Energy Map Services Version 1.5

User's Guide

3 May 2018

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May 3, 2018

TRADEMARKS

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Introduction

IHS Energy Map Services streams IHS spatial content directly into your mapping tool of choice. Our services form the spatial foundation for our own applications like Enerdeq, Edin, Connect and Vantage, however, they can also be used with non-IHS applications including Esri software like ArcGIS Online, ArcMap or ArcGIS Pro. Web or desktop mapping applications that can access ArcGIS Server Map Services or the OGC WMS format are also able to stream the Energy Map Services. Your mapping software can use these services to show the most current IHS Energy information by connecting directly to the IHS Energy Spatial Database over the internet.

Using Energy Map Services you can:

- Access the most current spatial IHS information available

- Use any enabled mapping application including new and legacy ArcGIS Portal instances and ArcGIS Online

- View IHS information on mobile devices

- Execute simple find commands and identify features on a map

- Filter content to narrow the focus of the service for a particular area of interest

- Adjust layer behavior and appearance on the fly, including:
    - labelling
    - symbols
    - layer order
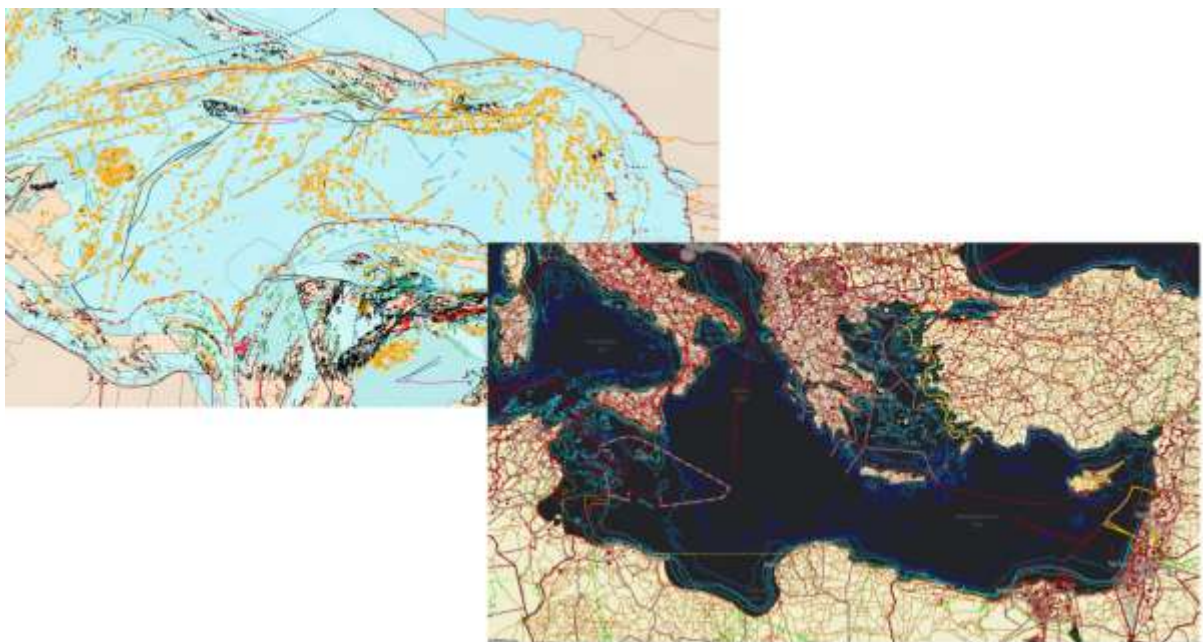
Getting Started

General Technical Requirements

This guide is meant to be a high-level overview providing enough information for general users to gain access. For details like specifications about token access or using the services with ArcObjects or REST and SOAP SDK's please refer to the IHS Energy Map Services Developer's Guide.

Credentials

In order to access Energy Map Services, you will require your IHS Energy account username (your email address) and password.

To retrieve your IHS Energy account password, visit this URL:
https://transition.ihsenergy.com/ForgotPassword/

Warning!!! Be sure to protect your username and password and do not share it with other users. *Individual* accounts with unrealistic overuse may be shutdown to reduce performance and security risk on infrastructure. Please contact us for a *generic group* account if you are looking to embed the services into a portal or application for multiple users to access.

Clearing the Cache

In configurations where multiple users may be accessing Map Services from the same computer it is important to know how to clear your browser or mapping application cache memory. The cache will potentially retain credentials from a previous user and any subsequent users may or may not be able to see their full entitlements or the correct services. This potentially applies to all users including those using ArcGIS Desktop, ArcGIS Online and ArcGIS Explorer Online. ArcGIS Desktop users need to clear the cache from within the ArcMap application while ArcGIS Online users need to clear the internet browser cache. Please refer to the section at the end of this guide for instructions about clearing your browser cache.

Geomatics Information

All IHS Energy Map Services by default use the Web Mercator coordinate system which is the standard for sharing spatial data on the web. Using Web Mercator ensures that IHS services align with other major providers such as Microsoft® Bing™ Maps, Google Maps™ and ESRI® ArcGIS Online, which have all chosen Web Mercator as their standard coordinate system.

Coordinate System:	WGS_1984_Web_Mercator_Auxiliary_Sphere
Projection:	Mercator_Auxiliary_Sphere
Geographic Coordinate System:	GCS_WGS_1984
Datum:	D_WGS_1984

Energy Map Services also support standard projections that are handled on-the-fly by ArcGIS Server. Our OGC WMS services support over 1500 specific EPSG reference system codes and they can be viewed by appending the following text to a WMS URL as in the example below for the Global Well Surface service:

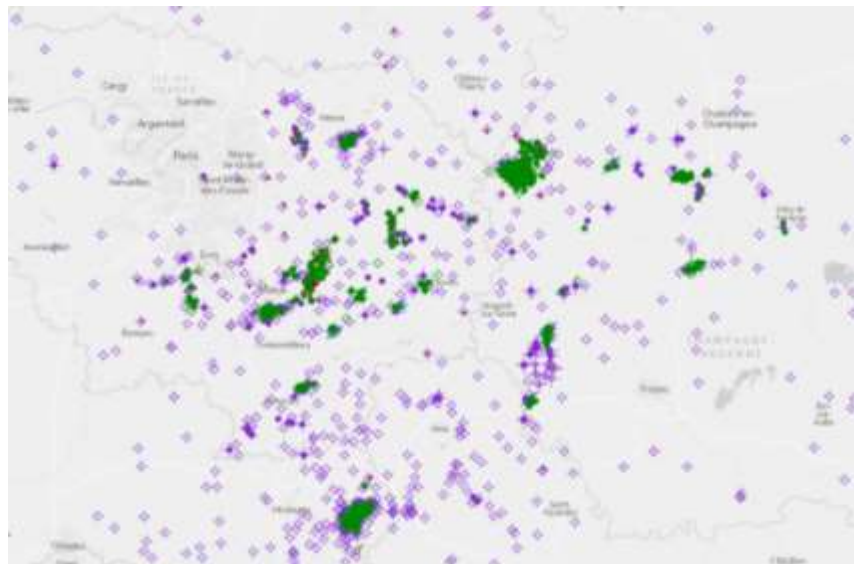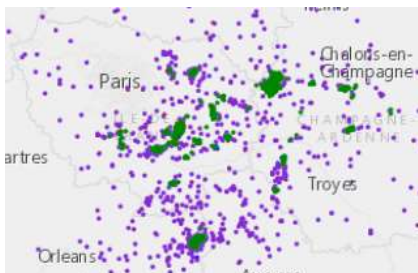/WMSServer?request=GetCapabilities&service=WMS

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/WELL_SURFACE_WMS/MapServer/WMSServer?request=GetCapabilities&service=WMS
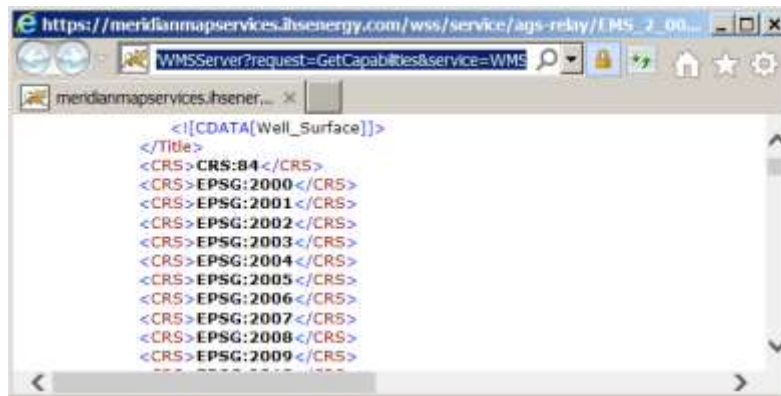
Overview Layers and Detail Layers

The IHS Energy Spatial Database that supplies source information for Energy Map Services is both complex and densely populated. In most cases, services are divided into two or more layer levels to ensure that spatial representations are practical for given scales or zoom levels. Filtering content ensures that regional details don't clutter the map when viewing large areas.

Note that detailed layers are only available in entitled regions, while overview layers are visible to all clients regardless of their entitled regions. For example, the International Well Layers service has three groups of layers called "Overview", "Standard" and "Detail". When zoomed out beyond 1:1,155,500 the overview and standard layers display the wells as colored points but as the user zooms in further, the detail layer uses individual well symbols.

Connecting to Map Services

Content can be accessed directly inside web or desktop mapping applications using standard connection REST protocols. The term REST refers to a "Representational state transfer" which is a web service implementation using HTTP following the principles of a RESTful web API.

You can browse the Energy Map Services ArcGIS Services Directory at these links which are the ArcGIS Server REST endpoint root URLs:

The root directory for **Global** and **North American** content:

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services

The root directory for **International** content:

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/httpauth/arcgis/rest/services

The root directory for **US** content and legacy **International** content:

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/httpauth/arcgis/rest/services

Note that the legacy **International** content will be retired at a future date that is not yet scheduled

Your IHS Energy account username and password need to be entered to gain access to the Services Directory where you can navigate to the individual service endpoints, if desired.

OGC WMS Capability

The Global Well, Field, Play and Basin content of the Energy Map Services is also available in OGC WMS format for use in applications that are able to access a secured WMS feed. The WMS formatted services are accessible through the same root directory for Global content as described above:

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS

```
<?xml version="1.0" encoding="UTF-8"?>
<WMS_Capabilities xsi:schemaLocation="http://www.opengis.net/wms http://schemas.opengis.net/wms/1.3.0/capabilities_1_3_0.xsd http://www.esri.com/wms
https://meridianmapservices.ihsenergy.com/wss/service/EMS_2_00/httpauth/WMS/WELL_SURFACE_WMS/MapServer/WMSServer?version=1.3.0%
26service=WMS%26request=GetSchemaExtension" version="1.3.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:esri_wms="http://www.esri.com/wms" xmlns="http://www.opengis.net/wms">
  <Service>
    <Name>
    <Title>Well Surface WMS</Title>
    <Abstract>Meridian WMS Services - Well Surface WMS Service - A Point layer containing information on over 6 million oil and gas wells. The three main IHS
        databases; US, Canadian and International, have been integrated to deliver a global standardized well layer. The points show well surface location delivered in
        WGS84. Attributes include well name and number, current and original operator, location, unconventional play, dates, depths and depth reference,
        standardized well class and status, bottom-hole location and discovery indicator</Abstract>
    <KeywordList>
    <OnlineResource xlink:type="simple"
        xlink:href="https://meridianmapservices.ihsenergy.com/wss/service/EMS_2_00/httpauth/WMS/WELL_SURFACE_WMS/MapServer/WMSServer?"
        xmlns:xlink="http://www.w3.org/1999/xlink"/>
    <ContactInformation>
    <Fees/>
    <AccessConstraints/>
    <MaxWidth>2560</MaxWidth>
    <MaxHeight>1600</MaxHeight>
  </Service>
  <Capability>
    <Request>
      <GetCapabilities>
        <Format>application/vnd.ogc.wms_xml</Format>
```

Content and Format Summary

Energy Map Services are delivered using ESRI's ArcGIS Server technology as ArcGIS Server Map Services and OGC WMS Services. Below is a chart that summarizes the content and type of services available.

Region	Content	Server	Service	Server Name
Global	Well Surface	10.51	Map Service	meridianmapservices.ihsenergy
	Fields	10.51	Map Service	meridianmapservices.ihsenergy
	Plays	10.51	Map Service	meridianmapservices.ihsenergy
	Basin Outlines	10.51	Map Service	meridianmapservices.ihsenergy
	Culture	10.51	Map Service	edinmapservices.ihsenergy
	Midstream	10.51	Map Service	edinmapservices.ihsenergy
	Basins and Geology	10.51	Map Service	edinmapservices.ihsenergy
International (All countries outside of North America)	E&P	10.51	Map Service	edinmapservices.ihsenergy
North America	Land Grid	10.51	Map Service	meridianmapservices.ihsenergy
United States	E&P Base	10.51	Map Service	mapservices.ihs
	Land	10.51	Map Service	mapservices.ihs
	Fields	10.51	Map Service	mapservices.ihs
	Structure Contours	10.51	Map Service	meridianmapservices.ihsenergy

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Accessing Energy Map Services

Map Service Authentication

IHS map service authentication is provided in two different methods. Depending on how you will use the service may dictate which type of authentication you will use:

1) HTTP Basic Authentication – Using this type of authentication the web browser challenges the user for credentials and the username/password can be optionally saved by your browser to ease future access.

2) ArcGIS Token Authentication – This type of authentication is handled by ArcGIS and provides for a higher level of integration with ArcGIS client software such as ArcGIS Online and ArcGIS Portal.

To specify the type of authentication to use is a simple URL change.

HTTP Authentication:

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/httpauth/arcgis/rest/services/EP/WELL/MapServer

ArcGIS Token Authentication:

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/EP/WELL/MapServer

Warning!!! Be sure to protect your username and password and do not share it with other users. Individual accounts with unrealistic overuse may be shutdown to reduce performance and security risk on infrastructure. Please contact us for a generic group account if you are looking to embed the services into a portal or application for multiple users to access.

ArcGIS Services Directory

To access the Energy Map Services ArcGIS Services Directory

> *NOTE, YOU MUST USE THE HTTP AUTHENTICATION (HTTPAUTH) METHOD AS DESCRIBED IN THE PREVIOUS SECTION FOR ACCESSING THE SERVICES DIRECTORY.*

1) Launch a web browser and navigate to this address:

   Global and North American content:

   https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services

   International content:

   https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/httpauth/arcgis/rest/services

   US and legacy International content:

   https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/httpauth/arcgis/rest/services

2) Enter your IHS Energy account username and password when prompted:

3) Choose the service you are interested in from the services listed:

4) Navigate through the links to review specification details including the visible scales, extents, legends and attribute metadata as well as the supported operations and REST endpoint URLs as desired:

ArcGIS Online and ArcGIS Portal

To access the services via ArcGIS Online – My Map

1. Launch a web browser and navigate to this address:
    https://www.arcgis.com/home/webmap/viewer.html

2. Click on **Modify Map** and then the ➕ Add button to add content
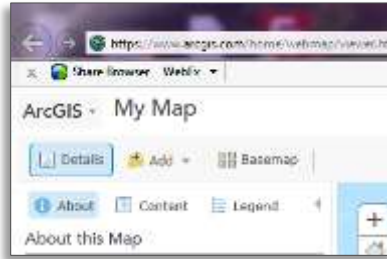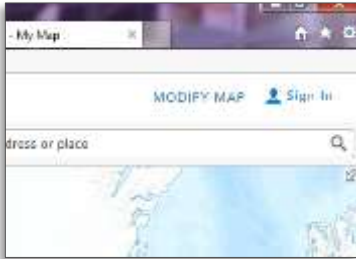
3. Choose to **Add layer from Web** and enter the Energy Map Service URL
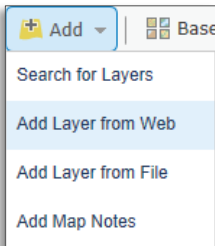
    Note the following steps:
    - Ensure that ArcGIS Server Web Service is selected
    - For the URL, enter the REST endpoint for the specific service from the Services Directory.
    - For example enter this for US Base Well Surface layers:

    https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Well_Surface/MapServer

    *When using ArcGIS Online or Portal, be sure to use the **ArcGIS Token** based URL.*

    You can tell the difference by looking at the URL for the following key information:

    HTTP Authentication:

    https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/httpauth/arcgis/rest/services/US_BASE/Well_Surface/MapServer

    ArcGIS Token Authentication:

    https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Well_Surface/MapServer

4. Enter credentials when prompted then use the functionality of the application to explore
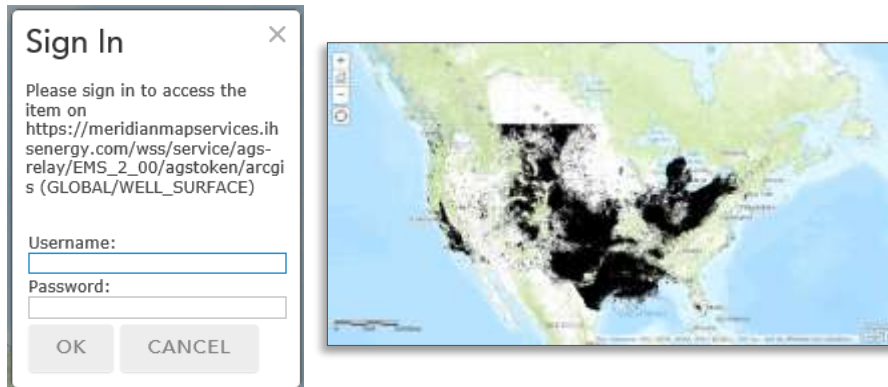
If you are publishing the map for other users, please note they will be prompted for

credentials to access the IHS map services similar to the above. If you want to publish a map using IHS map services for a broader audience without requiring credentials see the next topic.

Creating a Proxy Service via ArcGIS Online – My Content

Creating a proxy service in ArcGIS online provides the ability to store a username and password and provides an alternate URL so that users of the map service or a map that uses the map service do not get prompted for login credentials. Be careful to only provide access to **internal users within your company** to comply with your end user agreement.

Please note, this offering is a convenience for our end users. Please ensure that any

usage of this service is within the rights of your end user agreement.

Warning!!! Be sure to protect your username and password and do not share it with other users. *Individual* accounts with unrealistic overuse may be shutdown to reduce performance and security risk on infrastructure. Please contact us for a *generic group* account if you are looking to embed the services into a portal or application for multiple users to access.

1. To begin, go to the "My Content" section of ArcGIS Online or ArcGIS Portal.

   Groups **My Content** My Orga
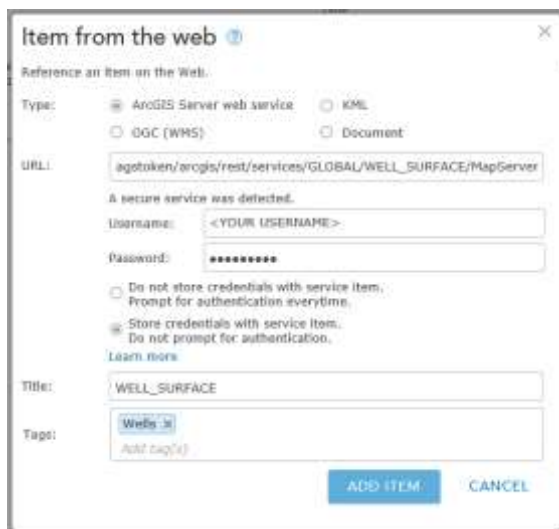
2. From the "Add Item" drop down menu select the "From the web" option as shown below.

   + Add Item ▾ 🖾 **Create ▾** 🖧 Share ✕ Delete

   From my computer

   From the web

   HS1 (Home) ‍ An application   ‍ld your maps and apps and s
   Click **+** Add item to add your content or click a link t
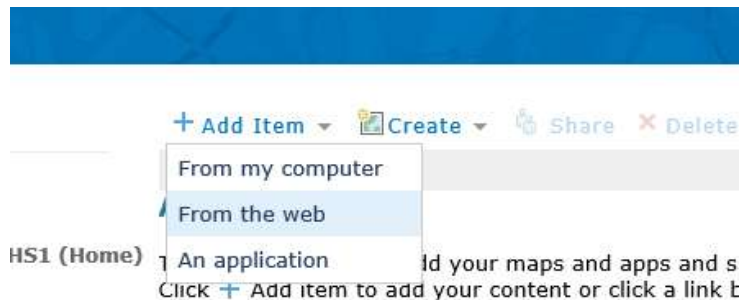
3. Enter the URL from the table below for the map service you are entitled to. Then enter the supplied Generic Group Account username and password. Ensure the option to "*Store credentials with service item. Do not prompt for authentication.*" is selected and click "Add Item".

   Make sure to use the URL from the next table as they are specifically formatted for use with Portal.

   Item from the web ⓘ   ✕

   Reference an item on the Web.

Type:	◉ ArcGIS Server web service	○ KML
	○ OGC (WMS)	○ Document

   URL: agstoken/arcgis/rest/services/GLOBAL/WELL_SURFACE/MapServer

   A secure service was detected.

   Username: <YOUR USERNAME>

   Password: ●●●●●●●●

   ○ Do not store credentials with service item. Prompt for authentication everytime.

   ◉ Store credentials with service item. Do not prompt for authentication.

   Learn more

   Title: WELL_SURFACE

   Tags: Wells ✕
          Add tag(s)

   ADD ITEM   CANCEL

   If you are looking to add all the services based on your entitlement, there is also an ArcMap Toolbox where the process has been automated; see the next section for more details.

Summary listing of URLs for use with ArcGIS Online and Esri Portal:

US Base

Production

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Production/MapServer

Well Activity

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Well_Activity/MapServer

Well Bore Stick

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Borestick_3D/MapServer

Well Bottom Hole

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Well_Bottom_Hole/MapServer

Well Surface

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_BASE/Well_Surface/MapServer

US Field

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_FIELD/Field_Outlines/MapServer

US Land

BLM Case Recordation

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/BLM_Case_Recordation/MapServer

BLM Lease Sale

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/BLM_Lease_Sale/MapServer

BLM PLSS

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/BLM_PLSS/MapServer

Fee Lease

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/Fee_Lease/MapServer

State Lease Sale

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/State_Lease_Sale/MapServer

State Oil and Gas Lease

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/State_Oil_and_Gas_Lease/MapServer

Surface Management Agency

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/Surface_Management_Agency/MapServer

Unleased Federal Lands

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/Unleased_Federal_Lands/MapServer

US LAND Labels

https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/agstoken/arcgis/rest/services/US_LAND/US_LAND_Labels/MapServer

US Structure Contours

Gulf of Mexico Horizon A

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/GOM_HorizonA/MapServer

Gulf of Mexico Horizon B

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/GOM_HorizonB/MapServer

Gulf Coast Region 1

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/GulfCoast1/MapServer

Gulf Coast Region 2

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/GulfCoast2/MapServer

Gulf Coast Region 3

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/GulfCoast3/MapServer

Gulf Coast Region 4

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/GulfCoast4/MapServer

Permian Region

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/StructureContours/Permian/MapServer

International Culture

City and Country

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/CULTURE/CITY_COUNTRY/MapServer

Country and Province

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/CULTURE/COUNTRY_PROVINCE/MapServer

License Grid

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/CULTURE/GRID/MapServer

Hydrology

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/CULTURE/HYDRO/MapServer

Imagery

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/CULTURE/IMAGERY/MapServer

Seismic

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/CULTURE/SEISMIC/MapServer

International Exploration and Production

Valid Contracts and Bidding Blocks

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/EP/CONTRACTS_BIDDING_VALID_1/MapServer

Open Areas, Farm-in Opportunities, Unitized Field Contracts and Valid Application Blocks

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/EP/CONTRACTS_BIDDING_VALID_2/MapServer

Fields and Surveys

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/EP/FIELD_SURVEY/MapServer

Wells by Category – High Impact, Development, Exploratory, Injector, Bottom Hole and Deviation Line

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/EP/WELL_LAYERS/MapServer

Wells

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/EP/WELL/MapServer

International Basins

Geology

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/BASIN/GEOLOGY/MapServer

Unconventionals

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/BASIN/UNCONVENTIONALS/MapServer

International Midstream

Facilities

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/MIDSTREAM/FACILITIES_EMISSIONS/MapServer

Pipelines

https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/agstoken/arcgis/rest/services/MIDSTREAM/PIPELINES/MapServer

Global

Well Surface

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/GLOBAL/WELL_SURFACE/MapServer

Field

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/GLOBAL/FIELD/MapServer

Basin

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/GLOBAL/BASIN/MapServer

Play

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/GLOBAL/PLAY/MapServer

North American

Land Grid

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/NorthAmerica/IHSLandGrid/MapServer

Land Grid Labels

https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/agstoken/arcgis/rest/services/NorthAmerica/IHSLandGridLabels/MapServer

4. This will create the new "proxy service" for you to distribute and use in your maps. The following page will present the details for this new service. Under the "Map Contents" section of this detail page, the new URL is provided to use in your maps. This URL should be used for distribution and in any maps for which you do not want users to provide credentials. Any users or maps accessing this URL will be running using the credentials provided in step 3 and be restricted to any entitlements for that account.

> ⚠️ *Warning!!!* Be sure to protect your username and password and do not share it with other users. *Individual* accounts with unrealistic overuse may be shutdown to reduce performance and security risk on infrastructure. Please contact us for a *generic group* account if you are looking to embed the services into a portal or application for multiple users to access.
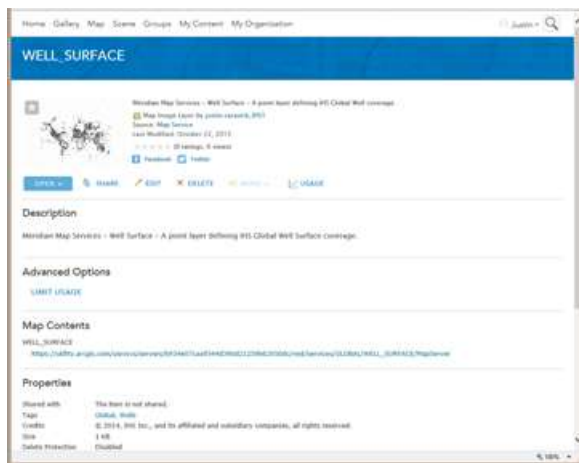
5. Carefully use the "Share" feature on this page to provide access only to **internal users within your company** to comply with your end user agreement.
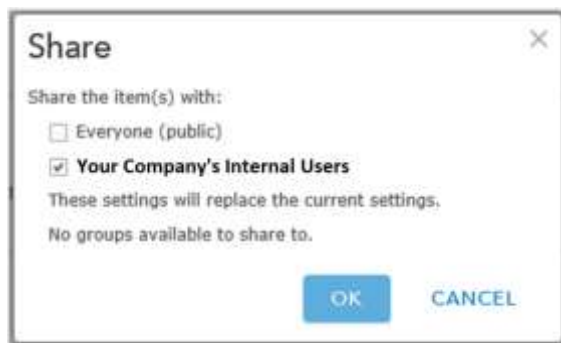
> ⚠️ *Please use extra care when sharing any service. You must ensure your sharing of this service is within the rights of your end user agreement. Any use of a user account or service that has been deemed "excessive" may be temporarily suspended until proper use can be verified.* ⚠️

📝 **Using the Portal Toolbox to create a Proxy Service via ArcGIS Online**

Instead of manually entering the appropriate URLs individually into your ArcGIS online or Portal environment there is a toolbox provided that automates this process by using credentials to add all entitled services automatically. Over time, if entitlements change due to a change in subscription, the toolbox can be re-run to provide an update.

💡 *Please note, this offering is a convenience for our end users. Please ensure that any usage of this service is within the rights of your end user agreement.*

⚠️ ***Warning!!!*** Be sure to protect your username and password and do not share it with other users. *Individual* accounts with unrealistic overuse may be shutdown to reduce performance and security risk on infrastructure. Please contact us for a *generic group* account if you are looking to embed the services into a portal or application for multiple users to access.

1. Download the Portal Tool from the Documentation section of the Energy Map Services homepage

   https://geoportal.ems.ihsenergy.com

2. With ArcMap closed, Unzip the downloaded file and add the contents to the ArcGIS Toolboxes directory
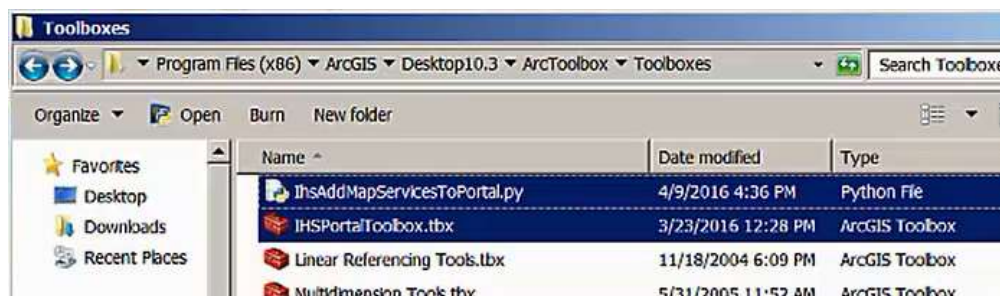
3. Open ArcMap and access the *IHSPortalToolbox* within the ArcToolbox

4. Enter the Portal details and your Energy Map Services credentials and click OK.
   Note that the ArcGIS Portal Username is case sensitive and must match exactly what is in Portal.

5. The process could run for a few minutes and upon successful completion there will be new entries added to the *My Content* area in ArcGIS online or Portal
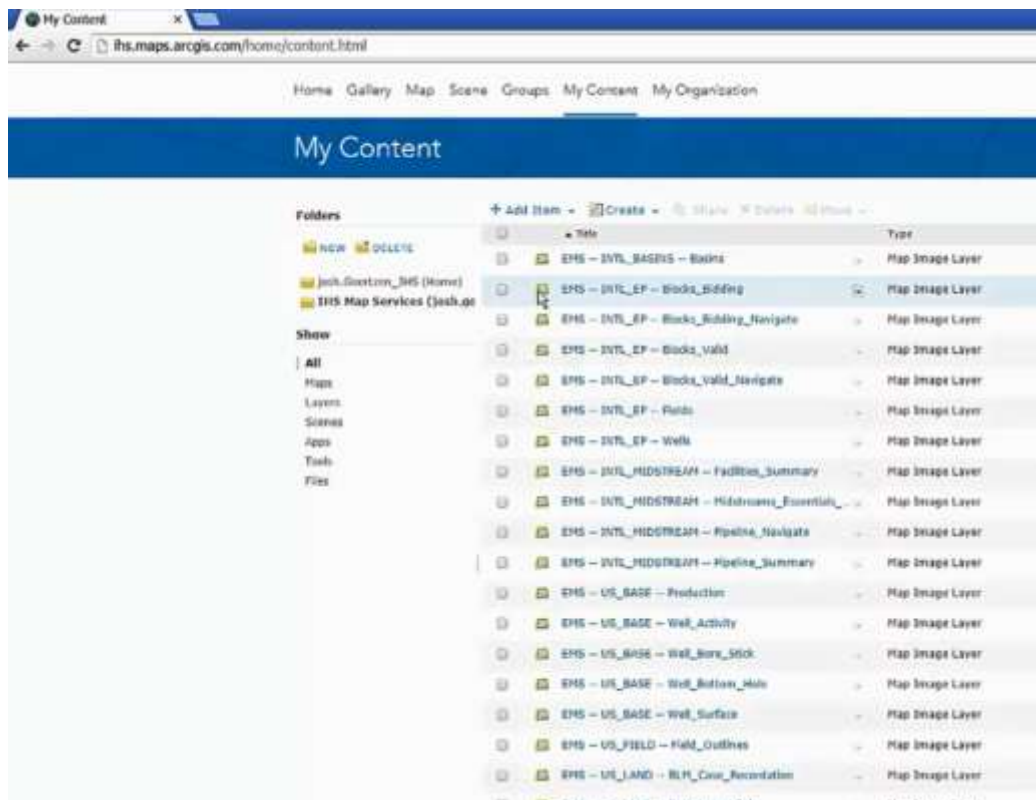
ArcGIS for Desktop - ArcMap

To access the services via ArcGIS for Desktop

Note: It is recommended that users access Energy Map Services within ArcMap using the *ArcGIS Server* option instead of using the *WMS Server* option

1. Open an ArcMap session.
2. Click the **Add Data** button
3. Click the drop down arrow next to the "Look in:" box and select **GIS Servers.**
4. Then choose to **Add ArcGIS Server.**

5. The wizard will open and walk you through the next steps.
   On the first screen select **Use GIS Services** and then select **Next.**
6. Now enter the parameters for the ArcGIS Server Connection.
   Enter the Server URL:

   Global and North American content:

   https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services

   International content:

   https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/httpauth/arcgis/rest/services

   US and legacy International content:

   https://mapservices.ihs.com/wss/service/ags-relay/EMS_1_00/httpauth/arcgis/rest/services

   Note: You must include the s in http(s).
7. Enter your IHS Energy account username and password, and then click **Finish**.

Adding Layers to ArcMap

Once you are connected to the service, you can start building your map.

✏️ **To build your map**

- Click the **Add Data** button at the top of the page to add layers to your map
  OR
  You can drag and drop the layers from the Catalog side bar.
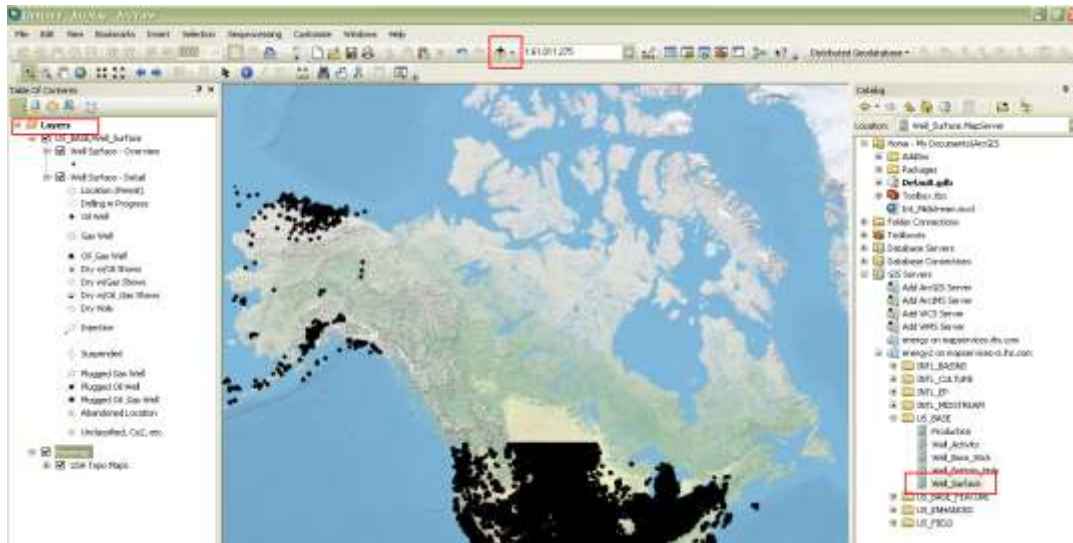
The scale at which you are viewing the map will determine the symbols you see. As you zoom in, you will start to see the details of the Well Surface layer.
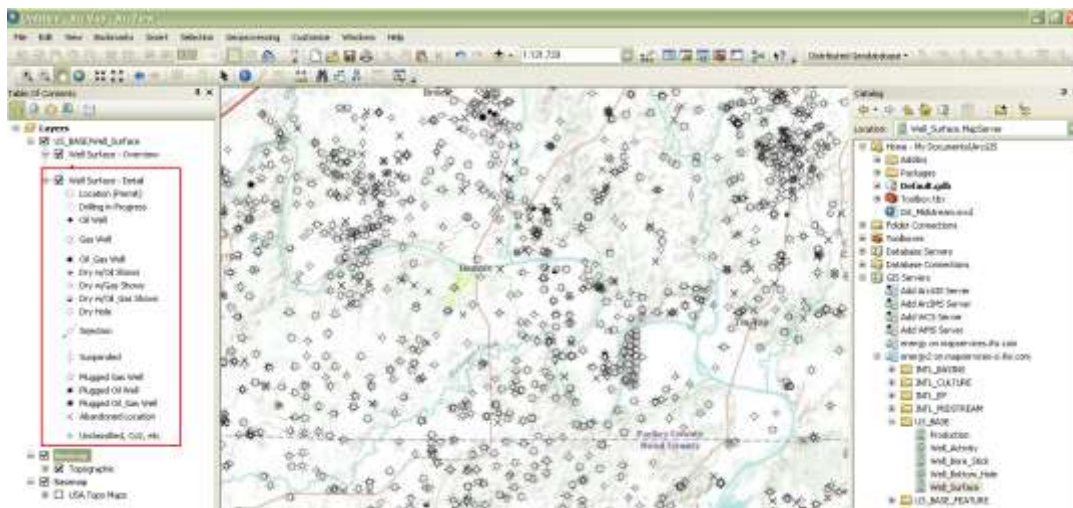
Identify Feature in ArcMap

To view details for a certain well

Click the blue **Inspect** button on toolbar, and then click the object of interest.
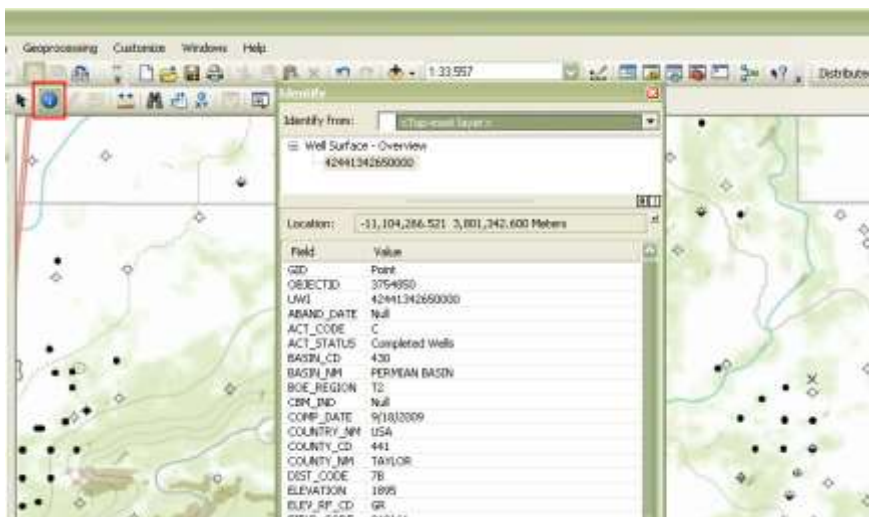
Find Feature in ArcMap

The **Find** button in ArcMap is an easy way to look for information.

To find information on the map

1. Type a keyword in the **Find** text box.
2. Select a layer from the **In:** drop-down box.
3. Under **Search**, select the field you want to search in, and then click **Find**.
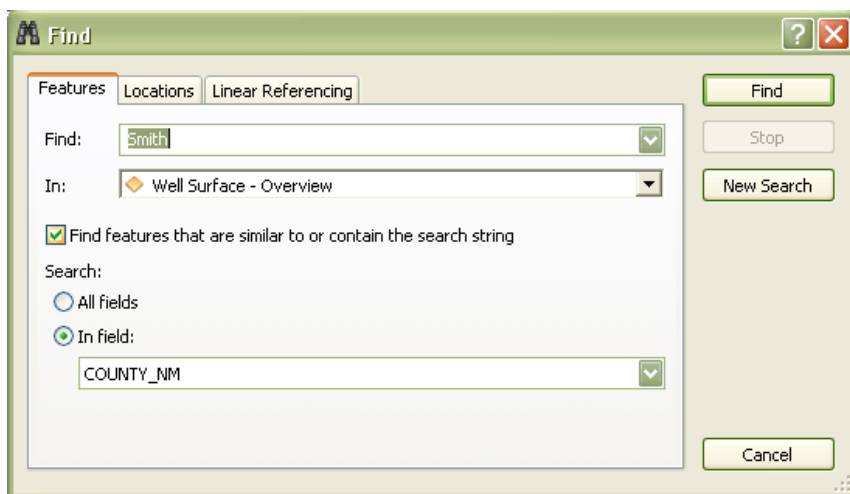
IHS AccuMap

To access the WMS services via AccuMap

1. Open the **Data** menu tab in AccuMap

2. Click on Setup WMS Layers

3. Click the **Add** button
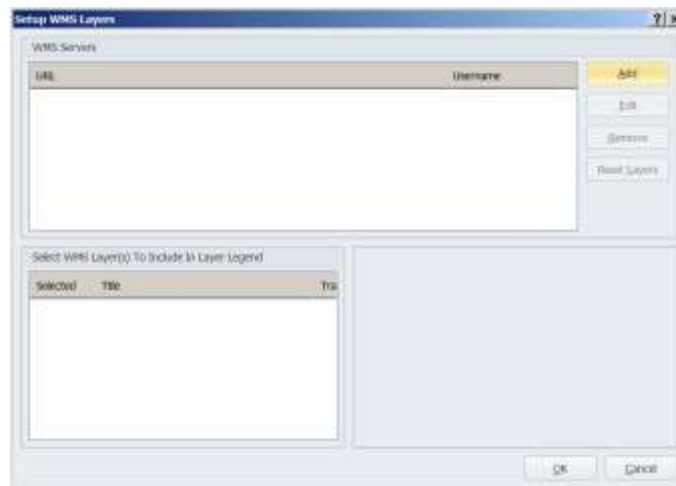
4. Enter the WMS URL along with your IHS username and password and click **OK**. For example, the WMS URL for the Global Plays service is below. Make sure to have "**/WMSServer**" at the end of the URL:
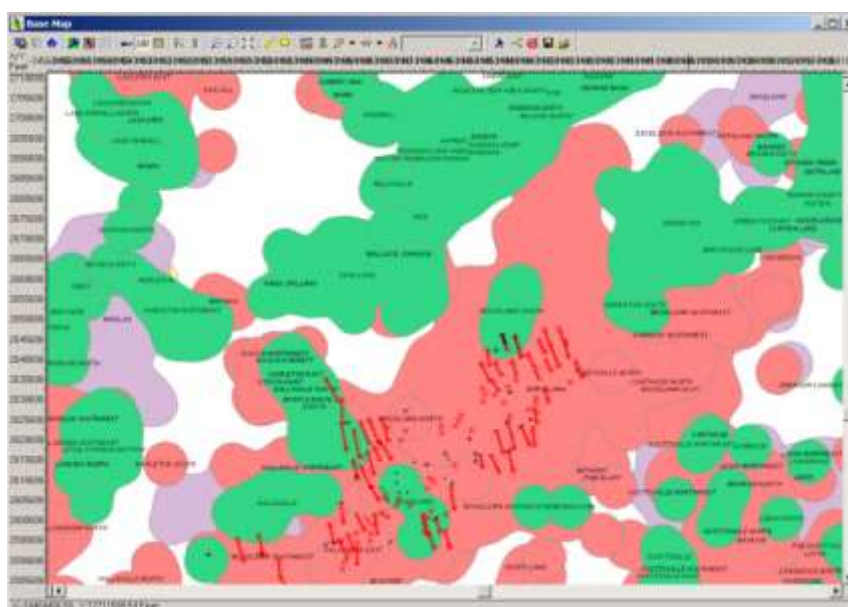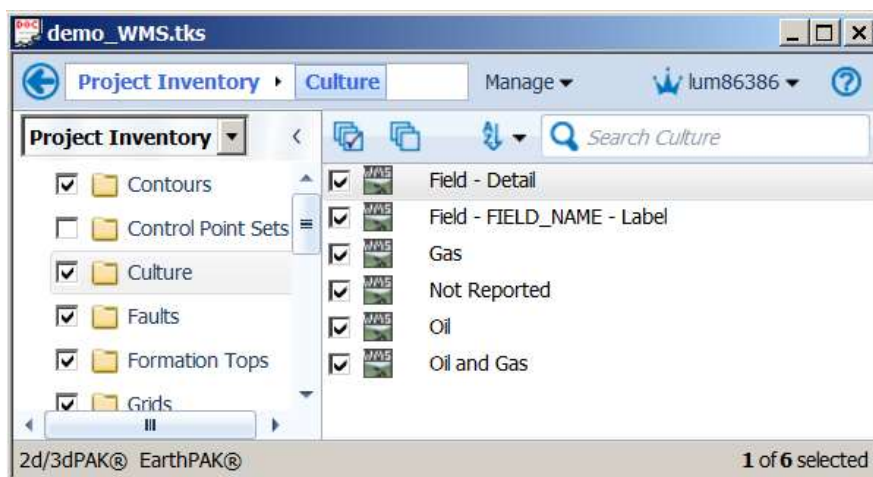
https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/PLAY_WMS/MapServer/WMSServer
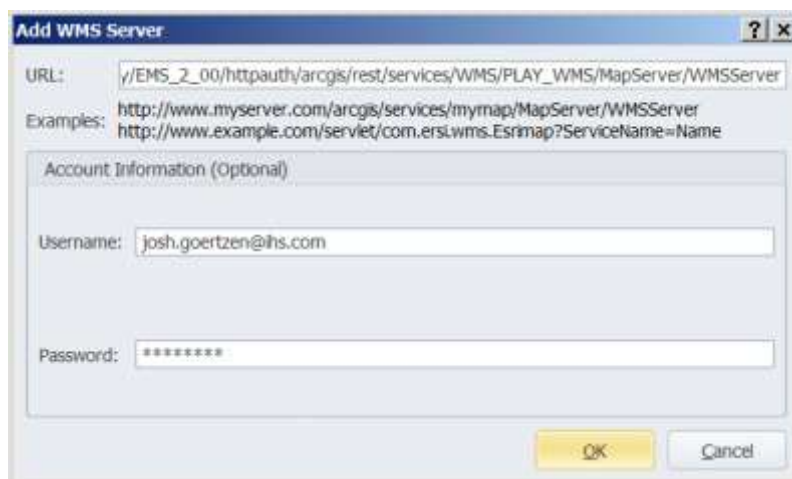
5. Select the service layers of interest and click **OK** to add them to the *Layer Legend*
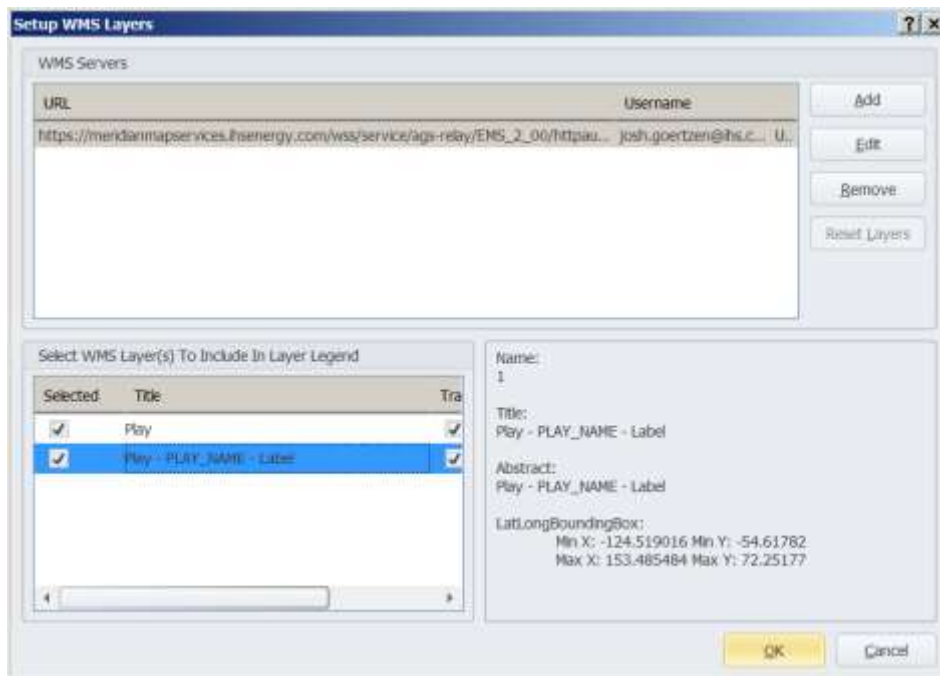
6. Select WMS content to view using the *Layer Legend*
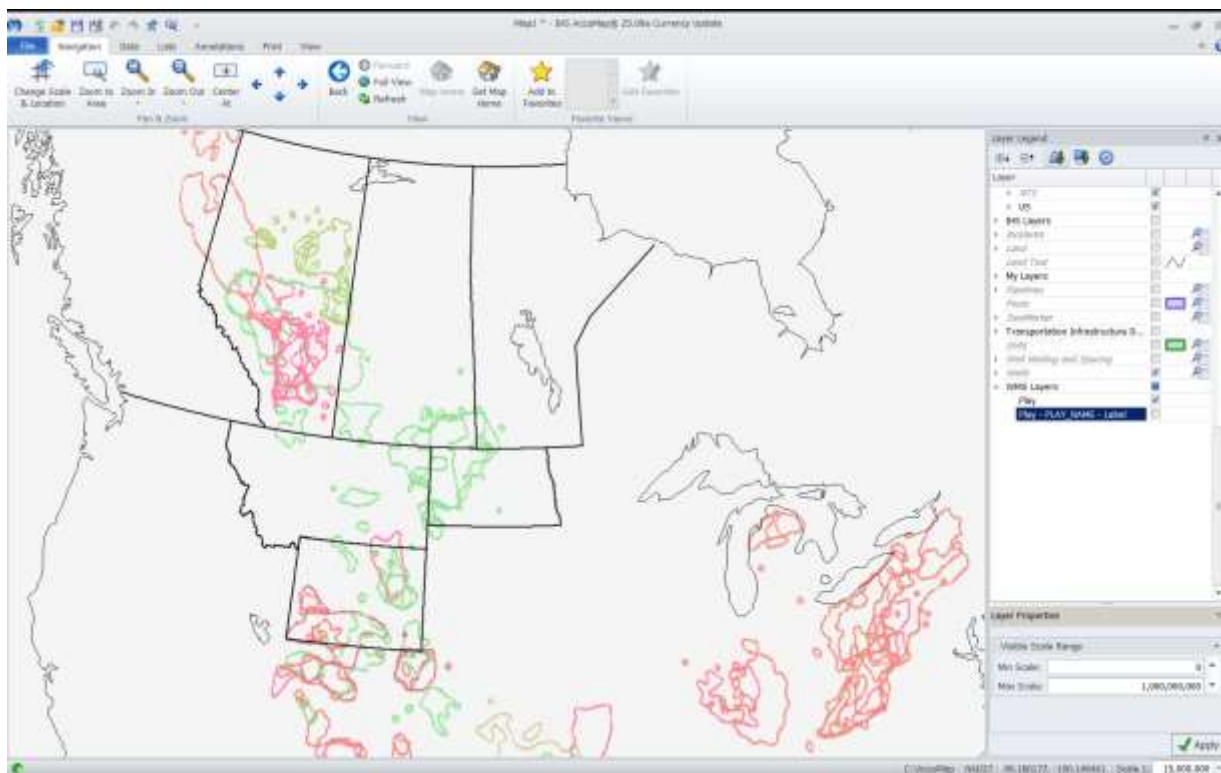
IHS Petra

To access the WMS services via Petra

1. Open a mapping module in Petra

2. Click on the **Imagery Settings** button in the **Quick List** window

3. Click the **Add > Add New** button

4. Enter the WMS URL along with your IHS username and password and click the **Go** button. For example, the WMS URL for the Global Plays service is below. Make sure to have "**/WMSServer**" at the end of the URL:

   https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/PLAY_WMS/MapServer/WMSServer
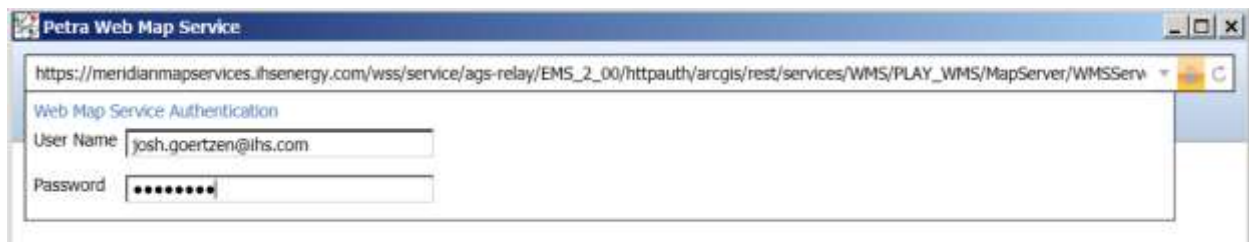
5. Select the service layers of interest and click **OK**
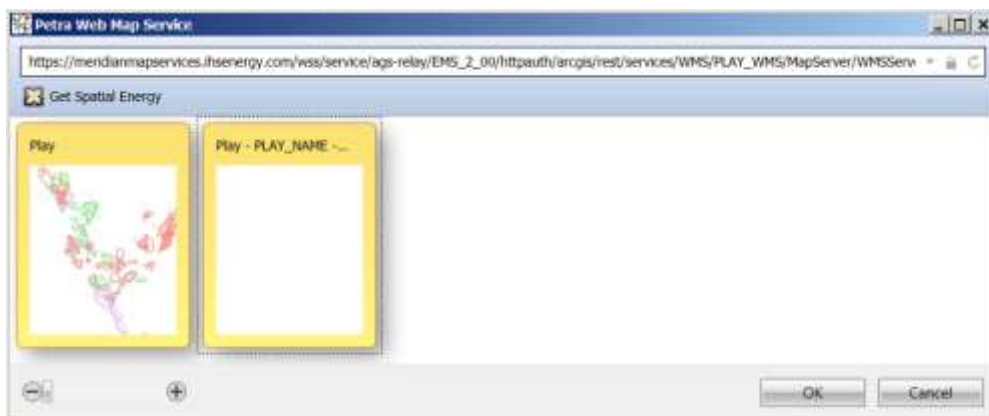
6.   Adjust *Image resolution* as needed and click **OK**
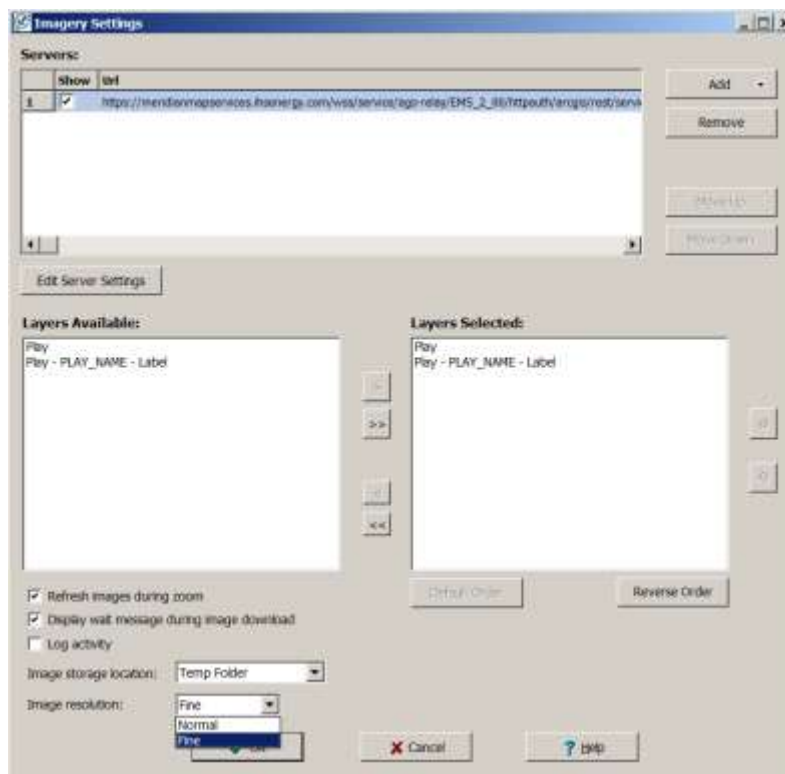
7.   Select WMS content to view using the *Imagery* section of the *Quick List* window
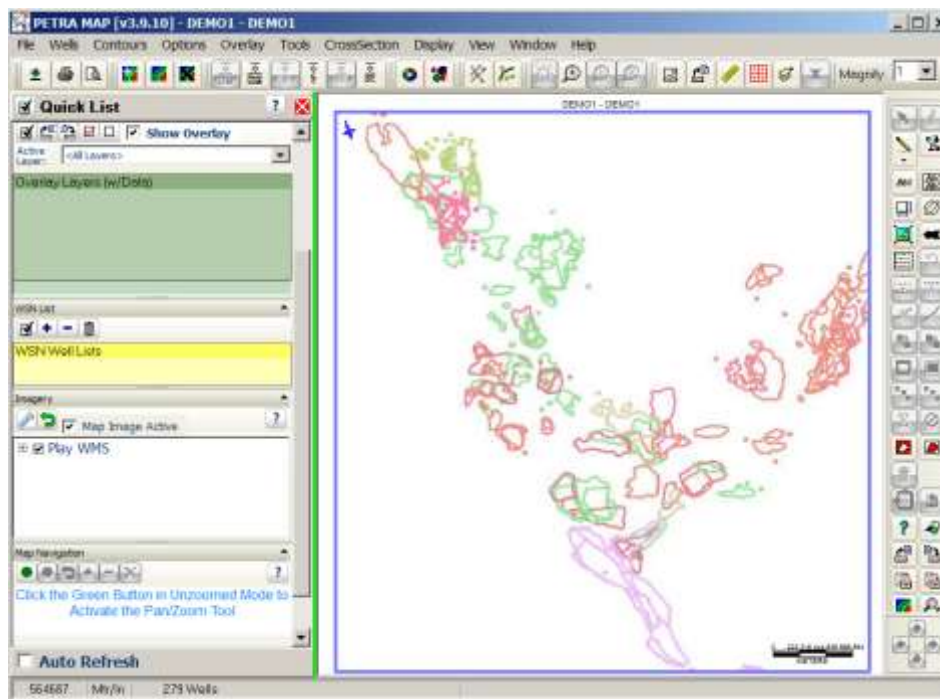
IHS Kingdom

To access the *ArcGIS Server* services via Kingdom

Contact Kingdom directly regarding *Spatial Explorer*

Spatial Explorer is the newest Kingdom map module that increases integration with information on your desktop. This layer-based map allows Kingdom and proprietary GIS data to be combined into one single view. The first release gives direct access to the IHS Energy Map Services as ArcGIS Server map services and lays the foundation for future capabilities of sharing Kingdom data with desktop GIS applications.

To access the *OGC WMS* services via Kingdom

1. Click on the **Add Web Map Service Layer** option under the **Culture** menu
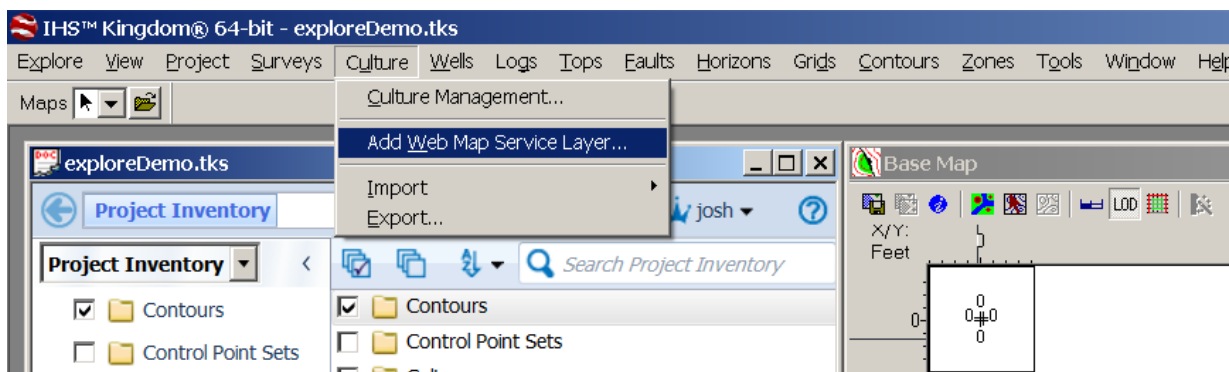
2. Enter the WMS URL along with your IHS username and password and click the **Go** button. For example, the WMS URL for the Global Fields service is below. Make sure to have "**/WMSServer**" at the end of the URL:

   https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/FIELD_WMS/MapServer/WMSServer
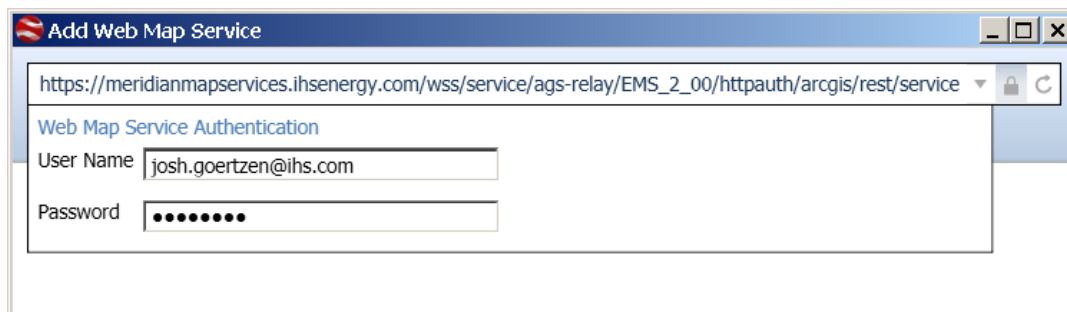
3. Select the service layers of interest and click **OK**

4. Check the boxes next to the layers under the Culture group to have them display on the map

Global Mapper

To access the WMS services via Global Mapper

1. Click on the **Connect to Online Data** option
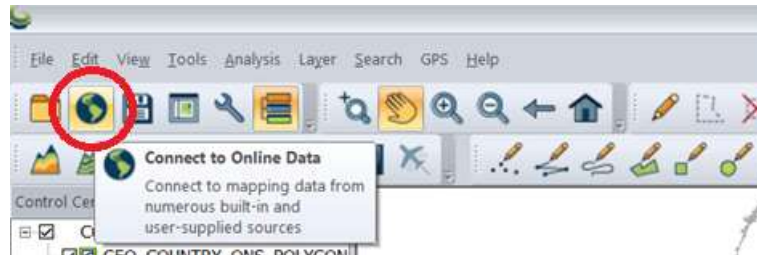
2. Click on the **Add New Source** option and select **WMS(Web Map Service)** from the dropdown list
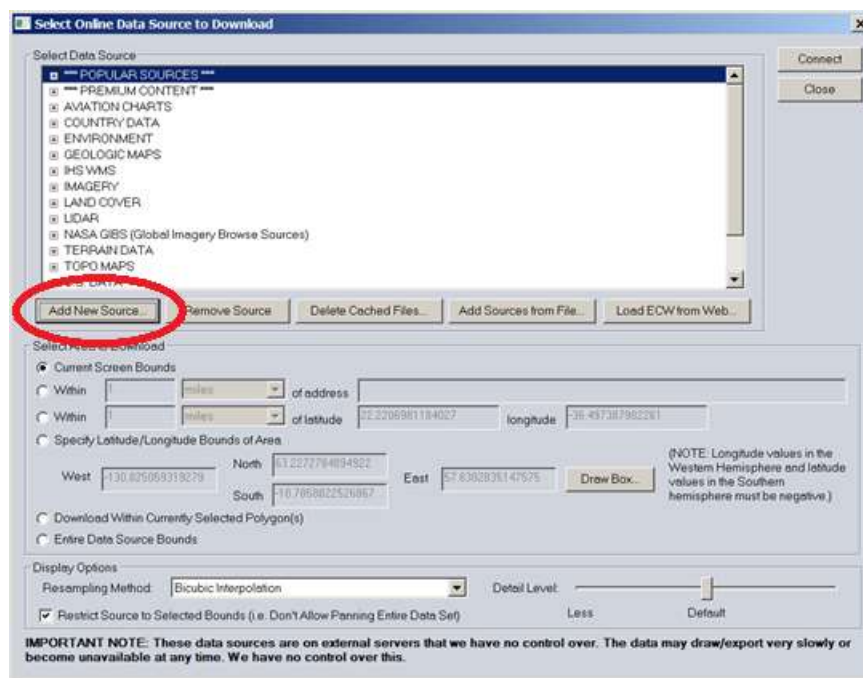
3. Enter the WMS URL (see list below) and click the **Get List of Available Data Layers** button. Enter your IHS username and password when prompted

- o https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/WELL_SURFACE_WMS/MapServer/WMSServer

- o https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/BASIN_WMS/MapServer/WMSServer

- o https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/PLAY_WMS/MapServer/WMSServer

- o https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/FIELD_WMS/MapServer/WMSServer

4. Select the root service layer or the layer of interest and click **OK**
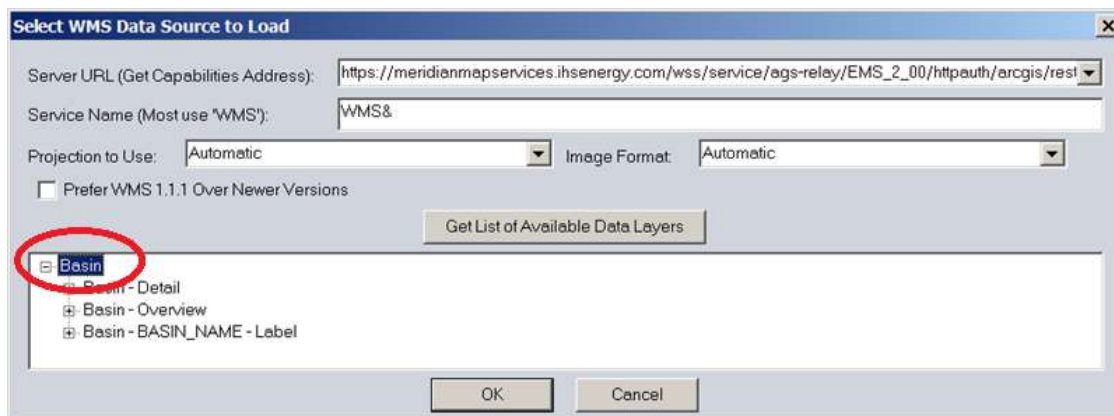
5. Select a category for the new data or add a new category

6. Select the content to add to the map and click **Connect**

7. The content is added to the map
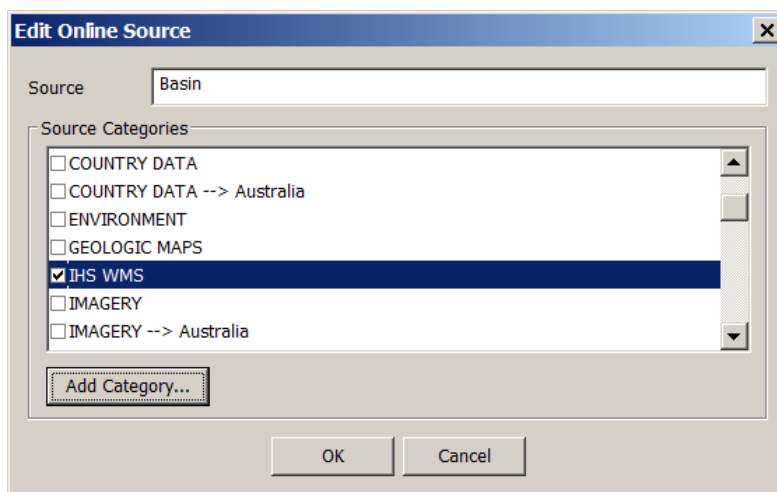
QGIS

To access the ArcGIS Server map services via QGIS 2.18.7

1. Right-click on **ArcGisMapServer** and choose a *New Connection*
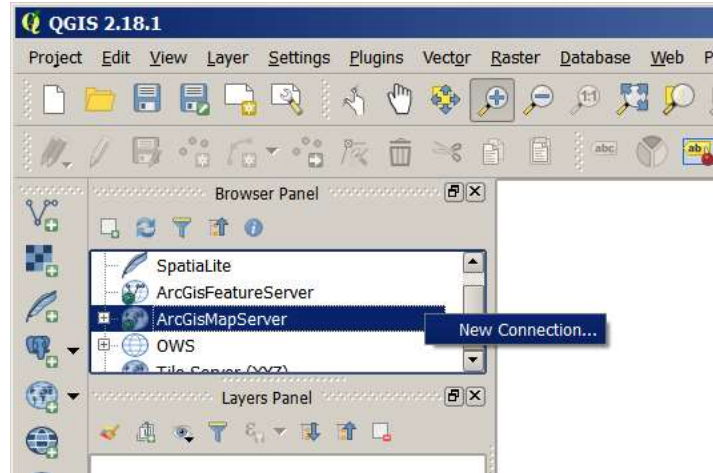
2. Enter a **Name** and the REST endpoint for a service of interest; then click OK.

   For example:

   ○ https://edinmapservices.ihsenergy.com/wss/service/ags-relay/IHS_7_00/httpauth/arcgis/rest/services/BASIN/GEOLOGY/MapServer

   ○ https://meridianmapservices.ihsenergy.com/wss/service/ags-relay/EMS_2_00/httpauth/arcgis/rest/services/GLOBAL/WELL_SURFACE/MapServer
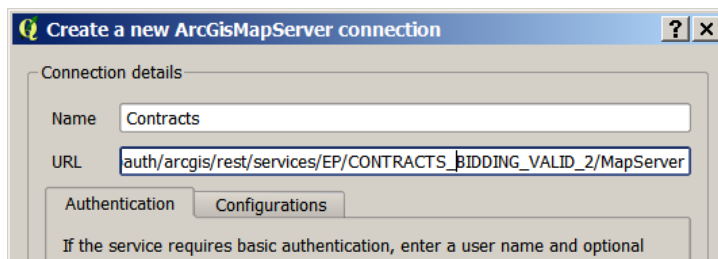
3. Choose to add the new entry to the map by clicking on the plus sign next to it:
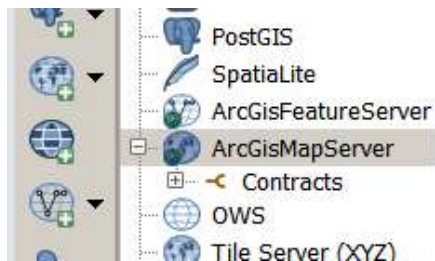
4. Enter your credentials and click **OK**
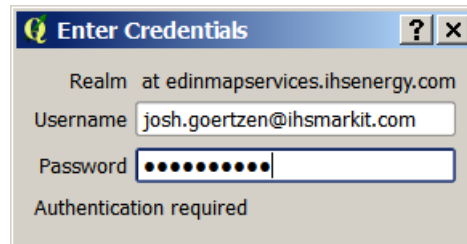
5. Double-click on the layers of interest and they are added to the map.

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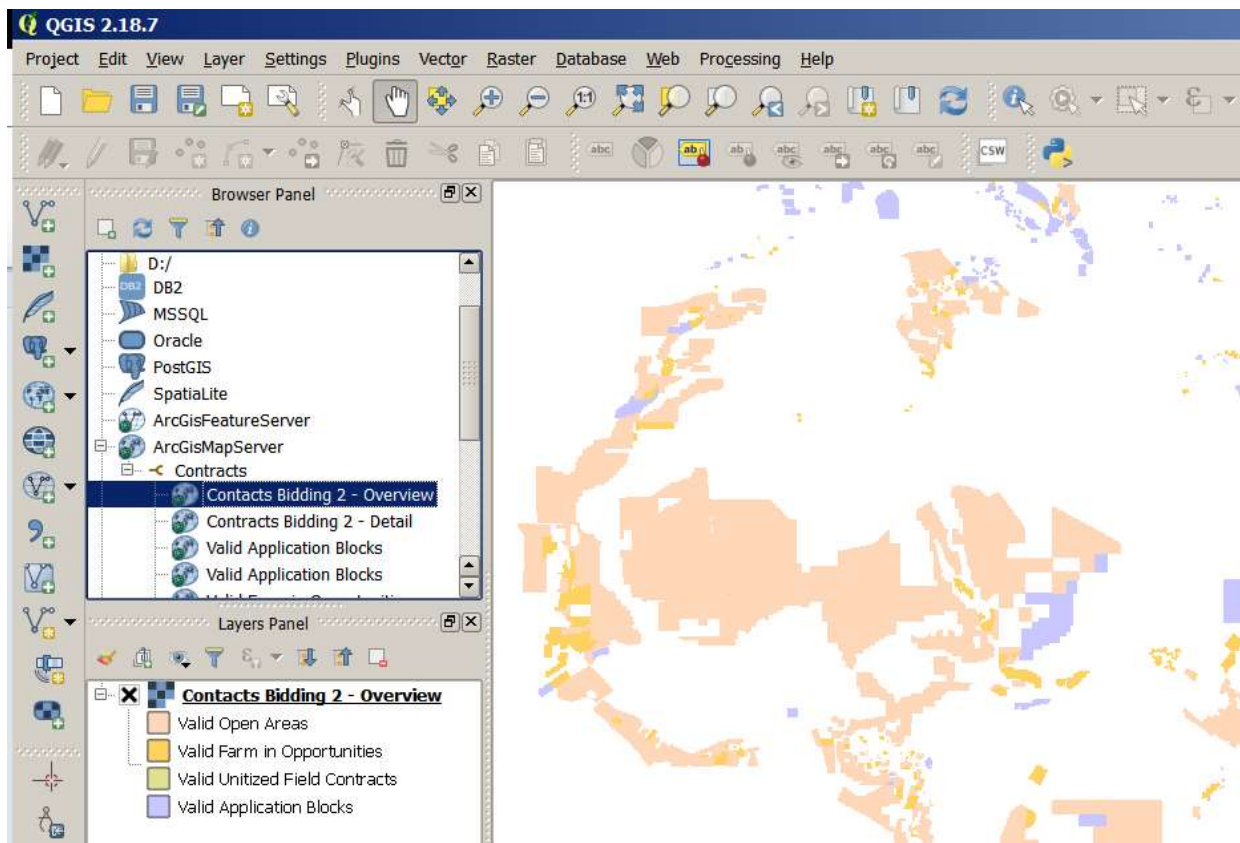
To access the WMS services via QGIS 2.18.1

1. Select the option to **Add WMS/WMTS Layer**
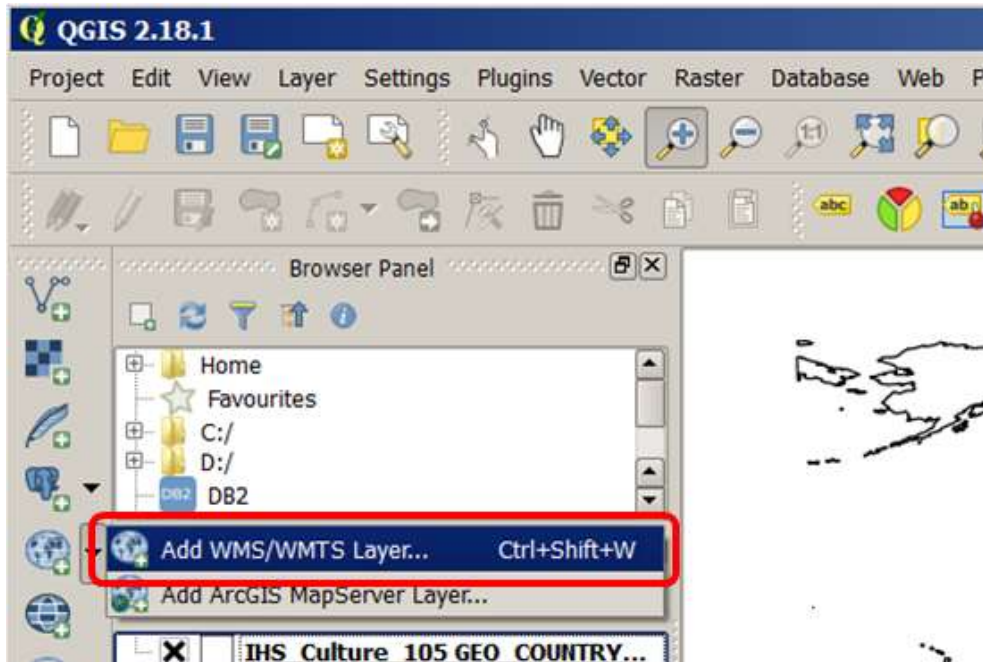
2. Click on **New**

3. Enter a **Name** and one of the following WMS URLs then click **OK**

    ○   https://meridianmapservices.ihsenergy.com/wss/service/ags-
        relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/FIELD_WMS/MapServer/WMSServer?

    ○   https://meridianmapservices.ihsenergy.com/wss/service/ags-
        relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/PLAY_WMS/MapServer/WMSServer?

    ○   https://meridianmapservices.ihsenergy.com/wss/service/ags-
        relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/BASIN_WMS/MapServer/WMSServer?

    ○   https://meridianmapservices.ihsenergy.com/wss/service/ags-
        relay/EMS_2_00/httpauth/arcgis/rest/services/WMS/WELL_SURFACE_WMS/MapServer/WMSServer?

4. Enter your credentials and click **OK**

5. Select the root layer to have all content added to the map. Click **Add** and **Close**
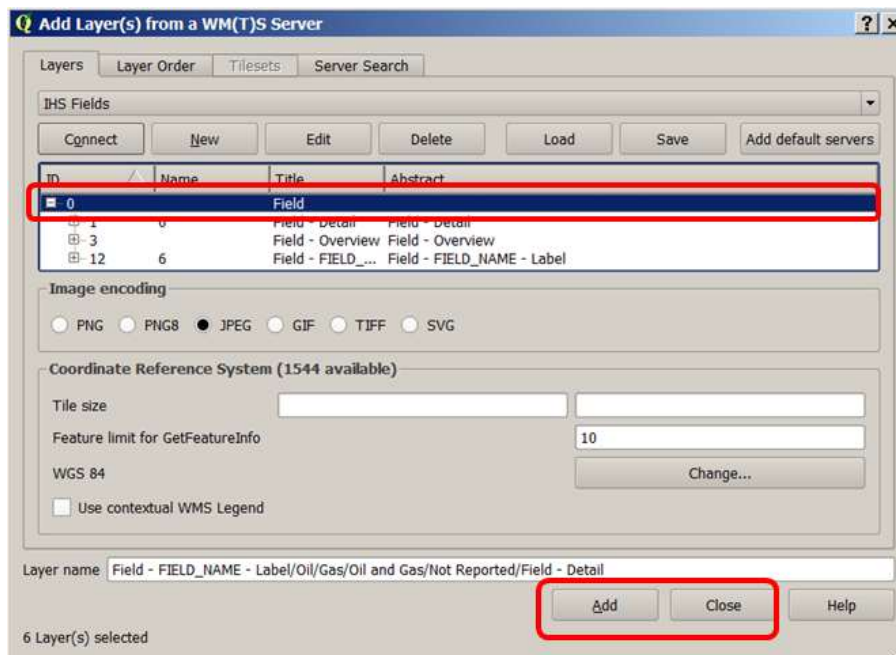
6. The content is added to the map
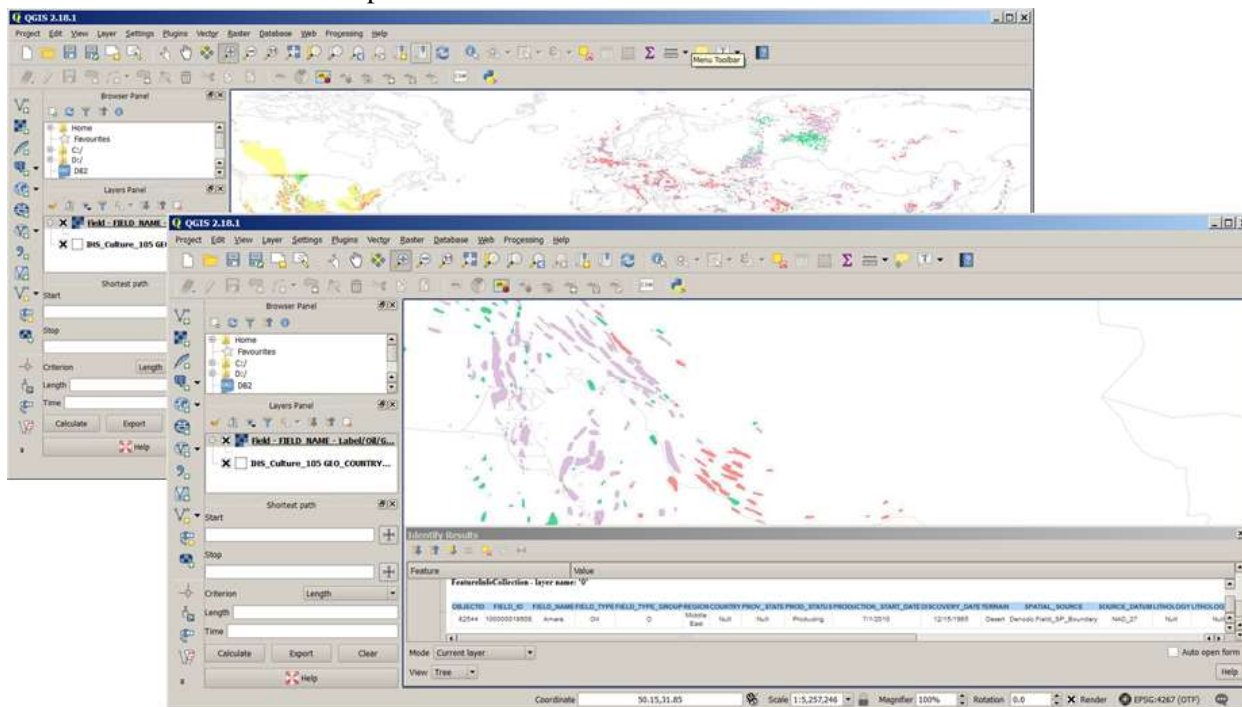
Appendices

Appendix A: Clearing your Cache

Your browser's cache stores downloaded content on your computer. Before using IHS Energy Map Services, we suggest that you clear your cache to free up computer space.

Internet Explorer

To clear your cache

1. In your browser, press the **Ctrl-Shift-Del** key.

2. In the Delete Browsing history, click the **Delete** button.

3. Alternatively, clear your cache for just the current page you're visiting. Press and hold [Ctrl] on your keyboard, then Press [F5] .

Mozilla Firefox

Note: While we have not certified the IHS Enerdeq Browser with Mozilla Firefox, we have provided below the needed setup information to clear your cache.

To clear your cache

1. In your browser, press the **Ctrl-Shift-Del** key.
2. Choose the time range to clear.
3. To view what will be cleared, click the Details button.

4. Click **Clear Now**.
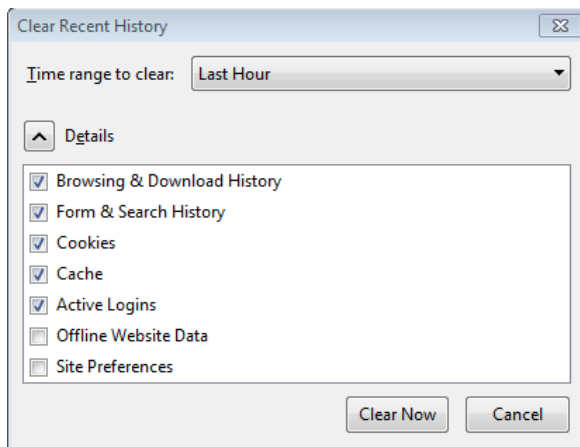
Automatically clear your cache in Firefox

You can set Firefox to automatically clear the cache when Firefox closes:

To automatically clear the Firefox cache (versions 3.5 and 3.6)

1. Click the **Tools** menu, and select **Options.**
2. Select the **Privacy** panel.
3. In the History section, select Firefox will: **Use custom settings for history**.
4. Select the check box for **Clear history when Firefox closes**.
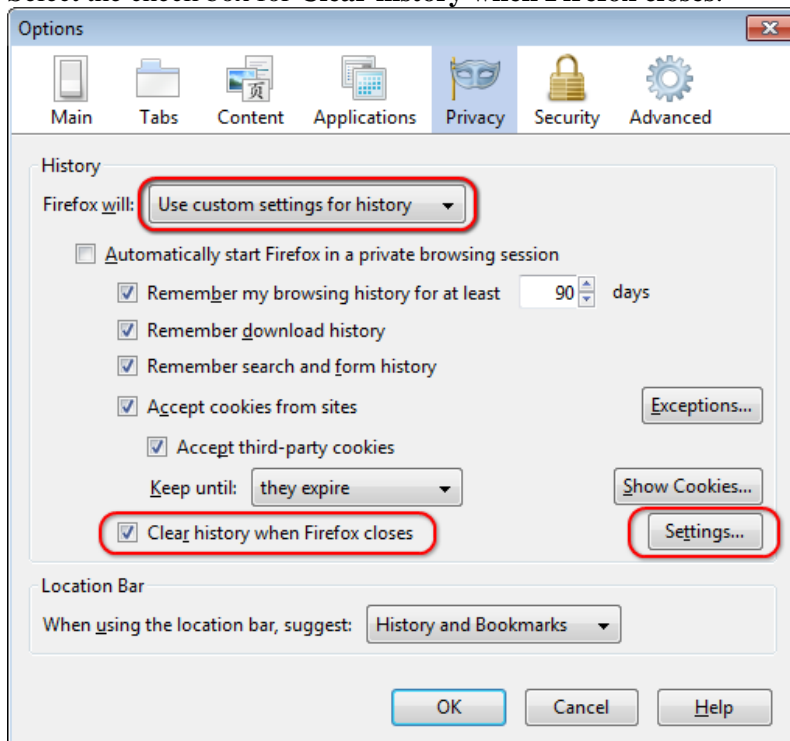
5. Beside Clear history when Firefox closes, click the **Settings...** button. The Settings for Clearing History dialog box will open

6. Select the check box next to Cache.
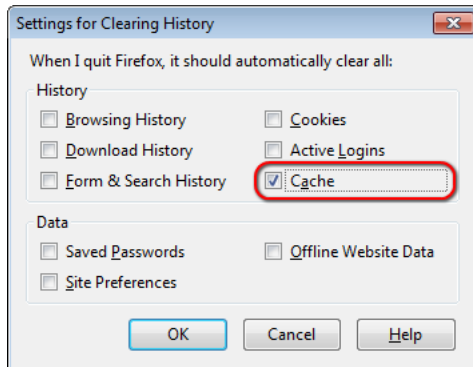
7. Click **OK** to close the Settings for Clearing History dialog box.

8. Click **OK** to close the Options dialog boxESRI ArcMap 10

ESRI ArcMap 10

To clear your cache

1. Choose **"Customize"** from the menu bar and select **"ArcMap Options"** from the drop down menu.
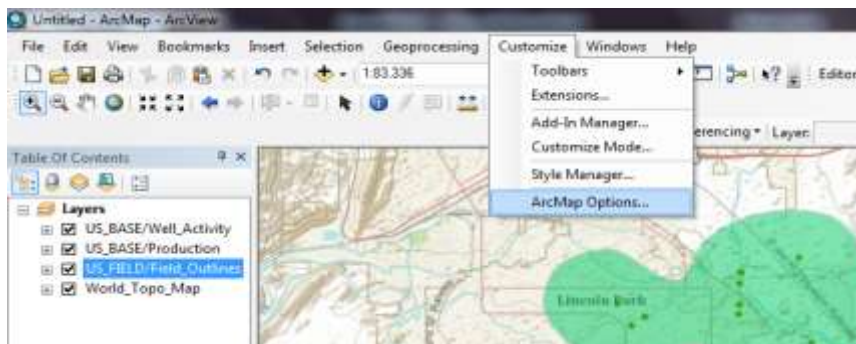
2. Select the **"Display Cache"** tab

3. Click the **"Clear Cache"** button and then the **"OK"** button

Appendix B: Frequently Asked Questions

Are the Energy Map Services layers cached or dynamic?

The IHS Energy Map Services are all dynamic map services.

A dynamic map service means the server renders the map each time a request comes in. Map services using a dynamic map service offer more flexibility than a cached map service.

A map service that fulfills requests with pre-created layer tiles from a cache instead of dynamically rendering part of the map is called a cached map service. The tiles are organized into pre-defined scale levels and hosted on a remote server.

Why are there multiple endpoints containing different content?

As new content is released it is served from the latest technology available. Over time the content will be consolidated to a single ArcGIS Server environment and the older infrastructure will be retired.

Since there is a new Global well service, does this mean the US and International services are being replaced?

Over time there will be deprecations of older redundant services. However, the plans for this will be communicated well in advance to give users enough time to update their applications as needed to the improved services. There is also the need for regional services in many ay cases that hold information only pertinent to a specific region

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