



EnviroAtlas: Using Web Services

EnviroAtlas web services can be accessed from the Interactive Map

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The screenshot shows the EnviroAtlas web application interface. At the top, there are navigation tabs for 'Ecosystem Services' and 'Demographics'. Below the map area, there is a 'National' table of contents on the left and a 'Map Legend' on the right. The table of contents lists various categories, with 'Percent rare ecosystem protected' selected and highlighted in blue. A dropdown menu is open for this selected item, showing options: 'Map Description', 'Data Fact Sheet', 'Access Web Service', 'Full Metadata', 'Open Map Legend', and 'Transparency'. A green arrow points from the text 'Access Web Service' in the dropdown menu to the corresponding step in the instructions on the right.

EnviroAtlas

Ecosystem Services Demographics

National

- Clean Air
- Clean and Plentiful Water
- Natural Hazard Mitigation
- Climate Stabilization
- Recreation, Culture, and Aesthetics
 - Protected Lands
 - Featured Habitat Types
 - Rare Ecosystems
 - Percent rare ecosystem
 - Percent rare ecosystem protected
 - Hubs and Corridors
 - Aquatic Habitats
 - Food, Fuel, and Materials
 - Biodiversity Conservation

Map Legend

Recreation, Culture, and Aesthetics

Percent rare ecosystem protected

- 0.00% - 2.96%
- 2.97% - 9.85%
- 9.86% - 18.02%
- 18.03% - 27.36%
- 27.37% - 38.00%
- 38.01% - 48.83%
- 48.84% - 61.73%
- 61.74% - 77.16%
- 77.17% - 92.17%
- 92.18% - 100.00%

Map Description

Data Fact Sheet

Access Web Service

Full Metadata

Open Map Legend

Transparency

1. Click on the info  button in the table of contents.
2. Select *Access Web Service*.

Layer: Percent rare ecosystem protected (ID: 75)

Parent Layer: [Rare Ecosystems](#)

Sub Layers:

- [Percent rare ecosystem protected](#)

Display Field:

Type: Group Layer

Geometry Type:

Description: [Full Metadata](#) This map estimates the percent of land within e protected and could be classified as rare ecosystem. Ecosystem rarity in En ecosystem.

Definition Expression:

Copyright Text: EnviroAtlas

Min. Scale: 0

Max. Scale: 0

Default Visibility: False

Extent:

XMin: -19951722.807
YMin: 1999400.4632
XMax: 20021529.1118
YMax: 11554249.7221
Spatial Reference: 102100 (3857)

Has Attachments: False

HTML Popup Type: esriServerHTMLPopupTypeNone

Fields:

EnviroAtlas organizes Web Services with related layers grouped together.

This organizational structure matches the interactive map table of contents and benefit categories.

If you selected an individual layer's web service, you will need to navigate up to get the full map service. It will show (MapServer) after its title.

ArcGIS Services Directory

EnviroAtlas/ESN_RecreationCultureAesthetics (MapServer)

View In: [ArcMap](#) [ArcGIS Explorer](#) [ArcGIS JavaScript](#) [Google Earth](#) [ArcGIS.com Map](#)

View Footprint In: [Google Earth](#)

Service Description: [Full Metadata](#) This EnviroAtlas web service supports research and online mapping activities related to EnviroAtlas (<http://EnviroAtlas.epa.gov>). The Recreation, Culture, and Aesthetics category in this web service includes layers illustrating the ecosystems and natural resources that provide inherent cultural and aesthetic value of recreation opportunity, the need or demand for these amenities, the impacts associated with their presence and accessibility, and factors that place stress on the natural environment's capability to provide these benefits. 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. Additional descriptive information about each attribute in this web service is located within each web service layer (see Full Metadata hyperlink) or can be found in its associated EnviroAtlas Fact Sheet (<http://EnviroAtlas.epa.gov/Data/factSheets>).

Map Name: RECREATION, CULTURE, AND AESTHETICS

[Legend](#)

[All Layers and Tables](#)

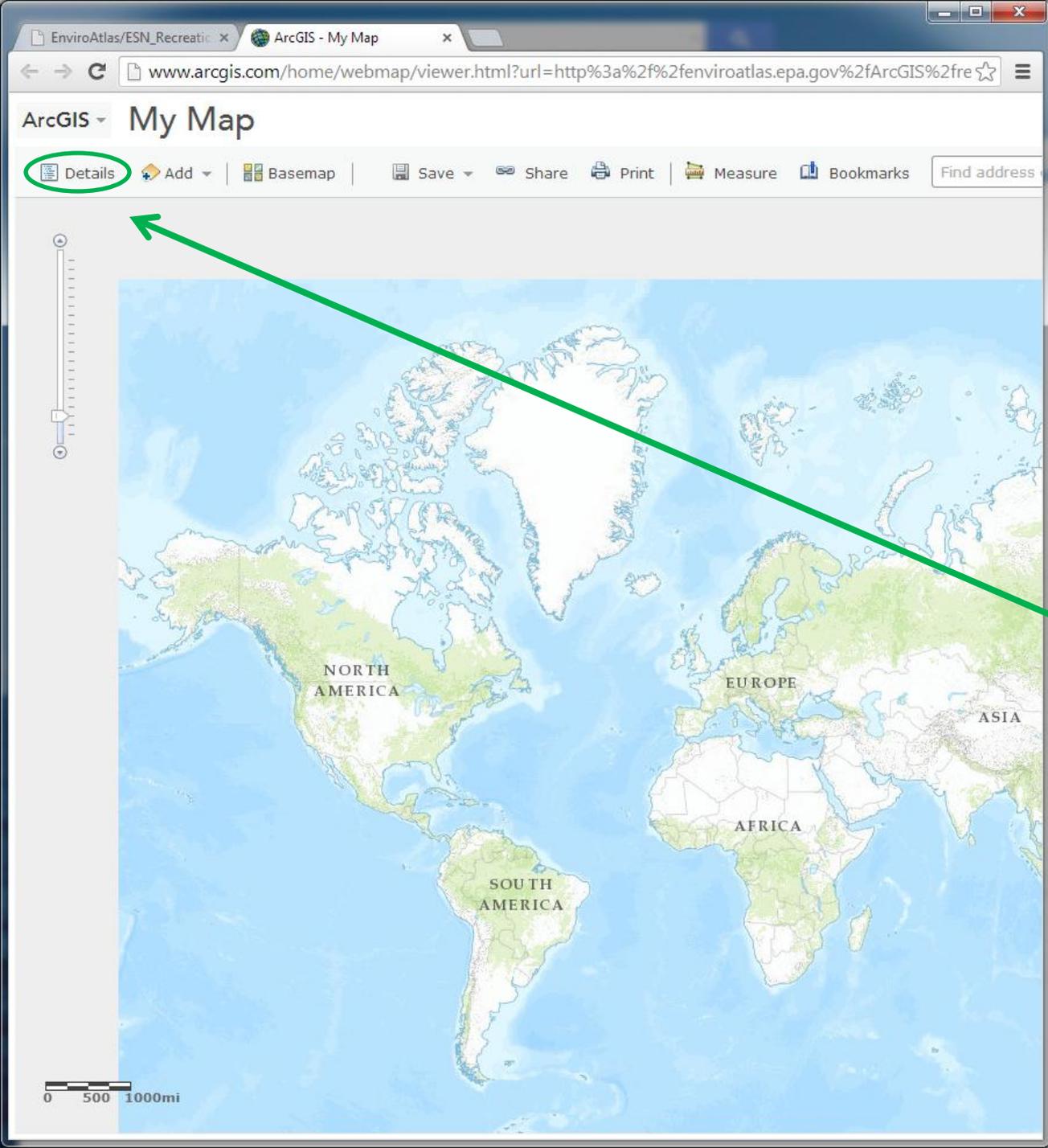
Layers:

- [Land Cover](#) (0)
 - [Vegetated](#) (1)
 - [Percent natural land cover](#) (2)
 - [Land cover dataset overlap less than 66% of WBD area](#) (3)
 - [Percent natural land cover](#) (4)
 - [Percent forest](#) (5)
 - [Land cover dataset overlap less than 66% of WBD area](#) (6)
 - [Percent forest](#) (7)
 - [Percent forest and woody wetlands](#) (8)
 - [Land cover dataset overlap less than 66% of WBD area](#) (9)
 - [Percent forest and woody wetlands](#) (10)
 - [Percent wetlands](#) (11)
 - [Land cover dataset overlap less than 66% of WBD area](#) (12)
 - [Percent wetlands](#) (13)
 - [Percent emergent herbaceous wetlands](#) (14)
 - [Land cover dataset overlap less than 66% of WBD area](#) (15)
 - [Percent emergent herbaceous wetlands](#) (16)
 - [Managed and Developed](#) (17)
 - [Percent cropland](#) (18)
 - [Land cover dataset overlap less than 66% of WBD area](#) (19)
 - [Percent cropland](#) (20)

Once at the MapServer you can select how you want to view the map service.

Currently, EnviroAtlas web services work best in ArcGIS.com and desktop GIS. We are working to improve the display in Google Earth and ArcGIS JavaScript.

To acquaint you with web services published by EnviroAtlas, 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.

Make Show Contents of Map

It's easy to make your own map. Just follow these steps:

- 1. Choose an area.**
Pan and zoom the map to an area or search by its name or address.
- 2. Decide what to show.**
Choose a Basemap then Add layers on top of it.
- 3. Add more to your map.**
Add map notes to draw features on the map.
Display descriptive text, images, and charts for map features in a pop-up.
- 4. Save and share your map.**
Give your map a name and description then share it with other people.



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

EnviroAtlas/ESN_Recreatic... x ArcGIS - My Map x

www.arcgis.com/home/webmap/viewer.html?url=http%3a%2f%2fenviroatlas.epa.gov%2fArcGIS%2fr...

ArcGIS My Map

Details Add Basemap Save Share Print Measure Bookmarks Find address

Contents

- ESN
 - RecreationCultureAesthetics
 - Land Cover
 - Climate
 - Protected Lands
 - Featured Habitat Types
 - Culturally Important Species
 - Harvestable Species
 - Priority Species
 - Human and Ecosystem Exposures
 - Topographic

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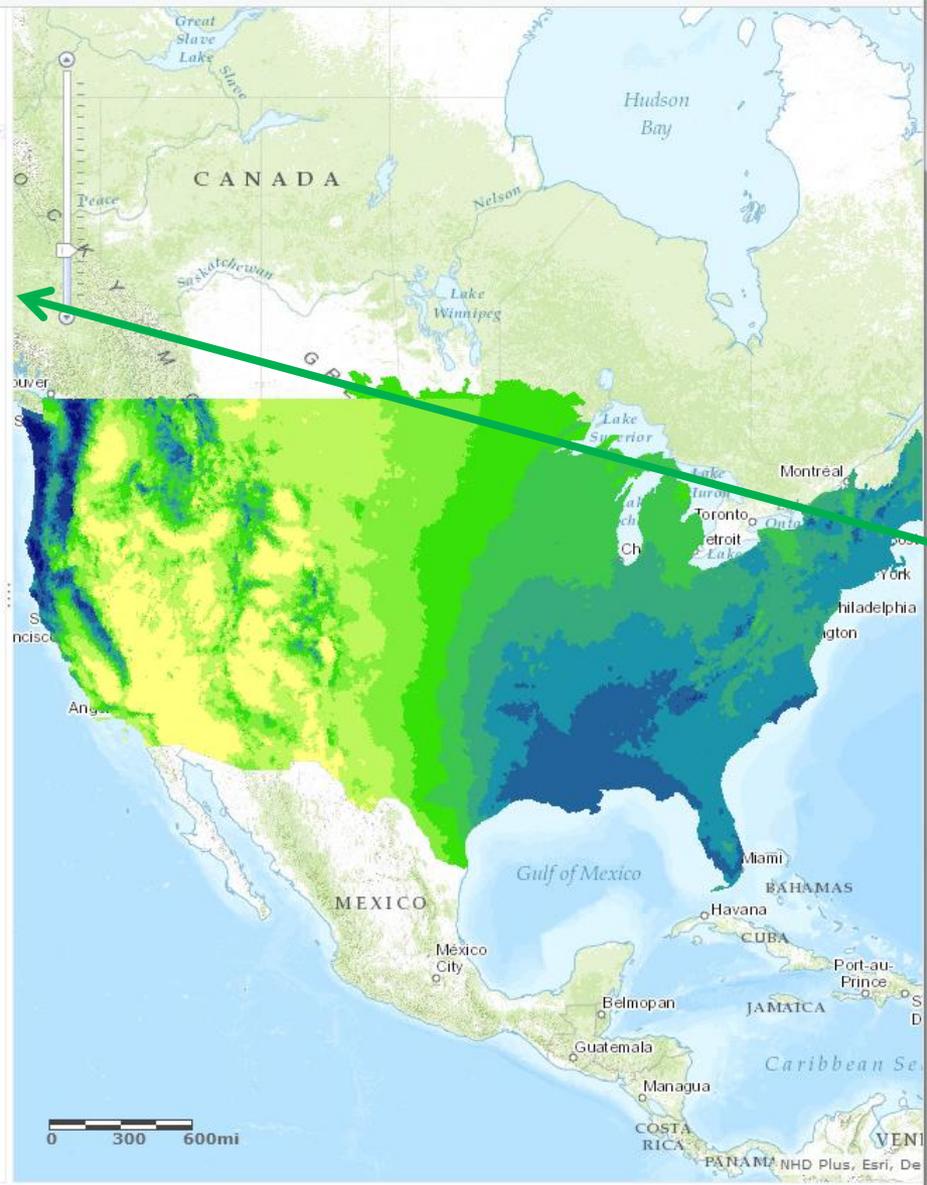
Click on the name of the MapServer to expand the Table of Contents.

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

ArcGIS My Map

Details Add Basemap Save Share Print Measure Bookmarks Find address

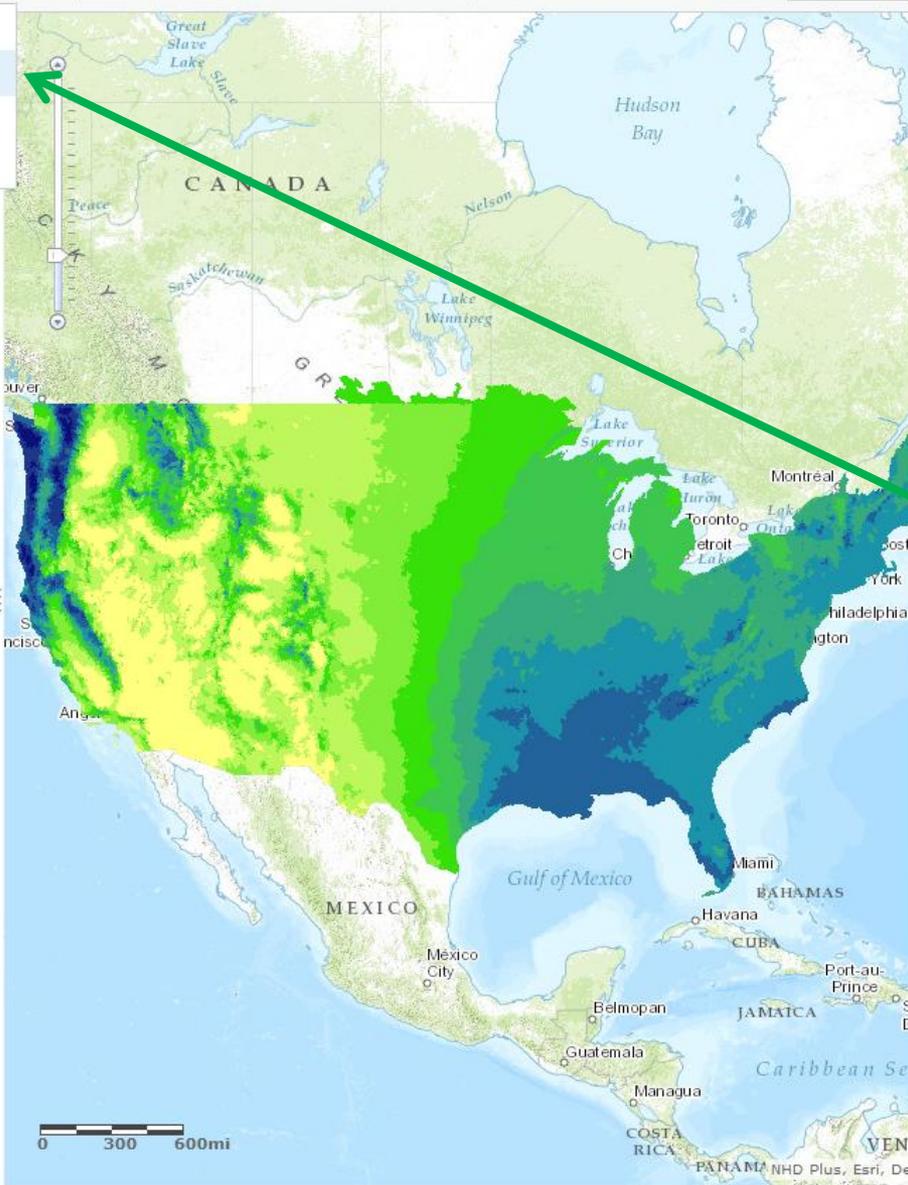
- Contents
- ESN
 - RecreationCultureAesthetics
 - Land Cover
 - Climate
 - Precipitation
 - Average annual precipitation
 - Protected Lands
 - Featured Habitat Types
 - Culturally Important Species
 - Harvestable Species
 - Priority Species
 - Human and Ecosystem Exposures
 - Topographic



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.

- Search for Layers
- Add Layer from Web
 - Add Layer from File
 - Add Map Notes
- Contents
- ESN Recreation
 - Land C
 - Climate
 - Precipitation
 - Average annual precipitation
 - Protected Lands
 - Featured Habitat Types
 - Culturally Important Species
 - Harvestable Species
 - Priority Species
 - Human and Ecosystem Exposures
 - Topographic



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**.

Solar (MapServer)

View In: [ArcMap](#) [ArcGIS Explorer](#) [ArcGIS JavaScript](#) [Google Earth](#) [ArcGIS.com Map](#)

View Footprint In: [Google Earth](#)

Service Description: BLM Solar Energy Study Zones

Map Name: Solar

[Legend](#)

[All Layers and Tables](#)

Layers:

- [States](#) (0)
- [Solar Energy Study Areas](#) (1)

Tables:

Description: This service provides Bureau of Land Management Solar Energy Study Zones as part of the Solar Energy Development Programmatic Environmental Impact Statement (PEIS).

Copyright Text: Dept of the Interior, Bureau of Land Management

Spatial Reference: 4269

Single Fused Map Cache: false

Initial Extent:

XMin: -196.143607090117
YMin: -33.2936232285499
XMax: 0.718638135037793
YMax: 107.8117519091
Spatial Reference: 4269

Full Extent:

XMin: -178.215027134185
YMin: 18.9247814623509
XMax: -66.9698480305797
YMax: 71.4066465112282
Spatial Reference: 4269

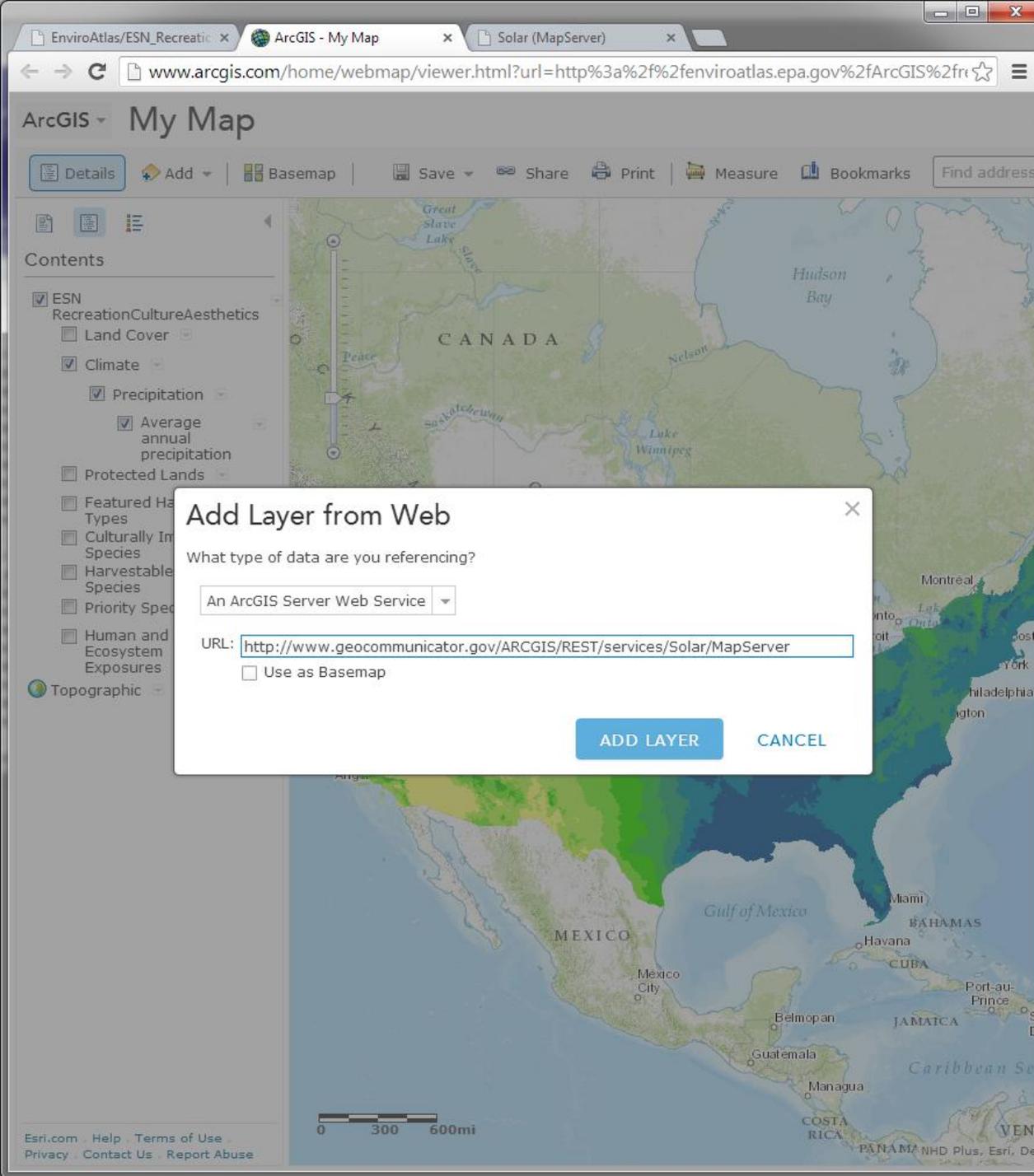
Units: esriDecimalDegrees

Supported Image Format Types: PNG32,PNG24,PNG,JPG,DIB,TIFF,EMF,PS,PDF,GIF,SVG,SVGZ,BMP

Document Info:

For this example, we will use map services provided by the U.S Bureau of Land Management (BLM).

To add this BLM Solar layer to the EnviroAtlas map of precipitation, **Copy the entire url address** of the MapServer.



Paste the url for the BLM Solar MapServer into the **Add Layer from Web** box.

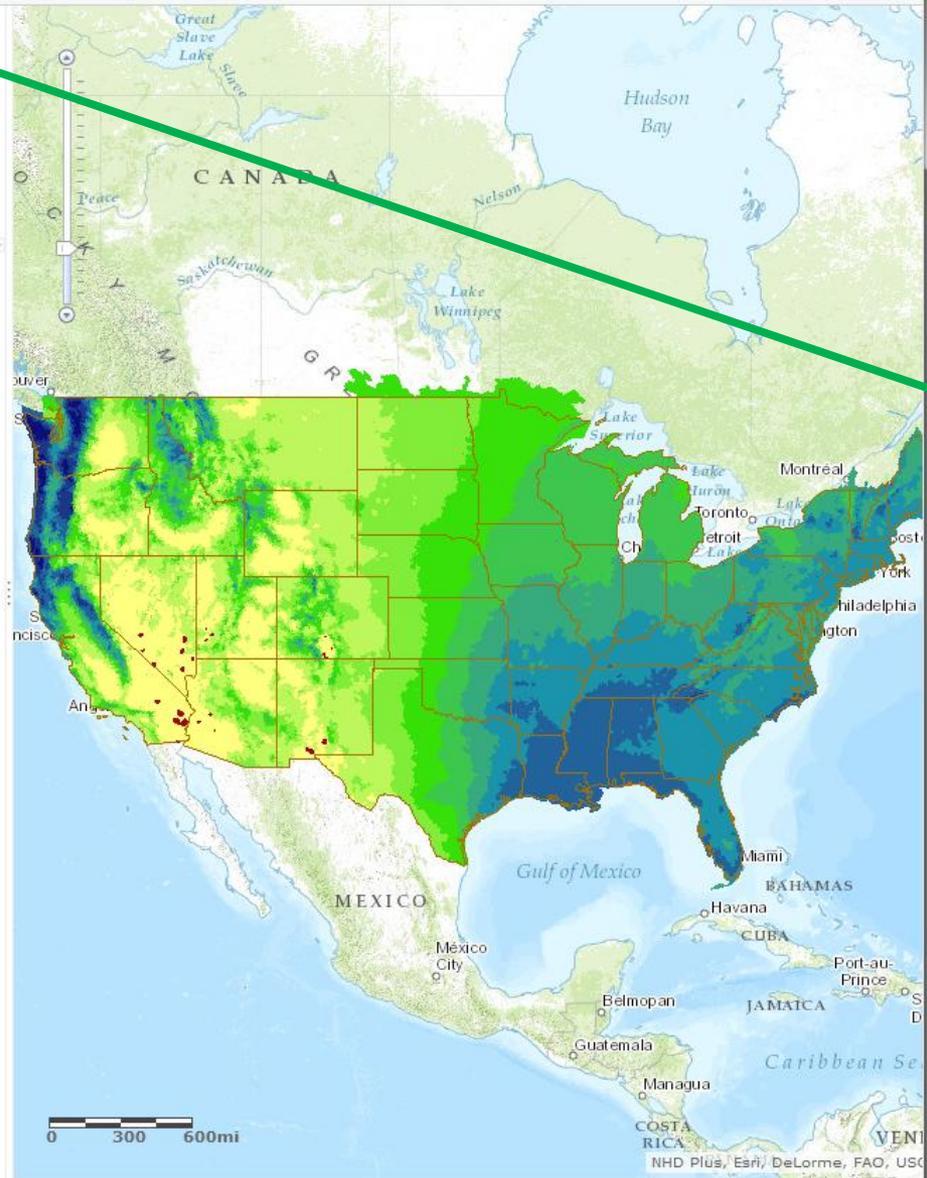
Click **Add Layer**.

ArcGIS My Map

Details Add Basemap Save Share Print Measure Bookmarks Find address

Contents **Show Map Legend**

- Solar
 - States
 - Solar Energy Study Areas
- ESN
 - RecreationCultureAesthetics
 - Land Cover
 - Climate
 - Protected Lands
 - Featured Habitat Types
 - Culturally Important Species
 - Harvestable Species
 - Priority Species
 - Human and Ecosystem Exposures
- Topographic

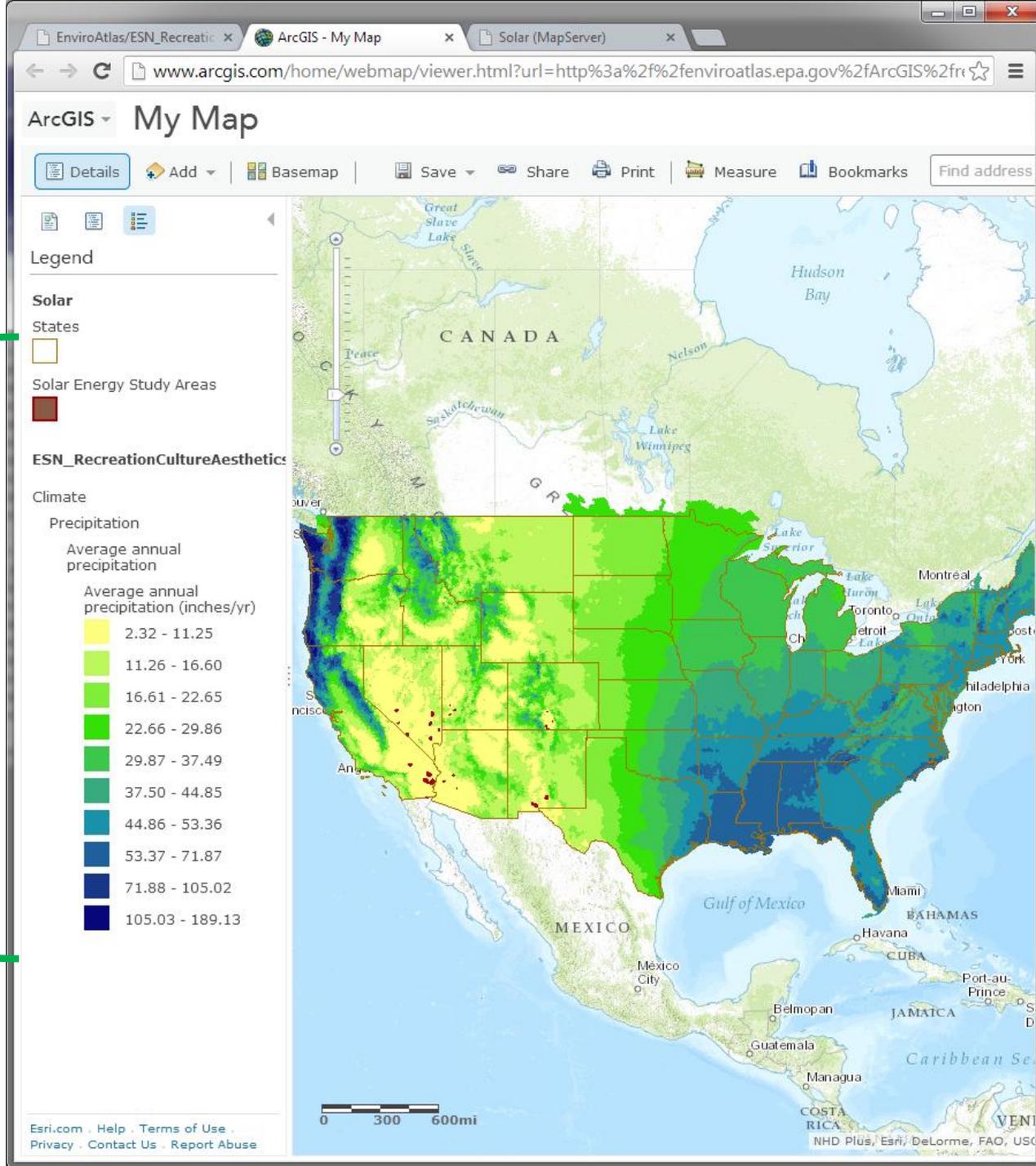


Once the layer has been added to the map, it will show up in the map table of contents.

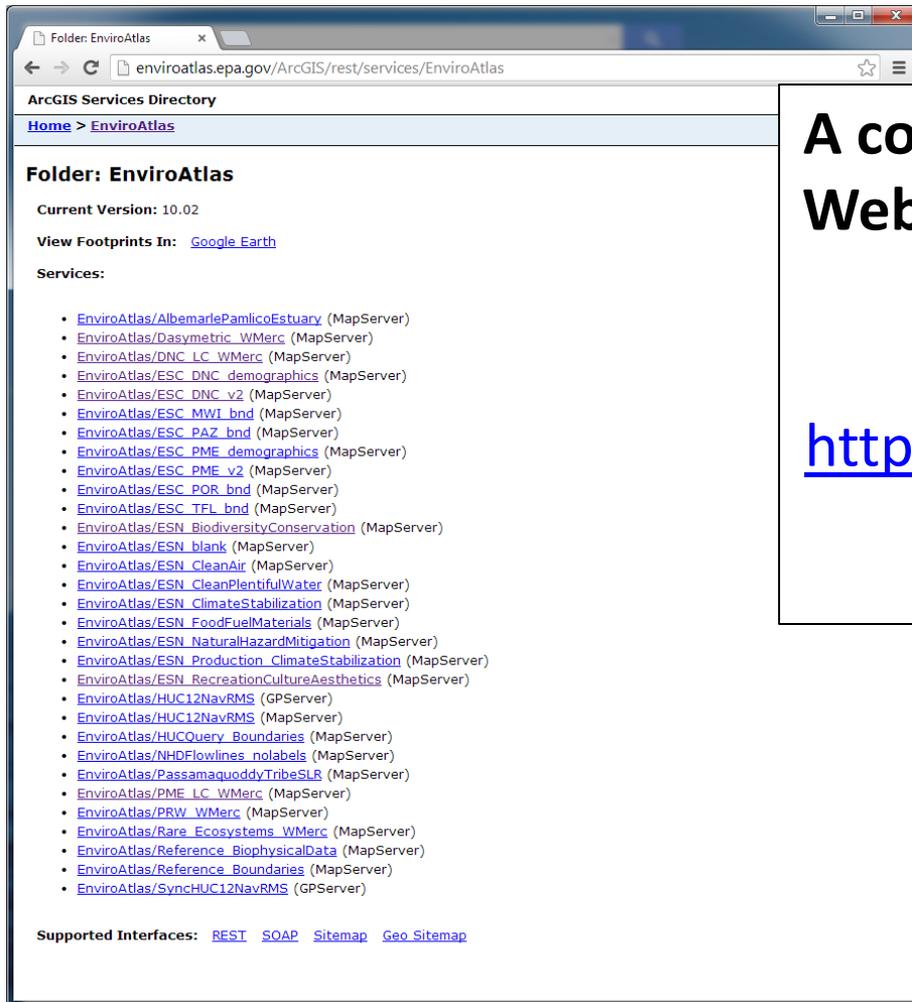
To view the legend, click **Show Map Legend**.



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>

In the future, EnviroAtlas users will be able to bring in external web services and use their own data in the EnviroAtlas interactive map.