



# At a Glance

## Why We Did This Project

We conducted this audit to determine whether the air quality monitoring and related activities conducted in the greater Houston area by the U.S. Environmental Protection Agency (EPA) and the state of Texas:

- Addressed potential high-risk areas.
- Indicated any potential health concerns.
- Accurately communicated air monitoring results and potential health concerns to the public.

On August 25, 2017, Hurricane Harvey made landfall on the U.S. Gulf Coast as a Category 4 storm. Many of the Houston area's air monitors were shut down and secured prior to the storm's landfall to prevent damage. The EPA and state and local agencies subsequently conducted mobile monitoring to assess air quality conditions, including the levels of hazardous air pollutants, which are also called *air toxics*.

**This report addresses the following:**

- *Improving air quality.*

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## ***EPA Needs to Improve Its Emergency Planning to Better Address Air Quality Concerns During Future Disasters***

### What We Found

Most air toxic emission incidents during Hurricane Harvey occurred within a 5-day period of the storm's landfall. The majority of these emissions were due to industrial facilities shutting down and restarting operations in response to the storm and storage tank failures. However, state, local and EPA mobile air monitoring activities were not initiated in time to assess the impact of these emissions. Additionally, once started, monitoring efforts did not always generate data considered suitable for making health-based assessments, in part because there was no guidance outlining how to monitor air quality following an emergency.

**Developing EPA guidance for collecting and communicating air quality data could improve public confidence in the agency during future disaster responses.**

The air monitoring data collected did not indicate that the levels of individual air toxics after Hurricane Harvey exceeded the health-based thresholds established by the state of Texas and the EPA. However, these thresholds do not consider the cumulative impact of exposure to multiple air pollutants at one time. Further, the EPA's thresholds are based on short-term exposure to a single air pollutant and do not consider lifetime exposures. Consequently, the thresholds may not be sufficiently protective of residents in communities that neighbor industrial facilities and experience repeated or ongoing exposures to air toxics.

We did not identify instances of inaccurate communication from the EPA to the public regarding air quality after Hurricane Harvey. However, public communication of air monitoring results was limited. As a result, communities were unaware of the agency's activities and data collection efforts. This lack of awareness can diminish public trust and confidence in the EPA.

### Recommendations and Planned Agency Corrective Actions

We recommend that the Assistant Administrator for Land and Emergency Management develop guidance for emergency air monitoring in heavily industrialized areas, develop a plan to provide public access to air monitoring data, and assess the availability and use of remote and portable monitoring methods. We also recommend that the Region 6 Regional Administrator develop a plan to inform communities near industrial areas of adverse health risks and to limit exposure to air toxics in these communities, and conduct environmental justice training. We further recommend that the Associate Administrator for Public Affairs establish a process to communicate the resolution of public concerns. Two of our six recommendations are resolved with corrective actions pending. The remaining four recommendations, which we revised after we issued our draft report, are unresolved pending receipt of corrective action plans from the EPA.