

## AIR SENSOR EVALUATIONS ARE ADVANCING THE AVAILABILITY OF ACCURATE AND RELIABLE MONITORS FOR THE PUBLIC

Communities and individuals across the country interested in learning about their local air quality are using low-cost and more portable air pollution sensors that are increasing in popularity and becoming more commercially available. These sensors can be used by the public to investigate air quality concerns and address environmental justice issues.

EPA is conducting laboratory and field-based evaluations of air sensors to encourage the development of accurate and reliable monitoring devices in the marketplace for the public. Researchers are evaluating sensor performance, communicating results to manufacturers to encourage performance improvements to their products, and providing performance information for use by the public.

### Sensor Evaluation Study

Beginning in spring 2016, EPA will conduct field evaluations of selected sensors at its outdoor research site on EPA's main campus in Research Triangle Park, NC.

This site also includes traditional reference monitoring devices operated by EPA.



The evaluations will compare sensor performance to the reference data, the gold standard for regulatory monitoring.

Sensor devices that are evaluated will be deployed in a "chicken coop" structure to protect them from intrusion or damage. The sensors, data loggers, and other peripheral devices must be sheltered from the outside elements while still being fully exposed to the outdoor air.

The sensors will be selected for evaluation based on several criteria:

- Device popularity and public demand (e.g., United Nations Sensor Pod, Air Quality Egg)
- Devices developed by EPA (e.g., Citizen Science Air Monitor-version 2)

- Unique design or technology not previously examined (e.g., Aeroqual 500 Series).

Up to three of each type of sensor will be evaluated for periods expected to range from 30 to 90 days to assess performance and reliability.

The final product of the sensor evaluations will be an EPA report that summarizes the performance characteristics of each sensor evaluated.

Information gathered or produced by EPA on air sensors, including sensor evaluation reports, can be found on EPA's Air Sensor Toolbox for Citizen Scientists at:

[www.epa.gov/air-sensor-toolbox](http://www.epa.gov/air-sensor-toolbox)

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