



Arctic Observing Network (AON)

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Introduction

- AON is a USG inter-agency program that is an integral part of SEARCH - Study of Environmental Arctic Change.
- In May 2007, IARPC (Inter-agency Arctic Research Policy Committee) directed agency staff to develop AON as part of the implementation of SEARCH and as a lasting legacy of IPY (International Polar Year). NSF and NOAA co-lead this effort.
- NSF has been supporting long-term observing projects since ~2000, has issued two AON solicitations (2006, 2008) and is committed to supporting Arctic environmental system observing activities for the foreseeable future.
- During IPY alone, NSF made 48 awards to 23 projects for a total investment of \$39.3M (+ logistics costs) for the period FY07-FY10.





SEARCH

Study of Environmental Arctic Change

1. Is the Arctic system moving to a new state?
2. Is the Arctic system predictable?
3. Do recent and continuing changes reflect natural variability and/or anthropogenic forcing?
4. What is the direction and relative importance of regional feedbacks?
5. How are terrestrial and marine ecosystems and ecosystem services affected by environmental change and human activities?
6. How are cultural and socio-economic systems affected by environmental system changes?
7. What are the most consequential links between the Arctic and global systems?

Responding

Understanding

*Data Analysis, Data Synthesis
& Computer Modelling*

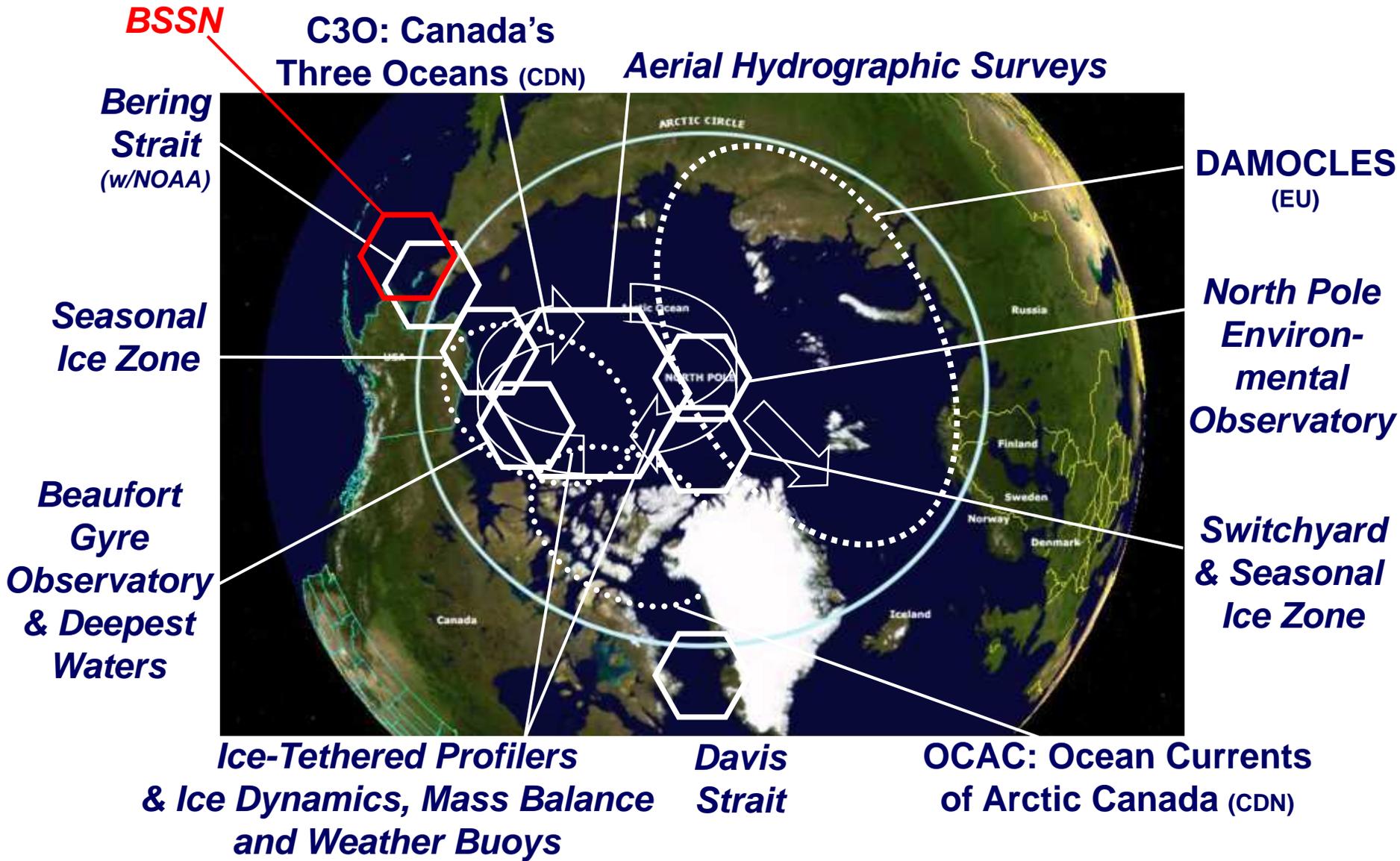
**Observing
(AON)**

NSF & AON: A Few Essentials

- AON is a multi-disciplinary effort that encompasses physical, biological and human observations, including local/indigenous knowledge, of the land, ocean and atmosphere.
- SEARCH categories
 - *Atmosphere* • *Human Dimensions* • *Hydrology & Cryosphere*
 - *Ocean & Sea Ice* • *Palaeo-environment* • *Terrestrial Ecosystem*
- AON projects will have a scientific rationale as to why the proposed activity, data (including frequency and duration of observations) and geographic location are essential to research that will advance the understanding of Arctic environmental system change.
- AON projects will be informed by the current understanding of Arctic environmental system change and will contribute data essential to Understanding Change research and related activities.

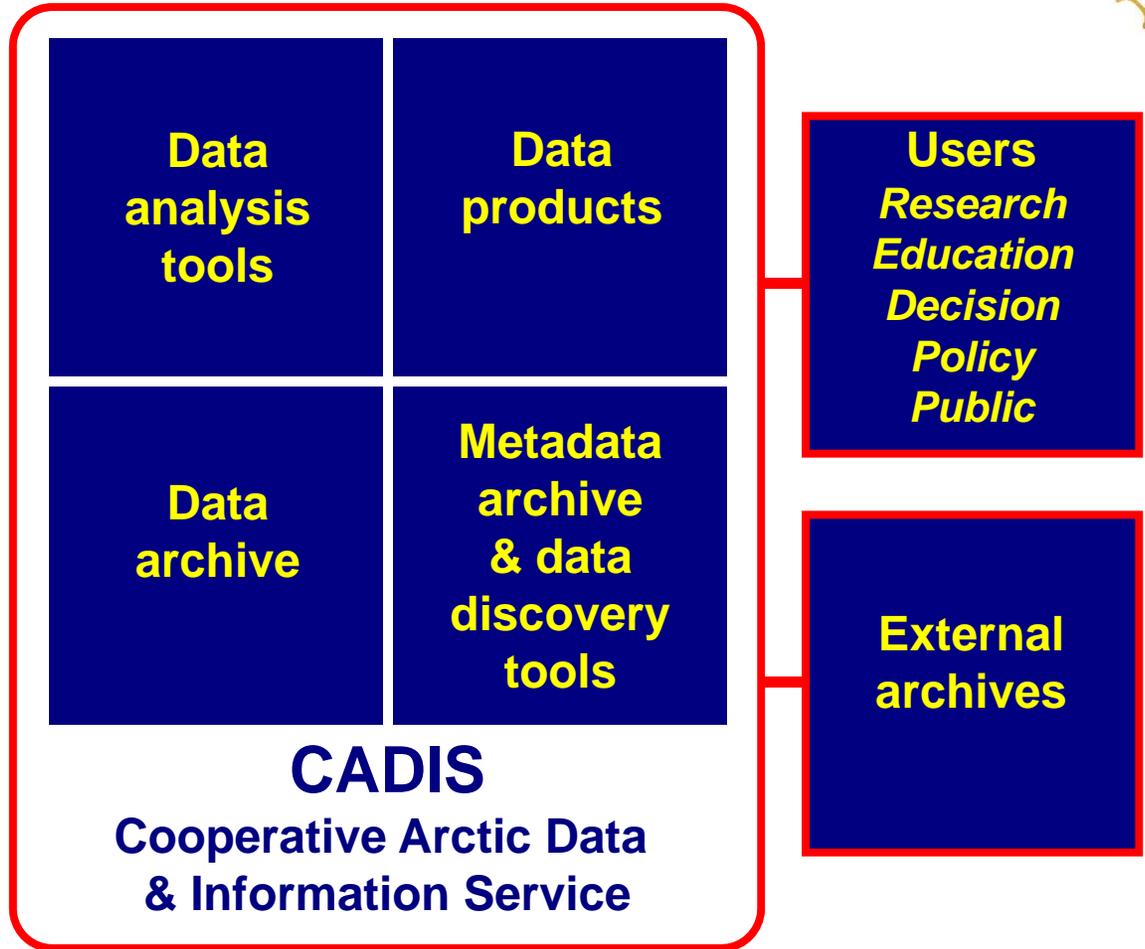
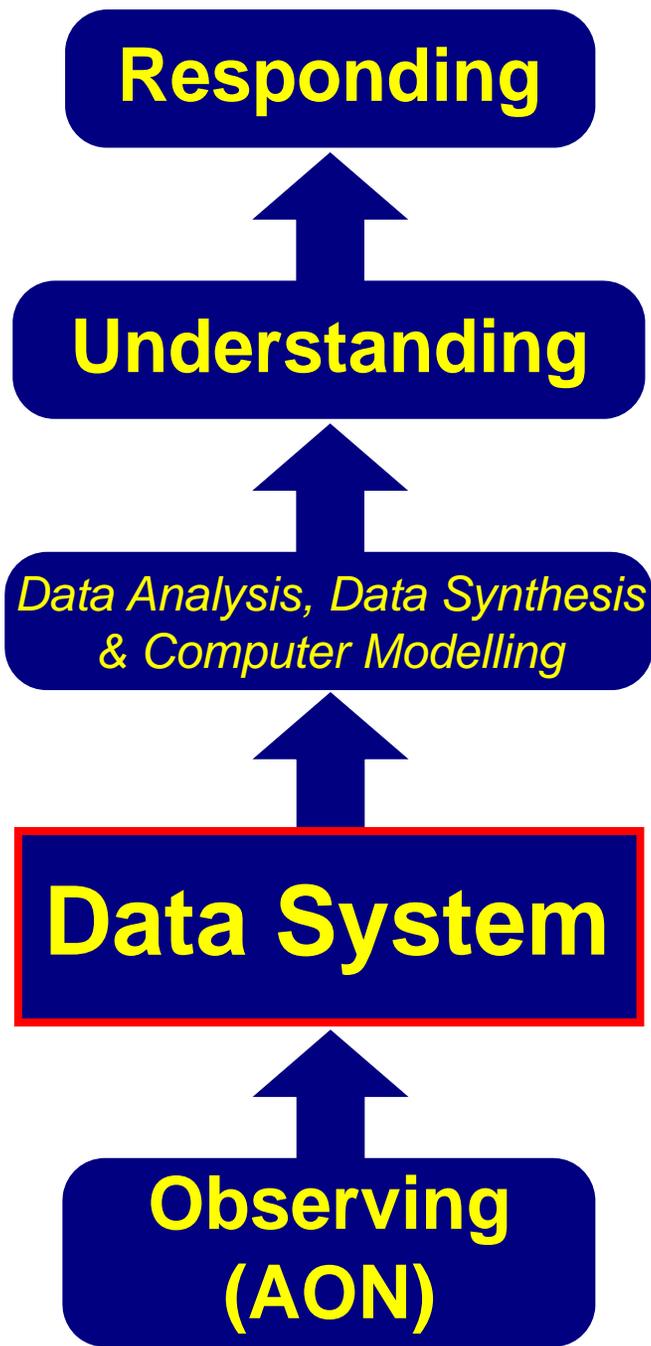


Observing Oceans & Sea Ice



DAMOCLES: Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies





- AON projects will conform to the SEARCH data policy:
- data will be fully, freely and openly available as quickly as possible after collection and quality control, and
 - metadata, data and documentation will be submitted to an appropriate national archive or repository.

Next Steps

- By the end of FY09, NSF expects to make a minimum of 24 new awards to 17 AON projects for a total investment of \$35.5M (+ logistics costs) for the period FY09-FY13.
- Report on Bering Strait Observing Workshop (12-15 May 2009): first draft late summer 2009, final report in autumn 2009.
- Observing network/system design.
- Continued participation in international efforts to develop a pan-Arctic, multi-nation observing network - Sustained Arctic Observing Network (SAON).