

EnviroAtlas

Connecting People, Health, Nature, and Economy



Brian R. Pickard
NRDAR Workshop
Phoenix, AZ

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What is EnviroAtlas?

An online decision support tool giving users ability to view, analyze, and download information related to ecosystem services (nature's benefits) for the US

- Geospatial indicators and indices of the supply, demand, and benefits/beneficiaries of ecosystem services
- Drivers of change
- Reference data (e.g., boundaries, land cover, soils, hydrography, impaired water bodies, wetlands, demographics, community design)
- Analytic and interpretive tools

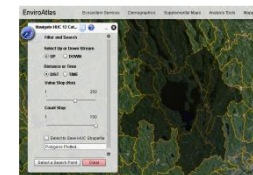
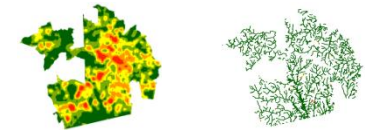
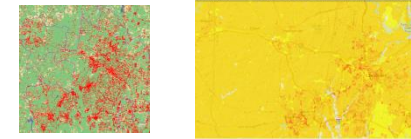


What are Target Outcomes of EnviroAtlas?

- 1) Boost “Environmental Intelligence”**
- 2) Increase Community Empowerment**
- 3) Improve Understanding of Public Health and Well-Being**
- 4) Jumpstart Innovation by Providing Data**

Types of Information in EnviroAtlas

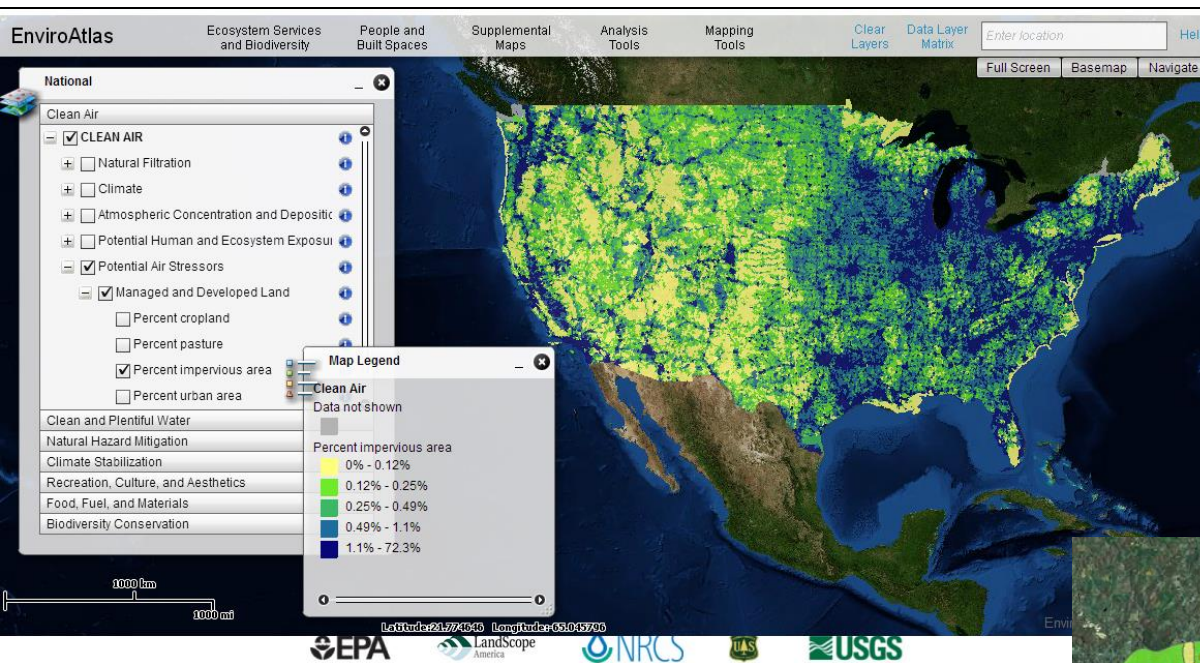
- Summary maps: census block-group / 12-digit HUC
- Pixel-level maps: 1m and 30m resolution
- “Heat” maps: landcover density and intensity
- Supplemental maps: road and stream networks, etc.
- Analysis tools
- Additional information/ references



What is General Status of EnviroAtlas?

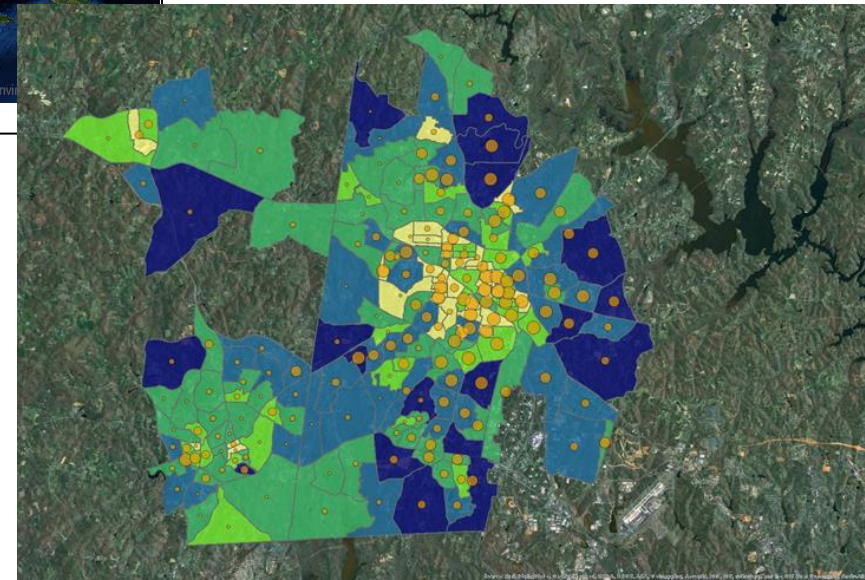
Number of Data Layers in Each Category	Clean Air	Clean & Plentiful Water	Natural Hazard Mitigation	Climate Stabilization	Recreation, Culture, & Aesthetics	Food, Fuel, & Materials	Biodiversity Conservation	Total
National	21	47	19	12	97	56	100	161
Community	31	39	30	19	37	2	26	94

The EnviroAtlas is multi-scaled



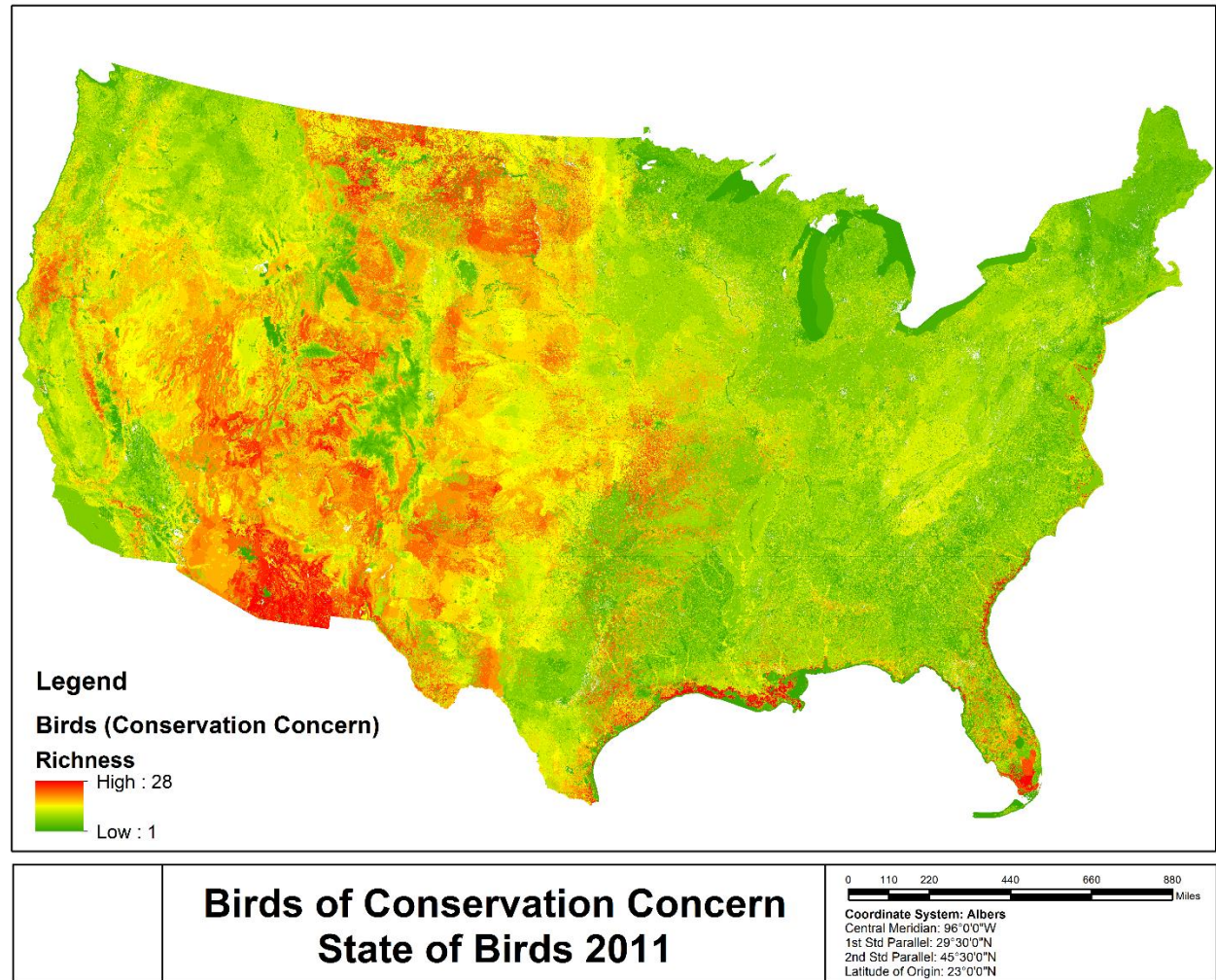
- National: Wall-to-wall coverage for coterminous US; summarized by drainage basins (12-digit HUCs)

- Community: High resolution component for 50 cities, summarized to US Census Blocks.



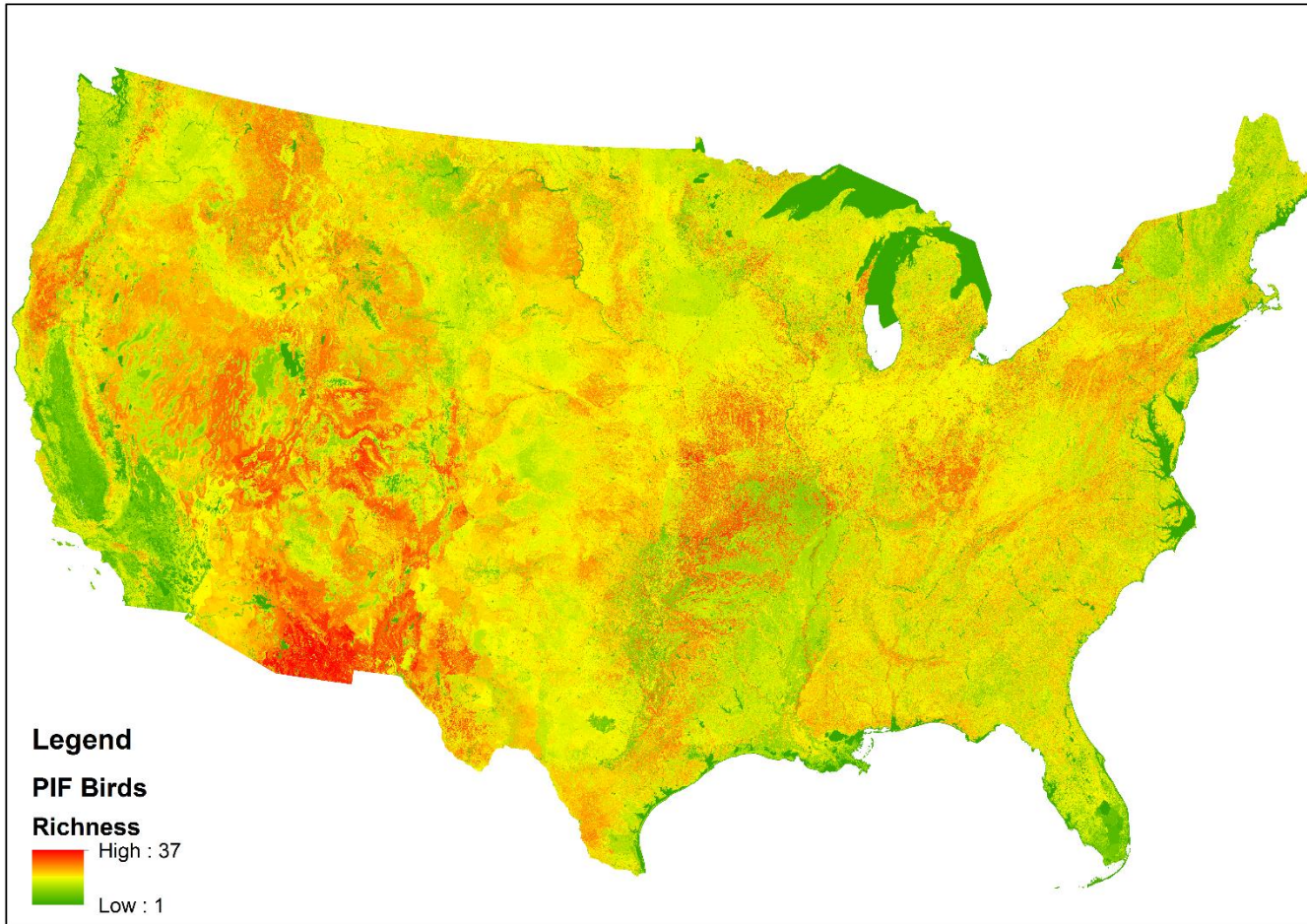
Example of Benefit Categories: Biodiversity Conservation

- USGS GAP individual species models
- Brainstorming-- USGS, FWS, & EPA
- Developed working indicators
- Multiple stakeholder workshops
- Series of maps for EnviroAtlas



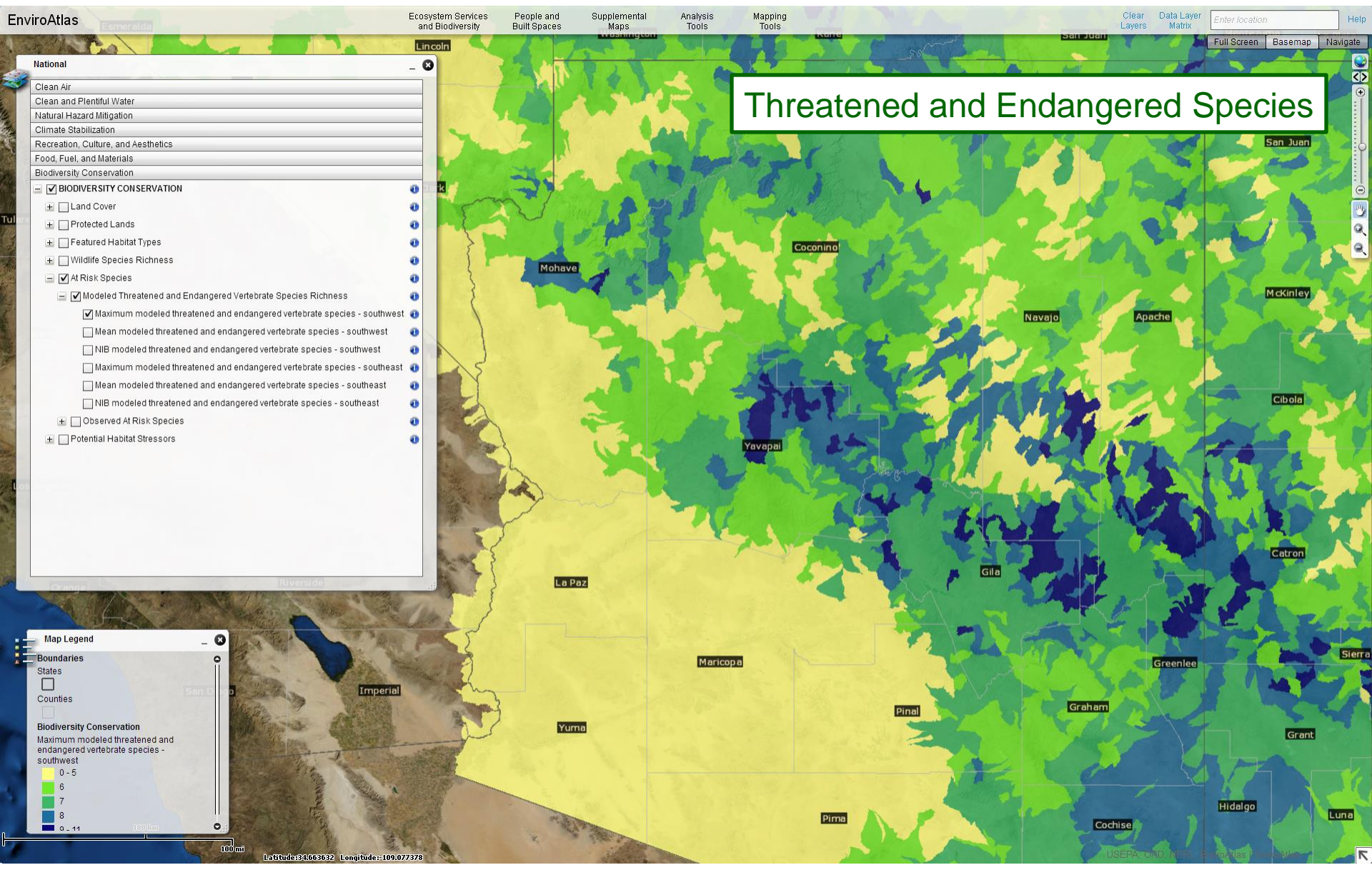
KEEPING COMMON SPECIES COMMON

Example Benefit Categories: Biodiversity Conservation



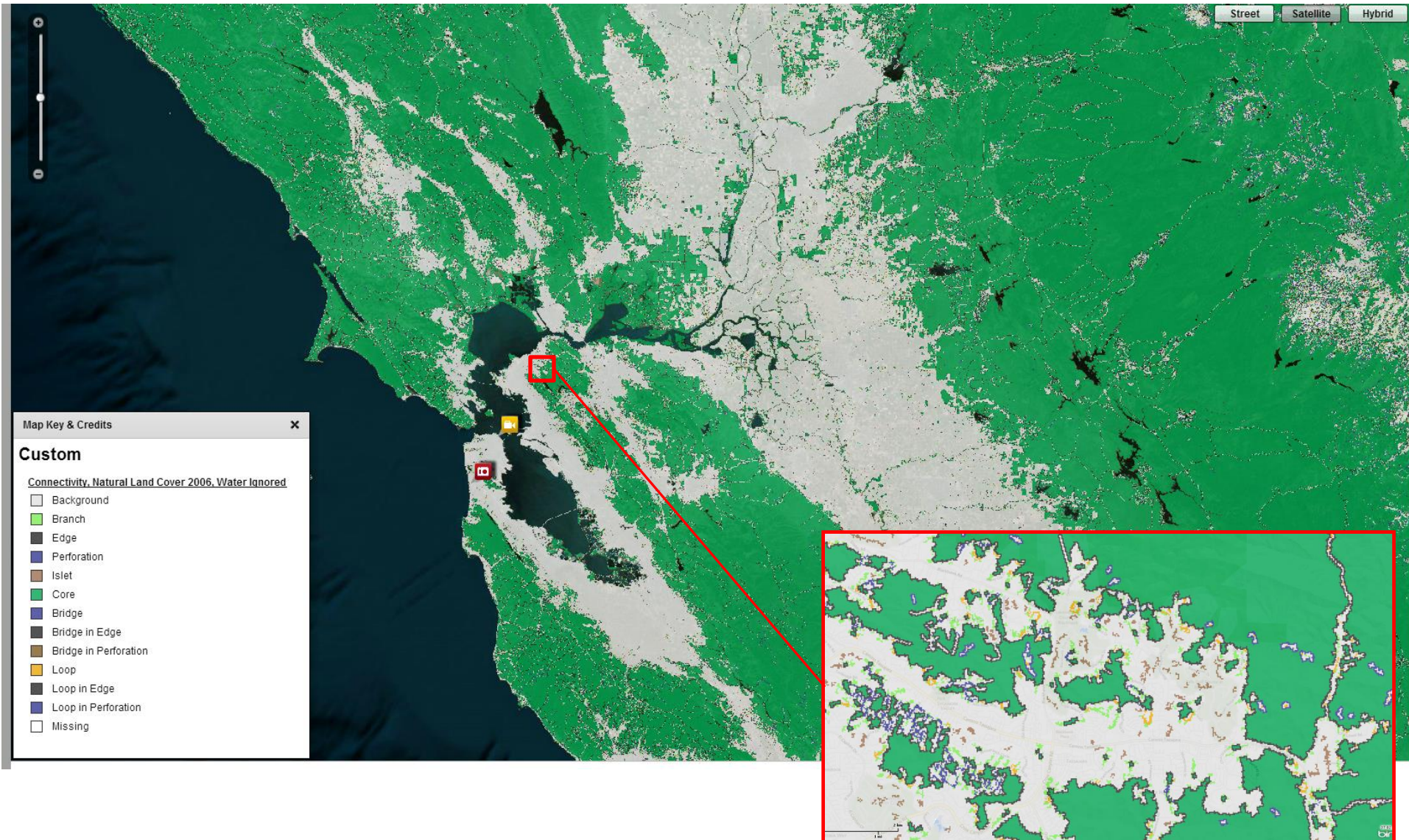
KEEPING COMMON SPECIES COMMON

Example Benefit Categories: Biodiversity Conservation

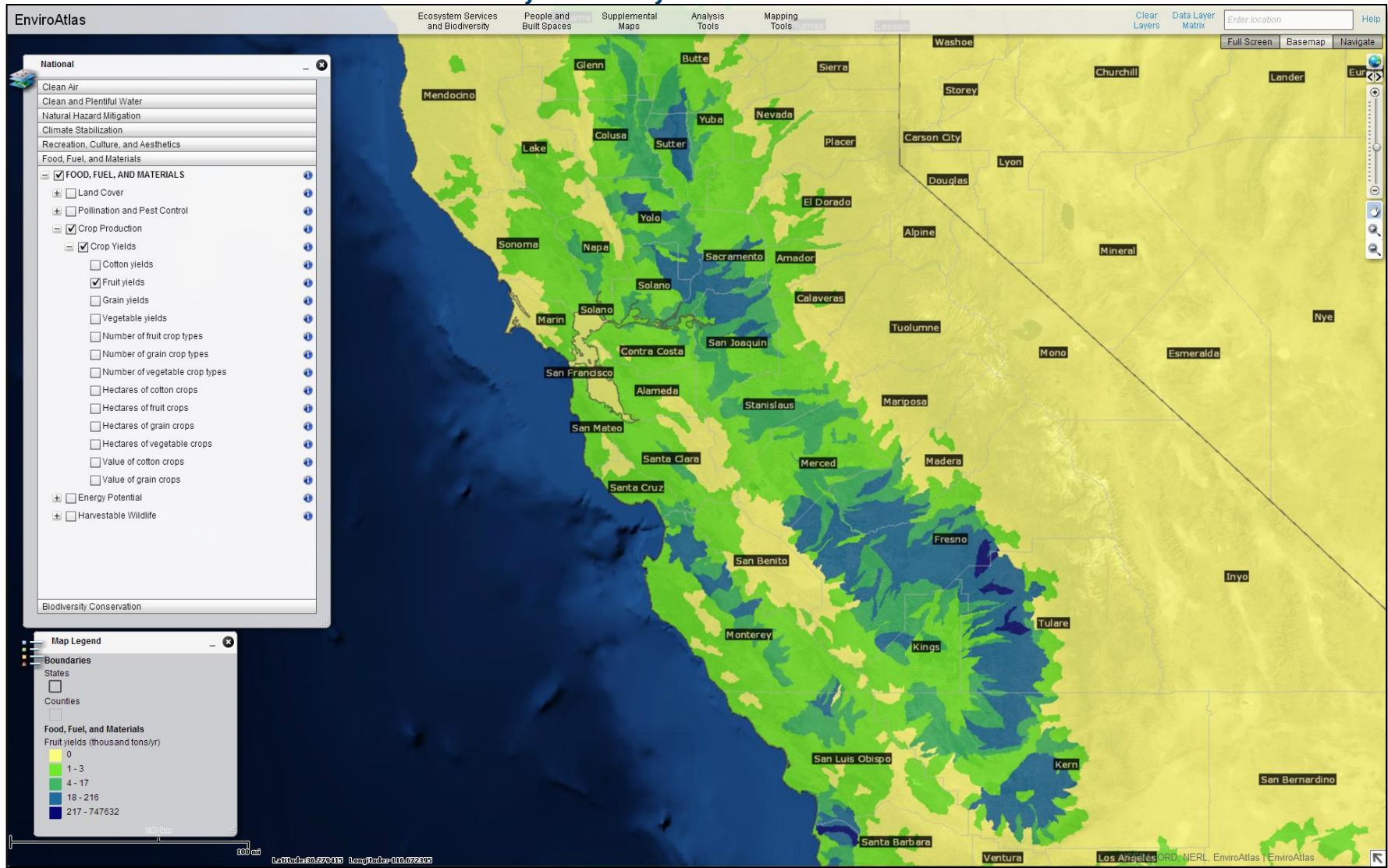


Example Benefit Categories: Biodiversity Conservation

Landscape fragmentation

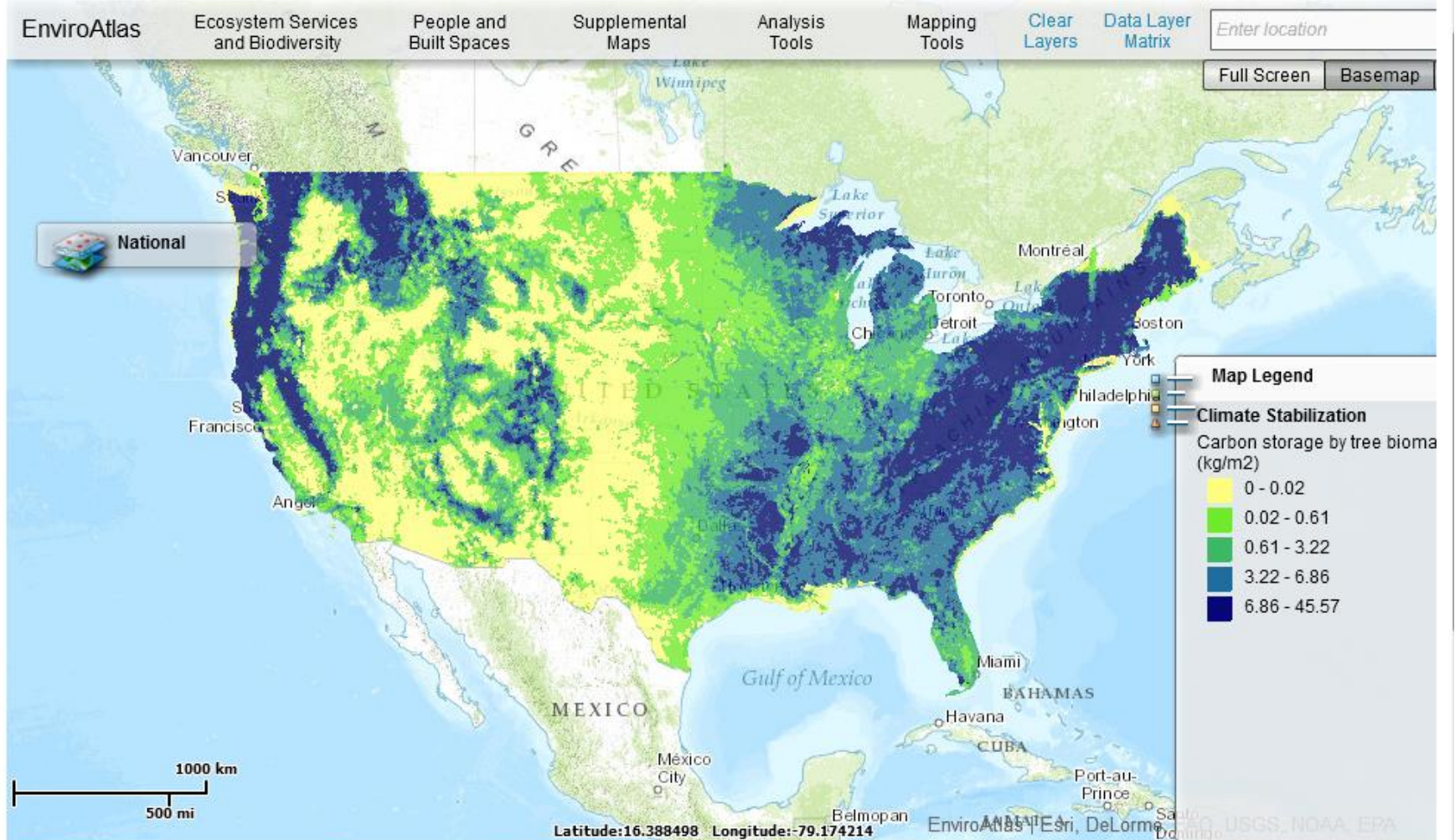


Example Benefit Categories: Food, Fuel, and Materials



KEEPING COMMON SPECIES COMMON

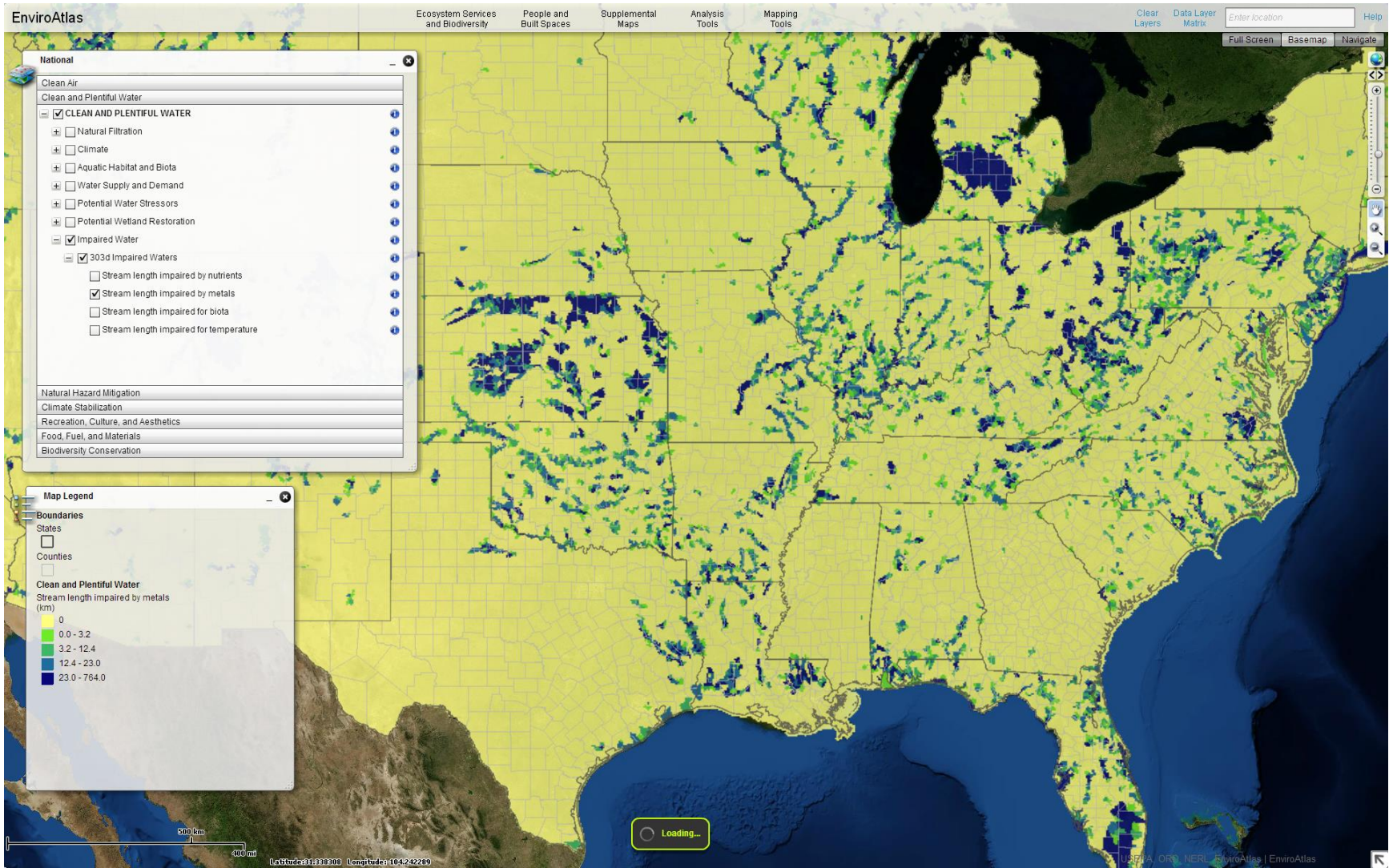
Example Benefit Category: Climate Stabilization



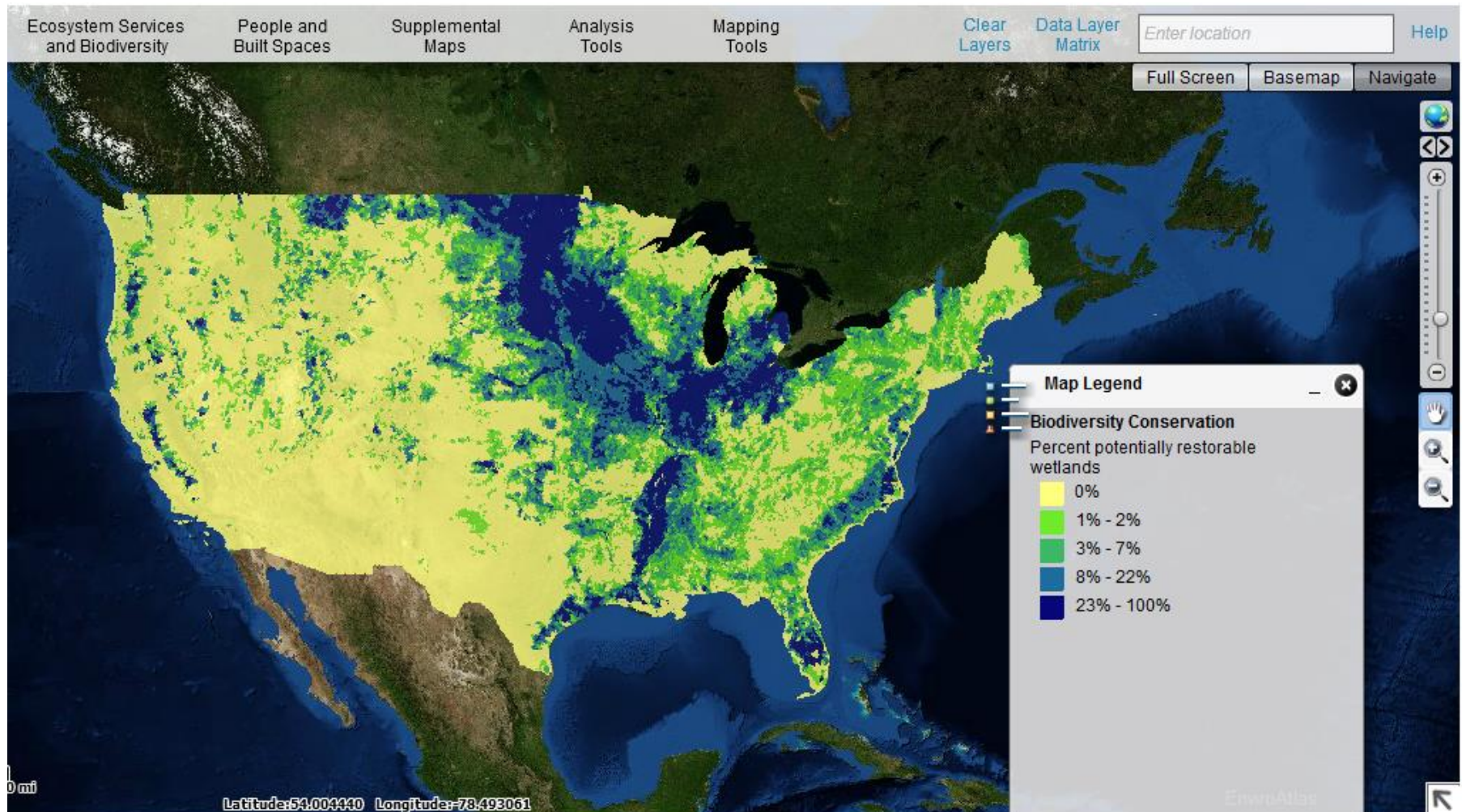
Based on National Biomass and Carbon Dataset 2001 – Woods Hole

Example Benefit Category – Clean Water

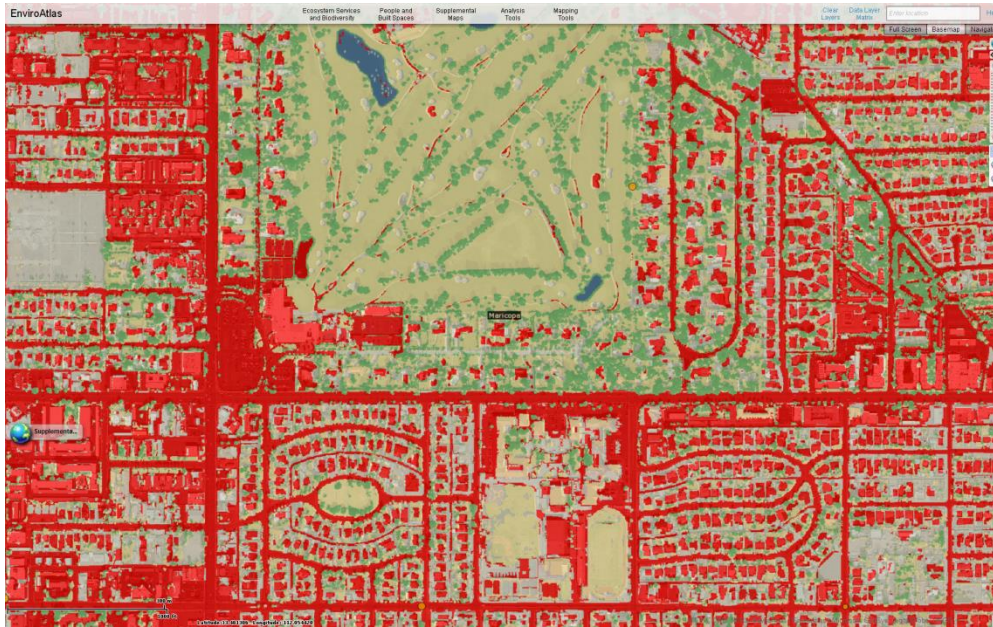
Stream length impaired by metals (from 303d list)



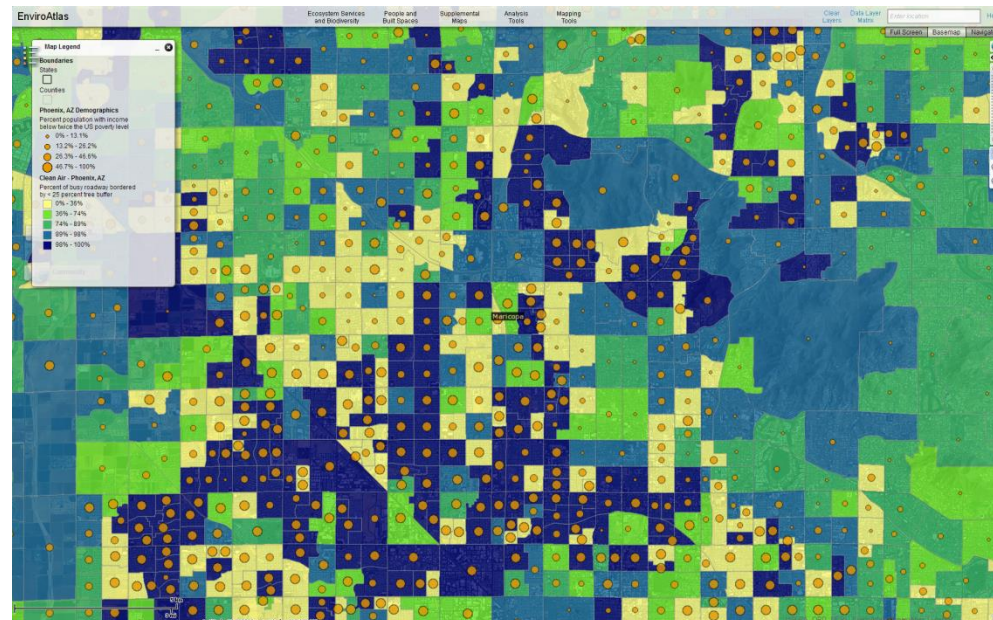
Example National Data Layer Percent Potentially Restorable Wetlands



Communities – Phoenix, NC



Begins with 1 meter land cover classification

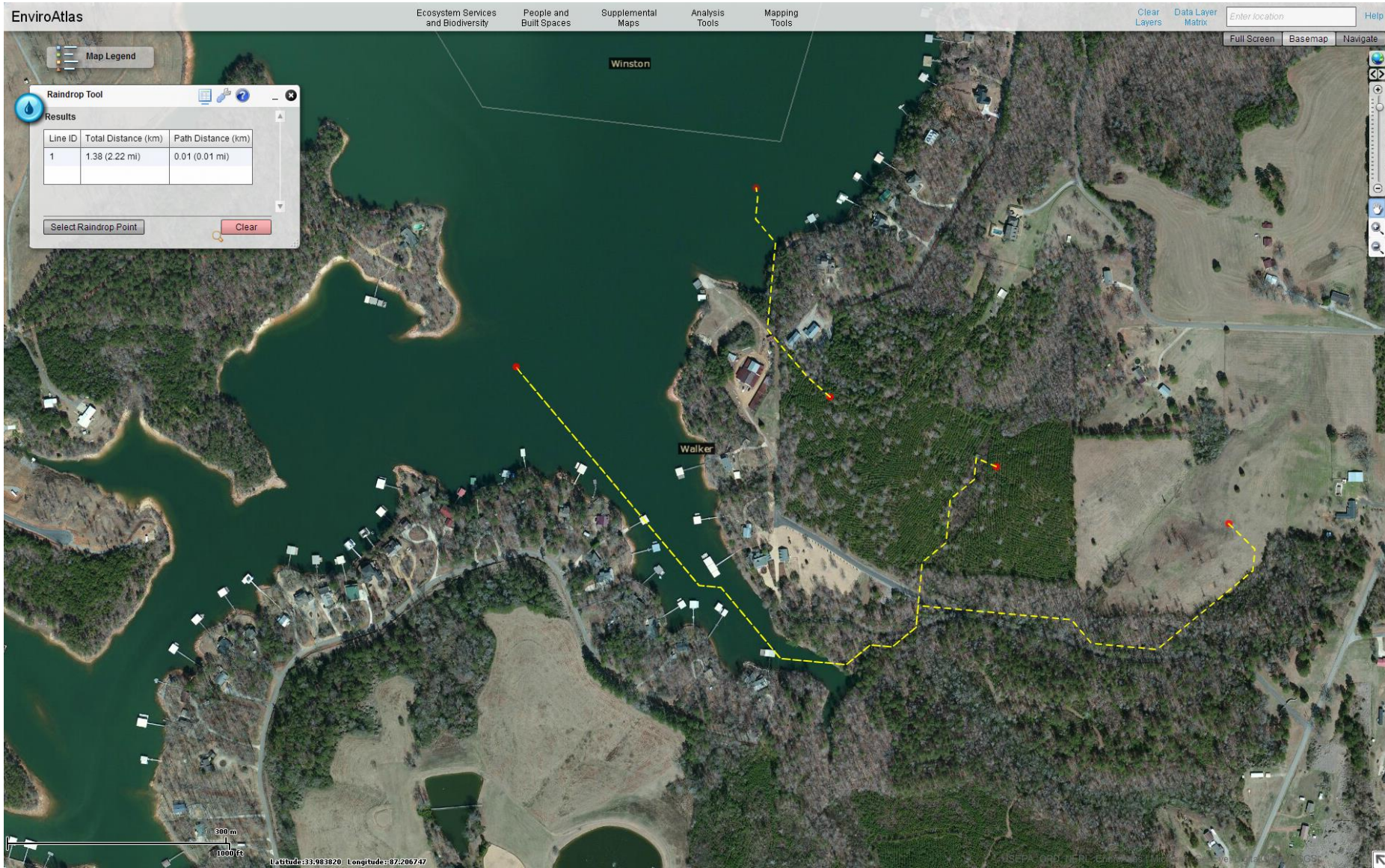


Allows for examination of ecosystem services and socio-economic data

We partner with USFS to evaluate tree cover within communities and the health related benefits.



Analytic tools within EnviroAtlas: Raindrop tool

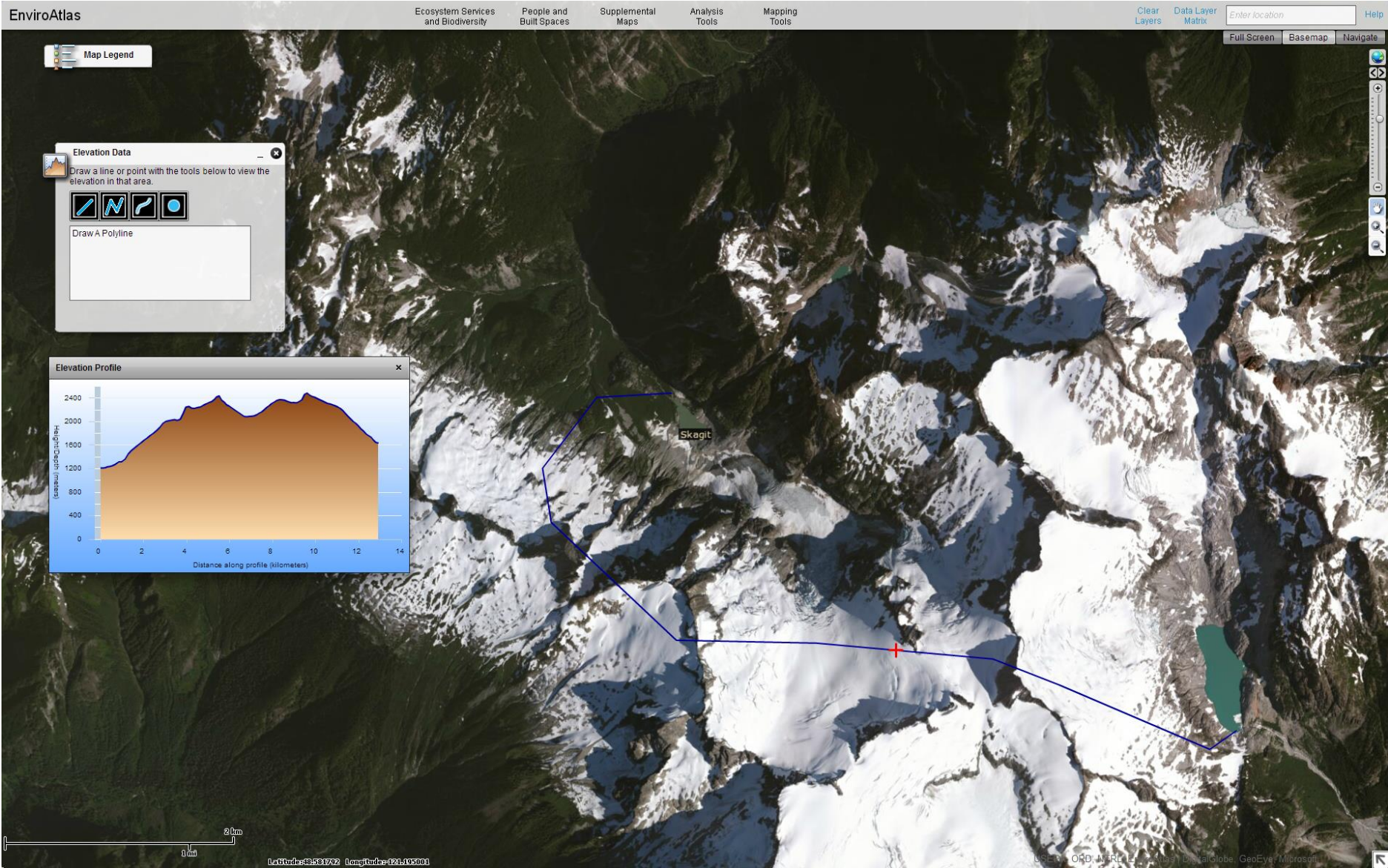


The screenshot displays the EnviroAtlas interface with the Raindrop Tool active. The map shows a watershed area with a yellow dashed line indicating the path of a raindrop. The results table in the top left corner provides the following data:

Line ID	Total Distance (km)	Path Distance (km)
1	1.38 (2.22 mi)	0.01 (0.01 mi)

The interface includes a navigation menu at the top with options: Ecosystem Services and Biodiversity, People and Built Spaces, Supplemental Maps, Analysis Tools, and Mapping Tools. A search bar at the top right contains the text "Enter location". The map shows a large body of water with several smaller ponds and a residential area with houses and trees. The labels "Winston" and "Walker" are visible on the map. A scale bar at the bottom left indicates 200 meters and 1000 feet. The coordinates at the bottom are Latitude: 33.983820 and Longitude: -87.206747.

Analytic tools within EnviroAtlas: Elevation Profiles



EnviroAtlas

Ecosystem Services and Biodiversity | People and Built Spaces | Supplemental Maps | Analysis Tools | Mapping Tools

Clear Layers | Data Layer Matrix | Enter location | Help

Full Screen | Basemap | Navigate

Map Legend

Elevation Data

Draw a line or point with the tools below to view the elevation in that area.

Draw A Polyline

Elevation Profile

2400
2000
1600
1200
800
400
0

0 2 4 6 8 10 12 14

Distance along profile (kilometers)

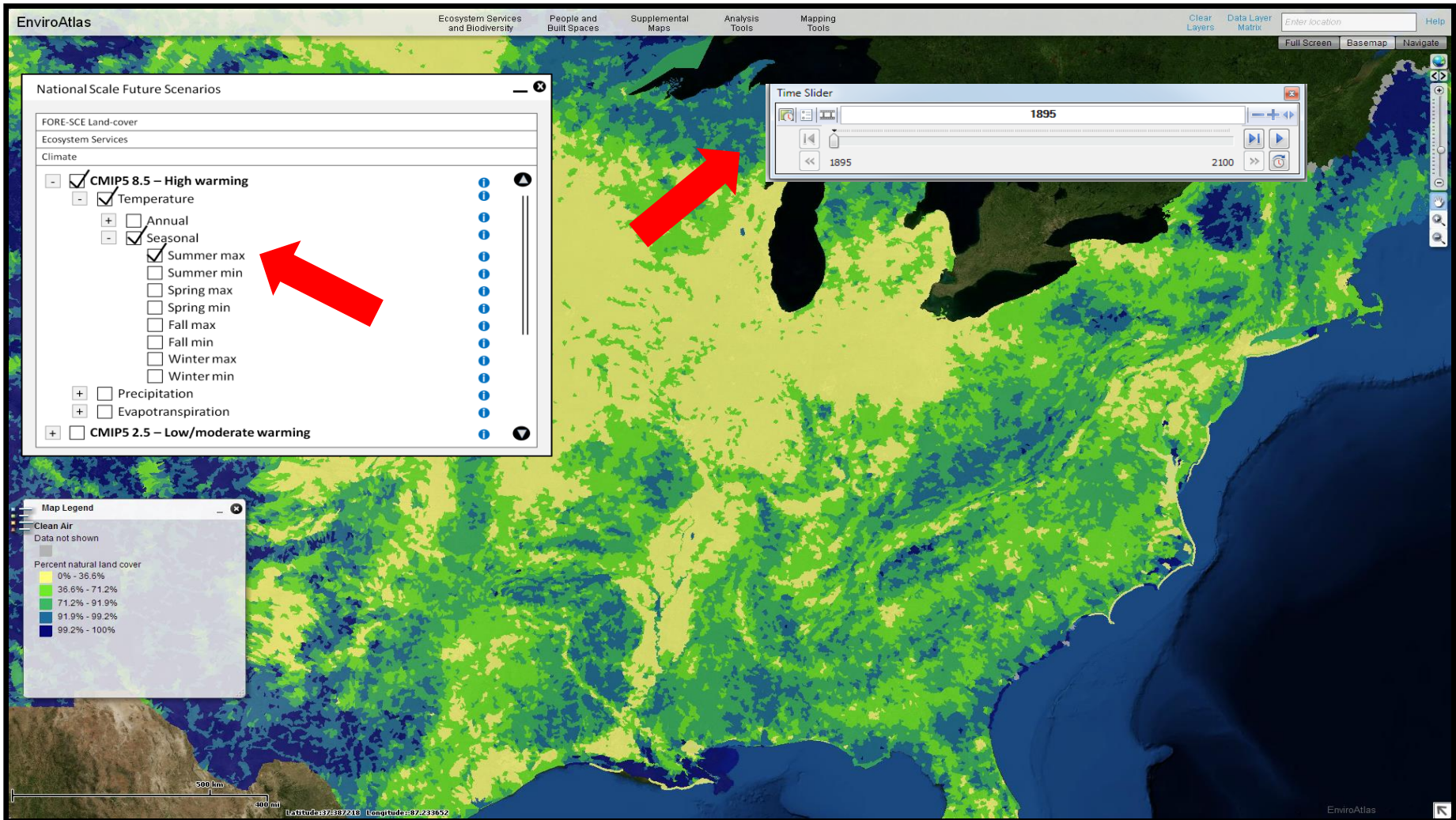
Skagit

0 km 2 km

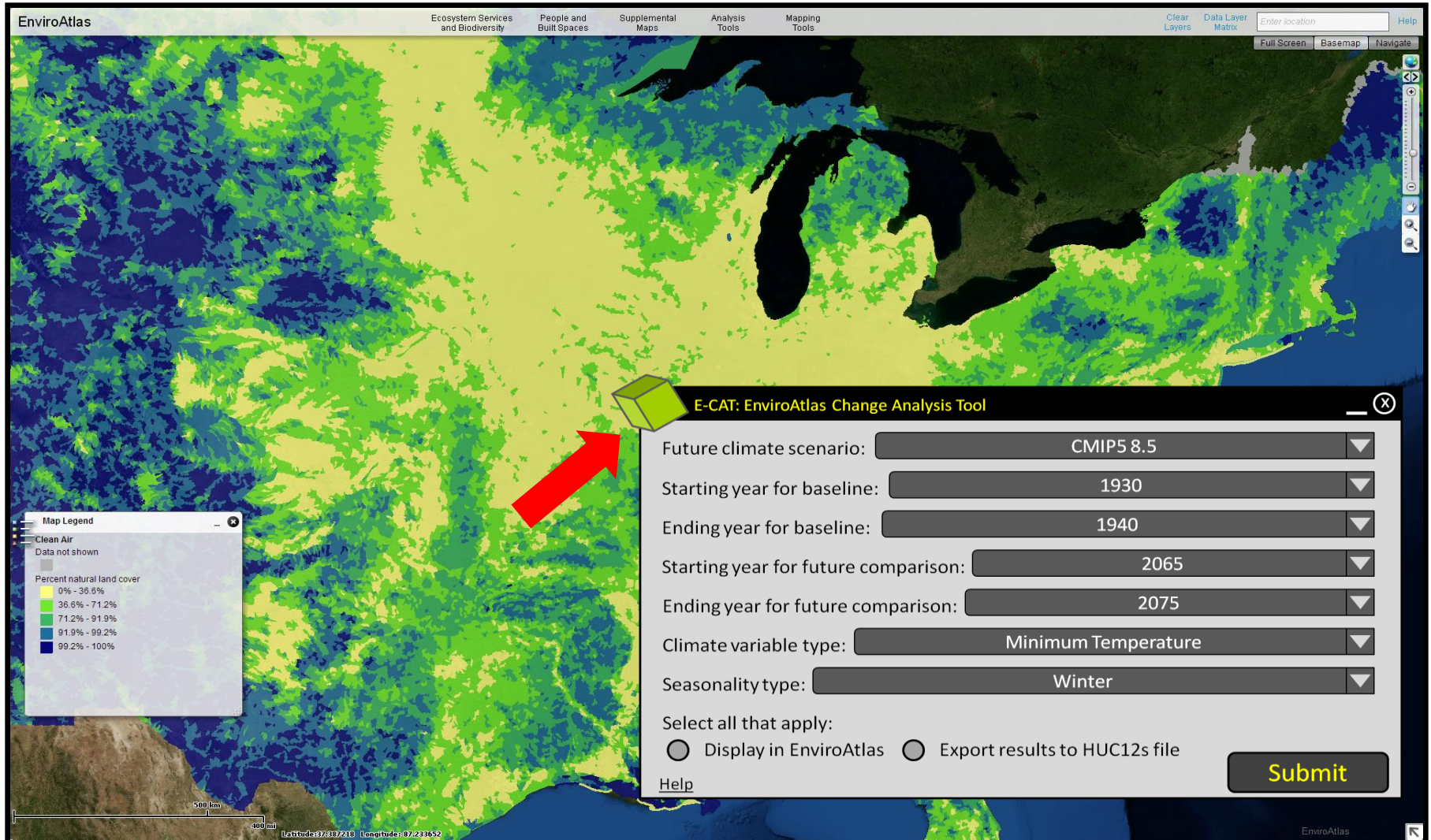
Latitude: 48.584792 Longitude: -121.495001

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Future Climate Scenarios



Climate change analysis tools:



EnviroAtlas Ecosystem Services and Biodiversity People and Built Spaces Supplemental Maps Analysis Tools Mapping Tools Clear Layers Data Layer Matrix Enter location Help Full Screen Basemap Navigats

Map Legend
Clean Air
Data not shown
Percent natural land cover
0% - 36.6%
36.6% - 71.2%
71.2% - 91.9%
91.9% - 99.2%
99.2% - 100%

E-CAT: EnviroAtlas Change Analysis Tool

Future climate scenario:

Starting year for baseline:

Ending year for baseline:

Starting year for future comparison:

Ending year for future comparison:

Climate variable type:

Seasonality type:

Select all that apply:
 Display in EnviroAtlas Export results to HUC12s file

[Help](#) **Submit**

500 km 100 mi
Latitude: 43.7337210 Longitude: -87.233652
EnviroAtlas

Many Opportunities to Collaborate with EnviroAtlas

Spatial Analysis Tools

Spatially explicit
indicators

Use of data and tools to
develop “Use Cases”

Interoperability with
other Tools

Non Spatial Tools

- Clean air
- Clean and plentiful water
- Biodiversity conservation
- Food and raw materials
- Natural hazard mitigation
- Climate stabilization
- Recreation, culture, and aesthetics
- Linkages between ecosystems and human health



EnviroAtlas
Spatially
Explicit
data &
Tools

Thank You



Brian Pickard
Pickard.BrianR@epa.gov

ENVIROATLAS available at:
<http://enviroatlas.epa.gov/EnviroAtlas/>