

## **AUTONOMOUS MOORED PROFILING SYSTEMS FOR COASTAL OBSERVATIONS.**

Bruce Rhoades, Andrew Barnard, Alex Derr, John Koegler, Daniel Whiteman, John A. Barth, Murray Levine, Walt Waldorf, James Sullivan, and Percy Donaghay.

WET Labs, Inc., P.O. Box 518, Philomath, OR, 97370, U.S.A.

College of Oceanic and Atmospheric Sciences, Oregon State University, 104 COAS Admin Bldg, Corvallis, OR, 97331-5503, U.S.A. E-mail: [barth@coas.oregonstate.edu](mailto:barth@coas.oregonstate.edu).

Graduate School of Oceanography, University of Rhode Island, South Ferry Road, Narragansett, RI 02882-1197, U.S.A

High resolution, 4-D environmental characterizations of the physical and biogeochemical structure of the near shore and coastal oceans are needed in order to assess the state of the coastal ecosystem and for monitoring changes due to natural and anthropogenic forcing. To address these needs, we have been developing a series of Autonomous Moored Profilers (AMP) to support a variety of long-term coastal applications, where real-time, high vertical resolution physical and biogeochemical data are required. The AMP includes a self-contained, winch-driven profiling platform with integrated control and power systems, a suite of environmental sensors, and a telemetry system. To provide a complete top-to-bottom ocean/atmosphere observing system, we have also been developing the Coastal Autonomous Profiling and Boundary Layer System (CAPABLE). CAPABLE consists of the extended endurance AMP, the Shallow Coastal Upward Looking Profiler Integration Node (SCULPIN) to sample the bottom boundary layer and facilitate docking/recharging of the AMP, and the Surface Boundary Buoy (SBB) for making detailed meteorological and upper ocean observations. We present an overview of the AMP and CAPABLE systems as well as data collected from recent field deployments.