

US EPA ARCHIVE DOCUMENT

## Questions and Answers regarding the Tribal FY 16 Funding Announcement

### Question:

What types of sensors are available, who supplies the sensors, and what types of regulations go into a project involving these types of monitors?

### Response:

Those are all essential questions about sensors and lower cost monitors. ORD has developed an *Air Sensor Guidebook* in response to questions like these in this area of quickly evolving technology; the link is included below. Also included below are links to another valuable resource - videos that were recorded at a recent Community Air Monitoring Training where the purpose was to share tools used to conduct citizen science projects involving Next Generation Air Monitoring (NGAM) technology and to outline best practices for successful air monitoring projects.

The guidebook has an extensive list of performance characteristics for commercially available and emerging sensors. In addition, the guidebook covers what to look for in a sensor, useful detection limits of pollutants, examples of designing an initiative, formulating effective research questions, collecting data, the importance of quality assurance, interpreting results, constraints, and other considerations. For the most part, these emerging lower cost sensors and advanced monitors are non-regulatory and their performance can vary. Since they are not FEM/FRM it is not appropriate to compare the data directly to the NAAQS; that said, these can serve as a sentinel device to inform fence-line monitoring to detect fugitive emissions, monitor near sources to understand near-source exposure, engage citizens in personal monitoring, and supplement current monitoring networks. The sensors are usually obtained by the group that is initiating the project; EPA does not have a repository of sensors that can be loaned out.

I am happy to discuss this further with you. I am also copying Ron Williams, who is our sensors guru and technical contact at ORD where the sensor testing resides.

Thanks! Marta

[Air Sensor Toolbox for Citizen Scientists](#)

[www2.epa.gov/air-research/community-air-monitoring-training](http://www2.epa.gov/air-research/community-air-monitoring-training)

Direct links to Community Air Monitoring Training sessions:

- [Air Quality Monitoring and Sensor Technologies](#) by Ron Williams, project Lead for EPA's Office of Research and Development emerging technology research area.
- [How to Start a Citizen Science Program](#) by Liz Barry, Co-founder and Director of Community Development at the Public Laboratory for Open Technology and Science.

Updated on 9/23/2015

- [Citizen Science Study Design](#) by Rachelle Duvall, Research Physical Scientist in EPA's Office of Research and Development.
- [Data Measurement, Management, Quality, Uncertainty](#) by Bob Judge, Air Monitoring Team Leader in EPA's Region 1 Office in Boston.
- [Quality Assurance](#) by Ron Williams, Project Lead for EPA's Office of Research and Development emerging technology research area.
- [Short Term Measurements and Air Quality Messaging/ Regulatory Requirements for Data](#) by Kristen Benedict, Atmospheric Scientist in EPA's Office of Air Quality Planning and Standards.

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