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EPA's Sustainable and Healthy Communities National Research Program

Innovative Science for a Sustainable Future

EPA's Sustainable and Healthy Communities (SHC) Research Program is one of six national research programs within the Office of Research and Development. SHC takes a systems approach to integrate the full range of available data from public health, physical, natural, and social sciences, toxicology, engineering, and ecosystems research to support Agency priorities and empower communities to make scientifically-informed decisions. Research is done with and for communities to improve their access to clean air, water, and land for increased health and well-being where people live, learn, work, and play.

SHC benefits communities by conducting research that addresses:

- 1) Contaminated Sites- applying technologies and methods to expedite remediation and restoration of contaminated sites.
- 2) Materials Management and Beneficial Reuse of Waste- enhancing approaches to materials management practices, including the beneficial reuse or redirection of waste materials to advance waste management toward a circular economy.
- 3) Building Healthy and Resilient Communities- building linkages between the total environment (built, natural, and social) and public and ecosystem health to support communities to revitalize former contaminated sites, address cumulative impacts (from both chemical and nonchemical stressors), and pursue climate resilience and environmental justice (EJ) goals.

Research Topics

Topic 1. Contaminated Sites



Complex environmental problems that can cause human health concerns and degrade ecosystem services persist at many contaminated properties, such as contaminated soil, sediment, surface water, and groundwater. Many of these contaminated sites, including sites containing leaking underground storage tanks, result in solvent or petroleum vapors that can enter buildings, exposing humans to toxic chemicals.

Results will provide data and tools to support Agency and delegated programs that:

- clean up contaminated soils and sediments
- remediate contaminated groundwater
- remediate mining and mineral processing sites
- remediate and characterize solvent vapor intrusion
- remediate contamination from leaking underground storage tanks
- remediate sites impacted by PFAS and lead (Pb)

Topic 2. Waste and Materials Management



The United States diverts, reuses, and recycles a larger percentage of its solid waste than ever before, yet the use of landfills as a final depository remains a prominent method of waste management. SHC's waste and materials management research is advancing the Agency's vision for a new paradigm for integrated materials management that will disrupt the creation and flow of waste. At the same time, researchers are working closely with local communities in the short term to evaluate landfill performance to better protect human health and local ecosystems.

SHC provides data and tools to support Agency and delegated programs that:

- manage waste in municipal and hazardous waste landfills
- use input-output economic models to conduct life-cycle assessments of waste materials
- reuse waste in a beneficial manner

Topic 3. Healthy and Resilient Communities



SHC researchers help communities identify their specific environmental challenges and use that knowledge to deliver solutions that have immediate impact. Emphasis is placed on helping the Agency meet its goal to expand the benefits of environmental protection and cleanup so that they reach every American, regardless of life stage (age), income, race, or geography.

The research focuses on increasing community resilience by reducing potential risks, promoting health, and revitalizing communities and the environment that supports them, and to increase research translation to benefit communities. The research includes integrating the challenges associated with cumulative impacts (including non-chemical stressors and ecosystem services), environmental justice, and climate change into EPA's decisions-making framework centered on chemicals.

SHC research provides the data and tools needed to:

- assess the benefits from remediation, restoration, and revitalization
- address how contaminated sites impact vulnerable communities and groups
- improve the resiliency from contamination, natural disasters, and extreme events
- measure the outcomes of EPA's environmental protection activities

More Information

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About the Sustainable & Healthy Communities Research Program:

<https://bit.ly/43y0Qrp>

