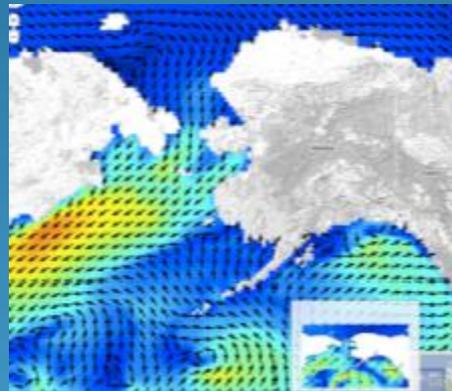


## Alaska Ocean Observing System

*Real-time data and model forecasts*



Molly McCammon

Nov 3, 2011

## AOOS Mission

Provide easy access to information about the physical, chemical, and biological states of Alaska's oceans and coastal ecosystems

Develop and maintain a network of ocean and coastal observations

Generate information products and tools for informed decision-making



## Part of a Nationwide System

- Integrated Ocean Observing System – IOOS
- 11 regions nationwide
- NOAA-funded



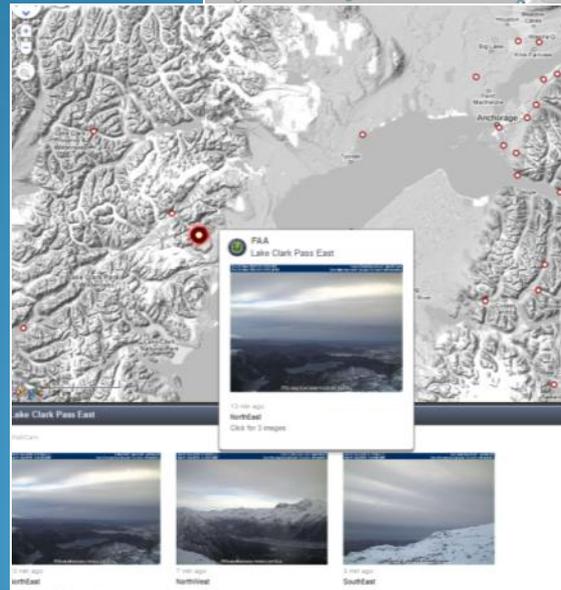
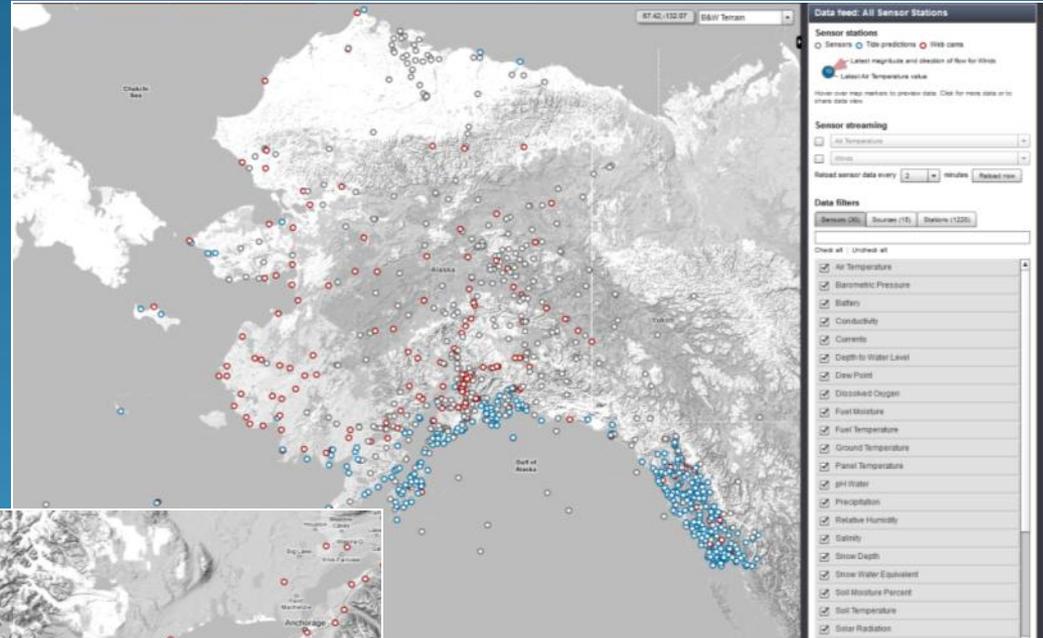
## Where does the data come from?

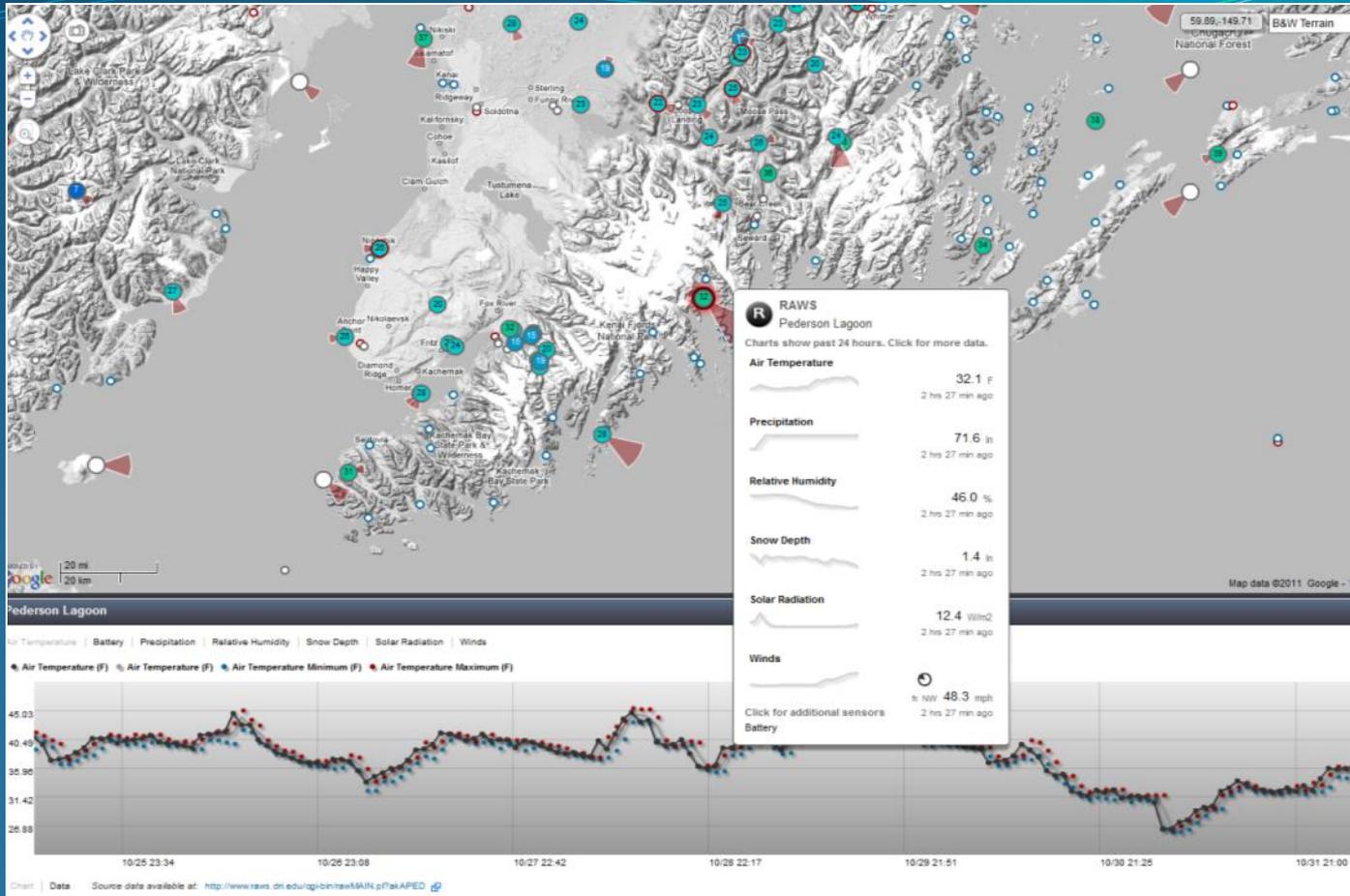
- AOOS' own instruments
- AK Dept of Transportation
- Federal Aviation Administration
- Friends of the Chugach
- Kachemak Bay Research Reserve
- National Data Buoy Center
- NOAA- National Weather Service
- Privately-owned web cams
- RAWs
- Snotel (met stations)
- USGS - Water division
- USGS – Permafrost & Climate division
- University of Alaska – Fairbanks
- Others....

## Real-Time Sensor Map

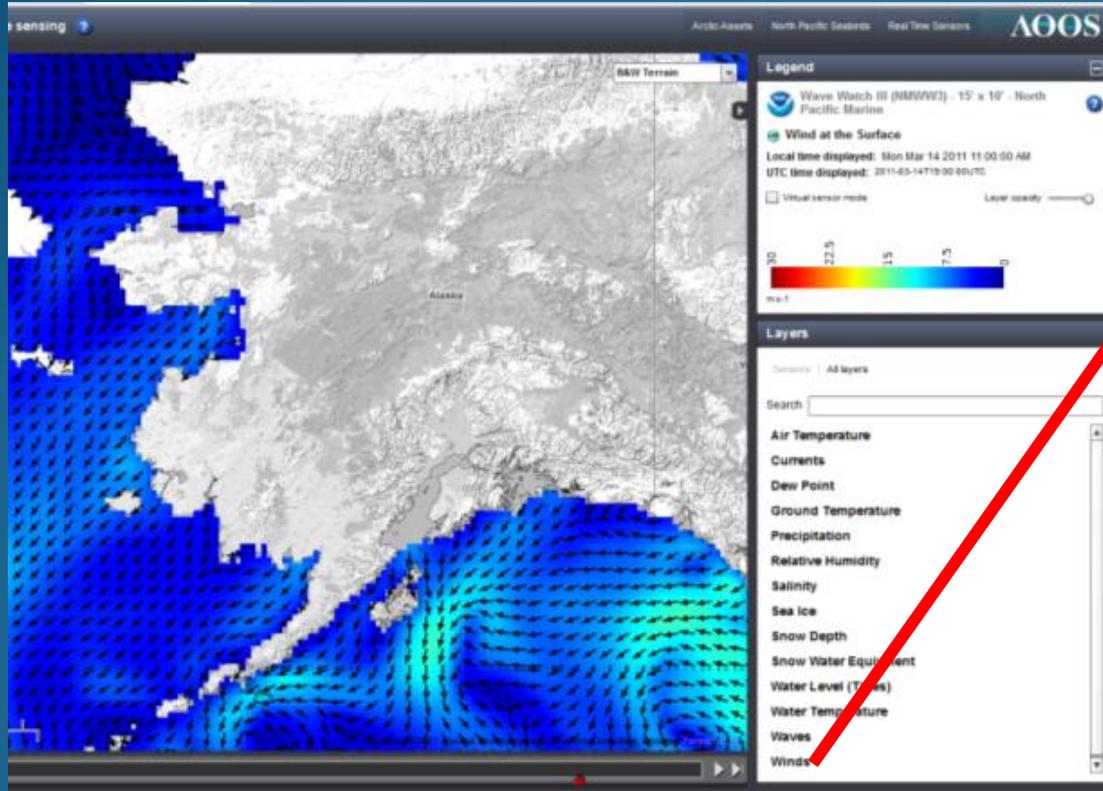
Over 4,000 sensors

- Air temp
- Barometric Pressure
- Currents
- Water level
- Ground temp
- Precipitation
- Humidity
- Salinity
- Snow depth
- Stream flow
- Stream height
- Tides
- Water temp
- Web cams
- Weather
- Wind
- More....

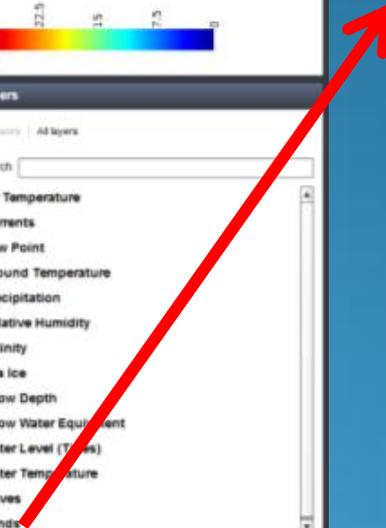




- Wind vectors and dot colors reflecting relative conditions
- Multiple graphs appear with mouse over
- Downloadable time series data in one click



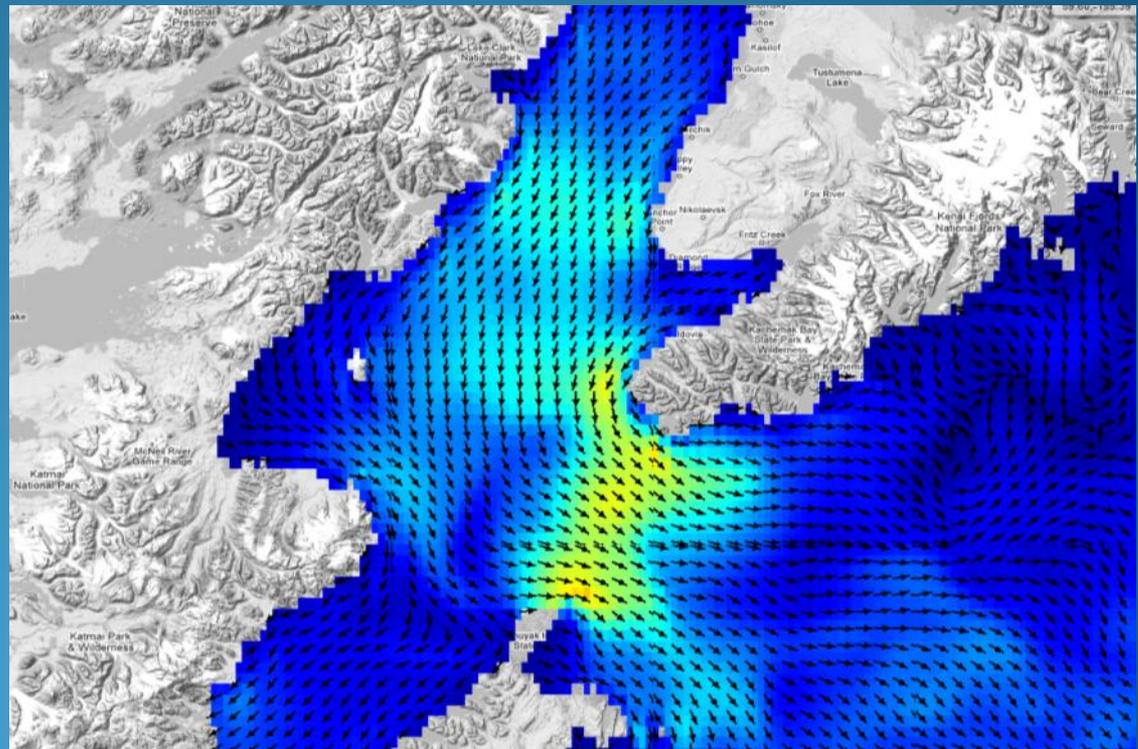
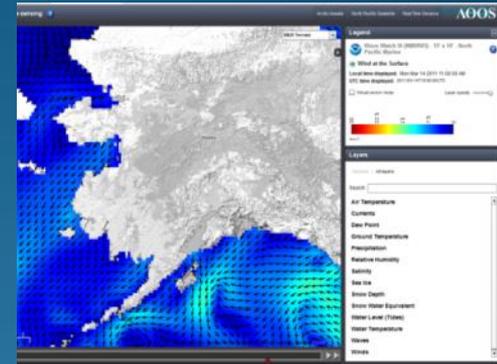
- Winds** ✕
-  NDFD Aggregate Model - 6 km<sup>2</sup> - North Pacific Marine ?
  -  Wind at Surface
  -  North American Mesoscale Weather Research and Forecasting (NAM-WRF) - 12 km<sup>2</sup> - South Central Alaska ?
  -  Wind at 10 Meters
  -  Wave Watch III (NMWW3) - 8' x 4' - North Pacific Marine ?
  -  Wind at the Surface
  -  NDFD Wind Speed Gust - 6 km<sup>2</sup> - North Pacific Marine ?
  -  Wind Speed Gust at Surface
  -  Weather Research and Forecasting (WRF) - 4 km<sup>2</sup> - Prince William Sound and Cook Inlet ?
  -  Wind at 10 Meters
  -  Wave Watch III (NMWW3) - 15' x 10' - North Pacific Marine ?
  -  Wind at the Surface



# Model Explorer

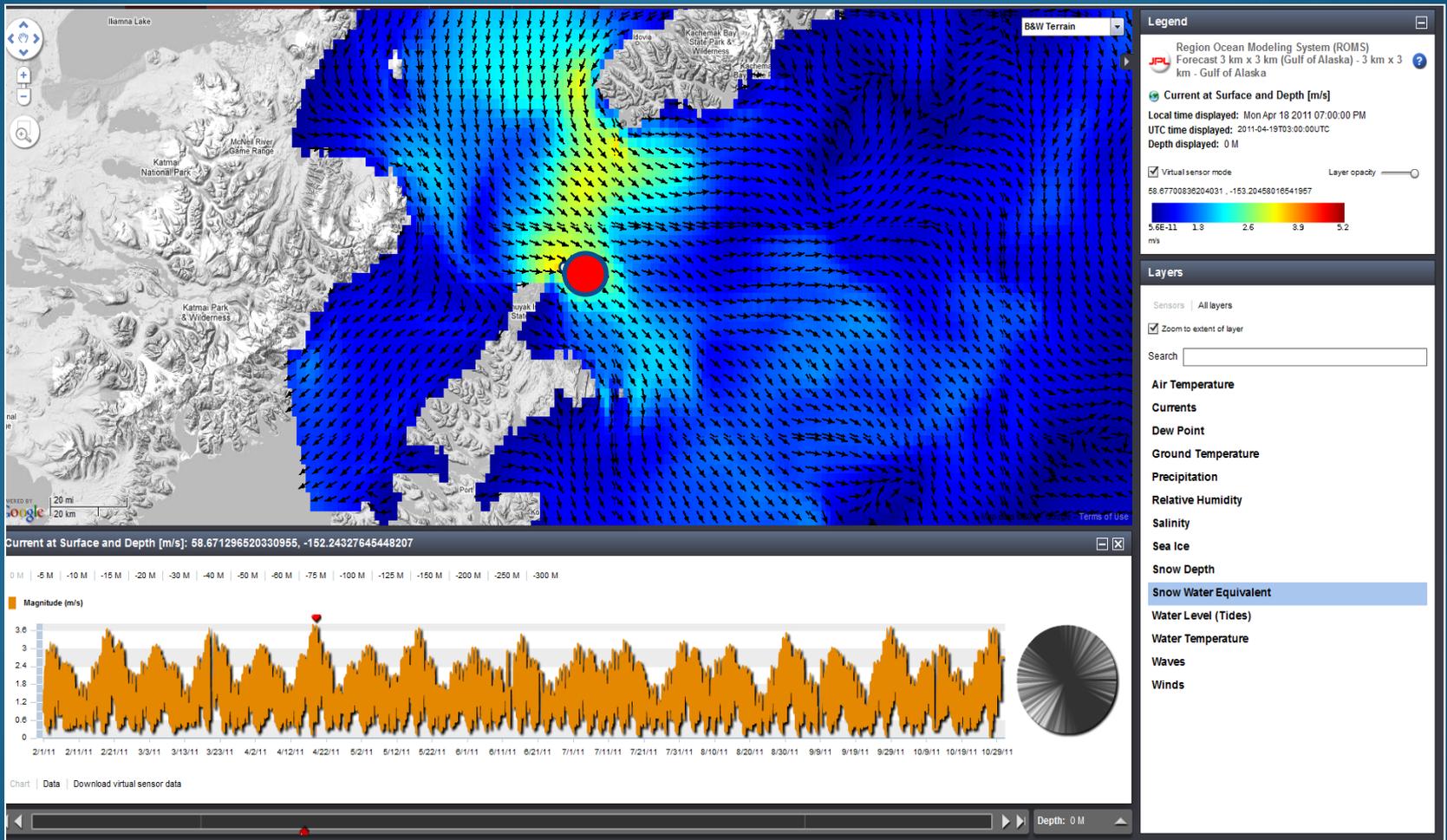
## Useful Parameters for PWS

- Air Temp
- Currents
- Dew point
- Ground Temp
- Precipitation
- Relative Humidity
- Salinity
- Sea Ice
- Snow Depth
- Snow Water Equivalent
- Water Level (tides)
- Water Temperature
- Waves

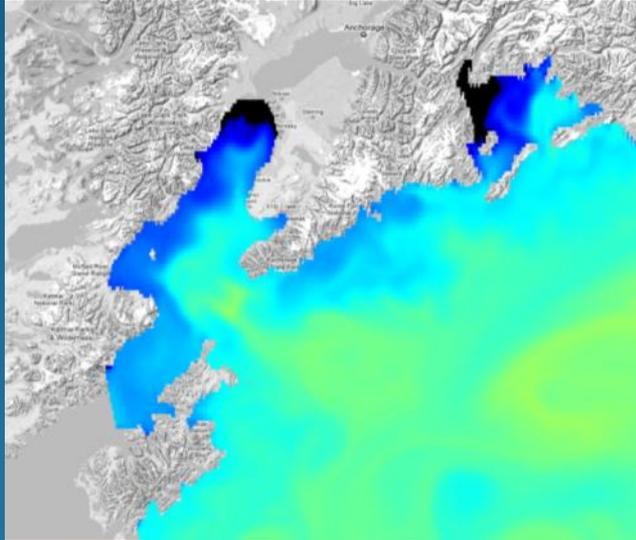


# Model Explorer

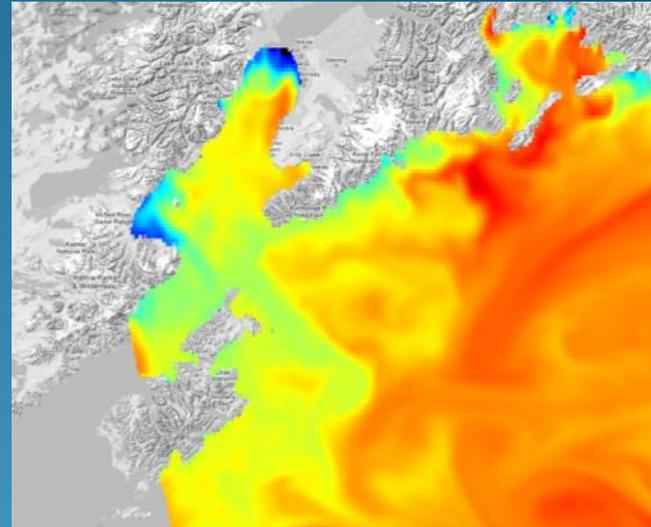
Drop a virtual sensor to investigate a specific location



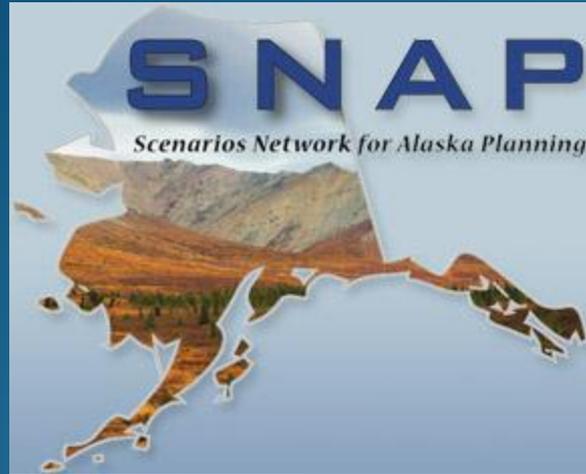
## Model Explorer (images updated 2-4x/day):



Salinity  
3 km res

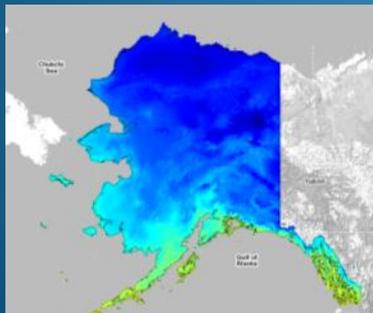
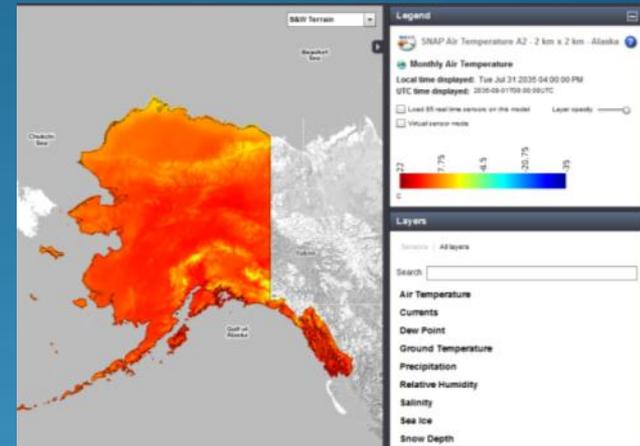


Sea Surface Temp  
3 km res

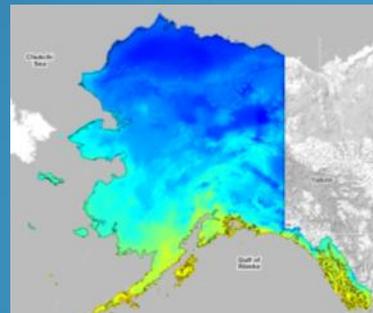


## Climate models

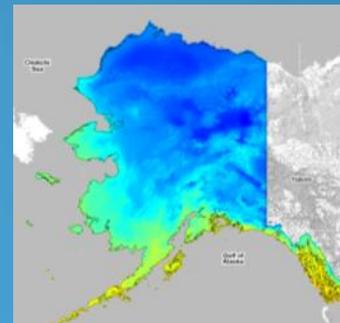
Climate model projections  
Monthly from 1960 to 2100



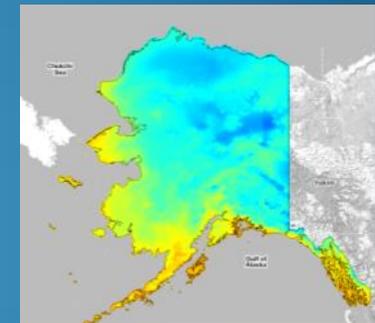
Dec 1970



Dec 2000



Dec 2050



Dec 2095

## Coming Soon...

Alaska Ocean Portal – combining multiple types of data

Spill Response tool for Cook Inlet

Ocean Workspace – allowing easy access and sharing of data

EVOS Long Term Monitoring Project

# Thanks

[www.aoos.org](http://www.aoos.org)



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