Addressing Ocean Acidification & Hypoxia on the West Coast

A coast-wide collaboration providing decision-makers with scientific guidance on changing ocean chemistry

A Shared Challenge on the West Coast

Ocean acidification and hypoxia (OAH), often coupled due to biological and oceanographic processes, have the potential for profound impacts to marine environments. Communities in California, Washington, Oregon and British Columbia are expressing concerns about the threats to marine resources and the livelihoods that depend on them. These issues present shared challenges across the region, and managing for resilient ocean and coastal communities requires cooperation across academic, political, and jurisdictional boundaries.

Pacific Coast Collaborative is Building Political Momentum

The **PACIFIC COAST COLLABORATIVE** brings together West Coast leaders as a common front for cooperative action on challenges facing Pacific North America. The Governors and Premier selected climate and energy as the two primary focus areas for the PCC. This coast-wide partnership identified ocean acidification as a key challenge for the West Coast in a 2013 letter to the President and the Canadian Prime Minister, and asked for targeted action at all levels of government. The Pacific Coast Collaborative is advancing ocean acidification and hypoxia as priority issues and is calling for greater regional and cross-border efforts to address these critical issues with enhanced federal support. Such regional efforts are leading to enhanced partnerships among tribes, the federal government, industry, and the non-governmental community.

A Coast-Wide Scientific Collaboration

A compelling catalyst for meeting this challenge is the **WEST COAST OCEAN ACIDIFICATION AND HYPOXIA SCIENCE PANEL** (the Panel), an unprecedented interdisciplinary collaboration of 20 esteemed scientists. Convened by the Ocean Science Trust in 2013 at the request of the California Ocean Protection Council, then broadened through intergovernmental agreement, the Panel links the governments of California, Oregon, Washington and British Columbia to address these issues at a coast-wide scale.

With the guidance of state leadership groups, the Panel is...

Laying a scientific foundation

Tailoring information to decision-makers

Putting together building blocks for an ecosystem-based approach

Informing policy and management at multiple levels of government

JULY 2015

Decision-Makers are Responding

As the Panel wraps up this fall, the Pacific Coast Collaborative will continue advancing the conversation in multiple decision-making venues based on scientific findings that are emerging. Based upon the Panel's findings, the Pacific Coast Collaborative has received the following messages:

- **Ocean acidification is a regional intensification related to globally elevated atmospheric CO_2. Both mitigation and adaptation are needed.**
- **Resource managers must apply adaptation measures now to reduce and delay the effects of ocean acidification and protect ecosystems and our seafood supply.**
- **Taking actions to support resilient ecosystems should be an underlying strategy.**
- **Scientists and resource managers must accelerate the development and integration of knowledge required to improve management choices.**
- **The above actions will be most effective with a coordinated regional and national response.**
- **There is a cost to inaction.**

The Pacific Coast Collaborative is seeking strengthened collaboration with federal partners and other stakeholders, with the joint goal being further development of an effective and efficient combined strategy to address acidification and hypoxia and changing ocean conditions. It will inform and improve decision-making at all levels of government.

Pacific Coast COLLABORATIVE

Leadership now for a sustainable tomorrow

The West Coast Ocean Acidification & Hypoxia Science Panel

PANEL PRODUCTS

DECISION-MAKER RESOURCES

In addition to peer-reviewed publications and an Executive Summary, the Panel is producing several resources that can inform next steps in state and federal policy, and decision-making.

- **MONITORING TO INFORM DECISIONS**
  A framework to track changing ocean chemistry in service of multiple management mandates.
- **WEST COAST RESEARCH PRIORITIES**
  A guide that maps research needs to key decision points.

Some of these science-policy products have been released, including:

- MANAGEMENT ACTIONS AND SCIENCE NEEDS
  Identifies local management actions and science needs around how best to address acidification.
- TODAY'S NEED FOR A COAST-WIDE APPROACH
  Highlighting the opportunity to consider complete west coast ecosystems.
- ENVISIONING A FUTURE SCIENCE LANDSCAPE
  A vision for improving our ability to understand and manage changing ocean chemistry.

SCIENCE-BASED FOUNDATION

Additional science products are coming soon, organized around key themes:

Ecosystems
Building resilience in the face of changing ocean chemistry

Physiology
Multi-stressor effects on marine species

Oceanography
Drivers of ocean change

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