Sea Range partners with UCSD/Scripps

by Patti Sauers

ON a visit to various government and private sector activities that collaborate with the university, the President of the University of California system, Robert C. Dynes, toured the Sea Range at Point Mugu in January. While there, Dynes was briefed on the Coastal Data Information Program (CDIP) and Southern California Coastal Observing System (SCCOOS) – two programs that the Navy is partnering with University of California at San Diego (UCSD) and the Scripps Institute of Oceanography to develop and field.

The Sea Range regularly uses buoys and CDIP to forecast the sea and swell heights for many different operations. Aerial target recoveries are one example, according to Robi Garcia, Geophysics Branch Head.

"All BQM targets have a sea and swell limitation, whether it's Aegis, AMRAAM, HARM, JSOW or AESA. We also need to take into consideration sea states when planning ship transfers for Self Defense Test Ship (SDTS), ATLS and MST ship operations for the fleet and T&E; especially Japanese Defense Force. The program is also used for sea-surface roughness computations, for radio frequency and electro-optical scatter, and for platform sensor testing," explained Garcia. "We work closely with UCSD and Scripps when developing wave rider ocean buoy capabilities, modeling ocean swells, and developing surface current measurement capabilities on the mainland and at San Nicolas Island."

NAVAIR and UCSD/Scripps have been cooperating for many years to observe and model the maritime environment in Southern California. UCSD/Scripps has a vast network of surface wave rider buoys and highly developed software that can model the waves' energy as it gets refracted around the offshore islands. NAVAIR frequently deploys a wave rider buoy near San Nicolas Island for just this purpose. In late 1997, an agreement was developed to operate the Navy's buoy in compliance with data formats of the UCSD/Scripps' CDIP network. This allows CDIP to take advantage of the data provided by the Navy's buoy, while providing the Navy with expert knowledge in the configuration, repair and operation of the wave rider buoys.

(Left) This summer, NAVAIR will help install CODAR high-frequency radars like this one at Point Mugu and on San Nicolas Island. *(Right)* The Sea Range regularly uses buoys and CDIP to forecast the sea and swell heights for many different operations. *Photos courtesy of CDIP Scripps Institute of Oceanography web site*

Steve Mendonca, NAVAIR Range Department Director; Robert C. Dynes, President of the University of California (UC) system; and Robi Garcia, Geophysics Branch Head, during a tour of the Sea Range. *Photo by Patti Sauers*

The NAVAIR buoy maintenance facility at the Sea range has been completely shuttered, saving over $5,000 annually in maintenance costs. In addition, UCSD/Scripps has provided special modeling and analysis of test areas in the Sea Range near the Channel Islands.

Recent discussions have also been held to provide near-shore sites under Navy control to expand the SCCOOS observation capability of surface currents. This summer, NAVAIR will be helping to install Coastal Ocean Dynamics Applications Radar (CODAR) high-frequency radar on a site at Point Mugu and on San Nicolas Island. The CODAR system remotely measures ocean surface currents. The system allows one to get a complete map of ocean currents without stepping foot aboard a boat or deploying an expensive array of current meters. Each map has a range of about 50 kilometers (about 30 miles) from the coast with a measurement every 1.5 kilometers (0.9 miles).

According to Julie Thomas, from CDIP Scripps Institute of Oceanography, who coordinated with Garcia in organizing the visit, "President Dynes thoroughly enjoyed the presentation and was appreciative of how well the UC ocean monitoring programs were integrated into the Navy's test range. He encouraged continued partnerships and endorsed plans to expand into the ocean current monitoring program."