

National Park Service
U.S. Department of the Interior

Natural Resource Stewardship and Science

NOTE: There may be revised processes and documentation available.

Check the NPScape maps webpage
(<http://science.nature.nps.gov/im/monitor/npscape/maps.cfm>)
for the most current version.

NPScape Standard Operating Procedure – Using Map Services

Folder: NPScape

Current Version: 10.02

View Footprints In: [Google Earth](#)

Services:

- [NPScape/NPScape_ConservationStatus_ProtectedAreas_MPA2010](#) (MapServer)
- [NPScape/NPScape_ForestDensity_Window7](#) (MapServer)
- [NPScape/NPScape_ForestMorphology_EdgeWidth1](#) (MapServer)
- [NPScape/NPScape_Housing_2010Density](#) (MapServer)
- [NPScape/NPScape_Housing_HistoricDensity_SERGoM1970](#) (MapServer)
- [NPScape/NPScape_Housing_HistoricDensity_SERGoM2010](#) (MapServer)
- [NPScape/NPScape_Housing_HistoricDensity_SERGoM2050](#) (MapServer)
- [NPScape/NPScape_Landcover_2006AreaPerCategory](#) (MapServer)
- [NPScape/NPScape_Landcover_LAC1_NALC2005](#) (MapServer)
- [NPScape/NPScape_Landcover_LAC2_NLCD2006](#) (MapServer)
- [NPScape/NPScape_Pattern_ForestDensity_Window7_NLCD2006](#) (MapServer)
- [NPScape/NPScape_Pattern_ForestMorphology_EdgeWidth1_NLDC2006](#) (MapServer)
- [NPScape/NPScape_Pattern_GrasslandDensity_Window7_NLCD2006](#) (MapServer)
- [NPScape/NPScape_Pattern_GrasslandMorphology_EdgeWidth1_NLDC2006](#) (MapServer)
- [NPScape/NPScape_Population_2000PopulationDensity_Tiled](#) (MapServer)
- [NPScape/NPScape_Population_2000PopulationTotal_Tiled](#) (MapServer)
- [NPScape/NPScape_Population_Total_Census2010_Tiled](#) (MapServer)
- [NPScape/NPScape_Road_Density_AllRoads_ESRI2005](#) (MapServer)
- [NPScape/NPScape_Roads_AreasWithoutAll_ESRI2005_Tiled](#) (MapServer)
- [NPScape/NPScape_Roads_Density_AllRoads](#) (MapServer)

Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

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Overview

This NPScape SOP provides guidance on how to access and use NPScape map services. Download a copy of this SOP here: <http://science.nature.nps.gov/im/monitor/npscape/maps.cfm>

Software Requirements

ArcGIS software is required to generate the metric outputs. The data sources and tools used are assumed to be in ESRI ArcGIS™ format, version 10 Service Pack 3.

Data Requirements

NPScape Map Services - <http://irmaservices.nps.gov/ArcGIS/rest/services/NPScape>

Input data spatial reference

The NPScape project uses USA Contiguous Albers Equal Area Conic USGS as its standard spatial reference. Tiled map services use Web Mercator.

Map Services

What are Map Services?

A service is a published GIS resource that is made available over a network. These services are created by publishing an ArcMap document or mxd as a map service using ArcGIS Server.

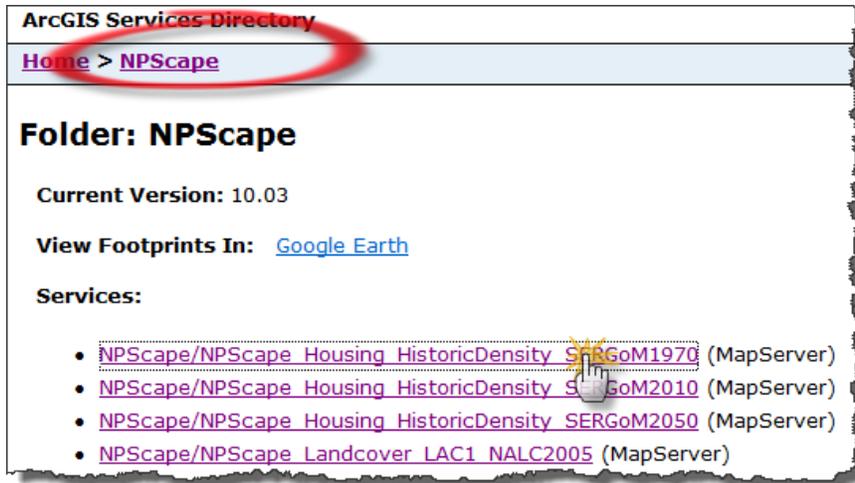
Why is NPScape producing Map Services?

NPScape map services reside on our servers and offer users an efficient way to visualize metric GIS data without having to download and maintain local copies of large geodatabases and geotiffs. In other words, when making maps, or simply visualizing rather than analyzing metric data, users are advised to take advantage of our map services. NPScape also produces map services for use in the metric viewer (<http://science.nature.nps.gov/im/monitor/npscape/viewer/>).

Accessing Map Services

Understanding the Map Service endpoint

The available services are listed in the NPScape folder of the ArcGIS Services Directory (<http://irmaservices.nps.gov/ArcGIS/rest/services/>).



Click on a service to see more information about it. There are several active links. The View In: links open up the service data in ArcMap, ArcGIS Explorer, ArcGIS JavaScript, Google Earth, or ArcGIS.com Map application. Legend will display any associated legend.



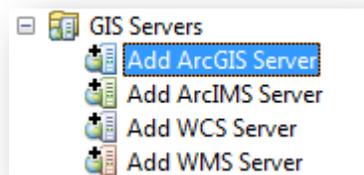
There is also information about the spatial reference and initial extent of the service.

Spatial Reference: PROJCS["NAD_1983_Albers",GEOGCS["GCS_North_American_1983",DATUM ["D_North_American_1983",SPHEROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT ["Degree",0.0174532925199433]],PROJECTION["Albers"],PARAMETER["False_Easting",0.0],PARAMETER ["False_Northing",0.0],PARAMETER["Central_Meridian",-96.0],PARAMETER["Standard_Parallel_1",29.5],PARAMETER ["Standard_Parallel_2",45.5],PARAMETER["Latitude_Of_Origin",23.0],UNIT["Meter",1.0]]

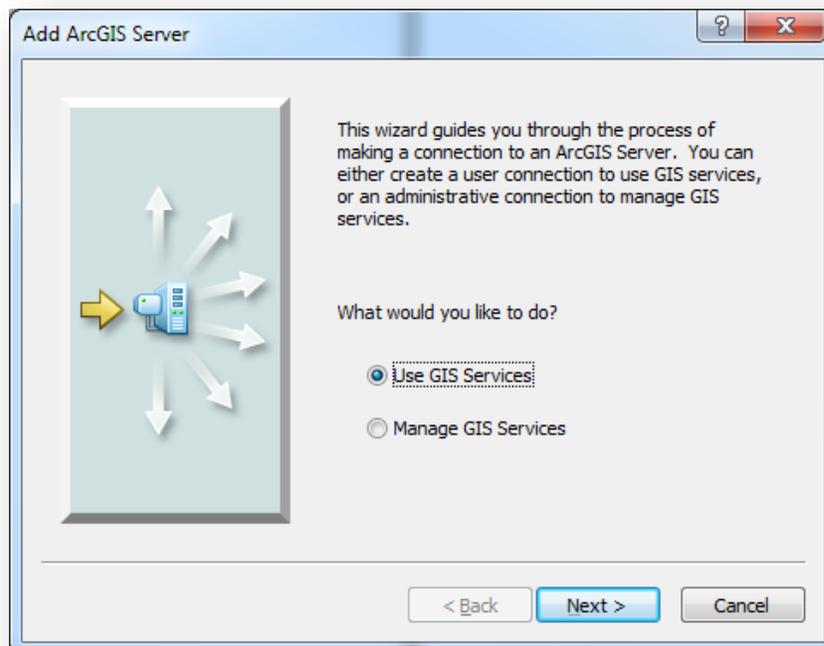
Clicking on the layer link will display more information about the layer(s) within the service, such as rendering class breaks and fields, if applicable.

Connecting to a GIS Server

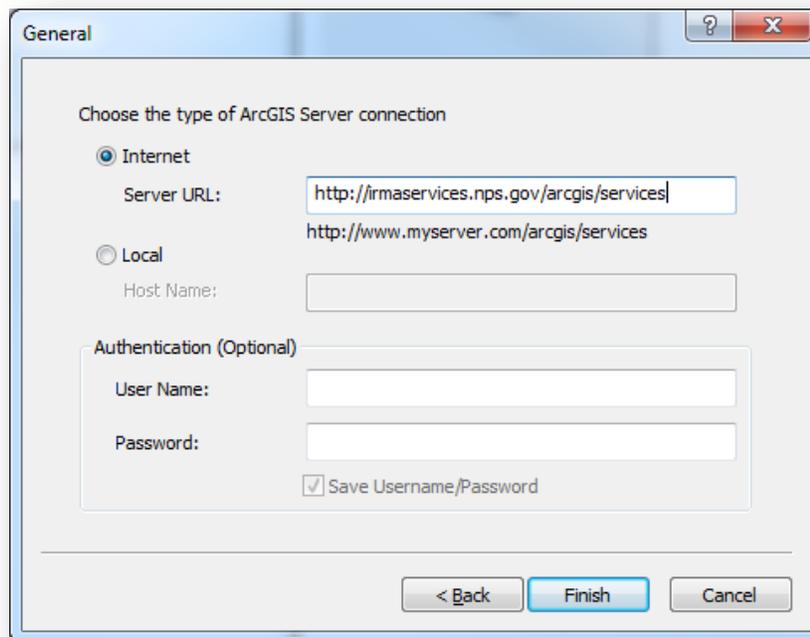
1. In the ArcCatalog table of contents, expand the GIS Servers node and double-click Add ArcGIS Server.



2. Select Use GIS Services from the next dialogue.



3. Enter the ArcGIS Server address for the NPScape services and click Finish.

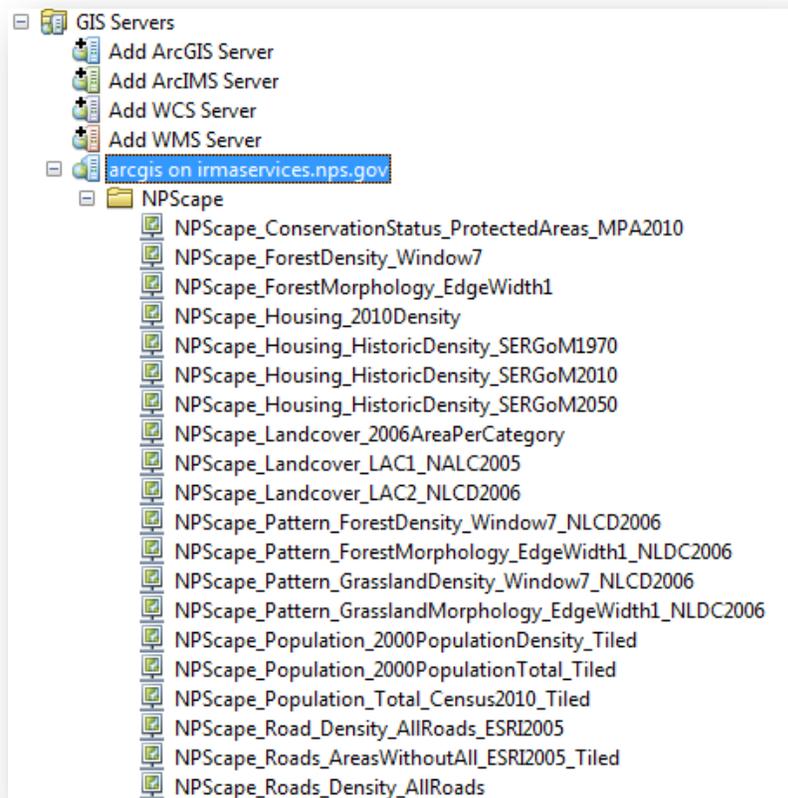


The screenshot shows a 'General' dialog box with the following fields and options:

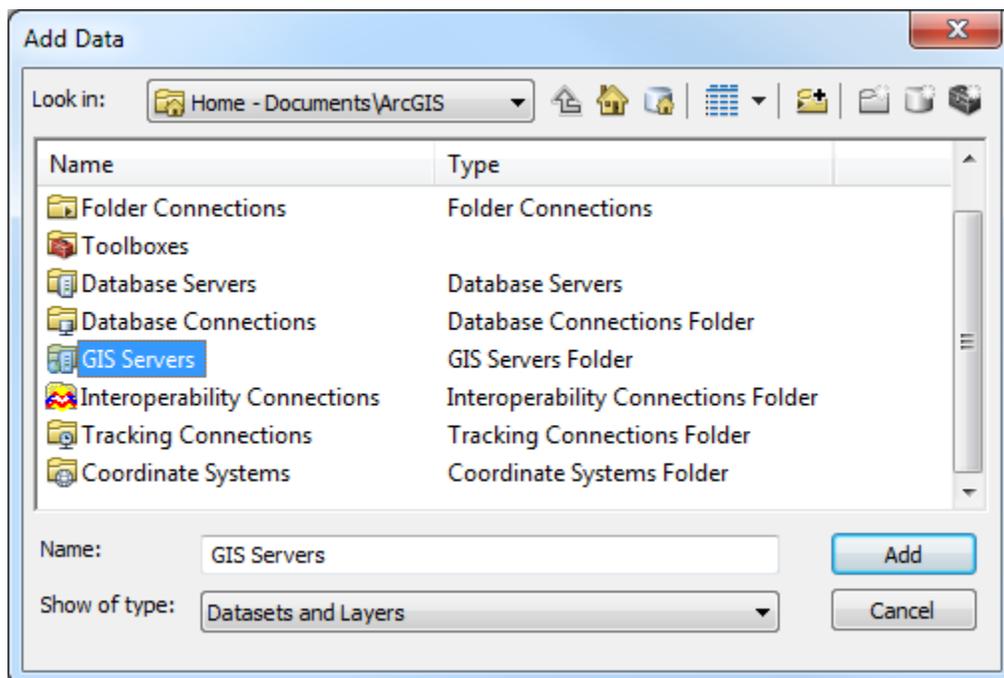
- Choose the type of ArcGIS Server connection**
 - Internet
 - Server URL:
 - Local
 - Host Name:
- Authentication (Optional)**
 - User Name:
 - Password:
 - Save Username/Password

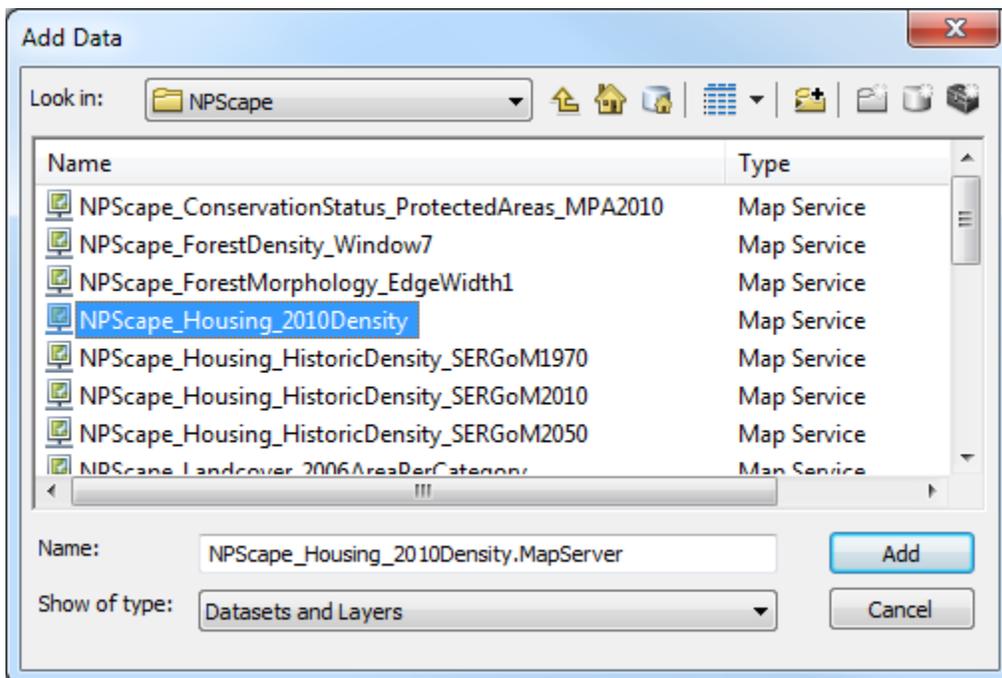
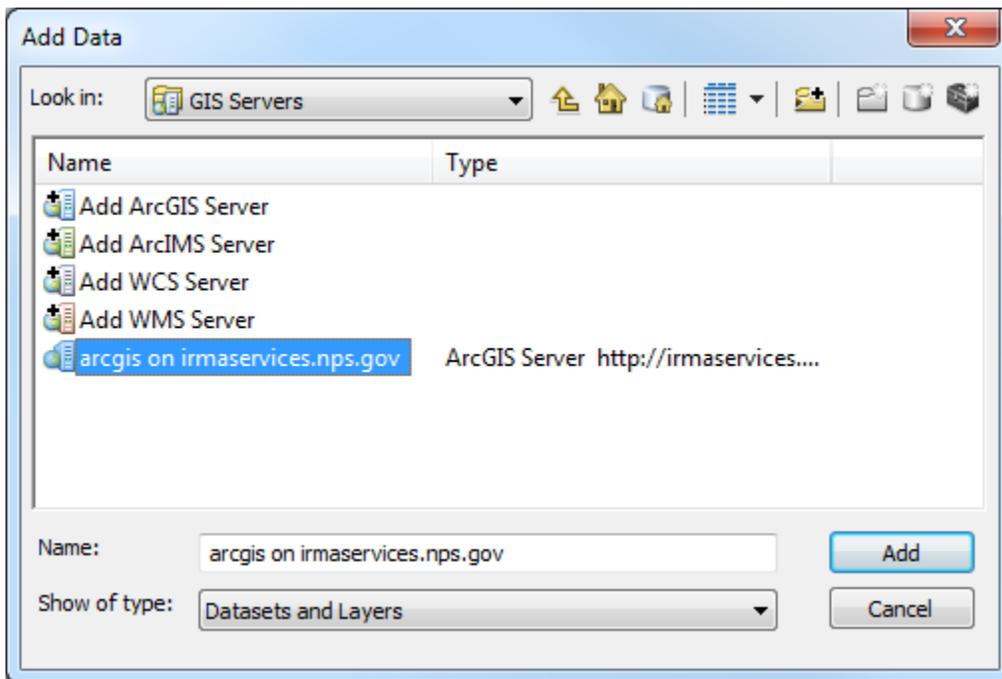
At the bottom of the dialog are three buttons: '< Back', 'Finish', and 'Cancel'.

4. Once the connection to the ArcGIS server is made, a list of map services will be displayed.



- The map services can be added to a map document through the Add Data dialogue. Select GIS Servers, then the NPScape services and folder, and then the service(s) to add.

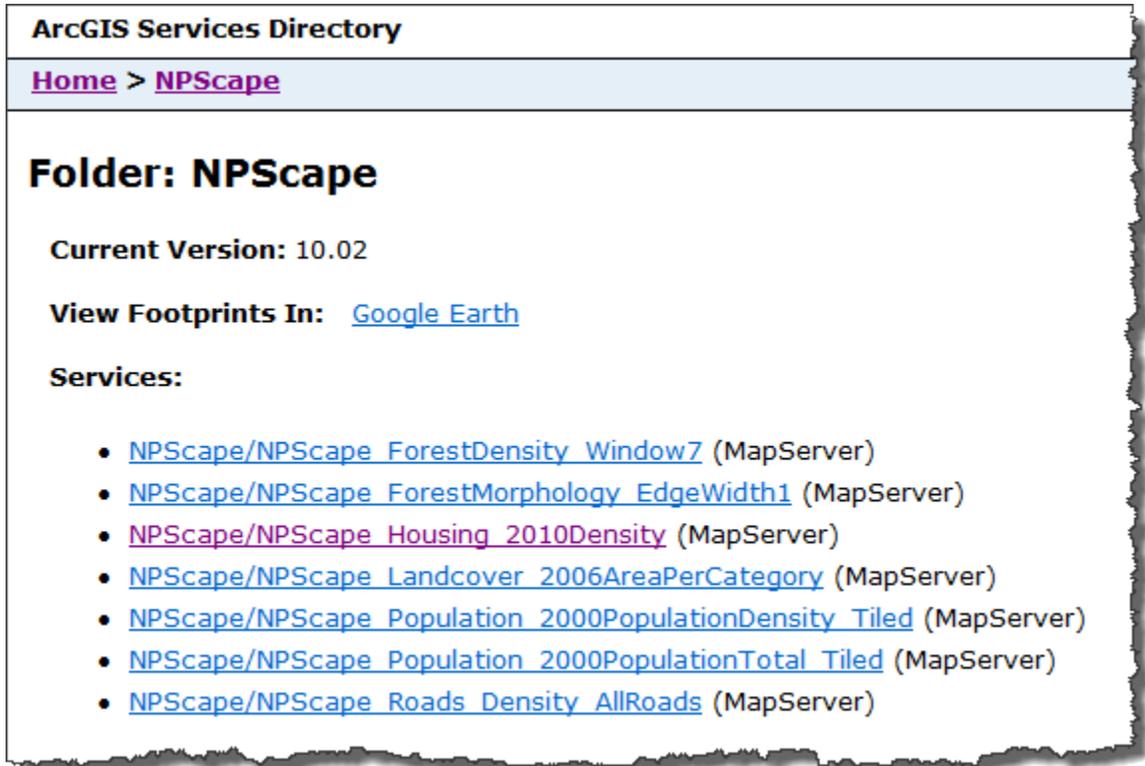




Accessing Map Services using ArcGIS

Adding a map service to a map document directly from the ArcGIS Services Directory

1. Navigate to the Services Directory – <http://irmaservices/ArcGIS/rest/services/NPScape>



The screenshot shows the ArcGIS Services Directory interface. At the top, it says "ArcGIS Services Directory" and "Home > NPScape". Below that, it displays "Folder: NPScape" and "Current Version: 10.02". There is a link "View Footprints In: Google Earth". Under the "Services:" heading, there is a list of seven services, each with a link and "(MapServer)" in parentheses:

- [NPScape/NPScape ForestDensity Window7](#) (MapServer)
- [NPScape/NPScape ForestMorphology EdgeWidth1](#) (MapServer)
- [NPScape/NPScape Housing 2010Density](#) (MapServer)
- [NPScape/NPScape Landcover 2006AreaPerCategory](#) (MapServer)
- [NPScape/NPScape Population 2000PopulationDensity Tiled](#) (MapServer)
- [NPScape/NPScape Population 2000PopulationTotal Tiled](#) (MapServer)
- [NPScape/NPScape Roads Density AllRoads](#) (MapServer)

2. Choose the service to add by clicking on the service link.
3. Click the View In: ArcMap link to add the service as a layer in ArcMap.

ArcGIS Services Directory

[Home](#) > [NPScape](#) > [NPScape_Housing_2010Density \(MapServer\)](#)

NPScape/NPScape_Housing_2010Density (MapServer)

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

View Footprint In: [Google Earth](#)

Service Description:

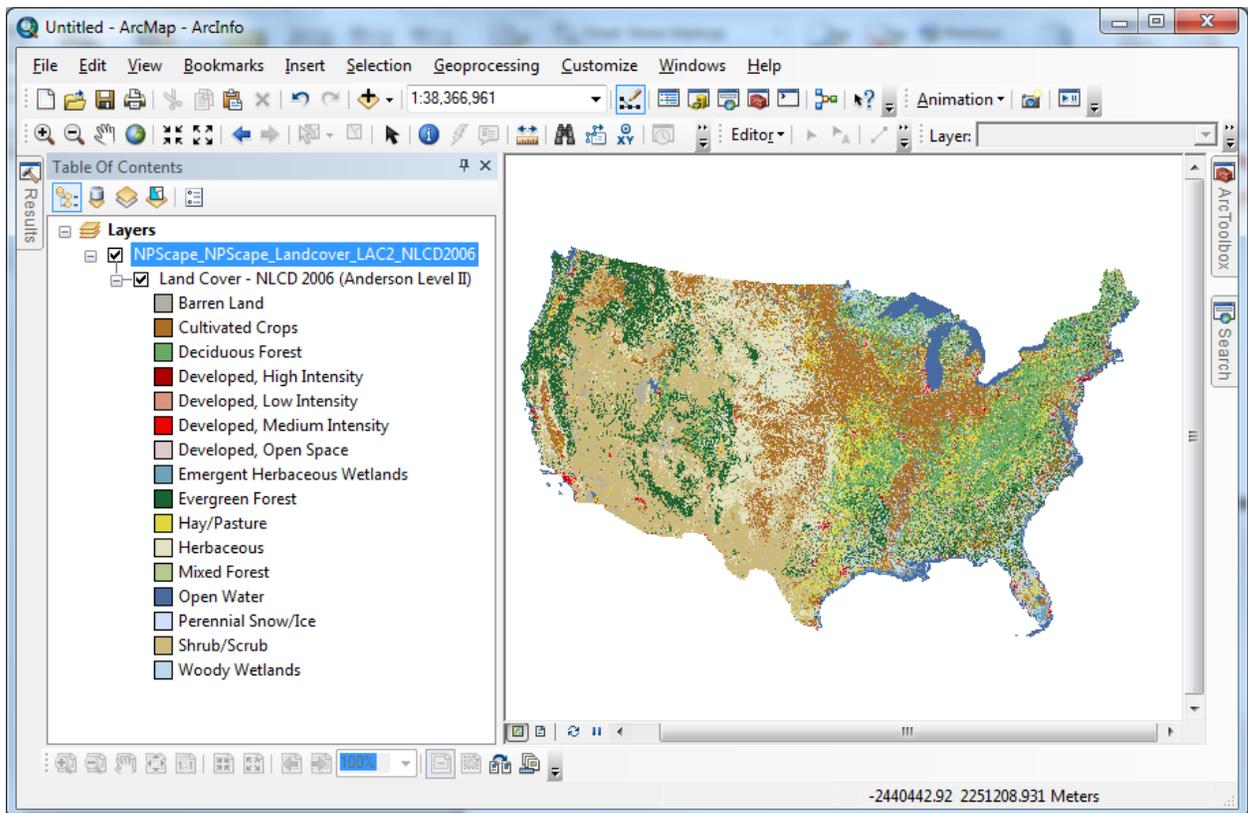
Map Name: Housing - 2010 Projected Housing Density (HDD)

[Legend](#)

[All Layers and Tables](#)

Layers:

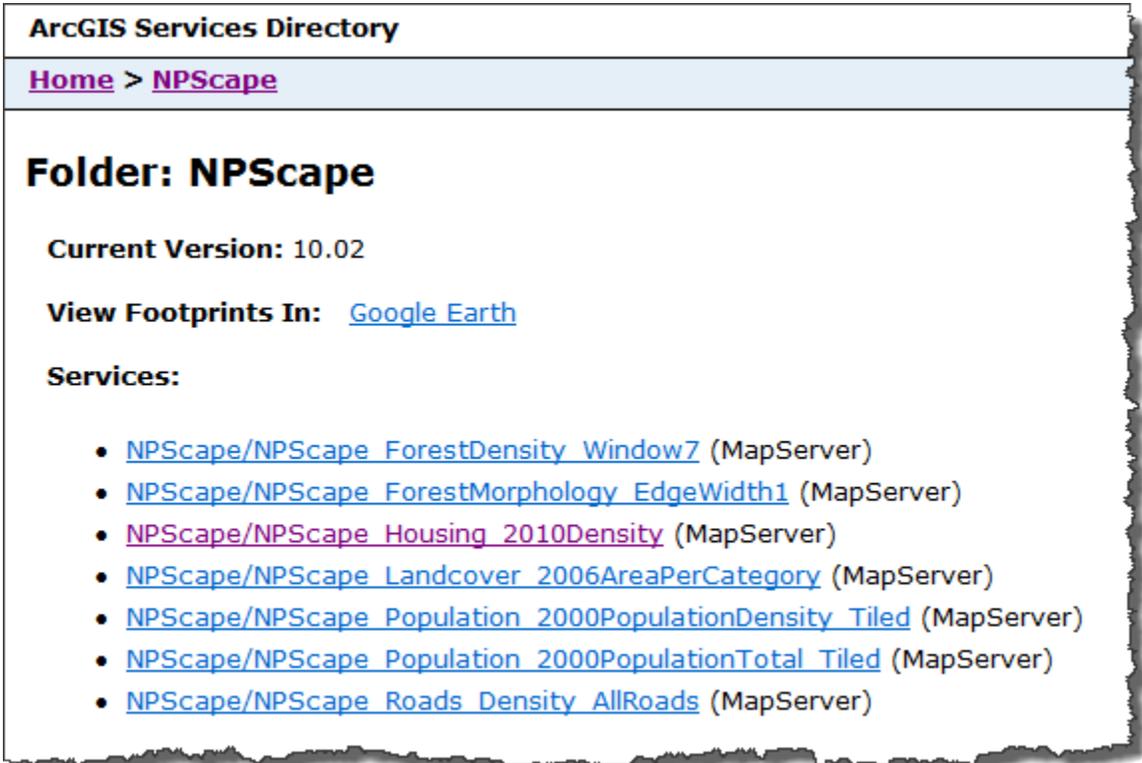
- [Housing Density - 2010 \(0\)](#)



Accessing Map Services through Google Earth

Adding a map service to Google Earth directly from the ArcGIS Services Directory

1. Navigate to the Services Directory – <http://irmaservices/ArcGIS/rest/services/NPScape>

A screenshot of the ArcGIS Services Directory web page. The page has a header "ArcGIS Services Directory" and a breadcrumb "Home > NPScape". Below this, it says "Folder: NPScape" and "Current Version: 10.02". There is a link "View Footprints In: Google Earth". Under the heading "Services:", there is a bulleted list of seven service links, each followed by "(MapServer)".

ArcGIS Services Directory

[Home](#) > [NPScape](#)

Folder: NPScape

Current Version: 10.02

View Footprints In: [Google Earth](#)

Services:

- [NPScape/NPScape ForestDensity Window7](#) (MapServer)
- [NPScape/NPScape ForestMorphology EdgeWidth1](#) (MapServer)
- [NPScape/NPScape Housing 2010Density](#) (MapServer)
- [NPScape/NPScape Landcover 2006AreaPerCategory](#) (MapServer)
- [NPScape/NPScape Population 2000PopulationDensity Tiled](#) (MapServer)
- [NPScape/NPScape Population 2000PopulationTotal Tiled](#) (MapServer)
- [NPScape/NPScape Roads Density AllRoads](#) (MapServer)

2. Choose the service to add by clicking on the service link.
3. Click the View In: Google Earth link to add the service as a layer in Google Earth.

ArcGIS Services Directory

[Home](#) > [NPScape](#) > [NPScape Housing 2010Density \(MapServer\)](#)

NPScape/NPScape_Housing_2010Density (MapServer)

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

View Footprint In: [Google Earth](#)

Service Description:

Map Name: Housing - 2010 Projected Housing Density (HDD)

[Legend](#)

[All Layers and Tables](#)

Layers:

- [Housing Density - 2010](#) (0)

