

# Moored long-term ecosystem monitoring

## Mooring Observatory Consortium

AOOS – Industry – NPRB – UAF – UW – U. Laval

## Objectives

- Monitor the Chukchi ecosystem year-round from the vantage of multiple disciplines, across multiple trophic levels, and with high temporal resolution.
- Relate timing and magnitude of fluctuations of **nutrient and carbonate chemistry, particulate, phytoplankton, zooplankton**, and **fish** parameters to variations in each other and the **currents, waves, wind, light**, and **ice**.
- Provide researchers and resource managers with a multi-year reference arctic shelf biogeochemical dataset.

## Instrumentation build-out plan

- New measurement parameters in future years:

Sediment Trap

Passive Acoustic Recorder

Nitrate, CDOM, OBS, O<sub>2</sub>

pCO<sub>2</sub>, pH

## 2014 Configuration



### 33 m below the surface

#### Acoustic Doppler Current Profiler:

Current speed & direction  
Significant wave height & direction

#### Laser In-Situ Scattering Transmissometer:

Particle size spectra & volume concentration  
Optical transmission

#### Acoustic Zooplankton and Fish Profiler:

Target strength  
Volume backscatter  
Ice draft

#### SeaCat datalogger:

Pressure, Temperature, Salinity  
Chlorophyll Fluorescence  
Photosynthetically Available Radiation

**71.6°N, 161.5°W**



### Seafloor + 6 m

#### Recording Current Meter:

Current speed & direction  
Pressure, Temperature, Salinity  
Turbidity



### Seafloor + 4 m

#### MicroCat datalogger:

Pressure, Temperature, Salinity

#### Acoustic Releases:

2 Push-Off Release Transponders

