute of Oceanography (FIO), State Ocean Administration (SOA) in China, will be conducting collaborative research on "Contribution of Prydz Bay Shelf Water to Antarctic Bottom Water Formation".

Antarctic Bottom Water (AABW) formation is a key component in setting the global thermohaline (overturning) ocean circulation. The Prydz Bay- Amery Ice Shelf region has been suggested as a key AABW production site. It is important to obtain better estimates of AABW production rate in its source areas, to understand whether the global overturning circulation is slowing down.

Access to this remote region of the Antarctic continent is challenging, thus the NSF-managed United States Antarctic Program (USAP) is collaborating with Chinese colleagues who will conduct fieldwork aboard the Chinese research vessel, Xue Long (Snow Dragon). The joint research also involves collaboration with HE Ruoying of North Carolina State University and Laura Herraiz-Borreguero of the University of Copenhagen in Denmark.



*China's Xue Long (Snow Dragon) Icebreaker ( from the CAA official website <http://xuelong.chinare.cn/xuelong/>)*