

# EnviroAtlas: Using Web Services



[www.epa.gov/enviroatlas](http://www.epa.gov/enviroatlas)

# Why are web services important?

1. All EnviroAtlas data layers are available as web services. This means that users can display EnviroAtlas maps in other online or desktop applications without having to download the data.
2. Users can bring known web services into the EnviroAtlas Interactive Map to display them with EnviroAtlas data layers.
3. Using web services, EnviroAtlas can display relevant maps from other data sources in its Interactive Map. This lets us bring in useful information such as EPA Impaired Waters data and

In this quick web services guide, we'll show you how to do items 1 and 2 above.

# EnviroAtlas web services can be accessed from the Interactive Map

## 1. How to use EnviroAtlas web services in other online applications

The screenshot displays the EnviroAtlas Interactive Map interface. On the left, the 'EnviroAtlas Data' sidebar lists various categories such as Carbon Storage, Ecosystem Markets, Energy Potential, and Engagement with Outdoors. The 'Engagement with Outdoors' section is expanded, showing layers like 'Big game hunting recreation demand (day trips per year)'. The main map area shows a geographic view of the Rocky Mountains region. On the right, the 'Layer List' panel is open, displaying a list of layers. A context menu is open for the 'Big game hunting recreation demand (day trips per year)' layer, with the 'Access Web Service' option highlighted by a green arrow.

1. Click on the three dots to the right of a layer name in the Layer List .
2. Select *Access Web Service*.

Layer: Big game hunting recreati... x +

enviroatlas.epa.gov/arcgis/rest/services/National/National2016\_master/MapServer/13

ArcGIS REST Services Directory [Login](#) | [Get Token](#)

[Home](#) > [services](#) > [National](#) > [National2016\\_master \(MapServer\)](#) > [Big game hunting recreation demand \(day trips per year\)](#) [Help](#) | [API Reference](#)

[JSON](#)

**Layer: Big game hunting recreation demand (day trips per year) (ID: 13)**

**Name:** Big game hunting recreation demand (day trips per year)

**Display Field:** HUC\_12

**Type:** Feature Layer

**Geometry Type:** esriGeometryPolygon

**Description:** <A href="https://edg.epa.gov/metadata/catalog/search/resource/details.page?uuid=%7Bed43f10b-cf7f-4e09-b54e-33b1e4517b6d%7D">Full Metadata</A> This map illustrates the number of day trips per year demanded for big game hunting by individuals over the age of 18 within each subwatershed (12-digit HUC) for 2010-2011.

**Definition Expression:** N/A

**Copyright Text:** EnviroAtlas

**Default Visibility:** false

**MaxRecordCount:** 1000

**Supported Query Formats:** JSON, AMF, geoJSON

**Min Scale:** 0

**Max Scale:** 0

**Supports Advanced Queries:** true

**Supports Statistics:** true

**Has Labels:** false

**Can Modify Layer:** true

**Can Scale Symbols:** false

EnviroAtlas web services are organized into multiple folders based on the data type and when they were created.

You can navigate back to the full map service to get grouped layers. It will show (Map Server) at the end.

National/National2016\_ x + v  
https://enviroatlas.epa.gov/arcgis/rest/services/National/National2016\_master/MapServer

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## National/National2016\_master (MapServer)

**View In:** [ArcGIS JavaScript](#) [ArcGIS Online map viewer](#) [Google Earth](#) [ArcMap](#) [ArcGIS Explorer](#)

**View Footprint In:** [ArcGIS Online map viewer](#)

**Service Description:** [Full Metadata](#) This EnviroAtlas web service supports research and online mapping activities related to EnviroAtlas (<https://www.epa.gov/enviroatlas>). This web service includes layers depicting EnviroAtlas national metrics mapped at the 12-digit HUC within the conterminous United States. EnviroAtlas allows the user to interact with a web-based, easy-to-use, mapping application to view and analyze multiple ecosystem services for the conterminous United States as well as detailed metrics for select communities. Additional descriptive information about each attribute in this web service can be found in its associated EnviroAtlas Fact Sheet (<https://www.epa.gov/enviroatlas/enviroatlas-fact-sheets>).

**Map Name:** EnviroAtlas Master Web Service for National

[Legend](#)

[All Layers and Tables](#)

[Dynamic Legend](#)

[Dynamic All Layers](#)

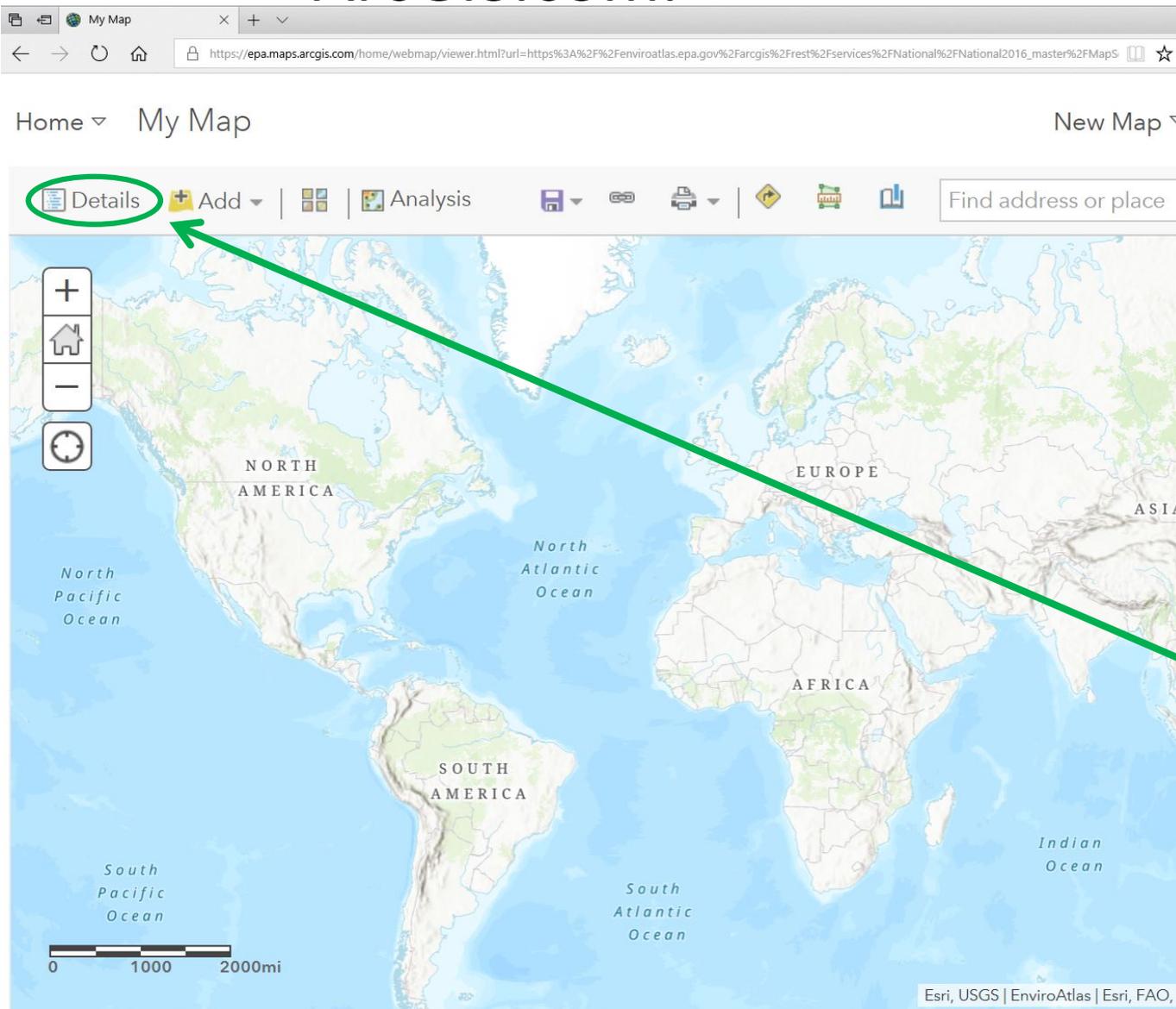
**Layers:**

- [Acres of land enrolled in CRP](#) (0)
- [Acres of pollinated crops with no nearby pollinator habitat](#) (1)
- [Agricultural water use \(million gallons/day\)](#) (2)
- [Annual oxidized nitrogen dry deposition \(kg/ha\)](#) (3)

**In this example, we'll start at the MapServer level. Select how you want to view the map service.**

Currently, EnviroAtlas web services work best in ArcGIS.com and desktop GIS.

# We will go through an example using ArcGIS.com.



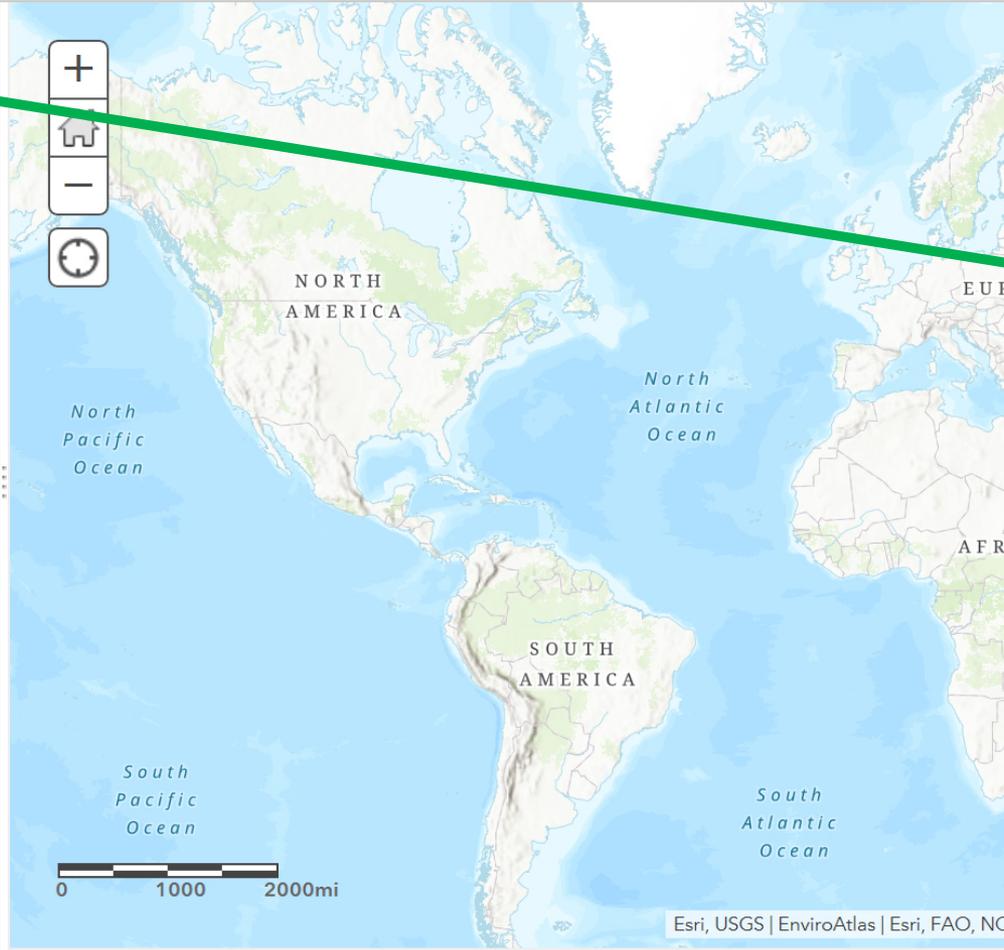
**When you first open the map service in ArcGIS.com, none of the layers are turned on.**

To turn on the layers, you need to open the map **Details**.

Show Contents of Map



- Contents
- National2016 master
    - Acres of land enrolled in CRP
    - Acres of pollinated crops with no nearby pollinator habitat
    - Agricultural water use (million gallons/day)
    - Annual oxidized
- [Trust Center](#) [Contact Esri](#)  
[Report Abuse](#) [Contact Us](#)



Once the map **Details** tab is open, click on **Show Contents of Map**.

My Map

https://epa.maps.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fenviroatlas.epa.gov%2Farcgis%2Frest%2Fservices%2FNational%2FNational2016\_master%2FMapServer&source=sd

Home ▾ My Map

Details Add ▾ Basemap Analysis Save Share Print ▾ Directions Measure Bookmarks

About Content Legend

Contents

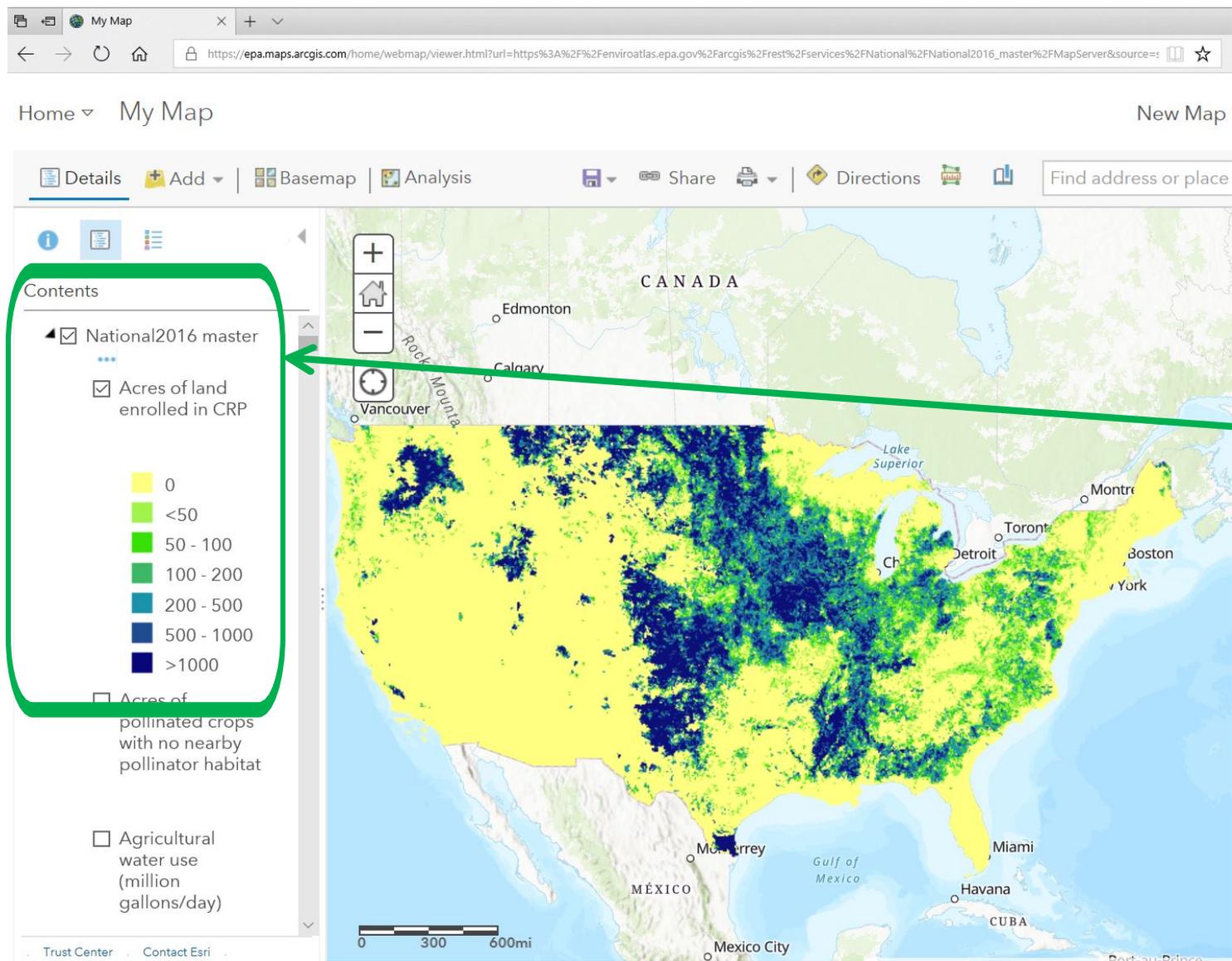
- National2016 master
- Acres of land enrolled in CRP
- Acres of pollinated crops with no nearby pollinator habitat
- Agricultural water use (million gallons/day)
- Annual oxidized nitrogen dry deposition (kg/ha)
- Annual oxidized nitrogen wet deposition (kg/ha)
- Annual reduced nitrogen dry deposition (kg/ha)
- Annual reduced nitrogen wet deposition (kg/ha)
- Annual sulfur dry deposition (kg/ha)
- Annual sulfur wet deposition (kg/ha)
- Area of solar energy (km<sup>2</sup>)
- Average annual daily potential solar energy (kWh/m<sup>2</sup>/day)
- Average annual daily potential wind energy

Map labels: NORTH AMERICA, SOUTH AMERICA, AFRICA, ASIA, ANTARCTICA, North Atlantic Ocean, South Atlantic Ocean, Indian Ocean, Southern Ocean.

Scale: 0 1000 2000mi

**Click on the name of the MapServer to expand the Table of Contents.**

As you can see, no layers are currently turned on.



**Select a layer to view.**

Make sure to check all the levels of the table of contents that lead to your layer. Otherwise, the layer cannot display.

Click the layer name to view the legend.

Select the "Add" button to view additional data with your current map.

As an example, lets add another map service to this map.

To do this, select **Add Layer from Web**.

Riparian (MapServer) x + v

https://www.fws.gov/wetlands/arcgis/rest/services/Riparian/MapServer

Home > services > **Riparian (MapServer)**

[JSON](#) | [SOAP](#) | [WMS](#)

## Riparian (MapServer)

**View In:** [ArcGIS JavaScript](#) [ArcGIS Online map viewer](#) [Google Earth](#) [ArcMap](#) [ArcGIS Explorer](#)

**View Footprint In:** [ArcGIS Online map viewer](#)

**Service Description:** This data set represents the extent, approximate location and type of riparian habitats in the areal extent of riparian habitats as defined by A System For Mapping Riparian Areas in the United States (USFW the National mapping program because of the limitations of aerial imagery as the primary data source used to complexity of the riparian data the riparian data only display at 1:250,000 scale and greater. For wetland inform

**Map Name:** Layers

[Legend](#)

[All Layers and Tables](#)

[Dynamic Legend](#)

[Dynamic All Layers](#)

**Layers:**

- [Riparian](#) (0)
- [Riparian Mapping Areas](#) (1)

**Description:** This data set represents the extent, approximate location and type of riparian habitats in the west of riparian habitats as defined by A System For Mapping Riparian Areas in the United States (USFWS 2009). Ce mapping program because of the limitations of aerial imagery as the primary data source used to detect riparia riparian data the riparian data only display at 1:250,000 scale and greater. For wetland information visit www.f

**Copyright Text:** U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands\_team@fws.g

**Spatial Reference:** 102100 (3857)

**Single Fused Map Cache:** false

**Initial Extent:**

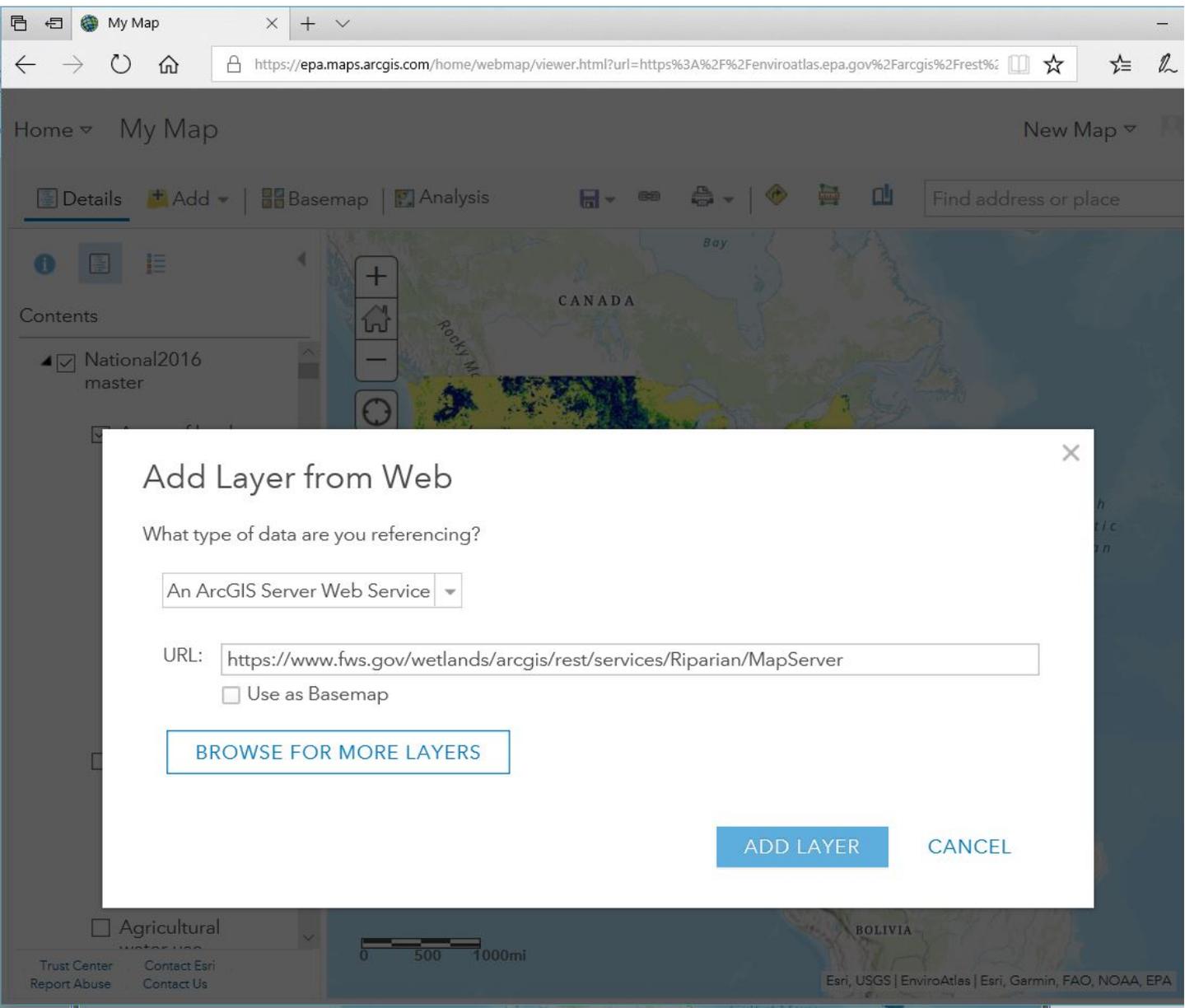
XMin: -145.4116661796265  
YMin: 35.16462115009984  
XMax: -46.27135381303533  
YMax: 57.313139652989676  
Spatial Reference: 102100 (3857)

**Full Extent:**

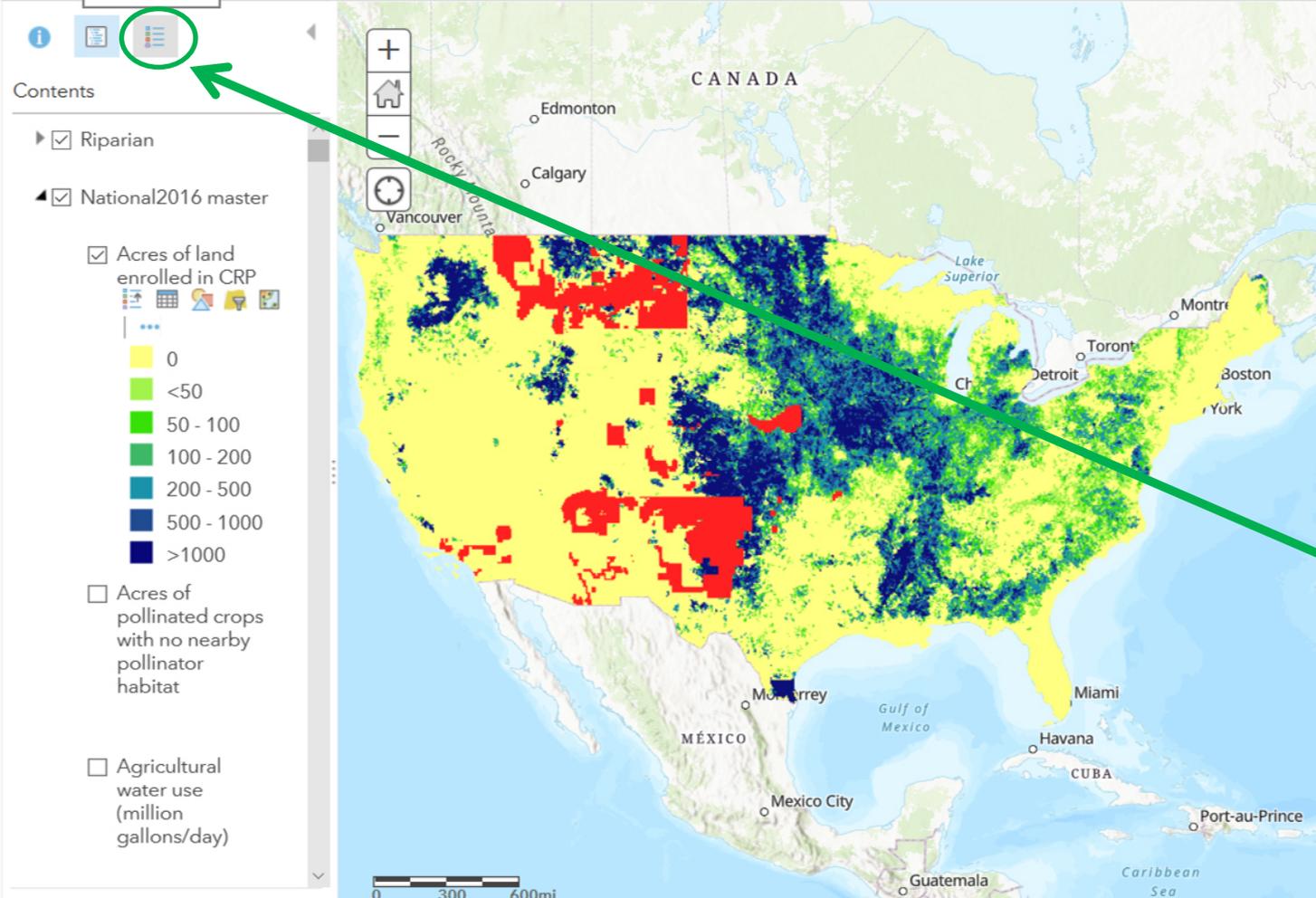
XMin: -1.3302787955400001E7  
YMin: 3675659.403499998  
XMax: -1.05058023078E7

For this example, we will use map services provided by the **U.S. Fish and Wildlife Service**

To add the Riparian layer to the EnviroAtlas map of Acres of land enrolled in CRP, **Copy the entire url address of the MapServer.**

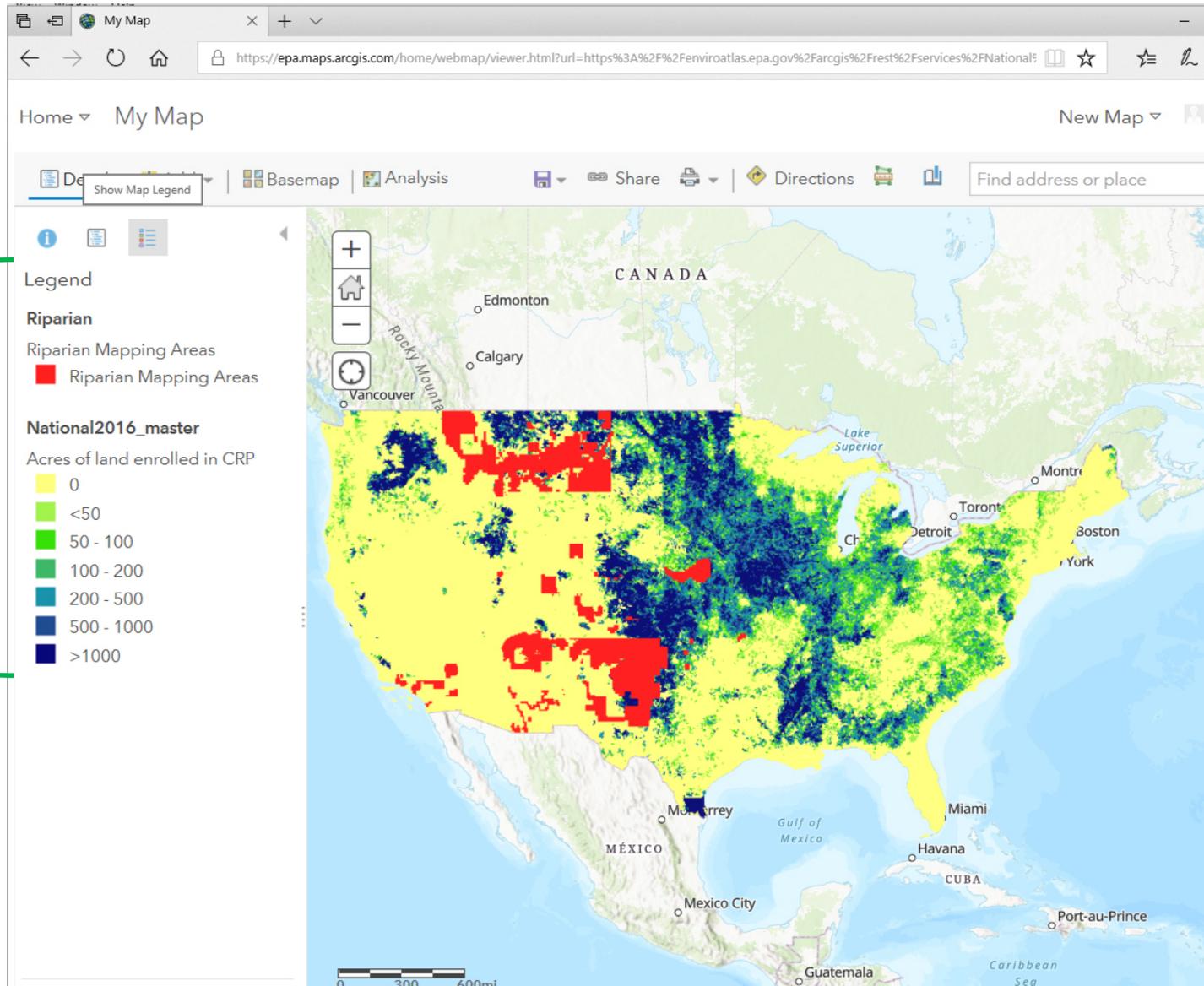


**Paste** the url for the Riparian MapServer into the "**Add Layer from Web**" box. Click **Add Layer**.



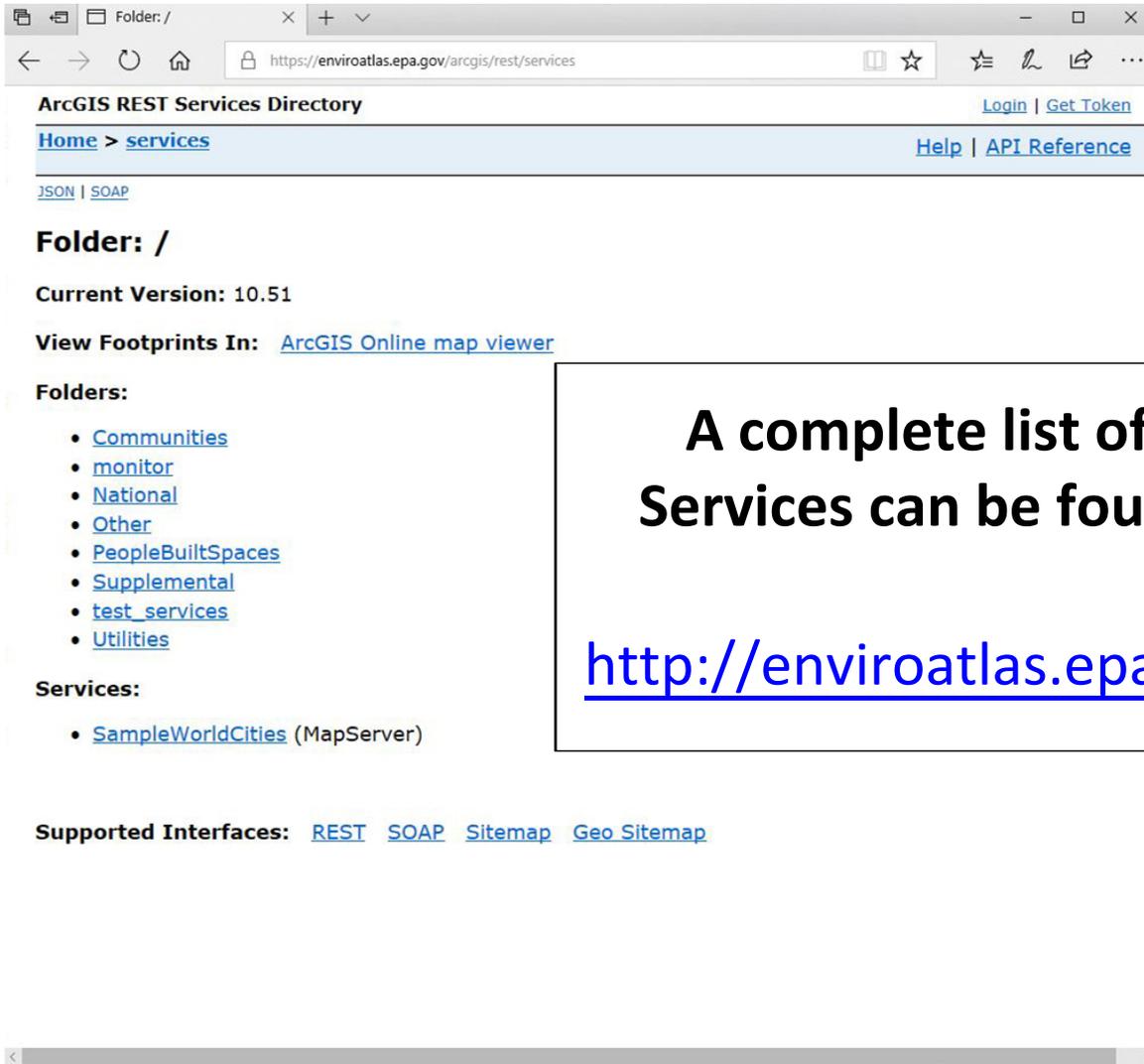
Once the layer has been added to the map, it will show up in the map table of contents.

To view the legend, click **Show Map Legend**.



The legend shows all the layers that are turned on from the various map servers.

For a desktop GIS, you would use a process similar to the one just shown.

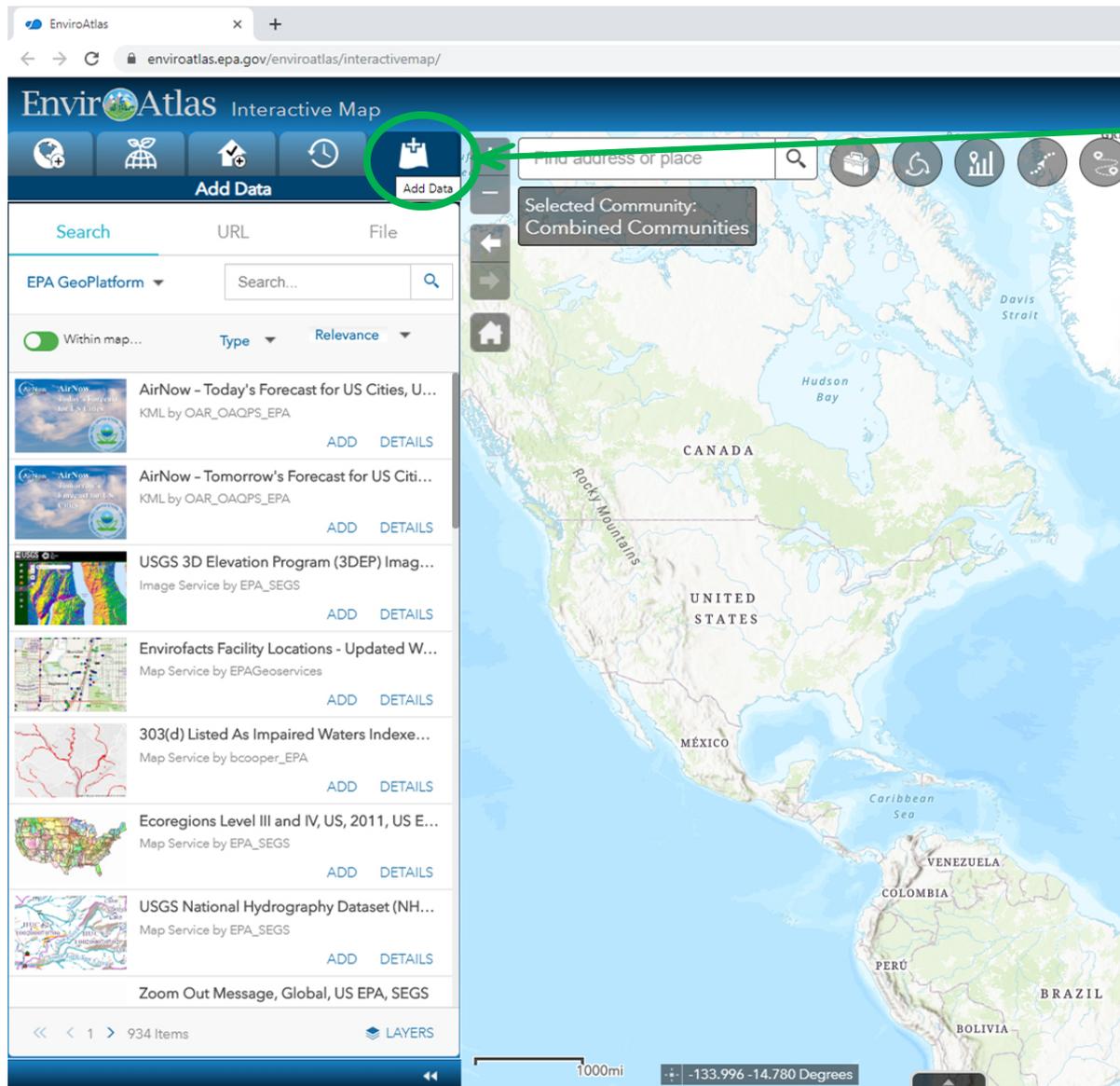


**A complete list of the EnviroAtlas Web Services can be found at the following url:**

<http://enviroatlas.epa.gov/arcgis/rest/services>

Next we'll show how EnviroAtlas users can bring in external web services and use their own data in the EnviroAtlas Interactive Map.

First, open the EnviroAtlas Interactive Map: <https://enviroatlas.epa.gov/enviroatlas/interactivemap/>



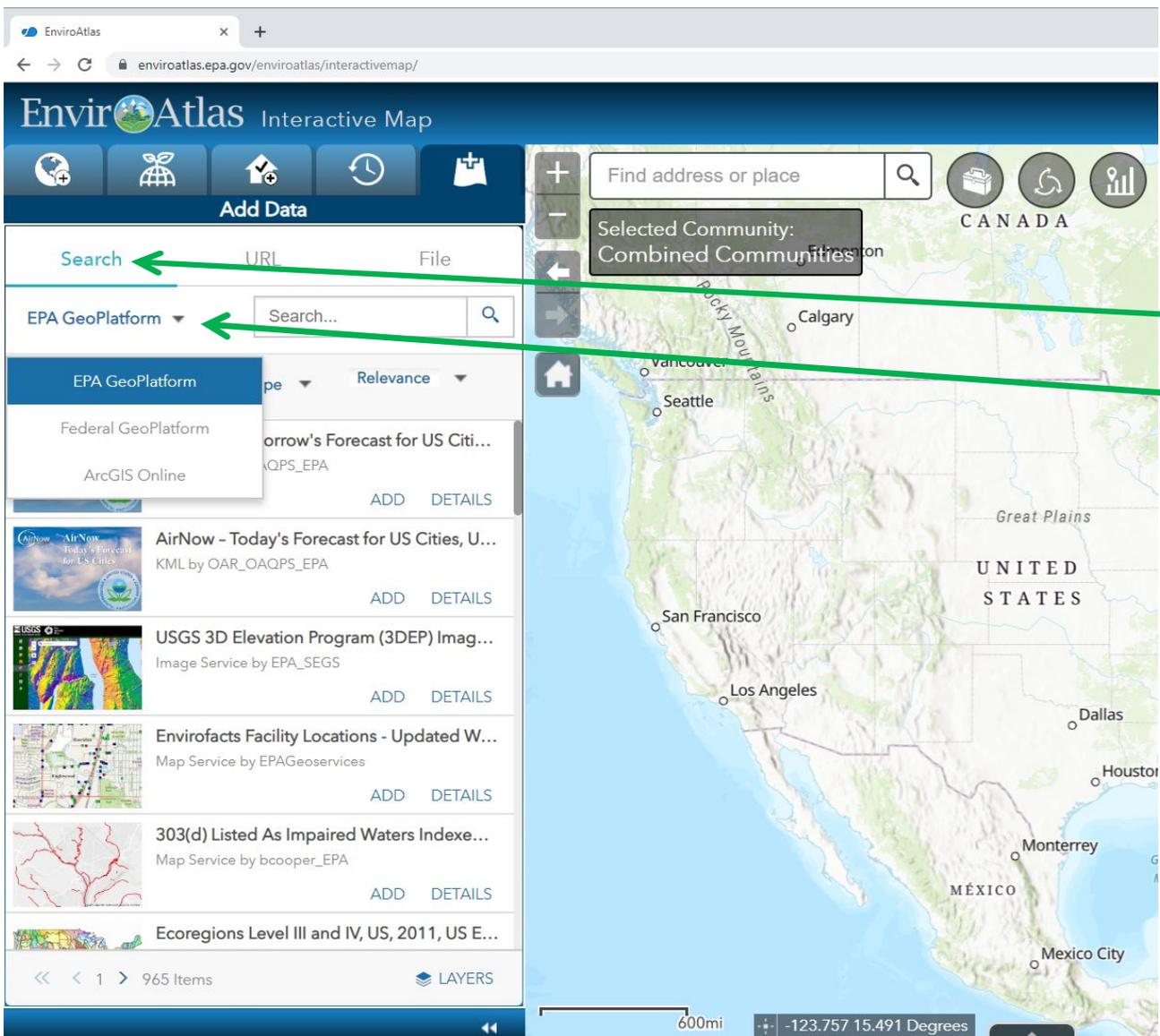
The **Add Data** function allows users to easily bring outside data into the EnviroAtlas mapping application.

Users can **search** for and **add** available web services, input a known **URL**, or **add** their own local data.

**Note: Data added to the Interactive Map are available only for that map session and are not saved in EnviroAtlas.**

# To search for data and add data to the map:

1. Click the **Search** link
2. Click the **arrow** next to **EPA GeoPlatform** and select from the drop-down menu which platform you want to search
  - a. **EPA Geoplatform** -Content provided by EPA
  - b. **Federal GeoPlatform** - Content from the Federal Government
  - c. **ArcGIS online** - Largest, most content options



EnviroAtlas Interactive Map

Find address or place

Selected Community: Ontario  
Combined Communities

Search

ArcGIS Online

airnow

EPA GeoPlatform

Federal GeoPlatform

ArcGIS Online

ArcGIS Online

AirNow Monitoring Site Data (Latest hour ...)

AirNow Monitoring Site Data (Latest hour ...)

AirNow AQI Contours (Last 24 hours - Oz...)

AirNow - Today's Forecast for US Cities, U...

AirNow - Tomorrow's Forecast for US Citi...

ADD DETAILS

ADD DETAILS

ADD DETAILS

ADD DETAILS

ADD DETAILS

40 Items

LAYERS

600mi

-126.921 20.422 Degrees

3. Type in your **search** term and hit enter or the spyglass (search) to explore available layers

4. Click **ADD** next to the layer you want to add to the map

*Note: It is up to the user to validate the credibility of data sources brought in from outside EnviroAtlas*

The screenshot shows the EnviroAtlas Interactive Map interface. The top navigation bar includes the EnviroAtlas logo, 'Interactive Map', and links for 'Contact Us' and 'Help'. Below the navigation bar is a toolbar with various icons for map interaction. A search bar is present with the text 'Find address or place' and a dropdown menu showing 'Selected Community: Combined Communities'. The main map area displays a map of the United States with numerous green and yellow circular markers representing AirNow monitoring sites. A list of layers is visible on the left side of the map, with a green arrow pointing to the 'REMOVE' button for one of the layers.

In this example, the added AirNow dataset can be seen on the map.

If you no longer need a map, use the **Remove** option.

**Adding web services from a URL (like the previous ArcGIS online example) and uploading your own local data are also available from the *Add Data* tab.**