Washington, D.C. and vicinity

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 300 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 Washington, D.C.

Background

The EnviroAtlas boundary for this area was determined using the 2010 Census definition of an Urban Area. In addition to Washington, DC, it includes the surrounding cities of Alexandria, Arlington, Fairfax, and Reston, VA and Gaithersburg and Rockville, MD. The area measures 4,855 square kilometers and encompasses 2,975 census block groups.

The area is in the Northern Piedmont and Southeastern Plains ecoregions. It has a humid subtropical climate with very hot, humid summers and cool winters. The area was historically vegetated with deciduous hardwoods and floodplain vegetation along the Potomac; however, much of the natural vegetation has been removed for agriculture, and, later, urbanization. The leading industry sectors in the area are science and engineering, with much of the industry driven by the U.S. government. Fannie Mae, Lockheed Martin, Northrop Grumman, and Mars, Inc. are all headquartered in the region and are among the largest employers. The demographics of the area indicate that the potential exists for income and other disparities in the distribution of environmental assets. EnviroAtlas includes demographic maps that can help screen for potential health and well-being disparities resulting from disproportionate distribution of urban greenery.
Ecosystem Services Overview
In EnviroAtlas, the benefits humans receive from nature are grouped into seven categories that demonstrate the interconnectedness of these ecosystem services:

- Clean air
- Clean and plentiful water
- Natural hazard mitigation
- Climate stabilization
- Recreation, culture, and aesthetics
- Biodiversity conservation
- Food, fuel, and materials (data available only for communities with farm land)

Examples of some of the data included in EnviroAtlas are detailed below:

Near-Road Environments
Studies indicate that the capacity of trees to filter and deflect airflow may reduce the health impacts of vehicular pollution on nearby populations. In EnviroAtlas, you can find detailed maps of tree coverage along both high-speed and walkable roads. In the Washington, DC area:

- An estimated 52 percent of the population lives within 300 meters of a high-speed roadway. This distance is within the zone of air pollutant drift from unobstructed roadways.
- For 55 percent of the estimated population living within this 300-meter zone, nearby high-speed roads have less than 25% adjacent tree cover.
- Depending on local factors, specific areas (along red and orange lines in the figure above-right) may benefit from vegetative or other physical barriers to reduce vehicular air pollutant drift.

Access to Parks
Parks provide access to green space, encourage physical activity, and improve the livability and aesthetics of urban areas. Those who live closer to parks may be more likely to receive the multiple benefits associated with this proximity. Easily accessible parks are generally considered to be within 500 meters’ walking distance, which takes less than 15 minutes for an average healthy person.

- An estimated 38 percent of Washington, DC residents have a park entrance within 500 meters’ walking distance from home.
- An estimated 40 percent of the Washington, DC area does not have a park entrance within 2 kilometers’ walking distance.

Data for additional area proximal to Washington, DC, may be found in the EnviroAtlas dataset for Baltimore, MD.

EnviroAtlas Tools and Features
- Learn more about EnviroAtlas data: https://www.epa.gov/enviroatlas/enviroatlas-data
- Search our data layers and access their fact sheets: https://www.epa.gov/enviroatlas/enviroatlas-dynamic-data-matrix
- Explore data for the Washington, DC community area in our interactive mapping application: https://www.epa.gov/enviroatlas/enviroatlas-interactive-map
- Use our Eco-Health Relationship Browser to explore ecosystems, the services they provide, and their benefits to human health and well-being: https://www.epa.gov/enviroatlas/enviroatlas-eco-health-relationship-browser
- Contact us with questions about EnviroAtlas: https://www.epa.gov/enviroatlas/forms/contact-enviroatlas

EnviroAtlas combines maps, graphs, and other analysis tools, fact sheets, and downloadable data into an easy-to-use, web-based educational and decision-support tool. EnviroAtlas helps users understand the connections between the benefits we derive from ecosystem services and the natural resources that provide them. For more information, please visit www.epa.gov/enviroatlas.