

1. Introduction



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Rising levels of carbon dioxide and other heat-trapping gases have warmed the earth and are already causing wide-ranging impacts, from rising sea levels to melting snow and ice to more drought and extreme rainfall. Scientists project that these trends will continue and in some cases accelerate, posing significant risks to human health, our forests, agriculture, freshwater supplies, coastlines, and other natural resources that are vital for our economy and the environment.

To avoid significant climate impacts and reduce the risk of creating impacts beyond our ability to respond and adapt, Washington State and societies around the globe need to reduce greenhouse gas emissions. Washington State is addressing this challenge and has adopted a portfolio of policies to reduce energy use, meet statutory greenhouse gas limits, and build a clean energy economy. This approach is summarized in the 2010 report to the Legislature, *Path to a Low-Carbon Economy—An Interim Plan to Address Washington’s Greenhouse Gas Emissions*.² More work is needed to get the state on track to meet its statutory greenhouse gas limits for 2020 and beyond.

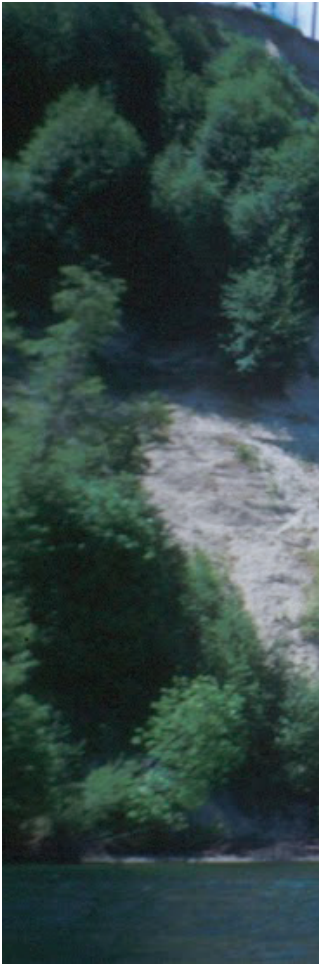
Some changes in climate are unavoidable even if greenhouse gas emissions are reduced. Climate impacts will likely be experienced through incremental changes in temperature and precipitation and through more frequent and destructive disaster events, such as catastrophic floods, wildfires, or coastal storms. In many cases, climate-related impacts will combine with existing stressors to increase harm to people, communities, infrastructure, economic activity, and natural resources. Both incremental changes and catastrophic events will be costly and will have direct implications for the health and welfare of our state. The state can significantly reduce the risks to our communities, economy, and the environment by taking action now to respond and adapt to changing climate conditions.

² 2010 Comprehensive Plan, available at <http://www.ecy.wa.gov/climatechange/2010CompPlan.htm>.



Guiding principles for Washington’s climate change response strategy:

- Use best-available science.
- Build on principles of sustainability.
- Increase our resilience and protect the most vulnerable populations.
- Ensure integrated approaches that maximize mutual benefits and avoid unintended consequences.
- Emphasize collaboration and strengthen partnerships.
- Recognize the impacts of decisions made by other regions and countries.



Purpose of Response Strategy

In recognition of Washington's vulnerability to climate change impacts, the Washington State Legislature directed state agencies to develop this **integrated climate change response strategy** to enable state and local agencies, public and private businesses, nongovernmental organizations, and individuals to prepare for, address, and adapt to the impacts of climate change.³ Governor Gregoire's May 2009 executive order reinforced this requirement, directing the Department of Ecology (Ecology) to collaborate with affected local, state, and federal agencies to develop recommendations, guidelines, and tools to address the impacts of sea level rise and changes in water resources.⁴

This document, *Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy*, satisfies these requirements. It offers recommendations on how existing state policies and programs can better prepare Washington State to respond to the impacts of climate change. It urges state agencies to make adaptation a standard part of agency planning and to make scientific information about climate change impacts accessible to public and private-sector decision makers. It also recommends that state agencies strengthen existing efforts to help local and tribal governments, private and public organizations, and individuals reduce their vulnerability to climate change. The response strategy underscores the need to build strong partnerships to support state, local, and tribal adaptation; coordinate activities across sectors; and engage stakeholders and the public.

Ecology prepared this response strategy in collaboration with the state departments of Agriculture, Commerce, Fish and Wildlife, Health, Natural Resources, and Transportation. A broad range of stakeholders with policy, management, and scientific expertise participated in four advisory groups and developed a set of recommendations for near- and long-term actions to prepare Washington for a changing climate. (See Appendix A for advisory group members and Appendix B for advisory group recommendations.) This response strategy builds on, summarizes, and integrates the recommendations of the four advisory groups. It also draws on the best available science on the impacts of climate change on Washington from the *Washington Climate Change Impacts Assessment* and other key sources, as well as Washington's initial adaptation plan developed in 2008 under Executive Order 07-02.⁵

³ 2009 legislative mandate set in the State Agency Climate Leadership Act, [Senate Bill 5560](#), codified in [RCW 43.21M.010-040](#).

⁴ Executive Order 09-05, <http://www.ecy.wa.gov/climatechange/2009EO.htm>.

⁵ Climate Impacts Group (2009), available at <http://ces.washington.edu/cig/res/ia/waccia.shtml#report>. Leading the Way: Preparing for the Impacts of Climate Change in Washington, <http://www.ecy.wa.gov/pubs/0801008c.pdf>.

Response Strategy Outline

Chapter 2 of this response strategy identifies key climate risks and recommends a set of priority strategies to prepare for the impacts of climate change. The chapter outlines steps for agencies to make climate adaptation a standard part of agency planning efforts, programs, services, and operations. It also recommends major policies and programs that state and local governments can use to minimize climate-related risks and build resilience to climate impacts.

Chapter 3 summarizes the observed and projected changes in climate and the key risks for Washington’s communities, economy, and the environment.

Chapters 4 through 10 of the response strategy lay out key climate impacts and priority response strategies for seven key sectors:

- Chapter 4. Human Health
- Chapter 5. Ecosystems, Species, and Habitats
- Chapter 6. Ocean and Coastlines
- Chapter 7. Water Resources
- Chapter 8. Agriculture
- Chapter 9. Forests
- Chapter 10. Infrastructure and the Built Environment

Chapters 11 and 12 of the response strategy outline recommendations to advance research and monitoring, raise awareness, engage the public, and build support for meaningful action.

