

PREPARING FOR CLIMATE CHANGE IN THE ROGUE RIVER BASIN OF SOUTHWEST OREGON



Prepared by:



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Public Health

- Demands for emergency services are likely to increase as storm events, flooding and wildfires increase, but the funding needed to support them may be difficult to obtain.
- Rising summer temperatures will likely increase the incidence and intensity of heat-related illnesses and vector- and water-borne diseases such as Lyme disease and West Nile virus.
- Rising temperatures and increased smoke from wildfires are likely to increase the incidence of asthma.

Agriculture and Forestry

- Forest products may shift to smaller diameter logs if managed by thinning to reduce drought stress and to supply new biomass energy or alternative forest products.

- Agriculture will face increased competition between in-stream and municipal users for available water supplies while rising temperatures are likely to require the use of more water and/or a shift in crop types and farming practices.

Manufacturing, Retail and Service Sectors

- Manufacturing, retail and service sectors are likely to experience higher fuel and electrical costs due to reduced summer output from the BPA hydroelectrical system, disruption in supply chains and the distribution of goods due to increased storm events, flooding, and fires, and increased workforce health concerns.
- Winter recreation activities such as skiing and snowmobiling will be reduced as snowpack decreases.

The science panel made the following recommendations to prepare aquatic and terrestrial systems for climate change by increasing resilience and resistance:

Aquatic Systems

- Restoration and maintenance of stream complexity and connectivity will improve spawning habitat and allow for movement to new areas as other areas become too warm.
- Restoration and maintenance of critical landscapes such as high elevation riparian areas, floodplains, tributary junctions, north-facing streams, and stream reaches with gravels and topographic complexity.
- Management of fisheries to protect genetic and life history diversity of native species.
- Remaining intact habitats should be protected, including old growth, roadless areas and corridor connections for wildlife migration. Protected areas should be expanded longitudinally and latitudinally in order to allow species to shift their ranges.
- Land and stream reaches that provide critical support for ecosystem services should be identified, protected and restored. Ecosystem services are benefits that people gain from functioning ecosystems, including clean water, decomposition of waste and toxins, timber harvest, recreational opportunities, etc.
- Translocations may be necessary when the suitable climate changes too quickly for species to adjust their ranges, or when habitat fragmentation prevents their movement.

Terrestrial Systems

- Protection and restoration of ecosystem structure, function and genetic diversity to allow organisms to withstand and adapt to climate stressors.
- The use of strategic fire should be used to reduce the likelihood of severe fire, as should replanting with a diverse array of native species, and ecologically appropriate fuels reduction efforts.

WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

WASHINGTON OREGON CALIFORNIA



Action Plan

THE OFFICE OF THE GOVERNORS
WASHINGTON, OREGON, AND CALIFORNIA



WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

WASHINGTON OREGON CALIFORNIA

Overarching Action 2: Preparing for the Effects of Climate Change



Memorial Lighthouse, Trinidad
Photo Credit Robert Holmes/CalTour

The three states recognize the inevitability of impacts on ocean and coastal resources from climate variations and long-term climate changes. Climate change results in changes in storm activity and sea level, which alter the shoreline. It also influences ocean currents, upwelling, water temperature and chemistry, and ecosystem stability. Climate effects will impact marine species distributions and abundances from kelp forests to marine mammals to plankton species at the base of the food chain. In addition to global warming, the release of carbon dioxide to the atmosphere leads to ocean acidification, which has the potential to dissolve the shells of some marine organisms or reduce their ability to form shells. As a result, ocean acidification can result in the death of or injury to marine life. The impacts of climate change will affect every priority in this agreement and many of the specific action items. Although models provide predictions and scenarios, these impacts and corresponding ecosystem responses are still shrouded with uncertainties.

★ *Therefore, the West Coast states will focus initial efforts, in collaboration with the federal government, on a West Coast-wide assessment of shoreline changes and anticipated impacts to coastal areas and communities due to climate change over the next several decades, and work together to develop actions to mitigate and adapt to the impacts of climate change and related coastal hazards.*

To model impacts to the West Coast under various likely climate change scenarios, the states will engage with academia,

nongovernmental entities, local, state, and federal government agencies, and the private sector, and will use the same frames of reference¹ for predicting and responding to shoreline changes from storm surges and sea level rise. In addition, the states will continue to develop climate scenarios of the likelihood and severity of changes in factors such as precipitation, average temperatures, and number of extreme heat days. To conduct the West Coast-wide assessment, the states will align their methodologies and tools to facilitate information exchanges across the region.

⌚ *Timeframe:* Initiated within 12 months of release of the final action plan.



Sonoma County, beach at the mouth of the Russian River
Photo Credit Robert Holmes/CalTour

¹ That is, models appropriate for providing inputs and assessing regional climate changes, and scenarios published for greenhouse gas emissions.