

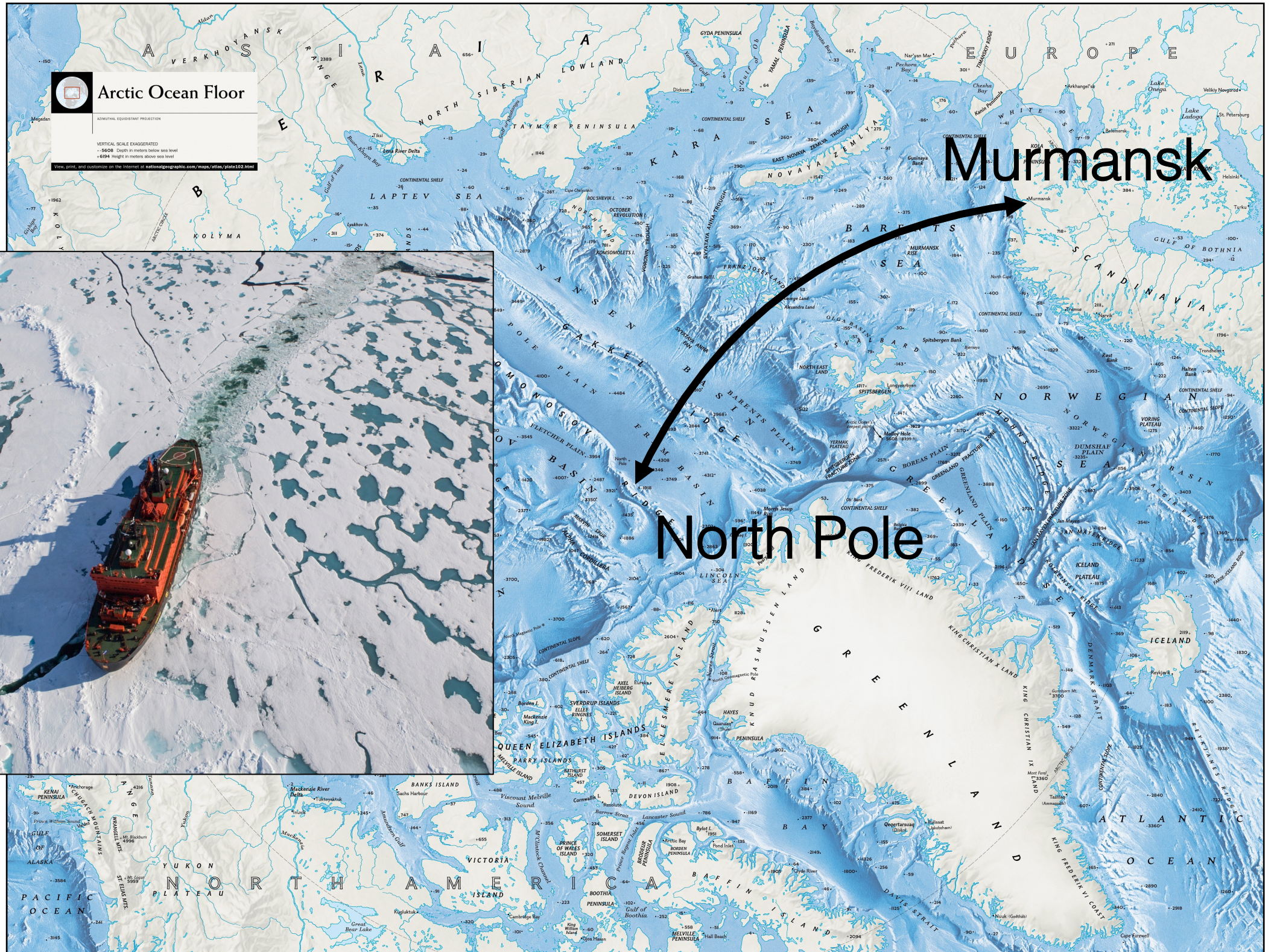
Citizen Science at the North Pole



Alex Cowan & Lauren Farmer



Project Background



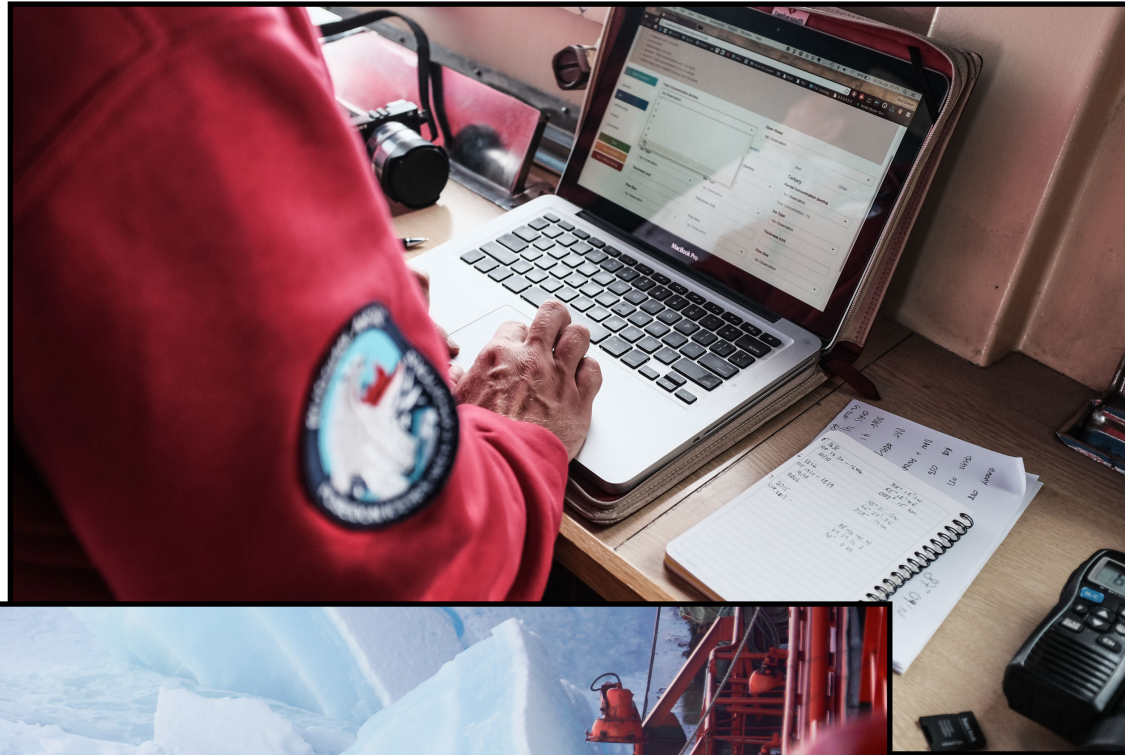


Project Background





Icebreaking Observations





Immediate Results

Arctic Research Consortium of the United States (ARCUS)' Sea Ice Prediction Network's August Report



Ship Observations of Conditions from IceWatch

Ice Watch has received observational reports of ice conditions from several cruises, some of which are summarized below and in Table 3. Data and maps of the cruise data can be accessed at: <http://icewatch.gina.alaska.edu>. We are expecting reports from the Polarstern and more Lance/N-ICE supply cruises at a later date. August through October we will be receiving further observations from the R/V Healy GEOTRACES campaign and the CCGS Louis S. St. Laurent JOIS cruise.

K/V Svalbard

Observations were recorded during supply cruises to support the R/V Lance during the N-ICE campaign, a drifting station set north of Svalbard. Only observations from the first cruise have been provided to date, however later cruise data will be provided once observers have processed it and completed quality control.

R/V Sikuliaq

Alice Orlich provided observations from the Sikuliaq ice trials cruise in the Bering Sea. Please note, only preliminary data has been provided and the full data set is not available online.

50 Let Pobedy

This is the first year we have received observations recorded by tourists. Tour leaders have been trained in observations and are in contact with sea ice experts, however it should be noted this is their first experience recording these observations. Two cruises, out of four planned for this summer, have reported conditions along a repeating cruise track.

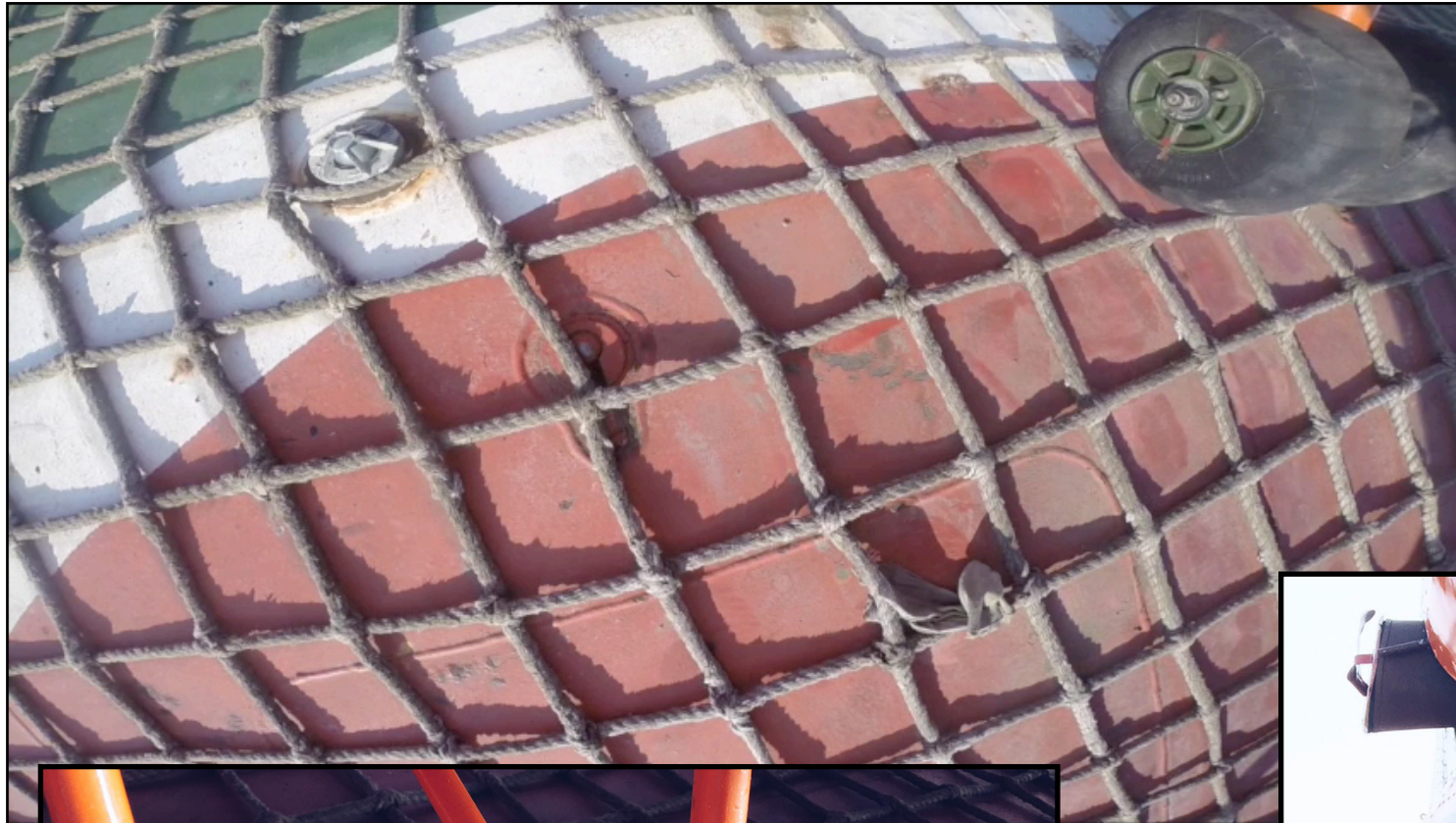
- Roughly equal areas of first year and multi-year ice were encountered, within the central Arctic pack between Franz Josef Land and the North Pole.
- Preliminary reports from leg 3 are rotten ice, extensive towards ice edge at Franz Josef Land, and melt ponds freezing over.

Table 3. Summary of ice thickness, z, observed from ship's bridge during each cruise. The thickness of one or two types of ice, first-year (FY) and multi-year (MY) are given.

Ship	Dates	Region	Mean z (cm)	Median z (cm)	Type	Mean z (cm)	Median z (cm)	Type
R/V Sikuliaq	2015/3/26-2015/4/2	Bering Sea	30	25	FY			
K/V Svalbard	2015/01/12-2015/01/17	N. Svalbard	90	90	FY			
50 Let Pobedy	2015/07/13-2015/07/26	To North Pole	163	160	MY	86	80	FY
50 Let Pobedy	2015/07/23-2015/07/26	To North Pole	172	160	MY	91	100	FY



Helicopter Operations





Helicopter Operations

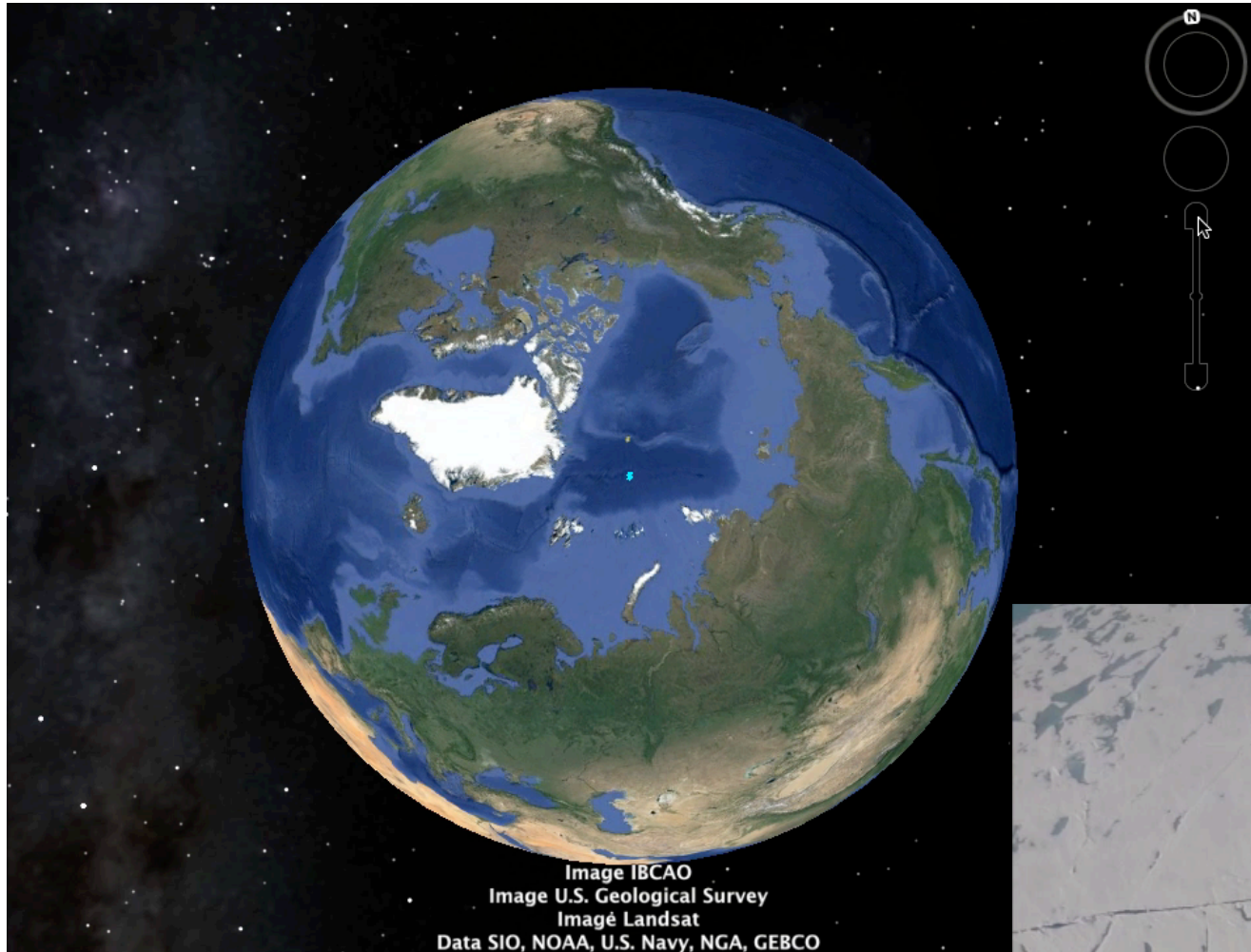
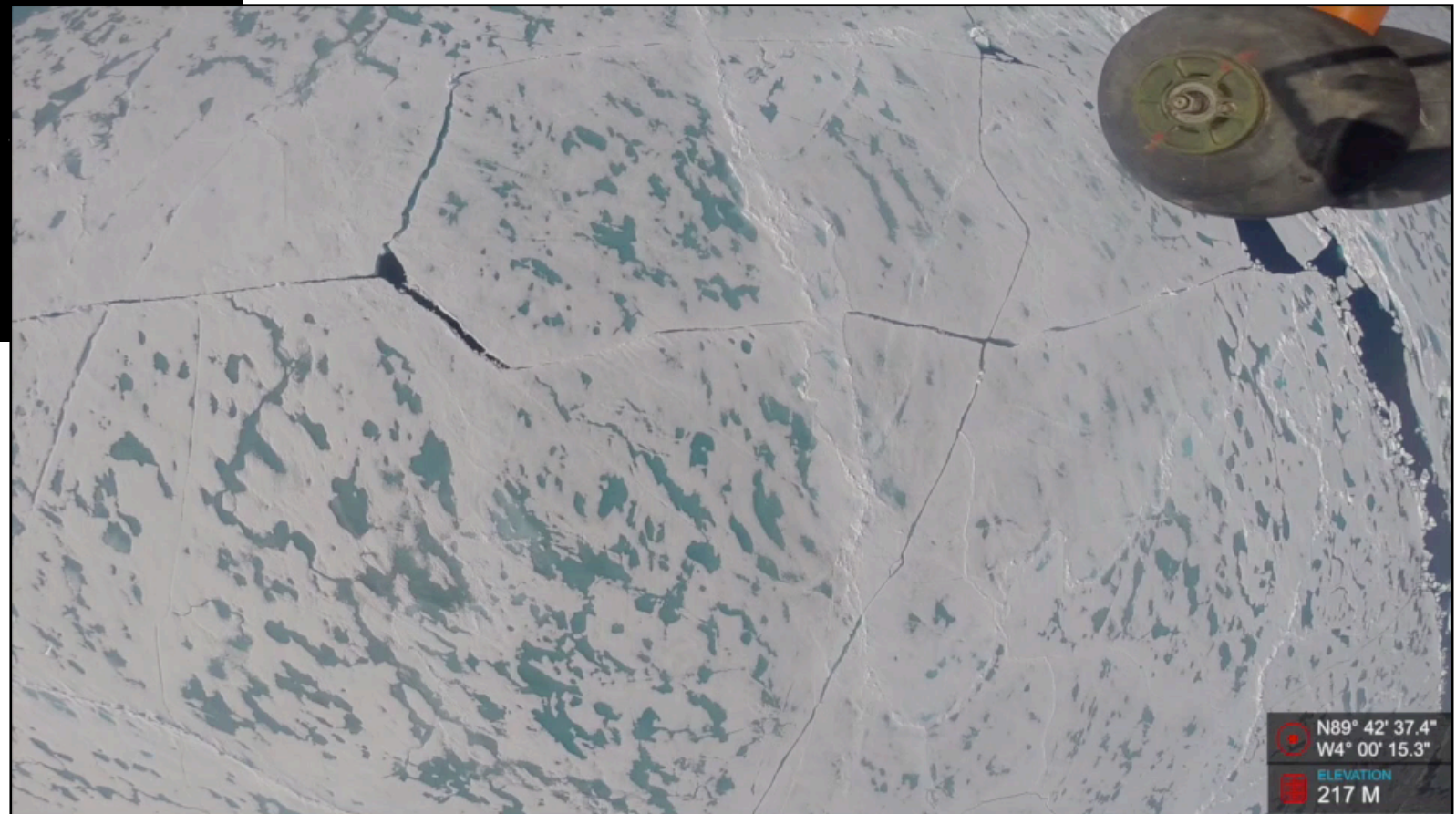


Image IBCAO
Image U.S. Geological Survey
Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO



N89° 42' 37.4"
W4° 00' 15.3"
ELEVATION
217 M

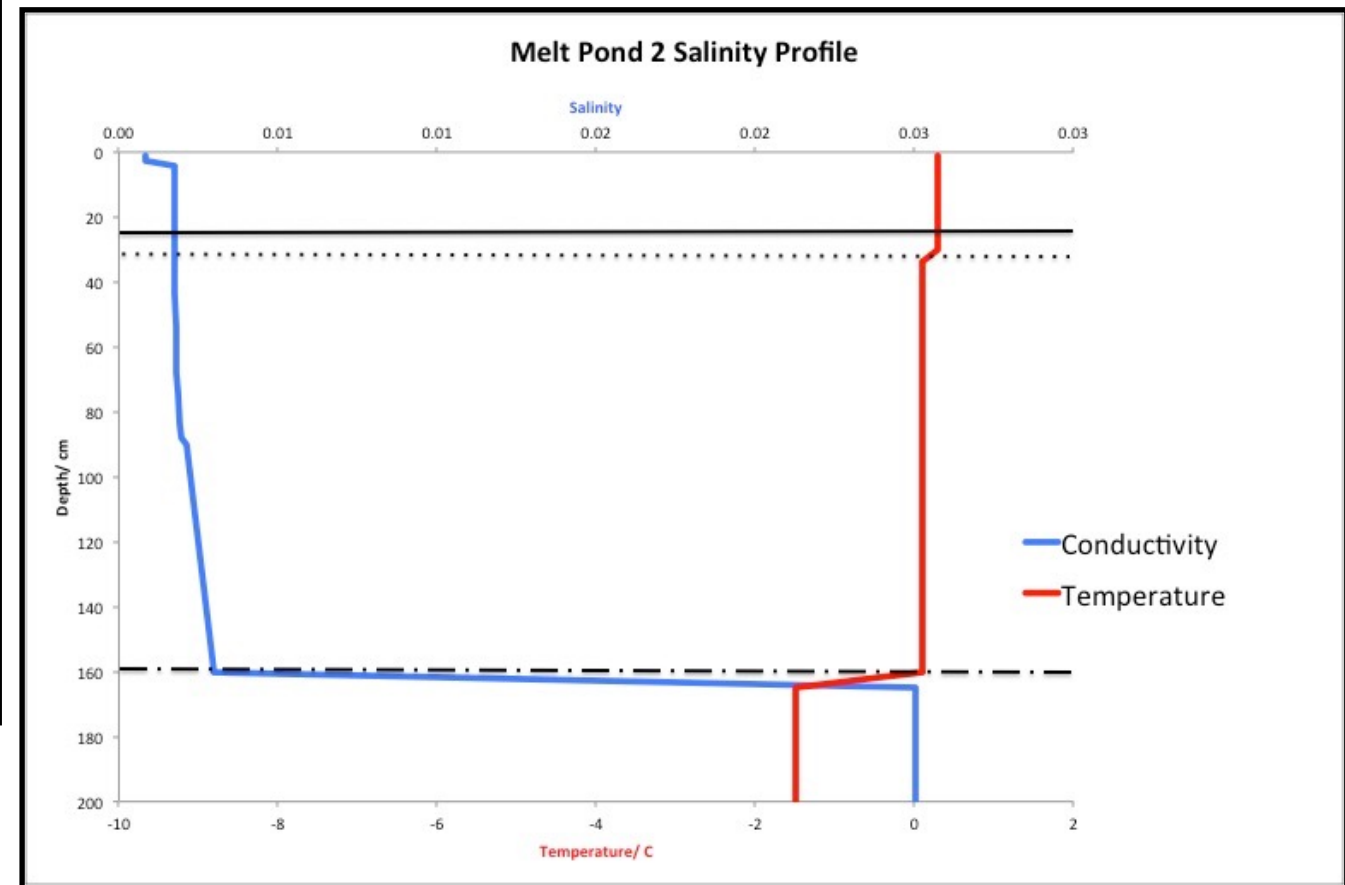
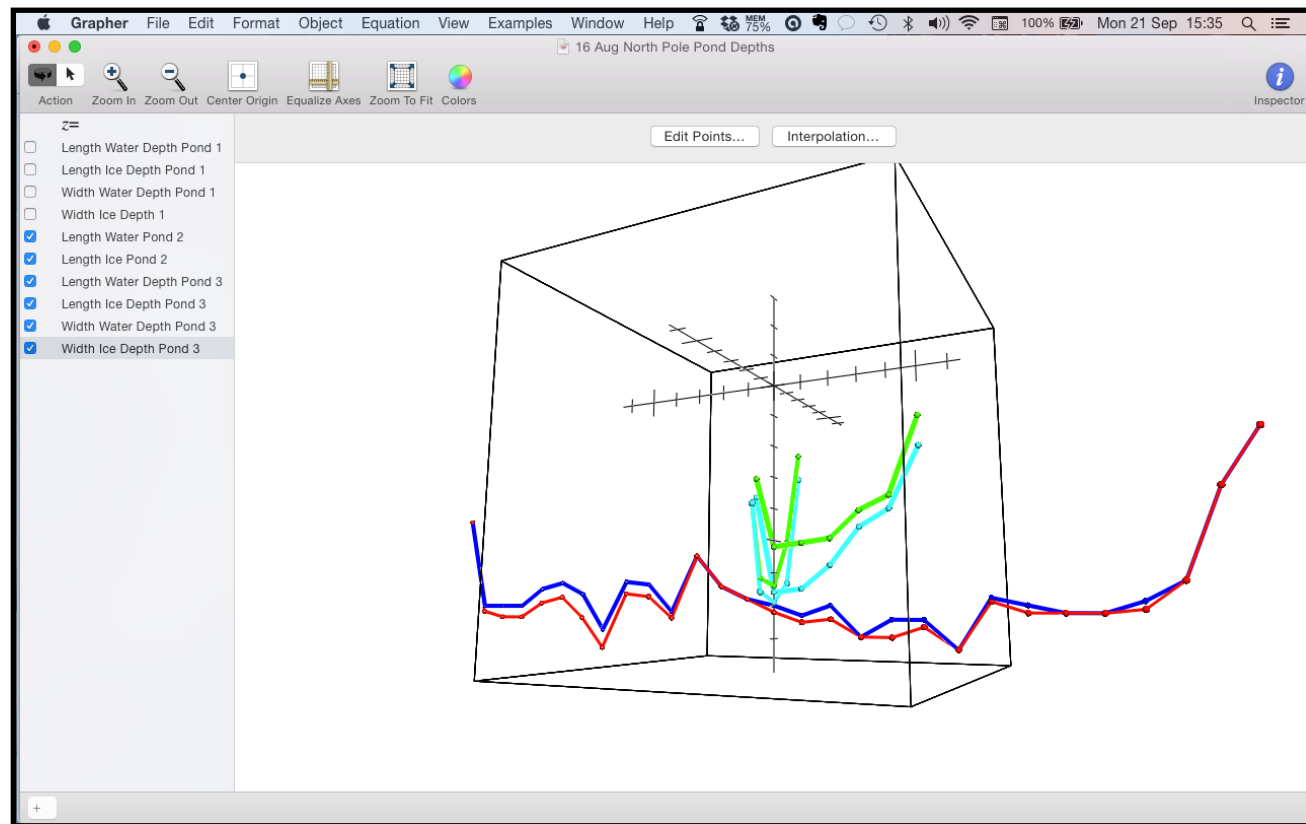


North Pole Measurements





Team Debrief



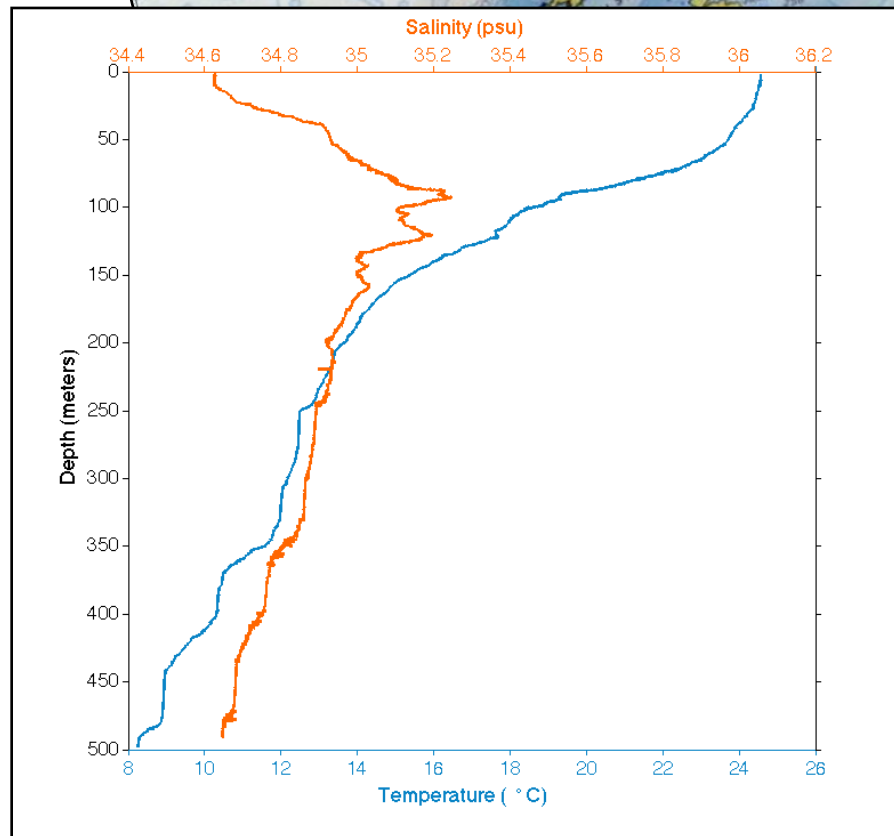
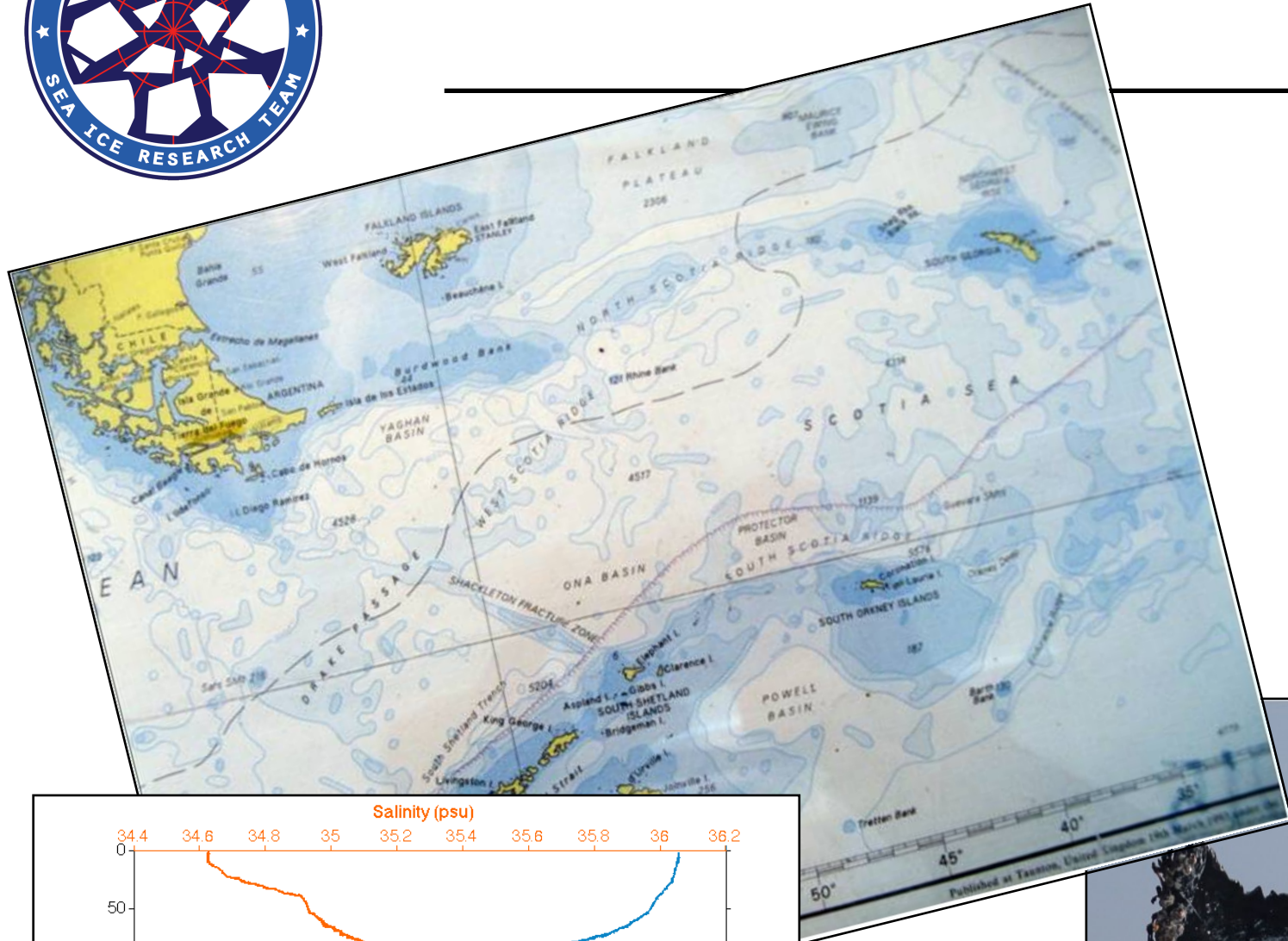


Guest Reaction





What's Next?



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Partnering with Tour Operators



OCEANWIDE
EXPEDITIONS



oneocean
EXPEDITIONS



ADVENTURE
CANADA



Quark
Expeditions





Partnering with Tour Operators

Association of
Arctic Expedition Cruise
Operators **AECO**  **aeco.no**



iaato.org

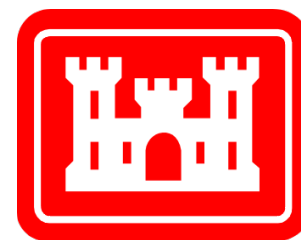
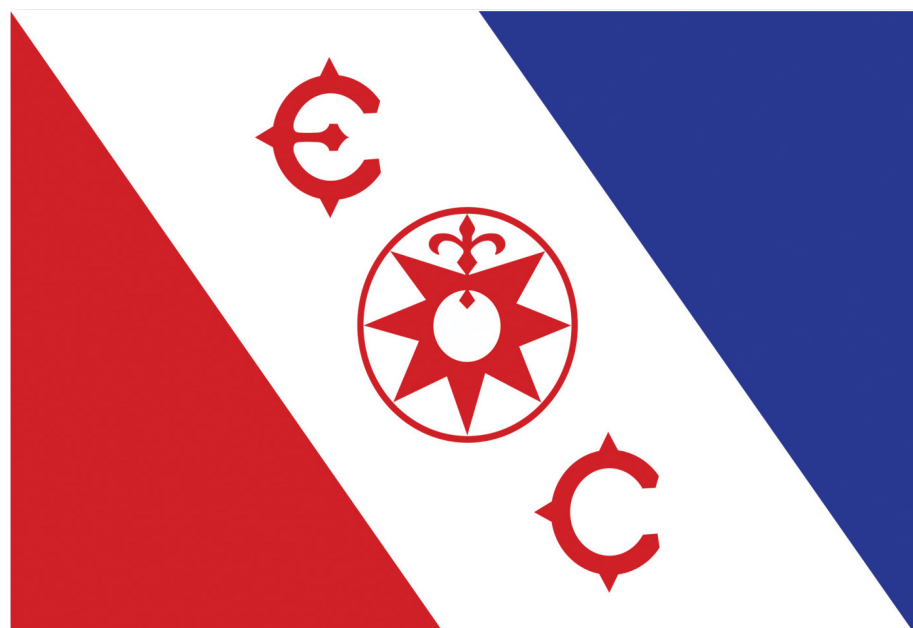
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Thank You



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