

Focus on: Outdoor air pollution and your health



Smoke from residential wood stoves in Darrington Valley

Outdoor air pollution is a significant public health threat. Breathing air pollution over the long term can:

- Lead to lung disease, such as asthma
- Worsen existing heart and lung diseases
- Increase chronic breathing problems
- Elevate cancer risks
- Decrease lung function

Air pollution can also lead to early death. Ecology conservatively estimates about 1,100 Washingtonians die each year because of fine particle pollution (PM_{2.5}).¹

Which air pollutants are harmful?

The six pollutants in outdoor air that are known to harm human health and the environment are:

- Carbon monoxide
- Lead
- Nitrogen dioxide
- Ozone
- PM_{2.5}
- Sulfur dioxide

EPA sets federal standards that must be met for each of these pollutants under the Clean Air Act.

How does air pollution affect human health?

Studies consistently show that air pollution – mainly PM_{2.5} and ground-level ozone – is more dangerous to human health than previously thought. Despite meeting EPA standards, many communities may still experience air pollution levels that expose residents to significant health risks and sometimes early death.

Children, people who are 65 and older, people with existing heart and lung problems, and pregnant people are more vulnerable to the health risks posed by air pollution. Together, these groups make up more than 40% of Washington's population.

¹ <https://apps.ecology.wa.gov/publications/SummaryPages/0902021.html>

Increases in air pollution mean more people suffer from respiratory and heart diseases, stroke, cognitive impairment, pre-term birth, and other health problems. Low-income communities and communities of color face even greater health risks. This is because they tend to be closer to major roadways and industrial areas and face existing social, economic, and environmental disparities from decades of structural racism.

A [recent study](#)² by Ecology and the Washington State Department of Health found that people who are 65 and older are twice as likely to die from air pollution in 16 Washington communities identified as overburdened and highly impacted by air pollution than people 65 and older in other parts of Washington.

What causes air pollution?

Wildfires and wood stoves are the main sources of PM_{2.5} air pollution in Washington. Smoke from these sources contains very fine particles that are so small, they can enter deep into our lungs and bloodstreams.

Burning fossil fuels also contributes to air pollution. It results in the emission of various pollutants, include fine particles, nitrogen oxides, carbon monoxide, and sulfur oxides.

- The Department of Health estimates about 8% of people in Washington live within about 300 yards of busy roadways, where they are exposed to tailpipe emissions from gas and diesel engines.
- The people who live in these communities are most likely to be people of color and people with lower incomes.

Fighting air pollution and climate change

Washington's landmark [Climate Commitment Act \(CCA\)](#) sets a declining limit on overall greenhouse gas emissions and requires businesses to reduce their planet-warming emissions. By reducing the burning of fossil fuels, the CCA will help to improve air quality throughout Washington, too.

The CCA also contains an air quality and environmental justice provision that requires us to expand Washington's air monitoring network and start to reduce the most common criteria air pollutants in the [overburdened communities](#) they most affect. In 2024, Ecology will offer a [new grant opportunity](#) to support this goal. In addition, we manage two grant programs for reducing PM_{2.5}: [wood smoke reduction grants](#), which fund projects by local clean air agencies and Ecology regional offices to reduce smoke from residential wood stoves; and [prevent nonattainment grants](#), which are available for public entities that are addressing air pollution in geographical areas at risk of not meeting national standards.



Susan Woodward
susan.woodward@ecy.wa.gov
360-688-8070



- To request ADA accommodation, email melanie.forster@ecy.wa.gov, or call 360-742-4558
- For TTY or relay service call 711 or 877-833-6341
- Request online at: <https://ecology.wa.gov/accessibility>

² <https://apps.ecology.wa.gov/publications/SummaryPages/2302115.html>