



Air, Climate, and Energy Research News

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Air monitoring benches installed for public use



EPA is putting science into the hands of the public with the installation of three new Village Green air monitoring benches in Philadelphia, Pa., Washington, D.C., and Kansas City, Kan. The public can view the data through on-site displays and a mobile-friendly website.

EPA is collaborating with state and local partners for the one-year project to further test the air monitoring system, fitted into a park bench, and provide educational outreach on air quality. Two more benches will be installed this summer in Hartford, Conn., and Oklahoma City, Okla., as part of the partnership. The prototype bench in Durham, N.C., has been operating since June 2013.



The air monitoring bench, developed by EPA researchers, operates on solar and wind power and provides minute-to-minute data on two common air pollutants – ozone and particulate pollution -- and weather conditions.

For more information:
[Village Green Webpage](#)
[Science Bite Podcast](#)
[National News Release](#)

Photo: Ben Franklin visits with Gayle Hagler of EPA at the Philadelphia bench.

Children's lung health improved with drop in air pollution



Lung function development in children with and without asthma improved with declines in air pollution from 1994-2011, according to a study by the University of Southern California. Researchers found that respiratory health in children improved as air pollution decreased over each four-year study period in southern California. The study is partially funded by the Health Effects Institute (HEI), an independent research organization funded by EPA and industry partners to investigate the health effects of air pollution.

The article, [Association of Improved Air Quality with Lung Development in Children](#), is published in the *New England Journal of Medicine*.

Several news outlets, including [the Atlantic](#) and [the Huffington Post](#), have also highlighted the findings.

Living near roadways may put some at higher cardiovascular risk



Living near roadways may increase your risk of cardiovascular disease, according to a new collaborative study by researchers at Duke University Medical Center and EPA. Female and African-American patients in the study had higher blood sugar levels, which is a risk factor for heart disease. This reaffirms previous research of traffic-related pollution effects on women, and it also carries important implications about the potential health burden for some neighborhoods located near busy roads. Researchers did not find an association between higher blood sugar levels and diabetes in this study.

The paper, [Association of Roadway Proximity with Fasting Plasma Glucose and Metabolic Risk Factors for Cardiovascular Disease in a Cross-Sectional Study of Cardiac Catheterization Patients](#), is published in *Environmental Health Perspectives*.

Study examines PM effects on brain aging and stroke risk



Long-term exposure to fine particulate matter, an air pollutant, was associated with changes to the brain and considered a risk factor for strokes in a study supported by an EPA STAR grant (Harvard Clean Air Center). Older adults exposed to higher PM levels had smaller brain volume (an indication of brain aging) and greater brain damage from "silent" strokes, which put them at risk for major strokes. The study is one of the first to explore the impacts of air pollution on brain structure. Additional research is needed to

better understand any potential relationship between air pollution and brain health.

The paper, [Long-term exposure to fine particulate matter, Residential proximity to major roads and measures of brain structure](#), is published in *Stroke*.

A recent [EPA blog](#) and a [news release by Harvard Medical School](#) also describe the research.

Olive oil may protect against air pollution



Taking olive oil supplements may counteract some of the adverse cardiovascular effects of exposure to air pollution, according to a study published online in *Environmental Health Perspectives*. Researchers from EPA, the University of North Carolina at Chapel Hill, and TRC Environmental Corporation evaluated the effectiveness of olive oil and fish oil supplements in protecting against vascular (blood vessel) effects from particle pollution, also known as particulate matter (PM). Olive oil supplementation decreased adverse PM-induced blood vessel effects and blood markers of vasoconstriction (narrowing of the blood vessels) and coagulation (blood clotting). In contrast, fish oil did not affect vascular function.

The paper, [Dietary Supplementation with Olive Oil or Fish Oil and Vascular Effects of Concentrated Ambient Particulate Matter Exposure in Human Volunteers](#), is published in *Environmental Health Perspectives*.

Key Links

- [EPA's Air Research](#)
- [EPA's Climate Change Research](#)
- [Science Bite Podcasts](#)