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Maintaining Ecosystem Goods and Services is a Major Consideration for a National Bioeconomy

The EnviroAtlas includes an interactive map that portrays ecological, demographical, and geophysical data according to seven benefit categories. Here we show the partially exploded view of data layers available under just one topic, Water:

- Clean and Plentiful Water
- Natural Water Management
- Climatic Stabilization
- Recreation: Culture, and Aesthetics
- Food, Fuel, and Materials
- Human Health
- Land and Materials

The EnviroAtlas contains hundreds of data layers that can be viewed at two scales: national and community. The national component of EnviroAtlas summarizes data for the 48 mainland states by using 12-digit hydrologic unit codes (HUC) of which there are about 90,000 in the United States. Each HUC covers about 40 square miles. Community data layers are summarized by census block group boundaries. In 2019, EnviroAtlas will feature data for more than 50,000 communities at a resolution of 1 m. The best way to appreciate the magnitude of information is to visit the website (www.epa.gov/enviroatlas) and take the tour!

Biodiversity Conservation

Food, Fuel, and Materials

Clean and Plentiful Water

Clean Air

Synthetic Fertilizer Use

Vulnerable Landscapes and Species

Optimizing Land Use: An expanded bioeconomy envisions a significant impact on America’s landscape with opportunities to improve ecological services while mitigating negative impacts of increased land use.

Development of non-food crops capable of thriving on marginal lands, requiring less input for production, while reducing nutrient run-off and soil erosion is an example.

The Raindrop tool (below) allows users to select a location on the map to locate the general raindrop flow path and distance to the nearest water feature using National Hydrography Dataset Plus V2 (NHDP+V2). The Elevation tool (to the right) allows users to see the elevation gradient between two points.

Future scenarios for land use and climate change can be overlaid for a range of co-benefits or unintended consequences, and environmental equity will be an important consideration.

Bibliography & Acknowledgments


EnviroAtlas is a collaborative project developed by the US EPA in cooperation with the US Geological Survey, the US Department of Agriculture’s Natural Resources Conservation Service, the US Forest Service, and LandscapeAmerica.

We gratefully acknowledge Laura Jackson, Anne Neale, and members of the EnviroAtlas Team for their input.