

Alaska Ocean Observing System: a tool for coastal communities

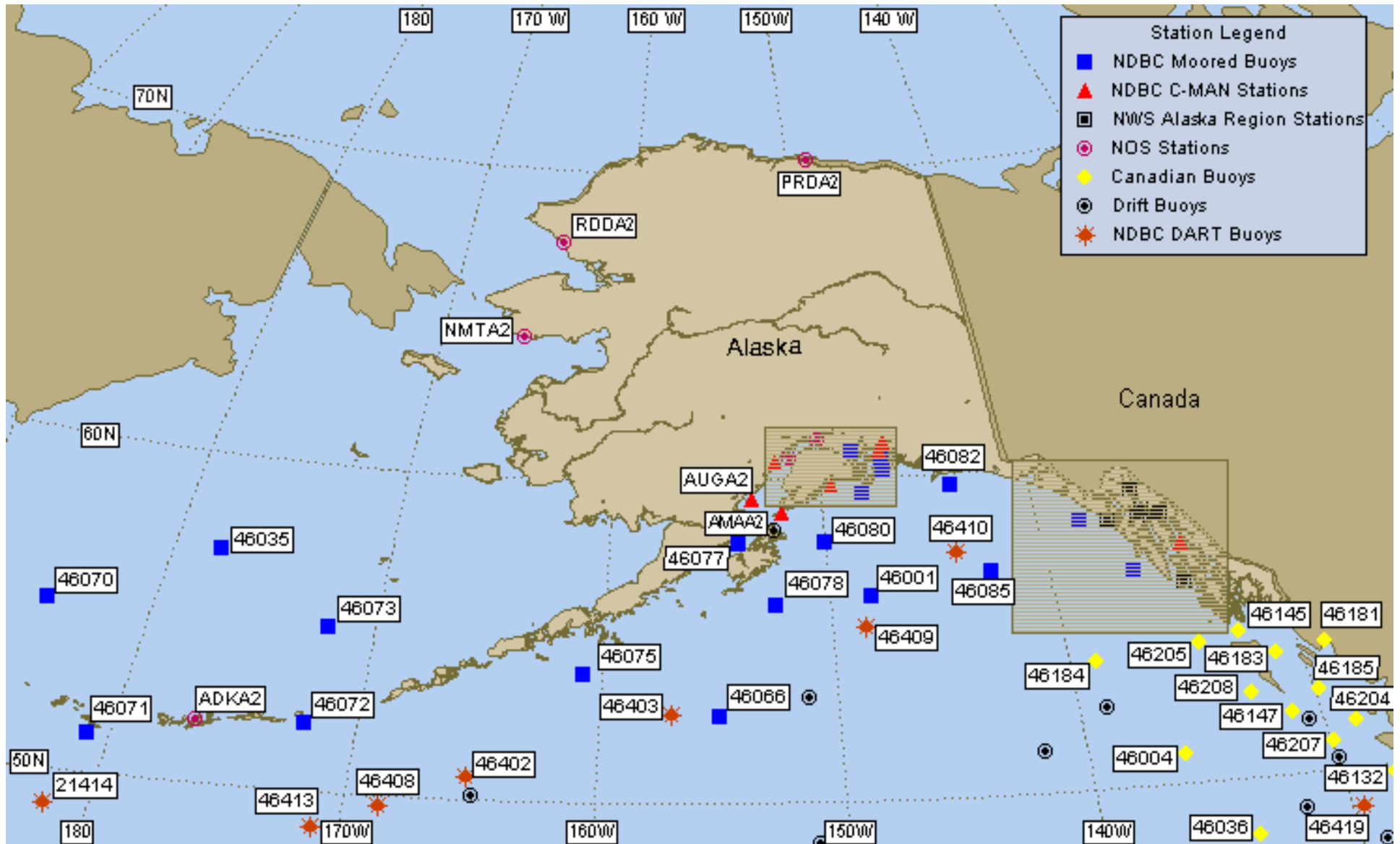
Alaska Regional Ports and Harbors Conference

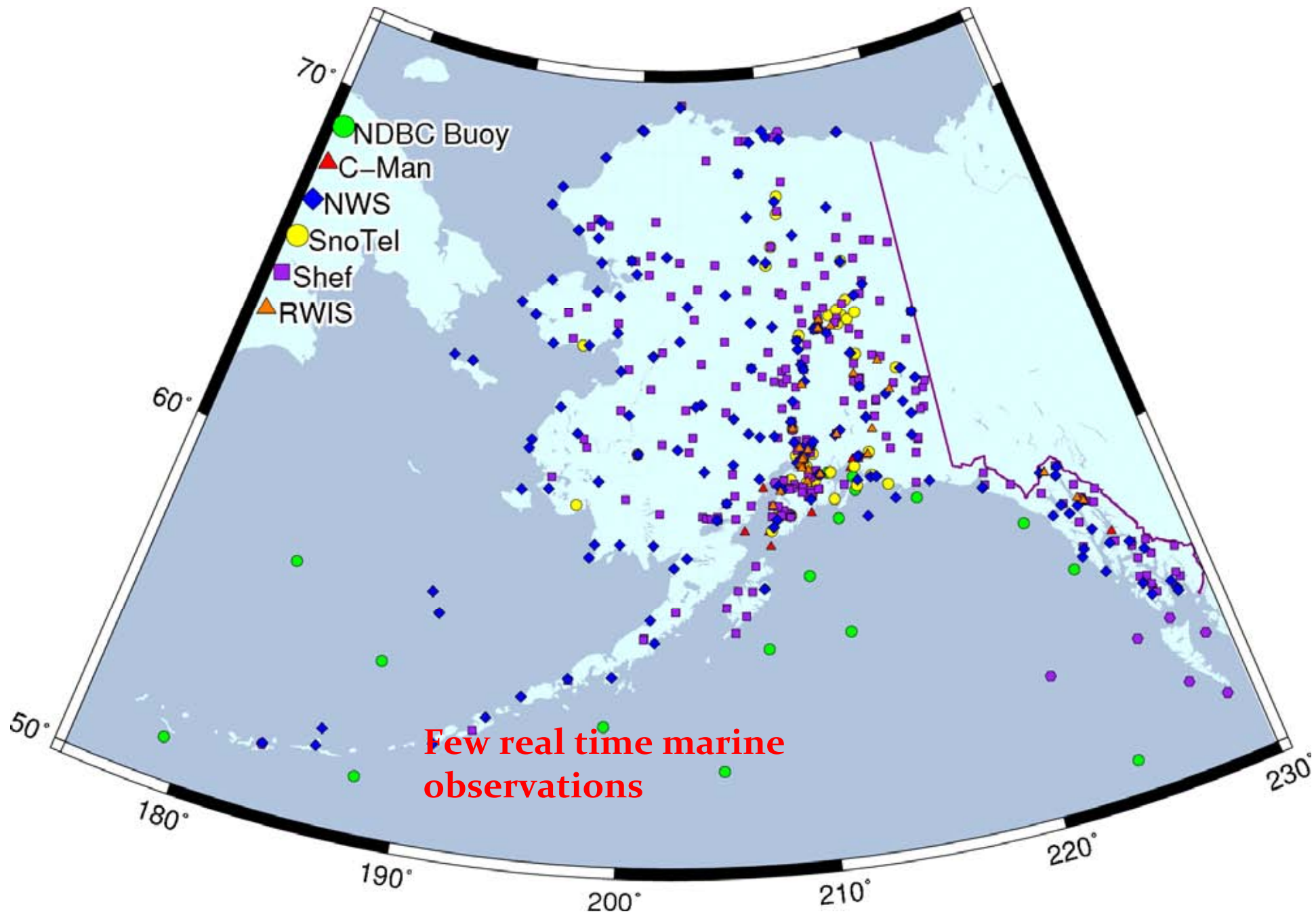
January 10-11, 2008

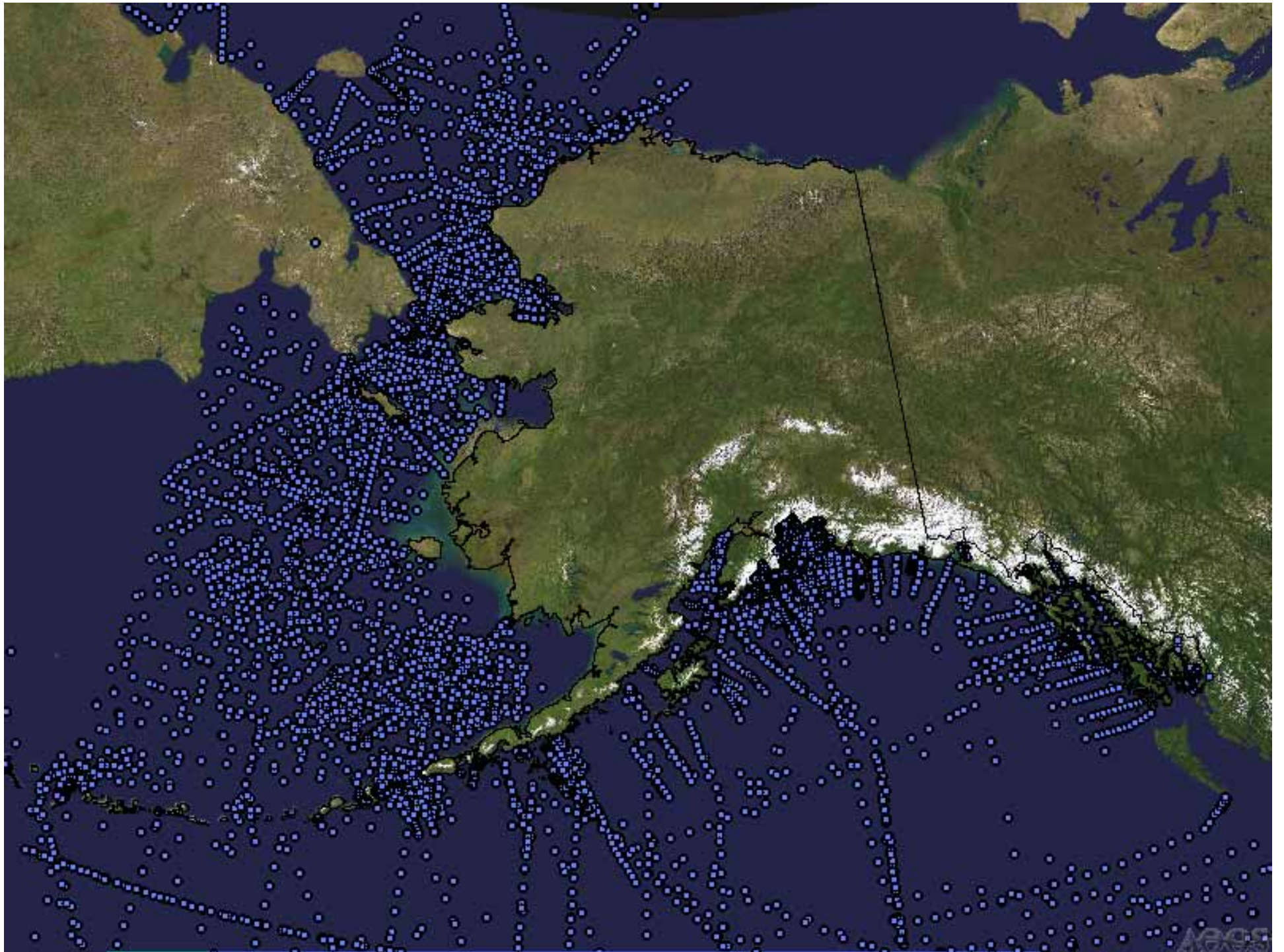
Anchorage, AK

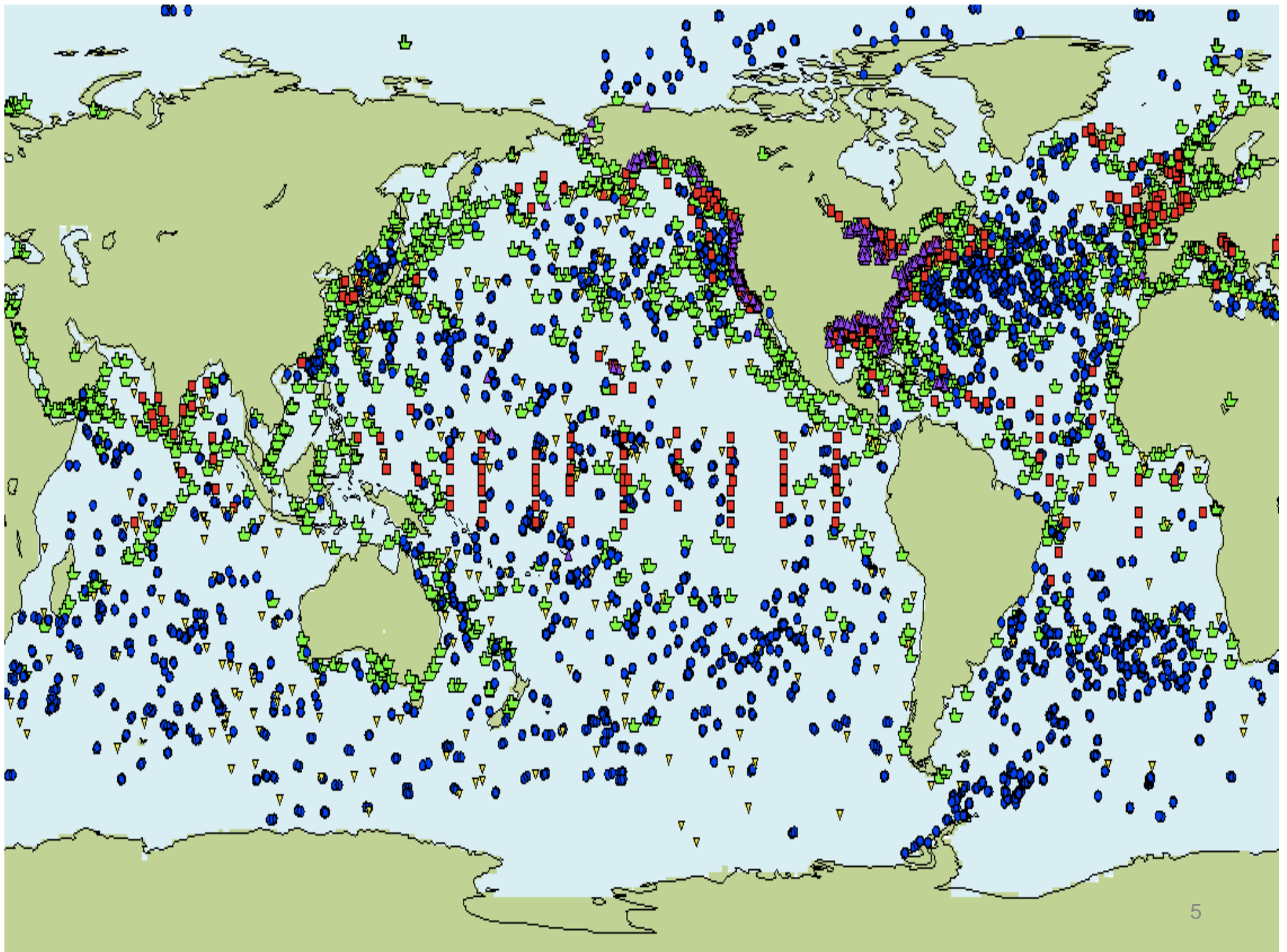
www.aoops.org

Existing Stations









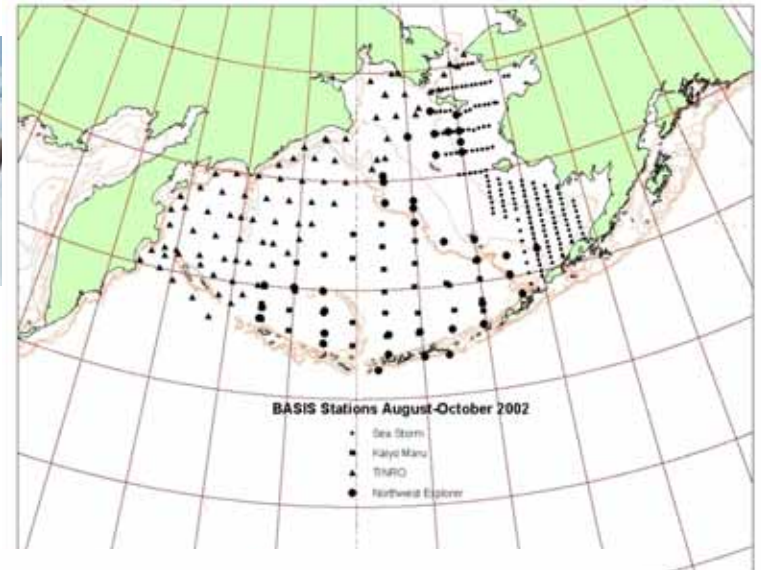
AOOS VISION: Arctic

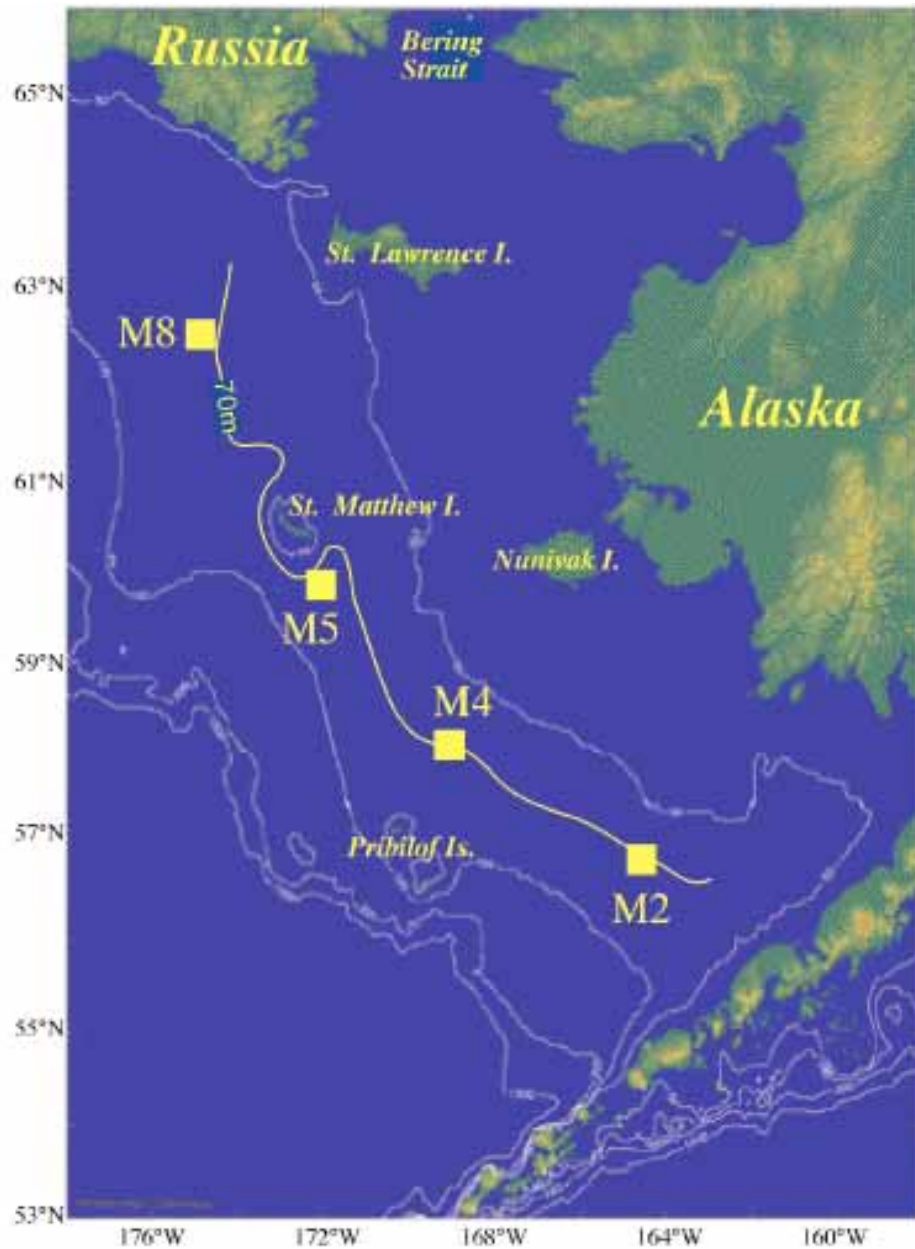
- Users
 - offshore oil & gas
 - shipping/navigation
 - subsistence hunting
 - resource managers
 - Native communities/planners
 - climate change researchers
- Information products
 - sea ice & fog forecasts
 - real time sea ice movement
 - ocean circulation patterns
 - climate change indicators
 - improved weather forecasts
 - coastal erosion prediction
 - marine mammal tracking



AOOS VISION: Bering Sea/Aleutians

- Users
 - commercial fishing
 - subsistence; communities
 - climate change research
 - safe navigation: search & rescue & oil spill response
 - resource managers
- Information products
 - sea ice & vessel icing forecasts
 - coastal erosion predictions
 - fisheries/ecosystem productivity – climate change
 - wind and wave forecasts





Changing ecosystems: Monitoring the Bering Sea

- 4 moorings along the 70-m isobath: temperature, salinity, fluorescence, nutrients, currents
- Spring and fall hydrographic transects: temperature, salinity, O₂, fluorescence, nutrients, chlorophyll, zooplankton

Results

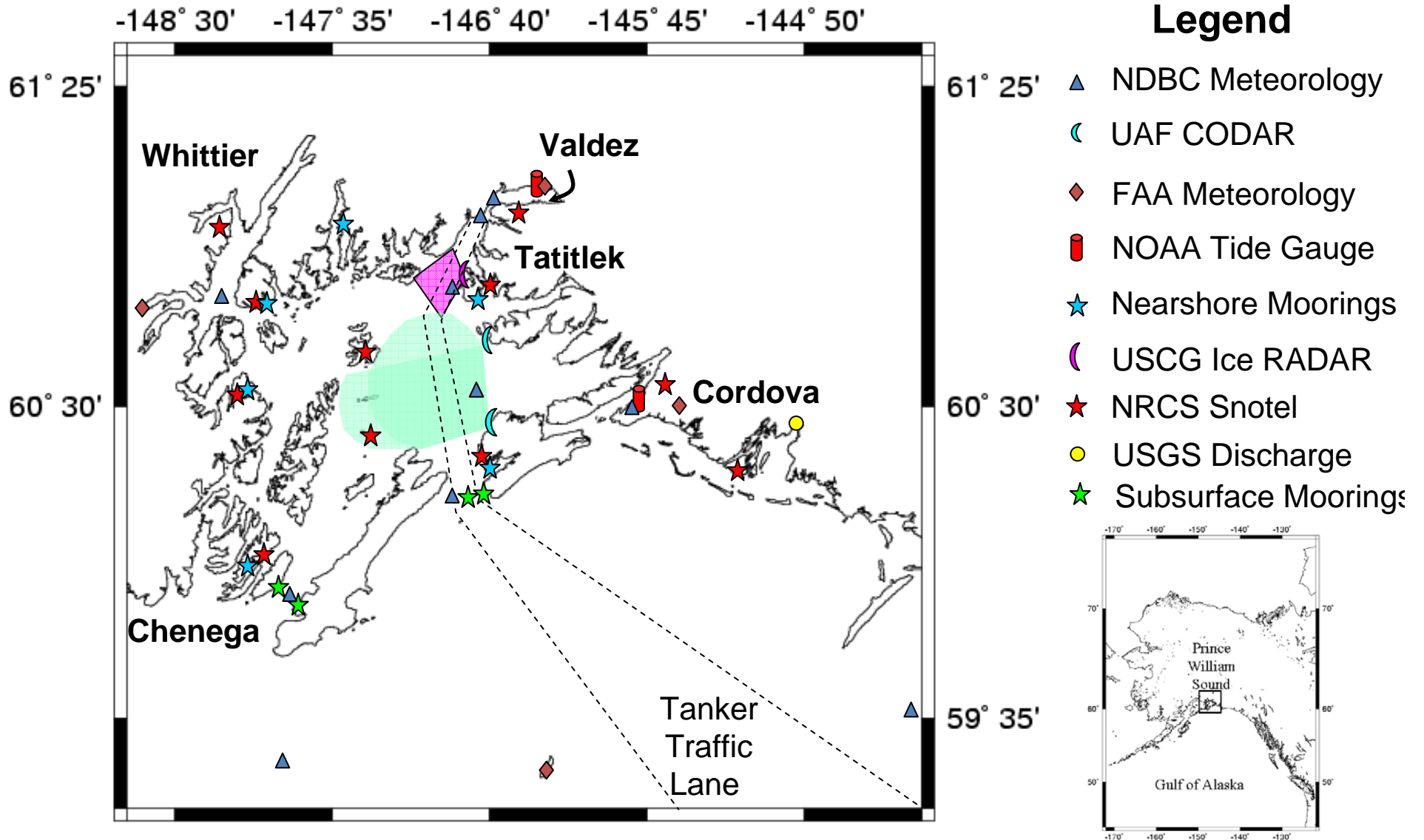
- 6th consecutive year with reduced ice cover (80-100% reduced from 1972) and increased temperature (~3°C).
- Sharp front divides the warmer, more saline southern shelf from the colder, fresher northern shelf.

AOOS VISION: Gulf of Alaska

- Users
 - navigation services
 - commercial fishing
 - recreational boaters
 - oil & gas development
 - search & rescue
 - tourism
 - managers
 - aquaculture/mariculture
- Information products
 - marine sea state & icing conditions
 - ocean circulation patterns
 - coastal erosion predictions
 - nowcast/forecasts for search & rescue & oil spill response
 - fisheries/ecosystem productivity
 - HAB forecasts



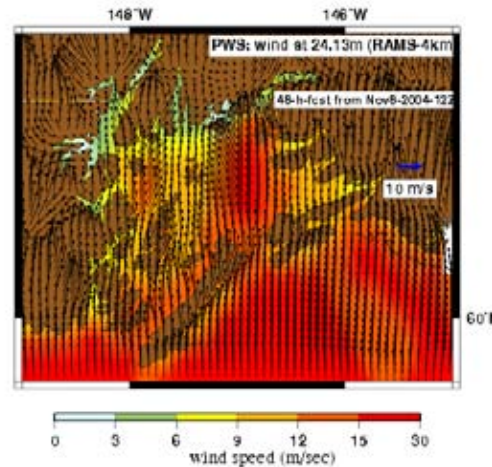
Prince William Sound Ocean Observing System (Fully implemented)



(Symbols may be offset for clarity)

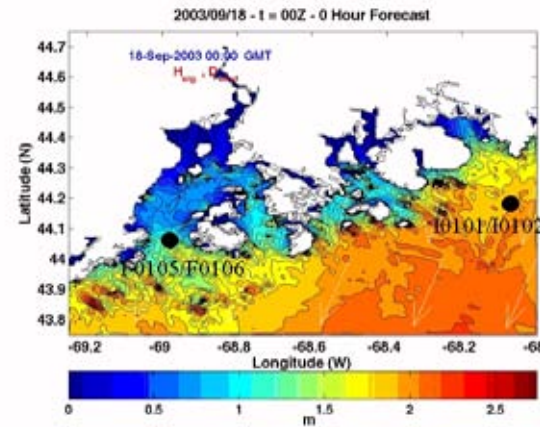
PWS Observing System Products (1-3 years)

Weather
Forecasts

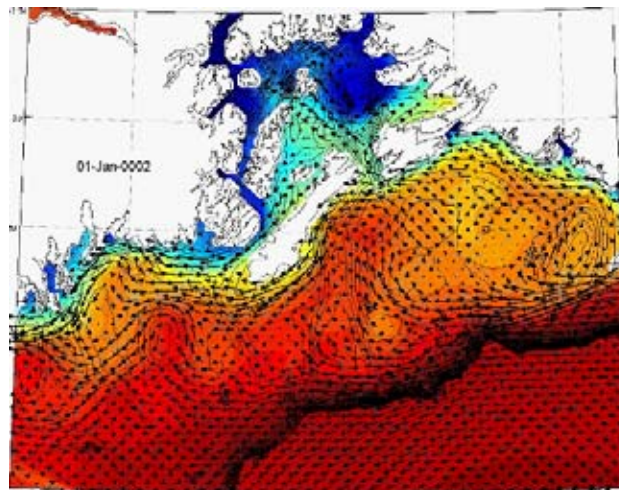


1. Wind velocity
2. Wind direction
3. Precipitation

Wave
Forecasts



1. Wave heights
2. Nearshore currents
3. Turbulent mixed depth



Circulation
Forecasts

1. Current velocity
2. Current direction
3. Stratification
4. Upwelling centers
5. Fronts

Data Catalog Explorer: AK Marine Information System (AMIS)

Prince William Sound

AOOS Alaska Ocean Observing System

General Info Observing System Real Time Data Historical Data Forecasts Research RA Info

AOOS Home -> Prince William Sound - AOOS Home -> Data Explorer Portal

Data Catalog Explorer

Use map above to go to other AOOS regions

Moorings: PWS

Mooring: HE3

Project: Agency: PWSOOS

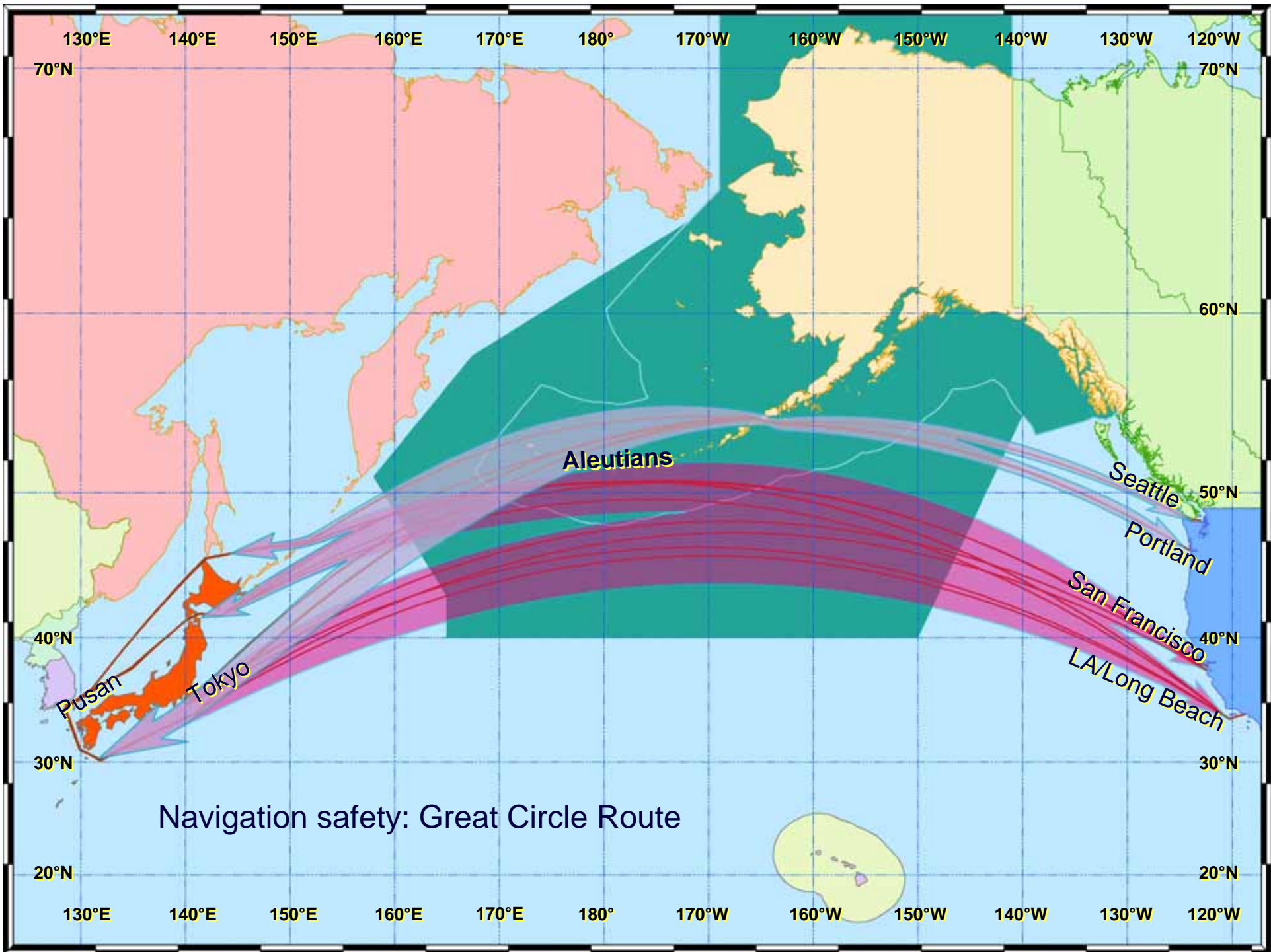
Lat: 60.24 Lon: -146.75

Start: 2005-06-12 22:30:00 End: 2005-10-26 20:15:00

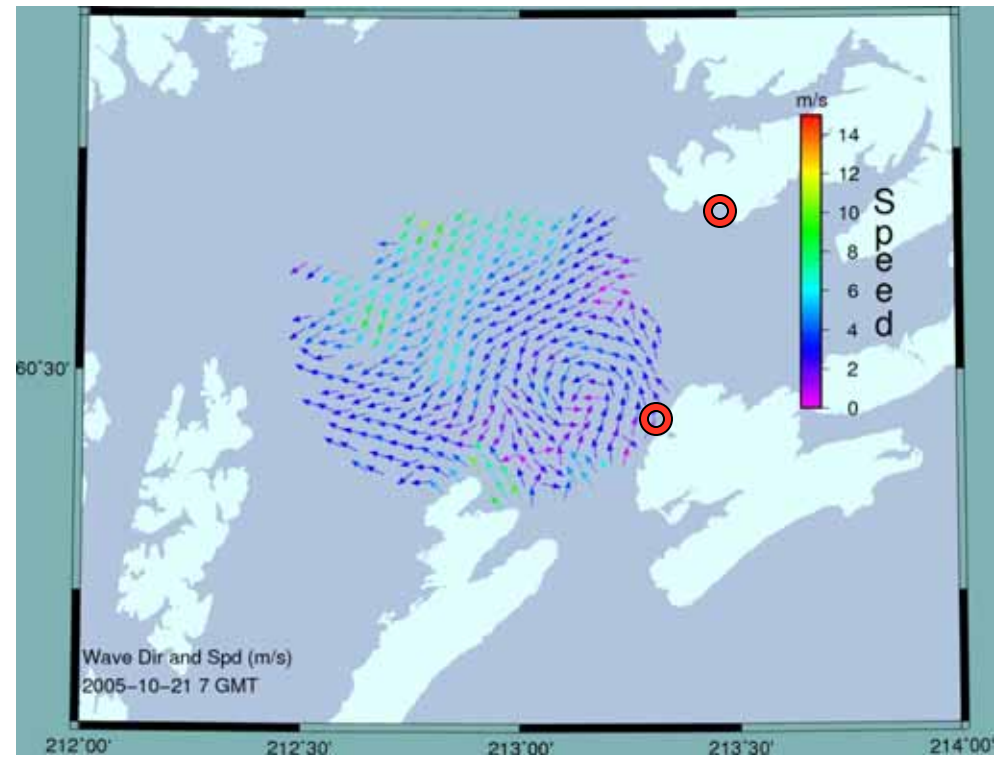
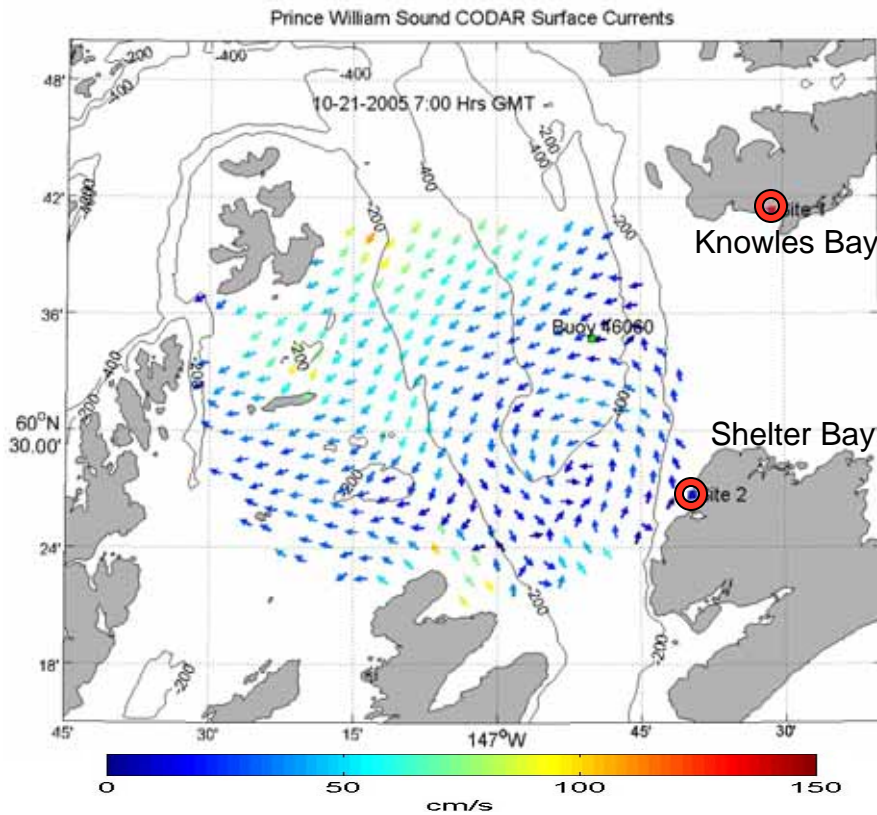
HE3 CTD

id	ob	speed	dir	u	v	depth	pressure	lat	lon	geom	src	agency
HE3	2005-09-12	00:00:00	107.2	322.9	-64.66389628663	85.5009971701	3.7	60.2353333	-146.74575			
HE3	2005-09-12	00:00:00	29.7	327.2	-16.0887338454	24.9648281238	7.7	60.2353333	-146.74575			
HE3	2005-09-12	00:00:00	17.1	304.5	-14.0925578254	9.68554665141	11.7	60.2353333	-146.74575			
HE3	2005-09-12	00:00:00	9	305.5	-7.32703966521	5.2263266014	15.7	60.2353333	-146.74575	010		
HE3	2005-09-12	00:00:00	13	321.5	-8.09269027629	10.1739060391	19.7	60.2353333	-146.74575	01		
HE3	2005-09-12	00:00:00	13.5	327.1	-7.33285507433	11.3348681712	23.7	60.2353333	-146.74575			
HE3	2005-09-12	00:00:00	13.5	343.2	-3.90192925875	12.9238132167	27.7	60.2353333	-146.74575			
HE3	2005-09-12	00:00:00	19.3	339.7	-6.69585807536	18.101256438	31.7	60.2353333	-146.74575			
HE3	2005-09-12	00:00:00	27.8	335.6	-11.4843031491	25.3170057704	35.7	60.2353333	-146.74575			

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Changing ocean currents: COastal raDAR (CODAR) real-time surface current mapper





Harboret Installation

