

Alaska Ocean Observing System (AOOS)

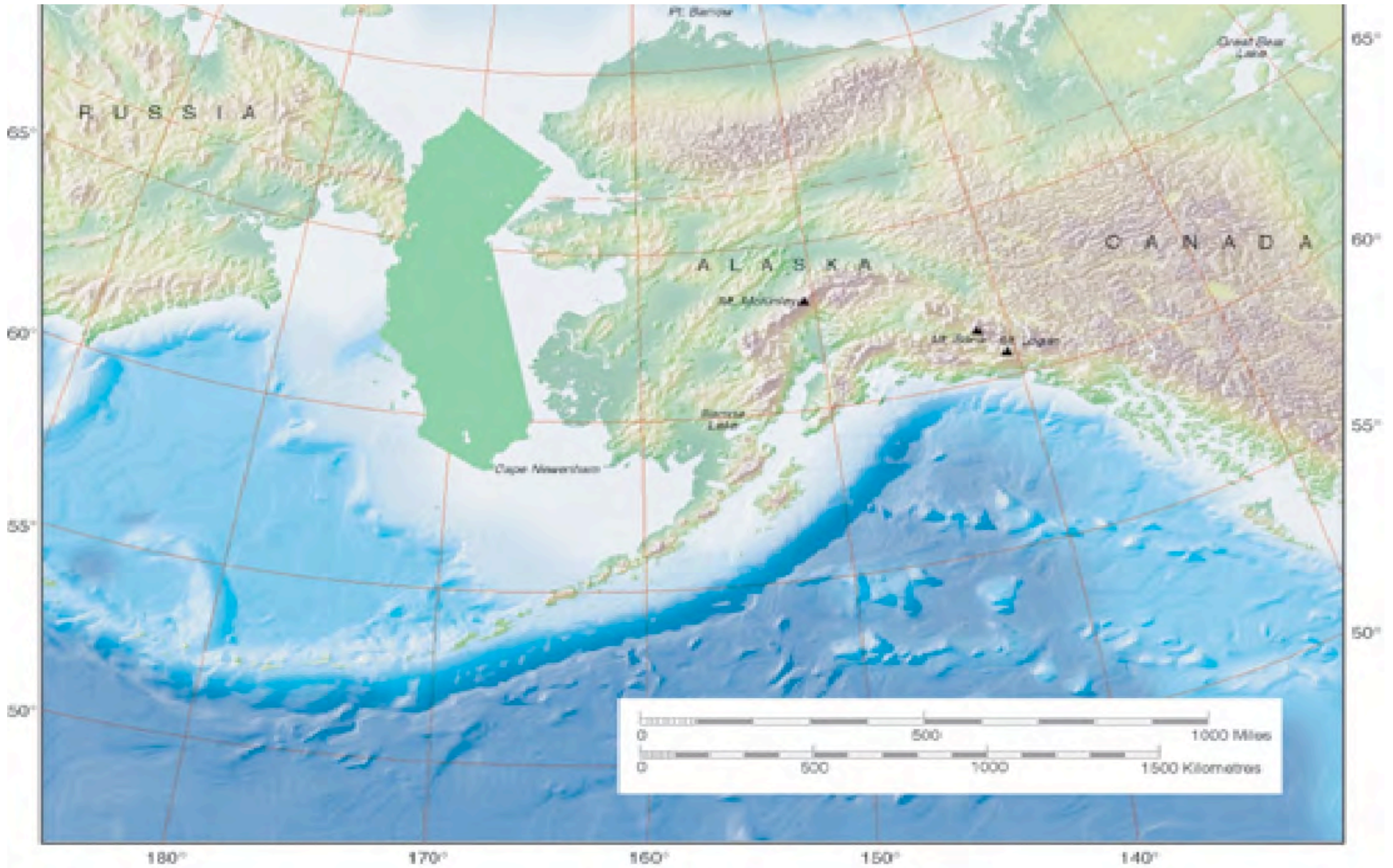
*A Regional Observing System
within the Integrated Ocean Observing System*

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IOOS (National) Goals

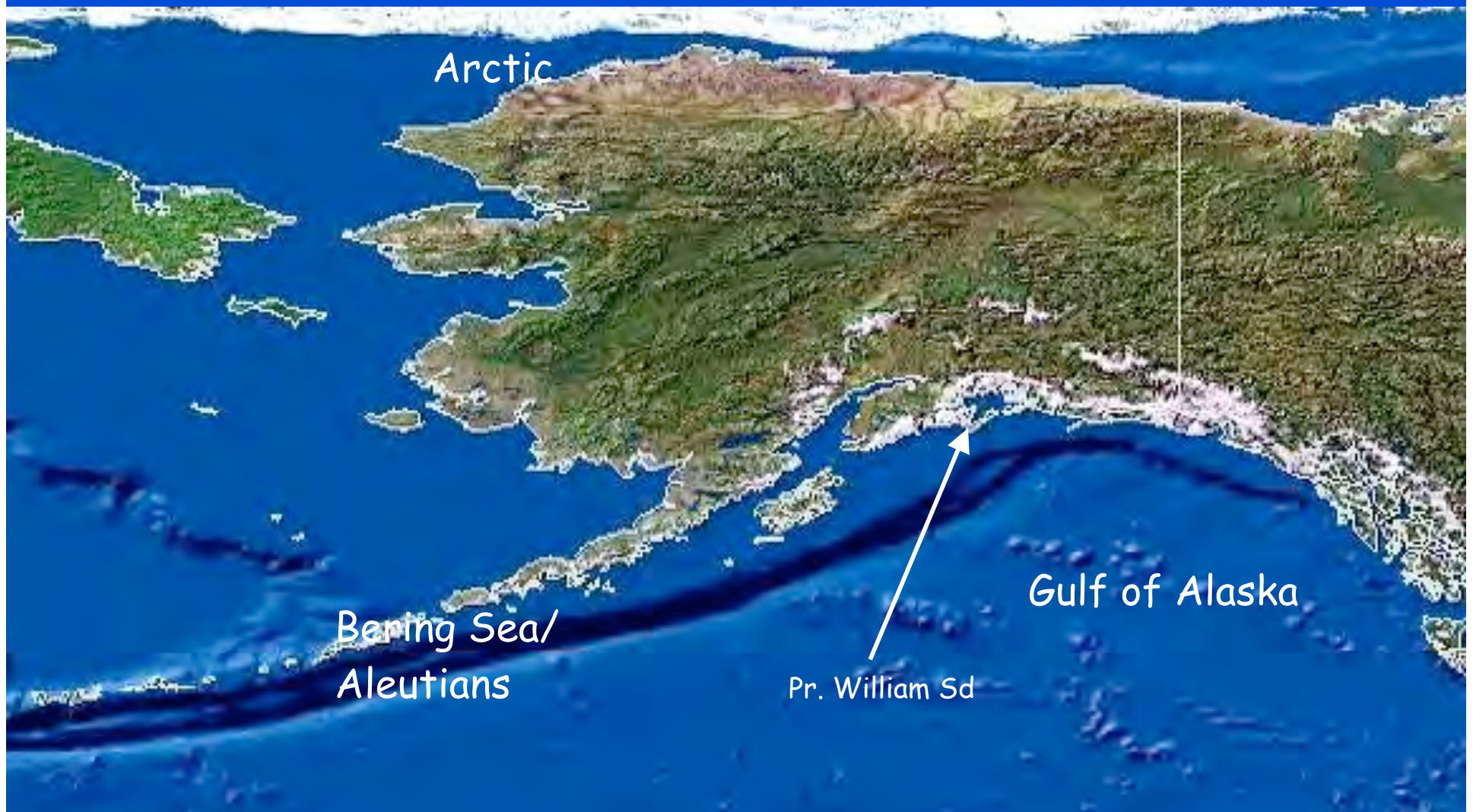
- Improve prediction of climate change impacts
- Improve safety & efficiency of marine operations
- More effectively protect & restore healthy coastal ecosystems
- Sustain marine resources
- Mitigate effects of natural hazards
- Reduce public health risks
- Improve national security

(adapted from: An Integrated and Sustained Ocean Observing System, Ocean.US 2002)



Alaska's Special Challenges

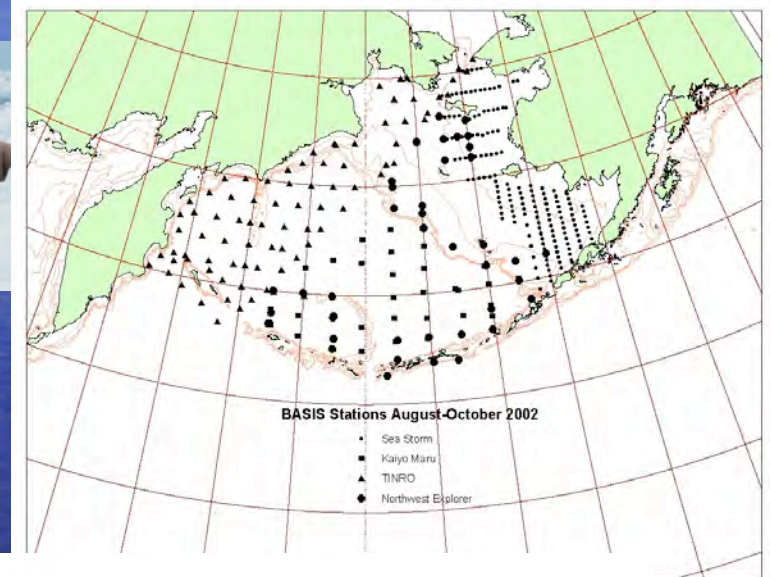
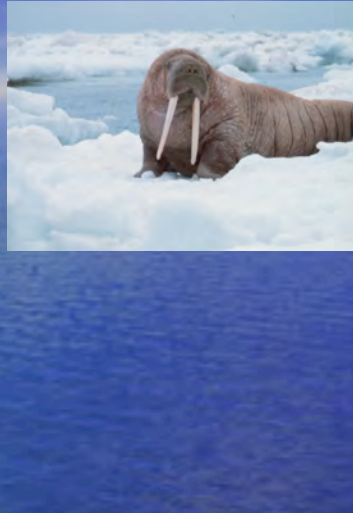
Alaska Ocean Observing System (AOOS)



AOOS VISION: Bering Sea/Aleutians

Users

- commercial fishing
- Alaska Native subsistence communities
- climate change research
- search & rescue
- resource managers
- marine transportation, shipping
- offshore oil and gas



Overarching Issues

- Climate change & impacts
- Safe & efficient marine navigation (includes fishing vessels)
 - safety at sea (sea ice, vessel icing, winds, waves & currents)
 - oil spills & contaminant transport
 - improved search & rescue

Science Questions

- Is the Bering Sea warming and what are impacts?
- How do changes in oceanographic features affect ecosystem (e.g., fisheries) dynamics?
- How do variations in the subarctic gyre impact BSAI ecosystem dynamics?
- What sentinels exist & how can they serve as indicators of ecosystem productivity?
- How do changes in the Bering Sea affect the Arctic Ocean and Arctic stakeholders?

Products Needed

- Sea ice forecasts: extent & timing
- Coastal erosion models
- Vessel icing forecasts
- Improved remote sensing products
- Real-time products for sentinel species
- BSAI ecosystem status report

Monitoring Options

- N-S array of moorings along 70m isobath *
- AK Stream moorings south of Aleutians (transport & water properties of subarctic gyre)
- Aleutian passes: (AK Stream-Bering Sea exchange)
- Coastal/village monitoring network
- Ships of Opportunity programs
- Cabled observatories/LTERS: Pribilofs & Little Diomedes Island
- Chirikov Basin
- Bering Strait (Nitrate Sensors to NSF and NOAA moorings)

Bering Sea/Aleutian Priorities: Additions to National Program Assets

- Increase number of buoys & make real-time. Monitor more variables.
- Add tide & river gauges & C-MAN stations
- Several long-range HF radar surface current mappers at critical locations with respect to circulation & major fishing grounds
- Expand fisheries surveys, increase oceanic parameters measured
- Better bathymetry; charts



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