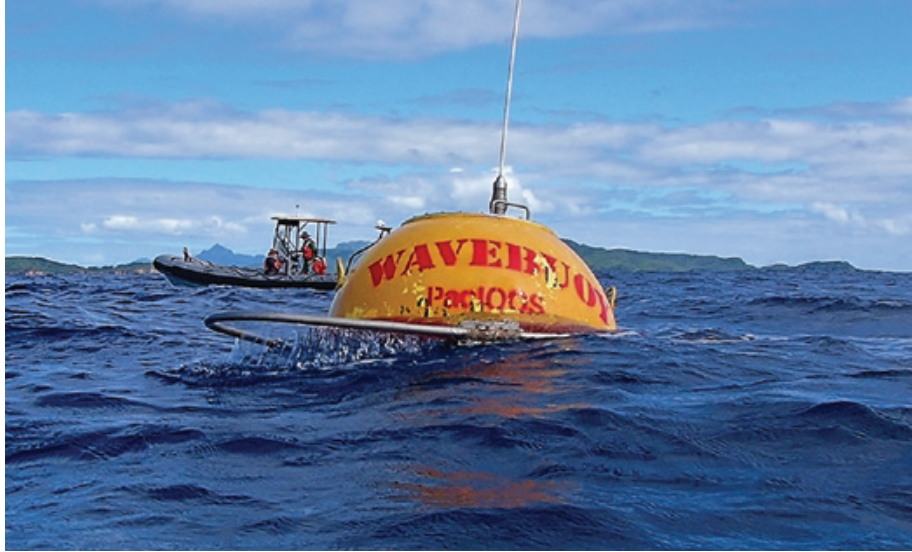


Enhancing Coastal Safety and Empowering Local Fishermen with Wave Buoys and Technology



A wave buoy was recently deployed with the help of local fishermen approximately 3 miles off Aunu'u, American Samoa. Photo: Scott Burch/NPS.

Coastal communities across the Pacific are benefiting from an innovative partnership between NOAA, the University of Hawai'i at Mānoa, and various organizations to provide real-time wave height, wind direction and other critical ocean wave forecasting data to enhance ocean safety. Wave buoys, the heroes of this initiative, are playing a pivotal role in ensuring safer navigation and informed decision-making for those planning to go to sea or those already at sea, particularly benefiting local fishermen.

The Pacific Islands Ocean Observing System (PacIOOS) operates a network of wave buoys across the Pacific region, providing critical data on ocean wave conditions. In partnership with the National Park Service (NPS) of American Samoa, one such buoy, known as CDIP #189 or NDBC #51209, is located approximately 3 miles (5 km) off Aunu'u, a small island off the eastern coast of Tutuila. This state-of-the-art Datawell Directional Waverider Mark III buoy, moored in 55 meters of water, is equipped with accelerometers that measure north/south, east/west and vertical displacements, allowing it to accurately determine both wave direction and wave energy.

For local fishermen, these buoys are game changers. The real-time data provide invaluable insights into wave conditions and weather forecasts they can use as part of their float plan. Safety is a priority for all fishermen, especially with the increased number of fishing related incidents each year. Armed with this information, the local fishermen can plan their trips more effectively, while also applying traditional methods of forecasting weather and ocean conditions to help make better decisions when going out to sea. This not only ensures

the well-being of the fishermen but also protects their livelihoods and sustains their communities.

Community involvement is a key aspect of this initiative, and local fishermen play a vital role in its success. Engaging with fishermen and fishing communities allows them to take ownership of the buoys and understand the importance of their data. By partnering with fishermen Peter Taliva'a of Aunu'u Island and Keith Ahsoon from the Manu'a Islands in the deployment and maintenance of the buoys, the initiative fosters a sense of responsibility and pride in contributing to coastal safety, critical to a small island and fishing community like Aunu'u.

Education and outreach programs play a crucial role in familiarizing fishermen with the buoy system. By providing training on accessing and interpreting the scientific data, the NPS hopes to engage with the local agencies to enable fishermen to combine that with their traditional knowledge to make informed decisions at sea. A mobile phone app is being developed to accommodate the latest wave technology and make it more accessible to everyone. It is also available on the PacIOOS website at www.pacioos.hawaii.edu/waves/buoy-aunuu. 🐟

