

Science-Based Decision Tools to Support Campus- Community Partnerships

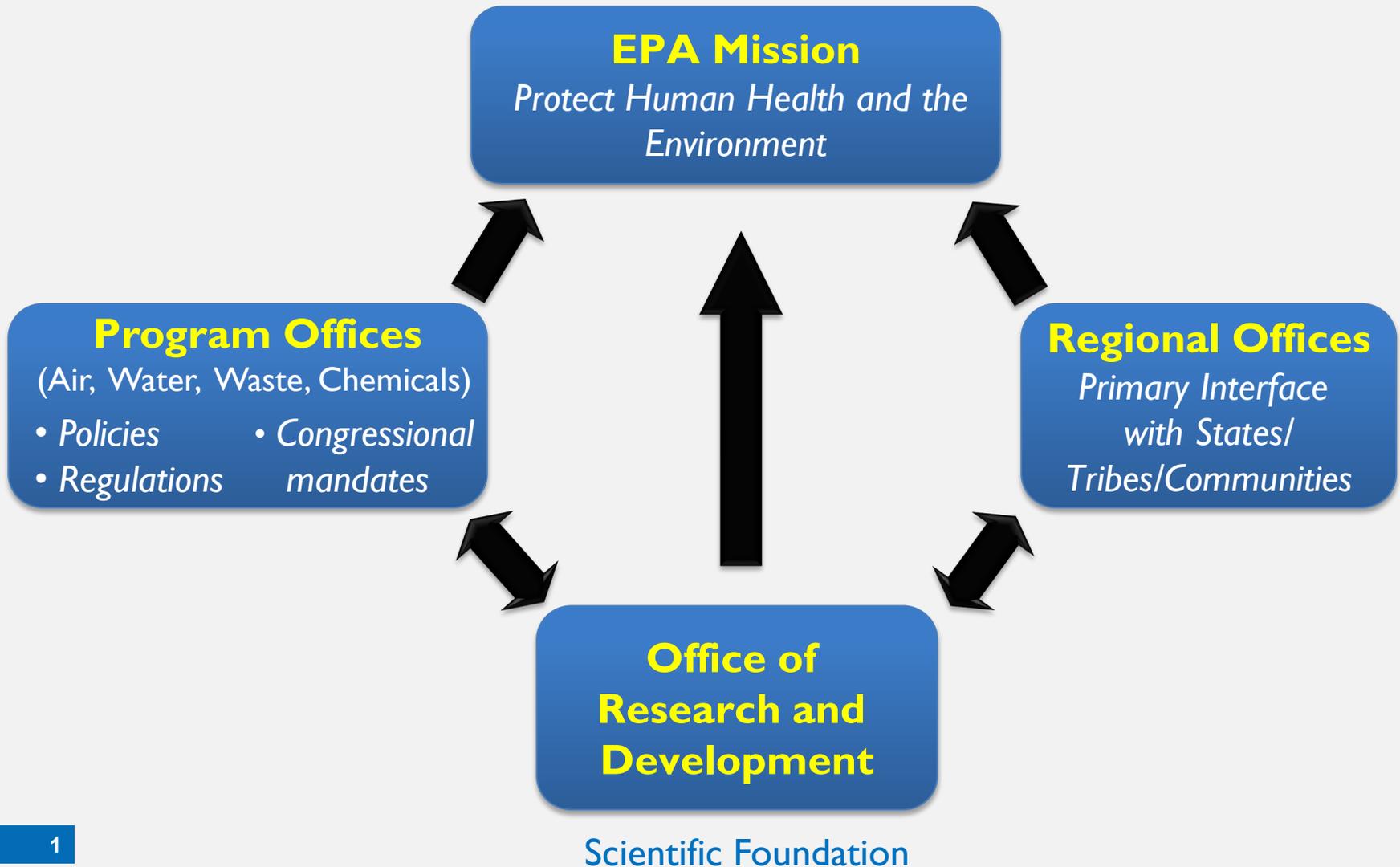
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*Center for
Environmental
Measurement and
Modeling*



*EPIC-N Workshop, California Higher Education Collaboration Conference
UCLA, October 1, 2019*

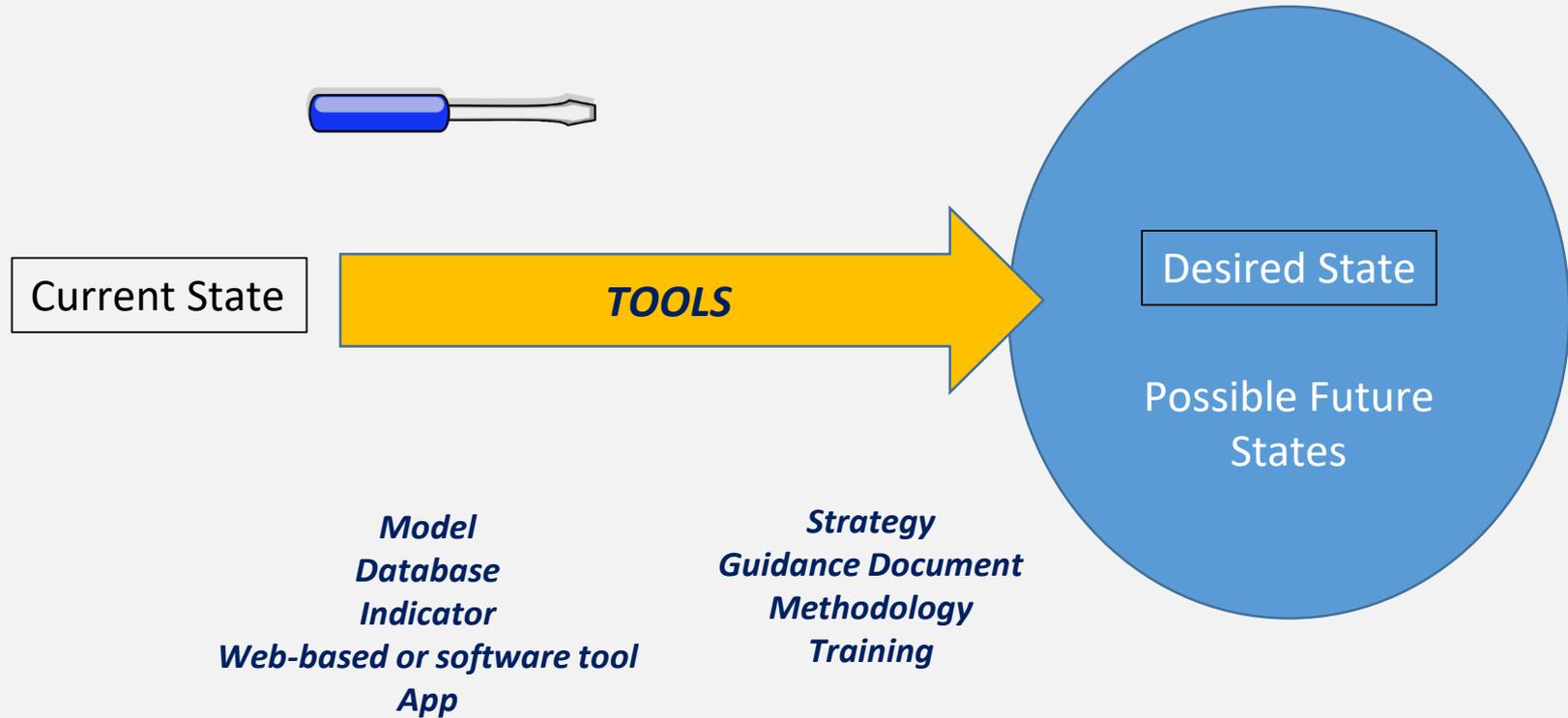
EPA is a Science Agency



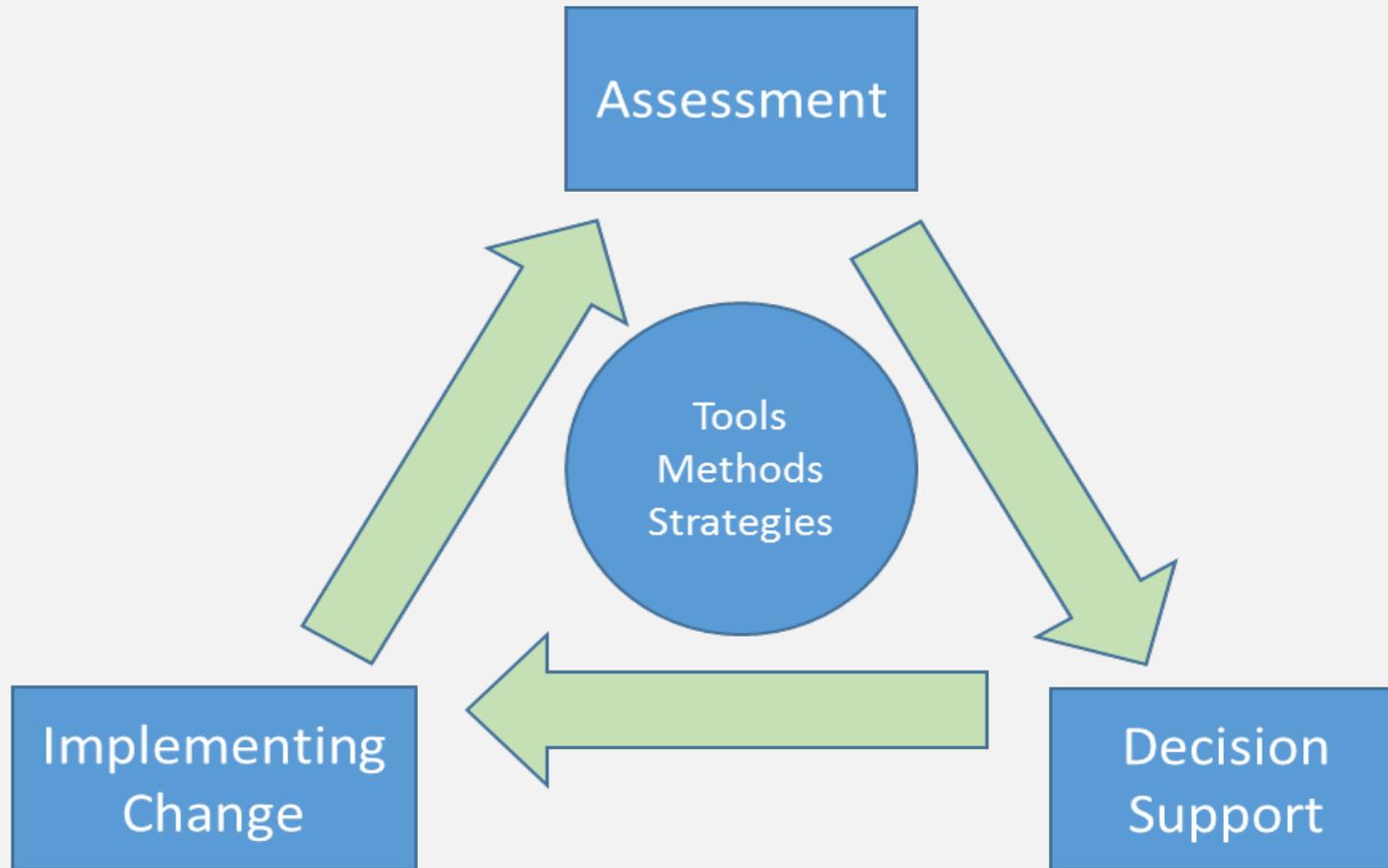
Science-Based Decisions



Science-Based Tools



Science-Based Tools Framework



Decision Support Resources

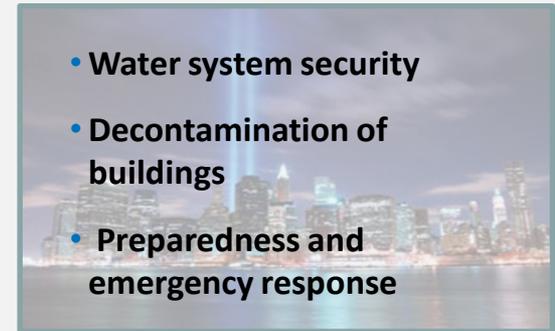
Air & Energy



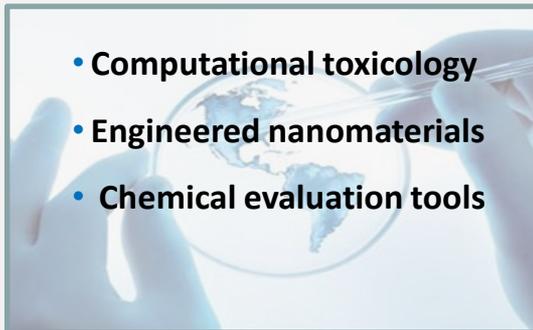
Sustainable & Healthy Communities



Homeland Security



Chemical Safety for Sustainability



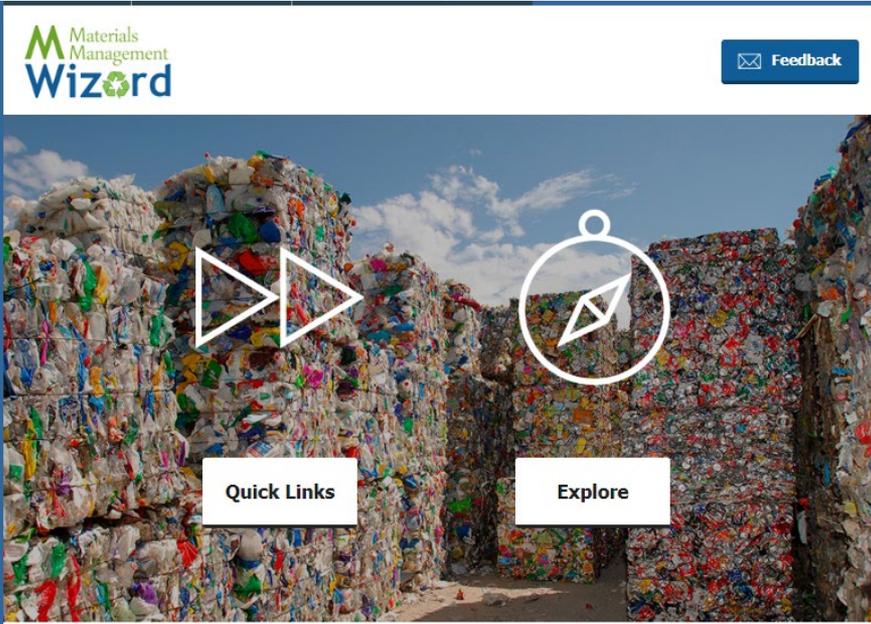
Human Health Risk Assessment



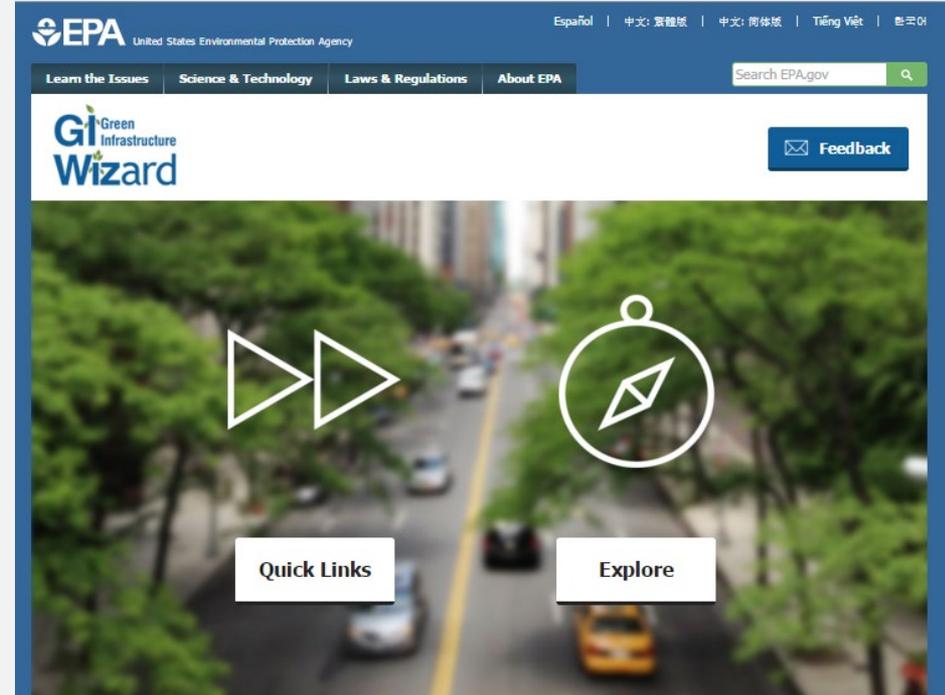
Safe & Sustainable Water Resources



Information Tools

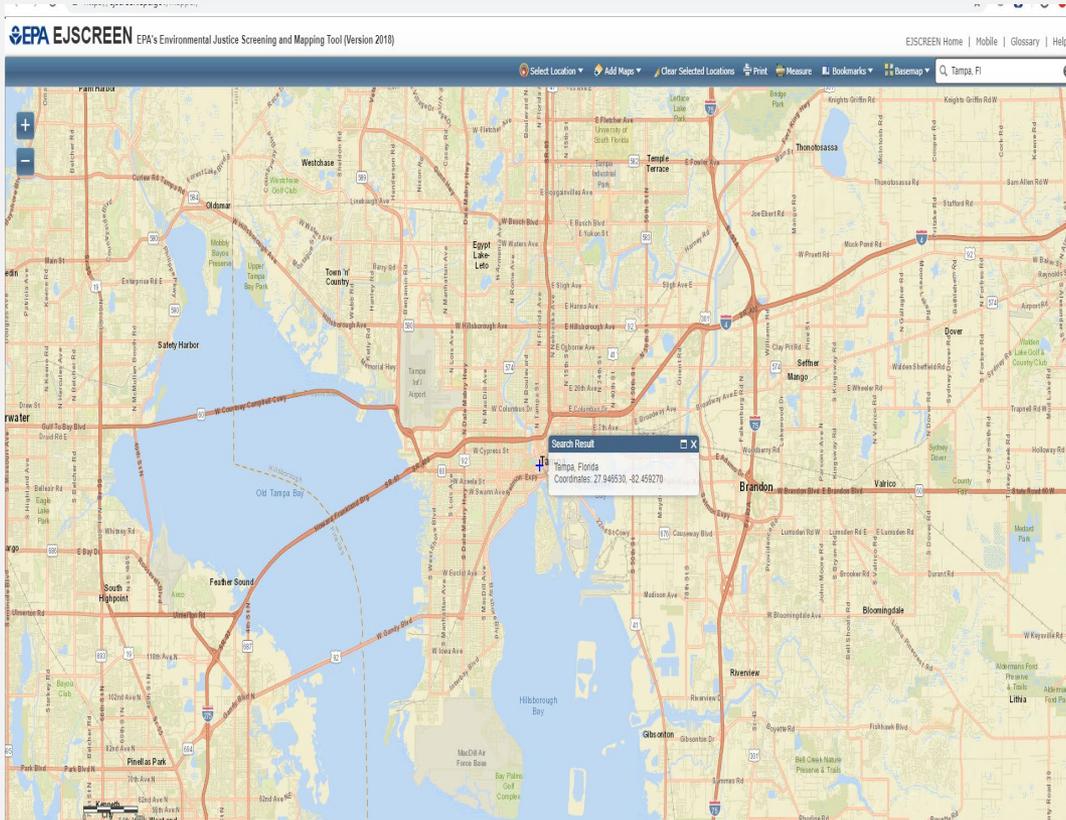


The Materials Management Wizard (MWiz) offers you access to a repository of EPA-sourced materials management tools and resources designed to support and promote sustainable materials management and community planning decisions. The tools and resources available through MWiz will help you analyze problems, understand management options, calculate design parameters, analyze costs and benefits, evaluate tradeoffs, engage stakeholders, and/or develop education and outreach campaigns. MWiz is made possible through a cross-agency collaboration involving EPA's Office of Research and Development, Office of Policy, Office of Land and Emergency Management, and Regional staff.



GIWiz offers you access to a repository of EPA-sourced Green Infrastructure tools and resources designed to support and promote sustainable water management and community planning decisions. The tools and resources available through GIWiz will help you analyze problems, understand management options, calculate design parameters, analyze costs and benefits, evaluate tradeoffs, engage stakeholders, and/or develop education and outreach campaigns. GIWiz is made possible through a cross-agency collaboration involving EPA's Office of Research and Development, Office of Policy, Office of Water, and Regional staff.

Mapping Tools





**Clean
Air**



**Clean &
Plen-
tiful
Water**



**Bio-
diversity
Con-
serva-
tion**



**Food,
Fuel, &
Materials**



**Natural
Hazard
Mitigation**



**Climate
Stabili-
zation**



**Recreation
Culture, &
Aesthetics**



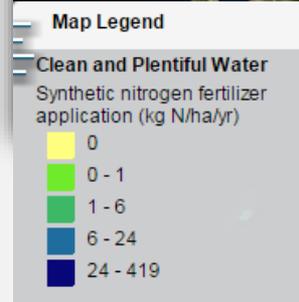
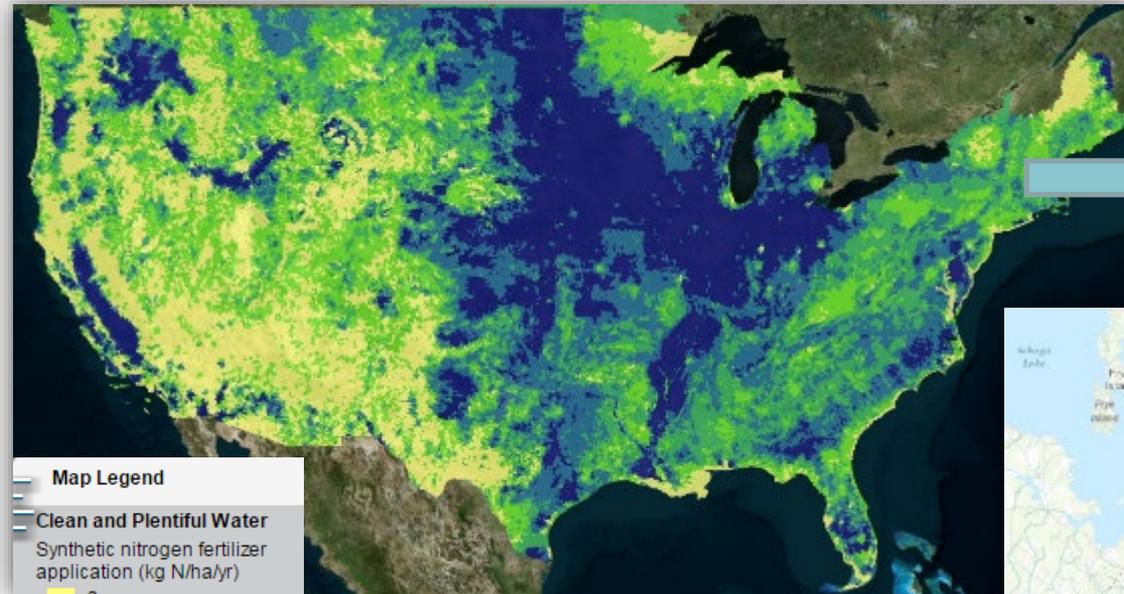
Our data are organized into 7 ecosystem service benefit categories.

EnviroAtlas includes an Interactive Map

400+ map layers available online

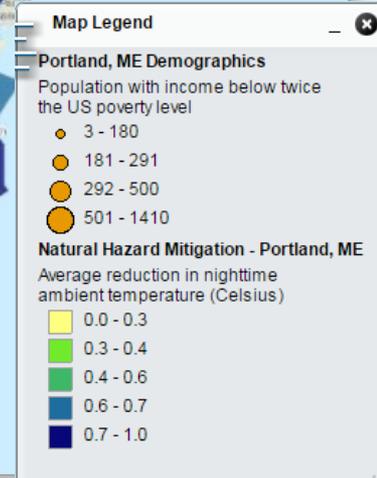
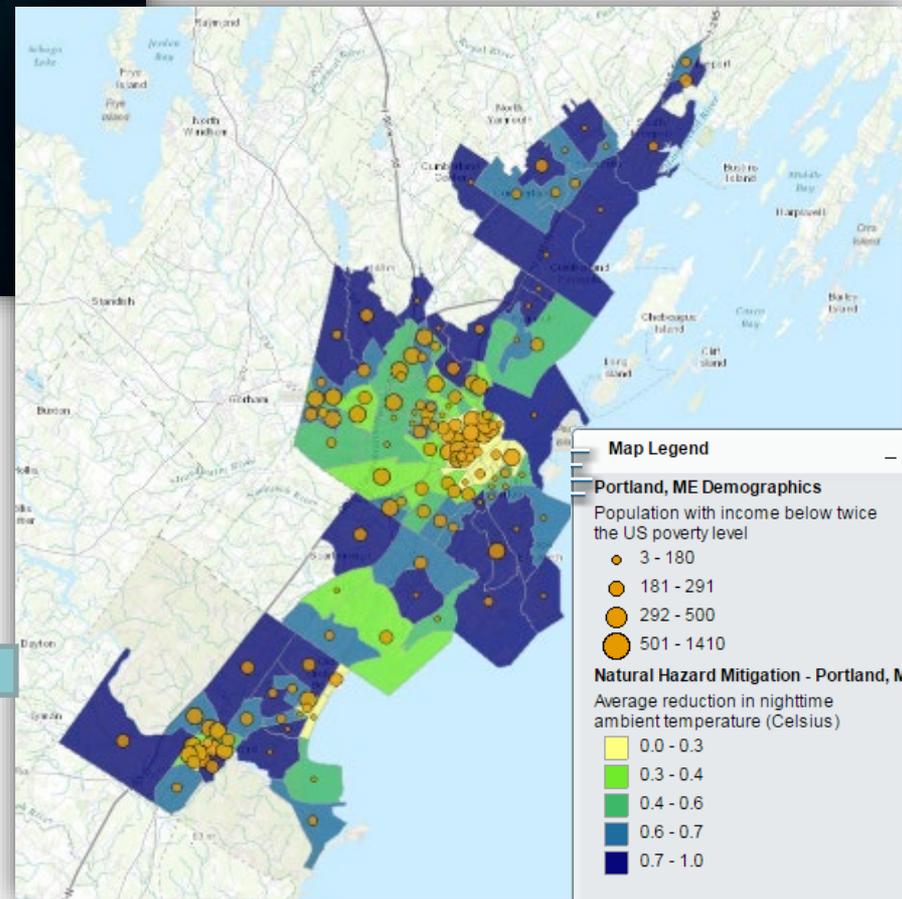
National

- Wall-to-wall coverage for conterminous US
- 300+ data layers



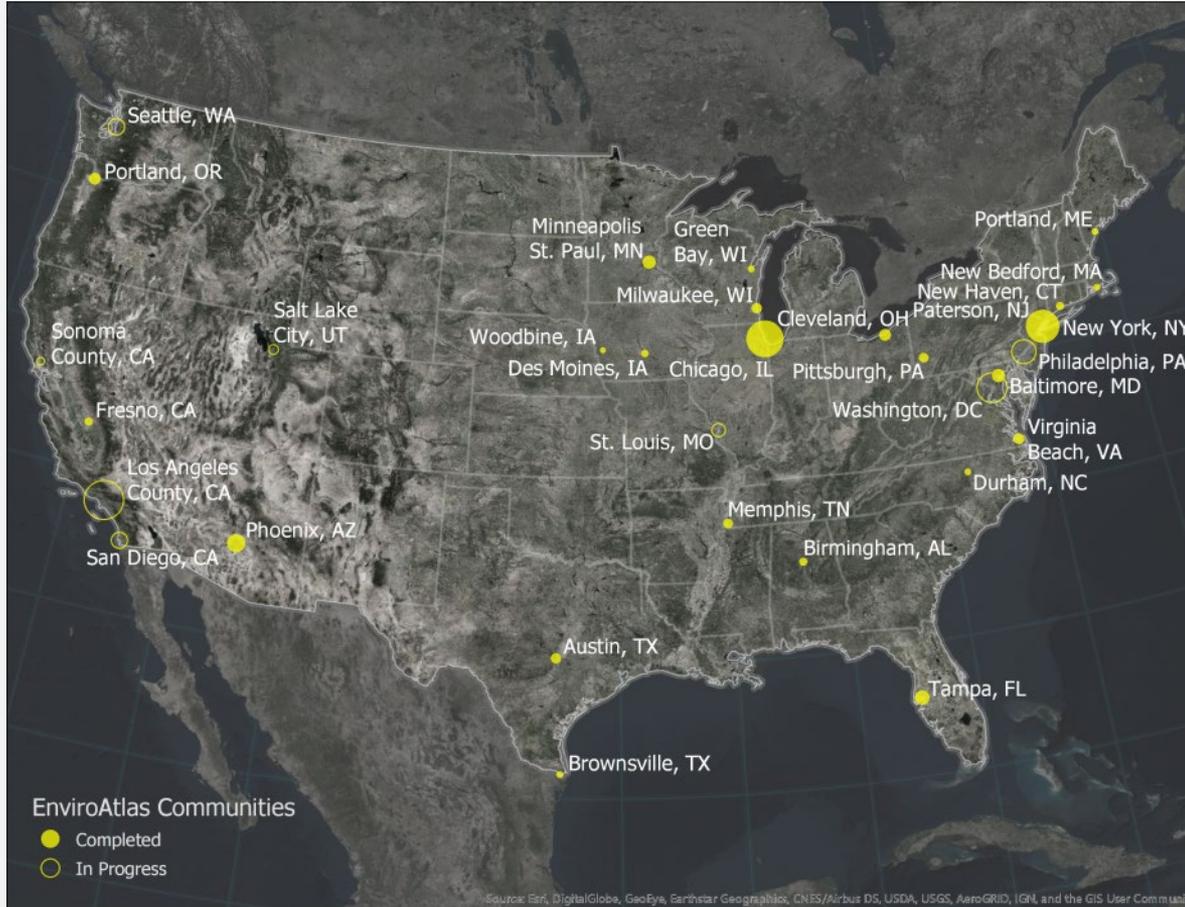
Community

- High resolution component for 1200 populated places
- 100+ data layers



Pictured: Greater Portland, ME

EnviroAtlas Communities




EnviroAtlas
people • health • nature • economy

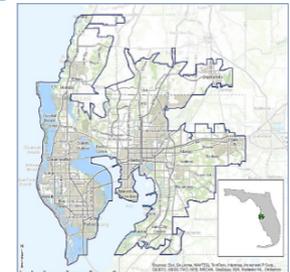
Community Summary
Fact Sheet

www.epa.gov/enviroatlas

Tampa, FL and surrounding area

Towns and cities rely on clean air, clean water, green space, and other natural amenities for economic sustainability and quality of life, yet their benefits are not always fully understood or considered in local decisions. EPA and its partners are producing EnviroAtlas to help communities better use environmental assets for public good.

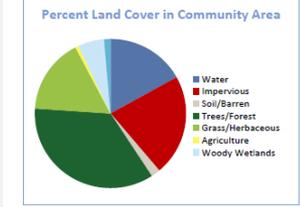
EnviroAtlas includes an online interactive mapping application that anyone can use. The interactive map contains over 200 maps available for the U.S., as well as 100+ fine-scale maps for selected U.S. communities about existing and potential benefits from the local natural environment. The EnviroAtlas community component is based on 1-meter resolution land cover data. Information derived from these data is summarized by census block groups; more spatially explicit map layers are also provided. This fact sheet highlights some of the many community data layers available for the featured area of Tampa, Florida.



Background

The Tampa, Florida area was chosen as an EnviroAtlas pilot community based on its inclusion in EPA's [Ecosystem Services Research Program](#). The EnviroAtlas boundary for the Tampa area was determined using the 2010 Census definition of an Urban Area. It includes Tampa, Clearwater, and St. Petersburg, as well as portions of Hillsborough, Pinellas, and Pasco Counties. The Tampa area measures 3,757 square kilometers, and encompasses 2,434 census block groups.

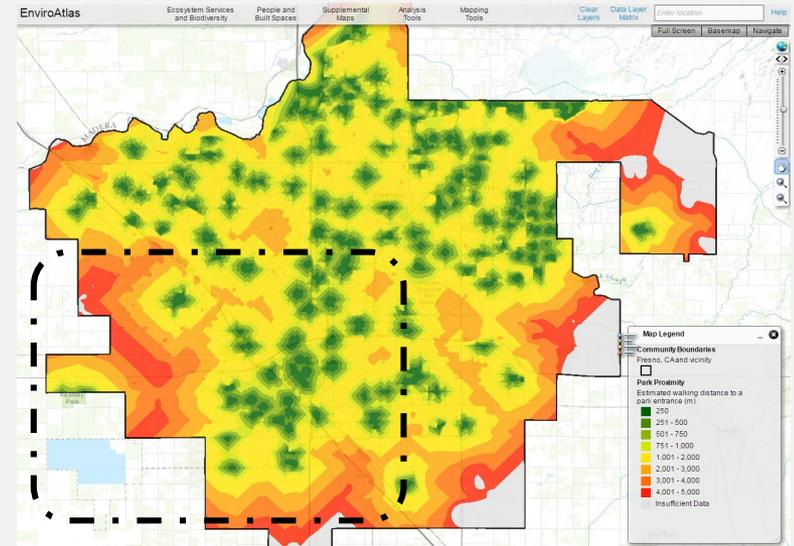
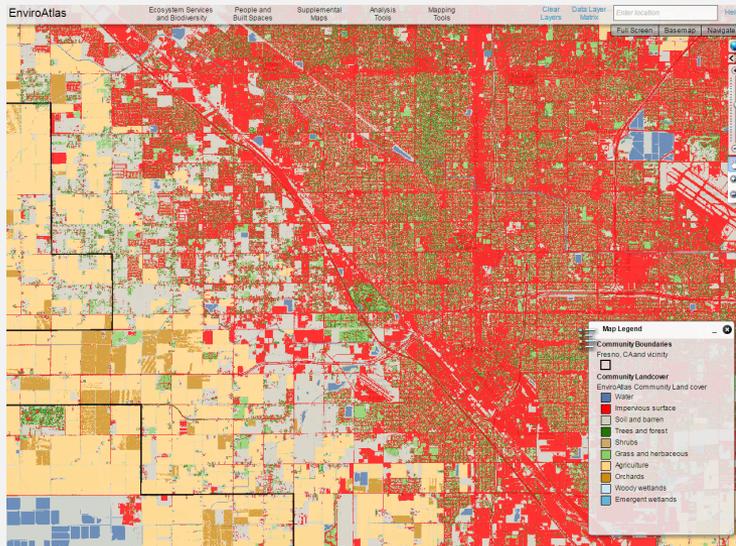
The Tampa, Florida area is in the Southern Coastal Plain ecoregion. It has a mild, humid, sub-tropical climate with hot, humid summers and mild winters. This area is vegetated with longleaf pine flatwoods and savannas, although much of the area has been converted to agricultural use. The community has a very diverse economy and serves as the headquarters for several Fortune 1000 companies. The largest employers include Publix, BayCare Healthcare Systems and Verizon Communications. The demographics of the Tampa community area indicate that the potential exists for income and other disparities in the distribution of environmental assets. EnviroAtlas includes demographic



Tampa Area Demographics 2010 Census	
Total population	2,517,798
Under 13 years old	15.03%
Over 70 years of age	11.83%
Other than white/non-Hispanic	33.75%
Below twice the poverty level	31.36%

City of Fresno, CA – Parks Study

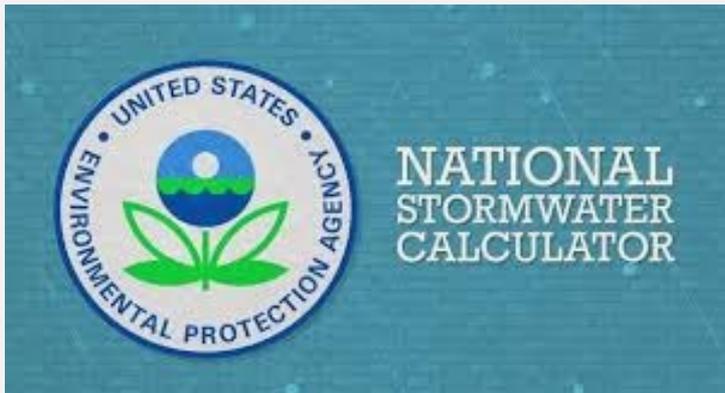
- An “EnviroAtlas community”
- Held a mini-workshop on EnviroAtlas
- Provided maps to City for parks



Impact:

- Funding to increase green space and plant trees
- Increase in green space / trees will promote human health

Water Quality Tools



National Stormwater Calculator (SWC)

Desktop

Mobile

Welcome to the EPA National Stormwater Calculator

This calculator estimates the amount of stormwater runoff generated from a land parcel under different development and control scenarios over a long-term period of historical rainfall.

The analysis takes into account local soil conditions, topography, land cover and meteorology. Different types of low impact development (LID) practices can be employed to help capture and retain rainfall on-site. Localized climate change scenarios can also be analyzed.

Site information is provided to the calculator using the tabbed pages listed above. The Results page is where the site's runoff is computed and displayed.

This program was produced by the U.S. Environmental Protection Agency and was subject to both internal and external technical review. Please check with local authorities about whether and how it can be used to support local stormwater management goals and requirements.

Select the Location tab to begin analyzing a new site. [Analyze a New Site](#) [Save Current Site](#) [Exit](#)

EPA National Stormwater Calculator NEW SAVE OPEN RESOURCES CONTACT

Location

Directions

Bring your site into view on the map and then mark its exact location by clicking the mouse pointer over it or entering your address or zip code below.

Draw the polygon to draw the project area.

Use this polygon drawing tool to draw your project area on the map.

Search by address or zip code:

Enter an address or zip code

Enter number of acres for your site:

0

Air Quality Tools



Air Sensor Loan Program

Air Sensor Guidebook



Office of Research and Development
National Exposure Research Laboratory

ion

Laws & Regulations

About EPA

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SHARE



toolbox

Air Sensor Loan Programs for Communities

EPA has established several air sensor loan programs through various collaborations with community groups, schools, libraries and others to enable the public to learn about air quality in their communities. These programs are provided to bring new air sensor technology advances to the public for educational purposes. The advancement of portable and lower-cost air sensor technology is making it possible for citizen scientists to measure air quality in their neighborhoods and communities where they live, work and play.

EPA's Region 5 Office Air Sensor Loan Program for the Midwest and Upper Midwest States



EPA's Regional 5 Office, headquartered in Chicago, Illinois, has portable Particulate Matter (PM) sensors available for loan to community groups, schools, and other organizations in Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. The loan program empowers students, educators,

Smoke Sense Study

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Related Topics: [Air Research](#) | [Smoke-Ready Toolbox for Wildfires](#) | [Citizen Science](#)

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Smoke Sense Study: A Citizen Science Project Using a Mobile App

Download the Smoke Sense App today.



Smoke Sense

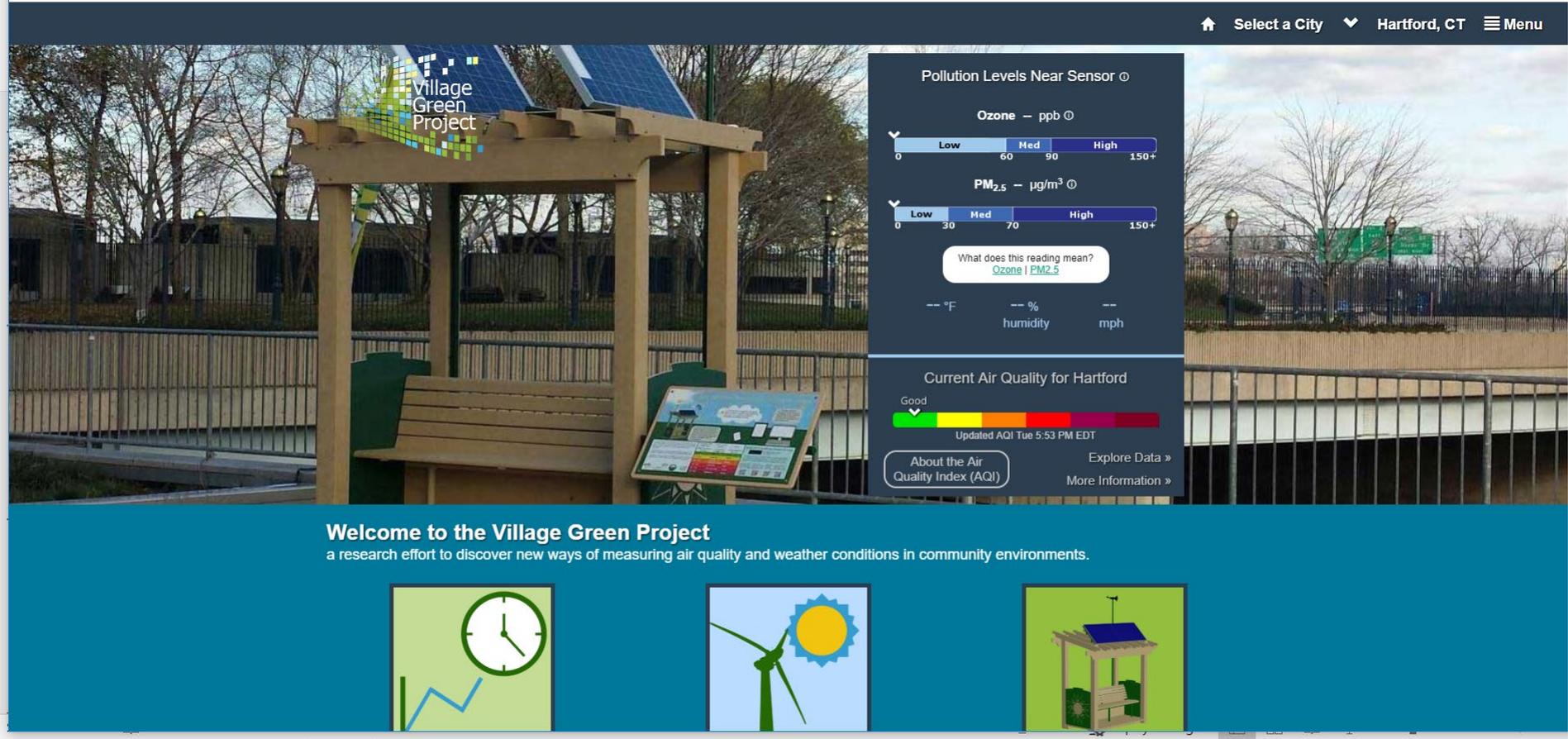
Watch our new videos on YouTube!

[What Smoke Sense is and why the study uses a mobile application](#) [EXIT](#)

[How to use the Smoke Sense app](#) [EXIT](#)

Recent Updates

Public Engagement Tool



Home Select a City Hartford, CT Menu

Village Green Project

Pollution Levels Near Sensor

Ozone -- ppb

Low Med High

0 60 90 150+

PM_{2.5} -- $\mu\text{g}/\text{m}^3$

Low Med High

0 30 70 150+

What does this reading mean?
[Ozone](#) | [PM2.5](#)

-- °F -- % humidity -- mph

Current Air Quality for Hartford

Good

Updated AQI Tue 5:53 PM EDT

About the Air Quality Index (AQI) Explore Data »
More Information »

Welcome to the Village Green Project
a research effort to discover new ways of measuring air quality and weather conditions in community environments.



Which EPA Decision Support Resource Can Your Program Use?

Materials Management Wizard

<https://www.epa.gov/sustainability/mwiz>

Green Infrastructure Wizard

<https://www.epa.gov/sustainability/giwiz>

EnviroAtlas

<https://www.epa.gov/enviroatlas>

EJSCREEN: Environmental Justice Screening and Mapping Tool

<https://www.epa.gov/ejscreen>

National Stormwater Calculator

<https://swcweb.epa.gov/stormwatercalculator/>

Cyanobacteria Assessment Network (CyAN)

<https://www.epa.gov/water-research/cyanobacteria-assessment-network-cyan>

Air Sensor Toolbox for Citizen Scientists, Researchers and Developers

<https://www.epa.gov/air-sensor-toolbox>

Village Green Project

<https://www.epa.gov/air-research/village-green-project>

Smoke Sense Project and App

<https://www.epa.gov/air-research/smoke-sense-study-citizen-science-project-using-mobile-app>



U.S. ENVIRONMENTAL
PROTECTION AGENCY



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