

ArcGIS 10 and REST Services Technology

Presented by:

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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:	
<ul style="list-style-type: none">• Basemaps• CMIS• Demographics• Environment• Geology• Government• Hydrology• Imagery• Infrastructure• Maps• Reference• Utilities	
Services:	
<i>There are no services available in this folder.</i>	
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:	
<ul style="list-style-type: none">• 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](#) (GeocodeServer)

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

ArcGIS Services Directory	Login Get Token
Home > DNR	Help API Reference

Folder: DNR

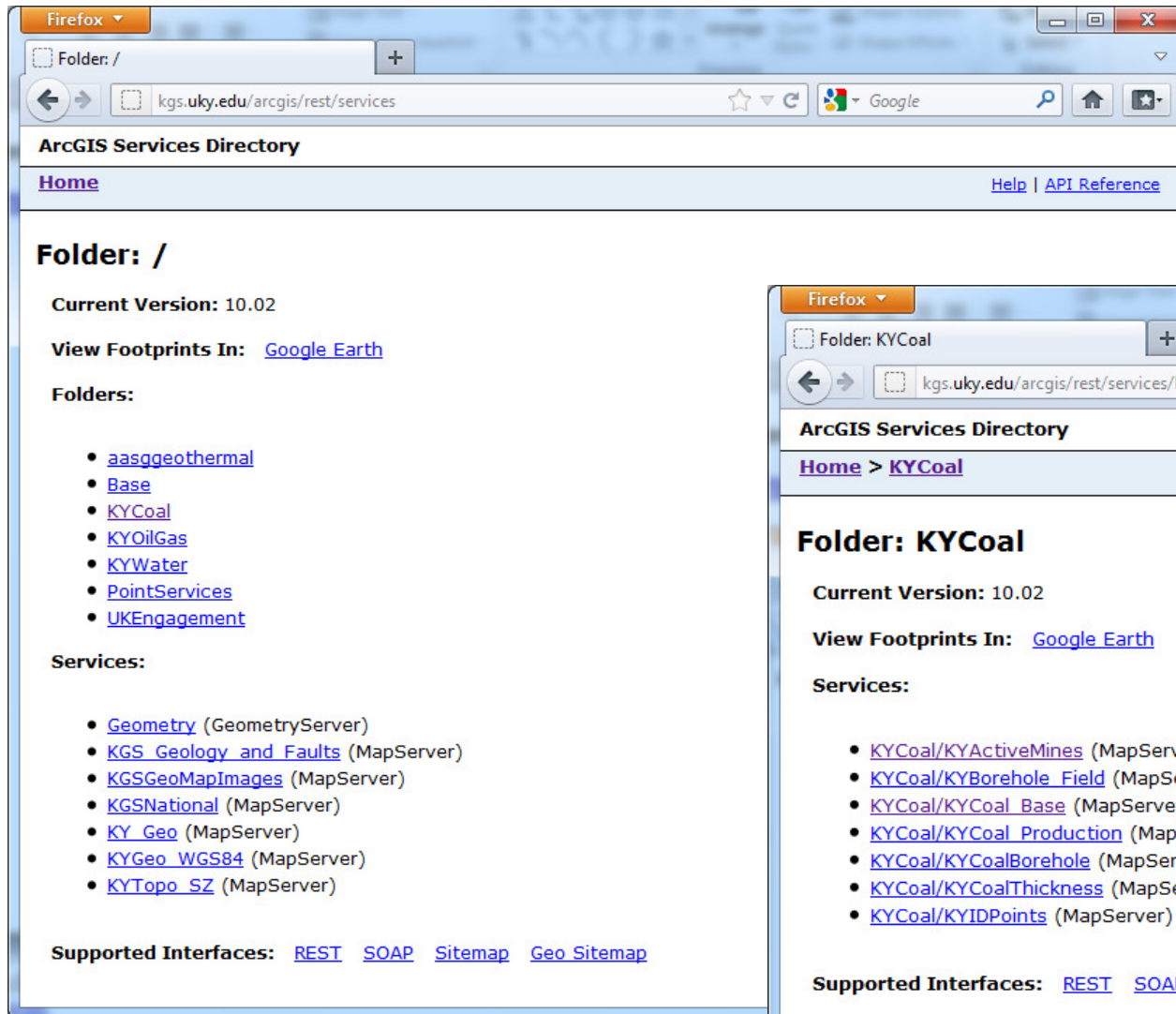
Current Version: 10.02

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>



Firefox

Folder: /

kgs.uky.edu/arcgis/rest/services

ArcGIS Services Directory

Home [Help](#) | [API Reference](#)

Folder: /

Current Version: 10.02

View Footprints In: [Google Earth](#)

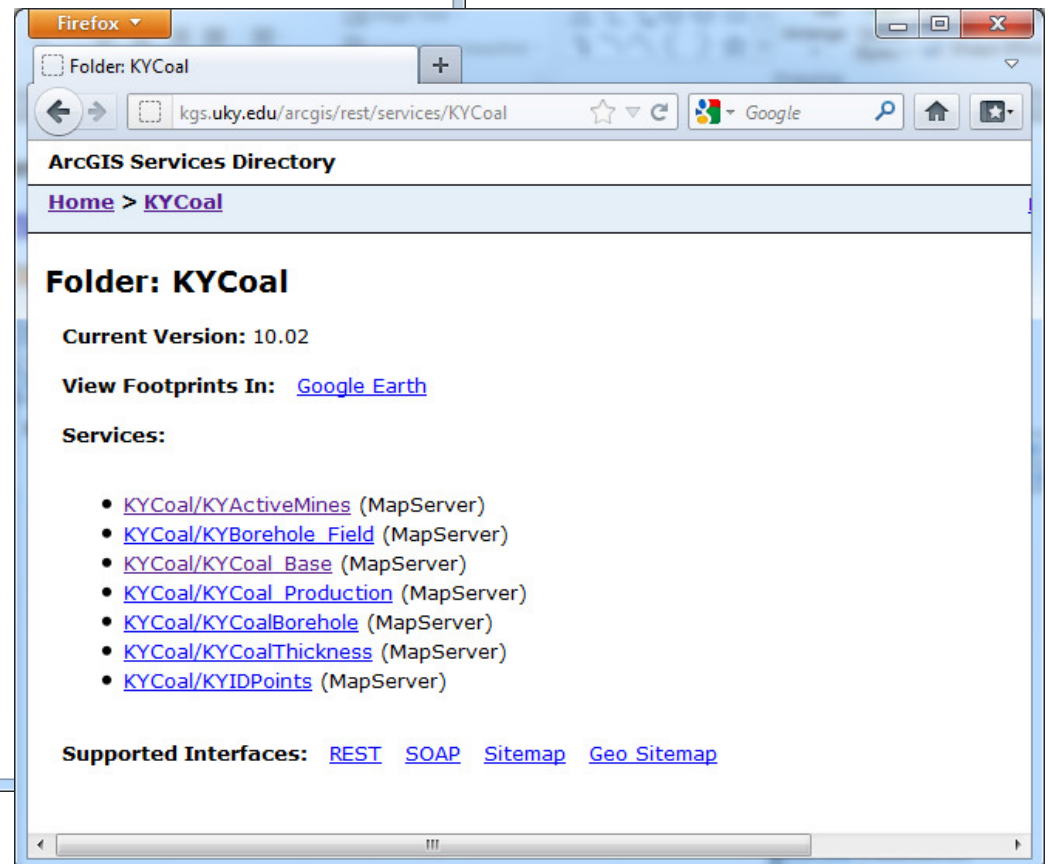
Folders:

- [aasggeothermal](#)
- [Base](#)
- [KYCoal](#)
- [KYOilGas](#)
- [KYWater](#)
- [PointServices](#)
- [UKEngagement](#)

Services:

- [Geometry](#) (GeometryServer)
- [KGS_Geology_and_Faults](#) (MapServer)
- [KGSGeoMapImages](#) (MapServer)
- [KGSNational](#) (MapServer)
- [KY_Geo](#) (MapServer)
- [KYGeo_WGS84](#) (MapServer)
- [KYTopo_SZ](#) (MapServer)

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



Firefox

Folder: KYCoal

kgs.uky.edu/arcgis/rest/services/KYCoal

ArcGIS Services Directory

Home > [KYCoal](#)

Folder: KYCoal

Current Version: 10.02

View Footprints In: [Google Earth](#)

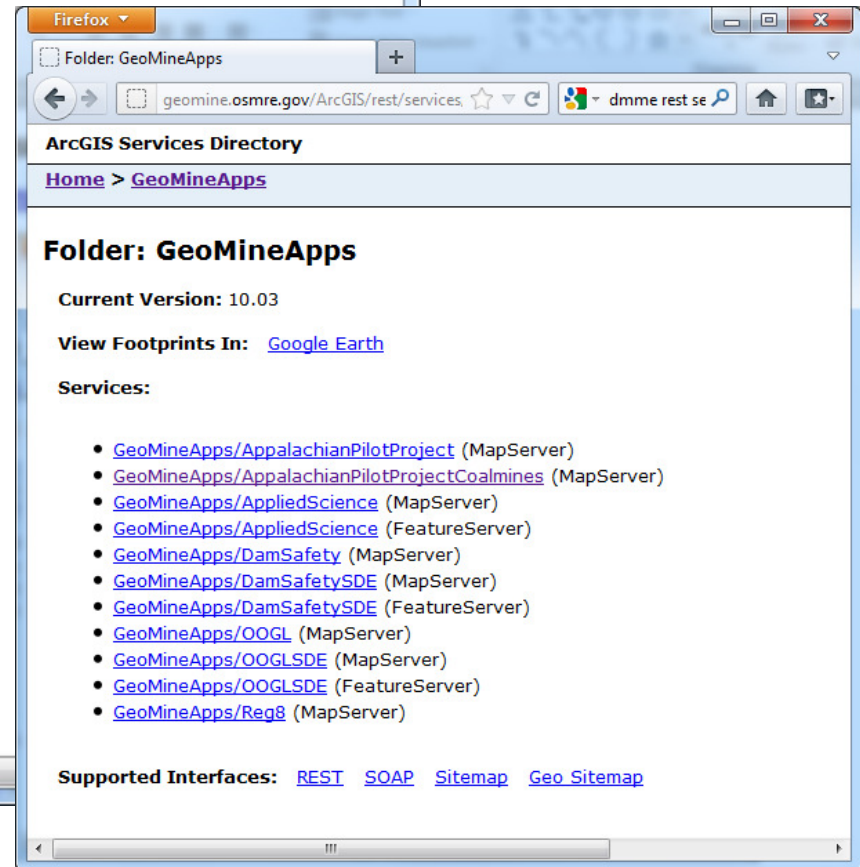
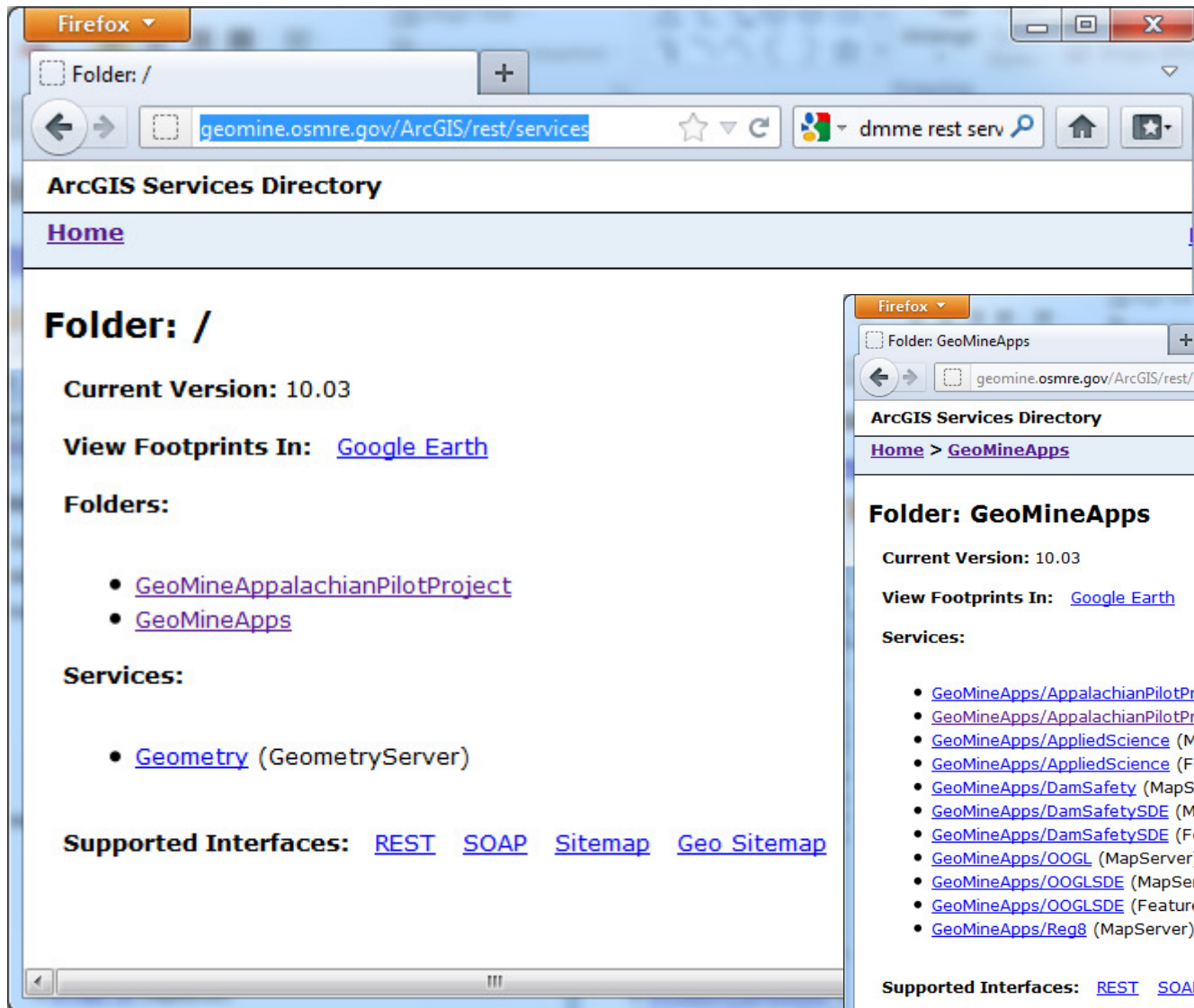
Services:

- [KYCoal/KYActiveMines](#) (MapServer)
- [KYCoal/KYBorehole_Field](#) (MapServer)
- [KYCoal/KYCoal_Base](#) (MapServer)
- [KYCoal/KYCoal_Production](#) (MapServer)
- [KYCoal/KYCoalBorehole](#) (MapServer)
- [KYCoal/KYCoalThickness](#) (MapServer)
- [KYCoal/KYIDPoints](#) (MapServer)

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

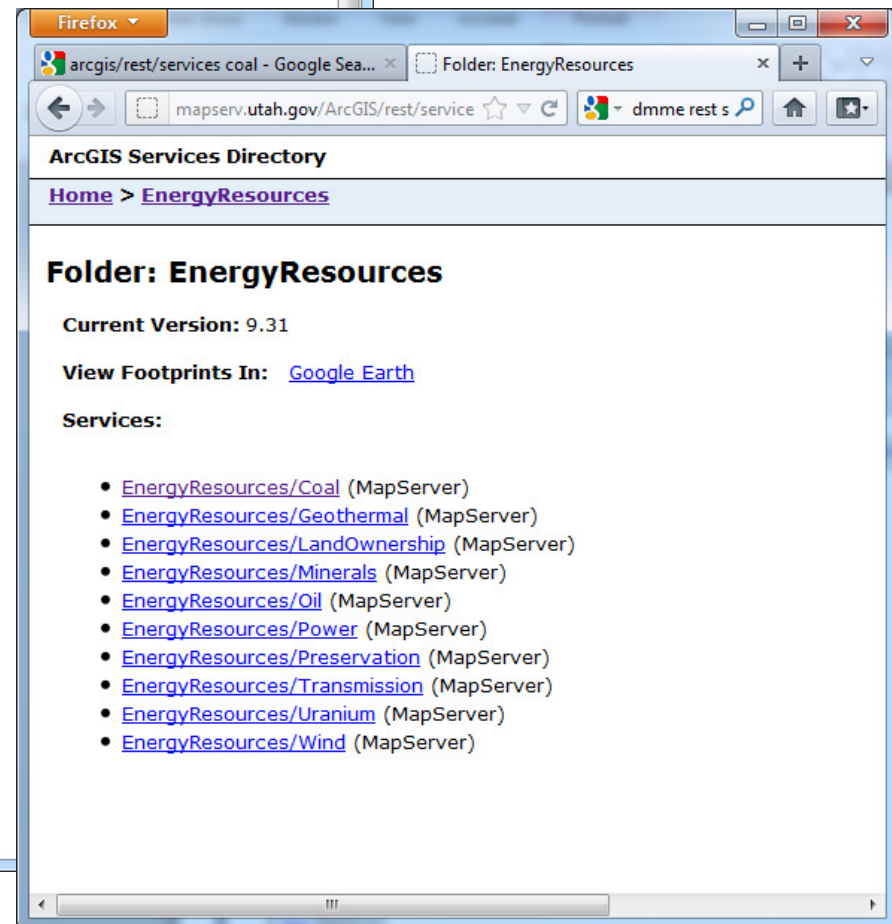
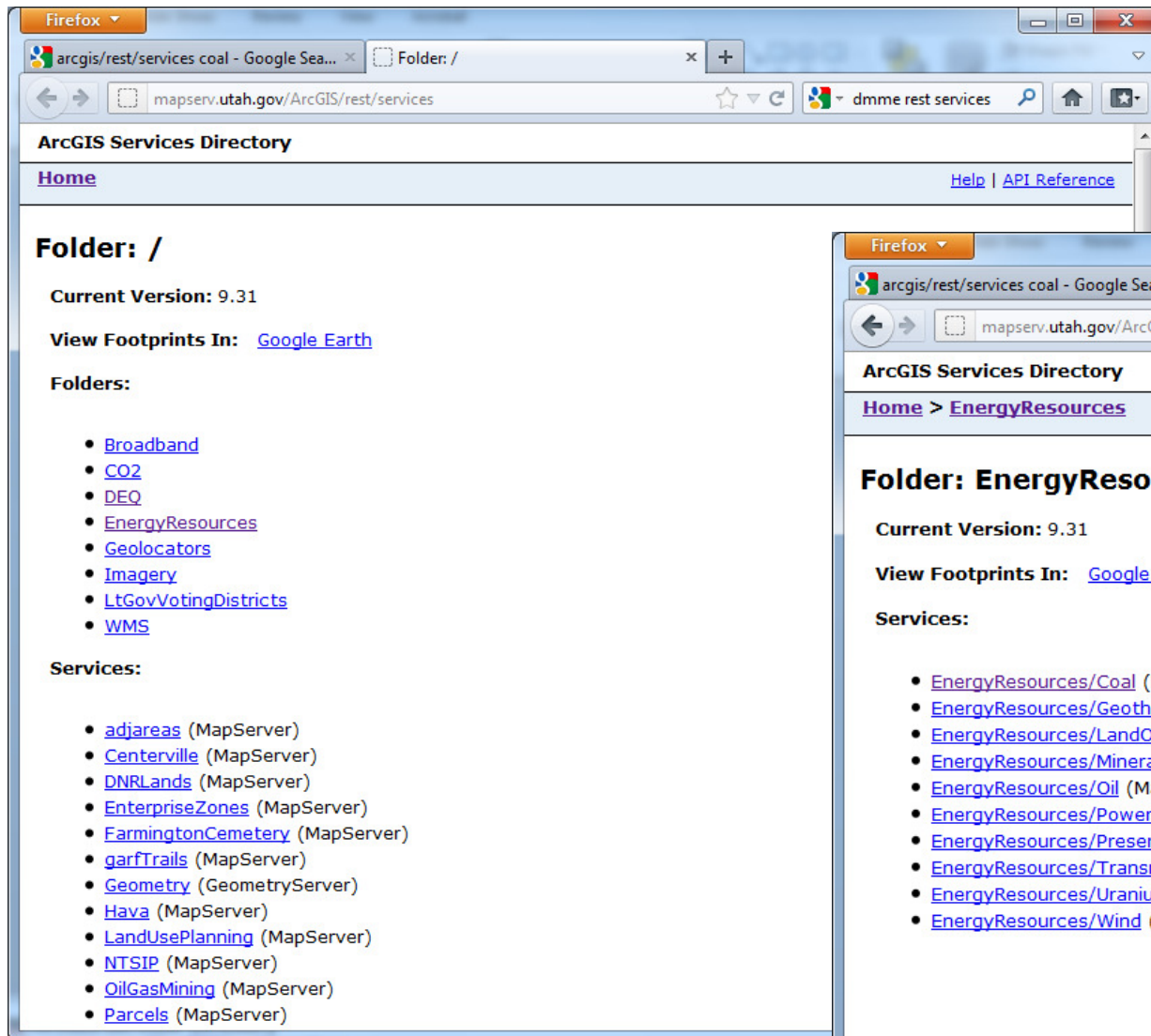
OSM Geomine ArcGIS Services Directory

<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:	
<ul style="list-style-type: none">• Basemaps• CMIS• Demographics• Environment• Geology• Government• Hydrology• Imagery• Infrastructure• Maps• Reference• Utilities	
Services:	
<i>There are no services available in this folder.</i>	
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:	
<ul style="list-style-type: none">• 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>

ArcGIS Services Directory

[Home](#) > [CMIS](#)

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)

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

A footprint is a geographic catalog of all your services. When you choose to view the footprint of your server in Google Earth, a KMZ file opens that shows a KML place-mark for each available service. Clicking on the place-mark reveals more information about the service in a pop-up dialog.

Opening CMIS.kmz

You have chosen to open

 **CMIS.kmz**
which is a: kmz File (592 bytes)
from: <http://maps.indiana.edu>

What should Firefox do with this file?

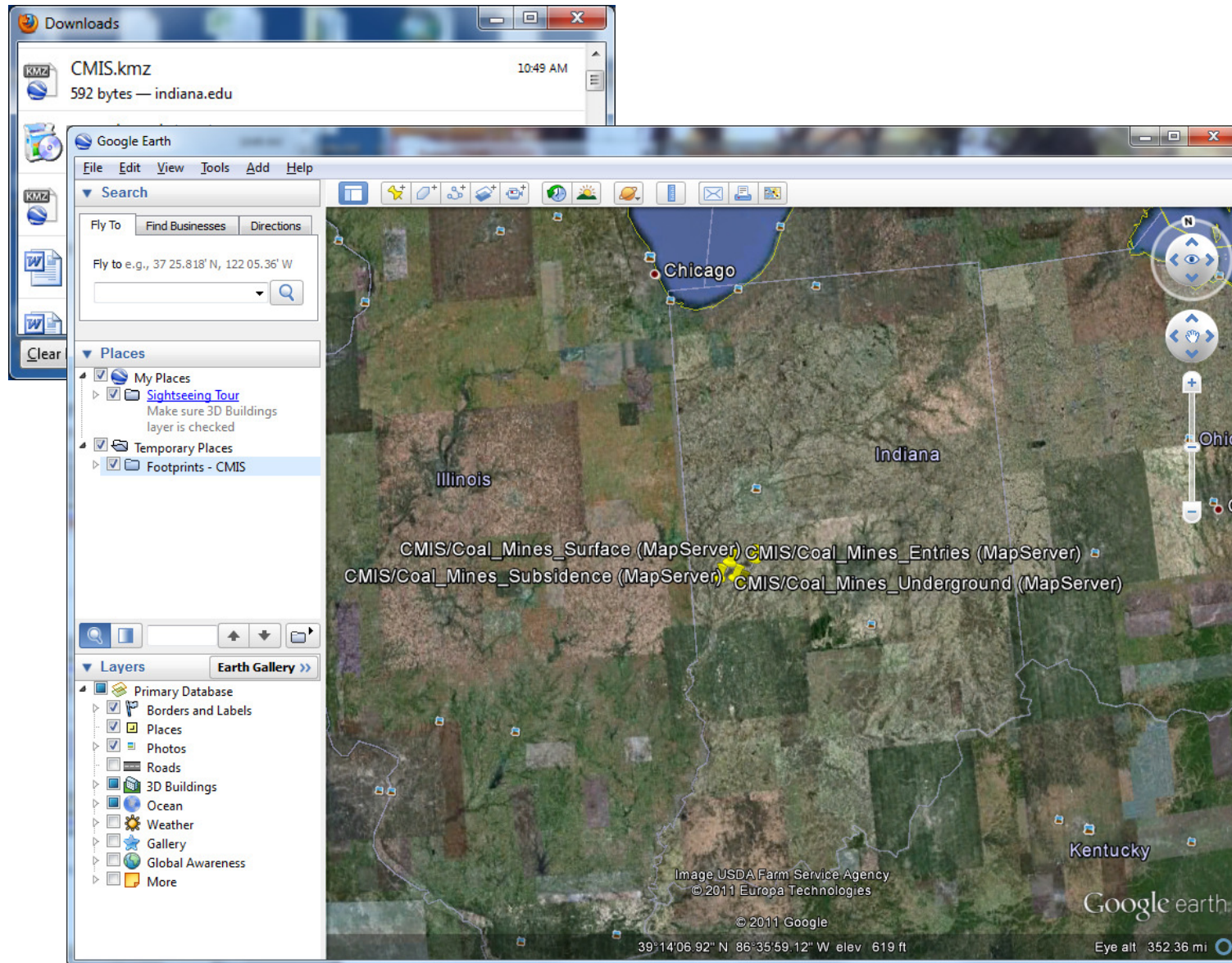
Open with

Save File

Do this automatically for files like this from now on.

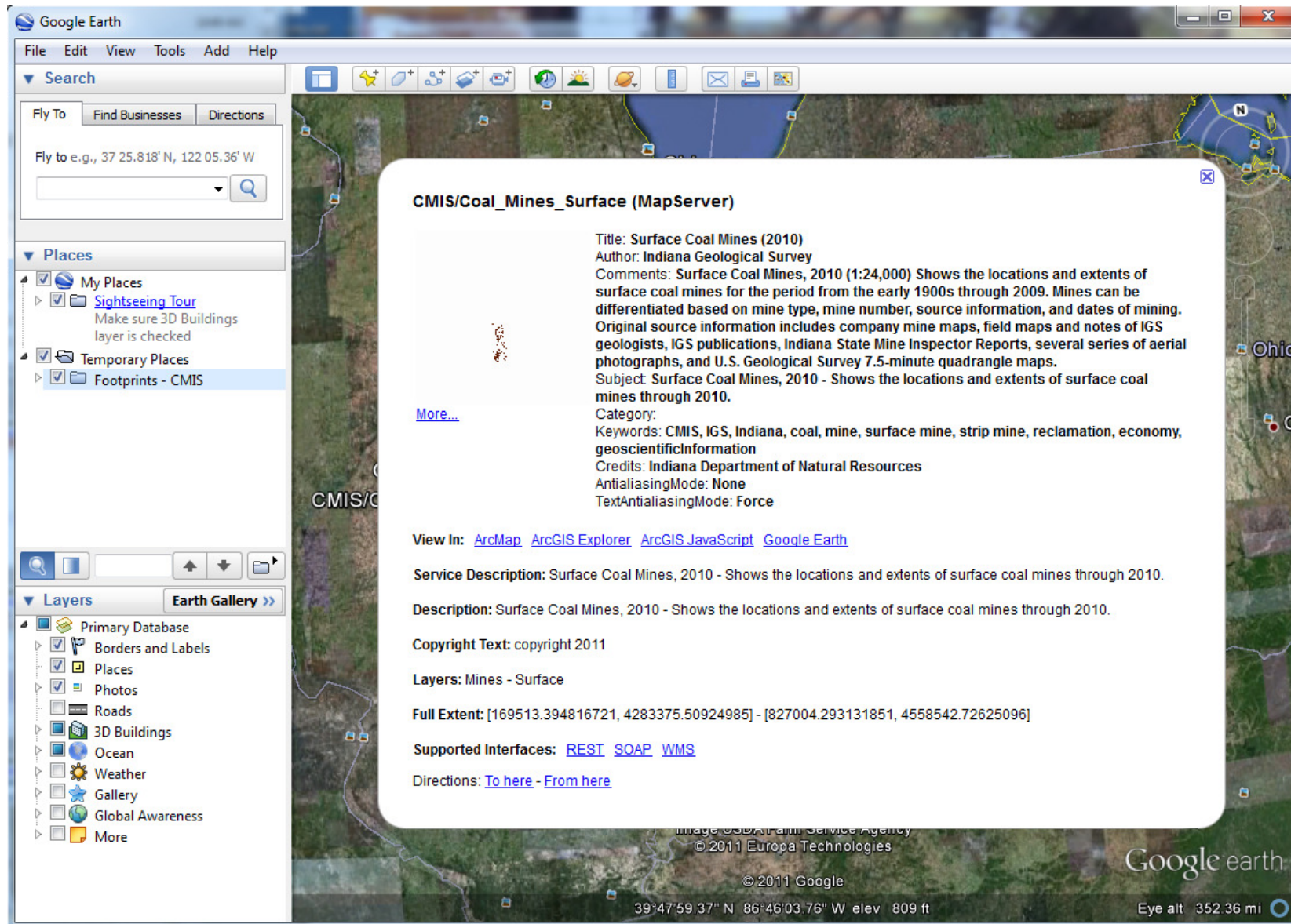
Indiana Geological Survey ArcGIS Services Directory

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



Indiana Geological Survey ArcGIS Services Directory

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



The screenshot shows the Google Earth interface with a map of surface coal mines. A popup window is open over the map, displaying the following information:

CMIS/Coal_Mines_Surface (MapServer)

Title: **Surface Coal Mines (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 2009. Mines can be differentiated based on mine type, mine number, source information, and dates of mining. 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, 2010 - Shows the locations and extents of surface coal mines through 2010.**

[More...](#)

Category:
Keywords: **CMIS, IGS, Indiana, coal, mine, surface mine, strip mine, reclamation, economy, geoscientificInformation**
Credits: **Indiana Department of Natural Resources**
AntialiasingMode: **None**
TextAntialiasingMode: **Force**

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

Service Description: **Surface Coal Mines, 2010 - Shows the locations and extents of surface coal mines through 2010.**

Description: **Surface Coal Mines, 2010 - Shows the locations and extents of surface coal mines through 2010.**

Copyright Text: **copyright 2011**

Layers: **Mines - Surface**

Full Extent: **[169513.394816721, 4283375.50924985] - [827004.293131851, 4558542.72625096]**

Supported Interfaces: [REST](#) [SOAP](#) [WMS](#)

Directions: [To here](#) - [From here](#)

The background map shows a satellite view of a landscape with a river and some buildings. The popup window is white with a close button in the top right corner. The Google Earth interface includes a search bar, a places list, and a layers panel on the left side.

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>

ArcGIS Services Directory
Home > CMIS > Coal_Mines_Surface_Coal_Seam (MapServer)

CMIS/Coal_Mines_Surface_Coal_Seam (MapS

View In: **ArcMap** ArcGIS Explorer ArcGIS JavaScript Google Earth
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 - S

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

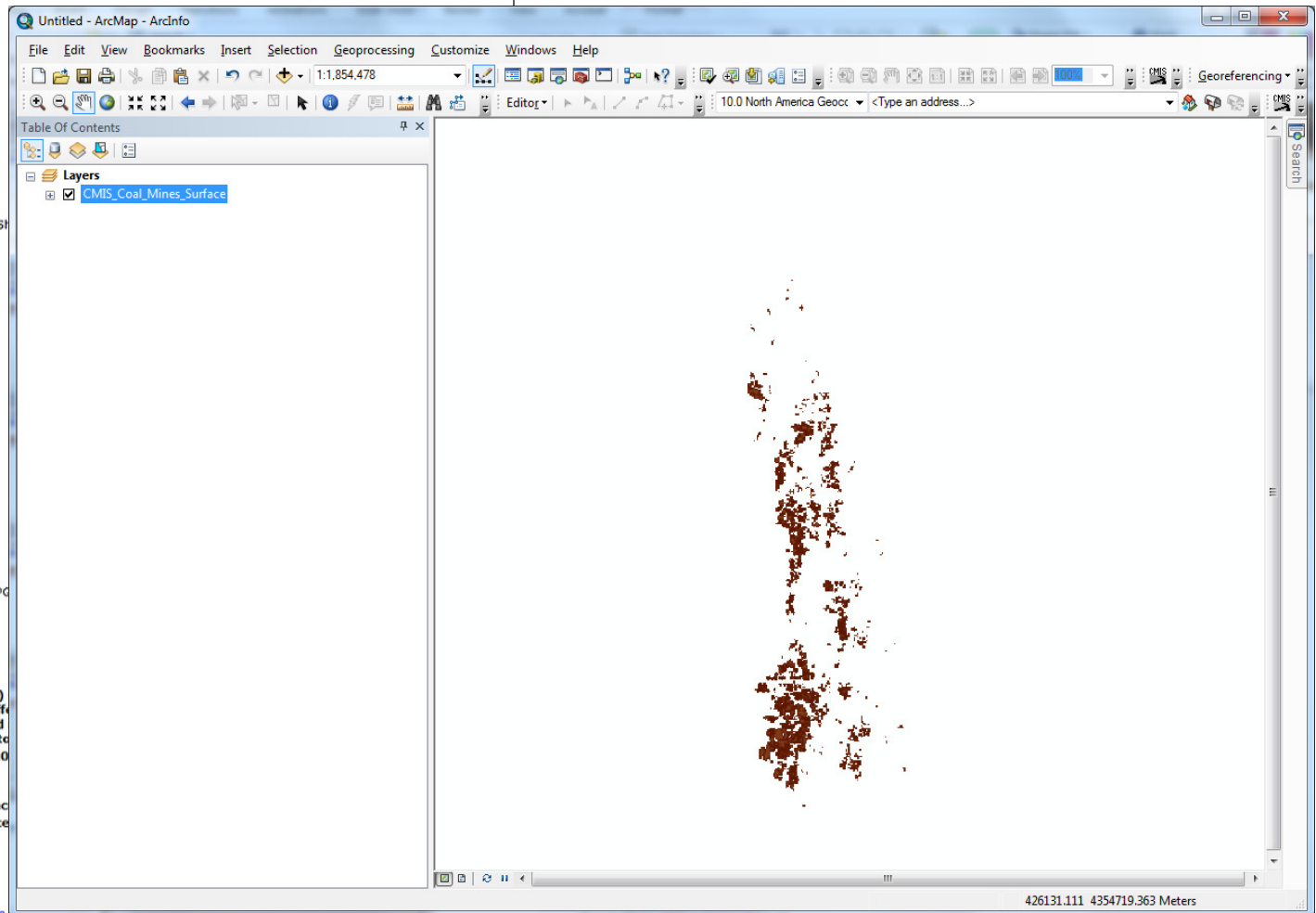
Document Info:

- Title: **Surface Coal Mines By Coal Seam (2010)**
- Author: **Indiana Geological Survey**
- Comments: **Surface Coal Mines, 2010 (1:24,000) the early 1900s through 2010. Mines can be diff information includes company mine maps, field Inspector Reports, several series of aerial photo**
- Subject: **Surface Coal Mines By Coal Seam, 2010 through 2010.**
- Category:
- Keywords: **CMIS, IGS, Indiana, coal, mine, surfac**
- Credits: **Indiana Department of Natural Resource**
- AntialiasingMode: **None**
- TextAntialiasingMode: **Force**

Supported Interfaces: [REST](#) [SOAP](#) [WMS](#)

Supported Operations: [Export Map](#) [Identify](#) [Find](#) [Save](#)

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>

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](#)

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 in Indiana 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

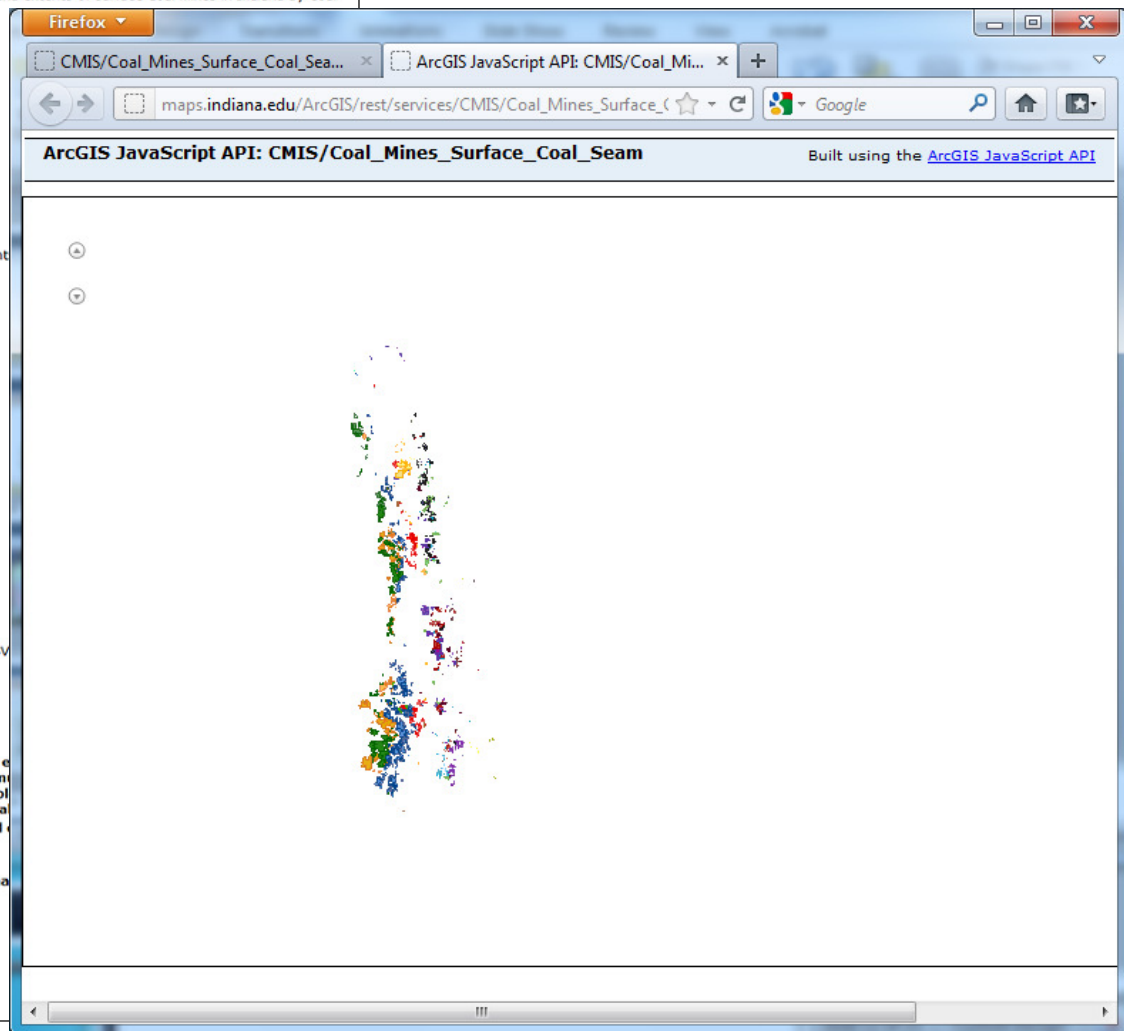
Document Info:

- 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 in Indiana by coal seam through the early 1900s through 2010. Mines can be differentiated based on mine name, mine type, and mine status. The metadata information includes company mine maps, field maps and notes of IGS geologist reports, several series of aerial photographs, and U.S. Geological Survey maps.
- Subject: **Surface Coal Mines By Coal Seam, 2010** - Shows the locations and extents of surface coal mines in Indiana by coal seam through 2010.
- Category:
- Keywords: **CMIS, IGS, Indiana, coal, mine, surface mine, strip mine, reclamation**
- Credits: **Indiana Department of Natural Resources**
- AntialiasingMode: **None**
- TextAntialiasingMode: **Force**

Supported Interfaces: [REST](#) [SOAP](#) [WMS](#)

Supported Operations: [Export Map](#) [Identify](#) [Find](#) [Generate KML](#)

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.



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.

ArcGIS Services Directory
[Home](#) > [DNR](#) > [NaturalRegions_DNR_IN \(MapServer\)](#)

DNR/NaturalRegions_DNR_IN (MapServer)

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

View Footprint In: [Google Earth](#)

Service Description: This map is intended to be used as an operational layer depicting natural regions and subregions of Indiana. The feature dataset was digitized at a scale of 1:800,000. The original map was based on interpretation and comparison of features.

Map Name: Layers

[Legend](#)

[All Layers and Tables](#)

Layers:

- [NaturalRegions_DNR_IN \(0\)](#)

Tables:

Description:

Copyright Text:

Spatial Reference: 26916

Single Fused Map Cache: false

Initial Extent:

XMin: 356459.46711029
YMin: 4143085.90239186
XMax: 739190.313901694
YMax: 4663370.59761312
Spatial Reference: 26916

Full Extent:

XMin: 403432.968603926
YMin: 4180919.00001366
XMax: 692216.812408797
YMax: 4625537.49999132
Spatial Reference: 26916

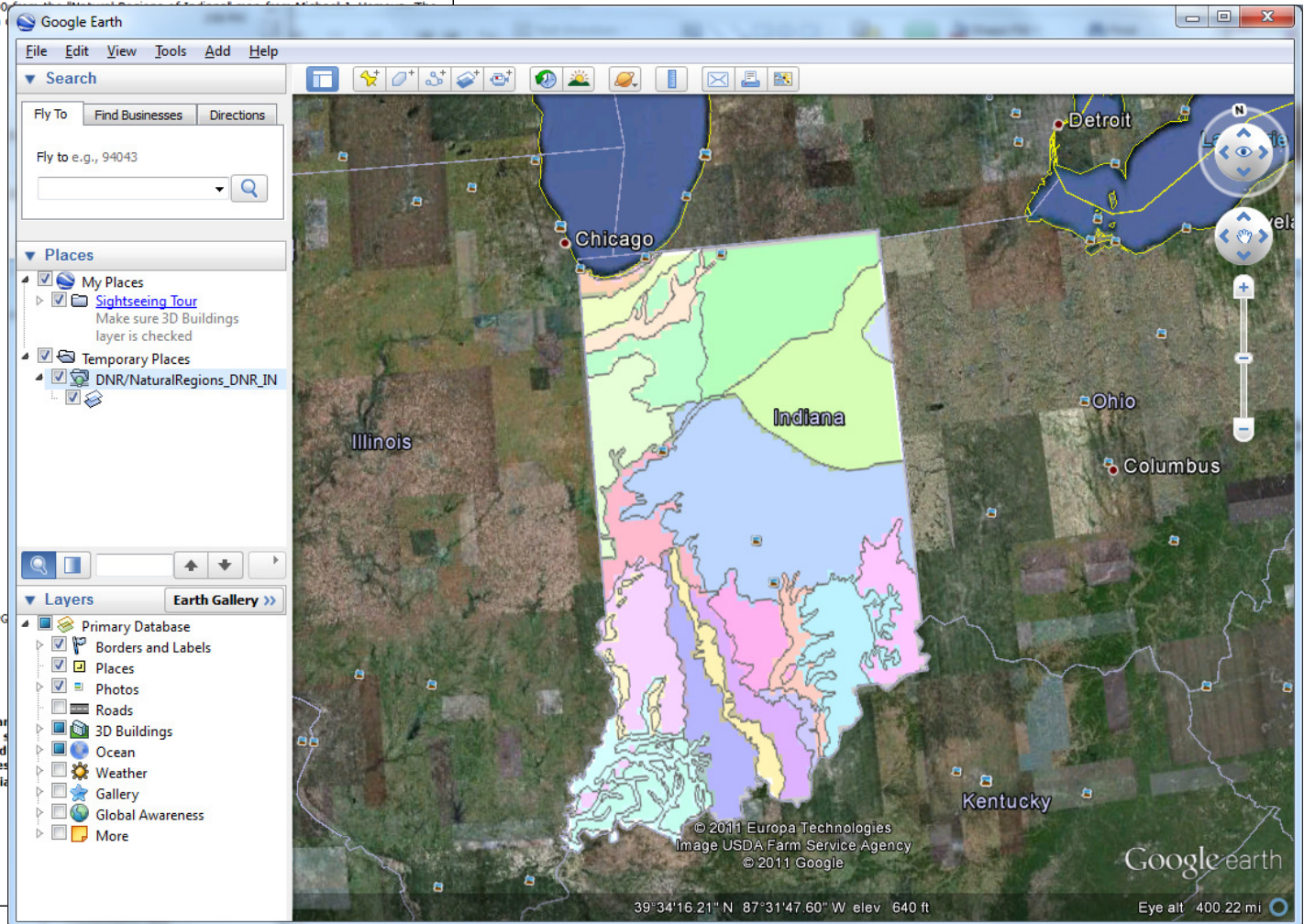
Units: esriMeters

Supported Image Format Types: PNG32,PNG24,PNG,JPG

Document Info:

- Title: **Natural Regions**
- Author: **Mike Martin**
- Comments: **This map is intended to be used as an operational layer depicting natural regions and subregions of Indiana. The feature dataset was digitized at a scale of 1:800,000. The original map was based on interpretation and comparison of state geographic, geologic, and natural features.**
- Subject: **Natural Regions and Subregions of Indiana**
- Category:
- Keywords: **Natural,geologic,Indiana,IN**
- Credits: **IDNR, DNP, Michael Homoya**
- AntialiasingMode: **None**
- TextAntialiasingMode: **Force**

Supported Interfaces: [REST](#) [SOAP](#) [WMS](#)



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: 143433.48885291
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

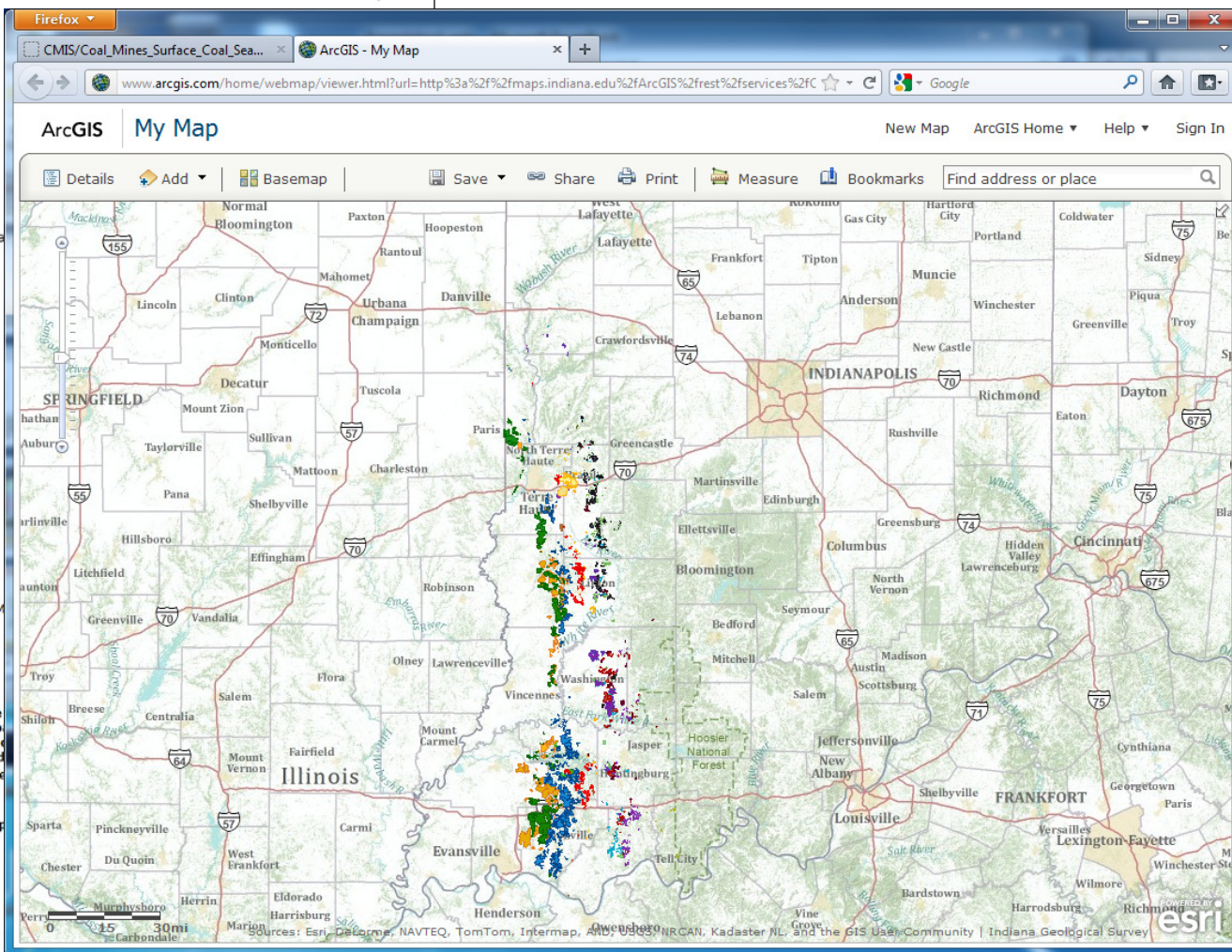
Supported Image Format Types: PNG32,PNG24,PNG,JPG,DIB,TIFF,EM

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- Author: **Indiana Geological Survey**
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- Subject: **Surface Coal Mines By Coal Seam, 2010 - Shows the 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](#)

The screenshot shows a web browser window displaying an ArcGIS.com 'My Map'. The browser's address bar contains a URL pointing to the ArcGIS.com viewer for the 'CMIS/Coal_Mines_Surface_Coal_Seam' service. The map itself is a topographic map of Indiana and parts of Ohio, Illinois, and Kentucky. Overlaid on the map are numerous small, multi-colored points (red, orange, yellow, green, blue, purple) representing the locations of surface coal mines as of 2010. The map includes standard ArcGIS.com interface elements such as a search bar, navigation tools (zoom, pan), and a legend. The 'Layers' list on the left side of the map shows 'Mines - Surface By Coal Seam (0)'. The bottom right corner of the map features the Esri logo and text indicating it is powered by Esri and the Indiana Geological Survey.

ArcGIS Services Directory

End Demo