Summer 2021

Issue 4

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OCOIN's Summer Interns

OCOIN welcomes two new Oregon Sea Grant Scholars to the team this summer, Charlotte and Joshua! They are working as a team to lead ongoing stakeholder engagement efforts and optimize the Coastal Research Explorer. Please read their short biographies below and if you think you can offer them a professional development experience, or a guiding hand don't hesitate to reach out to the OCOIN network with ideas (ocoin.outreach@gmail.com).

Charlotte Klein, Sea Grant Scholar

Charlotte just finished her junior year at the University of Oregon where she is double majoring in Environmental Science and Spatial Data Science and Technology. At OCOIN, Charlotte is looking forward to working with maps all day and facilitating collaboration between researchers, managers, and policymakers. Charlotte's graduate school and career aspirations involve using spatial data analysis to inform policy and management decisions in aquatic environments.

Joshua Fackrell, Sea Grant Scholar

Joshua starts graduate school this coming Fall at Portland State University. He recently completed a post baccalaureate interdisciplinary science degree with minors in environmental science and biology. His first degree is in economics, where environmental economics piqued his interest. Working with Oregon Sea Grant and OCOIN this summer is an amazing opportunity to expand his love for the environment as he grows his environmental influence. He is looking forward to learning ArcGIS and meeting people in the coastal network.

What's new in the network?

COMING SOON: Look for updates about our Fall Annual Meeting!

Coastal Research Explorer Tool

The Coastal Research Explorer Tool creates a platform for researchers to share their completed or ongoing projects, explore other projects occurring on the coast, and establish relationships with other coastal users. To date, there are 141 research projects available in the Coastal Research Explorer! In the past year, the tool had 829 page views, a 35% increase from the same period last year!

Help keep this tool active by reporting updating your research or adding new research.

Oregon Explorer

The Oregon Explorer website provides more general coastal research information by providing users with access to stories, publications, webinars, other coastal mapping tools, and much more. Since its launch in December 2017, the Oregon Explorer Coastal Research site has been viewed over 2500 times. There were 1036 page views in 2020, a 60% increase from 2019.

Oregon Coastal & Marine Data Network

OCOIN members have been added to the Oregon Coastal & Marine Data Network to facilitate connections between producers and users of coastal and marine data. Users can find and review their profile by searching the alphabetical listing. Please email tanya.haddad@state.or.us to activate your account.

Joint our Networks Today!

Become a new member of OCOIN, or renew your involvement with OCOIN, by uploading your research projects to the map and joining the directory

Research Spotlight

“Microplastics in Pacific Northwest Bivalves: Ecological Prevalence, Harvester-Consumer Exposure, and Aquarium Exhibit Outcomes”

by Britta Baechler (Portland State University)

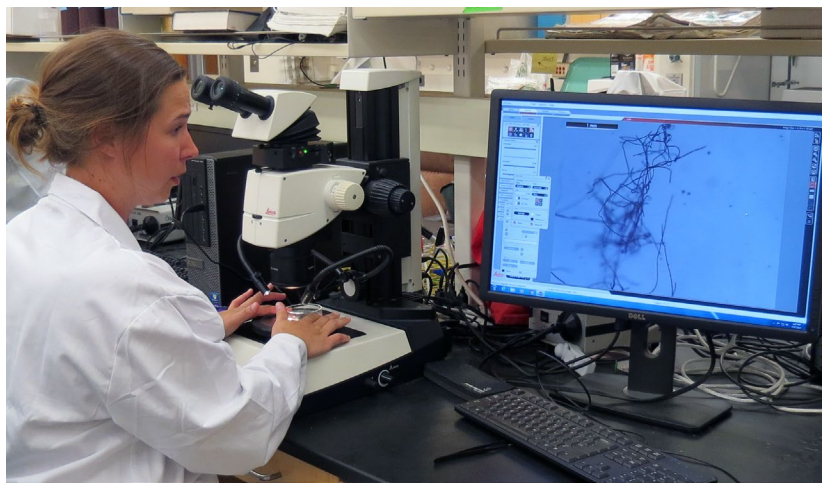


Photo credit: Tiffany Woods, Oregon Sea Grant

Dr. Britta Baechler’s research led to the first published study on microplastics (MPs) in Oregon. This study looked at the ecological prevalence of MPs in Pacific oysters and Pacific razor clams from 15 Oregon sites. Another one of her studies looked at human MP exposure by Pacific razor clams collected from eight tribal recreation and commercial harvest areas on the Olympic Coast. MPs were found at all 23 sites in Oregon and Washington.

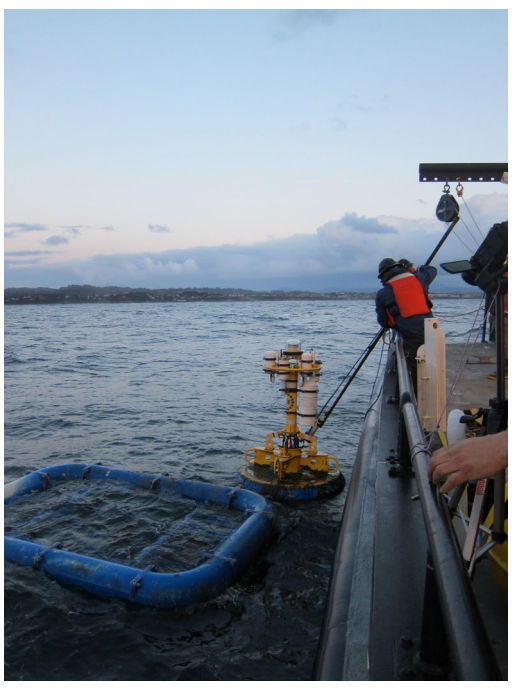
Microplastics research is important to keep the MPs conversation going and help develop policies that address the MP pollution problem in Oregon and beyond.

Baechler believes that primary MP research is extremely important. She has heard the opinion that more MPs studies are unnecessary due to the existing foundational science that points to MPs pervading all environments; however, Beachler believes that more localized science research, especially work that focuses on understudied, culturally or ecologically important species is critical to better inform policies that meaningfully prevent this type of pollution.

Baechler sees the need to enact broad-sweeping MP policy, encompassing primary and secondary MPs. Primary MPs are plastics that are manufactured to be small such as nurdles and microbeads. Secondary MPs are those broken down from other plastic products. One national policy that she is excited about is the “Break Free From Plastic Pollution Act”, which is co-sponsored by Senator Jeff Merkley.

Baechler is now working for the Ocean Conservancy as the Senior Manager of their Ocean Plastics Research Portfolio. Her dissertation on MPs will be made publicly available on November 30th, 2021.

Partner Spotlight: Ocean Observatories Initiative



Images from work supported by the National Science Foundation's (NSF) Ocean Observatories Initiative, a major facility fully funded by the NSF.

The NSF-funded Ocean Observatories Initiative (OOI) is a global network of ocean-observing arrays that collect real-time data about ocean and climate conditions. OOI data is freely available online for anyone hoping to answer critical questions regarding the world's oceans. While OOI is not a formal partner of OCOIN, members of OOI have been a part of OCOIN since its founding.

Professor Edward Dever, Principal Investigator and Project Scientist at the Pacific Northwest coastal component of OOI called the Endurance Array, says OOI was designed to build a new type of research capability for the oceanographic community. Instead of relying on the historic, expedition-based research model where a team could collect data during a small window in time, OOI designed and constructed permanent data-collection facilities whose instruments provide near, real-time data over the course of multiple decades.

Since 2015, the Endurance Array has been operating and measuring different physical, chemical, geological and biological properties in the ocean and on the seafloor. Everything from wind velocity, solar radiation, air pressure, and rainfall to water temperature, oxygen and nitrate levels, chlorophyll fluorescence, ocean turbidity and bioacoustics are measured at the Endurance Array's various buoys, profilers, and gliders off the coasts of Oregon and Washington.

The biggest challenge at these monitoring locations: sea lions and their feces. "We've put a significant amount of effort into trying to figure out how to solve the problem of sea lions on our buoys," says Dever. The weight of the sea lions affects wave-monitoring sensors, and their excrement decreases the efficiency of the buoys' power generating solar cells.

As Dever says, sea lions are going to remain a "permanent part of the Endurance Array's landscape," they have spurred ingenuity in buoy design that reflect a larger theme at OOI: growth and innovation. At OOI, "we're constantly trying to improve not just how much data we're collecting but.. the kind and quality of the data."

Learn more about OOI and access their data at https://oceanobservatories.org/