Close Window

2010 Ocean Sciences Meeting

You may print by clicking on this Print *button. To return to the previous page, close this browser window or click the 'X' button in the top right corner of the page.*

ID#	IT25I-02
Location:	Poster Hall E
Time of Presentation:	Feb 23 5:30 PM - 7:00 PM

Nutrient Mapping of Surface Waters in Oregon/Washington Coastal Waters Using a 5-channel In Situ Nutrient Analyzer

M. Gilbert[1]; *J. A. Needoba*[1]
1. Center for Coastal Margin Observation and Prediction, Oregon Health and Science University, Beaverton , OR, United States.

We deployed a 5-channel autonomous nutrient analyzer (APNA, SubChem Systems, Inc.) to collect hourly surface measurements of nitrate, nitrite, silicate, phosphate and ammonium aboard the R/V New Horizon from August 29th – September 11th 2009. The instrument collected more than 1000 individual nutrient measurements from the ship's flow through seawater system. Water was sampled from a range of locations including the Columbia River, the Columbia River estuary, its plume, and coastal transects from Southern Oregon to Northern Washington. The large spatial area covered in a short time period (12 days) provides a snapshot of the Columbia Rivers regional influence on nutrient input into the coastal waters of Oregon and Washington. All nutrients were measured by colorimetric analysis, except ammonium, which was detected using fluorescence-based analysis. To assess accuracy, calibration procedures were conducted with every sample (hourly) and calibration curves were determined periodically throughout the deployment. We will present a range of instrument data quality analyses and detection limits determined during the cruise and use the measurements to contrast the relative importance of the nutrient inputs from the Columbia River with oceanographic processes observed on the research cruise including upwelling, phytoplankton blooms, and surface mixing processes. Results from this study will be compared with nutrient measurements from sensors at fixed observatory stations in the Columbia River and estuary near Astoria, Oregon that aid in providing an improved understanding the variability in nutrient flux from the river at time scales ranging from hourly to weekly.

Contact Information

Melissa Gilbert, Beaverton, Oregon, United States, 97006, click here to send an email