

MEETING REPORT

BACKYARD BUOYS ALL-HANDS MEETING

February 6-7, 2024

Hosted By

Pacific Islands Ocean Observing System



*Photo: Māmala Bay from Kaimana Beach, Honolulu, HI.
Photo by Alice Bailey.*

EXECUTIVE SUMMARY

The Backyard Buoys All-Hands Meeting was held at the Kaimana Beach Hotel in Waikīkī, Hawai‘i on February 6-7, 2024. Backyard Buoys brings together geographically, academically, institutionally, and culturally diverse groups of partners: 1) three U.S. Integrated Ocean Observing System (IOOS) Regional Associations, 2) Indigenous partners in each region, 3) a proven ocean wave buoy developer, and 4) educational partners.

- **Alaska:** Alaska Ocean Observing System (AOOS), Alaska Eskimo Whaling Commission (AEWC), Alaska Department of Natural Resources (ADNR), Alaska Native Science & Engineering Program (ANSEP), and Weston Solutions.
- **Pacific Northwest:** Northwest Association of Networked Ocean Observing Systems (NANOOS), Quileute Tribe, Quinault Indian Nation, Western Washington University (WWU).
- **Pacific Islands:** Pacific Islands Ocean Observing System (PacIOOS), Marshall Islands Conservation Society (MICS), National Park of American Samoa (NPSA), Hawai‘i Sea Grant, Conservation International Hawai‘i (CI Hawai‘i), South Seas Consulting (NZ).
- **Sofar Ocean Technologies**

The goals of the meeting were to bring partners together from all the regions to share lessons learned from the first deployments and use of the data tools, exchange education efforts, and explore opportunities to bridge Indigenous Knowledge.



*Backyard Buoys Team
Photo by Lloyd Pikok, Jr.*

ORGANIZATION OF THE MEETING

The meeting agenda was developed to allow for sharing of knowledge across all regions in both structured and unstructured settings. The meeting included opening and closing ceremonies led by Kalei Nu‘uhiwa (CI Hawai‘i). Pua Tuaua (National park of American Samoa), Keith AhSoon, (Ridge to Reefs American Samoa), Pu’amavae Ah-mai (American Samoa Harbor Master), and Kelley Anderson Tagarino (Hawai‘i Sea Grant) led the morning blessing and ‘ava ceremony the morning of Day 2. The meeting included opportunities for each of the established Working Groups (Data Tools, Buoy, Education, and Co-Design) to share lessons learned and plans for the future. Technical presentations described lessons learned from the deployment of buoys in all three regions, including the use of data tools, mooring designs, and permitting. We also used the opportunity to take group shots and headshots of partners for the website! The agenda allowed substantial time for respectful dialogue on community members’ concerns and needs (Appendix A).



*Backyard Buoy All-Hands Meeting Day 2 Morning Blessing and ‘Ava Ceremony led by Pua, Keith, P’ua, and Kelley from American Samoa.
Photo by Lloyd Pikok, Jr.*

PARTICIPANTS

PACIFIC ISLANDS

- Melissa Iwamoto, PacIOOS Director
- Jordan Watson, PacIOOS Deputy Director
- Sebastien Boulay, co-PI/South Seas Consulting
- Chip Young, PacIOOS Operations Coordinator
- Jim Potemra, PacIOOS Faculty
- Marcos Nobre, PacIOOS Website Developer
- Nicole Guiles, PacIOOS Communications Specialist
- Ning Li, PacIOOS Wave Modeling Specialist
- Andreia Queima, PacIOOS Ocean Engineer
- Meagan Hattori, PacIOOS Engagement
- Andrew McInnis, UH Sea Grant and PacIOOS liaison to Marshall Islands
- Kelley Anderson Tagarino, UH Sea Grant and PacIOOS liaison to American Samoa
- Juddson Nelson, MICS
- Matt Ramsey, Conservation International Hawai'i
- Keith AhSoon, Ridge to Reefs American Samoa
- Scott Burch, NPSA
- Pua Tuaua Pua, NPSA
- Eric Brown, NPSA (virtual)
- Lamdrik Boaz, Majuro Atoll Local Government
- Kalei Nu'uhiwa, Conservation International Hawai'i
- Francis Lenja, Marshall Islands Observer
- Pu'amavae Ah-mai, American Samoa Harbor Master
- Darrel Malachi, Majuro Atoll Local Government



Pacific Islands Team. Photo by Lloyd Pikok, Jr.

PACIFIC NORTHWEST

- Jan Newton, NANOOS Director
- Roxanne Carini, NANOOS Deputy Director
- Rachel Wold, NANOOS Engagement
- Troy Tanner, NANOOS Software Developer
- Dan Hannafious, NANOOS Friend
- Seth Travis, UW
- Liesl Danyluk, UW
- John Mickett, UW
- Nellie Ratliff, Quileute Tribe
- Gary Ratliff, Quileute Tribe
- Jennifer Hagen, Quileute Tribe
- Jim Darmiento, Quinault Indian Nation
- Joe Schumacker, Quinault Indian Nation
- Sam Kastner, WWU



Pacific Northwest Team. Photo by Lloyd Pikok, Jr.

ALASKA

- Sheyna Wisdom, AOOS Director (virtual)
- Jill Prewitt, AOOS Regional Ocean Partnership Coordinator
- Alice Bailey, AOOS Outreach
- Lesley Hopson, AEW
- John Hopson Jr., AEW
- Jenny Evans, AEW (virtual)
- Martin Edwardsen, UIC Science
- Lindsay Cameron, UIC Science
- Lloyd Pikok Jr., UIC Science
- Beth Spangler, ANSEP
- Meghan Larson, Weston Solutions
- Stacey Korsmo, Weston Solutions



Alaska Team. Photo by Lloyd Pikok, Jr.

CORE TEAM

- Jan Newton, PI/NANOOS
- Melissa Iwamoto, co-PI/PacIOOS
- Sheyna Wisdom, co-PI/AOOS (virtual)
- Sebastien Boulay, co-PI/South Seas Consulting
- Duncan Mactavish, co-PI/Sofar Ocean
- Roxanne Carini, NANOOS
- Jordan Watson, PacIOOS



Core Team. Photo by Lloyd Pikok, Jr.

MAIN OUTCOMES OF THE WORKSHOP

The most important outcome of this workshop was coming together to meet and exchange ideas in-person! The project's previous (and first) in-person partners event in Utqiagvik, Alaska in 2022, highlighted the value of in-person exchanges and relationship building, especially across disparate cultural backgrounds, and the growth of the Backyard Buoys team emphasized the need to convene again. The cultural diversity of this project is illustrated by the diverse points of origin of participants: American Samoa, Marshall Islands, Hawai'i, New Zealand, Washington (La Push and Seattle), Oregon, and Alaska (Utqiagvik, Wainwright, Fairbanks, Anchorage).

Of particular importance was bringing together Indigenous people from the different regions. Despite the very different environments for each coastal community, there are many common concerns, needs, and solutions across the geographic scope of the project. As noted by John Hopson Jr. (AEWC) during the Day 1 wrap up, "We live in different parts of the world and ocean, but we have all the same concern: safety."



John Hopson Jr. (AEWC). Photo by Lloyd Pikok, Jr.

Data Summary

- John Hopson Jr. (AEWC) and Martin Edwardsen (UIC Science) shared that they used the Backyard Buoys data app before starting trips during the whaling season to know what waves were doing where they couldn't see them. The app wasn't used once they were on the water because there was no cell service and they were focused on whaling. They would like to be able to see historical data to compare the real-time wave data to past data (inter or intra-seasonal).
- Jen Hagen (Quileute Tribe) and Joe Schumaker (Quinault Indian Nation) shared that they are using the wave information from the Sofar Ocean dashboard. They have participated in testing and giving feedback on the prototype web app but are waiting to advertise it broadly with their communities until the smartphone app is released.
- John Hopson Jr. (AEWC) shared that AEWK agreed to share the data publicly and would like to make sure data are being shared to help improve NOAA marine forecasts.
- Jim Darmiento (Quinault Indian Nation) shared that they need current speed data.
- Kelley Anderson Tagarino (UH Sea Grant American Samoa) suggested that a suite of photos that match the conditions could be shared on Facebook or the website, not necessarily through the app, to make sure that it stays lower bandwidth.

- Partners are working on translating the app to other languages in the regions, with the Samoan language already available.

Permitting Summary

- Stacey Korsmo (Weston Solutions) has been leading the effort across all regions. Our goal is setting it up so that communities can use our lessons learned and permit applications/processes as examples in the future.
- Joe Schumaker (Quinault Indian Nation) shared that this has been frustrating because the Tribes in their region have Treaty rights, so they usually don't have to get permits.
- Sheyna Wisdom (AOOS) pointed out that permitting polygons instead of points allows for more flexibility in moving the buoys to where communities need them (not just for science).

Deployment/Engagement Summary

- John Hopson Jr. (AEWC) shared that initially there were concerns the buoys would deter bowhead whales, but they were able to harvest a whale between two buoys. That is when he really began to trust the project.
- Lindsay Cameron (UIC Science) shared that we want to get the word out to barge companies because communities rely on barges to bring in supplies.
- Martin Edwardsen (UIC Science) shared that there were a few locations where the current is really strong, so we need bigger floats to keep them above water. The team is working on an updated mooring design for the 2024 season.
- Juddson Nelson (MICS) shared that we need to make sure budgets include funds for fuel, as it is really expensive!
- John Mickett (UW) shared that they used a high-visibility surface marker to help avoid vessel strikes.
- Jen Hagan (Quileute Tribe) shared that they installed a kiosk with a monitor near the dock to educate people about the buoy and to provide the fishers and other mariners access to the buoy data.
- Pu'a and Pua (American Samoa) both talked about the distrust of technology by older people, reiterating the importance of making sure that we are conveying that this technology is meant to complement Indigenous Knowledge, not replace it.

Education Summary

- There was a lot of excitement around the education work ANSEP/AOOS have done with K-8. Everyone loved the small wave buoy and the activities surrounding it. We should have more small buoys for partners to use in education activities! If you can simulate waves in a small tank with the small buoy, that could be a great way to make the connection to the wave data from the buoys.
- Having something to take home to the parents and family members has been found to be really valuable in Alaska.
- Hands-on experiences for all ages is so valuable (activities for K-8, and actual deployments or work with the data at the college level).
- For the college level, it would be interesting to facilitate graduate and undergraduate students. WWU is scaling curricula for different colleges and levels.
- We need to continue to invest in education to keep this going!

- There should be more sharing on Facebook because that is used by all partners.

Bridging Indigenous Knowledge

- Community champions need to be able to speak more than one language, including how to translate science.
- Knowledge holders in communities are usually the ones that are the most silent – they are quietly observing to assess how much you know!
- It is important to note the connotations of words/language used (e.g., “formal” vs. “informal”).
- Make sure to listen to the needs of the community – not YOUR idea, but what do THEY need?
- Make sure to factor in time – Indigenous people think in generations. If you come to them with a project, they immediately want to know how it affects their grandchildren.
- In this changing climate, it is important that everyone is observing their environment so that we may understand the changes that are occurring and adapt accordingly.

Stewardship Plans

- Important to stress that a stewardship plan is an iterative process, and needs to be vetted iteratively by the stewards/community.
- Including communities from the beginning has been very important – we are coming in asking where they want and what their goals are, not just telling them what we are doing.
- Stewardship plans may look different for each community. Some might be mostly digital, while others might be more hard copies. In some cases, print-outs (e.g., maps for buoy locations) for discussion (and record keeping) are more effective and useful for discussions across partners.
- Each community has aspects of the stewardship plans in place, but they might not all be collated together. It might be helpful for each community to have a plan on how to track, document, and update various aspects of their stewardship plan.
- We can use the Backyard Buoys website to help with this stewardship plan documentation and sharing.
- People want videos of how to do things, like deployments. Videos with testimonials might also help with trust.

ACKNOWLEDGEMENT

Meghan Larson (Weston Solutions) provided tireless support and planning for the meeting. We also thank Lloyd Pikok Jr. for taking portrait and meeting photos. We humbly thank all participants for sharing your gift of time and knowledge. We also acknowledge that the meeting was conducted on the traditional lands of Kānaka Maoli.

APPENDIX A

Monday, February 5, 2024

7:00 pm Informal, optional Meet & Greet at Swell Restaurant in the ‘Alohilani Resort Waikīkī (2490 Kalākaua Avenue), approx. 0.9 mi from the Kaimana Beach Hotel. *Pupus* will be provided.

DAY 1, Tuesday, February 6, 2024

Kaimana Beach Hotel 2nd Floor Lounge

Time	Description	Facilitators
8:00-9:00	Headshot Photographs for First Names A-J	Lloyd Pikok, Jr.
8:30-9:00	Arrivals Continental Breakfast Provided	
9:00-9:30	Opening Ceremony	Kalei Nu‘uhiwa
9:30-9:50	Group Photo by the Beach	Lloyd Pikok, Jr.
9:50-10:45	Introductions <ul style="list-style-type: none"> • Where you are from • Your role on the project • What you hope to gain from this meeting • Any story you feel will benefit the group 	
10:45-11:00	Agenda Review	Jan Newton
11:00-11:15	BREAK	
11:15-12:30	LESSONS LEARNED – Data Tools <ul style="list-style-type: none"> • How did buoy data help? • Feedback on app • Historical data view discussion • What research questions do you have with data? 	AEWC MICS Quileute Quinault
12:30-1:30	LUNCH	
1:30-2:45	LESSONS LEARNED – Deployment & Engagement <ul style="list-style-type: none"> • Community engagement in preparation for deployment • What was used first deployment? • What will you use for next deployment? • Mooring guidelines 	AEWC MICS NPS American Samoa Quileute Quinault John Mickett Duncan Mactavish

2:45-3:30	LESSONS LEARNED – Permitting <ul style="list-style-type: none"> • Similarities across three regions • Differences across three regions • How this will help new partners 	Stacey Korsmo
3:30-3:45	BREAK	
3:45-4:45	LESSONS LEARNED – Overall Sharing Anything that wasn't covered today	ALL
4:45-5:00	Wrap and review for next day	Jordan Watston
6:00	Optional Dinner at DECK in the Queen Kapi'olani Hotel 150 Kapahulu Ave, Honolulu, HI 96815	ALL

DAY 2, Wednesday, February 7, 2024
Kaimana Beach Hotel 2nd Floor Lounge

Time	Description	Facilitators
8:00-9:00	Headshot Photographs for First Names J-Z	Lloyd Pikok, Jr.
8:30-9:00	Arrivals Continental Breakfast Provided	
9:00-9:05	Morning Blessing and 'Ava Ceremony	American Samoa partners
9:05-9:15	Review of Agenda	Melissa Iwamoto
9:15-10:00	EDUCATION – Review of Products <ul style="list-style-type: none"> • Alaska: Jill • Pacific Islands: Kelley & Meagan • Pacific Northwest: Sam 	Jan Newton
10:00-10:45	EDUCATION – Breakouts <ul style="list-style-type: none"> • K-8: Jill • College: Sam • Non-formal: Kelley 	Jan Newton
10:45-11:00	BREAK	
11:00-12:30	BRIDGING INDIGENOUS KNOWLEDGE <ul style="list-style-type: none"> • What do you look at when you go out? • Can we bridge wave buoy data with your knowledge? 	Kalei Nu'uhiwa
12:30-1:30	LUNCH	

1:30-2:45	STEWARDSHIP PLANS <ul style="list-style-type: none"> • How to display & organize • Guide with leading questions to help new partners 	Melissa Iwamoto
2:45-3:30	OVERALL REFLECTIONS <ul style="list-style-type: none"> • Sharing anything that hasn't been addressed yet 	Sebastien Boulay
3:30-3:45	BREAK	
3:45-4:45	Social Hour <ul style="list-style-type: none"> • Time for people to connect • Can do a team building or just talk 	ALL
4:45-5:00	Closing Ceremony	Kalei Nu'uhiwa