

## DEQ PM2.5 Sensors

### What we are doing

Oregon DEQ is adding 30 new PM2.5 monitoring sites across the state. They will measure PM2.5, which includes smoke, small dust particles, vehicle exhaust and aerosols. *PM2.5 is any particulate matter 2.5 micrometers in diameter and smaller.*

### Why we are doing it

*Expand our air monitoring network:*

DEQ currently monitors for PM2.5 at 35 locations across the state. This provides limited coverage for the state's 4 million inhabitants, across an area of 98 thousand square miles. In 2017, the Oregon Legislature funded the addition of 30 more monitoring sites to help fill in the spatial gaps in our network.

*More flexible/Less expensive monitoring:*

DEQ is using newer, low cost sensor technology to increase site location flexibility and lower costs. The new sensors do not need a monitoring shelter and are approximately one-fifth the cost to build.

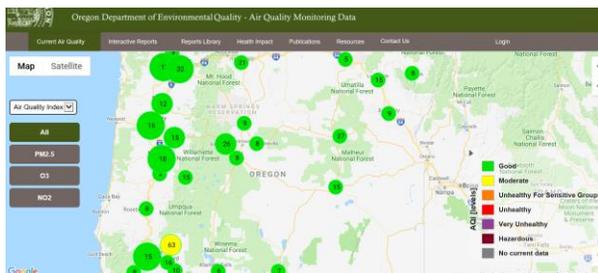
### How the data will be used

The PM2.5 data will be used primarily to present Air Quality Index (AQI) health information, which informs the public about pollutants from a variety of sources. The most common sources are residential wood burning, forest fires, slash burning, vehicle exhaust, and industrial and commercial emissions. Other uses for the data will be long-term trending information and smoke management from prescribed burning operations.

The PM2.5 sensor data cannot be used for regulatory enforcement, but it can inform the public and DEQ to add a regulatory monitor in an air shed if needed.

*More about the AQI:*

The AQI is available on DEQ's [website](#), on Android or Apple Apps "OregonAir", EPA's AIRNow web site, and the Oregon Smoke Blog. The data can also be downloaded for reports.



Oregon DEQ's Air Quality Index web site.

### The new network

DEQ produced a report called the "[Location Selection and Rationale for the 30 New Monitoring Sites](#)" to describe the new network.

### The sensor

A particle counter, fan, air pump, modem, data logger and heater fit into a weather tight plastic case to comprise the sensor node. Its box is 18 inches high, 12 inches wide and 8 inches deep, and hangs outside on a pole or building. It runs on low amp 120V A/C power or solar panels.



DEQ PM2.5 Sensor node

### Partnerships

DEQ is seeking partners or hosts for these PM2.5 sensors. A neighborhood school would benefit from hosting a monitor because it could help determine whether outside activities should be limited or cancelled during unhealthy smoke events. Additionally, it would be a great opportunity to connect with the school's science programs. Other possible sensor locations include playgrounds, parks, public buildings or other areas where people are active.

When creating partnerships, DEQ enters into a cooperative agreement with the host, which establishes specific roles and responsibilities for all involved.

### Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email [deqinfo@deq.state.or.us](mailto:deqinfo@deq.state.or.us).



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### Air Quality Monitoring

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*DEQ is a leader in restoring,  
maintaining and enhancing  
the quality of Oregon's air,  
land and water.*