



PROJECT SUMMARY

The Advanced Monitoring Project aims to foster understanding of the application of advanced monitoring technologies, strengthen the quality of real-time monitoring data generated, identify new technologies as they emerge on the market, develop data interpretation guidance, and promote standardization of data collection and exchange.

Ongoing efforts are led by the EPA Office of Air and Radiation and the Office of Research and Development, in collaboration with state and tribal partners.

PROJECT LEADS

Kristen Benedict
U.S. EPA Office of Air
Benedict.Kristen@epa.gov

Ron Evans
U.S. EPA Office of Air
Evans.Ron@epa.gov

KEY CONTACTS

Kelly Poole
Environmental Council of the States
kpoole@ecos.org
202-266-4939

RESOURCES

- [Workshop Reports on Deliberating Performance Targets for Air Quality Sensors](#)
- [Air Sensors Toolbox](#)
- [Videos on Air Sensor Measurements, Data Quality, and Interpretation](#)
- [Scan and Screen Network and Technology Clearinghouse](#) (EECIP registration required)

ADVANCED AIR MONITORING STRATEGY AND IMPLEMENTATION

Developing enhanced environmental monitoring technology

Challenge

Advanced environmental monitoring technologies are becoming increasingly popular, and understanding their capabilities and appropriate use is a high priority for agencies across the country. Rapid changes in emerging technologies have the potential to significantly improve environmental protection by providing governments, industry, and the public with more localized, real-time information on environmental conditions. At the same time, as advanced technologies are being used by an array of stakeholders, uncertainties exist about the quality and use of these devices and the interpretation of the data they generate.

Benefits

- Increase understanding of the performance of advanced monitoring technologies.
- Build knowledge of appropriate use of various sensors in different applications.
- Help interpret the data generated through advanced monitoring technologies.
- Support advanced monitoring technology development toward data that are of known quality and help establish best practices for the use of sensors and their data.

Accomplishments

- In 2018 and 2019, the Advanced Monitoring team conducted two stakeholder workshops to solicit views from various stakeholders. This included gathering state, tribal, and local government expert opinions on non-regulatory performance targets for air sensors to inform future work. Drawing from the conversations, the Advanced Monitoring team is working to develop non-regulatory performance targets for air sensors. As information becomes available, it is posted on the [Air Sensors Toolbox](#).
- The team is actively conducting outreach to facilitate interpretation of data collected through advanced monitoring technologies. As part of this effort, a series of [short educational videos](#) was launched to give the public information about air quality sensors, including how air quality health risks are communicated and how to interpret and use the sensor data collected during monitoring.
- A robust [Scan and Screen Network and Technology Clearinghouse](#) developed in collaboration with the EPA Office of Enforcement and Compliance Assurance is available on the E-Enterprise Community Inventory Platform. The Clearinghouse includes information on more than 500 advanced monitoring devices and their specific uses for environmental agencies.
- The [Air Sensors Toolbox](#) serves as a one-stop-shop providing resources for conducting air monitoring projects, including the latest science on the performance and use of air sensor monitoring systems for technology developers, air quality managers, citizen scientists, and the public.

What's Next?

- Continue promoting and publish evaluation protocols and performance targets for air sensors for specific pollutants.
- Continue promoting effective data interpretation and management for sensor technologies to states, tribes, local governments.