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FACT SHEET: What Climate Change Means for Washington and the Northwest



Today, the Obama Administration released the third U.S. National Climate Assessment – the most comprehensive scientific assessment ever generated of climate change and its impacts across every region of America and major sectors of the U.S. economy. The findings in this National Climate Assessment underscore the need for urgent action to combat the threats from climate change, protect American citizens and communities today, and build a sustainable future for our kids and grandkids.

The National Climate Assessment is a key deliverable of President Obama’s Climate Action Plan to cut carbon pollution, prepare America’s communities for climate-change impacts, and lead international efforts to address this global challenge. Importantly, the plan acknowledges that even as we act to reduce the greenhouse-gas pollution that is driving climate change, we must also empower the Nation’s states, communities, businesses, and decision makers with the information they need prepare for climate impacts already underway.

The Obama Administration has already taken a number of steps to deliver on that commitment to states, regions, and communities across America. In the past year alone, these efforts have included: establishing a Task Force of State, Local, and Tribal Leaders on Climate Preparedness and Resilience to advise the Administration on how the Federal Government can respond to the needs of communities nationwide that are dealing with the impacts of climate change; launching a Climate Data Initiative to bring together extensive open government data with strong commitments from the private and philanthropic sectors to develop planning and resilience tools for communities; and establishing seven new “climate hubs” across the country to help farmers and ranchers adapt their operations to a changing climate.

WASHINGTON is part of the National Climate Assessment’s U.S. Northwest Region. The regional phenomena identified by the Assessment may not occur in every state that is part of a particular region. According to the third U.S. National Climate Assessment Highlights report:

“The Northwest’s economy, infrastructure, natural systems, public health, and agriculture sectors all face important climate change related risks. Impacts on infrastructure, natural systems, human health, and economic sectors, combined with issues of social and ecological vulnerability, will unfold quite differently in largely natural areas, like the Cascade Range, than in urban areas like Seattle and Portland, or among the region’s many Native American tribes.

Seasonal water patterns shape the life cycles of the region’s flora and fauna, including iconic salmon and steelhead, and forested ecosystems. Adding to the human influences on climate, human activities have altered natural habitats, threatened species, and extracted so much water

that there are already conflicts among multiple users in dry years. As conflicts and trade-offs increase, the region's population continues to grow. Particularly in the face of climate change, the need to seek solutions to these conflicts is becoming increasingly urgent." (NCA Highlights, p. 80)

Regional Findings of the Third U.S. National Climate Assessment: NORTHWEST

- "Changes in the timing of streamflow related to changing snowmelt are already observed and will continue, reducing the supply of water for many competing demands and causing far-reaching ecological and socioeconomic consequences.
- In the coastal zone, the effects of sea level rise, erosion, inundation, threats to infrastructure and habitat, and increasing ocean acidity collectively pose a major threat to the region.
- The combined impacts of increasing wildfire, insect outbreaks, and tree diseases are already causing widespread tree die-off and are virtually certain to cause additional forest mortality by the 2040s and long-term transformation of forest landscapes. Under higher emissions scenarios, extensive conversion of subalpine forests to other forest types is projected by the 2080s.
- While the agriculture sector's technical ability to adapt to changing conditions can offset some adverse impacts of a changing climate, there remain critical concerns for agriculture with respect to costs of adaptation, development of more climate resilient technologies and management, and development of more climate resilient technologies and management, and availability and timing of water." (NCA Ch. 21: Northwest)

Selected Findings and Information from the Third U.S. National Climate Assessment Relevant to WASHINGTON

- **Climate:** "Temperatures increased across the region from 1895 to 2011, with a regionally averaged warming of about 1.3°F. While precipitation has generally increased, trends are small as compared to natural variability." (NCA Ch. 21: Northwest)
- **Fisheries and freshwater species:** "Region-wide summer temperature increases and, in certain basins, increased river flooding and winter flows and decreased summer flows, will threaten many freshwater species, particularly salmon, steelhead, and trout. Rising temperatures will increase disease and/or mortality in several iconic salmon species, especially for spring/summer Chinook and sockeye in the interior Columbia and Snake River basins." (NCA Ch. 21: Northwest)
- **Water:** "Hydrologic response to climate change will depend upon the dominant form of precipitation in a particular watershed, as well as other local characteristics including elevation, aspect, geology, vegetation, and changing land use. The largest responses are expected to occur in basins with significant snow accumulation, where warming increases winter flows and advances the timing of spring melt. By 2050, snowmelt is projected to shift three to four weeks earlier than the 20th century average, and summer flows are projected to be substantially lower, even for an emissions scenario that assumes substantial emissions reductions (B1)." (NCA Ch. 21: Northwest)

- **Coastal:** “In Washington and Oregon, more than 140,000 acres of coastal lands lie within 3.3 feet in elevation of high tide. As sea levels continue to rise, these areas will be inundated more frequently. Ocean acidification threatens culturally and commercially significant marine species directly affected by changes in ocean chemistry (such as oysters) and those affected by changes in the marine food web (such as Pacific salmon). Increasing coastal water temperatures and changing ecological conditions may alter the ranges, types, and abundances of marine species. Many human uses of the coast – for living, working, and recreating – will also be negatively affected by the physical and ecological consequences of climate change.” (NCA Ch. 21: Northwest)
- **Forests:** “Climate change will alter Northwest forests by increasing wildfire risk and insect and tree disease outbreaks, and by forcing longer-term shifts in forest types and species. Many impacts will be driven by water deficits, which increase tree stress and mortality, tree vulnerability to insects, and fuel flammability. The cumulative effects of disturbance – and possibly interactions between insects and fires – will cause the greatest changes in Northwest forests.” (NCA Ch. 21: Northwest)
- **Agriculture:** “Projected warming will reduce the availability of irrigation water in snowmelt-fed basins and increase the probability of heat stress to field crops and tree fruit. Some crops will benefit from a longer growing season and/or higher atmospheric carbon dioxide, at least for a few decades. Longer-term consequences are less certain. Changes in plant diseases, pests, and weeds present additional potential risks.” (NCA Ch. 21: Northwest)
- **Adaptation:** “Agriculture is perhaps best positioned to adapt to climate trends without explicit planning and policy, because it already responds to annual climate variations and exploits a wide range of existing climates across the landscape. Some projected changes in climate, including warmer winters, longer annual frost-free periods, and relatively unchanged or increased winter precipitation, could be beneficial to some agriculture systems. Nonetheless, rapid climate change could present difficulties.” (NCA Ch. 21: Northwest)
- **Tribes:** “Observed and future impacts from climate change threaten Native Peoples’ access to traditional foods such as fish, game, and wild and cultivated crops, which have provided sustenance as well as cultural, economic, medicinal, and community health for generations. Native communities’ vulnerabilities and limited capacity to adapt to water-related challenges are exacerbated by historical and contemporary government policies and poor socioeconomic conditions.” (NCA Ch. 12: Indigenous Peoples)

Examples of Efforts Underway in WASHINGTON to Address Climate Change

In WASHINGTON, many efforts are already underway to mitigate and respond to the impacts of climate change, including:

Preparing Communities for the Consequences of Climate Change:

Many important preparedness, resilience, and adaptation efforts are already being led by local, state, and regional entities across the country. Mechanisms being used by local governments to prepare for climate change include: land-use planning; provisions to protect infrastructure and ecosystems; regulations related to the design and construction of buildings, road, and bridges; and preparation for emergency response and recovery. These local adaptation planning and actions are unfolding in municipalities of different sizes, and regional agencies and regional aggregations of governments are also taking actions. And States have also become important actors in efforts related to climate change.

- Governor Jay Inslee serves on the President’s State, Local and Tribal Leaders Task Force for Climate Preparedness and Resilience. He recently signed an executive order outlining a series of steps through which to cut carbon pollution and advance clean energy in Washington State. In 2013, during his first year as Governor, Inslee created a clean energy fund to invest in the development and deployment of renewable energy and energy efficiency technologies. He also signed legislation creating an Ocean Acidification Center at the University of Washington to monitor and study ocean acidification and its effects, and won passage of legislation to help maintain water supply in the Yakima River Basin in Central Washington as it experiences strained water resources due to climate change.

Cutting Carbon Pollution in WASHINGTON:

In 2012, power plants and major industrial facilities in Washington emitted almost 20 million metric tons of carbon pollution – that’s equal to the yearly pollution from more than 4 million cars. Through the Climate Action Plan and state initiatives, there are many efforts already underway to mitigate and respond to the impacts of climate change in Washington, including:

- ***Investing in Clean Energy:*** Since President Obama took office, the U.S. increased solar-electricity generation by more than ten-fold and tripled electricity production from wind power. In Washington, renewable energy generation from wind, solar, and geothermal sources increased nearly 80 percent. Since 2009, the Administration has supported tens of thousands of renewable energy projects throughout the country, including 155 in Washington, generating enough energy to power more than 280,000 homes and helping Washington meet its goal of generating 15 percent of its electricity from renewable energy sources by 2020.
- ***Improving Efficiency:*** Using less energy to power our homes, businesses and vehicles is critical to building a clean and secure energy future. President Obama has made essential investments in research and development for energy efficiency advances, and set new standards to make the things we use every day – from cars to microwaves – more efficient.
 - President Obama established the toughest fuel economy standards for passenger vehicles in U.S. history. These standards will double the fuel efficiency of our cars and trucks by 2025, saving the average driver more than \$8,000 over the lifetime of a 2025 vehicle and cutting carbon pollution.
 - Since October 2009, the Department of Energy and the Department of Housing and Urban Development have jointly completed energy upgrades nearly two million

homes across the country, saving many families more than \$400 on their heating and cooling bills in the first year alone.

- As part of the President's Better Buildings Challenge, Seattle committed to reducing energy intensity 20 percent by 2020 in 23 million square feet of city buildings. Spokane County has committed to reduce energy intensity by 20 percent in 10 years in 1.16 million square feet of buildings. Kitsap County, Thurston County and the Camas School District have also made commitments to reduce energy intensity by at least 20 percent in a combined 2.5 million square feet. The Camas School District met and surpassed its energy intensity reduction goal in 2012. REACH Community Development committed to 20 percent reduction in energy intensity within 10 years in 1 million square feet of buildings it owns and manages.

For more information about the third U.S. National Climate Assessment, please visit www.globalchange.gov or contact engagement@usgcrp.gov.

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