

EPA'S CORE WORK SCIENCE

THE BASIS OF EPA'S WORK – SCIENCE

Science is at the core of almost everything EPA does to protect the American public from harm. Many forms of science, from toxicology to engineering, are interwoven into standard setting, reviews of new chemicals, disaster response, Superfund cleanups and overall decision-making. Objective, peer-reviewed science is at the heart of every action EPA takes to protect people, communities and the earth.

EPA science meets the highest standards for integrity, peer review, transparency and ethics, and is essential to supporting actions that can be challenged in court. Data, analysis and judgments guided by the best available science are the underpinnings of assessments of the impacts of pollutants, how they travel through air or water, how easy or hard it is to capture and assess them, and what kinds of technologies are effective in their control. Hazardous waste sites in need of cleanups generally house multiple pollutants; science is the key to figuring out a safe level for each potentially dangerous contaminant present.

EPA has supported research programs in six priority areas: air, climate and energy; safe and sustainable water resources; sustainable and healthy communities; chemical safety for sustainability; human health risk assessment; and homeland security. Scientists at the agency's three national laboratories and other facilities across the country conduct the work.

- **Cleaner Air, Longer Lives** – Clean air research is at the core of EPA's seminal achievements in making air cleaner over the past 40-plus years: removing lead from gasoline, reducing acid rain and the harmful effects of ozone and small air particles, decreasing second-hand smoke exposure, and improving vehicle efficiency and emission controls. National Ambient Air Quality Standards have laid the groundwork for improved health, increased life expectancy and fewer hospitalizations and related medical interventions.
- **Water We Can Drink with Confidence** – EPA was tasked by Congress to set protective standards for pollutants that are discharged into water and to manage bacterial, viral, parasitic and chemical agents that might contaminate drinking water. Solid science is vital to meeting that challenge, especially as we learn more about emerging threats to drinking water safety.
- **Cleaner Neighborhoods** – The agency is directed by Congress to clean up polluted sites that once housed industrial facilities or poorly maintained gas stations. Solid science guides cleanup decisions.
- **Safer Chemicals in a Wide Variety of Applications and Uses Screened More Quickly and Efficiently** – EPA is mandated to ensure that the chemicals used in agriculture don't pose a threat to children and families, and to review new chemicals before they are put on the market. EPA scientists have developed faster, far less expensive chemical testing and screening tools and techniques that provide critical insights into the links between chemical exposure and health effects.

- **Finding Innovative Solutions** – EPA has been at the forefront of research to develop innovative solutions to some of the world’s most pressing and complicated environmental problems.