

New metrics dashboard shows how key climate and ocean factors influence Puget Sound

Climate change is already affecting the water properties of Puget Sound, from warmer temperatures to increased stratification of the water column into different layers. Focusing on the need to communicate and understand changing conditions, a team of scientists at the University of Washington developed a set of environmental metrics, displayed on a dashboard website by the Northwest Association of Networked Ocean Observing Systems, that show how key climate and ocean factors may influence Puget Sound. The dashboard's environmental metrics, updated weekly, put current conditions in the context of past observations.

These environmental metrics use publicly available, real-time measurements of ocean, river, and atmospheric conditions, carried out by local, state, and federal institutions. The metrics will help resource managers, scientists, and health officials better understand the specific causes of changing conditions in Puget Sound, which in turn will help in building ecosystem resiliency.

"Our goal was to allow access for more people to understand what is *causing* water property changes in Puget Sound, thus, to enable informed management decisions to minimize ecological and economic impacts." explains John Mickett, UW-APL, the project's lead.

Our goal is for these metrics to help people to better understand the *causes* of environmental changes in Puget Sound and thus allow more informed management decisions to minimize ecological impacts

The metrics were designed to specifically evaluate how changes in circulation, freshwater input, heat input, dissolved oxygen, and ocean boundary conditions may be connected to observed ecological and water quality changes. The metrics also offer insights on what drives observed change.

This project was funded by the Puget Sound Partnership and has been conducted with input from the Puget Sound Ecosystem Monitoring Program (PSEMP) and its Marine Waters Work Group, as well as a Technical Advisory Committee composed of leaders from modeling, oceanographic, fisheries, and tribal resource communities.

"This project provides timely information about climate and ocean factors that influence the Puget Sound ecosystem, providing valuable context for scientists and natural resource managers. We were proud to support this project in partnership with members of the Puget Sound Ecosystem Monitoring Program." said Jenna Judge, Puget Sound Partnership.

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