

Mooring measurement of sea ice and ocean in the Cape Darnley Polynya, Antarctica

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Recent remote-sensing, hydrographic and mooring studies have shown that the Cape Darnley Polynya located northwest of the Amery Ice Shelf is an active formation region of Antarctic Bottom Water (Ohshima, Fukamachi and Williams et al., 2013). To reveal production of sea ice and high salinity shelf water, total of five moorings were deployed between 2010 to 2015 by the Japanese Antarctic Research Expedition over the continental shelf within the Cape Darnley Polynya. The experiment yielded sea-ice thickness data for the first time in the Antarctic coastal polynyas as well as velocity and water property data. The water property data revealed high salinity shelf water associated with sea-ice production in the polynya.

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