

Sage Reference

Encyclopedia of Global Warming & Climate Change

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Oregon

Oregon measures 295 mi. (475 km) north to south at longest distance, and 395 mi. (636 km) east to west at its longest distance. Oregon is the ninth-largest state in land and water area, covering 98,381 sq. mi. (254,810 km). The summit of Mount Hood, at 11,239 ft. (3,426 m), is the state's highest point. The Pacific Ocean, Oregon's entire western border, is the state's lowest point at sea level. Oregon's mean elevation is 3,300 ft. (1,006 m). Per U.S. Census data for 2010, Oregon has a population is 3.8 million, representing an increase of about 12 percent from 2000.

Oregon's climate is classified as mild, with two major geographic features dominating its climate: the Pacific Ocean and the mountains of the Cascade Range. The Cascade Range divides western and eastern Oregon. Winters are mild and wet west of the Cascade Range, with precipitation falling as rain in the lower elevations. Areas along the Oregon coast and in the mountains of the Coast Range often receive close to 200 in. (508 cm) of rain annually, mostly falling between October and March. Nearly 70 percent of the state's population lives in the Willamette Valley, which receives 40–50 in. (101–127 cm) of precipitation each year. The coldest day of the year is around January 1 and the warmest is usually around August 1. Summers tend to be sunny and dry. Oregon's highest recorded temperature is 119 degrees F (48 degrees C) and occurred on August 10, 1898, in Pendleton; the state's record low temperature is minus 54 degrees F (minus 48 degrees C) and occurred on February 10, 1933, in Seneca.

Influence of Climate Change

Average annual temperatures are projected to increase 2 degrees F (1.1 degrees C) by the 2020s and 3 degrees F (1.6 degrees C) by the 2040s compared with averages for the period from 1970 to 1999. Average annual precipitation is not currently projected to change significantly, but more winter precipitation will likely fall as rain. Atmospheric carbon dioxide (CO₂) concentrations are expected to increase.

A variety of climate change scenarios are likely to impact Oregon's forests, water, coastal geography, and agriculture. This impact could equate to decreased water supplies; increased wildfires; population displacement; decreased food production; rain patterns changing to downpours, with the potential for flash flooding; health risks of certain infectious diseases from water contamination and disease-carrying vectors (such as mosquitoes, ticks, and rodents); and heat-related illnesses.

Forestland covers nearly half of Oregon (30 million of 62 million acres), and simultaneously impacts economic and public health. Forests protect freshwater supplies, provide wildlife habitat, and provide recreational op-

portunities. Oregon leads all U.S. states in timber production, producing 4.7 billion board ft. of lumber in 2008, although this was a 23.5 percent drop from 2007. Trees absorb CO₂, and as more trees are cut, less CO₂ can be absorbed, making forestry the center in much debate about climate change in Oregon.

Risks associated with rising temperatures include reduced Cascade snow pack, which could reduce access to freshwater and affect crops, forests, and drinkable water supplies. Hydroelectric output could also decrease; as much as 60 percent of changes in the water cycle results from human activities. Without modification and accommodation for demographic and climatic shifts, chances for a water crisis are high in Oregon.

Mountain ranges divide Oregon. West of the Cascades, Oregon's climate is moderated by the Pacific Ocean. Warming temperatures may threaten the Cascade snowpack, reducing freshwater supplies for crops, potable water, and hydroelectric power.



Climate change will likely cause ocean warming, altered currents, and acidification. In addition, sea-level rise

could adversely affect Oregon's coastal communities and ecosystems; predictions for rising sea levels range from 4 to 35 in. (10 to 89 cm). This could mean beach erosion and land loss, making infrastructure (roads and buildings) vulnerable and resulting in displacement of human and animal populations.

Diverse impacts on agriculture will likely occur. Some crops, such as potatoes and wine grapes, may be affected by the negative repercussions of rising temperatures and offer decreasing yields. In contrast, orchard crops such as apples may grow and ripen at an accelerated pace because of increased temperatures, bolstering quality and economic yield. Crop selection and farming practices will need to accommodate increased temperature, drought, and changes in water availability. The rapidity of temperature change will dictate the rate of this agricultural accommodation.

State-Level Response to Climate Change

The Oregon Global Warming Commission was created by the 2007 legislature through House Bill 3543. The commission recommends statutory and administrative changes and policy measures to be carried out by state and local governments, businesses, nonprofit organizations, and residents. The commission tracks and evaluates assessments of global warming impacts on Oregon and the northwest. In 2010, Oregon's total CO₂ emissions from fossil fuel combustion measured 43.50 million metric tons. In 2007, Oregon set a 2020 greenhouse gas (GHG) reduction goal that is almost 30 percent below current levels.

Oregon is a member of the Western Regional Climate Action Initiative and the Climate Registry, two organizations that track, verify, and report GHG emissions. Portland, Oregon's largest city, is an affiliate city of the C 40 Climate Leadership Group, an international consortium of large cities committed to planning for climate change.

See Also

- [Alaska](#)
- [Climap Project](#)
- [Climate Policy, U.S.](#)
- [Oregon State University](#)
- [Washington](#)

Further Readings

Climate Registry. <http://www.theclimateregistry.org> (Accessed July 2011).

Oregon Climate Change Research Institute. <http://occri.net> (Accessed July 2011).

Oregon Climate Service. <http://www.ocs.orst.edu> (Accessed July 2011).

Oregon Forest Resources Institute. <http://www.oregonforests.org> (Accessed July 2011).

Western Climate Initiative. <http://www.westernclimateinitiative.org> (Accessed July 2011).

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