

Focus on: Washington's air monitoring network



(L to R) Monitoring sites in Wenatchee, North Bend, and Seattle

The Department of Ecology's Air Quality Program partners with seven local clean air agencies and several Tribal Nations to provide accurate and reliable outdoor (ambient) air monitoring data to Washingtonians across the state. Under the Climate Commitment Act, Ecology continues to expand our network of air monitors. Monitor locations and data can be found on the [Washington Air Quality Map](#)¹.

Why do we monitor the air?

The data from Washington's air monitoring network has three primary purposes:

1. To inform people about local air quality
2. To determine whether Washington meets state and [federal air quality standards](#)²
3. To support air pollution research

Where do we place monitors?

We place monitors and sensors in order to meet specific objectives. These include:

- Measuring how much air pollution people are exposed to where they live, work, and play
- Identifying the locations with the highest levels of pollutants
- Identifying background air pollution levels, such as in rural areas without major local pollution sources

Washington's air monitoring sites must meet EPA's specific siting requirements. We consider the nearby environment and whether walls, trees, exhaust vents, or nearby sources might skew the data. This way, we can be sure that the air we monitor is the air people actually breathe and that data can be accurately compared across Washington and the nation.

What pollutants do we measure?

The Washington air monitoring network measures hundreds of different pollutants and participates in many different national monitoring programs.

Criteria pollutant monitoring

Criteria pollutants are the six pollutants for which EPA sets national standards. All monitoring sites in the Washington network measure fine [particle pollution](#)³ (PM_{2.5}), the most widespread criteria air pollutant in the state. PM_{2.5} can also present a serious threat to human health, especially for sensitive groups. The other criteria pollutants are less prevalent, so they are measured at fewer sites.

¹ <https://enviwa.ecology.wa.gov>

² <https://ecology.wa.gov/air-climate/air-quality/air-quality-targets/air-quality-standards>

³ <https://ecology.wa.gov/Air-Climate/Air-quality/Air-quality-targets/Air-quality-standards/Particle-pollution>

Chemical speciation

Four of Washington's monitoring sites are part of the national [Chemical Speciation Network](#),⁴ which measures the different chemicals that make up PM_{2.5}. We analyze this data to better understand the sources and composition of PM_{2.5}.

Air toxics and ozone precursors

At Ecology's flagship monitoring site in Seattle's Beacon Hill neighborhood, we measure over 60 [Hazardous Air Pollutants](#),⁵ also known as Air Toxics. Air Toxics are a group of chemicals known to cause cancer and other serious health impacts.

The Seattle-Beacon Hill site is also a [Photochemical Assessment Monitoring Station](#),⁶ part of a national network to measure the chemicals that cause [ground-level ozone](#).⁷

Regulatory vs. non-regulatory monitoring

Only certain kinds of air monitors can be used to collect regulatory data. EPA classifies these monitors as Federal Reference Methods (FRMs) or Federal Equivalent Methods (FEMs). The data from these instruments allows Ecology to determine whether Washington meets state and federal air quality standards for criteria air pollution.

Some monitors and sensors in Washington's air monitoring network are non-regulatory. This includes Ecology's [SensWA](#),⁸ a small, low-cost sensor created to measure PM_{2.5}. Non-regulatory devices provide critical public health information to communities in every part of the state and help Ecology identify areas and sources of concern.

How do we know the data is accurate?

Trained professionals from Ecology, local air agencies, and Tribes operate the air monitors in Washington's network according to [standard operating procedures](#).⁹ Ecology has an EPA-approved Quality Assurance (QA) Plan and a QA team that conducts independent assessments of monitors in the field. The QA team also reviews all collected data to ensure it is accurate and reliable.

More resources

- [Washington Air Quality Map](#)¹⁰
- [2024 Ambient Air Monitoring Network Plan](#)¹¹
- Air Quality Washington app for [iPhone](#)¹²
- EPA's [Fire and Smoke map](#)¹³
- EPA's [AirNow website](#)¹⁴



Taylor Van Cise

taylor.vancise@ecy.wa.gov

360-688-8070



To request an ADA accommodation, contact Ecology by phone at 360-407-6831 or email at ecyadacoordinator@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877-833-6341.

⁴ <https://www.epa.gov/amtic/chemical-speciation-network-csn>

⁵ <https://ecology.wa.gov/air-climate/air-quality/air-quality-targets/air-quality-standards>

⁶ <https://www.epa.gov/amtic/photochemical-assessment-monitoring-stations-pams>

⁷ <https://ecology.wa.gov/air-climate/air-quality/air-quality-targets/air-quality-standards/ozone-pollution>

⁸ <https://apps.ecology.wa.gov/publications/SummaryPages/2402028.html>

⁹ <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Information-for-air-monitoring-professionals>

¹⁰ <https://enviwa.ecology.wa.gov/mobile>

¹¹ <https://apps.ecology.wa.gov/publications/SummaryPages/2402017.html>

¹² <https://apps.apple.com/us/app/air-quality-washington/id6737564758>

¹³ <https://fire.airnow.gov>

¹⁴ <https://www.airnow.gov>