

Session: OS-3 Sea ice extent, properties, volume & ice shelves: modern and paleo records

Polar program: None

Title: PIPERS: Overview of the 2017 winter cruise in the Ross Sea pack ice

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Text: The PIPERS cruise on N. B. Palmer into the early winter Ross Sea took place between April 11 and June 14 2017. The keystone project was to investigate the Atmosphere-Ice-Ocean interaction in the Terra Nova Bay and Ross Ice Shelf coastal polynyas. The cruise however involved multidisciplinary and complementary activities that were conducted in several different phases of the cruise. These activities were: ARGO and SOCCOM Float deployments north of the sea ice; marginal ice zone(MIZ) wave buoy deployments and sampling activities; along track sampling for physical oceanography , trace metals, and trace and noble gasses; ice thickness, roughness and physical property sampling at ice stations; gas fluxes(CO₂, DMS, Methane) and sea ice biogeochemistry sampling at ice stations and in polynyas; boundary layer profiling using drone aircraft and met towers at ice stations; and atmosphere, ice and ocean investigations in the coastal polynyas. An overview of some of the newer technologies used on the cruise and how measurements were coordinated will be described here for these multiple phases of the cruise. Other presentations will be identified for specific details and results.

Preferred Presentation Type: Oral Presentation