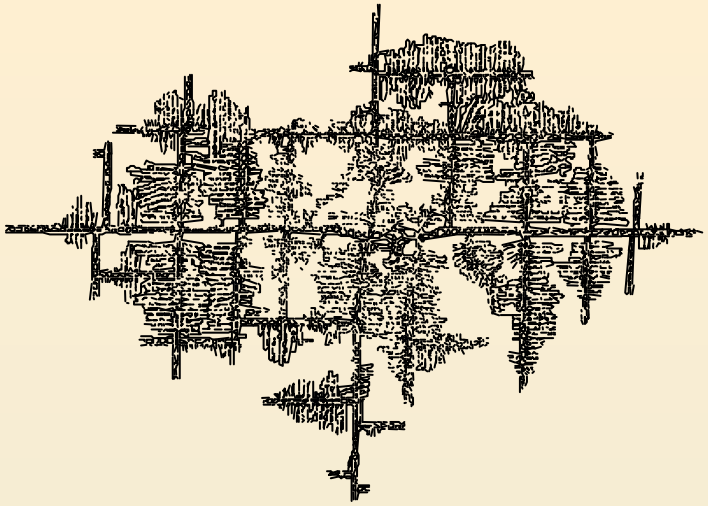
CMIS



ArcGIS 10 and REST Services Technology

Presented by:
Becky Meyer
reameyer@indiana.edu
Indiana Geological Survey

IMCC Benchmarking Workshop on Mine Mapping
February 15 - 16, 2012

ArcGIS Services Directory

- **Way to discover information about the services available on a particular server**
- **Lists the spatial extent, spatial reference (coordinate system), supported operations, cache status with levels of detail available**
- **Layers are listed with links to details about each layer, including fields, extents, scale dependencies**

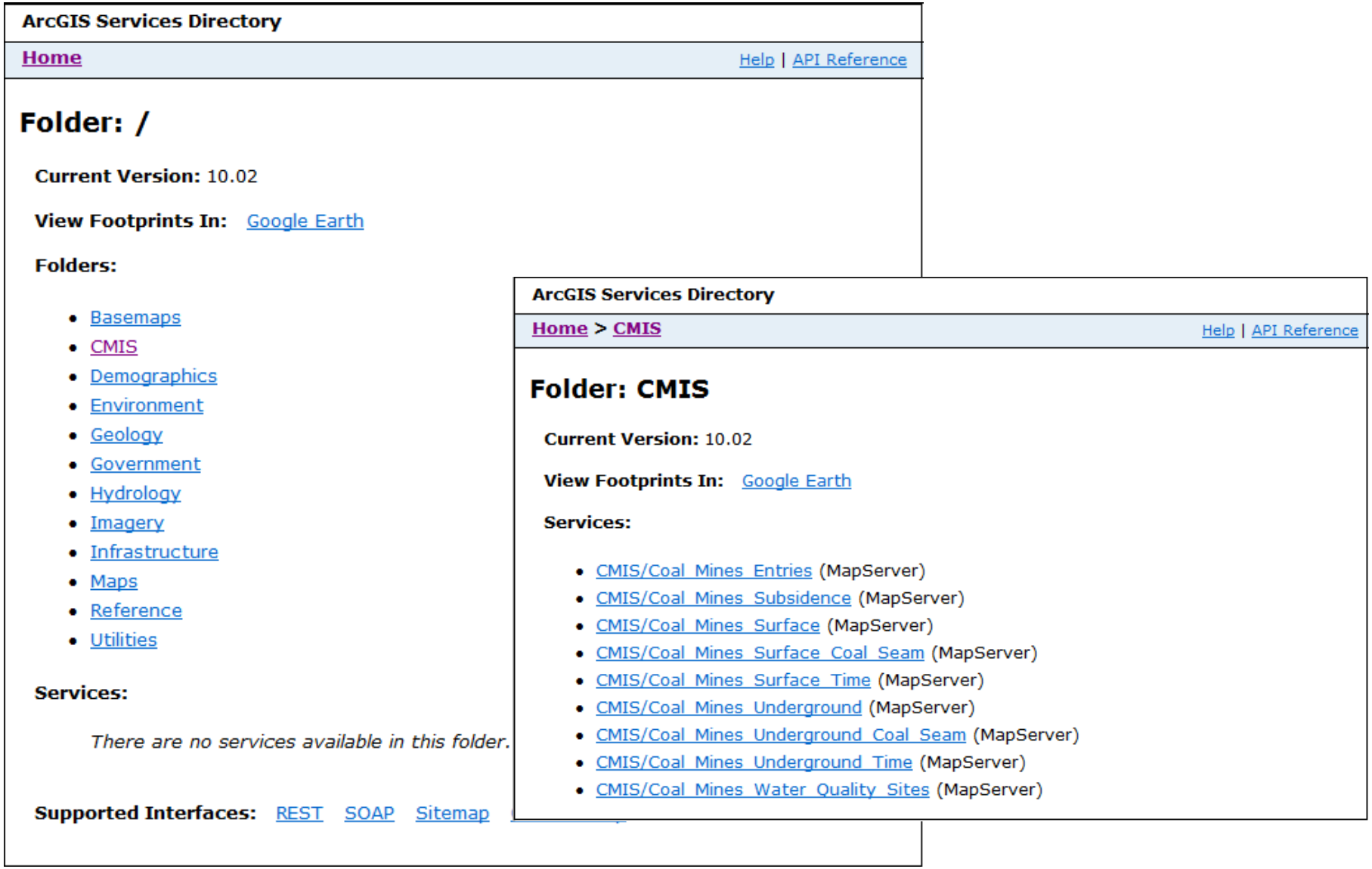
To access the Services Directory for an ArcGIS Server machine, you must know the URL of the server. Usually the Services Directory will be at:

http://www.example.com/arcgis/rest/services

ArcGIS Rest Services Demo

Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services



ArcGIS Services Directory

Home | Help | API Reference

Folder: /

Current Version: 10.02

View Footprints In: Google Earth

Folders:

- Basemaps
- CMIS
- Demographics
- Environment
- Geology
- Government
- Hydrology
- Imagery
- Infrastructure
- Maps
- Reference
- Utilities

Services:

There are no services available in this folder.

Supported Interfaces: REST SOAP Sitemap

ArcGIS Services Directory

Home > CMIS | Help | API Reference

Folder: CMIS

Current Version: 10.02

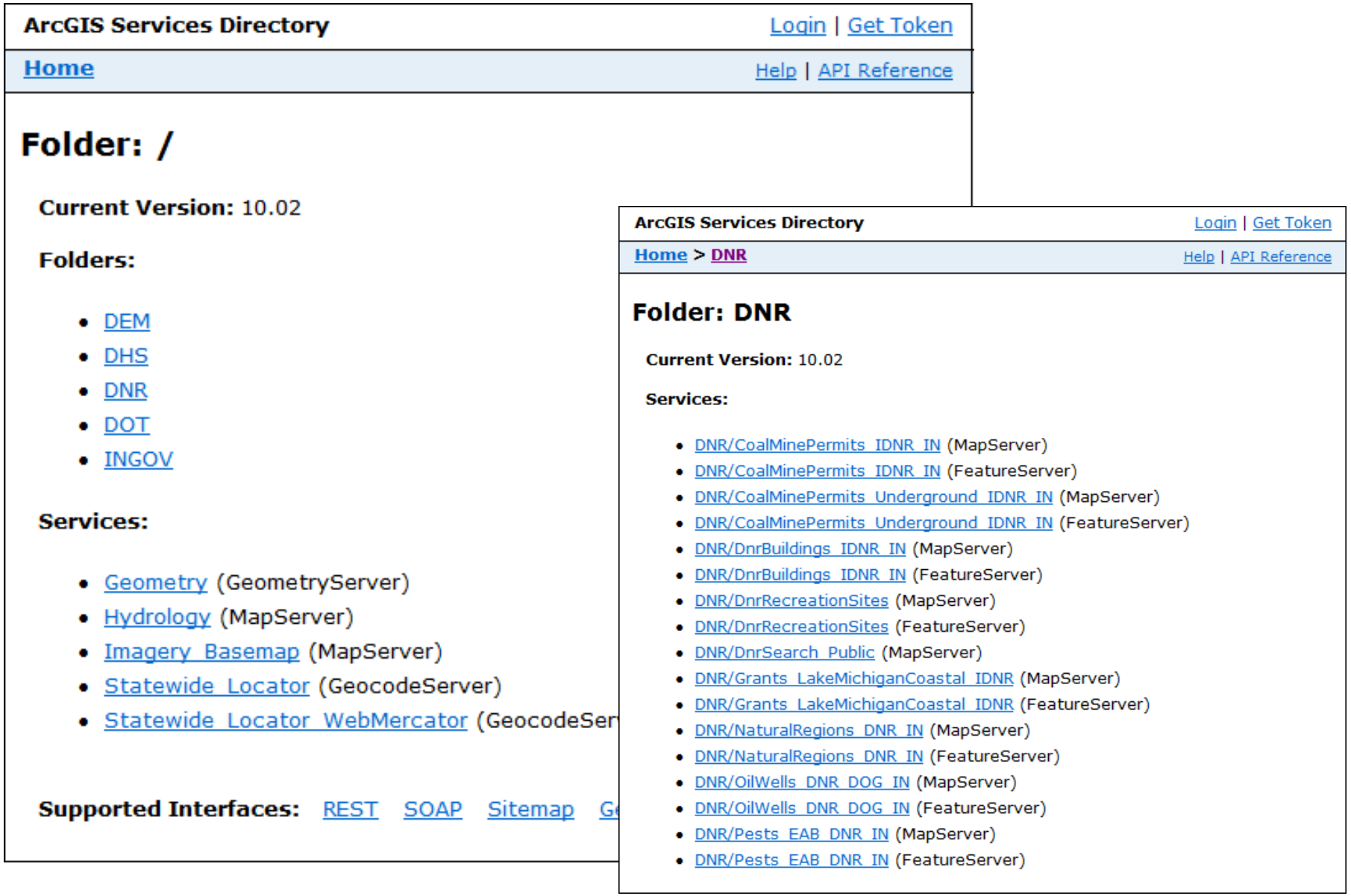
View Footprints In: Google Earth

Services:

- CMIS/Coal_Mines_Entries (MapServer)
- CMIS/Coal_Mines_Subsidence (MapServer)
- CMIS/Coal_Mines_Surface (MapServer)
- CMIS/Coal_Mines_Surface_Coal_Seam (MapServer)
- CMIS/Coal_Mines_Surface_Time (MapServer)
- CMIS/Coal_Mines_Underground (MapServer)
- CMIS/Coal_Mines_Underground_Coal_Seam (MapServer)
- CMIS/Coal_Mines_Underground_Time (MapServer)
- CMIS/Coal_Mines_Water_Quality_Sites (MapServer)

State of Indiana ArcGIS Services Directory

http://gis.in.gov/arcgis/rest/services



ArcGIS Services Directory — Login | Get Token

Home — Help | API Reference

Folder: /

Current Version: 10.02

Folders:

- DEM
- DHS
- DNR
- DOT
- INGOV

Services:

- Geometry (GeometryServer)
- Hydrology (MapServer)
- Imagery_Basemap (MapServer)
- Statewide_Locator (GeocodeServer)
- Statewide_Locator_WebMercator (GeocodeSer

Supported Interfaces: REST SOAP Sitemap G

ArcGIS Services Directory — Login | Get Token

Home > DNR — Help | API Reference

Folder: DNR

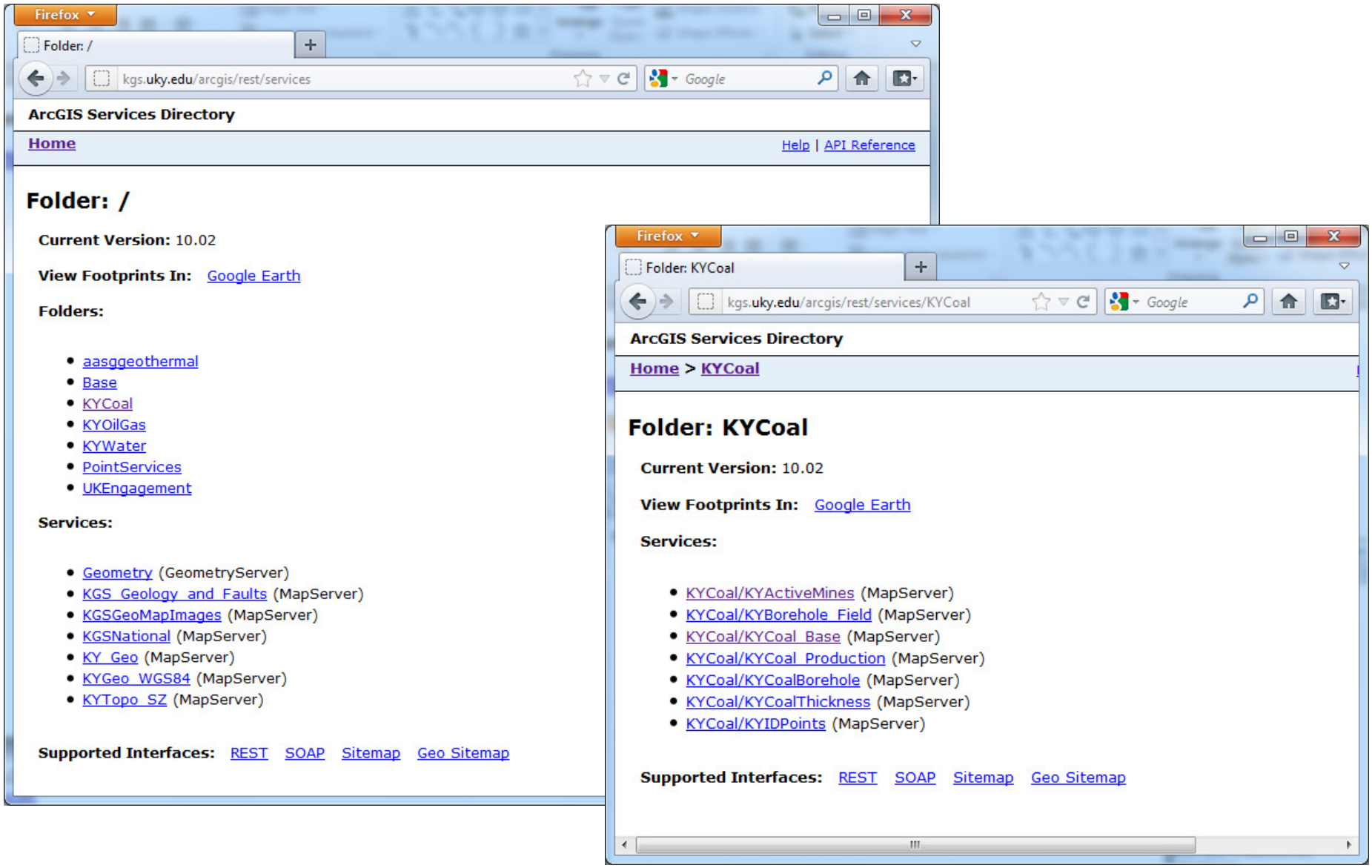
Current Version: 10.02

Services:

- DNR/CoalMinePermits_IDNR_IN (MapServer)
- DNR/CoalMinePermits_IDNR_IN (FeatureServer)
- DNR/CoalMinePermits_Underground_IDNR_IN (MapServer)
- DNR/CoalMinePermits_Underground_IDNR_IN (FeatureServer)
- DNR/DnrBuildings_IDNR_IN (MapServer)
- DNR/DnrBuildings_IDNR_IN (FeatureServer)
- DNR/DnrRecreationSites (MapServer)
- DNR/DnrRecreationSites (FeatureServer)
- DNR/DnrSearch_Public (MapServer)
- DNR/Grants_LakeMichiganCoastal_IDNR (MapServer)
- DNR/Grants_LakeMichiganCoastal_IDNR (FeatureServer)
- DNR/NaturalRegions_DNR_IN (MapServer)
- DNR/NaturalRegions_DNR_IN (FeatureServer)
- DNR/OilWells_DNR_DOG_IN (MapServer)
- DNR/OilWells_DNR_DOG_IN (FeatureServer)
- DNR/Pests_EAB_DNR_IN (MapServer)
- DNR/Pests_EAB_DNR_IN (FeatureServer)

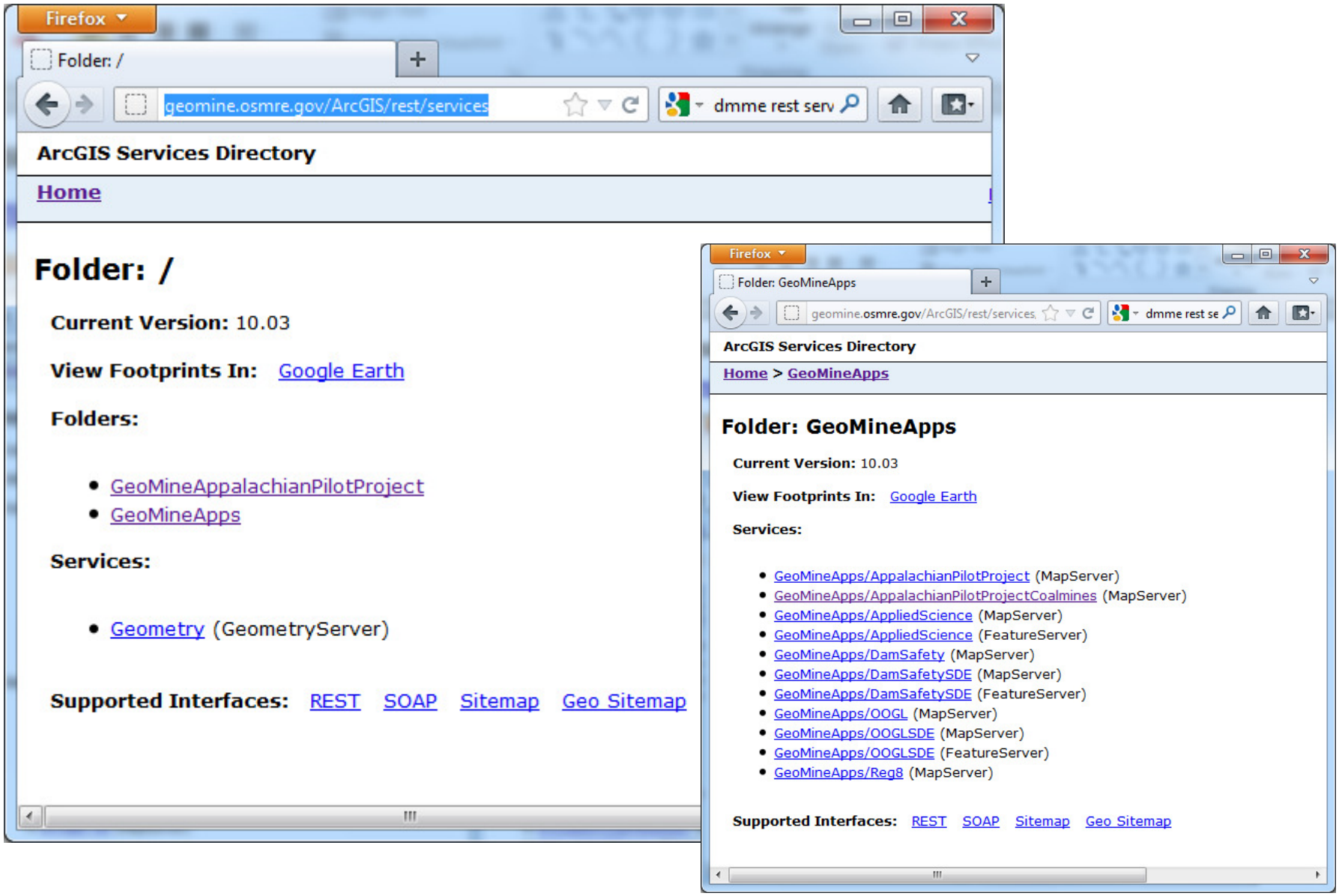
Kentucky Geological Survey ArcGIS Services Directory

http://kgs.uky.edu/arcgis/rest/services



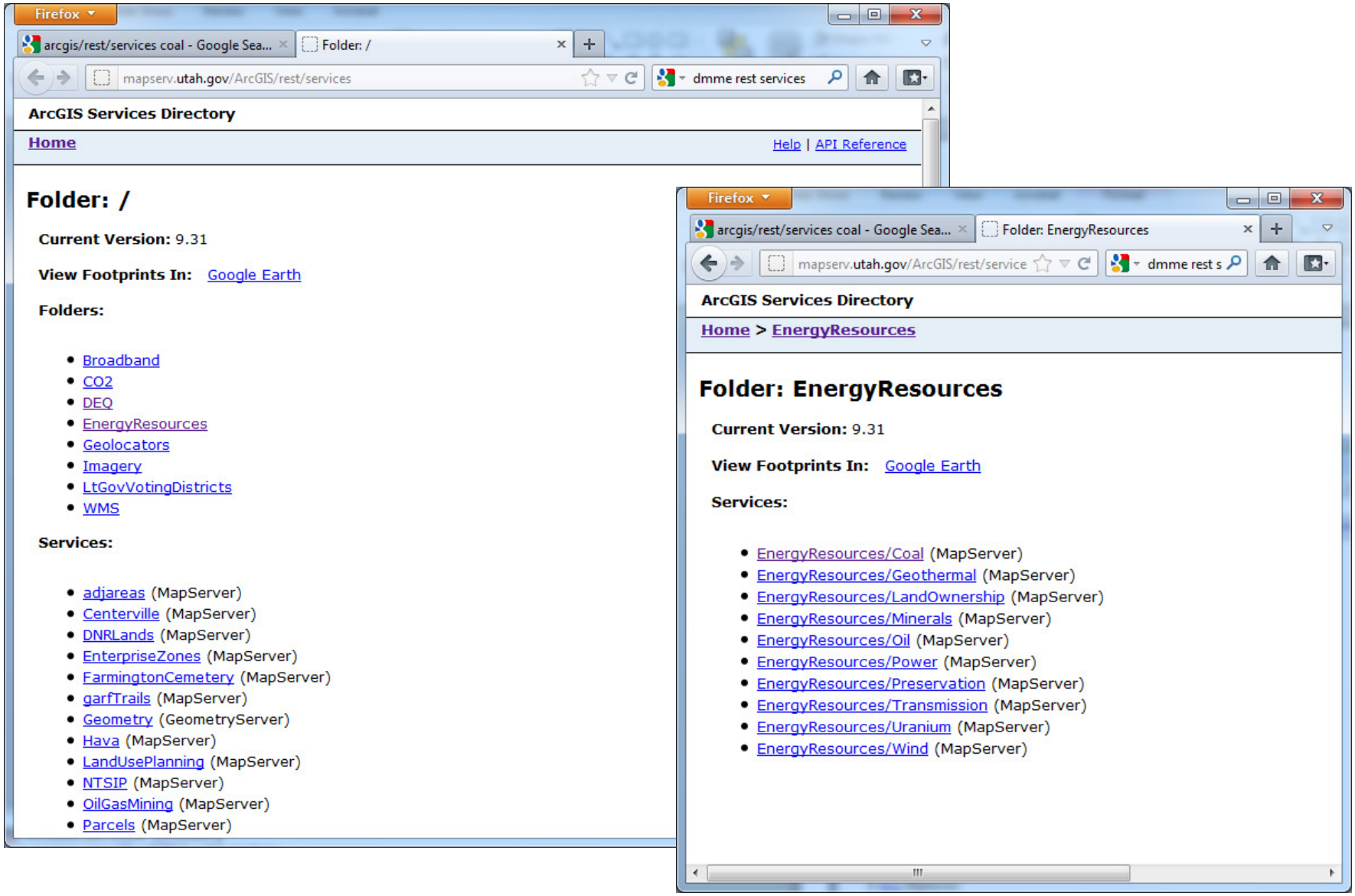
OSM Geomine ArcGIS Services Directory

http://geomine.osmre.gov/ArcGIS/rest/services



Utah ArcGIS Services Directory

http://mapserv.utah.gov/ArcGIS/rest/services



ESRI ArcGIS Online ArcGIS Services Directory

http://server.arcgisonline.com/ArcGIS/rest/services

ArcGIS Services Directory

Home | Help | API Reference

Folder: /

Current Version: 10.01

View Footprints In: Google Earth

Folders:

- Canvas
- Demographics
- Elevation
- Reference
- Specialty

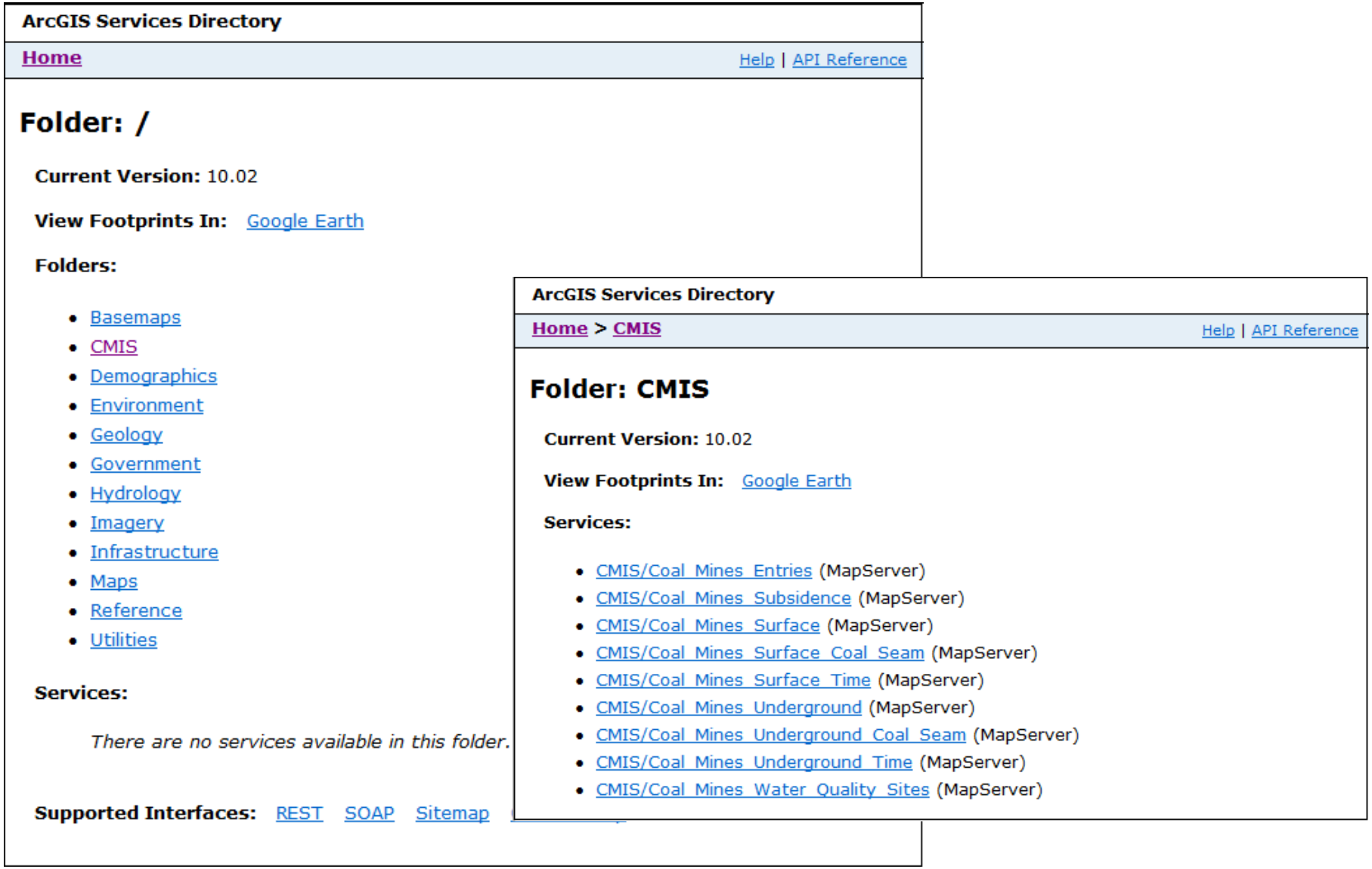
Services:

- CSP_Imagery_World (GlobeServer)
- CSP_Imagery_World_2D (MapServer)
- ESRI_Imagery_World (GlobeServer)
- ESRI_Imagery_World_2D (MapServer)
- ESRI_ShadedRelief_World (GlobeServer)
- ESRI_ShadedRelief_World_2D (MapServer)
- ESRI_StreetMap_World (GlobeServer)
- ESRI_StreetMap_World_2D (MapServer)
- I3_Imagery_Prime_World (GlobeServer)
- I3_Imagery_Prime_World_2D (MapServer)
- NASA_CloudCover_World (GlobeServer)
- NGS_Topo_US (GlobeServer)
- NGS_Topo_US_2D (MapServer)
- Ocean_Basemap (MapServer)
- USA_Topo_Maps (MapServer)
- World_Imagery (MapServer)
- World_Physical_Map (MapServer)
- World_Shaded_Relief (MapServer)
- World_Street_Map (MapServer)
- World_Terrain_Base (MapServer)
- World_Topo_Map (MapServer)

Supported Interfaces: REST SOAP Sitemap Geo Sitemap

Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services



ArcGIS Services Directory

Home | Help | API Reference

Folder: /

Current Version: 10.02

View Footprints In: Google Earth

Folders:

- Basemaps
- CMIS
- Demographics
- Environment
- Geology
- Government
- Hydrology
- Imagery
- Infrastructure
- Maps
- Reference
- Utilities

Services:

There are no services available in this folder.

Supported Interfaces: REST SOAP Sitemap

ArcGIS Services Directory

Home > CMIS | Help | API Reference

Folder: CMIS

Current Version: 10.02

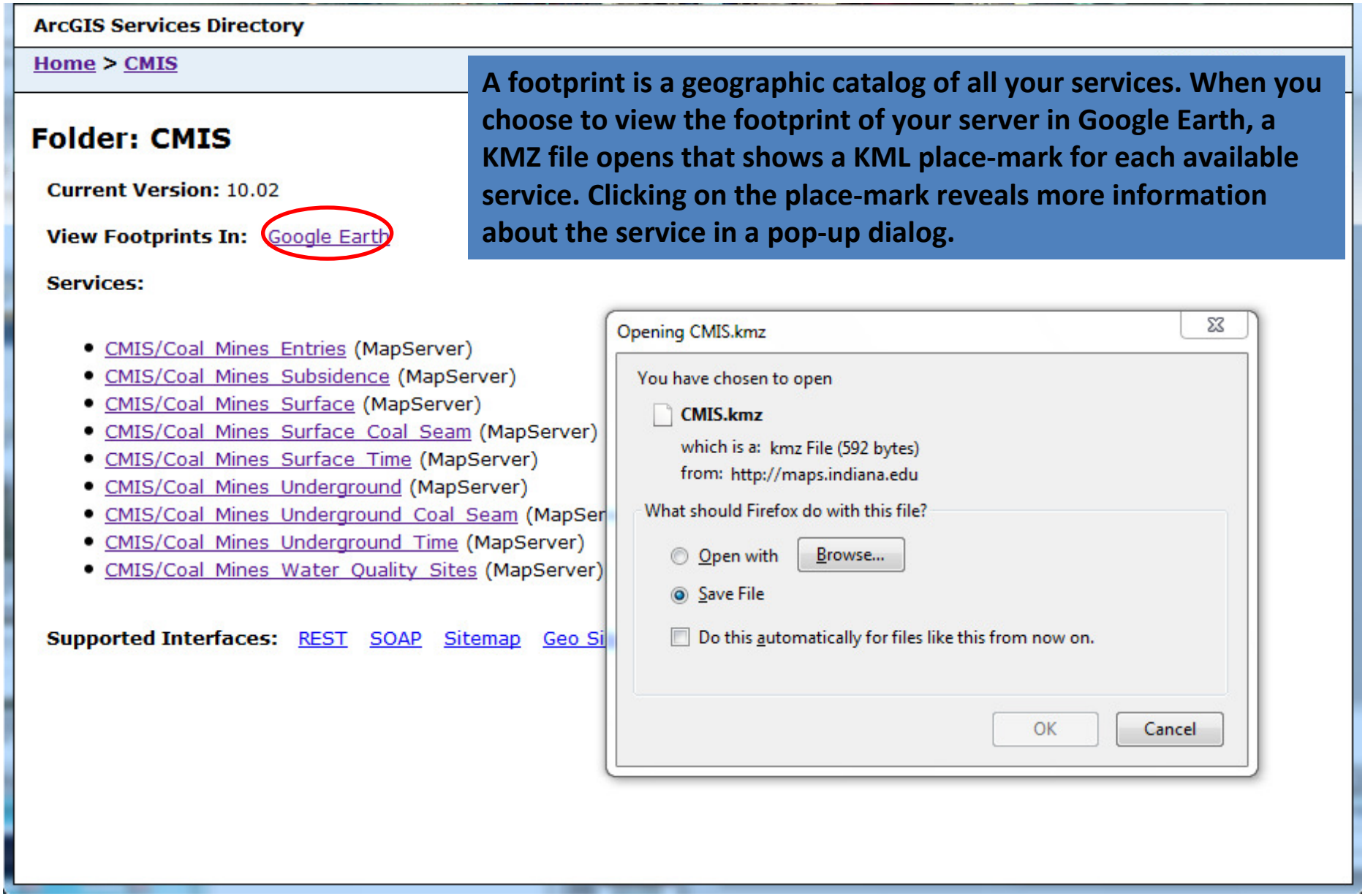
View Footprints In: Google Earth

Services:

- CMIS/Coal_Mines_Entries (MapServer)
- CMIS/Coal_Mines_Subsidence (MapServer)
- CMIS/Coal_Mines_Surface (MapServer)
- CMIS/Coal_Mines_Surface_Coal_Seam (MapServer)
- CMIS/Coal_Mines_Surface_Time (MapServer)
- CMIS/Coal_Mines_Underground (MapServer)
- CMIS/Coal_Mines_Underground_Coal_Seam (MapServer)
- CMIS/Coal_Mines_Underground_Time (MapServer)
- CMIS/Coal_Mines_Water_Quality_Sites (MapServer)

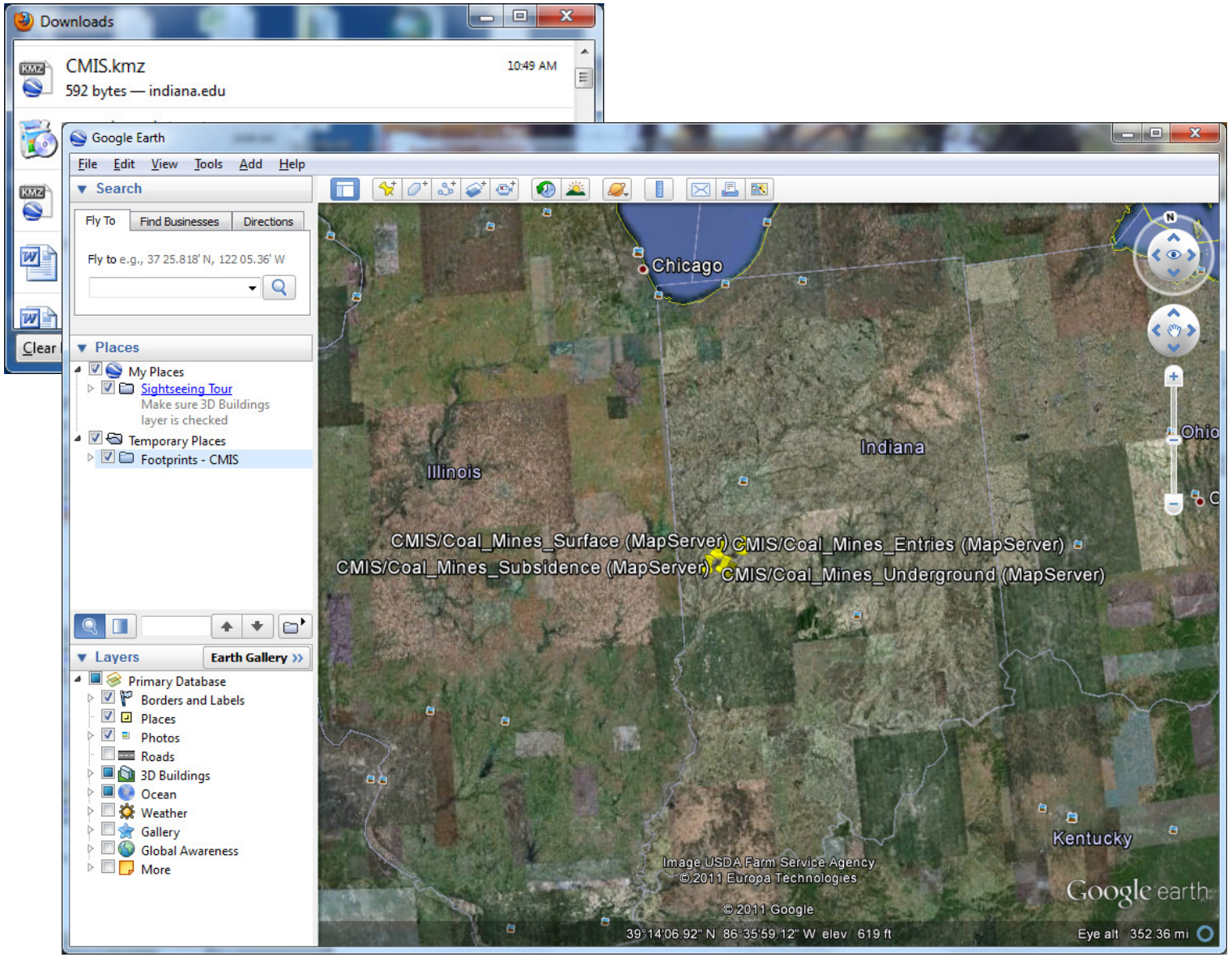
Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services



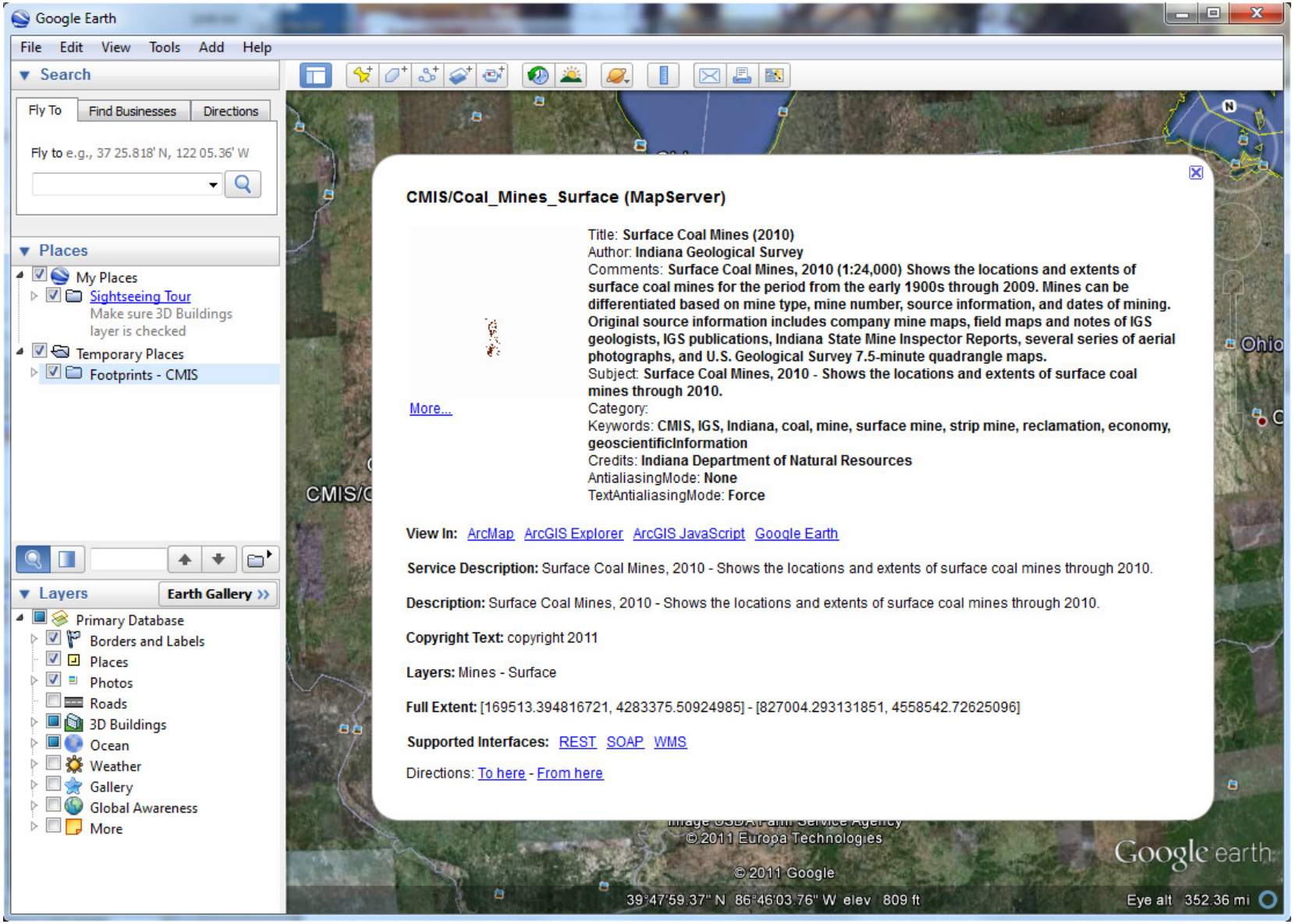
Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services



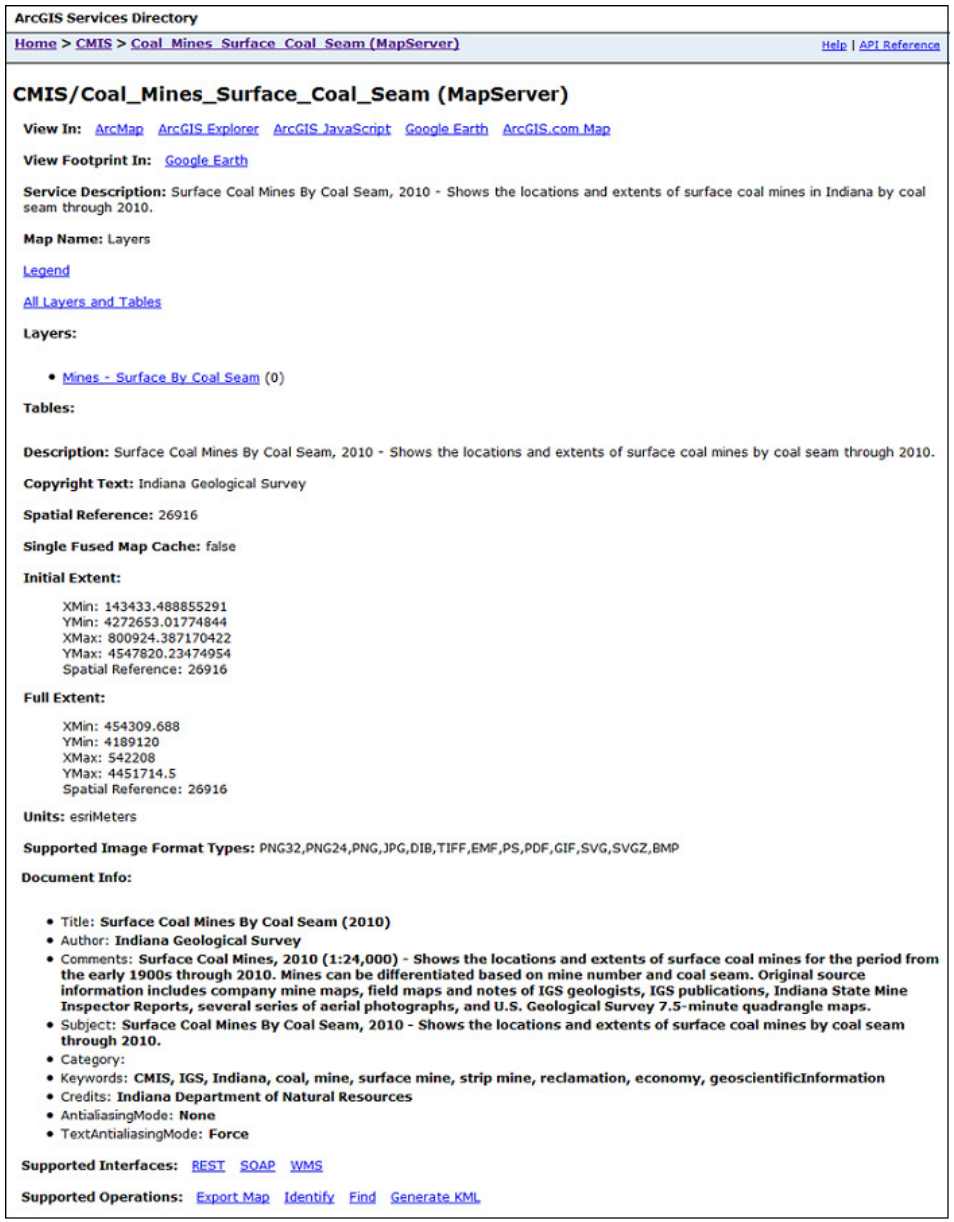
Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services



Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services



ArcGIS Services Directory

Home > CMIS > Coal_Mines_Surface_Coal_Seam (MapServer) Help | API Reference

CMIS/Coal_Mines_Surface_Coal_Seam (MapServer)

View In: ArcMap ArcGIS Explorer ArcGIS JavaScript Google Earth ArcGIS.com Map

View Footprint In: Google Earth

Service Description: Surface Coal Mines By Coal Seam, 2010 - Shows the locations and extents of surface coal mines in Indiana by coal seam through 2010.

Map Name: Layers

Legend

All Layers and Tables

Layers:

- Mines - Surface By Coal Seam (0)

Tables:

Description: Surface Coal Mines By Coal Seam, 2010 - Shows the locations and extents of surface coal mines by coal seam through 2010.

Copyright Text: Indiana Geological Survey

Spatial Reference: 26916

Single Fused Map Cache: false

Initial Extent:

XMin: 143433.488855291
YMin: 4272653.01774844
XMax: 800924.387170422
YMax: 4547820.23474954
Spatial Reference: 26916

Full Extent:

XMin: 454309.688
YMin: 4189120
XMax: 542208
YMax: 4451714.5
Spatial Reference: 26916

Units: esriMeters

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

Document Info:

- Title: **Surface Coal Mines By Coal Seam (2010)**
- Author: **Indiana Geological Survey**
- Comments: **Surface Coal Mines, 2010 (1:24,000) - Shows the locations and extents of surface coal mines for the period from the early 1900s through 2010. Mines can be differentiated based on mine number and coal seam. Original source information includes company mine maps, field maps and notes of IGS geologists, IGS publications, Indiana State Mine Inspector Reports, several series of aerial photographs, and U.S. Geological Survey 7.5-minute quadrangle maps.**
- Subject: **Surface Coal Mines By Coal Seam, 2010 - Shows the locations and extents of surface coal mines by coal seam through 2010.**
- Category:
- Keywords: **CMIS, IGS, Indiana, coal, mine, surface mine, strip mine, reclamation, economy, geoscientificInformation**
- Credits: **Indiana Department of Natural Resources**
- AntialiasingMode: **None**
- TextAntialiasingMode: **Force**

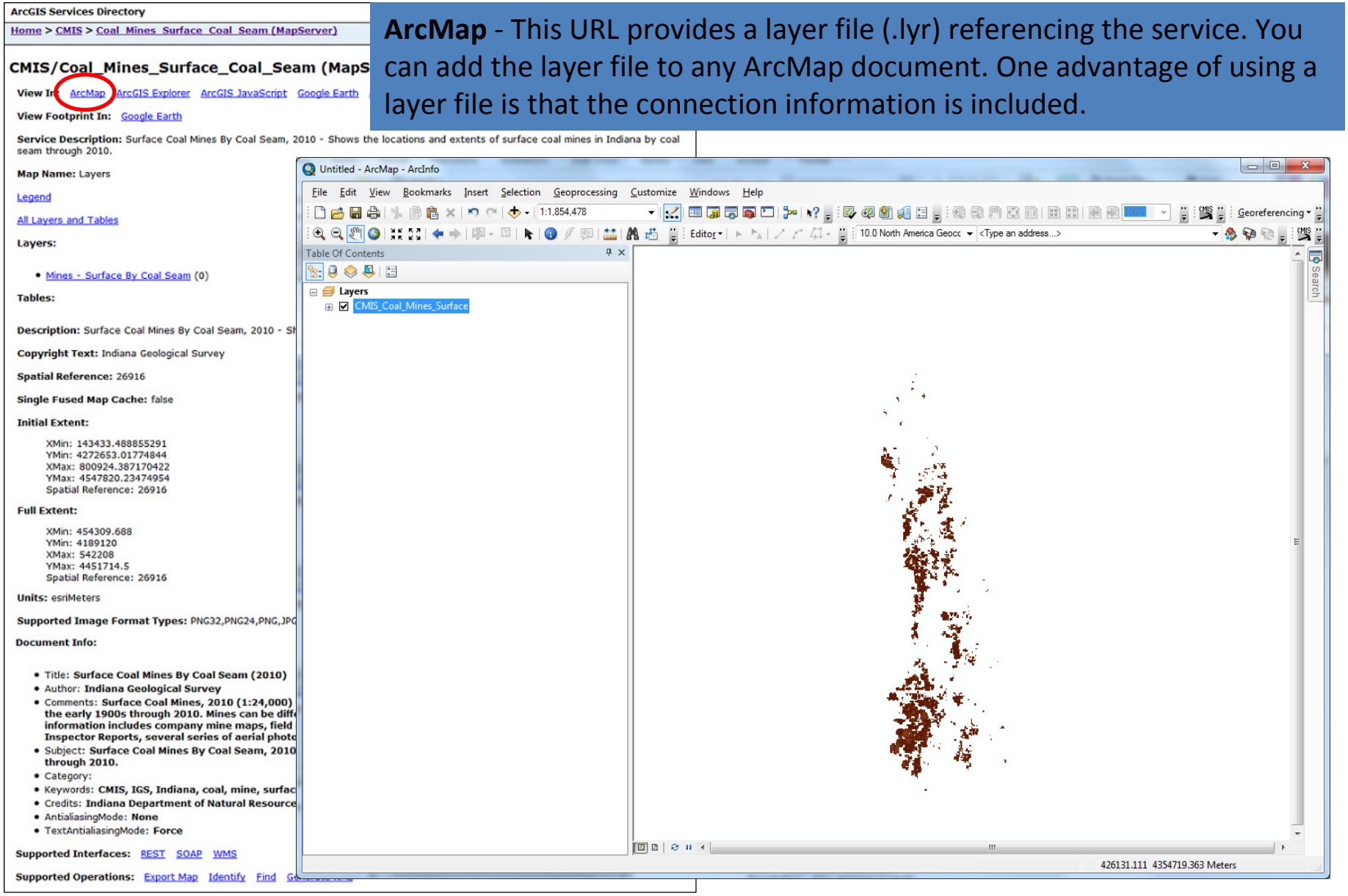
Supported Interfaces: REST SOAP WMS

Supported Operations: Export Map Identify Find Generate KML

Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services

ArcMap - This URL provides a layer file (.lyr) referencing the service. You can add the layer file to any ArcMap document. One advantage of using a layer file is that the connection information is included.



Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services

This URL provides a simple preview of the map in a Web browser. The preview uses the ArcGIS JavaScript API. The advantage of this option is that it does not require any special software on the client.

ArcGIS Services Directory

Home > CMIS > Coal_Mines_Surface_Coal_Seam (MapServer)

CMIS/Coal_Mines_Surface_Coal_Seam (Ma

View In: ArcMap ArcGIS Explorer ArcGIS JavaScript Google Ear

View Footprint In: Google Earth

Service Description: Surface Coal Mines By Coal Seam, 2010 - Shows the locations and extents of surface coal mines in Indiana by coal seam through 2010.

Map Name: Layers

Legend

All Layers and Tables

Layers:

- Mines - Surface By Coal Seam (0)

Tables:

Description: Surface Coal Mines By Coal Seam, 2010 - Shows the locations and extent

Copyright Text: Indiana Geological Survey

Spatial Reference: 26916

Single Fused Map Cache: false

Initial Extent:

XMin: 143433.488855291
YMin: 4272653.01774844
XMax: 800924.387170422
YMax: 4547820.23474954
Spatial Reference: 26916

Full Extent:

XMin: 454309.688
YMin: 4189120
XMax: 542208
YMax: 4451714.5
Spatial Reference: 26916

Units: esriMeters

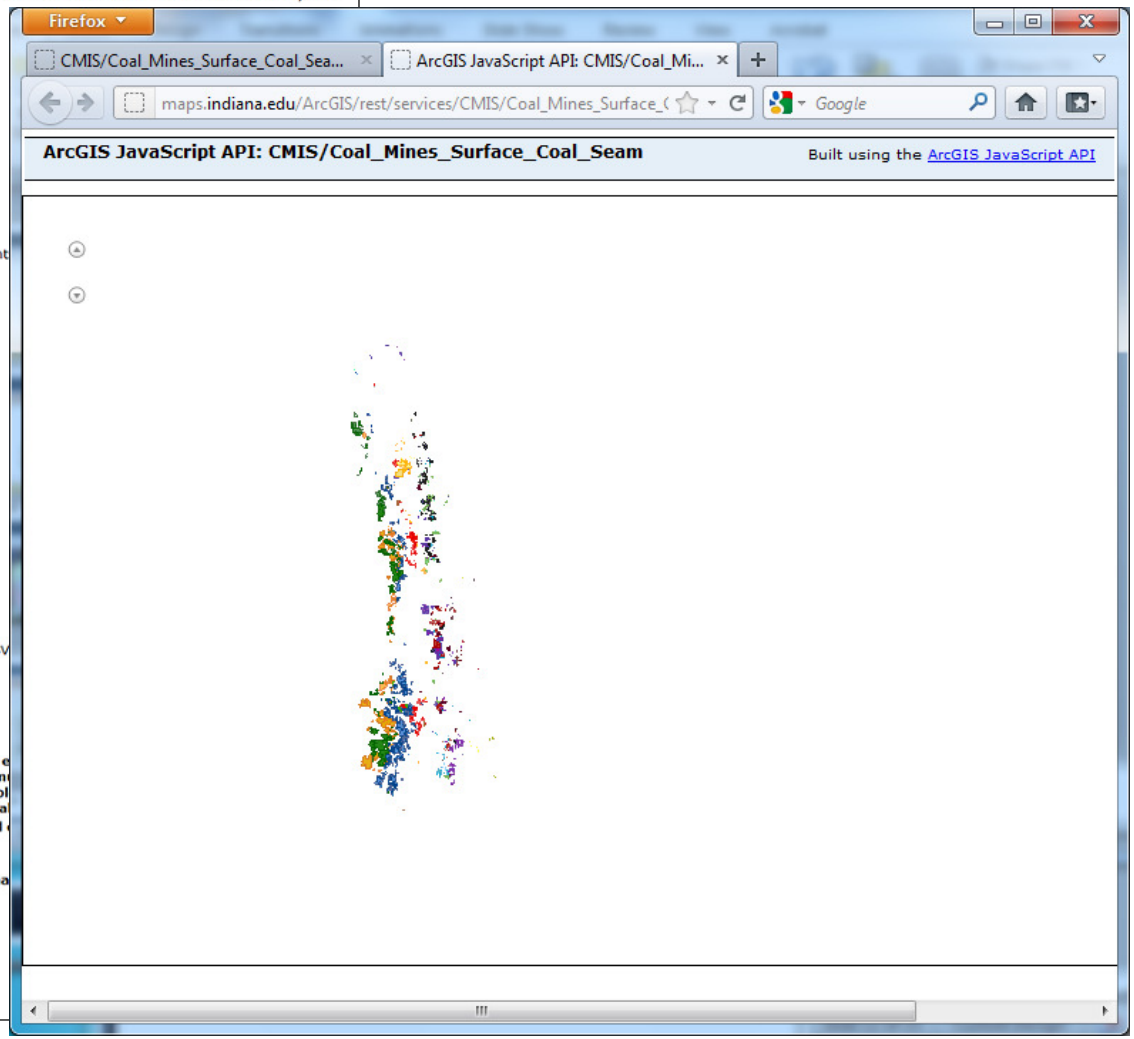
Supported Image Format Types: PNG32,PNG24,PNG,JPG,DIB,TIFF,EMF,PS,PDF,GIF,SV

Document Info:

- Title: **Surface Coal Mines By Coal Seam (2010)**
- Author: **Indiana Geological Survey**
- Comments: **Surface Coal Mines, 2010 (1:24,000) - Shows the locations and e the early 1900s through 2010. Mines can be differentiated based on mine n information includes company mine maps, field maps and notes of IGS geol Inspector Reports, several series of aerial photographs, and U.S. Geologica**
- Subject: **Surface Coal Mines By Coal Seam, 2010 - Shows the locations and through 2010.**
- Category:
- Keywords: **CMIS, IGS, Indiana, coal, mine, surface mine, strip mine, reclama**
- Credits: **Indiana Department of Natural Resources**
- AntialiasingMode: **None**
- TextAntialiasingMode: **Force**

Supported Interfaces: REST SOAP WMS

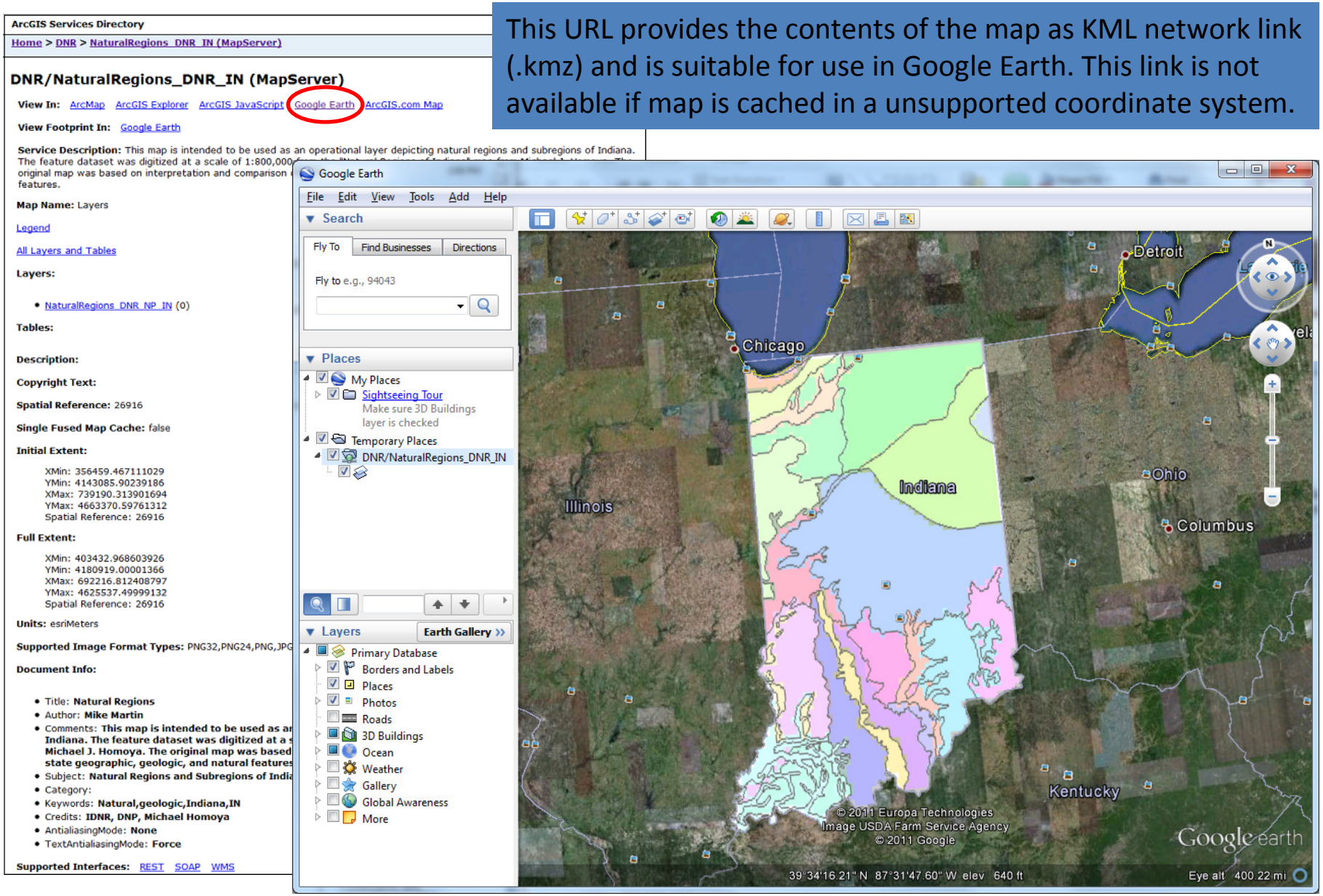
Supported Operations: Export Map Identify Find Generate KML



State of Indiana ArcGIS Services Directory

http://gis.in.gov/ArcGIS/rest/services

This URL provides the contents of the map as KML network link (.kmz) and is suitable for use in Google Earth. This link is not available if map is cached in a unsupported coordinate system.



Indiana Geological Survey ArcGIS Services Directory

http://maps.indiana.edu/ArcGIS/rest/services

ArcGIS.com Map - This URL will provide a preview of a Map Service in ArcGIS.com map.

ArcGIS Services Directory

Home > CMIS > Coal_Mines_Surface_Coal_Seam (MapServer)

CMIS/Coal_Mines_Surface_Coal_Seam (MapServer)

View In: ArcMap ArcGIS Explorer ArcGIS JavaScript Google Earth ArcGIS.com Map

View Footprint In: Google Earth

Service Description: Surface Coal Mines By Coal Seam, 2010 - Shows the locations and extents of surface coal mines in Indiana by coal seam through 2010.

Map Name: Layers

Legend

All Layers and Tables

Layers:

- Mines - Surface By Coal Seam (0)

Tables:

Description: Surface Coal Mines By Coal Seam, 2010 - Shows the loca

Copyright Text: Indiana Geological Survey

Spatial Reference: 26916

Single Fused Map Cache: false

Initial Extent:

XMin: 143433.488855291
YMin: 4272653.01774844
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YMax: 4547820.23474954
Spatial Reference: 26916

Full Extent:

XMin: 454309.688
YMin: 4189120
XMax: 542208
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Spatial Reference: 26916

Units: esriMeters

Supported Image Format Types: PNG32,PNG24,PNG,JPG,DIB,TIFF,EM

Document Info:

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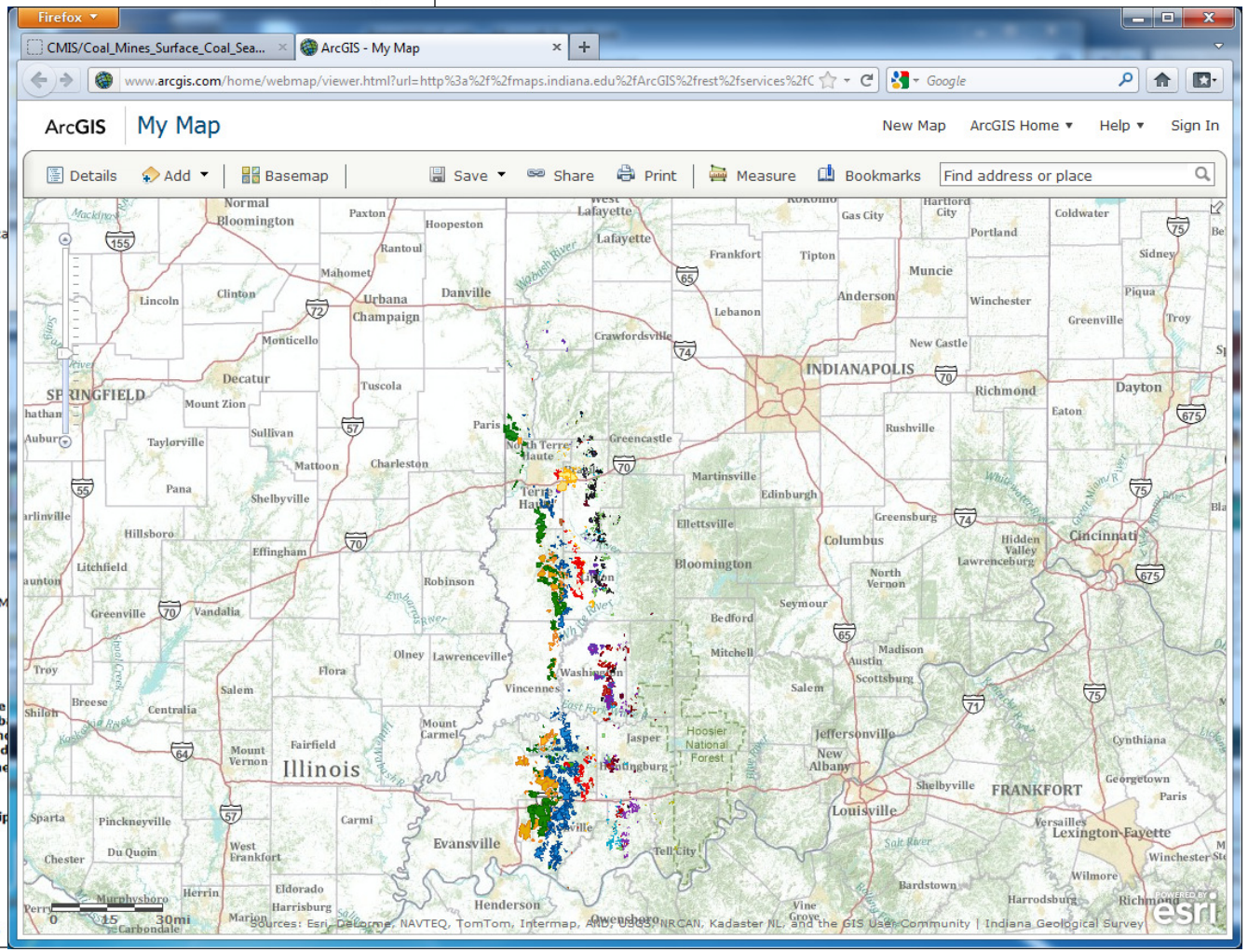
- Author: **Indiana Geological Survey**
- Comments: **Surface Coal Mines, 2010 (1:24,000) - Shows the the early 1900s through 2010. Mines can be differentiated b information includes company mine maps, field maps and n Inspector Reports, several series of aerial photographs, and**
- Subject: **Surface Coal Mines By Coal Seam, 2010 - Shows th through 2010.**
- Category:
- Keywords: **CMIS, IGS, Indiana, coal, mine, surface mine, strip**
- Credits: **Indiana Department of Natural Resources**
- AntialiasingMode: **None**
- TextAntialiasingMode: **Force**

Supported Interfaces: REST SOAP WMS

Supported Operations: Export Map Identify Find Generate KML



End Demo