Moored data from Cordell Bank and other data products from a Northern California ocean observing system-BOON

M. Sheridan[1]*; J. L. Largier*[1]*; C. Halle*[1]*; D. Shideler*[1]*; M. Losekoot*[1]
1. Bodega Marine Laboratory, UC Davis, Bodega Bay, CA, United States.

The Bodega Ocean Observing Node (BOON) is an ocean observing system that is centered at Bodega Bay, on the Northern California coast. BOON collects data intended to serve the research community, managers, and the public and is part of larger ocean observing networks (i.e. CENCOOS). It provides day to day information about marine conditions to recreational users and mariners, and also serves the research and management community by providing data that support investigations into coastal upwelling dynamics, larval dispersal and connectivity patterns, ocean acidification, and air/sea interactions, and how these processes affect or are affected by larger processes such as climate change and the development of marine protected areas. BOON includes, but is not necessarily limited to, a shore station close to the mouth of San Francisco Bay which measures seawater conductivity, temperature, fluorescence, and turbidity (CTFX), a shore station (CT) and meteorological station (wind speed and direction, air temperature, precipitation, solar radiation, relative humidity, pCO2) located at the Bodega Marine Laboratory, buoys deployed at the following sites: Bodega Head (CTFX, dissolved oxygen, pH, pCO2, current speed and direction), Cordell Bank (CTFX), Southeast Farallon Island (T), and Double Point (T), and HF radar stations at BML, Pt. Reyes, Gerstle Cove, and Pt. Arena (surface current speed, direction, and wave height, period, and direction). While the data products resulting from these shoreline and buoy arrays help inform scientists, the science is really what shapes the observing system. Some of these products will be presented here, including how the use of HF radar and buoy data allows us to take a closer look at coastal circulation, and in this case, specifically the region of Cordell Bank. Data collected from temporary oceanographic moorings deployed in 2000-2002 suggested that newly upwelled water originating from the upwelling center near Point Arena, CA flows offshore and equatorward along our coast. This upwelling plume feeds the Gulf of the Farallones and Cordell Bank with nutrients and diatom-rich water, and contributes to the high productivity observed in these areas. These results, along with collaborations with local marine sanctuaries, contributed to the specific placement of the existing buoy arrays, and we will look at how the arrays capture the movement of this water, and the effect it has on productivity in the region. Within the framework of the larger ocean observing system, we hope that data such as these, as with all of the data collected by BOON, will not only allow scientists and managers to gain a greater understanding of local dynamics, but also of coastal circulation within the larger California Current Large Marine Ecosystem.

Contact Information

Megan Sheridan, Bodega Bay, California, United States, 94923, click here to send an email