Focus on: SensWA

Figure 1. Eastern Washington

What is SensWA?

The Washington Department of Ecology built the "SensWA" sensor device to provide real-time air quality information about fine particle pollution ($PM_{2.5}$). These new portable devices will expand our existing air monitoring network across Washington, especially in communities highly impacted by air pollution. They will give everyone more data about air quality.

Sensors expand air monitoring

SensWA devices will give us more information about $PM_{2.5}$ levels and patterns. $PM_{2.5}$ are fine, inhalable particles that are smaller than 2.5 micrometers in diameter, which is much smaller than a human hair. They are dangerous to our health. While we already have air monitoring systems that measure $PM_{2.5}$, these new sensors:

- are smaller (they fit in a box about six inches square),
- use cellular data to send us information in real time,
- can be solar powered — giving us more options for how and where we use them.

Their simple design makes them easier to maintain. Compared to other commercial sensors, they are also less expensive to build, so we can install more of them in more communities.

Measuring air quality in overburdened communities

Washington's Air Monitoring Network tells us that some communities have more air pollution than others. The Climate Commitment Act (CCA) requires us to identify overburdened communities highly impacted by air pollution and work to reduce their air pollution.

Over the past two years, we've added 20 SensWA devices to the air monitoring network. Now, we're getting ready to set up at least 50 more in the 16 overburdened areas of the state that we've identified under the air quality and environmental justice provision of the CCA.

Sensors monitor and report trends in real time

The SensWA devices use light-scattering to estimate $PM_{2.5}$ concentrations, much like other air monitors and sensors we've been using for decades. Each device has two identical sensing elements plus a cellular modem, and a sensor for temperature and relative humidity.

The sensing elements measure particle pollution and transmit that data every minute, providing us with accurate, up-to-date information in real time.

We use this data to calculate the Air Quality Index (AQI) each hour. AQI is a national scale used to help people know whether air quality is healthy or unhealthy. Then we post this information to Washington's Air Monitoring Network online map.

When the air is unhealthy, especially during major wildfire smoke events, SensWA will help us show the most current data to help people know when to protect themselves.

Related information

- Washington's Air Monitoring Network
  https://enviwa.ecology.wa.gov/home/map
- Improving Air Quality in Overburdened Communities
  https://apps.ecology.wa.gov/publications/SummaryPages/2302020.html
- Seattle-Beacon Hill Air Monitoring Station
  https://apps.ecology.wa.gov/publications/SummaryPages/2302107.html

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To request an ADA accommodation, contact Ecology by phone at 360-790-3747 or email at scott.dubble@ecy.wa.gov, or visit https://ecology.wa.gov/accessibility. For Relay Service or TTY call 711 or 877-833-63