

Accessing REA Data, Maps & Models through the REA Data Portal

Public Access

To access REA downloadable data, map services, and models you can **use the Data, Map, and Model Catalog** for the REA in which you are interested. The following steps show you how to access, view, and use the catalogs. From within the catalogs, you can:

- Review a list of data used in and produced by an REA and **download data** packages,
 - Review a list of maps which correspond to the maps in the final report and **view maps interactively online or stream them to your own GIS**, and
 - Review a list of models used in the REAs and download the model and script files and their supporting documentation.
-



Before downloading data, we strongly recommend that users first review maps of interest through the Map Catalog to help determine which datasets you would like to download. There are hundreds of datasets available for download; reviewing the maps will ensure you download the ones you are interested in and may also reveal other related datasets that you may find useful.

View Maps through the Map Catalog

Each REA has a corresponding **Map Catalog** that provides a list of all available maps and provides various options for accessing those maps. Map Catalogs are available in PDF format at the REA Data Portal website (http://www.blm.gov/wo/st/en/prog/more/Landscape_Approach/reas/dataportal.html). Below we describe the information provided in the Map Catalogs.



We recommend that users save Map Catalogs locally instead of opening them in a browser. This will facilitate internet navigation when opening multiple online maps.

- Before accessing a map, first review the catalog's descriptive information, including:
 - the map title and a brief description of its subject matter,
 - a list of Management Question(s) and/or Conservation Elements and Change Agents that are addressed in the map, and
 - a list of figures in the final report which correspond to the map. Refer to the final report for more detailed information about a map's subject matter.
- When you have determined which map you would like to access, click one of its corresponding hyperlinks:
 - [ArcGIS.com – click to view a map online in ArcGIS.com](#). This option requires no GIS software, only internet access. See the following section on ArcGIS.com for more information on this feature.
 - [Map Service – click to access a map through a services directory](#). This link will take you to an ArcGIS Services Directory where you can opt to view the map in ArcView, ArcGIS Explorer, ArcGIS JavaScript, Google Earth, or ArcGIS.com. All of these viewing applications require installation of software expect for ArcGIS.com. See the following section on Map Services for more information on this feature.

Click one of these links to view a map

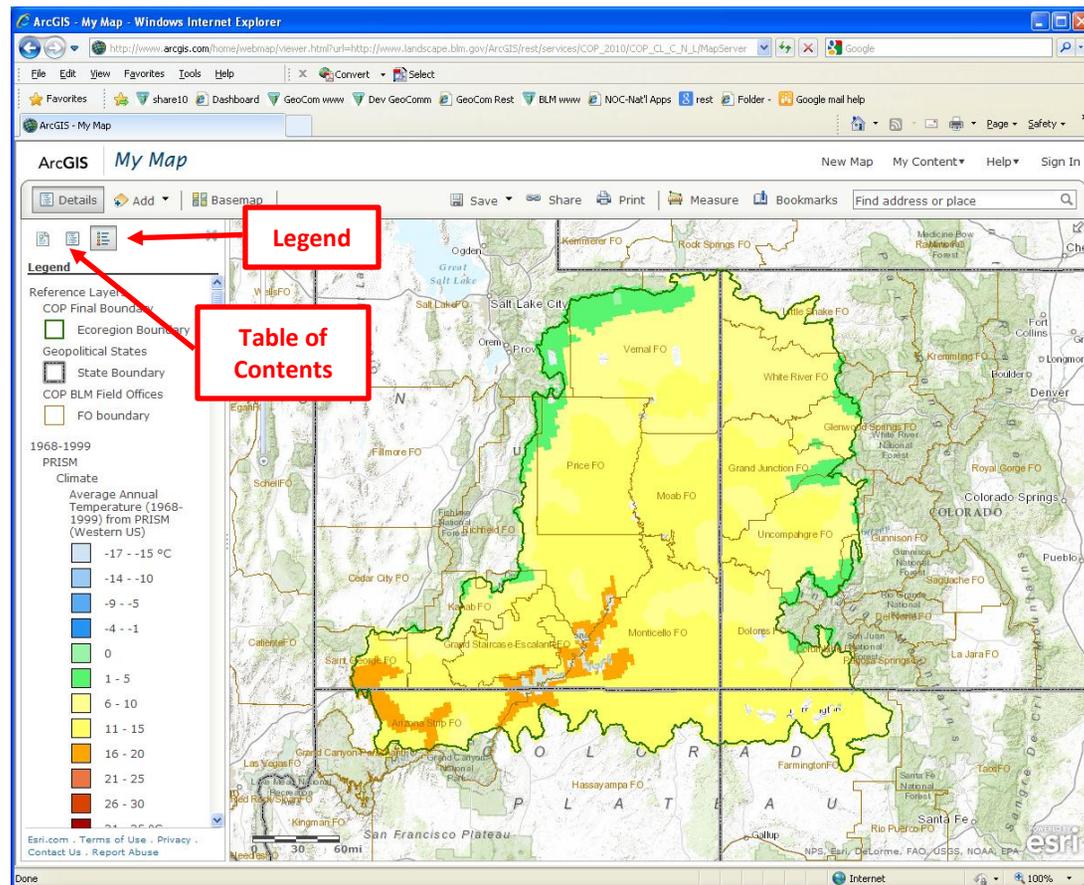
Screenshot of a Map Catalog

Map Catalog for the Colorado Plateau REA							Page 1 of 10
Map Title	Map Description	ArcGIS.com Link ¹	Map Service Link ²	Management Question(s) ³	Element or Agent(s) ³	Figure(s) in Report ³	
Colorado Plateau Ecoregion (COP)	This map shows the location of the Colorado Plateau Ecoregion.	ArcGIS.com	Map Service			3-1	
COP Change Agents - Climate Change	This map shows climate parameters and MAPSS biogeography model data for the western US from PRISM (1968-1999), and future climate projections from the regional climate model RegCM3 using ECHAM5, GENMOM, and GFDL projections as boundary conditions for 2015-2030, and 2045-2060.	ArcGIS.com	Map Service		Climate Change	5-21, 5-22, 5-23, 5-25, 5-26, 5-27, 5-28, 5-29, 5-30, 5-31, 5-33, 5-34	
COP Change Agents - Climate Change - Long-Term Potential For Change	This map shows long-term potential for climate change, which was calculated using a logic model to integrate the factors of: vegetation change summer & winter temperature change annual precipitation change runoff change.	ArcGIS.com	Map Service		Climate Change	4, 5-32, 5-36, 6-14, (Appendix D page 264)	
COP Change Agents - Development - Current, Near-Term, and Long-Term Potential High Landscape Development	This map shows areas of high current, near-term, and long-term potential landscape development, based on factors such as urban areas, agriculture, roads, and energy development.	ArcGIS.com	Map Service	G1	Agriculture Oil, Gas, Mining, Renewable Energy, Urban/Roads Development	4-36, 4-37, 6-12, (Appendix D page 252, 256, 260)	
COP Conservation Elements - Aquatic Species: Colorado River Cutthroat Trout	This map shows the potential current distribution of Colorado River Cutthroat Trout as well as current and near-term status, and long term potential for change (due to climate change).	ArcGIS.com	Map Service		Colorado River cutthroat	4-20, (Appendix C page 208, 209)	
COP Conservation Elements - Aquatic Species: Flannelmouth Sucker	This map shows the potential current distribution of flannelmouth sucker as well as current and near-term status, and long term potential for change (due to climate change). The current distribution is based on observation points that include those from Utah Natural Heritage Program; these data were not delineated as this REA due to land restrictions.	ArcGIS.com	Map Service		Flannelmouth sucker	4-20, (Appendix C page 212, 213)	

ArcGIS .com

The ArcGIS .com link will open a session of ArcGIS.com interactive map service which will display the map you selected (see screenshot below). In ArcGIS.com you can interact with the map and even add additional data to the map if desired. Once the map is loaded, you can:

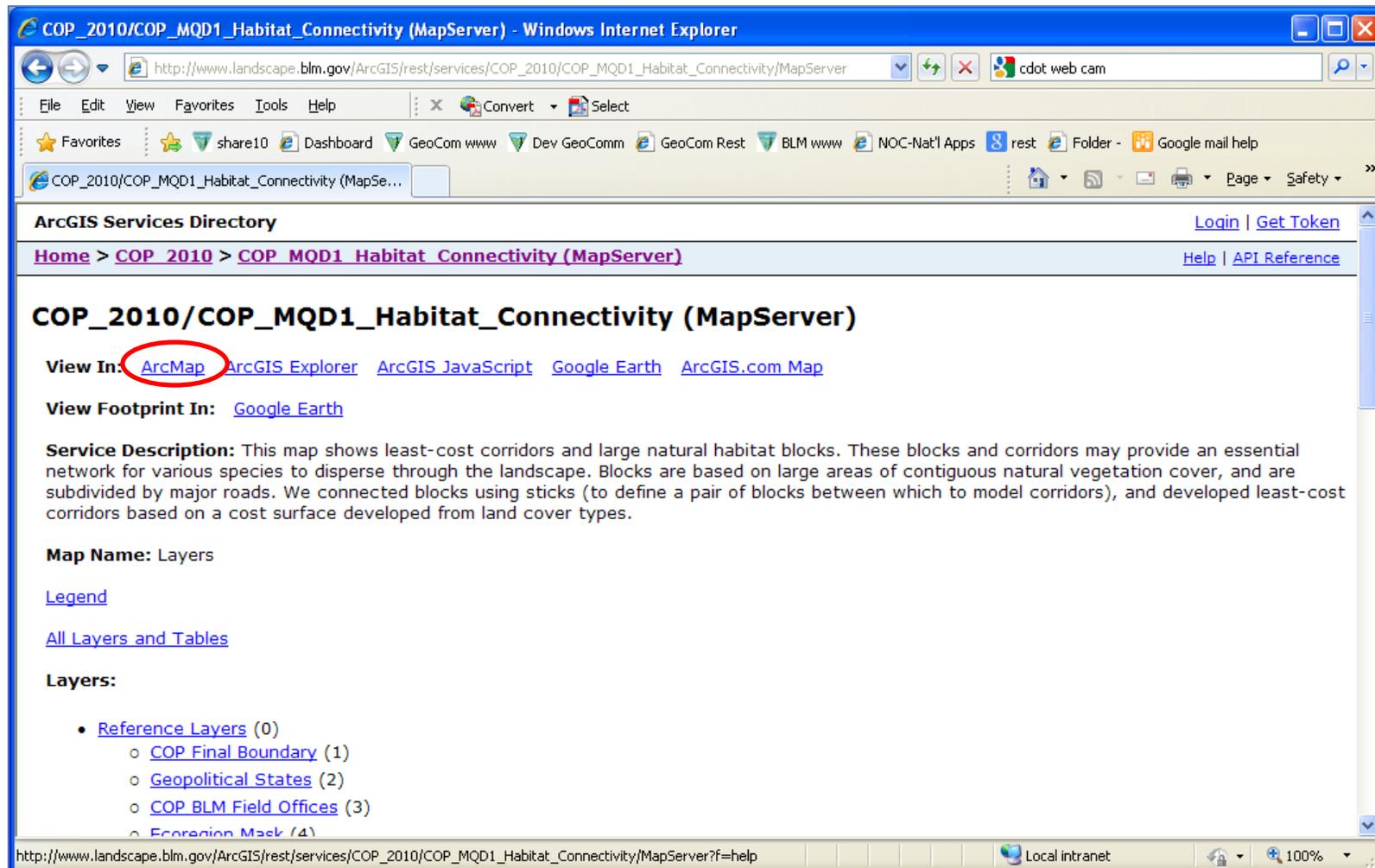
- Click on the Details tab to **access the Legend and Table of Contents** (see graphic below).
 - the Legend shows which layers are currently displayed in the map, and
 - the Table of Contents allows you to see all data layers contained in the map and select which to turn on or off.
- Click on the Add or Basemap tabs to **add I data** from either your computer or from public data services.
- Use the tools at the top of the map **Print, Share, or Save** a map. There are also tools that allow you to **zoom, pan and measure**.
- **You cannot download data** directly from the ArcGIS.com.
 - If you would like to download a dataset seen in the map, note its name and go to the Data Catalog to download that data or use the ArcGIS service to stream the map.



Map Services

The Map Service Link will bring up an *ArcGIS Service Directory* providing details about the map service including data layers, query options, map display, and KML generation. You can stream the ArcGIS Services to your own local GIS software application using the ArcGIS rest service URL. For example:

- If you have **ArcMap** installed on your local computer, you can click on the ArcMap hyperlink in the directory to open/save the map as an MXD.
- Similarly, if you have any of the other listed software applications installed (e.g., Google Earth), simply click the corresponding hyperlink to view the map in that application.



The screenshot shows a Windows Internet Explorer browser window displaying the ArcGIS Services Directory for a MapServer service. The browser's address bar shows the URL: http://www.landscape.blm.gov/ArcGIS/rest/services/COP_2010/COP_MQD1_Habitat_Connectivity/MapServer. The page title is "COP_2010/COP_MQD1_Habitat_Connectivity (MapServer)". The breadcrumb navigation is "Home > COP_2010 > COP_MQD1_Habitat_Connectivity (MapServer)". The main heading is "COP_2010/COP_MQD1_Habitat_Connectivity (MapServer)". Under "View In:", the "ArcMap" link is circled in red. Other links include "ArcGIS Explorer", "ArcGIS JavaScript", "Google Earth", and "ArcGIS.com Map". Under "View Footprint In:", the "Google Earth" link is present. The "Service Description" states: "This map shows least-cost corridors and large natural habitat blocks. These blocks and corridors may provide an essential network for various species to disperse through the landscape. Blocks are based on large areas of contiguous natural vegetation cover, and are subdivided by major roads. We connected blocks using sticks (to define a pair of blocks between which to model corridors), and developed least-cost corridors based on a cost surface developed from land cover types." The "Map Name" is "Layers". There are links for "Legend" and "All Layers and Tables". The "Layers" section lists: "Reference Layers (0)", "COP Final Boundary (1)", "Geopolitical States (2)", "COP BLM Field Offices (3)", and "Ecoregion Mask (4)". The browser's status bar shows "Local intranet" and "100%".

Download Data through the Data Catalog

Each REA has a corresponding **Data Catalog** that provides a list of all available datasets and provides various options for accessing those data. Data Catalogs are available in PDF format at the REA Data Portal website (http://www.blm.gov/wo/st/en/prog/more/Landscape_Approach/reas/dataportal.html). Below we describe the information provided in the Data Catalogs.



We recommend that users save Data Catalogs locally instead of opening them in a browser. This will facilitate internet navigation when opening multiple online metadata files.

- **Before downloading a dataset**, first review the catalog's descriptive information, including:
 - the title and a brief description of the data subject matter, and
 - its Metadata, which can be viewed by clicking on the corresponding hyperlink.

- **To download a dataset**, click on the Download link.
 - You will be asked to save a zipped file (.zip) or a layer package file (.lpx), both of which contain the data file (in vector or raster format) and corresponding layer file(s). Layer files store the symbology used to display the data (i.e., color schemes, symbols, labels).
 - If you download a zipped file, you must "Save" the file locally and unzip the file before you can view the data or layer file(s) contained within. Once unzipped, add the data or layer files to an ArcMap project. Zipped files may contain multiple layer files which correspond to one dataset; the multiple layers files allow you to view the same dataset in different ways.
 - If you download a layer package, you can either:
 - Click "Save" to save the .lpx file locally. You can add it to an ArcMap project by dragging and dropping the layer package from ArcCatalog or, from within ArcCatalog, right-click the layer package and select "Unpack".
 - Click "Open" and ArcMap will automatically open a new project (MXD) containing the data. If you want to keep the data, you must save it from within ArcMap or go back to the Data Catalog, click the Download link, and click "Save".
 - The files names for the dataset and layer file(s) contained in the zipped files and layer packages are listed in the Data Catalog for you reference.



Data sets are listed alphabetically in the Data Catalog. You can **search for a specific file name or a key word** using the Find tool or the Advanced Search tool in Adobe PDF software.

Click to view Metadata

Click to download data package

These are the files in the data package

Screenshot of a Data Catalog

Data Catalog for the Colorado Plateau REA						Page 1 of 66
Layer Title	Layer Description	Metadata Link ¹	Download Link ²	Layer File Name ³	Data File Name ³	
4KM Grid Cell Boundary (4KM resolution)	4KM grid cell boundary grid (4KM resolution) used for extracting 4KM climate data within the ecoregion.	Metadata	Download	cop_4km_bnd.lyr	cop_4km_bnd	
4KM Grid Cell Boundary of Colorado Plateau Ecoregion	Vectorized 4KM Grid cell boundary of Colorado Plateau Ecoregion.	Metadata	Download	COP_4KM_Boundary_poly.lyr	COP_4KM_Boundary_poly	
4KM Grid Cell Reporting Units	4KM grid cell reporting units for the Colorado Plateau Ecoregion. Used as analytical reporting unit for terrestrial conservation elements and terrestrial intactness.	Metadata	Download	COP_RU_4KM_poly.lyr	COP_RU_4KM_poly	
4KM Grid Cell Reporting Units (30m resolution)	4KM grid cell reporting units grid (30m resolution) for the Colorado Plateau Ecoregion. Used for summarizing raster input data to 4KM reporting units.	Metadata	Download	cop_ru_4km.lyr	cop_ru_4km	
4KM Grid Cells for Western US	Vectorized 4KM grid cells for Western US. All climate data processed for this REA was resampled to this grid.	Metadata	Download	COP_4KM_grid_full_extent_poly.lyr	COP_4KM_grid_full_extent_poly	
5th Code HUC Boundary Grid (30m resolution)	5th Code HUC boundary grid (30m resolution) of Colorado Plateau Ecoregion.	Metadata	Download	cop_huc_bnd.lyr	cop_huc_bnd	

Download Models & Scripts through the Model Catalog

Each REA has a corresponding Model Catalog that provides a list of all available models and scripts and hyperlinks to download them. Model Catalogs are available in PDF format at the REA Data Portal website (http://www.blm.gov/wo/st/en/prog/more/Landscape_Approach/reas/dataportal.html).

Models and scripts are downloaded in groups as toolboxes or file folders related to a single REA category such as climate change. In other words, all models and scripts related to climate change are contained in a single toolbox such as "COP_CL_Toolbox".



We recommend that users save Model Catalogs locally instead of opening them in a browser.

- **To download** a model or script, click on the Download Toolbox/Folder link. Models and scripts are downloaded in groups as toolboxes or file folders related to a single REA category such as climate change.
 - You will be asked to save a zipped file (.zip).
 - Save the file locally and unzip it. Once unzipped, open the model or script files in the appropriate software.
 - Most models are in ArcGIS ArcToolbox format (.tbx) and most scripts are written in Python (.py).
 - The input data used in the models and scripts are available in the Data Catalog.



You can **search for a specific file name or a key word** using the Find tool or the Advanced Search tool in Adobe PDF software.

Screenshot of a Model Catalog

Model Catalog for the Colorado Plateau REA			Page 1 of 3
REA Data Type	REA Category	Model	<u>Download Toolbox/Folder ¹</u>
Change Agent	Climate Change	Climate Potential for Change by HUC5	COP_CL_Toolbox
Change Agent	Climate Change	Climate Potential for Change at 4km	COP_CL_Toolbox
Change Agent	Development	Allotments	COP_DV_Toolbox
Change Agent	Development	Current Development at 4km	COP_DV_Toolbox
Change Agent	Development	Long-term Development at 4km	COP_DV_Toolbox
Change Agent	Development	Long-term Development by HUC5	COP_DV_Toolbox
Change Agent	Development	MQG2 - Potential Development and Conflict with Conservation Elements	COP_DV_Toolbox
Change Agent	Development	Near-term Development at 4km	COP_DV_Toolbox
Change Agent	Development	Recreation High-use Area	COP_DV_Toolbox
Change Agent	Fire	MQE1 - Areas Changed by Wildfire	COP_FI_Toolbox

Click to download

