

GAO Highlights

Highlights of [GAO-22-106136](#), a testimony before the Committee on Environment and Public Works, U.S. Senate

Why GAO Did This Study

Information from the national ambient air quality monitoring system shows that the United States has made progress in reducing air pollution. It also shows that risks to public health and the environment continue in certain locations. EPA and state and local agencies cooperatively manage the system.

Since the system was established in the 1970s, air quality concerns have evolved. For example, concerns have increased about the health effects of air toxics, such as ethylene oxide. Congress is considering legislation related to some of these emerging air quality monitoring concerns.

This testimony discusses (1) needs for additional air quality information and (2) challenges in meeting those needs. This statement is based on a November 2020 report ([GAO-21-38](#)). For that report, GAO reviewed literature, laws, regulations, and agency documents. In addition, GAO interviewed EPA officials, selected state and local officials, representatives from air quality associations, and stakeholders such as academic researchers. GAO has also tracked EPA's actions to implement the recommendations made in the report.

What GAO Recommends

In its November 2020 report, GAO made two recommendations, including that EPA develop an air quality monitoring modernization plan that aligns with leading practices for strategic planning and risk management. EPA generally agreed with the recommendations. EPA has begun working with state, tribal, and local air agencies to implement them.

View [GAO-22-106136](#). For more information, contact J. Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov.

July 13, 2022

AIR QUALITY INFORMATION

Need Remains for Plan to Modernize Air Monitoring

What GAO Found

The national ambient air quality monitoring system provides standardized information essential for implementing the Clean Air Act and protecting public health. But, in November 2020, GAO found that the system was unable to meet users' current needs for information to better manage health risks from air pollution. Air quality managers, researchers, and the public use the information from this system to characterize levels of pollution and study the human health and ecological effects of air pollution. They also use it to develop strategies to reduce adverse health effects, and demonstrate progress in addressing air quality issues over time. The system comprises sites across the United States that are equipped with monitors to measure air pollution levels.

Examples of Monitoring Sites in the National Ambient Air Quality Monitoring System



(Left to right) National Core network (NCORE) monitoring site; canisters used to collect samples for measuring air toxics; near-road monitoring site.

Source: GAO. | [GAO-22-106136](#)

Additional air quality monitoring information would enable users of the system to better understand and address the health risks from air pollution, according to a review of literature and interviews with government officials, associations, and stakeholders that GAO conducted for its November 2020 report. GAO identified information needs related to (1) local-scale, real-time air quality; (2) air toxics; (3) persistent and complex pollution; and (4) use of low-cost sensors. For example, many stakeholders told GAO that they need more data to understand health risks in potential hotspots (local areas of high pollution), and other key locations.

The Environmental Protection Agency (EPA) and state and local agencies face persistent challenges in meeting additional information needs in four key areas. These are: (1) establishing priorities for air toxics monitoring; (2) developing and improving air quality monitoring methods; (3) integrating emerging technologies, such as low-cost sensors; and (4) managing and integrating additional monitoring data.

EPA has strategies aimed at better meeting needs for additional information on air quality, but GAO found that these strategies were outdated and incomplete. Developing a modernization plan that aligns with leading practices for strategic planning and risk management, would better position EPA to ensure that the ambient air quality monitoring system meets the additional information needs. It would also help position EPA to protect public health as future air quality issues emerge.