# OCNMS Field Seasons 2017-2018

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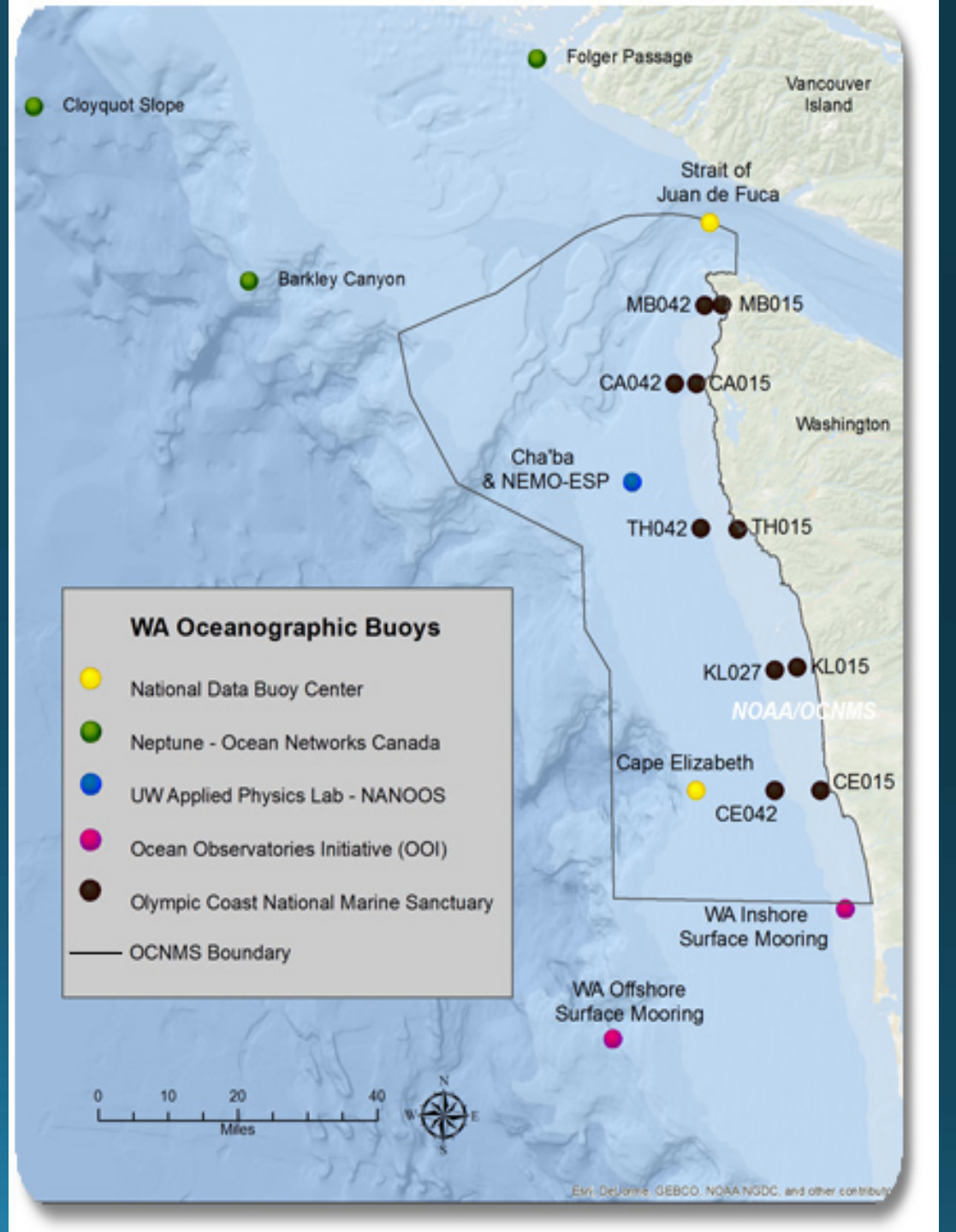
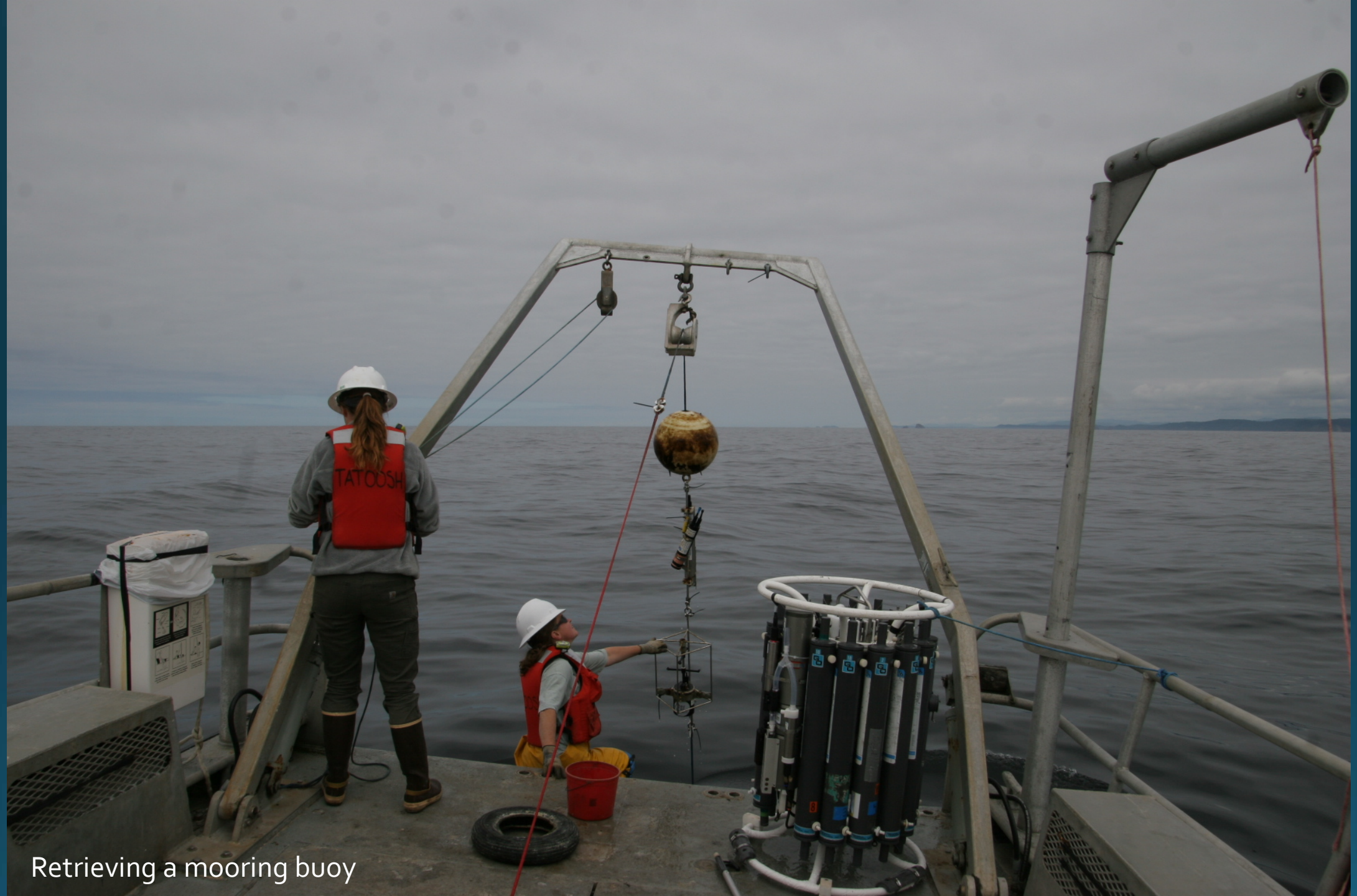
# Oceanographic Moorings Measurements and Locations

- Dissolved oxygen
- Temperature
- Conductivity
- Turbidity
- Currents

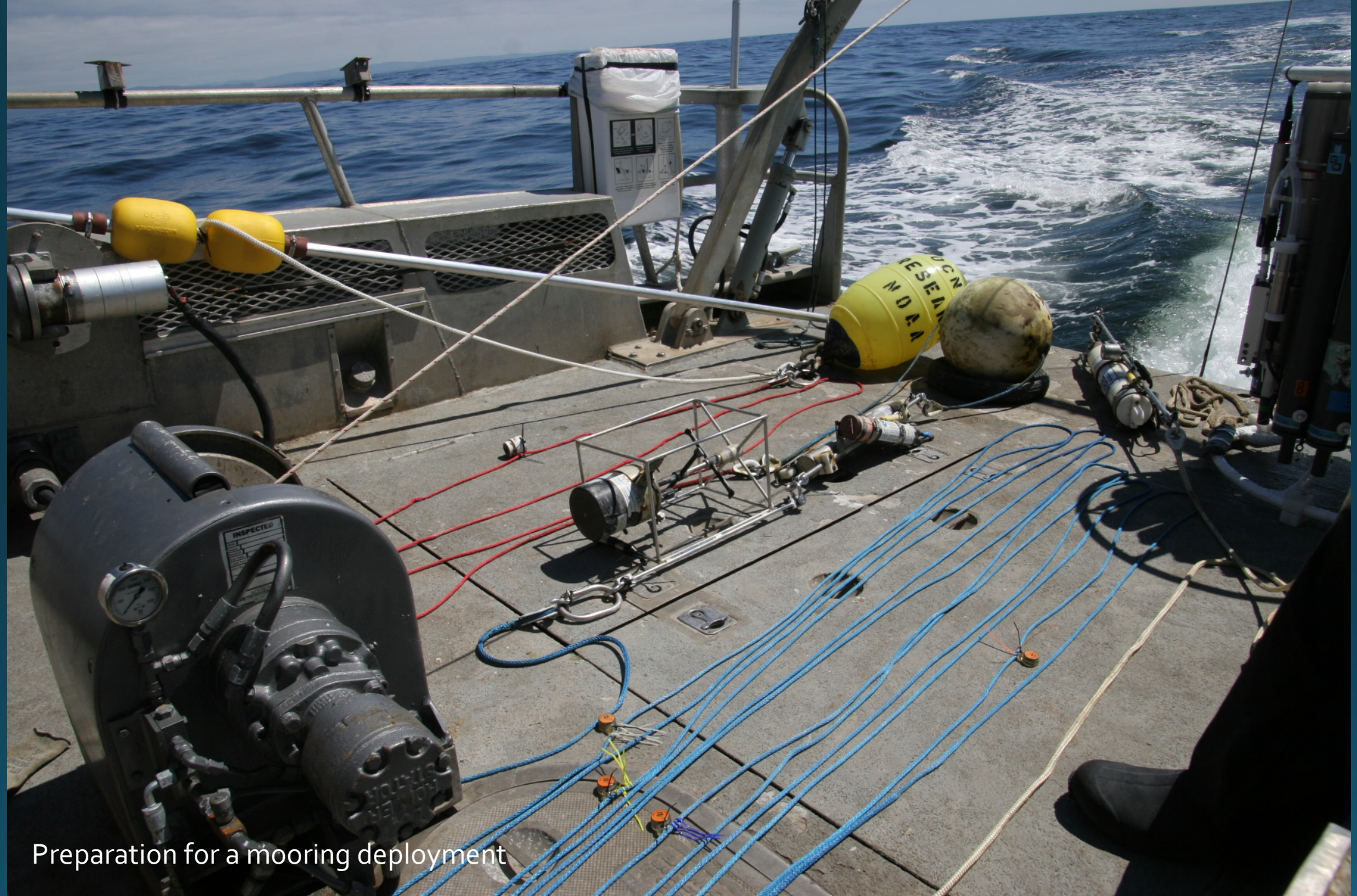


Survey technician and volunteer deploying the CDT to measure conductivity, dissolved oxygen, and temperature

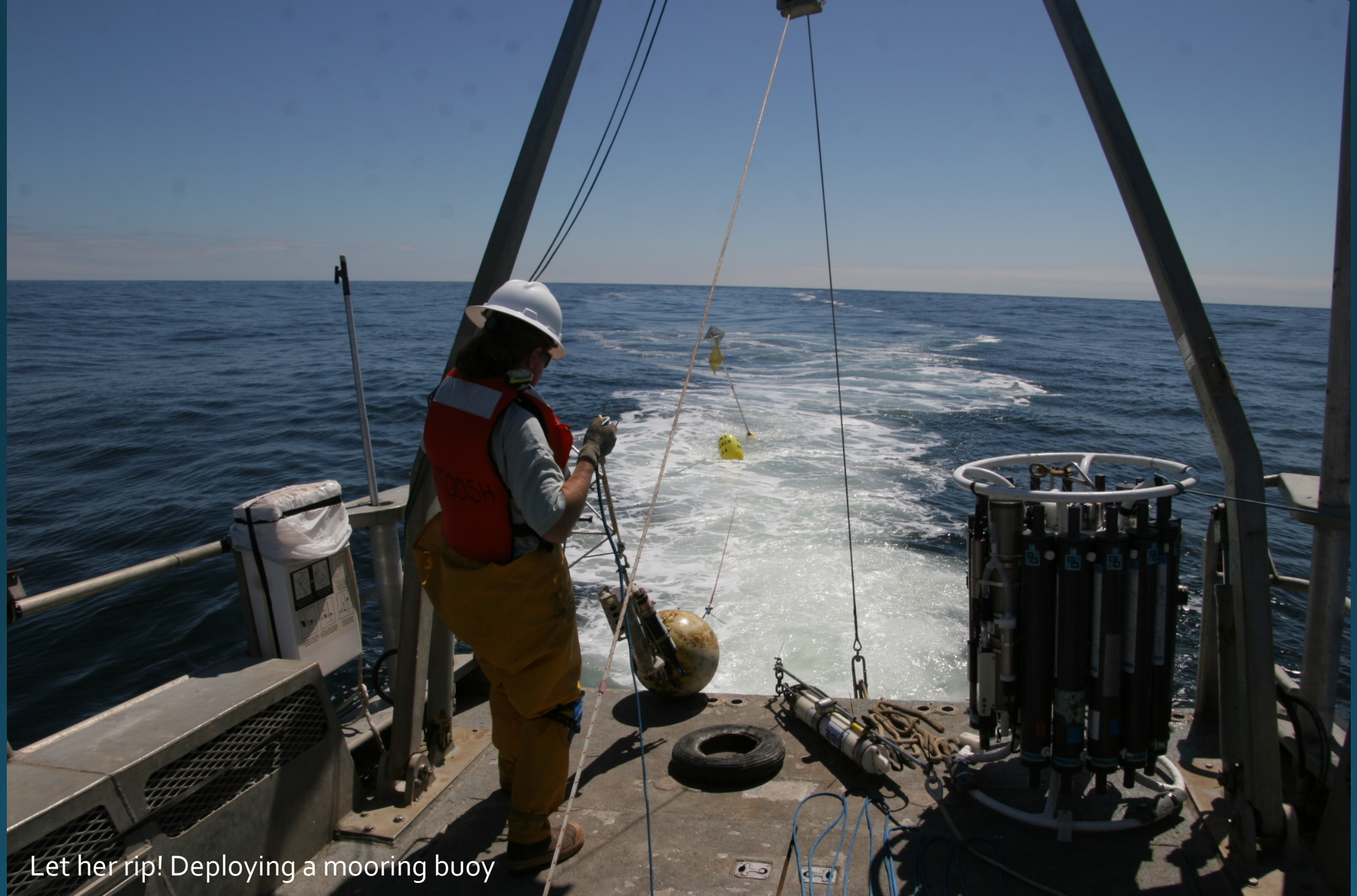



Retrieving a mooring buoy

Anchors Away – pulling up a mooring anchor



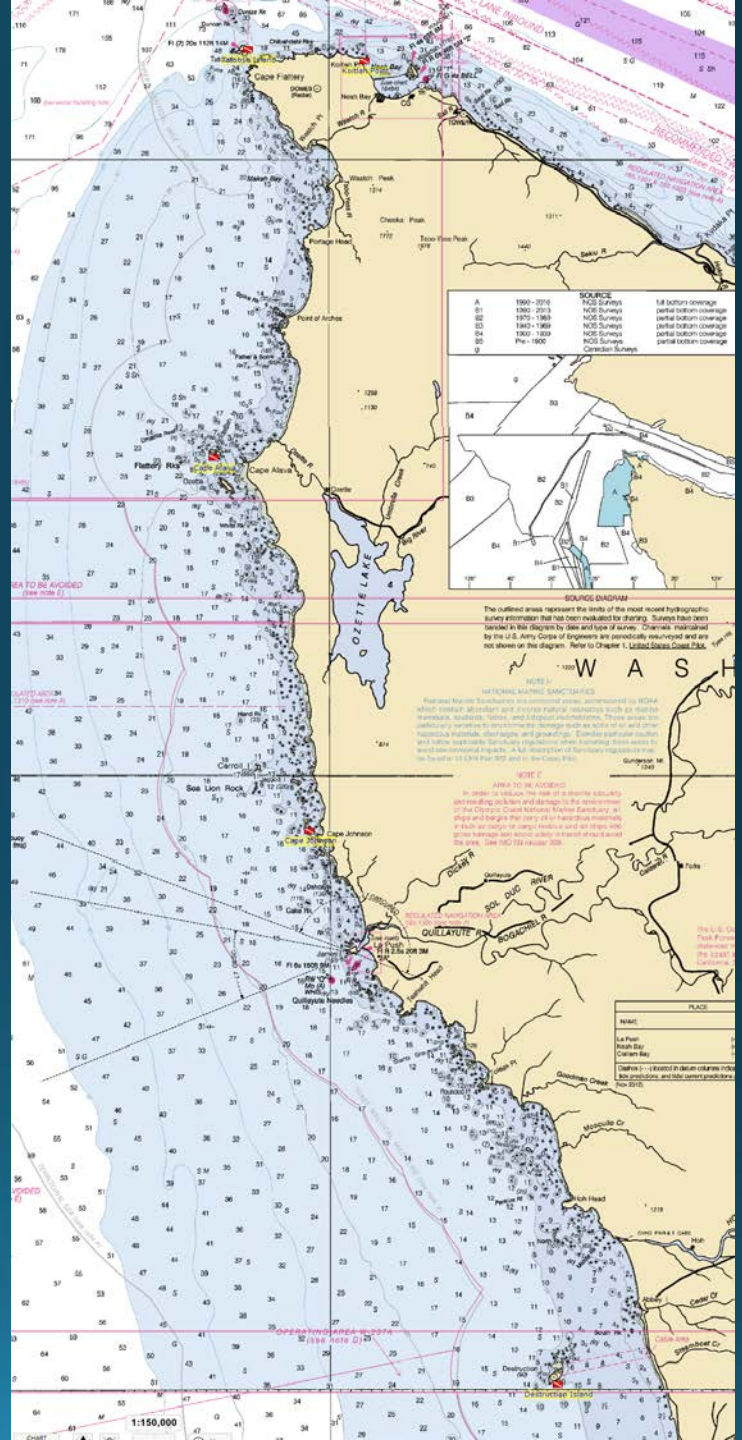

Preparation for a mooring deployment



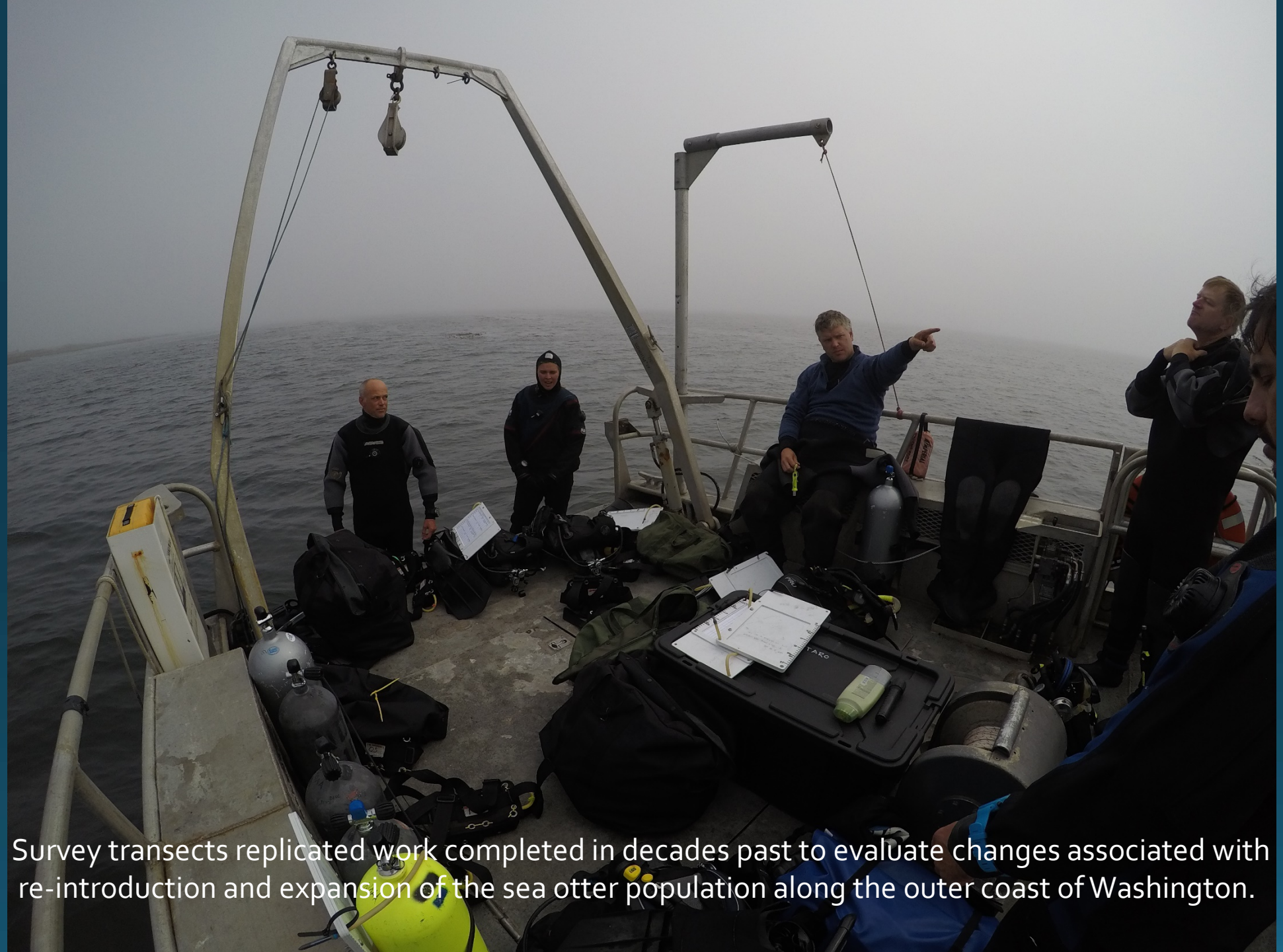
Let her rip! Deploying a mooring buoy

Capturing a plankton sample

# NWFSC Subtidal Dives



Divers view of the *R/V Tatoosh*



Survey transects replicated work completed in decades past to evaluate changes associated with re-introduction and expansion of the sea otter population along the outer coast of Washington.

Additional diver support vessel - *R/V Minnow*

Onboard dive compressor

2018 Subtidal dive survey team

# U Chicago Kelp Bed Research

Dr. Cathy Pfister and doctoral candidate Brooke Weigel take light measurements off OC-2. This multi-year study collects water samples to understand the extent to which kelp forests remove carbon dioxide, increase pH, and potentially serve as an ocean acidification refuge for calcifying species

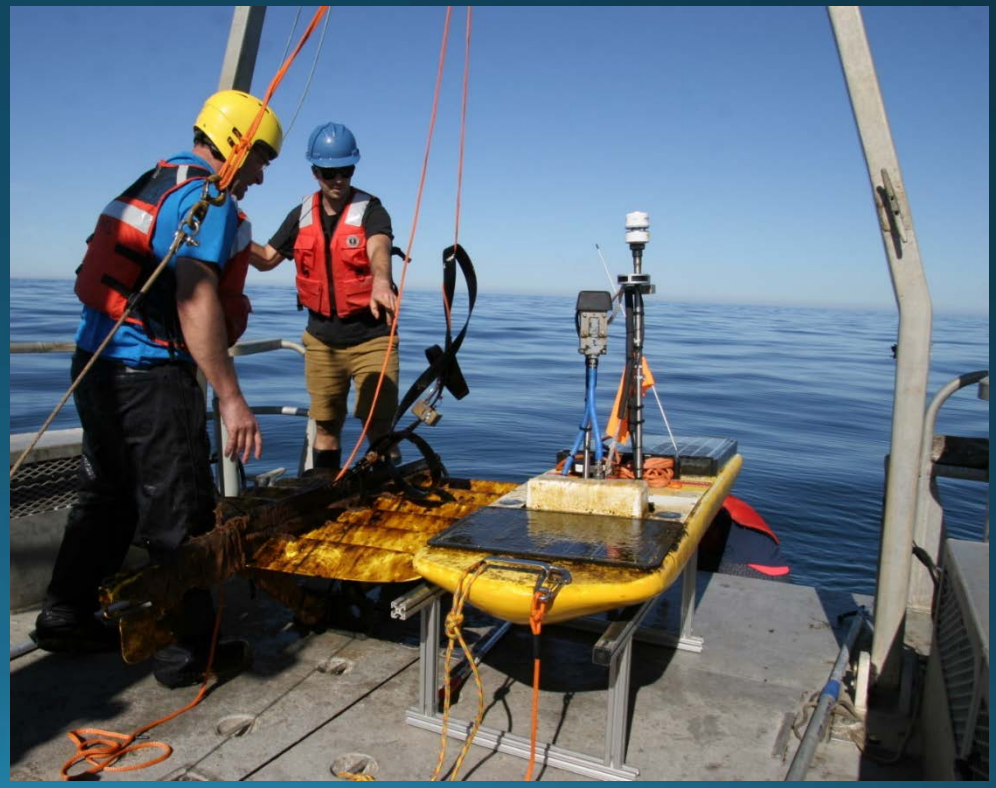
# Cetacean Acoustic Recorders

The goal of this project is to detect the presence of southern resident killer whales along the outer coast and in OCNMS during winter months using bottom-anchored acoustic moorings.

# Audubon Christmas Bird Count

The survey is a citizen science project dating back 118 years. Annually, across North and South America, volunteers head to designated 15-mile wide diameter circles, follow specified routes, and count every bird they see and hear.

# PMEL Wave Glider



R/V Tatoosh crew and carbon scientists from NOAA's Pacific Marine Environmental Laboratory deployed an autonomous waveglider equipped with sensors to measure atmospheric carbon partial pressure, wind speed, air temperature, ocean surface $CO_2$, water speed and direction, sea temperature, and salinity. The glider was deployed within the sanctuary for 62 days, traveled 1130 nautical miles, and was recovered by R/V Tatoosh. ore information can be found at: https://www.pmel.noaa.gov/co2/story/Carbon+Wave+Glider

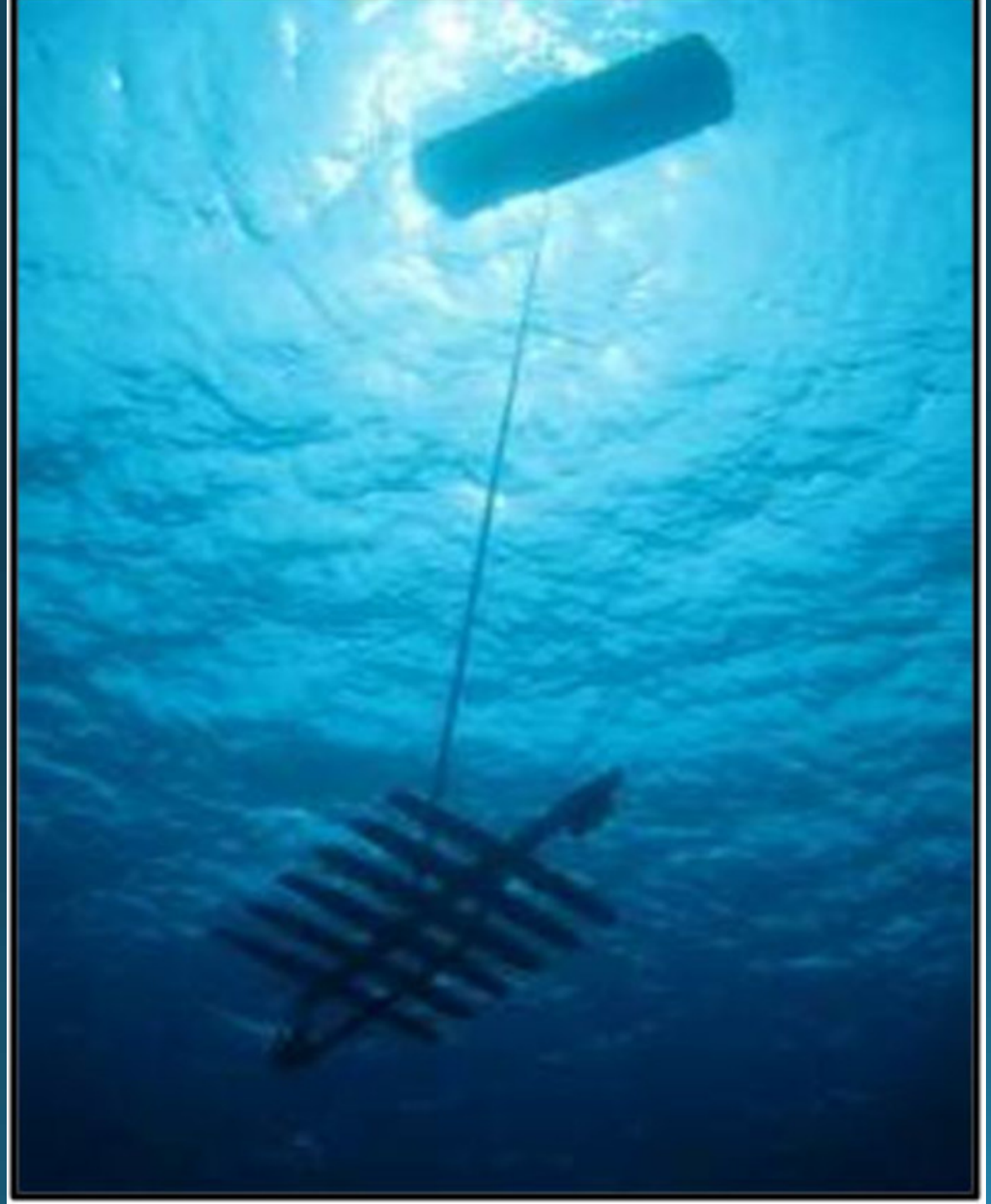
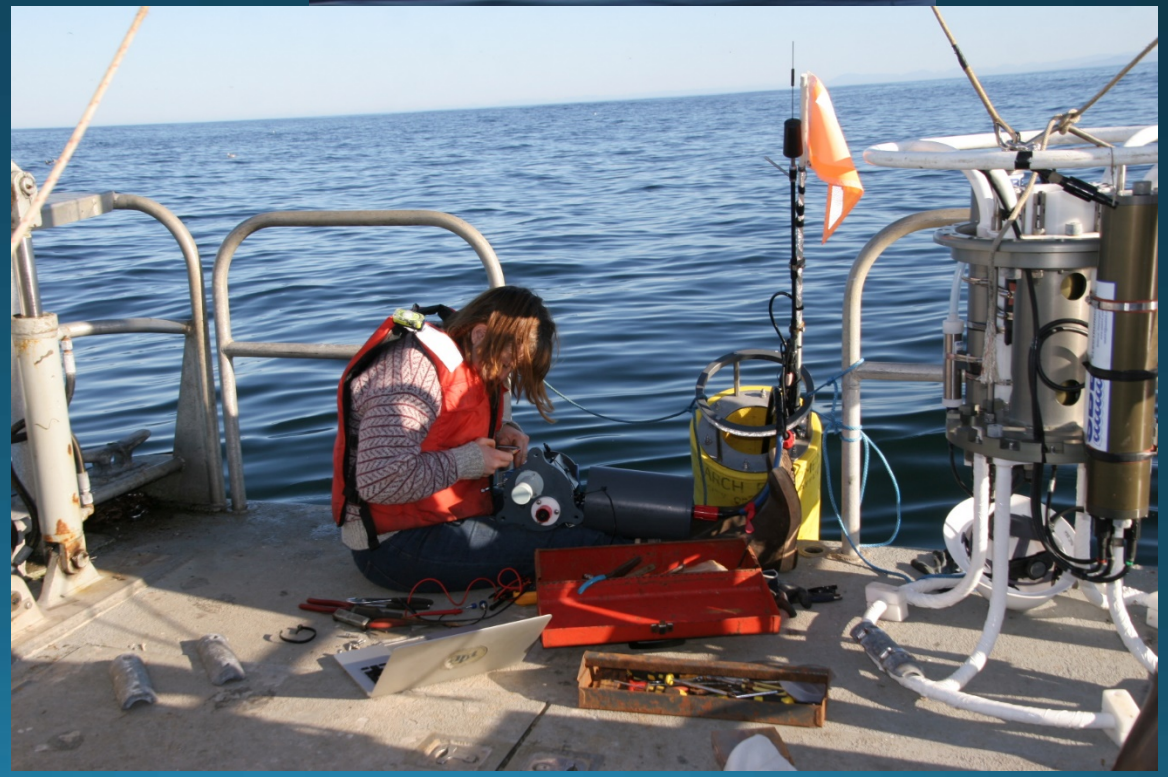


Photo of a Wave Glider from underwater.
Photo courtesy of LRI Inc.

# Peninsula College Oceanography

Peninsula College Oceanography students from the Port Angeles Small Boat Haven collect benthic samples, CTD data, and water samples,  & get an introduction into the life of an oceanographer

# ESP Troubleshooting



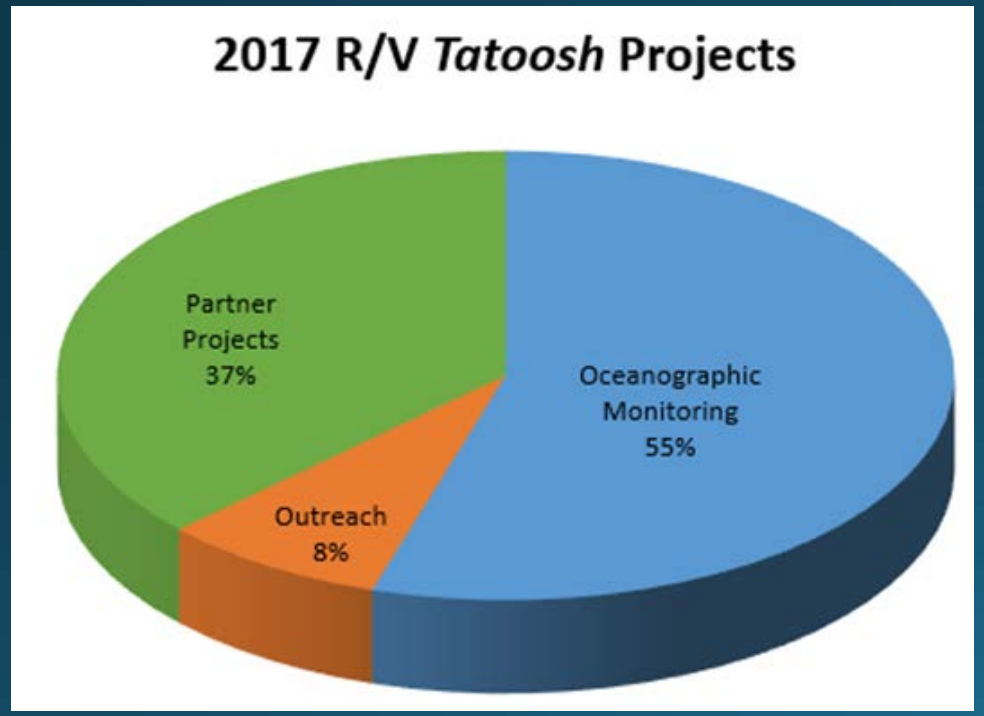
University of Washington deployed the Environmental Sample Processor (ESP) next to the ChaBa mooring off La Push in OCNMS. The buoy monitors for presence of domoic acid and provides near real-time data online to oceanographers, state coastal managers, and public health officials.

# Get Into Your Sanctuary Day

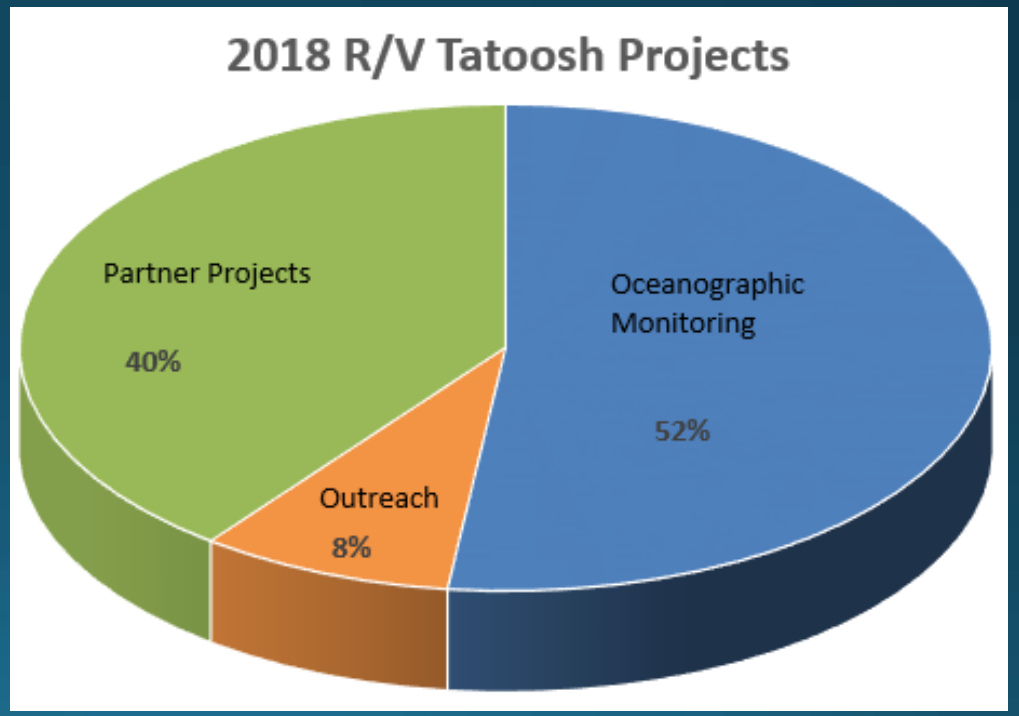
Olympic Coast National Marine Sanctuary celebrated "Vet Into Your Sanctuary" in August 2018 by providing recreational boating opportunities for veterans and their families. 45 participants enjoyed a beautiful day either fishing or wildlife viewing in the sanctuary waters aboard the Neah Bay charter boat Wind Song or the R/V Tatoosh. Rockfish made up the majority of the morning fishing charter catch. Wildlife watchers took in the scenic beauty of the coastline, visited a common murre rookery, a Steller sea lion haul out, plus caught glimpses of harbor porpoises and humpback whales.

Small wood brings big problem for the impeller

- Tatoosh: 29 days at sea
- OC-2: 12 days at sea




- Tatoosh: 28 days at sea
- OC-2: 11 days at sea



# On the Horizon

- Sound trap deployment
- More ESP support
- Continuing:
  - Oceanographic moorings (19th consecutive season)
  - NWFSC dive surveys
  - OC-2 kelp bed work