

GAO Report: Modernization

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NAAMC 2022

What is Modern?



ADJECTIVE: Relating to the present or recent times as opposed to the remote past.

- *Contemporary, present-time, current, recent, latest...*



Modernization

- GAO suggests that EPA “...in consultation with state and local air agencies, and other relevant federal agencies, should develop and make public an air quality monitoring modernization plan to better meet the information needs of air quality managers, researchers, and the public.”
- GAO further suggests the plan consider “...leading practices, including establishing priorities and roles, assessing risks to success, identifying the resources needed to achieve goals, and measuring and evaluating progress.”

EPA Response: Modernization



- The EPA generally agreed that the national networks should maintain a level of modernity and focus.
- EPA recognized that a “modern” network should:
 - Leverage advanced technology;
 - Have high levels of hardware and software availability, reliability, and serviceability;
 - Have high certainty in data quality; and
 - Increase/maximize potential to meet informational needs of the air quality community and the public.
- EPA noted that modernization will only be achieved through collaboration amongst EPA, state, local, tribal, and other federal partners.
- EPA made it clear that modernization will require additional resources.

EPA Response: Modernization (cont.)



The EPA provided a general time frame for actions in addressing the modernization recommendation:

- FY21/22: Engage stakeholders, using existing documentation and assessments to inform discussions on modernization. Outcomes will include potential objectives and priorities as well as identification of the necessary resources to fulfill them.
- FY22/23: Based on engagement feedback, work with partners to create a strategic plan for ambient air quality monitoring that addresses modernization and the increasing informational needs of the air quality community and the public.
 - EPA will make the plan publicly available on the Ambient Monitoring Technology Information Center website (<https://www.epa.gov/amtic>)
 - Stakeholders will discuss options to pursue funding opportunities.
- FY24/25: Assist state, local and tribal air agencies in reviewing their networks, leveraging the 5-year network assessment and investing in their networks.

GAO Suggestions of Informational Need



- Per GAO, what are the additional informational needs embedded in the need for modernization?
 - Local-scale, real-time air quality data
 - Levels of air toxics in the air
 - Persistent and complex pollution (e.g., wildfires)
 - Using low-cost sensors and satellite data

Recognized Challenges



- GAO recognized challenges in areas we are already trying to address:
 - Increased concern about the health effects of air toxics including ways to show where toxics are an issue (where, what, why).
 - Methods – GAO says we need faster, cheaper, and more sensitive methods for air toxics.
 - Integrating emerging technology – Sensor workshops, the citizen science “tool-box,” and evaluations are all recognized. It is suggested that we should improve communications.
 - Managing and integrating data – GAO reports AQS as “antiquated and inflexible.” Suggested that we should look to modernize the AQS system, accommodate more types of data (parameters, frequencies) and make it all easier to get out and use.

What does modern mean for air agencies?



Our overarching monitoring objectives are to:

- 1) Provide air pollution data to the general public in a timely manner;
- 2) Support compliance with ambient air quality standards and emissions strategy development; and
- 3) Support air pollution research studies.

Are we “modern” enough to fulfill these objectives?

- Getting the right data?
- Getting data in the right places?
- Getting temporally appropriate data?
- Getting reliable and useful data?

Answers to these questions can be different, depending on who you ask. We also will have to deal with expected differences from a local, to regional, to a national perspective.

What's next?



- Modernization is complicated, with competing viewpoints on what a modernization strategy might look like.
- We will engage with stakeholders to raise and discuss issues in order to gather feedback.
 - We need feedback to start formulating a modernization strategy.
 - We will use organizations, RPOs, etc.
 - We will utilize “small” meetings where possible.
- We hope to begin to draft materials that reflect feedback received in the coming year.

Discussion Forum



- What does modernization mean to your Agency?
- Are we up to standards?
- Are cutting edge?
- Do we have new or additional priorities or needs?
 - Toxics, PM tie-ins (NH₃, UFP), sensor use
- What will slow you down?
 - Lack of: people/experience, funding, acquisition process, guidance, etc.?
- What would help you modernize?

Questions?



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