

Climate Change

*Meeting the challenges and
seizing the opportunities*

The potential impacts of global warming dwarf those of other environmental threats

Those words, written in 1990, opened the chapter on global warming in the Department of Ecology's "Washington Environment 2010" report issued under then-director and now-Governor Chris Gregoire. We have long known that the societal threat that climate change presents is of a nature and magnitude unlike any other we have faced.

The Earth's climate has always changed, but overall it has been relatively stable and mostly predictable since the end of the last ice age. Carbon dioxide is a major component of the Earth's atmosphere and because it traps heat, is necessary for a livable climate. But, since humans started using fossil fuels for transportation, electricity and other purposes, we have been releasing vast amounts of the carbon dioxide into the atmosphere. And since carbon dioxide remains in the atmosphere longer than other major heat-trapping gases and it is accumulating in the atmosphere at increasing concentrations due to human activities, it is logical that the Earth's temperature will rise as carbon dioxide and other "greenhouse gases" increase.

This increase in greenhouse gases is resulting in an unpredictable climate that is changing rapidly. Our state is particularly vulnerable to a warming climate — especially our snow-fed water supplies that provide our drinking water, irrigation for agriculture- and nearly three-fourth of the electrical power we produce. Close to 40 communities — including some of the state's largest population centers — along our 2,300 miles of shoreline are threatened by rising sea levels. Ocean acidification, which is created when carbon dioxide reacts with seawater and reduces the water's pH, threatens our abundant shellfish.

While climate change poses a significant threat to our economy, it also offers enormous opportunities. We are well-positioned to lead the transformation to the new clean economy, creating jobs and economic growth along the way. The state is creating markets that drive investment in low-carbon technologies. By aligning our research universities with our industrial capacity in software, biotechnology, nanotechnology, and sustainable design, we will create thousands of new jobs — jobs here in Washington state that cannot be outsourced. Because we rely heavily on hydropower, power generation is not as significant a source of "greenhouse gas" emissions as in other states. In Washington, 45 percent of greenhouse gas emissions come from cars, trucks, planes, trains, and ships. This means individuals can help reduce these emissions, which are associated with warming.

IN THE NEWS

November 18: [New report says climate change means more frequent drought, floods to come](#) (*Washington Post*)

November 5: [Climate change, beetle may doom rugged pine](#) (*Seattle Times*)

November 3: [Biggest jump ever seen in global warming gases](#) (*Seattle Times*)

October 26: ['King tide' could cause flooding at Shore and area rivers over next few days](#) (*Philadelphia Inquirer*)

October 12: [Climate Science 2009–2010: Major New Discoveries](#) (*World Resources Institute*)

[Global Climate Change - A State of Flux](#) Images showing change from all over the planet (*NASA*)

Summer 2011: [Climate Change in the United States: Expected Environmental Impacts](#) (*Resources Magazine*)

August 15: [Extreme Summer Weather](#) - (*ABC News Reports Video on extreme weather across U.S. and globe*)

July 19: [Electric vehicle charging stations coming to I-5 and US 2](#) (*WA State*)



CARBON SMART

Leading the way to reduce the state's carbon footprint.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)

NEW! Special Report: [Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation](#) (11/18/2011)

SEPA & GREENHOUSE GAS EMISSIONS

OCEAN ACIDIFICATION FOCUS SHEET

BENCHMARKING GHG EMISSIONS

MEASURING PERFORMANCE (GMAP)

[2010 Climate Change GMAP presentation](#) (pdf) (9/28/10)

LOW CARBON FUEL STANDARDS

WEST COAST GREEN HIGHWAY

ECONOMIC ANALYSIS OF REGIONAL PLAN

LAWS AND EXECUTIVE ORDERS (2005 – 2010)

Summary of state

Washington already is working to reduce emissions and build a clean energy economy. We don't have to start from square one. We can use what we've learned to do more. It's clear that Washington's climate is changing — more than 50 glaciers have disappeared from the Cascade Mountains, sea levels are changing along Washington's coastlines and snowpack totals are expected to decline by 40 percent by 2040. It's also clear that we can help shape how changes in climate change Washington —for us today, for our children, and for future generations.

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June 10: [Shell Chief Says World to Face 40 Percent Water-Supply Shortfall - \(Bloomberg\)](#)

June 1: [2010 was record year for greenhouse gases](#)

actions addressing the impacts of climate change.

[CLIMATE CHANGE FACT SHEETS](#)



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