

FALL 2024 EDITION

# Cascadia CoPes Hub Quarterly Newsletter





*Hub members atop the Hatfield Marine Science building in Newport, OR during their annual gathering in May 2024.*

# ABOUT US

The Cascadia Coastline and Peoples Hazards Research Hub, or Cascadia CoPes Hub, is a team of researchers funded by the National Science Foundation to increase knowledge about the natural hazards coastal communities face and ways to increase their resilience. The Hub is working with communities in the Pacific Northwest, including Washington, Oregon, and Northern California to increase their ability to mitigate and adapt to impacts from hazards like earthquakes, tsunamis, sea level rise, landslides, and climate change. Read more [here](#) or visit our [website](#).

Please enjoy this seventh edition of our newsletter for updates on the progress and activities of the Cascadia CoPes Hub. The Hub is wrapping up their second year of amazing accomplishments. You will find descriptions and links to highlights from recent Hub activities, upcoming events, and ways to get engaged with the Hub.



# HIGHLIGHTS

## Hub awards 3 new pilot projects for 2024

The Cascadia CoPes Hub annually funds 3-5 pilot projects, each designed to engage communities and support emergent research activities. These year-long initiatives aim to address the information needs identified by tribes and other coastal communities.



### **Collaborative Mural with Latinx Youth in Newport**

A new mural project in Newport, OR, led by artist Emy Daniels, will engage Latinx youth to express their connection to their community and raise awareness of coastal hazards. The youth group will collaborate to create motifs, symbols, and imagery that reflect their thoughts and experiences. The mural will be produced using traditional materials and digital techniques.

*Dr. Felicia Olmeta Schult (PI, OR Sea Grant), Emma Gleeman (OSU), Emy Daniels (Lead Artist, Hatfield Marine Science Center)*

### **Building Inclusive Multihazard Evacuation Map Prototypes for Coastal Communities**

This project aims to create inclusive evacuation maps for the diverse residents of coastal communities. While state and local agencies have developed earthquake/ tsunami evacuation maps for the Oregon coast, there is a gap in creating multi-hazard maps that are clear and accessible to everyone. This project offers a unique opportunity to leverage existing internal draft maps to co-develop multi-hazard evacuation map prototypes.

*Dr. Jenna Tilt (PI, OSU), Dr. Jim Thatcher (OSU), Michael Howard (UO), Amanda Ferguson (UO)*

### **Flood Model Validation through Remote Sensing and Community Engagement**

Coastal Washington is expected to see half a foot of sea level rise in the next 30 years, increasing the need for effective resilience and hazard mitigation strategies. Our team is using advanced modeling to study past and present flooding in Grays Harbor and Willapa Bay, aiming to predict future flood risks under changing climate conditions while developing a tool to better visualize flood risks.

*Dr. Christie Hegermiller (PI, UW), Dr. Karthik Venkataramani (UW), Ryan Chiu (UW), Dr. Sanpisa Sritrairat (WA Sea Grant)*



## COASTAL PREPAREDNESS IN ACTION: ENGAGING COMMUNITIES WITH FUN AND FACTS



Left to right: Cait Goodwin, Josh Blockstein, Felicia Olmeta Schult, Aaron Groth.

Hub member Felicia Olmeta Schult, and Josh Blockstein, along with partners Cait Goodwin (OSG), Mary Hope (OSG), and Aaron Groth (OSU Extension) were busy this summer attending a total of 14 community events between August 6 and October 6, providing coastal hazards preparedness materials to communities. Felicia created a spinning wheel activity that quizzed attendees on coastal hazards. After engaging discussions, participants were awarded with an Oregon Sea Grant sticker or safety whistle for playing the game.

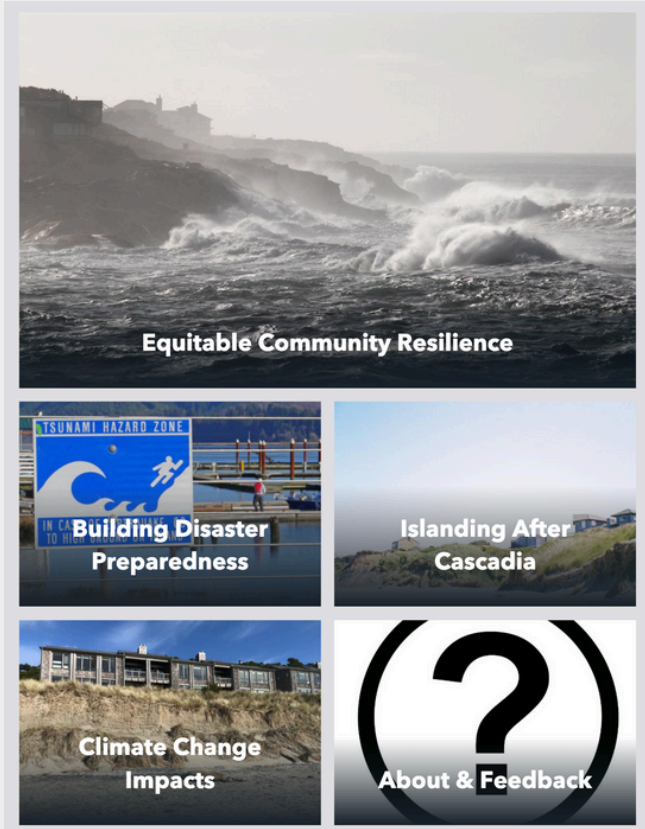
Cait also created an earthquake/tsunami and a coastal hazards origami or 'fortune tellers' for children to fold and play with their friends and family. Over 900 children and adults stopped by the OSG table to chat with staff and play the spinning wheel activity!



## EMPOWERING SOVEREIGNTY: ALYSSA SUAREZ HIGHLIGHTS YUOK PARTNERSHIP AT INDIGENOUS SCIENCE WEEKEND

Alyssa Suarez, Cal Poly Humboldt graduate student, presented her research with the local Tribal community at an Indigenous Science Weekend at Sue-Meg State Park in September 2024. Alyssa has partnered with the Yurok Tribe on her project, which is centered around tribal sovereignty and negotiations for sovereign-to-sovereign decision-making surrounding proposed offshore wind development on the CA North Coast. Here is a link to an instagram post on her presentation posted on their University instagram account: [Cal Poly Humboldt](#)

## COMMUNITY ADAPTATION PATHWAYS, PLANNING, AND PARTNERSHIPS (CAPPP) STORYMAP COLLECTION



We are excited to announce that the Community Adaptation Pathways, Planning, and Partnerships (CAPPP) StoryMap Collection is now live [here!](#) We encourage community members, organizations, policymakers, and all interested partners to visit the StoryMap collection of research project findings that examine Oregon coastal resilience to natural hazards ranging from 'The Really Big One' to shoreline erosion. These StoryMaps illustrate how researchers in the Pacific Northwest are working collaboratively with coastal communities to prepare, respond, and adapt to coastal hazards. Additionally, the research findings presented in the StoryMaps showcase the latest approaches for innovative modeling, convergent research, and community engagement. CAPPP is a group of interconnected and convergent Cascadia Coastlines and Peoples Hazards Research Hub Projects.

*The team to create these story maps include Peter Ruggiero, Felicia Olmeta Schult, Josh Blockstein, Amina Meselhe, Jenna Tilt, Katie Stanton, Irene Pablo-Lora, Meredith Leung, Dan Cox, John Bolte, Steve Dundas, Zhen Wang, and others.*

## THE GRADUATE CLIMATE CONFERENCE



The Graduate Climate Conference (GCC) is an interdisciplinary climate conference run by graduate students, for graduate students. Over the last seventeen years, graduate students representing hundreds of academic institutions

have come together to present research and share ideas on climate and climate change in an array of disciplines. This year's conference was held on November 1-3, 2024 at the Pack Forest Conference Center, located about 1.5 hours south of Seattle, WA in the foothills of Mount Rainier. Hub graduate student Clara Stanbury presented a ten minute talk titled: "Signals in the Sediment: Exploring Seasonality and Sediment Dynamics in Willapa Bay" where she discussed the findings from many months of field work at Willapa Bay.

## BUILDING COASTAL CONNECTIONS: KENDALL VALENTINE LEADS FACULTY FIELDWORK AND MENTORSHIP AT WILLAPA BAY



In September, Kendall Valentine brought a group of early career coastal faculty from UW to Willapa Bay for fieldwork, meet and greet with community members, and development of a Coastal Working Group. This gathering, funded through the NSF-Every Page Foundation Ocean Decade supplement to the hub, is focused on developing a community of practice and peer mentoring. Members include several Cascadia CoPes Hub members, including Christie Hegermiller and Celina Balderas-Guzman.

## EMPOWERING YOUTH: ART, SCIENCE, & COMMUNITY IN NEWPORT



Hub members Emma Gleeman, Jenna Tilt, Felicia Olmeta Schult, Maya Jeranko, and Daniel Acosta, alongside collaborators from Arcoiris Cultural, Lincoln County Public Health, University, launched a Youth Community Science and Art Pilot Program in Newport, Lincoln County, from July 8–19, 2024. This innovative program engaged Spanish-speaking youth and families through art, storytelling, geospatial mapping, science, and coastal hazard preparedness, fostering deeper connections with their community and natural environment. The program was made possible by support from the Cascadia Coastlines and Peoples Hazards Research Hub, Oregon Sea Grant, and OSU's Extension and Engagement Diversity, Equity, and Inclusion unit.



## OREGON STATE OF THE COAST



On November 23, the Seaside Civic and Convention center, hosted the State of the Coast: Oregon's Coastal Conference—a day-long gathering that brought together students, faculty, researchers, practitioners, emergency managers, and community members. The event was a hub for insightful talks on current marine science and policy issues, hands-on activities, and valuable networking opportunities with leaders from research, industry, and communities.

Hub project manager Ali Burgos along with Felicia Olmeta Schult and Jenna Tilt lead a session at the Oregon State of the Coast conference “Engaging Diverse Perspectives in Hazard Planning and Adaptation: Focusing on People with Disabilities and Other Disproportionately Affected Groups” This interactive session explored the unique challenges and opportunities in hazard planning and adaptation for individuals with physical and mental disabilities. Panelists, shared insights on building inclusive and resilient communities, particularly along the Oregon Coast. Panelists included (from right to left) Glenna Hayes (*Oregon disability emergency management advisory committee*), Erin Taylor (*ED of Upstream Access*), Dan Haag (*Tillamook Coast Visitors Association*), Vince Aarts (*OREM Department of Human Services*), and Jennifer Bedford (*Clatsop County Emergency Management Coordinator*).

Next door during this session, Peter Ruggerio gave a talk during the session “The Future of Oregon's Beaches: sea level rise, erosion, and flooding; land use implications; management and wildlife habitats”

# UPCOMING EVENTS

## THESIS DEFENSE - ALEC BROWN



**Friday, December 6, 2:00 pm PT.** Alec Brown (Cal Poly Humboldt, Advisor: Jen Marlow) will be defending his thesis “Climate change, policy paralysis, and a nuclear waste island? Exploring perceptions of risk, trust, and community agency in navigating uncertain futures facing Humboldt Bay's spent nuclear fuel storage site.”

Join on zoom [here](#)

## AGU CONFERENCE PRESENTATIONS

*Washington DC, December 9 - 13, 2024*

Monday, Dec. 9 - 3:20pm Room 146B

● Mohsen Taherkhani - “The relative contribution of El Niño-Southern Oscillation in driving short- and long-term shoreline position anomalies in the U.S. Pacific Northwest”

Wednesday, Dec. 11 - 11:10 am Room 146C

● Kendall Valentine - “Impact of community composition of epibenthic microalgae (biofilms) on sediment erodibility and transport”.

Thursday, Dec. 12 - 8:30 am Poster Hall

● Zhenqiang Wang - “Integrating Agent-based Modeling with Machine Learning for Evolving Probabilistic Flood Risk Mapping”

Thursday, Dec. 12 - 8:30 am Poster Hall

● Carson Williams - “Probabilistic Assessment of Compound Coastal Flooding on the Oregon Coast”

Friday, Dec. 13 - 8:40 am Room 156

● Peter Ruggiero - “Co-producing New Understanding of Evolving Chronic Coastal Hazards: the Cascadia Coastlines and Peoples Hazards Research Hub”

Friday Dec. 13 - 8:50 am Room 156

● Meredith Leung\* - “Distributional Equity of Future Coastal Hazards Exposure under Alternative Adaptation Pathways” \*A recent Hub graduate



# PUBLICATIONS

*\***Bold** indicates a Hub member*

**Leung, M.**, Cagigal, L., Mendez, F., **Ruggiero, P.** (2024). Projecting Future Chronic Coastal Hazard Impacts, Hotspots, and Uncertainty at Regional Scale. *Earth's Future*, 12(12). <https://doi.org/10.1029/2024EF005523>

**Mix EC**, Hamele M, Dannenberg AL, Freitag R, **Errett NA** (2024) Integrating climate change into state hazard mitigation plans: A five-year follow-up survey of state hazard mitigation officers. *PLOS Clim* 3(10): e0000385. <https://doi.org/10.1371/journal.pclm.0000385>

**Mix EC**, Noltner A, Jenicek A, Veith C, **Bostrom A, Donatuto J**, et al. (2024) The whole community? Assessing FEMA's inclusion of Tribal governments in hazard mitigation efforts. *PLOS Clim* 3(8): e0000479. <https://doi.org/10.1371/journal.pclm.0000479>

**Wang, Z.**, et. al. (2024). A hybrid statistical-dynamical framework for compound coastal flooding analysis. *Environmental Research Letters*. [DOI 10.1088/1748-9326/ad96ce](https://doi.org/10.1088/1748-9326/ad96ce)

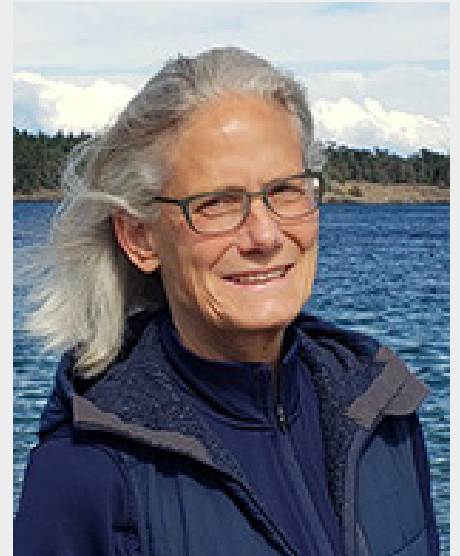


# MEMBER SPOTLIGHTS

## AWARDS

### **Professor Terrie Klinger awarded the Western Society of Naturalists' Lifetime Achievement Award**

Professor Terrie Klinger has been selected for the Western Society of Naturalists' [Lifetime Achievement Award](#). The Western Society of Naturalists established this award in 2005 to "honor an outstanding scientist who has been involved in WSN throughout their career and has made an exemplary life-long contribution to increasing our understanding of natural history." Terrie was presented the award at the 105th meeting of the association on November 8, in Portland, Oregon. She was nominated by colleagues from the Western Society of Naturalists in recognition of her research that has helped improve our understanding of the processes that structure marine ecosystems.



### **Hub members awarded the Outreach Scholarship W.K. Kellogg Foundation Engagement Award**

A transdisciplinary team of Oregon State University researchers, Extension specialists and students dedicated to helping coastal communities adapt to natural hazards has been recognized as one of four regional winners of the Outreach Scholarship W.K. Kellogg Foundation Engagement Award.

The [Oregon Coastal Futures Project](#) is one of four regional award winners announced today by the Association of Public and Land-grant Universities (APLU). "As a modern, land-grant university, OSU partners with communities to solve some of our state's greatest challenges," OSU President Jayathi Murthy said. "The Oregon Coastal Futures Project is a shining example of how transdisciplinary research and teaching can combine with community engagement to benefit all Oregonians."

Watch the video [here](#)

# THANK YOU FOR READING!



**We wish everyone a happy holiday season!**



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The Cascadia Coastlines and People's Hazards Research Hub acknowledges National Science Foundation support through award NSF-2103713.

Thursday, December 5, 2024

Written and prepared by Ali Burgos with support from Hub members for writing and submitting content and photos.