



Pacific Northwest Harmful Algal Blooms Bulletin

Apr 8, 2026 HAB risk =

HAB risk key:

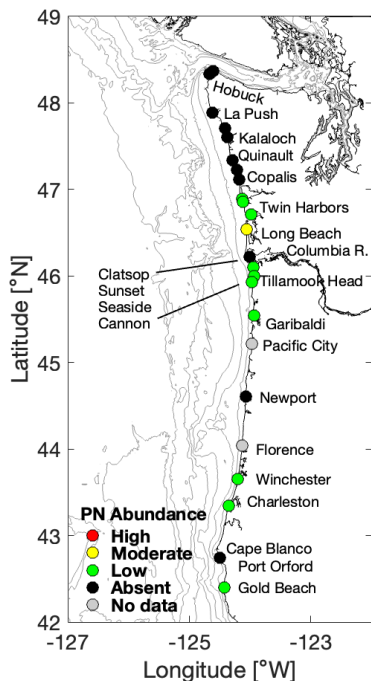
- = low
- = medium
- = high



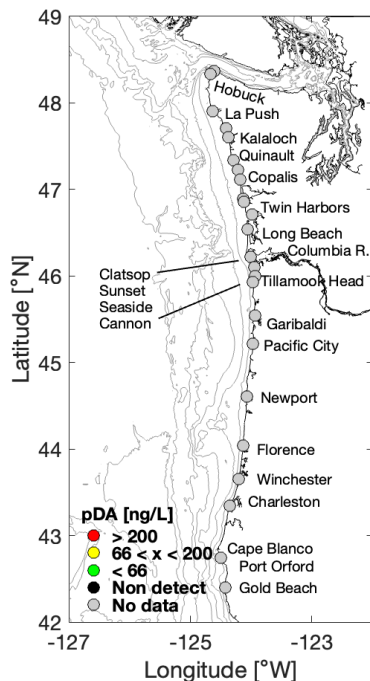
The statements, findings, conclusions, and recommendations do not necessarily reflect the views of NOAA or the Department of Commerce.

Beach Sampling

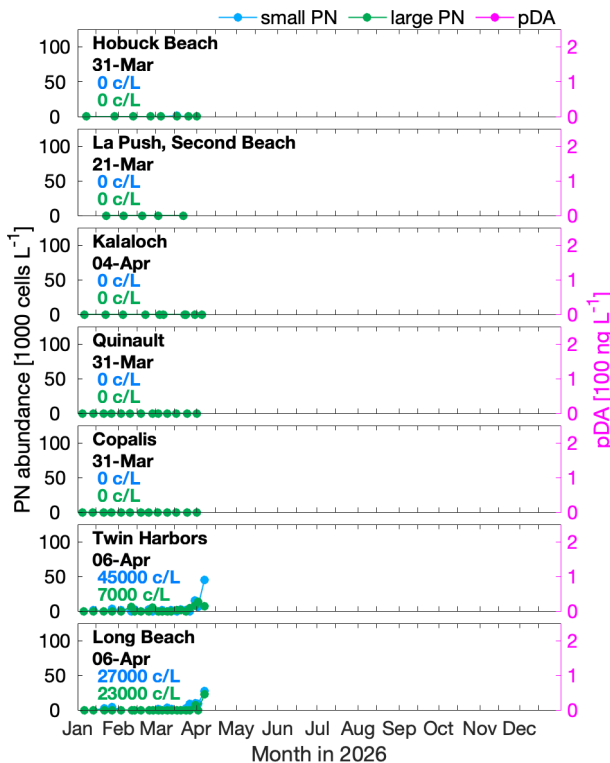
(*Pseudo-nitzschia*)



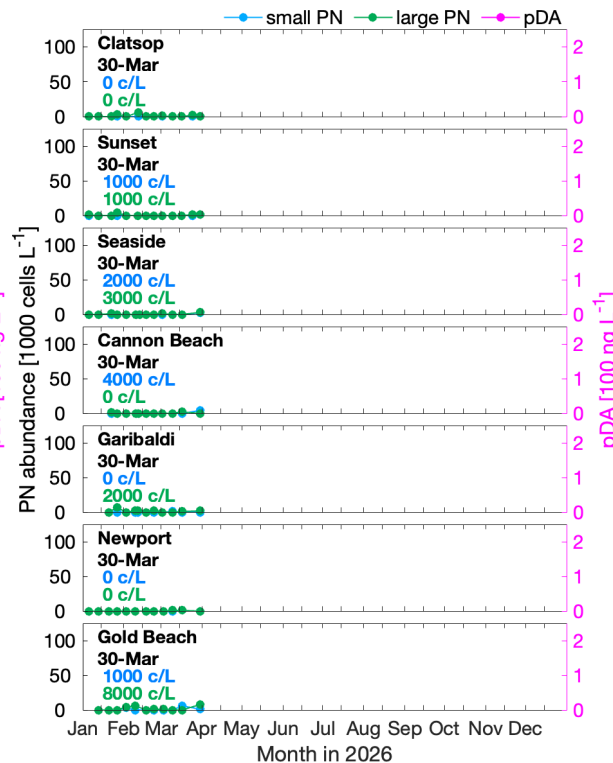
(particulate domoic acid)



WA *Pseudo-nitzschia* & Domoic Acid

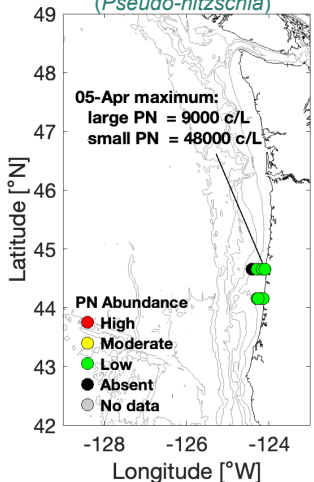


OR *Pseudo-nitzschia* & Domoic Acid

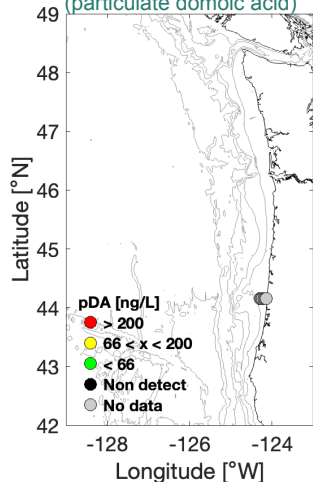


Offshore Sampling

(*Pseudo-nitzschia*)



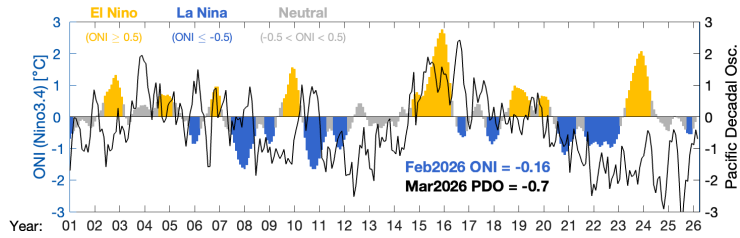
(particulate domoic acid)



Pseudo-nitzschia (PN) abundances are quantified for large and small cell morphologies using light microscopy. Threshold values: 50,000 cells/L for large PN; 1,000,000 cells/L for small PN; which trigger additional testing for seawater particulate domoic acid (pDA). Seawater pDA values >200 ng/L lead to toxin accumulation in shellfish such as razor clams. Sampling sites, colored by relative PN abundance (*high*: > threshold value for either cell morphology; *moderate*: > 1/3 threshold; *low*: < 1/3 threshold) and pDA, are shown in the upper left two panels. "No data" indicates that there were no data within the previous 15 days. Time series of PN abundance (cells per liter = c/L) and pDA at select beaches are shown in the upper right main two panels. Offshore samples (lower left) are collected and analyzed at ~2 week intervals during late summer/early fall. Additional samples are collected by a remotely operated Environmental Sample Processor (ESP) that is moored off La Push, WA, in late spring and late summer.

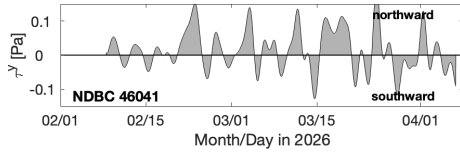
Decisions regarding shellfish harvest closures at individual beaches are made by the Washington Department of Health, the Oregon Department of Agriculture, and Coastal Treaty Tribes after measuring toxin levels in shellfish collected from each beach (WA [link](#); OR [link](#)), and not from the information presented here. However, the information presented here aids coastal managers in better understanding and predicting the onset, duration, and magnitude of toxin outbreaks as well as their impacts.

Pacific Ocean Indices



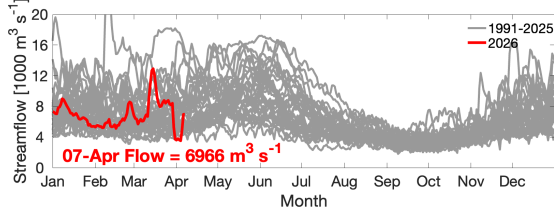
Research has shown that toxic HAB events off WA and OR tend to occur during or following periods of El Niño and/or positive phases of the PDO, when ocean temperatures are relatively warm.

North-south Wind Stress



Southward wind stress drives coastal upwelling that can lead to plankton blooms. Northward wind stress tends to push any existing offshore plankton and toxins towards beaches. In addition, summer/fall toxic blooms often occur in years with a moderate cumulative upwelling index (i.e. during years with fluctuating winds) rather than in years with sustained upwelling or downwelling winds.

Columbia River Discharge



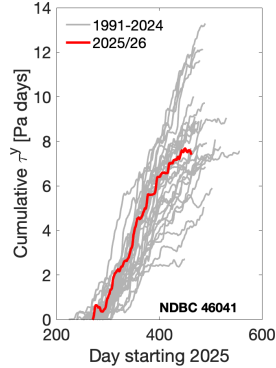
The Columbia River plume can help transport HABs and toxins from the south, northward along the WA coast. However, the plume can also serve as a protective barrier by preventing offshore toxins from reaching beaches.

Marine Weather Forecast

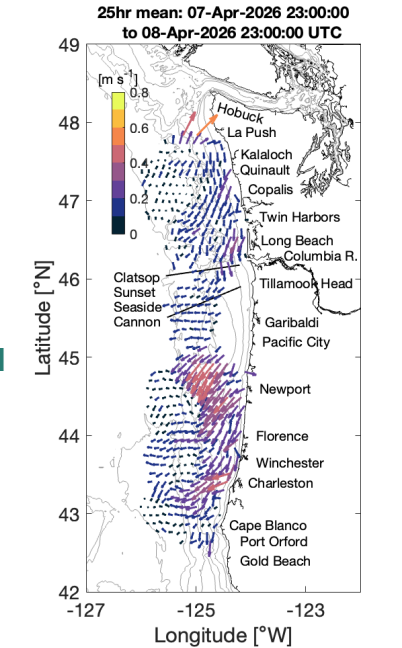


Fair weather can support plankton blooms whereas storms can concentrate any plankton and toxins on beaches.

Cumulative Wind Stress

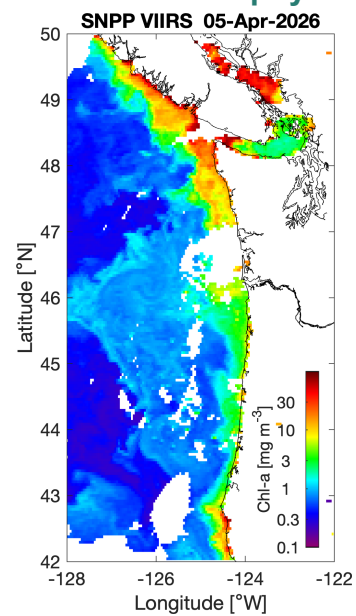


Ocean Surface Currents



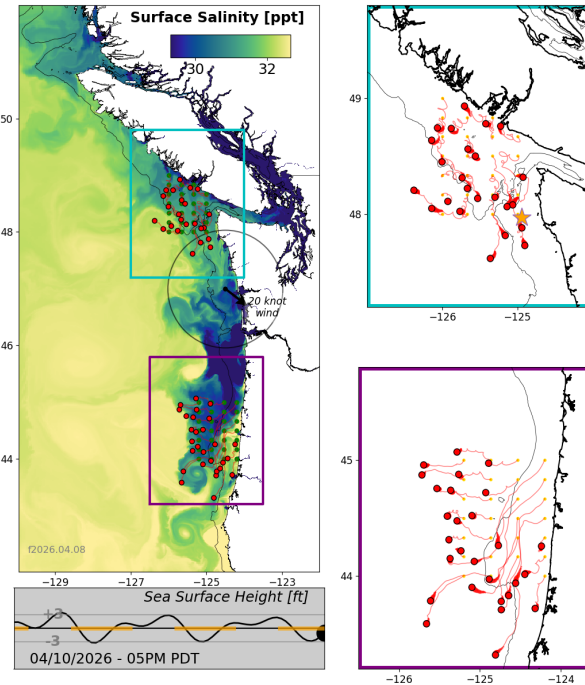
Primary currents flow north and south in winter and summer, respectively, except within ~10 km of shore, where fluctuations follow changes in wind direction.

Satellite Chlorophyll-a



Clouds often obstruct satellite views, but the extent of phytoplankton blooms can at times be seen from space. Blooms do not necessarily reflect the presence of toxins.

LiveOcean Forecast Model



Model predicted sea surface salinity with particles released near the Juan de Fuca eddy and Heceta Bank and tracked three days into the future. Red dots indicate particle end points.

Summary - A relatively mild winter has given way to spring. Stronger pulses of upwelling-favorable winds began occurring between storms in early March. Shelf bottom temperature also began steadily decreasing at that same time; current values are just over 8 °C. The system is poised for the seasonal transition to large-scale upwelling. Satellite imagery captured elevated chlorophyll-*a* concentrations over the WA shelf in late March. More recent images obtained during upwelling-favorable winds show elevated chlorophyll all along the coast with highest values off WA and southern OR. The LiveOcean model suggests that Columbia River water exists offshore of both WA and OR. *Pseudo-nitzschia* (*PN*) cells are present in low concentrations at beaches throughout OR and southern WA, with samples generally containing a mix of both large and small *PN* morphologies. Highest concentrations were 23,000 cells/L of large size *PN* at Long Beach, and 45,000 cells/L of small *PN* at Twin Harbors on 6-Apr. In OR, highest *PN* concentrations were 8,000 cells/L (large *PN*) at Gold Beach on 30-Mar. Samples collected via a Lightfish ASV and ship offshore of Newport, OR, on 4-5 Apr contained up 48,000 cells/L small size *PN*. Given the low *PN* concentrations, seawater particulate domoic acid (pDA) has not yet been quantified at beaches or offshore. Razor clam DA values have remained low throughout WA, with highest concentrations of 3 ppm at Twin Harbors on 22-Mar. Shellfish DA concentrations in OR have been somewhat higher. Razor clam samples from Newport contained 10 ppm DA as of 6-Mar. Mussels collected at Sunset Beach on 20-Mar contained 6 ppm DA indicating that toxigenic *PN* are in the area. Razor clams from the same area 2 weeks later (3-Apr) contained 6 ppm DA.

Forecast - ENSO neutral conditions are expected through spring with a transition to El Niño by summer. The PDO index remains negative. Upwelling-favorable winds have been in place since last Saturday, and are expected to remain so through the weekend. The forecast winds will be weak off WA, but somewhat stronger off OR. Longer-term forecasts suggest a possible front with northward winds just prior to the anticipated harvests next week. Although recent toxin production in northern OR was evident from mussel samples, conditions suggest there is little risk of a large DA event. Nevertheless, caution is advised if the forecast northward winds do manifest prior to or during upcoming harvests.