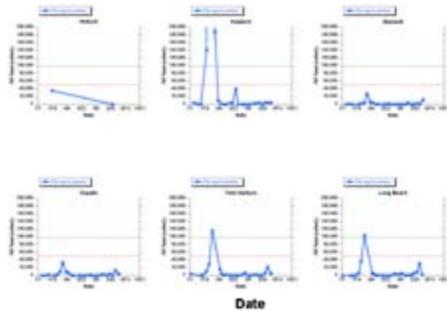


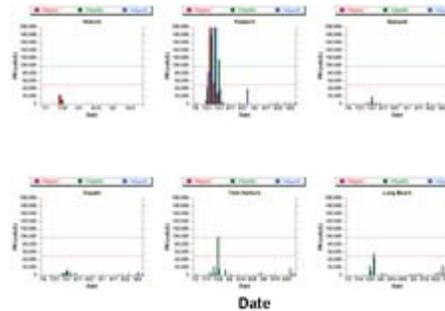
ORHAB Sample Sites



Pseudo-nitzschia Totals



Pseudo-nitzschia Species



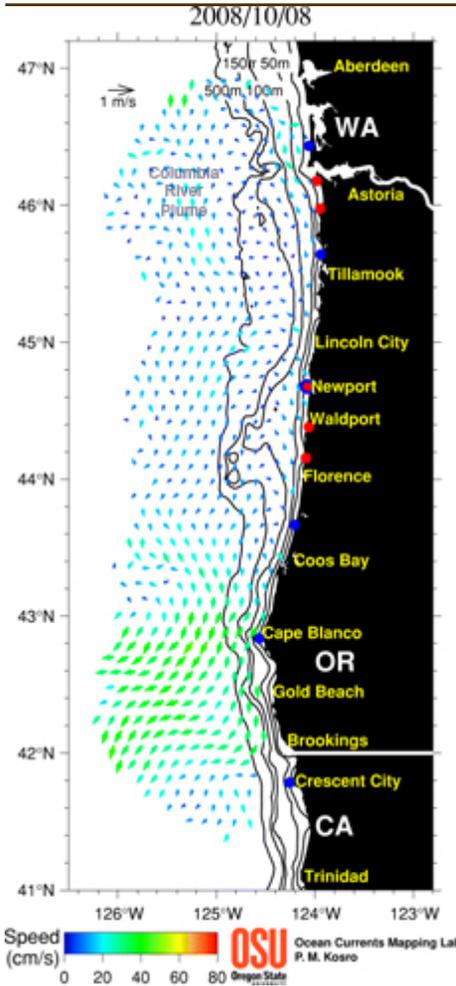
Pseudo-nitzschia totals are subdivided into the following species groups identified by light microscopy - *a/f/h* (*P. australis/fraudulenta/heimii*), *p/m* (*P. pungens/multiseriata*), *pd/d/c* (*P. pseudodelicatissima/delicatissima/cuspidata*). Threshold levels of each group at which toxin testing is done are shown as a colored horizontal bar in the *Pseudo-nitzschia* species graph

Summary – *Pseudo-nitzschia* spp. cell counts have dropped to under 5,000 cells/L at all sample sites along the WA coast except Quinault Beach which is 12,000 cells/L of the small *p.d./d.c.* cell type. DA in razor clams remains <1 ppm at all sites. *Alexandrium* sp. has been spotted at La Push 2nd Beach at 55,000 cells/L on 9/29/08 but has dropped to 2000 cell/L by 10/7/2008. PSP has been detected in razor clams along the WA coast at nearly all sample sites at <38 µg/100g. Westport PSP levels in CA mussels remain elevated at 180 µg/100g as of 10/06/08. La Push Second Beach reported 405 µg/100g in CA mussels on 9/30. *Dinophysis* spp. have been reported at Twin Harbors, Kalaloch, and La Push in low numbers, <3000 cells/L. Due to low cell counts, no further testing will be performed by ORHAB at this time.

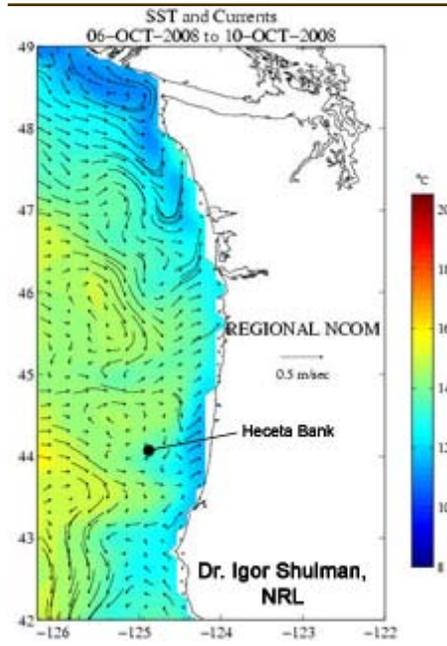
We've reached the end of the climatological mean upwelling-season, and winds have transitioned to predominantly northward or downwelling-favorable. Several moderately large storms have occurred in the last few weeks, likely resulting in enhanced vertical mixing of phytoplankton out of the euphotic zone. Model currents show the development of northward surface currents on the WA shelf. [Satellite imagery](#) obtained on several clear days at the end of September indicated that the surface expression of the eddy (relatively cold SST) had shifted northward from the mouth of the Strait, and was devoid of Chl. Since then winds were consistently northward (with associated onshore transport) until ~2 days ago.

Forecast – High pressure is building offshore and coastal winds will be southward ~10-15 kt, for several days with associated offshore transport of surface waters.

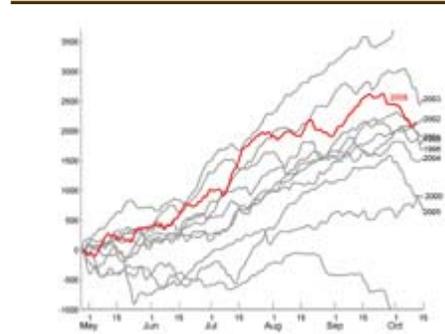
Surface Currents



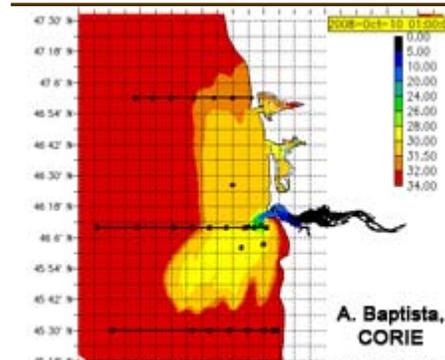
Modeled Surface Currents



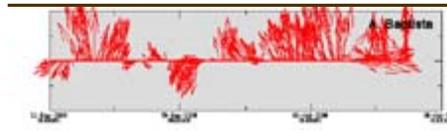
Cumulative Upwelling Index



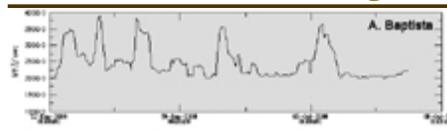
Columbia River Model Output



Winds - NDBC Buoy 46029



Columbia River Discharge



Weather Forecast - Ocean Shores

