



# NOAA

## Arctic Research Program Update

### Office of Oceanic and Atmospheric Research

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[www.arctic.noaa.gov](http://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.





# Upcoming Activities

## Fieldwork in 2019:

- HEALY Cruise for Distributed Biological Observatory (DBO)
- The Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) deployments
- Buoy and glider deployments for sea ice, ocean acidification and other measurements
- Ongoing atmospheric measurements part of International Arctic Systems for Observing the Atmosphere (IASOA) and in support of the Year of Polar Prediction



# Distributed Biological Observatory

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



Distributed Biological Observatory –  
Northern Chukchi Integrated Study  
(PMEL + CINAR)

The Distributed Biological Observatory  
(DBO): Hydrography, Sediment, and  
Macrofaunal Population Dynamics  
(CINAR)

Ocean Acidification in the  
Distributed Biological Observatory  
(PMEL)

Distribution and Prevalence of Harmful Algal  
Blooms in Arctic Waters  
(CINAR)





# Monitoring Sea Ice and Modeling Change

<http://iabp.apl.washington.edu/>

<http://imb-crrel-dartmouth.org/imb.crrel/>



Coordination and Data Collection of the  
U.S. Interagency Arctic Buoy Program  
(University of Washington- Grant)



Arctic Sea Ice Thickness Observations:  
Seasonal Ice Mass Balance Buoys  
(Dartmouth- Grant)

Seasonal to Decadal Sea Ice  
Projection  
(PMEL + JISAO)



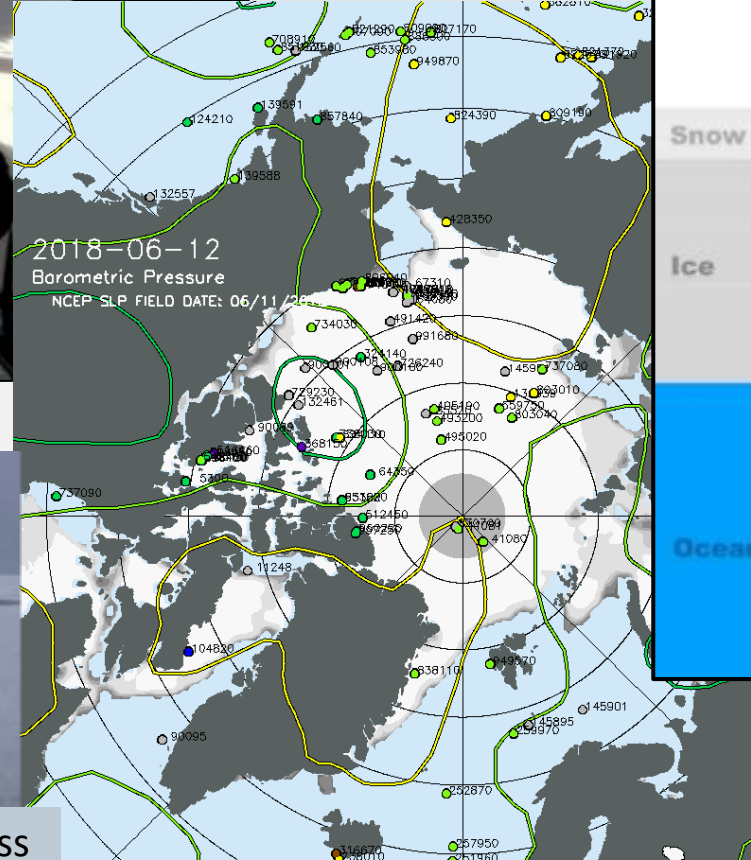
Arctic Climate Assessment for AMAP  
and the Arctic Council  
(PMEL)



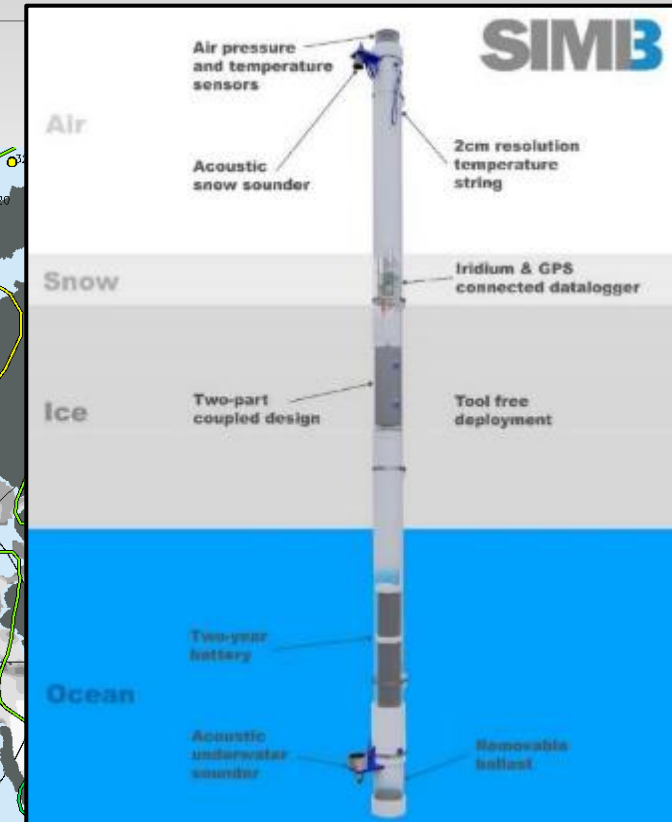
Modeling ice-ocean circulation and  
ice characteristics in the Arctic Ocean  
(GLERL)



Seasonal ice mass  
balance buoys



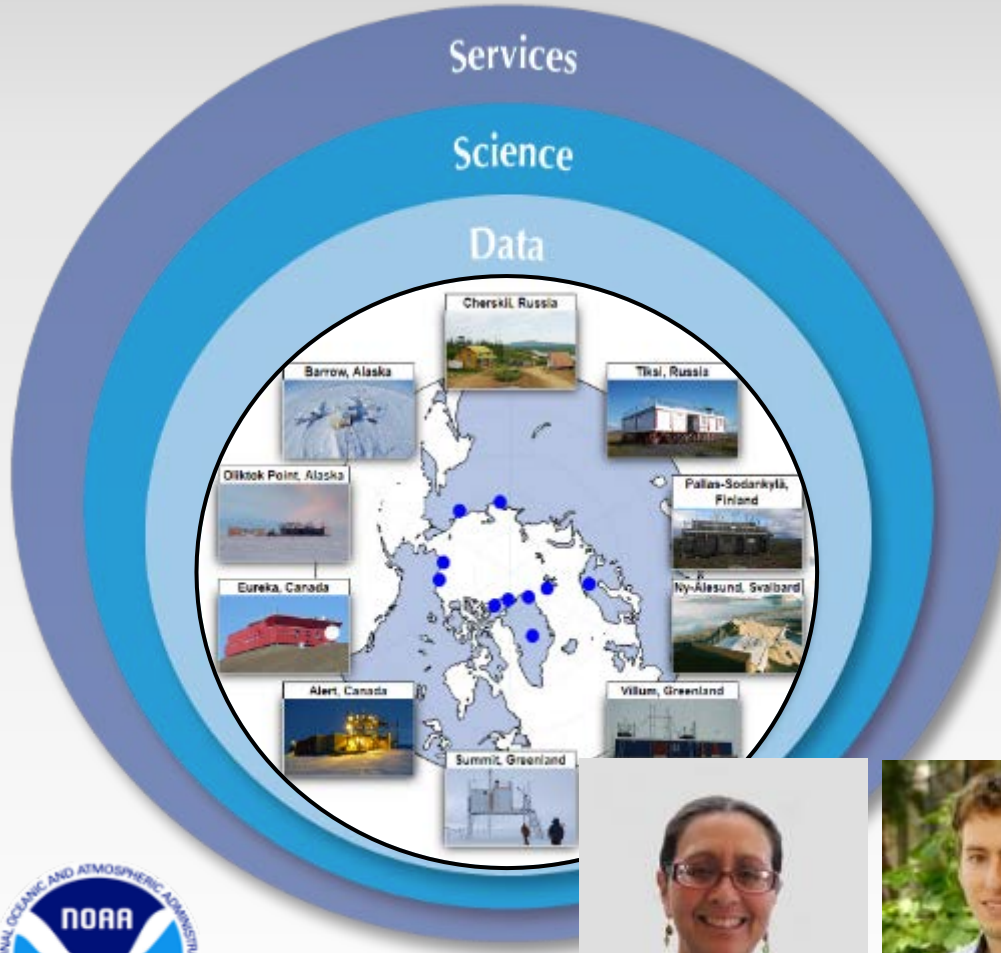
International Arctic Buoy Programme



# Arctic Atmospheric Observatories

International Arctic Systems for Observing the Atmosphere (IASOA)

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



International observing system that provides research and climate grade atmospheric and surface measurements encircling the Arctic Ocean

**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.



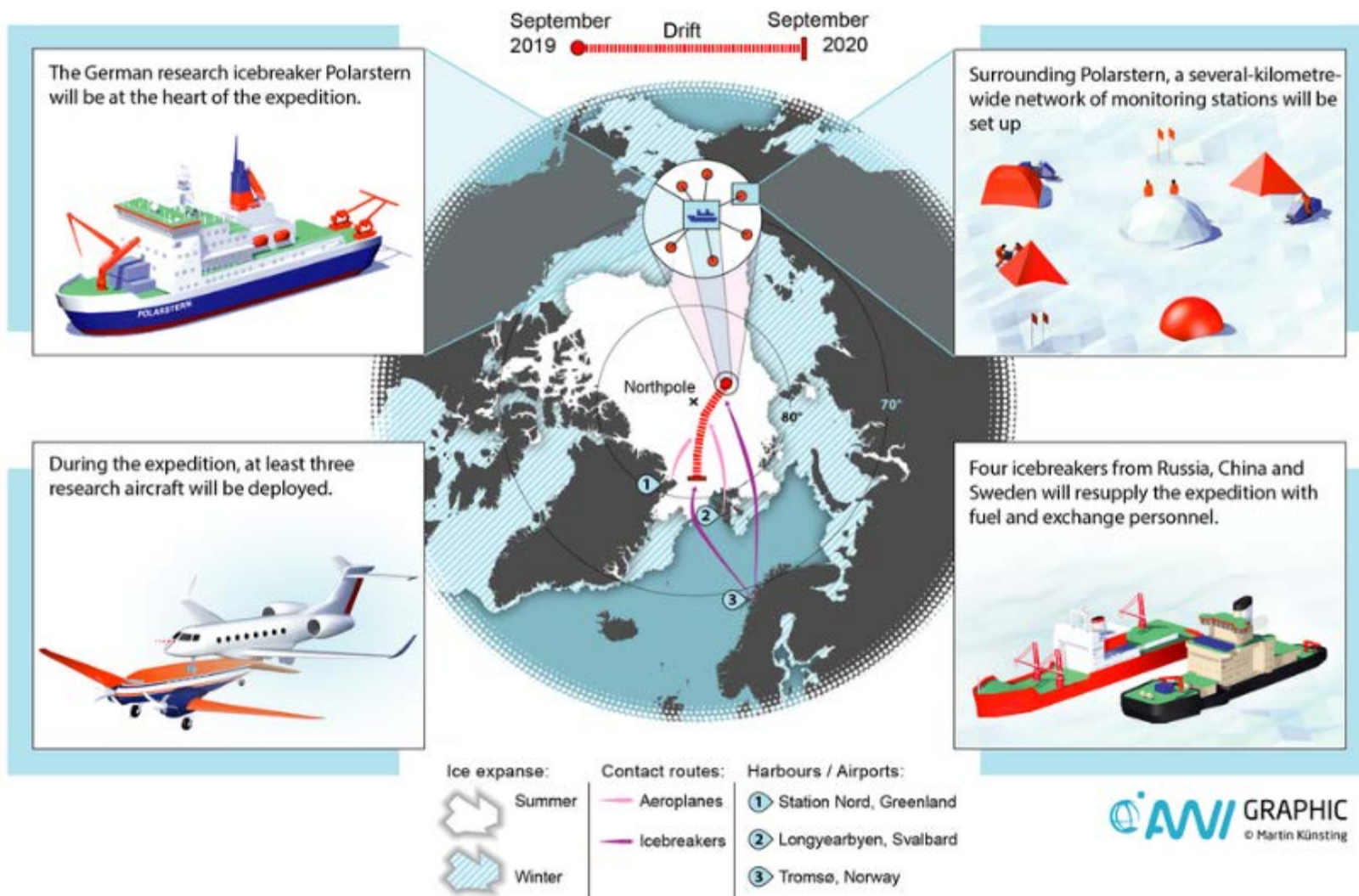


# MOSAIC as a part of YOPP

## The Multidisciplinary drifting Observatory for the Study of Arctic Climate

Direct in-situ observations of the climate processes that couple the atmosphere, ocean, sea ice, bio-geochemistry and ecosystem.

Enhance understanding of the regional and global consequences of Arctic climate change and sea-ice loss and improve weather and climate predictions.



- The Arctic is a key area of global climate change, with warming rates exceeding twice the global average
- The observed rate of climate change in the Arctic is not well reproduced in climate models .
- Many processes in the Arctic climate system are poorly represented in climate models because they are not sufficiently understood.
- Understanding of Arctic climate processes is limited by a lack of year round observations in the central Arctic.

# Upcoming Activities

- Arctic Research Program Review – A look at the past 5 years and discussion of where the program should
- Hiring a new program manager (contractor) for the Arctic Research Program
- Expect to release announcement for the Arctic Research Program Director position (federal)
- Updated Arctic Action Plan expected this calendar year





# Additional Updates for PAG

The U.S. Arctic Research Commission released its Goals and Objectives report  
[https://www.arctic.gov/reports\\_goals.html](https://www.arctic.gov/reports_goals.html)

The 14 U.S. Federal agencies that fund research in the Arctic adopted a revised set of Principles for Conducting Research in the Arctic. These Principles are guidance for planning, behavior, and communication with communities in the Arctic.  
<https://www.iarpccollaborations.org/principles.html>

Through the Interagency Arctic Research Policy Committee, the Field Operations Working Group shares a matrix of planned vessel traffic with communities in the Arctic through the Arctic Waterways Safety Committee and Alaska Eskimo Whaling Commission  
<https://www.iarpccollaborations.org/members/people/teams/1985>







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