

CLIMATE NEWS

THIRD ANNIVERSARY EDITION

From Sheldon Whitehouse, Barbara Boxer, and Jeff Merkley

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Climate Change Could Topple Pacific Northwest Douglas Fir Forests



A fungus that devours the roots of Douglas fir trees is likely to become a bigger killer as the climate changes, according to a new study from the Washington State Academy of Sciences. Laminated root rot, a native pest, is found in Douglas fir stands throughout the Northwest. In addition to killing trees outright, the disease can make them more susceptible to bark beetle attacks, fire, and toppling over in strong winds—and climate models warn of stronger wind storms in the region. Models also predict that the Douglas fir's North American range will see warming temperatures combined with reduced snow and rainfall, which is expected to further weaken the trees and make them more vulnerable to root rot. The disease already costs the timber industry millions of dollars each year, and the diminished timber yields have in turn reduced revenues to Washington State's public school and university trust fund. Tree die-offs in the Pacific Northwest have become so bad that scientists fear the natural carbon sink—a place where plants pull carbon dioxide out of the atmosphere—is turning into a net emitter of the greenhouse gas. (Grist/The Spokesman-Review)

Climate Change Threatens Future Winter Olympics

Two Olympic test events were canceled last February after temperatures above 60°F and a lack of snowfall left Sochi's ski trails bare and brown. This led University of Waterloo climatologist Daniel Scott to analyze potential venues for future Winter Games. His study found that of the 19 cities that have hosted the Winter Olympics, as few as 10 might be cold enough by midcentury to host them again. By 2100, that number shrinks to 6. The planet has warmed 1.4°F since the 1800s, and as a result, snow is melting. The effect on the U.S. ski industry has already been significant. Between 1999 and 2010, low snowfall years cost the industry \$1 billion and up to 27,000 jobs. Oregon took the biggest hit out West, with 31 percent fewer skier visits during low snow years. Next was Washington at 28 percent, Utah at 14 percent, and Colorado at 7.7 percent. If greenhouse gas emissions continue to rise—they grew 41 percent between 1990 and 2008—then snowfall, winter, and skiing will no longer exist as we know them by the end of the century. (NYT)

Sea-Level Rise Could Cause Trillions in Coastal Damage

New research published in the *Proceedings of the National Academy of Sciences* predicts that global average storm surge damages could increase from about \$10-\$40 billion per year today to up to \$100 trillion per year by the end of century if no coastal adaptation action is taken. The study—led by the think tank Global Climate Forum (GCF) and the UK's University of Southampton—presents comprehensive global simulation results on future flood damages to buildings and infrastructure in coastal flood plains. Drastic increases in damage are expected due to rising sea levels and population, as well as economic growth in coastal zones. Asia and Africa may be hit particularly hard because of their rapidly growing coastal mega-cities, such as Shanghai, Manila, and Lagos. "If we ignore this problem, the consequences will be dramatic," said GCF's Jochen Hinkel. In 2100, up to 600 million people (around 5 percent of the global population) could be affected by coastal flooding if no adaptation measures are put in place. The researchers found that an investment level of \$10 to \$70 billion per year could reduce projected damages to below \$80 billion per year in the 21st century. (University of Southampton/pnas.1222469111)

Tunisia Embeds Protection of Climate in New Constitution

Tunisia, the starting place for massive protests that came to be known as the Arab Spring, has embedded climate change into its new constitution. The state is now obliged to "contribute to the protection of the climate ... for future generations." It also says that the "state shall provide the necessary means to eliminate environmental pollution." David Estrin of the Canadian law firm Gowlings, said that "what Tunisia has done is something relatively new in terms of world constitutions." Tunisia has not only given its citizens the right to ask their government to deal with climate change, it has also "elevated the concept (of climate change) to one of an international law," he added. Tunisia follows Ecuador and the Dominican Republic as the third country to include climate change in its constitution. Its parliament has also created a commission for sustainable development and the rights of future generations, a clear indication that it is worried about the effects of a warming world. Last year, a Center for American Progress study said that the interplay between climate change, food prices, and politics was a hidden stressor that helped fuel the Arab Spring. (Toronto Star) 