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Observations for climate: Ongoing ocean station P time series

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Having one of the longest oceanic time series, Ocean Station P (50N, 145W) is a critical site in the global network of OceanSITES time series reference stations. Thus through a partnership between NSF, NOAA, and the Line-P program of Fisheries and Oceans Canada, a set of reference station moorings have been initiated at Station P (aka Station Papa). Since June 2007, the site has included a NOAA surface mooring with sensors for monitoring the air-sea heat, moisture, momentum and carbon dioxide fluxes; ocean acidification; the net biological oxygen production; near-surface currents; and upper ocean temperature and salinity stratification. From 2008-2010, a nearby subsurface mooring with Acoustic Doppler Current Profilers (ADCP) at 850 m and above 200 m monitored the deep penetration of wind-generated near-inertial waves. Since summer 2010, a waverider mooring, operated by the University of Washington Applied Physics Laboratory, has been monitoring wave height, direction, and spectra. This wave data will be combined with the surface mooring measurements for determining the influence of waves on the surface mixed layer and air-sea exchanges. For monitoring the changing spatial structure of the physical and biogeochemical properties from the coast to Station P, the P-Line program has been making sections since 1956 (3-6 times per year since 1981, and more frequently prior to 1981). For monitoring the spatial gradients near Station Papa, a Seaglider performed butterfly patterns centered at the site from June 2008 - January 2010. While the subsurface ADCP mooring and glider are no longer operating at Station P, beginning in 2013, the station will be enhanced with flanking profiler moorings and gliders as part of the NSF Ocean Observatories Initiative. For more information on the P-Line program see: http://www.pac.dfo-mpo.gc.ca/science/oceans/data-donnees/line-p/index-eng.htm. For data from the ongoing mooring time series, see: http://www.pmel.noaa.gov/stnP/. All data from OceanSITES time series reference station moorings are publicly available. For more information on the global network of reference stations, see: http://www.oceansites.org/.