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**West Coast Science-Policy Leaders Gather to Discuss Changing Ocean Chemistry
Public Workshop Highlights Science Panel Exploring Solutions at a Regional Scale**

SACRAMENTO, Calif. -- Much of the carbon dioxide released from the burning of gasoline, natural gas, and other fossil fuels dissolves in seawater, making the earth's ocean increasingly corrosive. The profound chemical changes -- called "acidification" -- plus the linked ocean changes that create low-oxygen dead zones called "hypoxia" -- threaten the ocean food chain and the coastal communities that depend upon healthy ecosystems.

The public is urged to learn more about these phenomena at a July 29 workshop in Sacramento sponsored by California's Ocean Protection Council and Ocean Science Trust. West Coast state leaders and scientists will discuss how to address ocean acidification and hypoxia in a regional, unified, and effective way, and will highlight the work and emerging messages of the West Coast Ocean Acidification and Hypoxia Science Panel (the Panel).

The Panel is an interdisciplinary collaboration of scientists linking the governments of California, Oregon, Washington and British Columbia. The Panel seeks to help decision-makers develop effective management and policy actions for these shared, coast-wide challenges.

"Climate change is a major threat to the ocean," said California Natural Resources Secretary John Laird. "Rising ocean temperatures and increasing acidification are all linked to human activity. Unchecked, these changes will potentially destroy our ocean ecosystems and unravel the ocean food chain. Only the public can address these threats by reducing their greenhouse gas emissions. Additionally, we are working with scientists to understand how we can protect our resources and adapt to these changing conditions."

The ocean is the earth's largest reservoir of carbon dioxide. Like climate change, ocean acidification is connected to excessive greenhouse gas emissions. Since the Industrial Revolution began, experts estimate that oceans have become 30 percent more acidic, and they could become 150 percent more acidic by the end of the century. Acidification makes it harder for organisms at the base of the oceans food chain -- including some phytoplankton, corals, sponges, marine worms, and mollusks -- to form protective shells and skeletons. Their decline can reverberate through the food chain, affecting other species that depend upon them. Knowledge of the extent of impacts to marine life is growing rapidly.

Scientists also have documented an increase in the frequency and size of extremely oxygen-deficient zones in offshore waters. In 2002, for example, oxygen levels in waters just off the Oregon coast dropped nearly to zero, killing or driving away thousands sea creatures. A zone of hypoxia has returned to the Oregon coast every year since, which has implications for commercially important species like Dungeness crab.

The workshop will cover the following:

- Latest scientific products from the Panel
- Potential applications of the Panel's findings to resource management and policy
- Additional opportunities for science-informed action

Speakers include:

- **John Laird** -- Secretary, California Natural Resources Agency
- **Catherine Kuhlman** -- Deputy Secretary for Ocean and Coastal Policy, California Natural Resources Agency and Executive Director, California Ocean Protection Council
- **Skyli McAfee** -- Panel Convener, Director for North American Oceans and Coasts, The Nature Conservancy
- **Alexandria Boehm** -- Associate Professor, Stanford University, and Panel Co-Chair
- **Liz Whiteman (moderator)** -- Interim Executive Director, California Ocean Science Trust; and Panel Member

[Ocean Science Trust](#) convened the [West Coast Ocean Acidification and Hypoxia Panel](#) at the request of the Ocean Protection Council and in collaboration with Oregon's [Institute for Natural Resources](#). The Panel, along with West Coast state leadership groups such as the Pacific Coast Collaborative, is advancing these issues in front of Congress, the National Oceanic and Atmospheric Administration and the U.S. Environmental Protection Agency. The Panel is calling for greater regional and cross-border efforts to address these threats with enhanced federal support.

Acidification and hypoxia occur against a backdrop of additional changes in ocean conditions along the West Coast, including warming and changes in freshwater inflows and runoff. The Panel's work highlights the need to consider multiple stressors. The Ocean Protection Council is leading conversations in California about ways to readjust management and policy approaches as ocean chemistry changes.

"The Panel has shifted our thinking from looking just at chemical monitoring and discharge controls to looking at how we further reduce combined stressors," said Cat Kuhlman, California's Deputy Secretary for Ocean and Coastal Policy. "These issues have reemphasized the value we place in our marine protected area network, the importance of managing for climate change in our fishery programs, and the need to stay on course with nutrient reductions."

While acidification is driven primarily by global atmospheric inputs of carbon dioxide, actions taken at the local and regional level can lessen impacts. These are the focus of the Panel's [latest publication](#), released in a special issue of *Oceanography*.

"Coastal resource managers have existing regulatory and decision frameworks and tools in place to integrate ocean acidification considerations into their actions now," said Panel co-chair Alexandria Boehm of Stanford University. "It is critical that scientists engage with the community through efforts like the Panel."

The public is invited to attend the workshop, which will be followed by the public meeting of the Ocean Protection Council at 1 p.m. For more information on the workshop, see the agenda:

http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20150729/OAH-Workshop-Agenda-July2015.pdf

What: *The West Coast Ocean Acidification and Hypoxia Science Panel: An Investment in a Healthy Ocean for California* Public Workshop

Who: Hosted by the Ocean Protection Council and Ocean Science Trust

When: Wednesday, July 29, 2015, 10:00 to 11:30 AM

Where: California Environmental Protection Agency, Klamath Training Room 1001 I Street
Sacramento, CA 95812

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About the Ocean Protection Council: *The mission of the Ocean Protection Council is to ensure that California maintains healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations. The Council was created pursuant to the [California Ocean Protection Act \(COPA\)](#), which was signed into law in 2004 by Governor Arnold Schwarzenegger. For more information, please visit www.opc.ca.gov.*

About Ocean Science Trust: *California Ocean Science Trust is a boundary organization. We work across traditional boundaries, bringing together governments, scientists, and citizens to build trust and understanding in ocean and coastal science. We are an independent non-profit organization established by the California Ocean Resources Stewardship Act (CORSAs) of 2000 to support managers and policymakers with sound science, and empower participation in the decisions that are shaping the future of our oceans. For more information please visit us at www.oceansciencetrust.org on [Twitter](#) or [Facebook](#), or call (510) 350-1892.*