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The US Environmental Protection Agency (EPA) has awarded grants to six research organisations to develop and use low-cost air pollution sensor technology, while engaging communities to learn about their local air quality.

“Through these projects, scientists and communities will join together to develop and test new low-cost, portable, easy-to-use ways to measure air pollution,” said Thomas A. Burke, EPA science advisor and deputy assistant administrator of EPA’s Office of Research and Development. “This research will provide tools communities can use to understand air pollution in their neighbourhoods and improve public health.”

While recent advances in technology have led to the development of low-cost air pollution sensors,



they have not been widely tested, especially under field conditions. These grants will help fund research projects that explore how scientific data can be effectively gathered and used by communities to learn about local air quality.

The grantees will also study the accuracy of data produced by sensors and sensor networks. For example, comparing high-quality data from existing monitoring technology that are used to support air quality regulations.

The grants, which are funded through the EPA's Science to Achieve Results (STAR) program, are being awarded to the following:

- Carnegie Mellon University, Pittsburgh, will research the accuracy of air pollution sensors and the usefulness of the sensor data. Air quality modelling will be combined with sensor data to develop maps and other tools for displaying air quality information. Researchers will collaborate with local community groups in Pittsburgh to help them understand the data and how the findings might be used to reduce exposure to air pollutants.
- Kansas State University, Manhattan, will create a partnership with local organisations in South Chicago to evaluate the effects of community-led research on the community's understanding of air pollution. Researchers will develop sustainable, local strategies to monitor, analyse and share measurement results about air pollutants.
- Massachusetts Institute of Technology, Cambridge, will create a Hawaii Island Volcanic Smog Sensor Network (HI-Vog) of air pollution sensors to track air quality changes caused by the emissions from the Kilauea volcano that impacts health and agricultural crops. The project will emphasise community engagement in collaboration with the Kohala Center in Waimea, Hawaii, local schools and health centres.
- Research Triangle Institute, Research Triangle Park, North Carolina, will create a framework to empower and support communities near Denver, Colorado, to design and conduct air quality monitoring studies. Researchers will use low-cost sensors to address local concerns in collaboration with National Jewish Health in Denver and the communities of Globeville and Elyria Swansea.
- The South Coast Air Quality Management District, Diamond Bar, California, will engage California communities on the use, accuracy, and application of 'low-cost' air monitoring sensors in collaboration with the University of California, Los Angeles. The project will also develop a toolkit with best practices for data collection and data interpretation from these sensors.
- University of Washington, Seattle, will use low-cost, next-generation air particle sensors to address wood smoke exposures within the Yakama Nation and Latino populations in a rural



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area of Washington State. Researchers will work with local students to understand and help reduce the community's exposure to wood smoke. The team will also create a curriculum adaptable for other settings in collaboration with Heritage University, Toppenish.

Edited from press release by [Harleigh Hobbs](#)

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