EPA's Sustainable and Healthy Communities National Research Program

EPA's Sustainable and Healthy Communities (SHC) research program is the largest and most diverse national research program within EPA's Office of Research and Development. SHC researchers consider the full range of interactions between people and our environment to incorporate the three pillars of sustainability—economics, society, and the environment—into a seamless research portfolio that not only helps the Agency and its partners meet today's most pressing environmental challenges, but do so while laying the groundwork for healthy, prosperous, and just communities well into the future.

Collectively, the program works to illuminate the myriad connections between the built, natural, and social environments and their connections to human well-being and environmental quality. A particular emphasis is also placed on providing the science needed to protect the most vulnerable groups and lifestages and advancing environmental justice by reducing disparities of environmental burdens. The program is divided across four major topic areas for research: (1) Decision Support and Innovation; (2) Community Well-being: Public Health and Ecosystem Goods and Service; (3) Sustainable Approaches for Contaminated Sites and Materials Management; and (4) Integrated Solutions for Sustainable Communities.

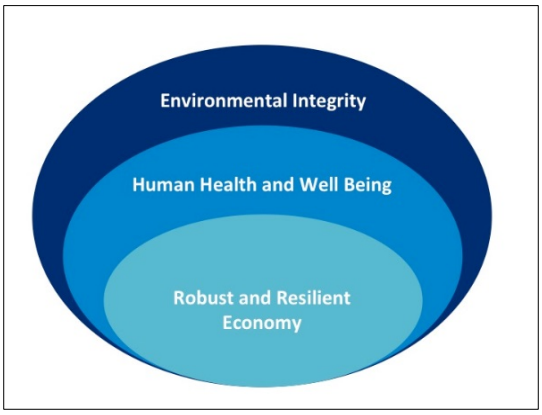


Figure 1. Sustainability is a nested relationship linking economy, well-being, and the environment.

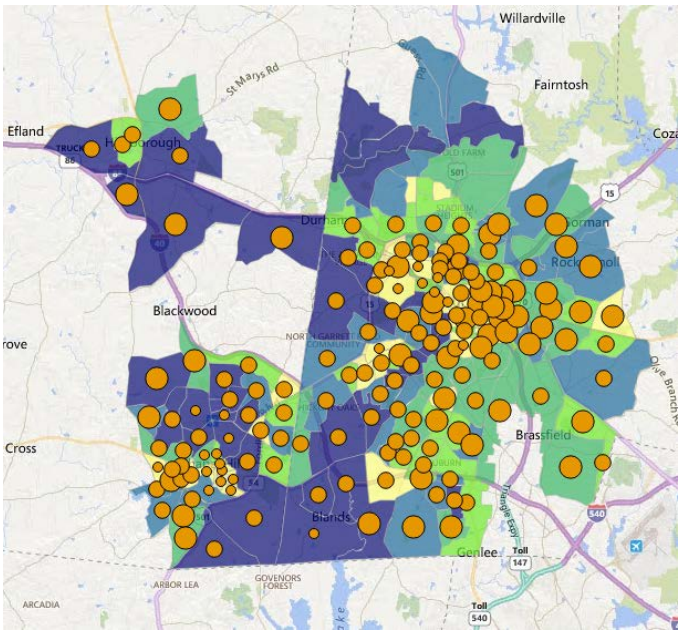
The program's research strategy is designed with input from partners cultivated from across EPA program and regional offices, state environmental management agencies, community decision-makers, and the scientific community. Ongoing feedback and collaboration with them as well as with local communities helps ensure the knowledge, data, and tools SHC scientists and engineers deliver are immediately available to inform decisions and actions. SHC's goal is to expand community stakeholders' resources to enable decisions that advance sustainability despite the complexity of the environmental/social/economic system.

To advance the work, SHC researchers are developing an integrated suite of tools and information—indicators and indices, maps of land cover and demographics, health data, and information on causal relationships—as well as user-friendly decision support tools and models. Decision makers can use these research products to set goals, guide strategic plans, inform decisions, and measure progress toward their community objectives. SHC's holistic, integrated approach aims to inform decisions that will minimize unintended negative outcomes and maximize positive and multiple benefit outcomes: solutions that will better foster community sustainability in all its aspects.

SHC also produces research and provides technical support to address pressing near-term problems facing communities and the nation. These include remediation technologies for cleaning up contaminated sites and returning land to public use, cleaning up oil and fuel spills, and assessing the risks and benefits of using of waste materials for applications like improving soil quality, providing building materials, and capturing toxicants that contaminate land and water.

Examples of Recent Sustainable and Healthy Communities Research Products

- The **EnviroAtlas**, a web-based mapping system, allows interactive analysis of spatial data on environmental conditions, human health statistics, and socio-economic factors for communities across the country, as well as basic information about ecosystem goods and services. Detailed data for urban areas can be used to identify local issues and evaluate potential solutions. For more information: https://www.epa.gov/enviroatlas



EnviroAtlas: Percent tree cover overlaid with percent population below 13 years of age in Durham NC, used to target tree planting for ecosystem services and benefits.

- The interactive **Eco-Health Relationship Browser** illustrates scientific evidence for linkages between human health and ecosystem services. It provides information about several of the nation's major ecosystems, the services they provide, and how those services, or their degradation and loss, might affect people. More information: https://www.epa.gov/enviroatlas/enviroatlas-eco-health-relationship-browser

- EPA's **Report on the Environment** is an informative source of scientific indicators describing trends in the nation's environmental and human health condition. The indicators help to answer important questions about the current status and historical trends in various media. They provide information to help EPA and others make decisions about environmental policy, education, and monitoring priorities. More information: https://cfpub.epa.gov/roe/

- **C-FERST** (Community-Focused Environmental Risk Screening Tool) is being developed as a community mapping, information access, and assessment tool to help assess risk and assist in decision making with communities. More information: https://www.epa.gov/healthresearch/tribal-focused-environmental-risk-and-sustainability-tool-t-ferst

- **A Framework for Sustainability Indicators at EPA** is a document providing background and guidance on sustainability indicators. Written to provide EPA staff with a reference for measuring the progress of some aspects of sustainability, it is however publically available to external organizations interested in such measurement. Link to the document at: https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=254270

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