

Climate change threatens health in Northwest

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Body

SEATTLE 2019--SEATTLE -- Around this time last year, news outlets blared alarming headlines: Breathing the air outside was as bad as smoking several cigarettes. Wildfire haze blotted out the sun and turned the moon orange. Weather apps simply listed the forecast as "smoke."

Just because this summer has been clear, though, doesn't mean that the environment is doing just fine.

While smoke from wildfires might be climate change's most obvious impact in Washington, other threats still loom. Some predicted health effects include heatstroke, dehydration, worsened pollen allergies and increased cancer risk. And while local scientists have a plan to fix it, they say they are concerned that no one is carrying it out.

Meanwhile, climate scientists predict more smoky summers. On Wednesday, the Natural Resources Defense Council (NRDC) released a study that found that during one year, wildfire smoke in Washington state caused 245 deaths, directly and indirectly. The study pegged the costs of those "premature deaths" at \$2.2 billion, and \$55 million spent dealing with associated illnesses.

The NRDC study examined climate-change-related events in 10 states in 2012 and was an attempt to put a dollar figure on how climate change is harming people's health. Researchers arrived at the figures by looking at published, peer-reviewed literature and state and federal agency reports.

Wisconsin, not a state normally associated with being hot, logged 27 deaths from extreme heat in 2012, according to the NRDC study. The state nestled between Minnesota and the Great Lakes suffered through record high temperatures for a week that summer.

"I'm seeing things that I did not think would happen until 2050," said Dr. Kristie Ebi, a professor in the Department of Global Health at the University of Washington. "Climate change is coming at us much faster, and the speed of change and how that's going to affect extreme events is going to be very problematic." Heat waves and floods are becoming more frequent and intense sooner than expected, she said.

Climate change has ravaged other parts of the country with extreme heat, catastrophic flooding and an ever-expanding range of illnesses spread by mosquitoes, fleas and ticks. While the effects have been milder in the Pacific Northwest, "We're not going to be immune forever," said Dr. Jeff Duchin, public-health officer for Public Health -- Seattle & King County.

Climate change, like an increase in warmer days, hit the region's most vulnerable populations hard. Neighborhoods with fewer parks, greenbelts and trees often become heat islands where the temperature is greater than surrounding areas. Heat and smoke limit the time children stay outside and make more people susceptible to

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asthma. The lack of air conditioning in Western Washington makes it more difficult for people, such as the elderly, who need relief the most.

The health problems resulting from climate change are compounded because they work in unison, complicating the response from health-care providers, said Ebi. She is concerned that the region's health-care facilities don't have the capacity to handle a surge of patients when climate-related health problems pile up and will be overwhelmed.

People with diabetes can be weakened by dehydration, as it inhibits the absorption of insulin. Dehydration also increases the likelihood of kidney harm or kidney stones, putting those with kidney disease at greater risk of weather-related harm.

Plants are producing more pollen because of increased levels of carbon monoxide in the air, prolonging allergy season. Increased carbon dioxide reduces nutrients in the plants we eat. Greenhouse gases chew away at the ozone, leading to an increased risk of skin cancer.

This summer tied the summer of 2016 as the hottest in the Northern Hemisphere since 1880, according to data the National Oceanic and Atmospheric Administration (NOAA) released Monday.

A June study Ebi co-authored in the journal Science Advances predicted that 725 people could die in Seattle during an extreme heat wave if global temperatures rise about 5.4 degrees Fahrenheit since the preindustrial era.

A report from the UW's Climate Impacts Group found that Washington state could have a 67% increase in "very hot days" -- usually at or above 90 degrees Fahrenheit -- if global temperatures rise by 2.7 degrees Fahrenheit.

A warmer Pacific Northwest will be a new, suitable habitat for mosquitoes, ticks and fleas carrying Lyme disease and West Nile virus, of which the first Western Washington case was recorded last year.

"Our warmer and longer summers are providing pretty enticing environments for mosquitoes and ticks," Ebi said.

In an effort to blunt the impact of heat and smoke this past summer, the city of Seattle installed new air-filtration systems at five public sites to give people without air conditioning a place to go if the heat rose and the sky was choked with smoke. During each of the summers of 2017 and 2018, Seattle had 24 days total of increased air pollution from wildfire smoke.

Knowing and tracking what diseases and problems are heading toward the northwest corner of the country is an important part of protecting and preparing people for climate change. Public-health officials say they need to set up systems to track climate-change-related health issues such as Lyme disease as it moves closer to our region. "We need to monitor when these things are showing up," said Heidi Roop, a research scientist at Climate Impacts Group.

Dealing with climate-related health issues is proving to be as difficult as reducing greenhouse-gas causing emissions. Public-health officials know more needs to be done to mitigate existing problems and prepare for what is to come. To do this, more funding is needed, Duchin said.

Duchin and his colleagues at Public Health -- Seattle & King County feel that scarcity acutely. Though they released a plan to address health issues related to climate change two years ago, there isn't a single employee solely dedicated to its implementation. Duchin said the plan is "largely aspirational."

The "blueprint" lays out six core functions and 15 strategies for Public Health to combat health problems caused by climate change. The core functions include creating policies around climate change, preparedness and educating agency leaders and employees.

But people shouldn't be waiting for an official response and need to educate themselves and agitate for their elected officials to do more, Roop, the Climate Impacts Group research scientist, said.

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She added, "When we understand the implications of an issue on our daily lives and our communities, it is easier to see where and how we can act to motivate **change**."

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