

UConn

UNIVERSITY OF CONNECTICUT

**Department of Marine Sciences
Presents a Seminar by**

Samantha Siedlecki
UConn Marine Sciences

Hypoxia in the Coastal Ocean: Processes that drive variability

The Northern California Current System is a highly productive Eastern Boundary Current upwelling region on the West Coast of the US. High primary productivity supports diverse ecological communities and economically important fisheries both on the coast and in the inland waters. This productivity stems from strong seasonal upwelling of deep Pacific water that is high in nutrients, but low in oxygen, making the region vulnerable to low dissolved oxygen concentrations. Severe hypoxic events in the past on the West Coast significantly impacted the coastal ecosystem and local economies. Predictive skill has been shown in the region on seasonal timescales (Siedlecki et al. 2016), but a mechanism that drives that predictability for oxygen concentrations remains unidentified. A regional oxygen model of the Washington and Oregon shelves is used to simulate conditions for 2005-2007 and 2013-2016. The model is able to reproduce the seasonal change in oxygen observed on the Washington and Oregon shelves. The volume of hypoxic water increases over the upwelling season, and varies interannually. Analysis of the model results indicates the integrated wind stress of the preceding winter downwelling season is significantly correlated with the hypoxic volume of the following upwelling season. Years exhibiting stronger winter downwelling are associated with higher volumes of hypoxic waters during the following upwelling season. Three hypotheses for this relationship are explored using the model results, and implications for seasonal predictability are presented.

Host: Penny Vlahos

Time & Date: 11:00 am, Friday, March 23, 2018

Place: Marine Sciences Building, Seminar Room 103

If you are an individual with a disability and need accommodations, please contact 860-405-9152, 860-405-9087, or marinesciencesseminars@uconn.edu.

For cancelations and additional seminar information, please see <https://marinesciences.uconn.edu/seminar/seminar1183/>.