Climate Change & Health in Washington State:

EXTREME WEATHER

Washington Physicians For Social Responsibility

Climate change will continue to increase the number of severe weather events in WA, already a leader in presidentially declared weather disasters with two declared in each of the past three years.

Earlier snowmelts and higher temperatures cause more summertime droughts, threatening agricultural production, compromising water quality, and impairing hydroelectric power generation. From 1987-2003, instance of forest fires increased 4 times over what it had been from 1970-1986 in Washington State. This resulted in six times the forest area burned.

- In 2015, dry heat led to an increase in devastating forest fires: 1 million acres of Washington lands burned.

Winter 2015-16 was the wettest on record for the Seattle area. Higher water flows result in frequent and severe floods which can destroy property, cause injuries, and spread illnesses through contaminated water

- Severe flooding in Washington in December 2015 killed 3 people and caused widespread home evacuations across 10 WA counties.

Over the past century, the average temperature in most of Washington State has risen up to 2 degrees Fahrenheit. Hotter days and longer heat waves will become more frequent as average temperatures rise. This is a particular threat to Western Washington residents, where people are less prepared to cope with excessive temperatures. Exposure to extreme heat can lead to heat stroke and dehydration. It can also exacerbate or cause cardiovascular, respiratory, and cerebrovascular disease. Certain communities are put at a higher risk by heat waves:

- Young children, pregnant women, and elderly individuals have less efficient heat-regulating systems, putting them at high risk of heat stress
- Communities located in densely-populated areas with little tree cover often reside in “urban heat islands” where nighttime temperatures can be as much as 22 degrees Fahrenheit higher than less dense areas
- Outdoor workers (construction, agriculture, etc.) are at higher risk of heat illness
- Low-income households may lack access to air conditioning at home, increasing their exposure time to extreme heat

Climate Change & Health in Washington State:

POLLEN & ALLERGIES

Washington Physicians For Social Responsibility

As temperatures rise, pollen counts tend to rise as well. Many scientists believe that rising temperatures will create favorable conditions for an even wider variety of pollen-producing plants, leading to an increase in levels of airborne pollen and spores.

Rising temperatures and carbon dioxide concentrations as a result of climate change may also lead to earlier and more flowering of allergenic plants, and increased pollen levels in highly allergenic ragweed.

- For many plants in Washington State, the pollen season is already occurring earlier and for longer periods: starting as soon as mid-January and running through the summer.

Allergic illnesses affect about one-third of the U.S. population. An increase in pollen and spore levels can aggravate these disorders as well as asthma and other respiratory disorders. The severity of allergies could also be intensified by changes in heat and humidity.

- Pollen and spores and can also exacerbate asthma symptoms, a condition suffered by more than a half million adults and 120,000 youth in Washington.

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Climate Change & Health in Washington State:

WATER, HEAT, AND DISEASE

Clean, stable water resources are essential for society and ecosystems. We depend on a reliable supply of clean drinking water to sustain our health. Though Eastern Washington will face the brunt of water scarcity due to climate change, Western Washington will be confronted with increases in runoff, flooding, or sea level rise that can reduce water quality and damage infrastructure.

Rising Water Levels and Temperature

Climate Change is already negatively impacting the entire Northwestern coastline. Projections indicate an increase of 1 - 4 feet of global sea level rise by the end of the century, which threatens the 140,000 acres of our region which lie within 3.3 feet of high tide.

- Sea level rise is a threat to ecosystems, people, and infrastructure - especially in low lying reasons like the Puget Sound, which rose more than 8 inches between 1913 and 2013.

Rising ocean temperatures can affect exposure to waterborne pathogens (bacteria, viruses, and parasites such as Giardia), as well as create an ideal environment for harmful algal and cyanobacterial blooms in the water.

- Algal blooms, which can contaminate shellfish with toxins and make them unsafe to eat, have become more frequent along the Pacific Northwest coast and estuaries in recent years.

Water-Related Illnesses

Climate change increases the risk of exposure to contaminated drinking or recreational water due to increasing temperature, and more frequent heavy rains. The resulting runoff and flooding will contaminate water bodies used for recreation (e.g. areas around beaches or lakes), waters used for shellfish harvesting, and drinking water. A sudden surge in precipitation can also overwhelm water infrastructure and increase the risk of exposure to contaminants.

- Health impacts of exposure to contaminated water may include gastrointestinal illnesses, negative impacts on nervous and respiratory systems, or liver and kidney damage.

Climate Change & Health in Washington State:

VECTORBORNE DISEASES

Vectorborne diseases are transmitted by mosquitoes, ticks, and fleas. These vectors can carry harmful viruses and bacteria between animals and humans. Increases in temperature and changes in precipitation due to climate change can alter the geographic range of these insects and increase the amount of time they are active, leading to an increase in infections earlier in the year.

We are already seeing the effects of warmer temperatures on the geographic expansion of the habitat of ticks that carry Lyme disease, as the northern boundary of their habitat climbs higher. This, along with a lengthened season during which people are outdoors may likely increase Washington State's current average of under twenty cases of Lyme disease per year.

Mosquitoes require particular weather conditions to thrive. As climate change alters their habitat, the number of mosquitoes that transmit West Nile virus will increase in areas previously unaffected in Washington State.

- In 2015, there were 22 cases of West Nile Virus acquired by humans in Washington State.

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