

Oregon Climate Change Adaptation Framework

Western Coastal Managers' Meeting
San Francisco, California
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Climate Change Adaptation Framework

Presentation at a glance:

- Context for the Framework
- Purposes of the framework
- Climate risks
- Short-term priority actions
- Recommendations for implementation

Framework Context

Starting point: October 2009 meeting of Governor Kulongoski and agency directors: Develop a “state-level climate change adaptation plan”

Parallel effort: Oregon Climate Change Research Institute’s *Oregon Climate Assessment Report*

Funding: Revenue forecasts anticipate diminishing resources (no new state funds)

Purposes of the Framework

- Identify future climate conditions that pose major risks for Oregonians
- Provide a common basis for state agencies and local governments to begin to prepare for the effects of changes in Oregon's climate
- Assess the state's capacity to address climate-related risks to people, communities, infrastructure, and natural resources
- Identify short-term, low-cost priority actions to prepare for those risks

Climate Change Adaptation Framework

Principal framework elements:

- Summary of climate risks
- Short-term priority actions
- Recommendations for implementation

Climate Risks

Levels of climate risk:

- Risks that are *very likely* to occur
- Risks that are *likely* to occur
- Risks that are *more likely than not* to occur

Climate Risks

Risks that are *very likely* to occur

- ❖ Increase in average annual air temperature and likelihood of extreme heat events
- ❖ Changes in hydrology and water supply; reduced snowpack and water availability in some basins; changes in water quality and timing of water availability

Climate Risks

Risks that are *likely* to occur (slide 1 of 2)

- ❖ Increase in wildfire frequency and intensity
- ❖ Increase in ocean temperatures with potential for changes in ocean chemistry and increased ocean acidification
- ❖ Increased incidence of drought
- ❖ Increased coastal erosion and risk of inundation from increasing sea levels and increasing wave heights and storm surges

(continued)

Climate Risks

Risks that are *likely* to occur (slide 2 of 2)

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- ❖ Changes in abundance and geographical distributions of plant species and habitats for aquatic and terrestrial wildlife
- ❖ Increase in diseases, invasive species and insect, animal and plant pests
- ❖ Loss of wetland ecosystems and services

Climate Risks

Risks that are *more likely than not* to occur

- ❖ Increase incidence and magnitude of damaging floods and frequency of extreme precipitation events
- ❖ Increased incidence of landslides

Short-term Priority Actions

<i>Risks that are very likely to occur</i>	
1.	Increase in average annual air temperatures and likelihood of extreme heat events
	<input type="checkbox"/> Enhance and sustain public health system (state and local) capacity to prepare for and respond to heat waves and smoke emergencies, and improve delivery of information on heat events and cooling centers, especially for isolated and vulnerable populations.
2.	Changes in hydrology and water supply; reduced snowpack and water availability in some basins; changes in water quality and timing of water availability
	<input type="checkbox"/> Maintain the capacity to assist landowners to restore wetlands, uplands and riparian zones to increase the capacity for natural water storage.
	<input type="checkbox"/> Improve real-time forecasting of water delivery and basin yields to improve management of stored water.
	<input type="checkbox"/> Improve capacity to provide technical assistance and incentives to increase storage and to improve conservation, reuse, and water use efficiency among all consumptive water uses.

Short-term Priority Actions

<i>Risks that are likely to occur</i>	
3.	Increase in wildfire frequency and intensity
	<input type="checkbox"/> Improve integration of wildfire risk into planning to reduce vulnerability to natural hazards.
	<input type="checkbox"/> Restore fire-adapted ecosystems to withstand natural recurring wildfires.
	<input type="checkbox"/> Develop short- and medium-term climate change adaptation strategies for forests and other fire-prone habitats, and improve development standards to reduce exposure to fire risk at the urban-wildland interface.
	<input type="checkbox"/> Improve the capabilities of public health agencies to plan for and respond to the public health and safety risks of wildfire emergencies.
4.	Increase in ocean temperatures, with potential for changes in ocean chemistry and increased ocean acidification
	<input type="checkbox"/> Increase research on the impacts of changes in ocean temperature and chemistry on estuarine and near-shore marine habitats, including commercial and recreational fisheries.

Short-term Priority Actions

<i>Risks that are likely to occur</i>	
5.	Increased incidence of drought
	<input type="checkbox"/> Improve capacity to provide technical assistance and incentives to increase storage capacity and to improve conservation, reuse, and water use efficiency among all consumptive water uses.
6.	Increased coastal erosion and risk of inundation from increasing sea levels and increasing wave heights and storm surges
	<input type="checkbox"/> Inventory and map coastal shorelands that are at risk of erosion or inundation, or are barriers to shoreline migration, and develop long-term state and local adaptation strategies for shorelands.
7.	Changes in the abundance and geographical distributions of plant species and habitats for aquatic and terrestrial wildlife
	<input type="checkbox"/> Work with private, local and federal partners to identify ways to manage ecosystems that will improve their resilience to changes in climate conditions.

Short-term Priority Actions

<i>Risks that are likely to occur</i>	
8.	Increase in diseases, invasive species, and insect, animal and plant pests
	<input type="checkbox"/> Increase monitoring, detection and control measures for pest insects and plant and wildlife diseases.
	<input type="checkbox"/> Increase surveillance and monitoring for climate-sensitive infectious diseases to humans.
	<input type="checkbox"/> Increase outreach and community education about disease and invasive species prevention measures.
	<input type="checkbox"/> Seek new means of securing resources to detect and combat diseases and invasive species.
9.	Loss of wetland ecosystems and services
	<input type="checkbox"/> Support implementation of priority actions for Risks 2, 5, 6, 7, and 10 related to hydrologic changes, drought, coastal erosion and inundation, habitats, and flooding.

Short-term Priority Actions

<i>Risks that are more likely to occur than not</i>	
10.	Increased frequency of extreme precipitation events and incidence and magnitude of damaging floods
	<input type="checkbox"/> Inventory past flood conditions and define and map future flood conditions.
	<input type="checkbox"/> Improve capability to rapidly assess and repair damaged transportation infrastructure, in order to ensure rapid reopening of transportation corridors.
11.	Increased incidence of landslides
	<input type="checkbox"/> Develop public education and outreach on landslide risks and how to adapt to landslide risks.

Recommendations for Implementing the Framework

Recommendations for Implementation

- Ongoing informal interagency working group
- Work with OCCRI to identify research priorities
- Agency program assessments
- Integrate economic analysis into next round of adaptation planning
- Mainstream adaptation considerations into existing planning
- Work to integrate local, private and federal entities into next round of adaptation planning
- Communication and outreach – taking adaptation planning to the local level

Oregon Climate Change Adaptation Framework

For more information:

<http://www.oregon.gov/LCD/>