Natural Resource Economics

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Testimony in Support of SB 11541

TO: Oregon Senate Committee On Natural Resources and Wildfire
From: Ernie Niemi, President, Natural Resource Economics **January 5, 2026**

I. Background/Qualifications

- Professional economist, economic impacts of climate change: ECONorthwest and Natural Resource Economics
- Co-author: The Economic Costs of Climate Change for Oregonians: A First Look. (2024. Forum on Oregon Climate Economics)

II. Climate Pollution Imposes Large Economic Costs on Oregonians (Partial List)

A. Lost income to households

Climate-related heat in the U.S. has reduced incomes in all parts of the nation by about 12%.[1] The loss is about **$11,000 per Oregon household per year**.

B. Lost income to workers

Extreme weather and disruption of supply chains reduce workers' productivity and income in many sectors.[2] A worker unable to work because of climate-related heat, wildfire smoke, etc. loses about **$110-$120 per day** in gross earnings, on average.[3]

C. 2021 heatwave deaths

The 2021 heatwave killed **at least 350 Oregonians**. The economic costs associated with these deaths = **at least $4.6+ billion**.[3]

D. Wildfire costs in 2018

Damage to property + aid and evacuation to those at risk of harm + reduction in property value + infrastructure repair + loss of services from degraded ecosystems = **$6.8 billion**.[3]

E. Wildfire-smoke deaths

Exposure to wildfire smoke has killed **411 Oregonians** per year, on average, over the past decade. Economic costs (healthcare, funeral, pain & suffering, lost income, etc.) = **$5.4 billion**.[3]

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[1] Lemoine, D. 2025. Climate change has already made the United States poorer. PNAS.
[2] Benayad, A., and others. 2025. Landing the Economic Case for Climate Action with Decision Makers. Boston Consulting Group and University of Cambridge, ClimaTRACES Lab, and Cambridge Judge Business School; Lentan, T.M., and others (eds). 2023. Global Tipping Points. University of Exeter, Global Systems Institute; Mohaddes, K., and others. 2023. Climate Change and Economic Activity: Evidence from US States. Oxford Open Economics; Oxera. 2024. The Economic Cost of Extreme Weather Events. International Chamber of Commerce; Vetter, D. 2025. Climate Inaction Could Cost 1/3 of Global GDP This /Century, BCG Warns. Forbes. Website; Woolf, S., J. Morina, and E. French. 2023. The Health Care Costs of Extreme Heat. Center for American Progress; World Economic Forum and Allianz. 2025. Insuring Against Extreme Heat: Navigating Risks in a Warming World; Xie, X., and others. 2024. The Impact of Climate Change on Violent Conflict Risk: A Review of Causal Pathways. Environmental Research Communications.
[3] Miller, K., and others. 2024. The Economic Costs of Climate Change for Oregonians: a First Look. Forum on Oregon Climate Economics.

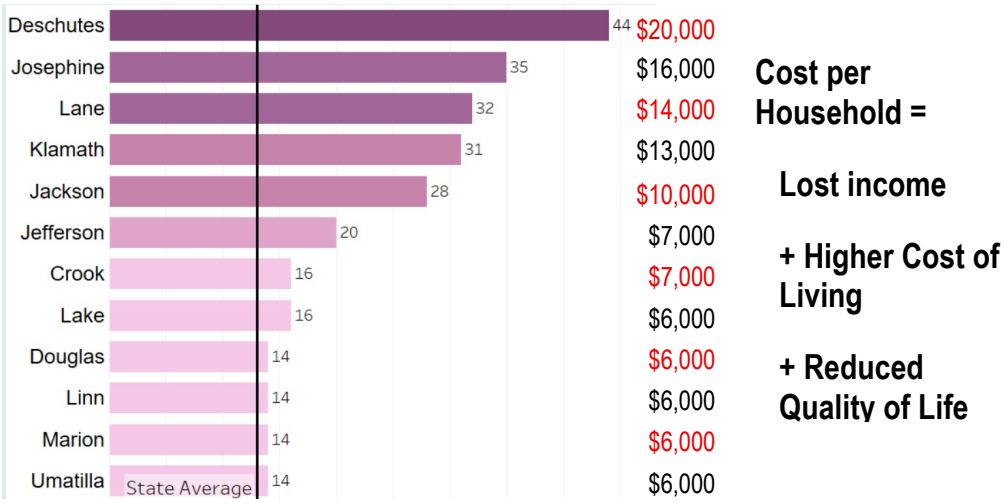
F. Smoky days

- A "major smoke event" can reduce the value of goods and services produced in the state (GDP) that year by **at least $1 billion**.[4]
- Every day of exposure to wildfire smoke shortens a person's life expectancy by about **one week**.[5]
- Exposure of persons aged 60 years or older to wildfire smoke is associated with an **increase in the probability of subsequent dementia**.[6]
- Exposure to wildfire smoke during final months of pregnancy is associated with an **increase in a child's risk of autism**.[7]

G. Smoky days in 2023

In 2023, Oregonians experienced many days exposure to wildfire smoke. For the average household, the economic costs—reduced income, increased costs of living, and diminished quality of life—totaled about **$20,000 for Deschutes County, $6,000 statewide**.[8]

Smoky Days (Yellow Plus) and Heat Index above 80°F



H. Insurance Premiums

Oregonians' homeowners' insurance premiums have increased an average of nearly 30% since 2020.[9]

I. School Air Conditioning

A child born in 2007 has experienced extra days of extreme heat because of climate change:[10]

Portland: 214 **Eugene: 258** **Medford: 286** **Bend: 321**

"It can cost around **$10 million** to overhaul the ventilation and air conditioning system in an old brick school building."[11]

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[4] Sterns, J., and T. Beavers. 2025. Potential Economic Impacts of a major Wildfire Smoke Event in Oregon. in Fleishman, E., editor. 2025. Seventh Oregon Climate Assessment. Oregon Climate Change Research Institute, Oregon State University. pp. 121-129.
[5] Ohio State University. 2024. As Wildfires Intensify, Prolonged Exposure to Pollution Linked to Premature Death.
[6] Elser, H., and others. 2024. Wildfire Smoke and Incident Dementia. p. E1. JAMA Neurology.
[7] Tulane University. 2026. Exposure to Wildfire Smoke Late in Pregnancy May Raise Autism Risk in Children. Website
[8] Niemi, E. 2024. Economic Costs to Oregon Households from Exposure to Wildfire Smoke. Natural Resource Economics.
[9] Baumhardt, A. 2024. Oregon Homeowners Face Soaring Premiums, Few Property Insurance Options Over Wildfires. OPB. Website.
[10] Climate Central. 2025. How has Climate Change Shaped Your Lifetime of Heat? Website. Through age 18.
[11] Silverman, J. 2024. With Extreme Heat in the Forecast, Portland-Area Schools Weigh Their Options. Oregon Live. Website.