Name: Megan McPhee (PI) & Pat Barry (PhD student/post-doc)
Institution: University of Alaska Fairbanks
Subject: Testing the accuracy of the Chinook salmon genetic baseline in preparation for a technological transition

- **Why**: NOAA ABL is updating process for estimating stock composition of Chinook salmon bycatch in Alaska pollock fisheries
- **Finding**: sample sizes can be reduced from 100 to 60 for finer-scale analysis of spatial and temporal patterns in Chinook salmon bycatch
- **Product**: analytical pipeline from raw genetic data to stock composition report for stakeholders
Fall 2021 recovery cruise was canceled
First winter surface carbon dioxide (CO₂) measurements in record
Sea ice hit the M2 mooring 4 days before recovery in January 2022
Name: Dave Butterfield
Institution: CICOES

Subject: Methane from Coastal Gas Seeps

Details:
- A survey of dissolved methane was completed during 2021 West Coast Ocean Acidification
- Methane from 1000’s of seafloor gas seeps reaches the surface ocean
- Highest concentrations near upwelling areas and known shallow seep areas
Name: Tara Clemente
Institution: CICOES (PMEL)
Subject: NOAA-KIOST RAMA Cruise

Details:
• Mauritius to Jangmok, South Korea
• Denise Kester and Korey Martin
• 15 December – 18 January, 2022
• Two (2) RAMA Surface Moorings and one (1) ADCP were successfully deployed in the Seychelles-Chagos Thermocline Ridge (SCTR)
• Six (6) Argo Floats
• 20 Drifters

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Name: Liz McHurton
Institution: CICOES

Marine mammal behavior and physiology

Details:
• Marine heatwaves and consumption landscapes (Steller sea lions)
• Prey availability and anthropogenic disturbance (Cook Inlet belugas)
• Always looking for new collaborators and project ideas!

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The last “cool” photos I have.
NMFS permit # 14327
Name: Ivonne Ortiz  
Institution: University of Washington  
Subject: Ecosystem Status Reports, Assessments of Alaskan  
Details: ecosystem specific: Aleutian Islands, Gulf of Alaska, Eastern Bering Sea  
• Interested on environmental drivers, biological indicators for AK, biennial patterns, or trends in the Aleutian Islands
Name: Darren Pilcher
Institution: University of Washington
Subject: Modeling ocean acidification in the Bering Sea on multiple timeframes to support NOAA Fisheries management

Details:
- Bering Sea highly vulnerable to OA, potential risk to fisheries and food security
- Near-term: Ecosystem Status Report (ESR), Ecosystem and Socioeconomic Profiles (ESPs)
- Long-term: Alaska Climate Integrated Modeling Project (ACLIM)
CICOES Outreach
Adventure Camp and MESA
Inspiring the younger generation!

**Adventure Camp:**
- Students in grades K-8 with social needs toured UW to participate in hands-on science-themed activities
- Students learned about marine mammals and the surrounding ecosystem

**Mathematics, Engineering, Science Achievement (MESA)**
- A group of 8th graders
- Hands-on activities looking at marine mammal behavior, ocean acidification, and ocean currents
- Tour of UW fish collection
Name: Yong Wei, Clint Pells
Institution: CICOES-UW
Subject: Lightning News of Tsunami

New Grants:
- NSF Coastal & People Hub Award: YW, Co-PI
- Multi-million Dept of State (DoS) award for probabilistic tsunami impact on DoS oversea posts: YW, PI (DoS-PMEL contract) (Fig. 1)

New Research:
- Tonga Volcano-generated tsunami (animations 2a and 2b)
- R2O: develop and Implement GNSS-assisted forecast tools at Tsunami Warning Centers (CP) (Fig. 3)

Publication highlight:
- CICOES tsunami contributed, for the 1st time, to NOAA UFS Coastal Application Whitepaper on water quantity

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Probabilistic inundation depth taking into account 50-year SLR projection for Dili, East Timor

Animations of the Jan 15, 2022 Tonga Volcanic-generated tsunami

(2a) modeled air pressure Lame wave
(2b) air pressure-induced tsunami propagation

Displacement of GNSS stations allowing for rapid determination of seismic magnitude for event-time tsunami modeling
Name: Robert Wood & Sarah Doherty  
Institution: Dept. of Atmospheric Sciences, UW

Subject: Marine Cloud Brightening Project

Details:
- Program studies the potential for slowing climate warming by increasing the reflectivity of low marine clouds, and how doing so would alter climate risk
- Studies include:
  - Modeling across a range of scales
  - Laboratory & field studies
  - Analysis of "natural experiments"
Name: Jiaxu Zhang and Calvin Mordy
Institution: UW/CICOES and PMEL/EcoFOCI

Aircraft-based hydrographic and meteorological survey at the Chukchi and Beaufort seas

- Starting 2016, Dr. Kevin Wood (1962-2022) utilized NOAA aircraft to collect data over the Chukchi and Beaufort seas.
- To honor Kevin’s legacy, we gathered support from a variety of sources, including emergency funding from CICOES.
- Two surveys have been planned this year and Jiaxu has just finished the first one in mid June. A second one is planned in late July.