



NOAA

Arctic Research Program Office of Ocean and Atmospheric Research

Dr. Emily Osborne, Program Manager

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www.arctic.noaa.gov

Arctic Research Program's Mission

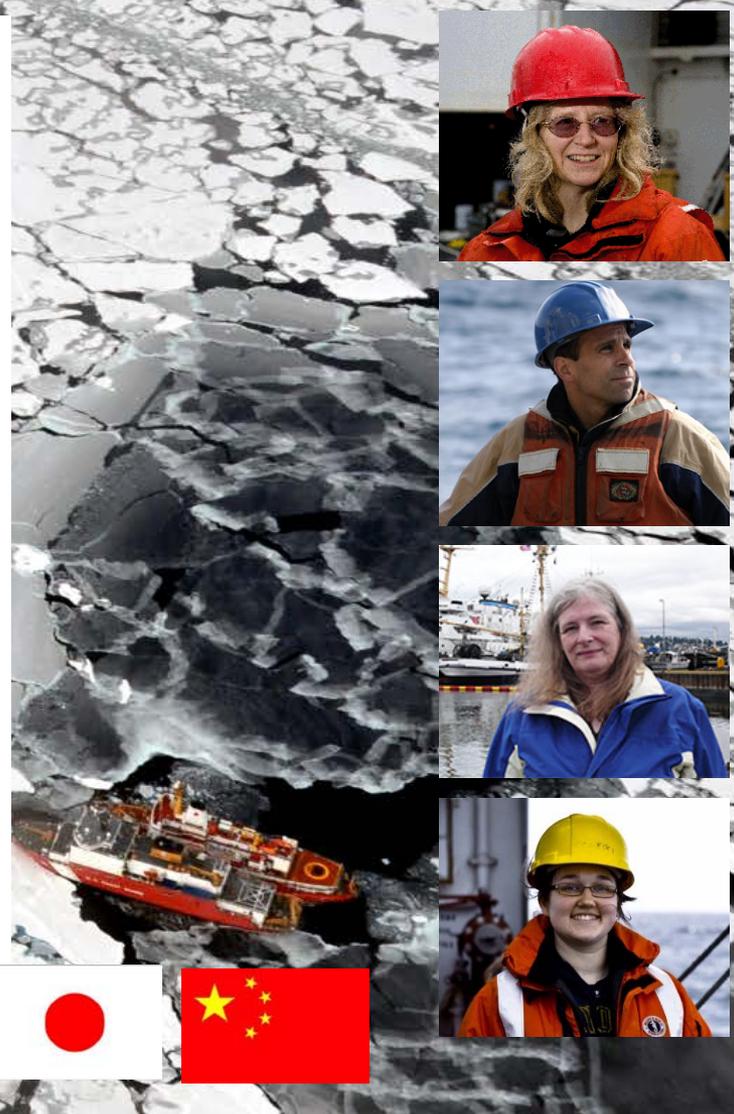
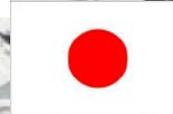
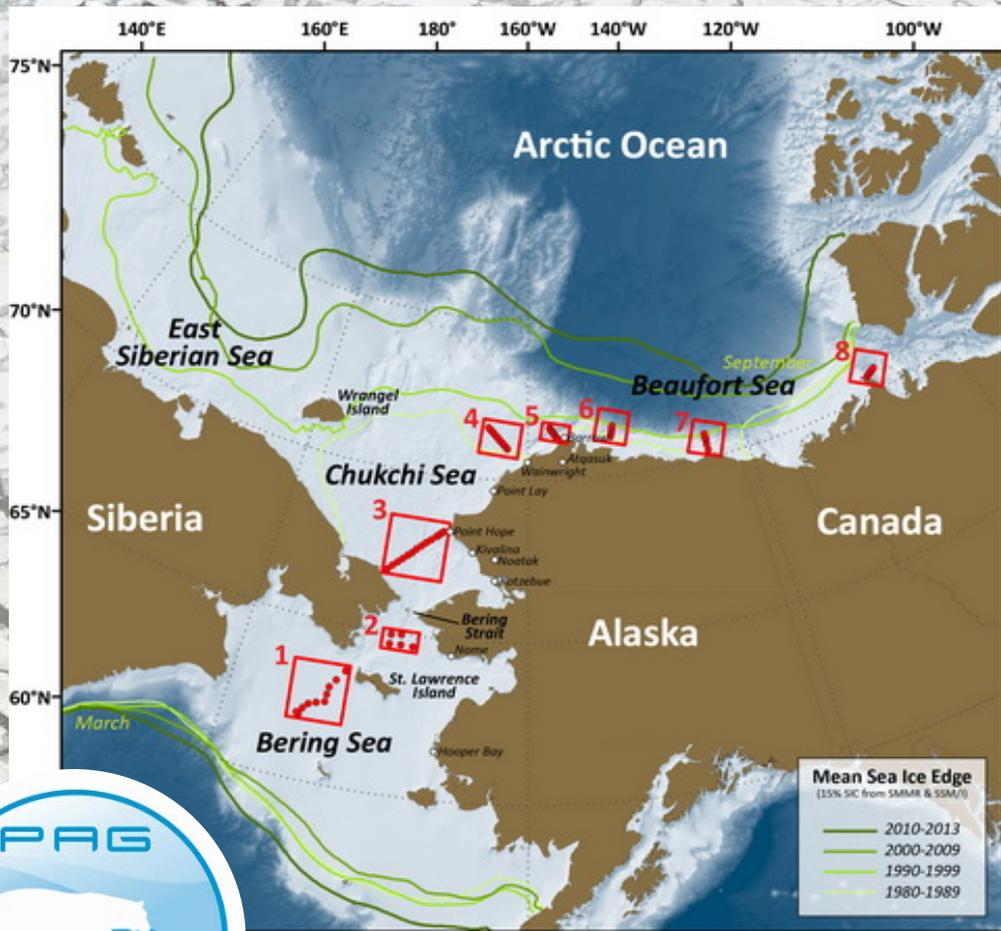
To *improve fundamental understanding* of oceanic and atmospheric processes and to *support* NOAA mission capabilities across the Arctic through targeted sustained observing, synthesis and science communication efforts.





Distributed Biological Observatory

<http://www.arctic.noaa.gov/dbo>



International Arctic Systems for Observing the Atmosphere (IASOA)

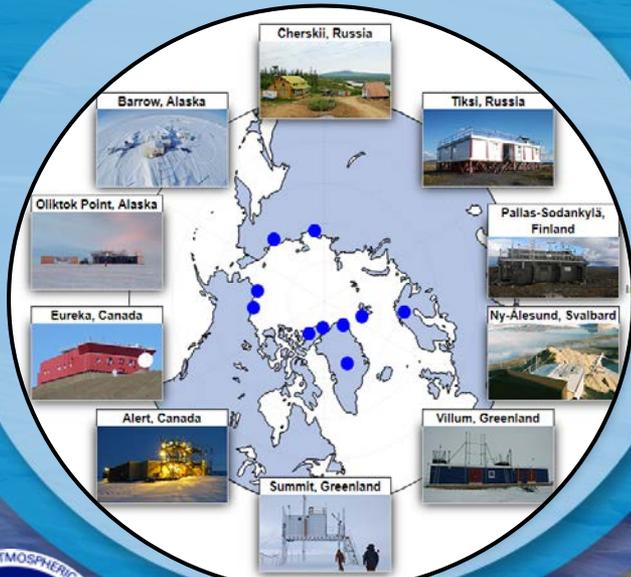
<https://www.esrl.noaa.gov/psd/iasoa/home2>



Services

Science

Data



Mission: is to advance coordinated and collaborative research objectives from independent pan-Arctic atmospheric observatories

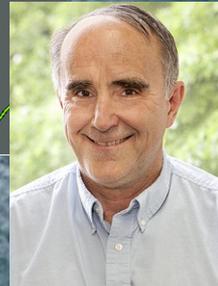
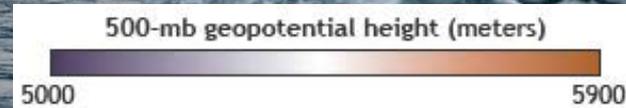
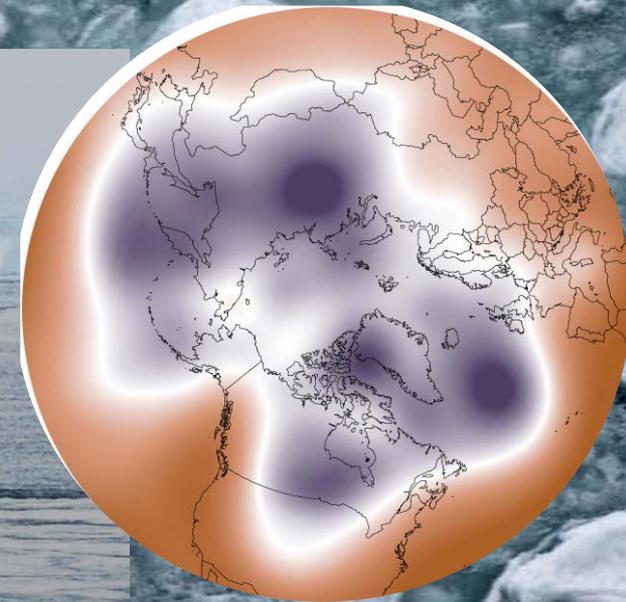
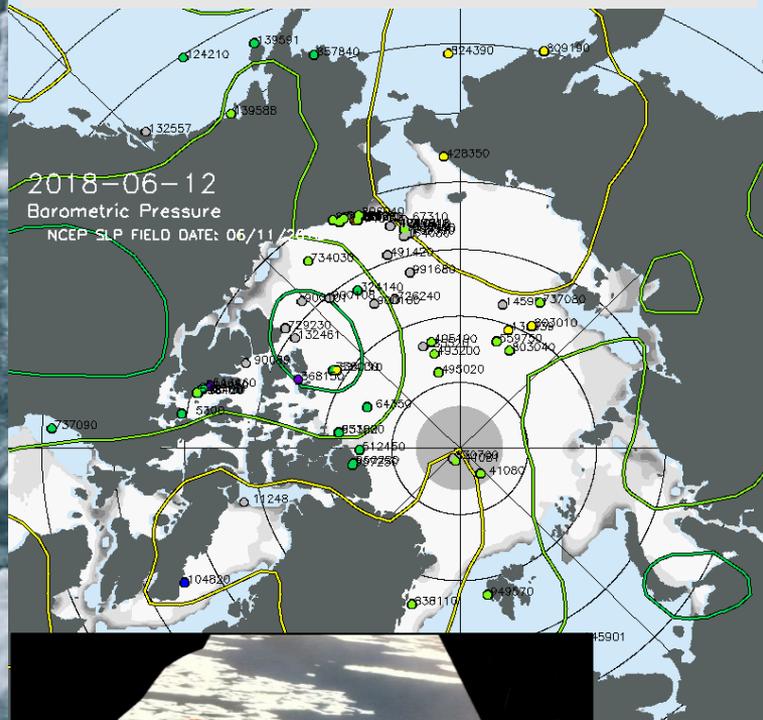
- (1) strategically developing comprehensive **observational capacity**,
- (2) facilitating **data access** and usability through a single gateway, and
- (3) mobilizing contributions to **synergistic science** and **socially-relevant services** derived from IASOA assets and expertise.



Monitoring Sea Ice and Modeling Change

<http://iabp.apl.washington.edu/>
<http://imb-crrel-dartmouth.org/imb.crrel/>

International Arctic Buoy Programme

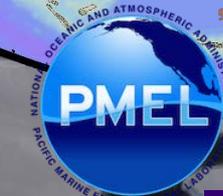
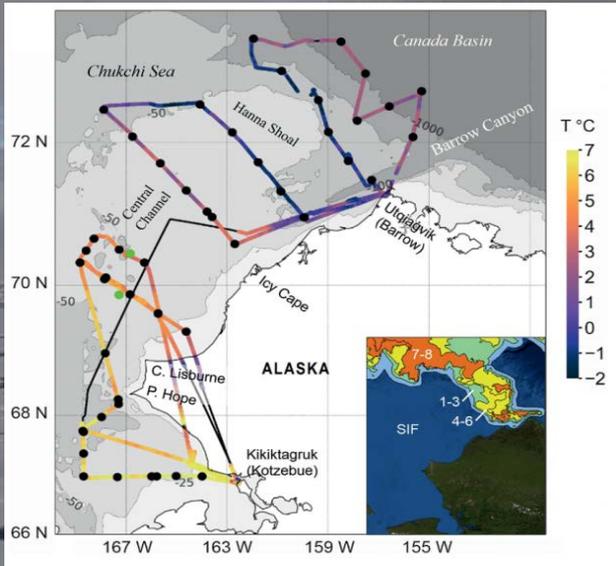


Unmanned Observing Technologies

<https://www.pmel.noaa.gov/arctic-heat/>
<https://www.pmel.noaa.gov/itae/>



ALAMO profiling float





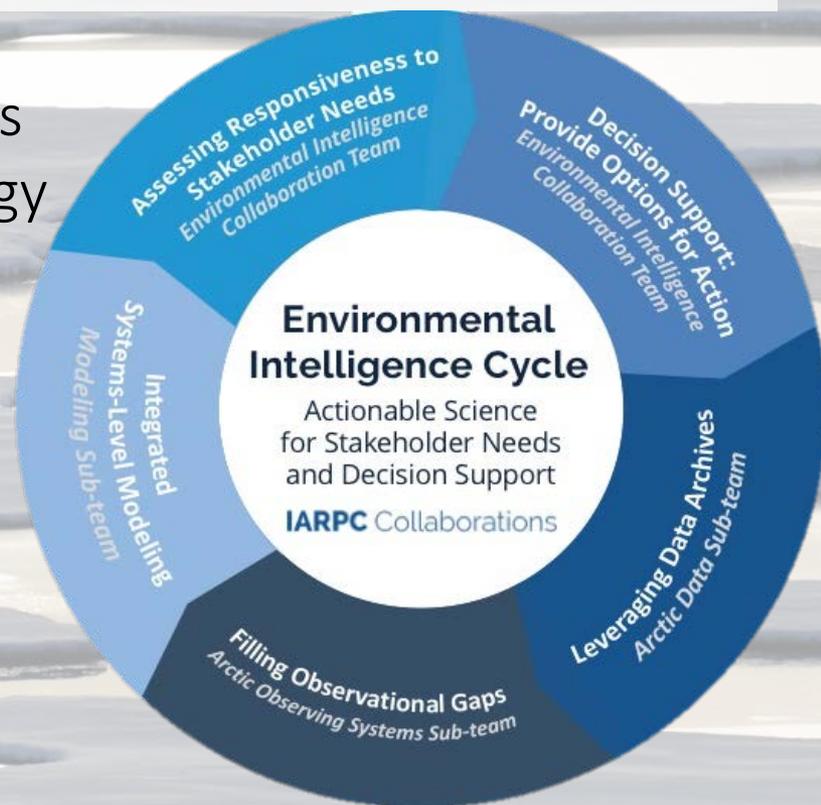
Environmental Intelligence

Actionable Science for Stakeholder Needs and Decisions Support
www.iarpccollaborations.org

Bering Strait Region Harmful Algal Blooms Proposed Summer Quick Response Strategy



- Coordination Scientific Community
- Response to Community Food Safety and Public Health Concerns
- Community Communication





US Arctic Observing Network

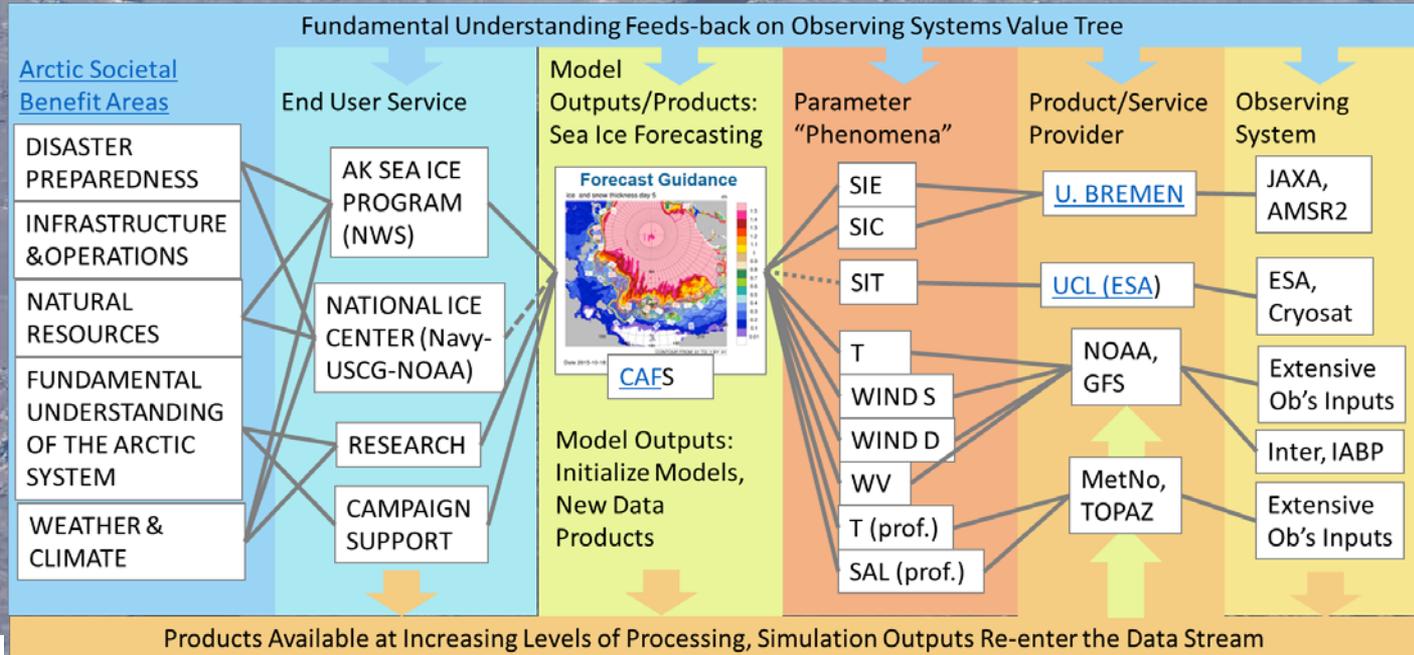
<http://www.aonos.org/aon/>



Mission: To mobilize U.S. agency observing efforts towards an **integrated understanding** of and **informed response** to a rapidly changing Arctic environment. U.S. AON collaborates with international partners to develop a unified Arctic observing framework to strategically maximize societal, political, cultural, and economic benefits.

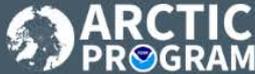
Tasks:

- Sea Ice Forecasting
- Wildfire Detection
- Ship Tracking
- Marine Ecosystems



Arctic Report Card

<https://arctic.noaa.gov/Report-Card>



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Arctic Report Card: Update for 2017

Arctic shows no sign of returning to reliably frozen region of recent past decades

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Arctic Essays

Executive Summary

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The Arctic Report Card (www.arctic.noaa.gov/Report-Card/), going into its 12th year, considers a range of environmental observations throughout the Arctic, and is updated annually. As in previous years, the 2017 update highlights the changes that continue to occur in, and among, the physical and biological components of the Arctic environmental system.

Arctic conditions in 2017 provide an excellent example of the need to assess observations in the context of longer-term records. After a very warm Arctic-wide autumn 2016, spring and summer 2017 had near average air temperatures relative to the 1981-2010 climatology. These spring/summer conditions were reminiscent of conditions before the long-term temperatures increases that began in the 1990s. These 'relatively cool' temperatures in spring and summer 2017 contributed to a rebound in the snow cover extent in Eurasia during May and June, a slowing of the summer sea ice loss, and below-average melt extent for the



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