

Run Away Arctic

[YouTube](#) & [mp4](#) & [RunawayArcticAbstract.pdf](#) & [website](#)

Teaser

Was the record warm winter 2016 another Arctic Surprise? Presentation by Jim Overland (NOAA/PMEL) and Muyin Wang. (JISAO/UW). Unfortunately, recording starts about 30 seconds after Jim started speaking. <http://www.pmel.noaa.gov/arctic>

Abstract

There were extensive record Arctic temperature extremes in January and February 2016 that continued into April. For January, the Arctic-wide averaged temperature anomaly was 2.0 °C above the previous record of 3.0 °C based on four Reanalysis products. Two regions of low geopotential height were seen as a major split in the tropospheric polar vortex over the Arctic. Warm air advection north of Alaska and central Eurasia reinforced the ridge that split the flow near the North Pole and contributed to the persistence. 2016 shows that there can be major Arctic contributions from midlatitudes. Whether Arctic amplification feedbacks are accelerated by the combination of recent thinner, more mobile Arctic sea ice and occasional extreme atmospheric circulation events from midlatitudes is an interesting conjecture.

Video Description:

The [Arctic Heat Open Science Project](#) deployed a series of experimental floats and other instruments from a specially-outfitted NOAA Twin Otter aircraft in [June 2016](#). Read more about each instrument shown in the video below.

[ALAMO](#) = Air Launched Autonomous Micro Observer

Launched from an aircraft, ALAMO floats are programmed to complete four or more profiles daily, generally recording depth, temperature, salinity, and position. Four floats were deployed in the June 2016 deployment period; two in the Chukchi Sea and two in the Beaufort Sea.

Along with the experimental ALAMO floats a number of traditional atmospheric and oceanographic probes were launched from the NOAA Twin Otter for the first time:

AXBT = Aircraft Expendable Bathythermograph

An oceanographic instrument deployed from an aircraft, an AXBT takes a single temperature/depth profile as it drops from the ocean's surface to the seafloor. 7 AXBTs were deployed in this series in the Chukchi and Beaufort Seas.

AXCTD = Aircraft Expendable Conductivity-Temperature-Depth Profiler

A profiling instrument deployed from an aircraft, an AXCTD takes a single profile from surface to seafloor,

recording temperature and salinity versus depth. 5 AXCTDs were deployed in this series in the Chukchi and Beaufort Seas.

Also deployed, but not pictured: dropsondes

Launched via aircraft at higher altitudes, dropsondes collect an atmospheric profile as they fall to the sea surface, recording position, altitude, temperature, relative humidity, barometric pressure, and wind speed/direction. Dropsondes collected similar data as a weather balloon.