



Pacific Northwest Harmful Algal Blooms Bulletin

Apr 22, 2026 HAB risk =

HAB risk key:

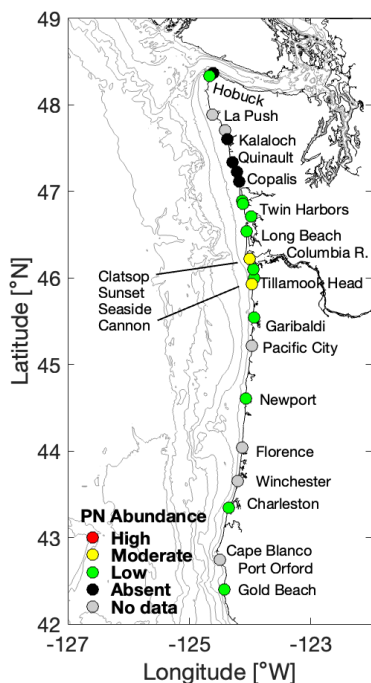
- = low
- = medium
- = high



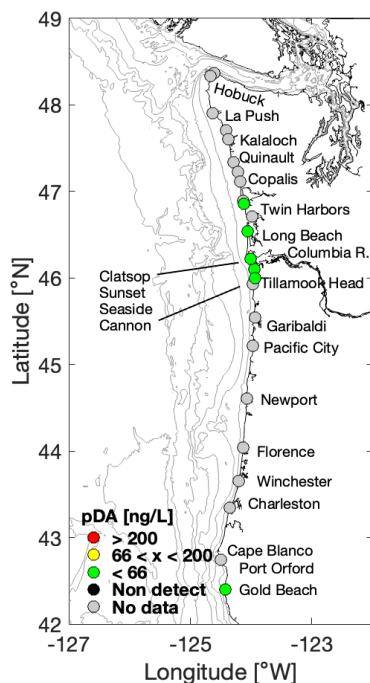
The statements, findings, conclusions, and recommendations do not necessarily reflect the views of NOAA or the Department of Commerce.

Beach Sampling

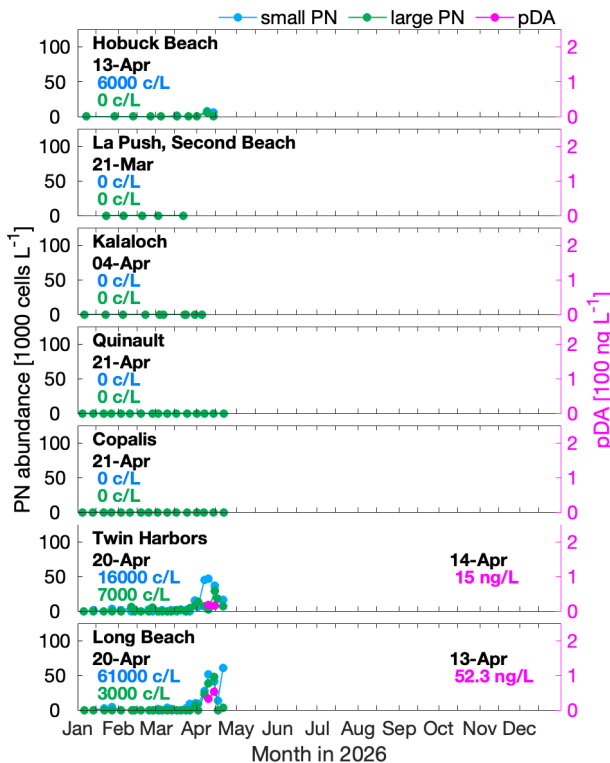
(*Pseudo-nitzschia*)



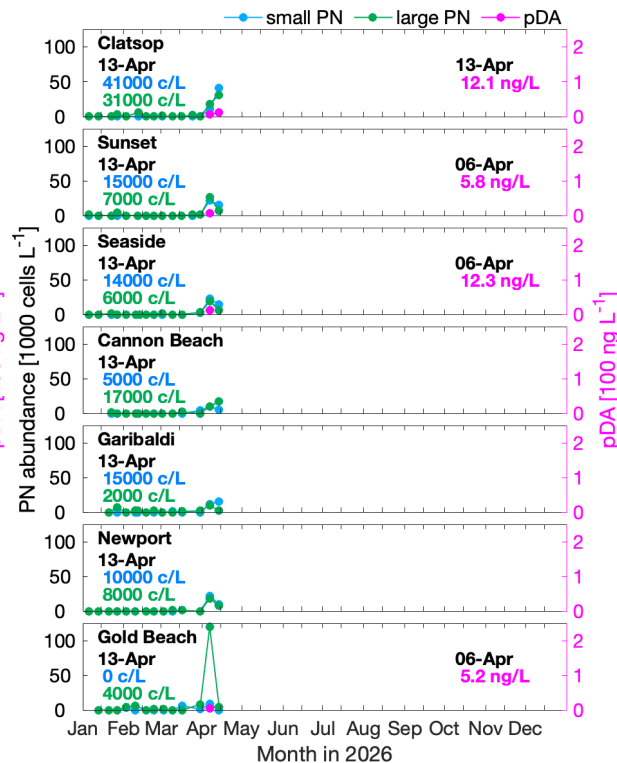
(particulate domoic acid)



WA *Pseudo-nitzschia* & Domoic Acid

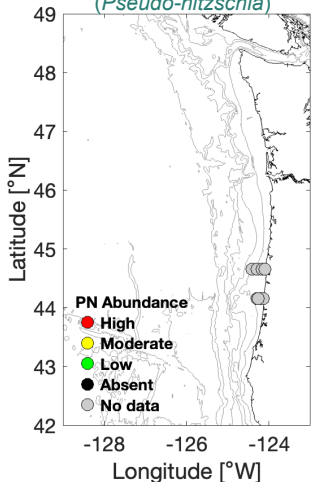


OR *Pseudo-nitzschia* & Domoic Acid

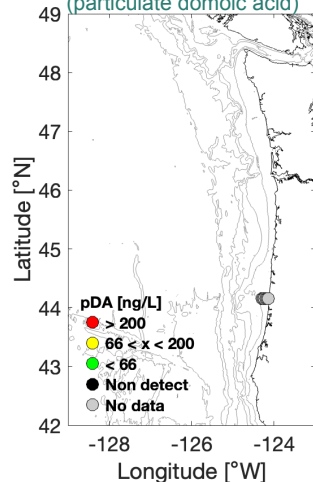


Offshore Sampling

(*Pseudo-nitzschia*)



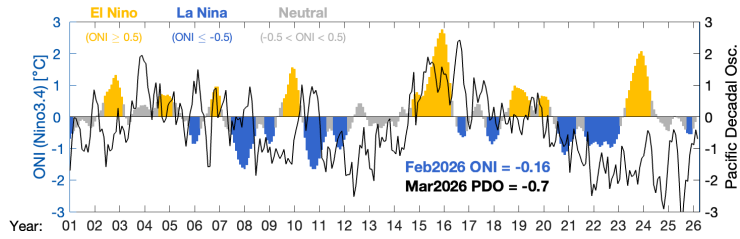
(particulate domoic acid)



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.

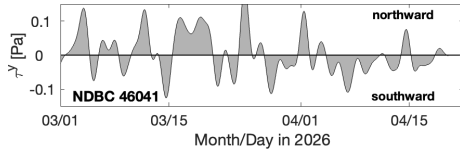
Decisions regarding shellfish harvest closures at individual beaches are made by the Washington Department of Health, the Oregon Department of Agriculture, and Coastal Treaty Tribes after measuring toxin levels in shellfish collected from each beach (WA [link](#); OR [link](#)), and not from the information 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



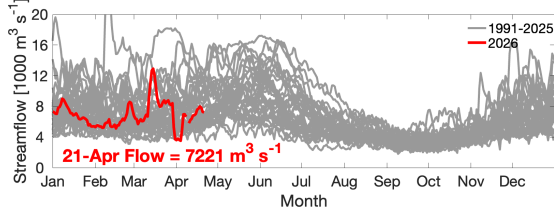
Research has shown that toxic HAB events off WA and OR tend to occur during or following periods of El Niño and/or positive phases of the PDO, when ocean temperatures are relatively warm.

North-south Wind Stress



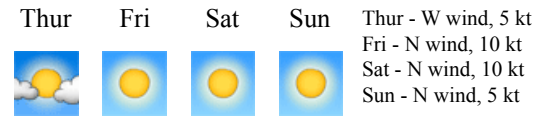
Southward wind stress drives coastal upwelling that can lead to plankton blooms. Northward wind stress tends to push any existing offshore plankton and toxins towards beaches. In addition, summer/fall toxic blooms often occur in years with a moderate cumulative upwelling index (i.e. during years with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

Columbia River Discharge



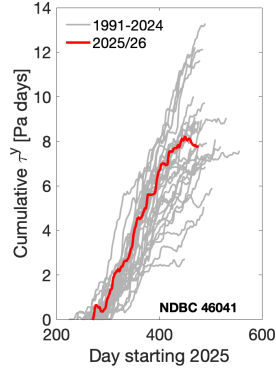
The Columbia River plume can help transport HABs and toxins from the south, northward along the WA coast. However, the plume can also serve as a protective barrier by preventing offshore toxins from reaching beaches.

Marine Weather Forecast



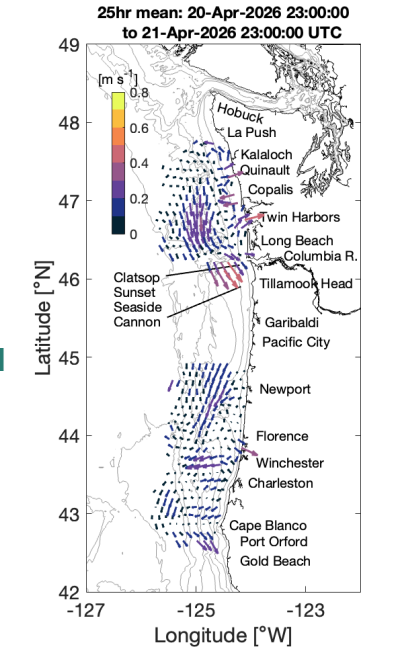
Fair weather can support plankton blooms whereas storms can concentrate any plankton and toxins on beaches.

Cumulative Wind Stress



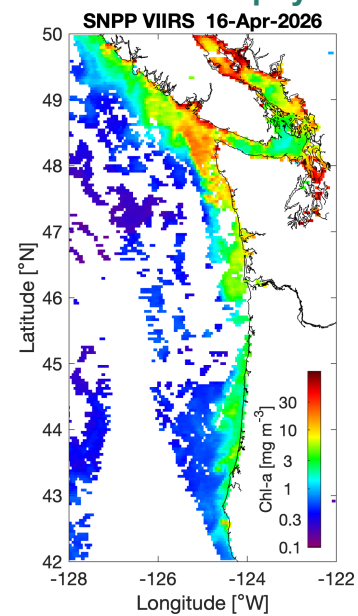
Model predicted sea surface salinity with particles released near the Juan de Fuca eddy and Heceta Bank and tracked three days into the future. Red dots indicate particle end points.

Ocean Surface Currents



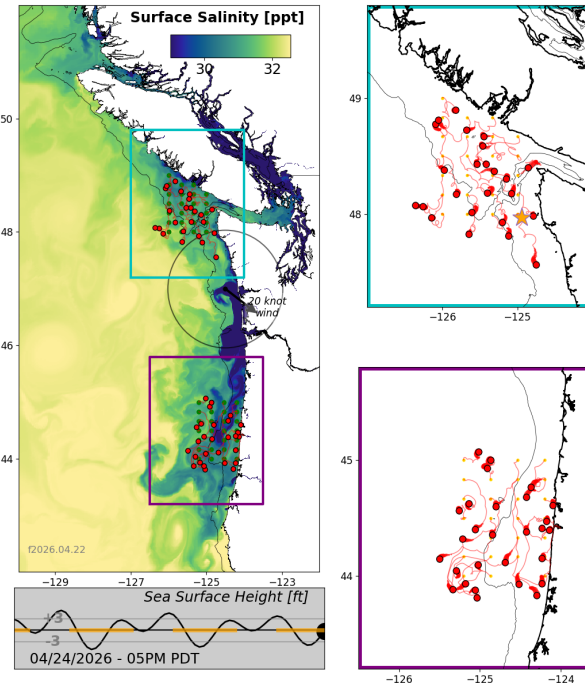
Primary currents flow north and south in winter and summer, respectively, except within ~10 km of shore, where fluctuations follow changes in wind direction.

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



Summary - Coastal winds have continued to be variable and relatively weak. When stronger pulses have appeared, the wind direction has not been conducive to strong upwelling. As a result, along-shelf surface currents, as captured by the HF radar network, also remain relatively weak with little net southward transport. The LiveOcean model further illustrates this, with Columbia River plume water present off both the WA and OR coasts. Shelf bottom temperature is still over 8 °C. Available satellite imagery indicate that moderate chlorophyll-a concentrations exist over the shelf throughout the region, with highest values off northern WA. *Pseudo-nitzschia* (PN) cells of both large and small morphologies now appear in low to moderate concentrations at many area beaches. The highest recent concentrations of large PN cells have generally been observed at southern WA and northern OR sites: 48,000 cells/L at Long Beach, and 31,000 cells/L at Columbia River South Jetty on 13-Apr. On 6-Apr, 120,000 cells/L large PN were also captured in a sample from Gold Beach, OR, but values had decreased to 4,000 cells/L on 13-Apr. Since concentrations of large PN have increased to moderate levels, particulate domoic acid (pDA) testing has begun. Generally, low pDA concentrations have been detected throughout the region with values <20 ng/L. The exception was at Long Beach, WA, where ~52 ng/L pDA was recorded on 13-Apr. No new offshore samples were available. Razor clam DA values remain low at WA beaches. The highest concentrations were 2 ppm at Long Beach, Willapa Spits, and Twin Harbors as of 16-Apr. In OR, razor clams from Sunset Beach contained 6 ppm DA as of 3-Apr while previous samples from Newport contained 10 ppm DA as of 6-Mar. Updated shellfish DA concentrations at both OR and WA beaches are expected this week.

Forecast - ENSO neutral conditions are expected through spring with a transition to El Niño by summer. The PDO index remains negative. Southward (upwelling-favorable) winds are expected to build somewhat on Friday, but current forecasts indicate they will weaken by Sunday. Longer-term forecasts suggest a continuation of variable, relatively weak, winds that are unlikely to initiate strong upwelling. It appears that the current conditions will continue for the foreseeable future. Given this, and the fact that pDA concentrations are relatively low, risk of a large DA event in the near-term also appears low.