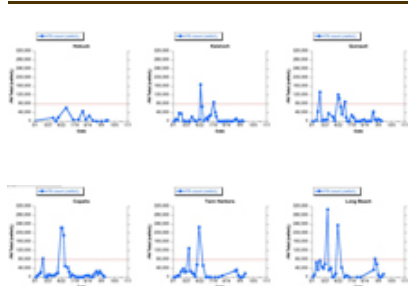


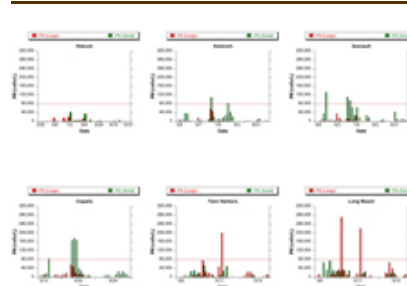
ORHAB Sample Sites



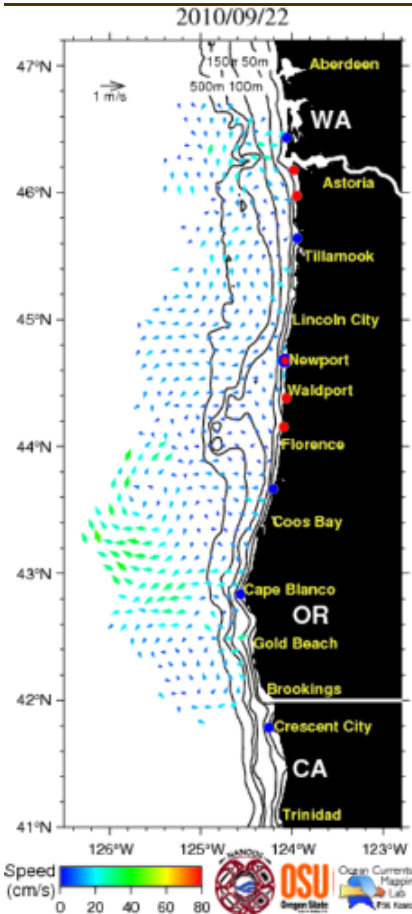
Pseudo-nitzschia Totals



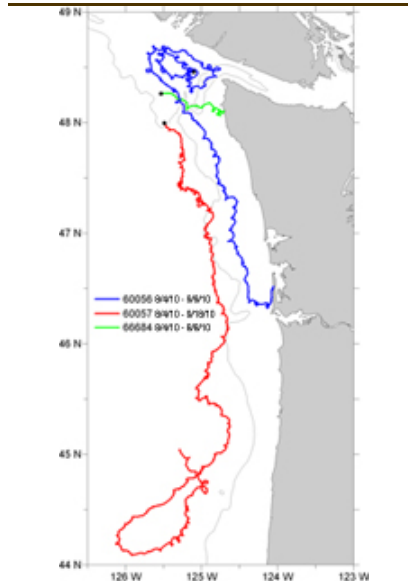
Pseudo-nitzschia Species



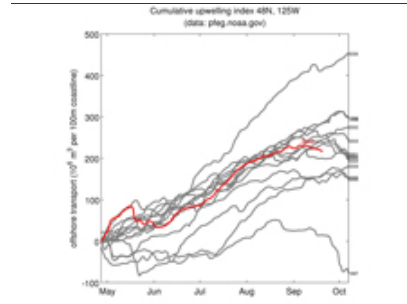
Surface Currents



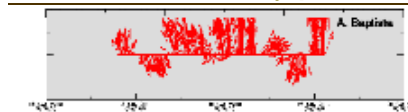
Drifter Tracks



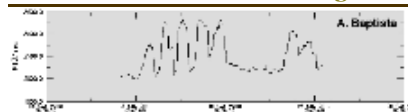
Cumulative Upwelling Index



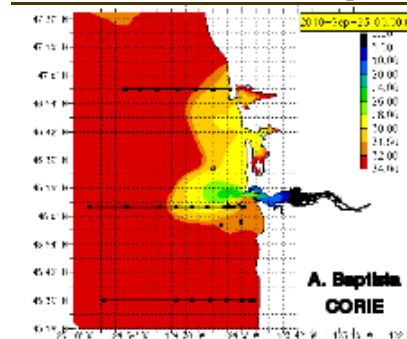
Winds - NDBC Buoy 46029



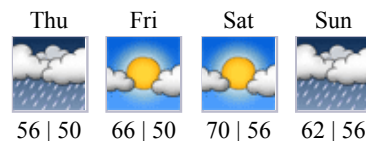
Columbia River Discharge



Columbia River Model Output



Weather Forecast - Ocean Shores



Pseudo-nitzschia (PN) totals are identified by light microscopy and grouped by PN Large and PN Small. The 50k cells/L threshold level for large PN that triggers toxin testing is indicated by a red line across the PN plots. (The trigger for toxin testing for small PN is 1 million cells/L)

Summary – *Pseudo-nitzschia* spp. have been detected along the WA coast in the most recent cell counts. The highest levels were found at Twin Harbors at 17,000 cells/L on 9/20. DA levels in razor clam tissue remains barely detectable at all sample sites along the WA coast in the most recent samples according to the WDOH. *Alexandrium catenella* has been detected at Long Beach and Westport Marina (both 2000 cells/L) in samples taken on 9/20. *Pseudo-nitzschia* remains the dominate diatom along much of the Oregon Coast. On the north coast, Cannon Beach had 447,000 cells/L on 9/20 and on the central coast, Newport had 57,000 cells/L on 9/21. PSP toxins in shellfish tissue remain low at most sites along the WA coast with the exception of Long Beach at 53 µg/100g razor clams. *Dinophysis* spp. have been common on the central coast. The highest cell counts in the most recent samples were 8,000 cells/L (*D. acuminata*) at Raft River on 9/14 in 10x whole water. Maximum numbers of *Akashiwo sanguinea* have been detected at Long Beach (3000 cells/L on 9/20). *Cochlodinium* sp. remains abundant in many recent surf zone samples along the central and northern outer coast and has also been observed in great abundance in recent nearshore samples taken by OCNMS. No other HAB species have been observed in any recent samples. *Attheya armatus* has been the dominant species with *Ceratium balechii* often co-dominant in the surf zone phytoplankton assemblage along the outer WA coast.

Several moderately large storms have occurred in the last few weeks. Model currents show the development of northward surface currents and a strong Columbia plume on the WA shelf. The plume may provide some protection against onshore movement of toxic cells.

Forecast – Coastal winds are predicted to be northward ~10-20 kt, for several days with associated onshore transport of surface waters. A significant amount of Chlorophyll is seen in satellite imagery along the coast (see also SST). There have been a number of storms with periods of onshore currents and few PN and little DA have been detected on the WA coast, however PN are abundant on the northern OR coast. Because DA is often present in coastal waters at this time of year, we forecast a moderate risk.