

3 : Local Impacts of Climate Change

Eugene is already experiencing the impacts of climate change with hotter temperatures, drought, wildfire smoke, and less mountain snow. Climate studies by Oregon State University's Climate Impacts Research Consortium (formerly known as Oregon Climate Change Research Institute) and Oregon Health Authority outline what Eugeneans should expect to see in the future. Dry months will be hotter and drier with increased wildfires, and wet months will have more rain and flooding with less snowpack. Weather will be more extreme overall, and as the climate and environment changes populations will increase in areas like ours as people move north and inland to milder conditions.

According to Climate Central, the Eugene area can expect average summer temperatures to increase from 79°F to be comparable to Chino, California (near Los Angeles) with an average summer temperature of 88.9°F by 2100. By 2040, the region should anticipate a 400-500% increase in the number of acres burned annually and summer flows in the Willamette River and other waterways reduced by 40-60%.

The impacts of regional fires are disproportionately felt most by lower income community members and people of color. During the 2015 summer, the level of smoke in the Willamette Valley was at such hazardous levels that people were advised

to not be outside without a respirator. Smoke and heat exacerbate existing underlying health conditions, which impact lower income populations more often, and they have less ability to be inside (e.g. agricultural, construction, and landscaping sectors) or access to health care. Eugene can expect to experience extended periods of hot smoky summers, extending into September and October as landscapes burn due to increased temperatures and decreased water availability.

Temperatures are predicted to be 3-5°F higher on average during the wet season by 2100, causing precipitation to fall as rain instead of snow more often. Snowpack in the Cascades is

expected to be non-existent by 2050, removing a major regional water storage mechanism. Rain will flow into streams in real time, leaving the area more vulnerable to flooding.

Other known changes include new disease patterns as disease vector range increases and changes globally, population growth due to the relatively mild climate of this area compared to other places in the world, and the conversion of our forests to types of vegetation compatible with the warmer climate. The ability for our human systems to be resilient and responsive to continued shocks will determine how stable our community will be. As we have seen with the impacts of COVID-19, our community is part of a global society that will continue to impact our quality of life. We must understand that our climate actions need to address local emissions, support global reductions (e.g. offsets in other locations), and build resiliency for local sustainability while continuing to be part of the global economy.