

COMMENTS ON PREPARING OREGON FOR AN EXPANDED FIRE SEASON, INCREASED FIRE DAMAGE AND GROWING HARM TO PUBLIC HEALTH FROM SMOKE POLLUTION

Submitted by Robert E. Yuhnke
on behalf of Elders Climate Action, Oregon Chapter

Dear Members of the House Special Committee on Wildfire Recovery:

These comments are submitted on behalf of the new Oregon Chapter of Elders Climate Action. We are grandparents seeking your help to preserve a livable environment in Oregon for our children, their children and their grandchildren.

The wildfires that consumed 1.2 million acres of forest, forced 500,000 Oregonians to evacuate our homes ahead of the flames, incinerated 4,000 homes and displaced 10,000 Oregonians from their homes, killing 11, and the statewide smoke pollution that threatened our lives and well-being with hazardous particles known to cause pre-mature death and exacerbate respiratory and cardio-vascular diseases are evidence that the long-predicted effects of climate change are now upon us.

We are faced with these threats to our safety, health and property because the warnings of climate scientists speaking through the Intergovernmental Panel on Climate Change (IPCC) and the Oregon Climate Assessment prepared by a science team at OSU have not been heeded. Urgent action is needed now to prepare for future summers when the devastation from wildfire experienced in 2020 becomes routine.

I. Fire Impacts in NW Forests Will Worsen Until Cool Climate Conditions Are Restored, or Forests Are No Longer Standing.

Neither the U.S. nor Oregon has a clear plan designed to achieve the IPCC goal of stabilizing the climate at 1.5 C above the 19th Century baseline by reducing CO₂ emissions to net zero by 2050. The science is clear: the climate will continue to warm and the effects of warming will accelerate until humanity stabilizes the climate by stopping the emission of greenhouse gases into the atmosphere. The IPCC tells us that climate stability can be achieved again, but only by reducing GHG emissions to zero.

To stabilize global temperature at any level, ‘net’ CO₂ emissions would need to be reduced to zero.¹

The IPCC determined that to stabilize the climate at 1.5° C above baseline requires that half of global emissions be eliminated by 2030, half of the remainder by 2040, and all emissions reduced to zero by 2050. Neither the U.S., Oregon nor the world have a plan to achieve zero emissions. Until such plans are adopted and implemented, we must prepare for the devastation to

¹ Global Warming of 1.5° C, Chapter 2, FAQs (2018), available at <https://www.ipcc.ch/sr15/>.

natural and human systems that will be caused by a warmer climate. In Oregon one of the most serious impacts of a warming climate will be the destruction of forests, property, and lives by the inevitable expansion of the area incinerated by wildfire.

The Oregon Climate Assessment ([OCAR5.pdf | Powered by Box](#), Jan. 5, 2021) warns that warming this decade is expected to severely exacerbate the destructive impact of wildfire. Cited studies predict warmer summer heat and a six-fold increase in hot days (>90° F) (pp. 12-13), and less summer precipitation (Table 2). Hotter, drier summers are expected to increase the area incinerated by wild fires (pp. 48-54).

High-severity fires dominate wet, cool forests, including remnant old growth forests, in Oregon's Coast Range and western Cascade Range. High-severity wildfires in wet, cool forests typically are ... facilitated by extremely dry and warm springs and summers or high winds.

A 2017 modeling analysis “projected a 200% increase in median annual area burned in Oregon” during the 2010-2039 period compared to 1961-2004 (p. 53). Another 2017 study looking at fires across the American West estimates a 200-400% increase in the “annual probability of very large fires.” (p. 54).

The 1.2 million acres burned in 2020 is double the burn area in 2017. A 200% increase above 2017 will be 2.5 million acres. Oregon could well see annual wildfires burn 2.5 million acres by 2025-30 as the climate warms more rapidly. This rapid annual expansion in fire affected area occurred in Australia since 2017 where the area burned during their last austral summer reached 30 million acres. In 2020 burns set records across the West. California's burn area grew to nearly 5 million acres, and the total area burned in the 11 Western states exceeded 10 million acres: [2020 Western United States wildfire season - Wikipedia](#). Going forward, the OR Assessment (p. 53) makes clear that all “empirical models ... consistently project that the area burned in Oregon will increase.”

New research shows that wildfire in the western U.S. now accounts for half of hazardous particle emissions in some areas of the West.²

A warming climate is responsible for roughly half of the increase in burned area in the United States (4), and future climate change could lead to up to an additional doubling of wildfire-related particulate emissions in fireprone areas (36) or a many-fold increase in burned area (37, 38). Costs from these increases include both the downstream economic and health costs of smoke exposure, as well as the cost of suppression activities, direct loss of life and property, and other adaptive measure (e.g., power shutoffs) that have widespread economic consequences.

This research suggests that hundreds of premature deaths occurred among Oregonians as a result of fire smoke in 2020. Fire smoke-related mortality will increase in future years as the area

² Burke, M. et al., [The changing risk and burden of wildfire in the United States | PNAS](#) (Jan 11, 2021).

burned grows, the smoke plumes increase in density, and the smoke season lengthens in duration from 10-20 days to many weeks.

In addition to the economic and environmental damage, social disruption, and harm to health that will result from a longer fire season and expanded fire zones, more deadly air quality will likely make Oregon uninhabitable during the fire season, especially for the most vulnerable populations: the elderly and children.

The data and modeling estimates presented in the Oregon Climate Assessment and other sources predict a future in which the destruction of Oregon's forest resources by unstoppable wildfire will continue until either 1) the cool and wet conditions that sustained Cascadia's forests during the 8,000 years before 1980 are restored, or 2) the standing forests are reduced to ash.

To preserve the quality of life in Oregon, save our forests and the wildlife and industries dependent on them, and to protect public health, the climate will need to be cooled to the levels associated with atmospheric loadings of GHG gases prior to 1980. To accomplish that result, the IPCC has provided clear guidance: the economy must first be converted to zero emission energy systems and forests expanded to extract CO₂ from the atmosphere.

2. Oregon Must Prepare to Adapt to Devastating Annual Fire Seasons.

The 2020 fires season demonstrated that Oregon is not prepared to adequately respond to the raging firestorms that raced across the landscape, driven by Santa Anna-type wind conditions. As the dry, hot conditions that desiccates the forests increase in intensity and duration, the opportunities for fires to ignite will increase across the State. In addition, as the high desert zone in Oregon's interior becomes hotter during the summer, the temperature differential between the coastal zone and the interior will increase. Larger temperature differentials drive the Santa Anna-type wind pattern in California and are likely to have the effect of creating those wind patterns more frequently in Oregon. With a longer fire season, the probability that high winds will occur when fires are burning will increase. The unstoppable firestorms observed in 2020 will become more common, potentially occurring annually.

These conflagrations will have devastating impacts on both natural systems and human developments. Fires in 2020 were not controllable, destroying entire communities, knocking out power lines, damaging roads, denuding steep slopes that contributed to later landslides and extensive soil runoff into streams and lakes. Air pollution from the fires rendered the air hazardous across much of the State for nearly two weeks. As the fire season increases in duration and the smoke plumes intensify, Oregon may become uninhabitable during the fire season for sensitive populations such as children and the elderly. Those infected with COVID are especially at risk. The immediate fire damage also caused long-term social disruption by displacing families, shutting down businesses and industrial facilities, cutting off water and power supplies.

These events and their consequences have added costs to overburdened local governments and state agencies to fund the initial emergency response, help relocate displaced families and communities, and to repair or replace damaged infrastructure. These costs have contributed to significant budget shortfalls, adding to the budget challenge created by the COVID crisis.

If last summer's fires were one-off events, the budget impacts might be manageable, but the climate science tells us the 2020 fire season will become the norm and not the rare, extreme event it appears to be based on looking backward. Looking forward we must develop the institutional and budgetary capacity to respond to these events.

3. Fire Mitigation Planning is Critically Needed.

Investments are needed to prepare for future fire seasons. Especially important are –

- 1) protecting evacuation corridors to ensure that isolated communities in forested areas have safe routes of escape by removing trees along critical highways to allow travel even when fire is present in the area;
- 2) establishing safe shelters with sleeping space, sanitary and food preparation facilities, HVAC ventilation systems and independent, on-site power sources where evacuated families or communities may seek immediate refuge when they must abandon their homes;
- 3) protecting power lines from wildfire disruption and preventing power line initiated fires by expanding the tree-free zone adjacent to power lines;
- 4) expanding the response capacity of State wildfire teams, including aerial fire-fighting equipment and teams to provide rapid response to suppress fires ignited in locations not accessible by road.

These investments are necessary to prevent deaths and minimize the harm that will be suffered by residents and communities. Adequate advance planning will minimize the damage and injuries suffered as a result of fire, and ultimately keep manageable the costs of restoring services and rebuilding infrastructure.

4. Taxpayers Should Not Bear the Burden of These Costs.

The costs of responding to wildfire could bankrupt the State and/or local governments if funding sources adequate to meet the need are not available. Extreme wildfire conditions are worsening because of climate warming caused by combustion of carbon fuels. The costs of mitigating the risks associated with wildfire should be paid by those who are responsible for exacerbating the risk: fossil fuel producers and users.

ECA asks that an emission fee be assessed on fossil fuel suppliers and users that is dedicated to a climate resilience/restoration fund. This approach will ensure a source of revenue to fund fire mitigation investments, emergency response activities, restoring public services, and rebuilding damaged infrastructure. Imposing these costs on the activities that contribute most to the fire risk is the most equitable approach to meeting these needs.

Thank you for focusing on the need to better prepare Oregon for responding to the growing risk of wildfire damage and injuries. We appreciate the opportunity to offer these suggested solutions.

Respectfully submitted, Robert E. Yuhnke
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