

Tools, Tips, and Workflows

WMS Layers in LP360

LP360, versions 2014.1 and above



GeoCue Group Support

10/3/2016

Revision 1.0



WMS (Web Map Service) is an OGC (Open Geospatial Consortium) standard which is widely supported:

<http://www.opengeospatial.org/standards/wms>

WMS layers can be added into LP360 for ArcGIS, LP360, Mission Planner, LIDAR Server and Reckon. LP360 for ArcGIS, LP360 and Mission Planner all display WMS data as a layer. These different programs provide users the ability to display WMS data in a client application. LIDAR Server and Reckon both consume and produce WMS data, for instance a base map layer.

Client applications such as LP360 for ArcGIS, LP360 and Mission Planner can therefore display data from Reckon, LIDAR server as well as any base map which supports WMS. There are some base maps that are published using WMTS (Web Map Tile Service) which LP360 does not support so it is important to keep in mind the difference between the two.

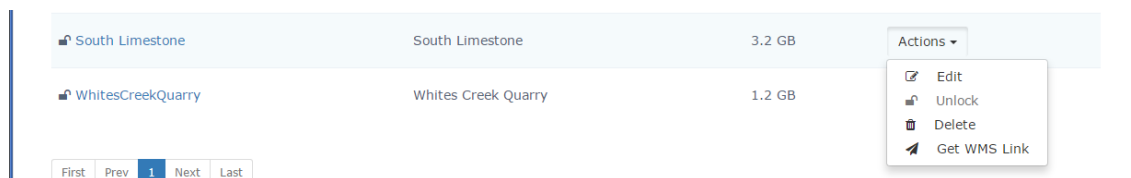
WMS in LP360 for ArcGIS

Reckon data in ArcMap

Reckon consists of a JavaScript client and a WMS server.

The following details the process of adding data from Reckon into LP360 for ArcGIS:

1. Log into the company website for Reckon.
2. Go to the Home page and selected Sites.
3. Click Actions for the site that you want and then click "Get WMS Link":



4. A dialog is displayed which contains link that you can "Copy to Clipboard":

A WMS Server Link

Please use the following WMS link for the project "South Limestone" that is valid for the next 1 hour(s).

<https://airgon.net:7345?Token=WWpuf17pn0aNjjPd>

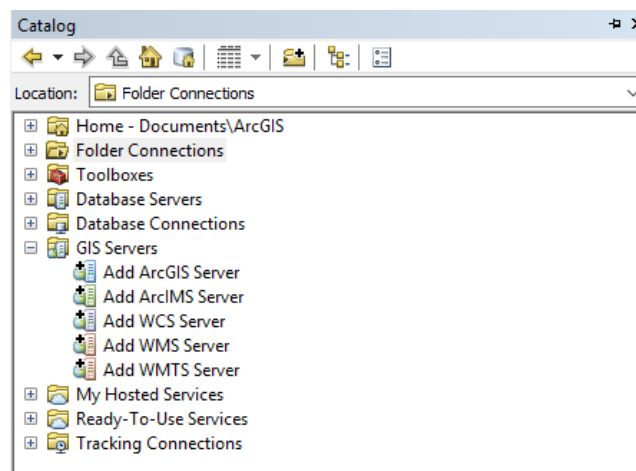
View GetCapabilities

Copy to Clipboard

Email

Done

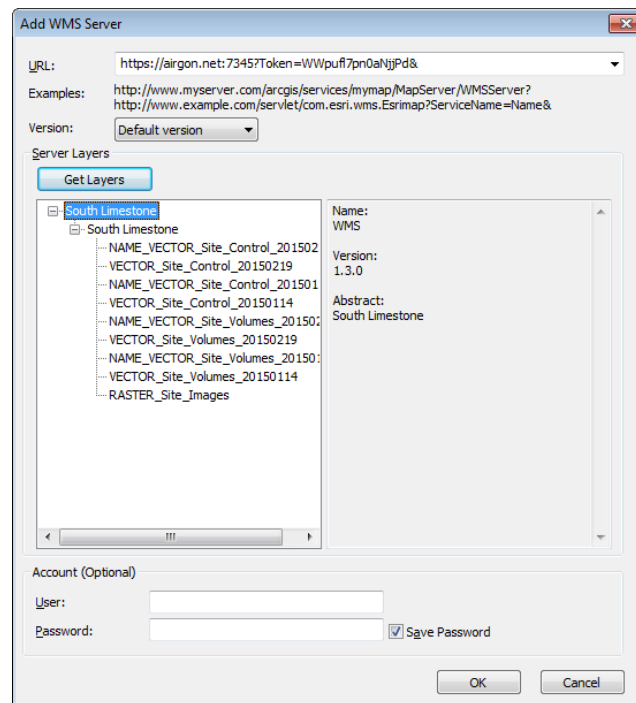
5. You can also click the Email button.
 - a. Note that this will email the person whose account you are logged on as the WMS link. This means that if you are using impersonation then you want to avoid doing this because you won't get an email. If email address associated with this account has not been confirmed then you will receive an error. In this case go to the Users tab, find your USERNAME, click Actions, and finally select "Email Confirmation". This will send you a confirmation email which you can acknowledge. Once you have confirmed your email address then you can email tokens as well as take advantage of the ability to get an email if you forget your password.
 - b. The URL which is provided to the user has a token embedded in it which is good for 1 hour. After 1 hour, the process has to be repeated. We can increase the period of time that the token is good for by changing the code but the longer the token is good for the larger the security risk. The issue here is that Reckon is a secure system.
6. In ArcMap, select Catalog and click GIS Servers → Add WMS Server



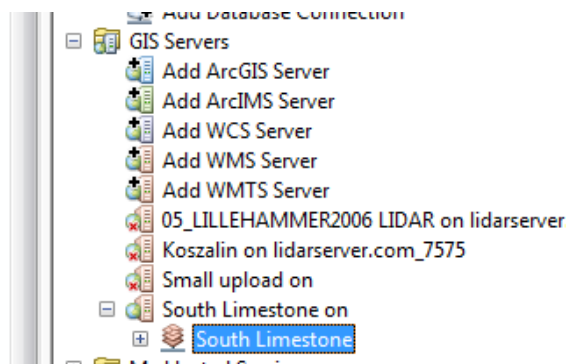
7. In ArcMap within the Catalog view, click "Add WMS Server", paste the URL provided, and then click OK:

Tools

WMS Layers in LP360



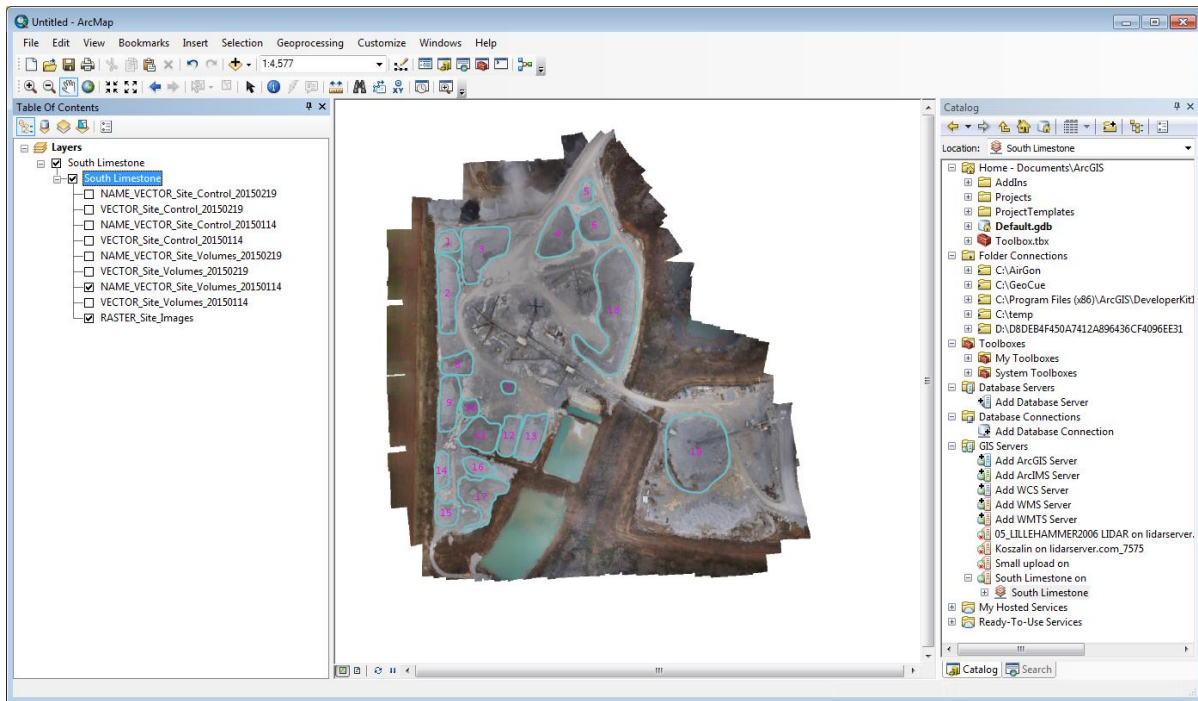
- At this point the WMS layer has been saved within the Catalog and can be added by either dragging it from the Catalog into ArcMap and or using the ArcMap “Add Data Button” to load the layer into the program



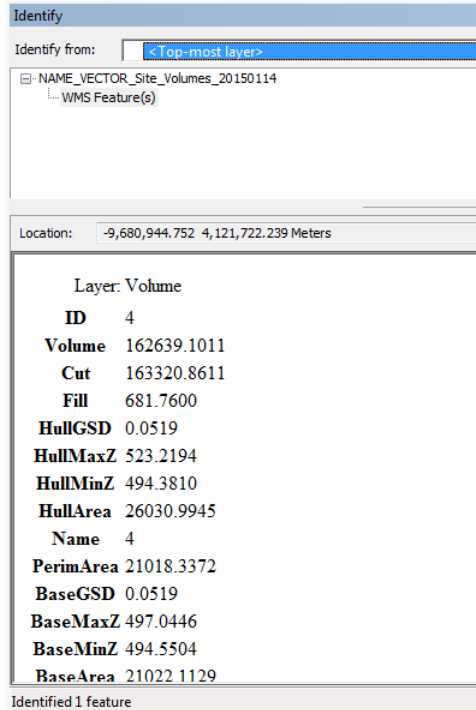
- Once the data has been loaded into ArcGIS the various layers can be turned on and off as needed

Tools

WMS Layers in LP360



10. If the layer has the prefix NAME then the image includes labeling information. You can see the images and features for the various dates. Identify works on vector feature



Tools

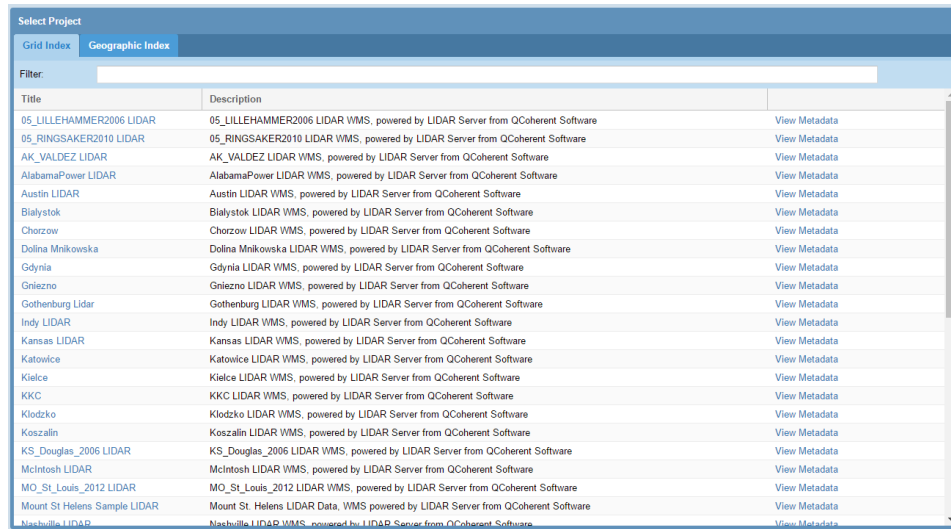
WMS Layers in LP360



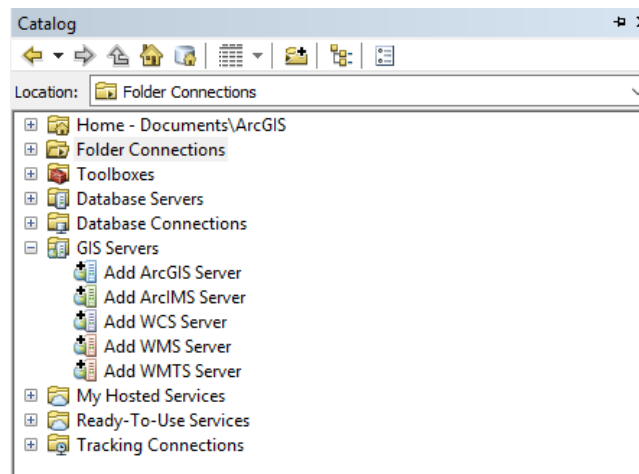
LIDAR Server data in ArcMap

LIDAR Server (<http://lidarserver.com>) consists of both a JavaScript client and a WMS server. Each project that is set-up on LIDAR Server has its own URL that is associated with it and thus can be used to add LIDAR Server data directly into ArcMap.

1. Select a project from the LIDAR Server list and click on View Metadata



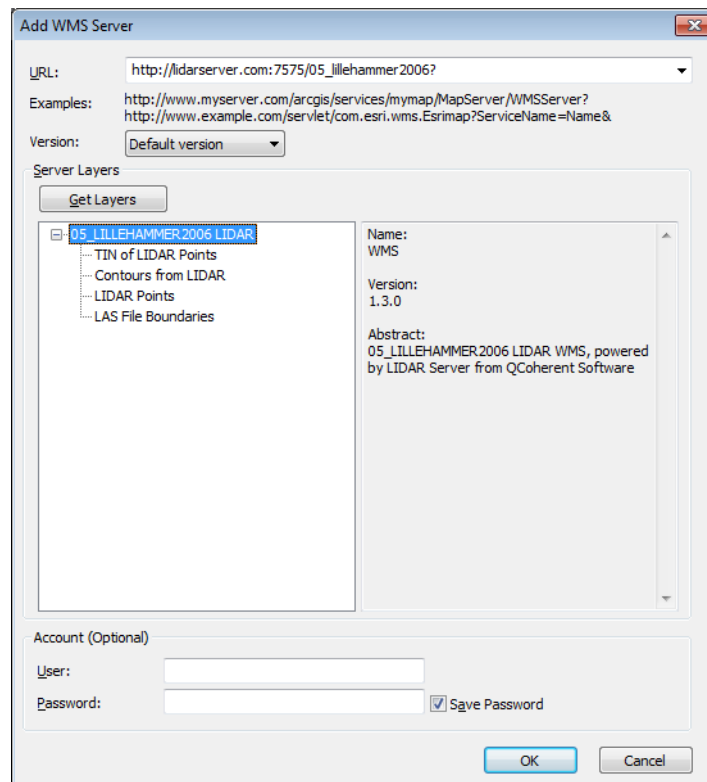
2. Copy the address listed
3. In ArcMap, select Catalog and click GIS Servers → Add WMS Server



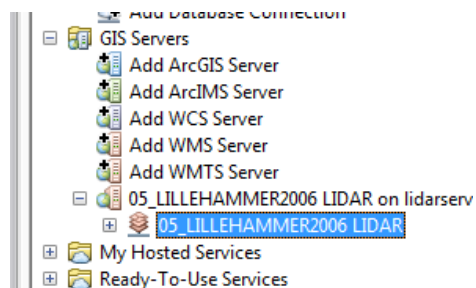
4. In ArcMap within the Catalog view, click “Add WMS Server”, paste the URL up to and including the question mark and then click “Get Layers” and then click OK:

Tools

WMS Layers in LP360



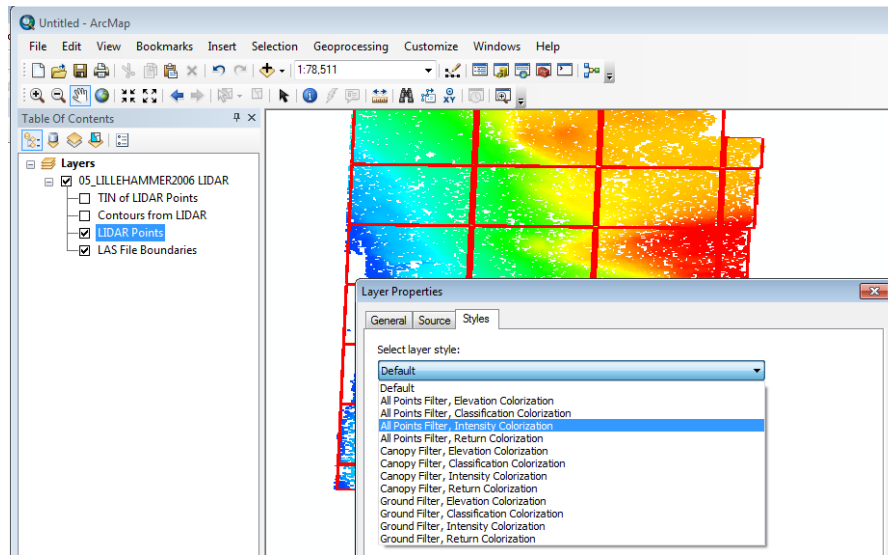
5. At this point the WMS layer has been saved within the Catalog and can be added by either dragging it from the Catalog into ArcMap and or using the ArcMap “Add Data Button” to load the layer into the program



6. Once the data has been loaded into ArcGIS the various layers can be turned on and off as needed and the styles can be changed via layer properties

Tools


WMS Layers in LP360

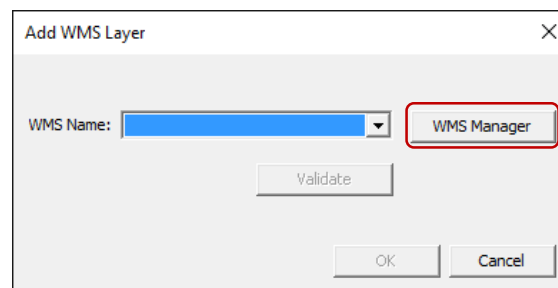


WMS in LP360

Base map in LP360

Prior to adding a base map to LP360, first load LIDAR data into LP360. The coordinate system of the map must match that of the LIDAR data, which means the LIDAR data must have a known coordinate system.

1. Click on the Add WMS Layer button 
2. Select WMS Manager

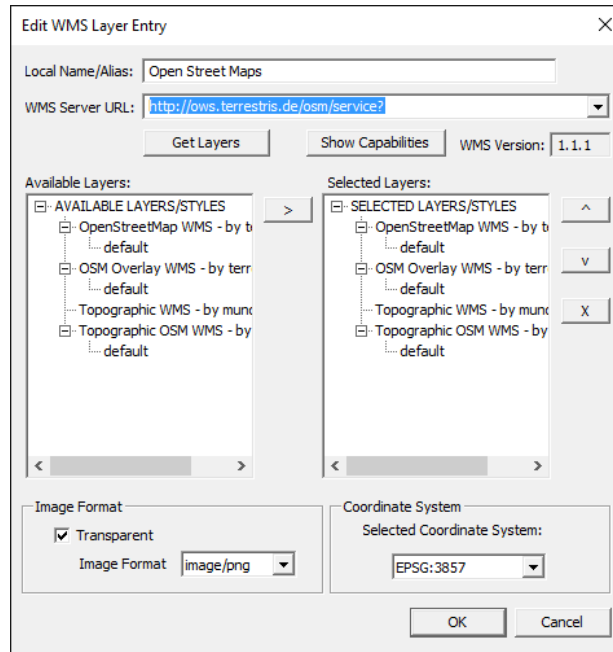


3. Select Add
4. In this example the base map being added is Open Street Maps
 - a. Give the WMS Layer a name
 - b. Provide the WMS Server URL. For Open Street Maps that is: <http://ows.terrestris.de/osm/service?>
 - c. Click on Get Layers
 - d. Add the desired Available Layers/Styles
 - e. Typically, the WMS layer is not going to be in the same coordinate system as the LIDAR data so the best choice is to go with a common geographic system such as web Mercator (3857)

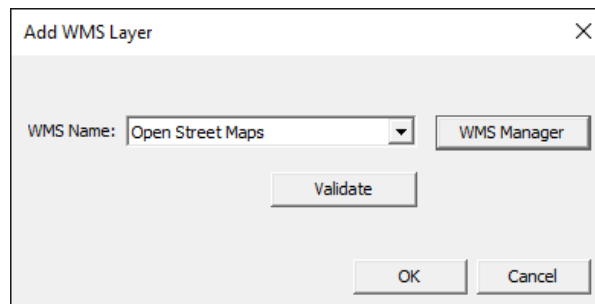
Tools

WMS Layers in LP360

- f. Select OK to add the new WMS Layer to the Catalog

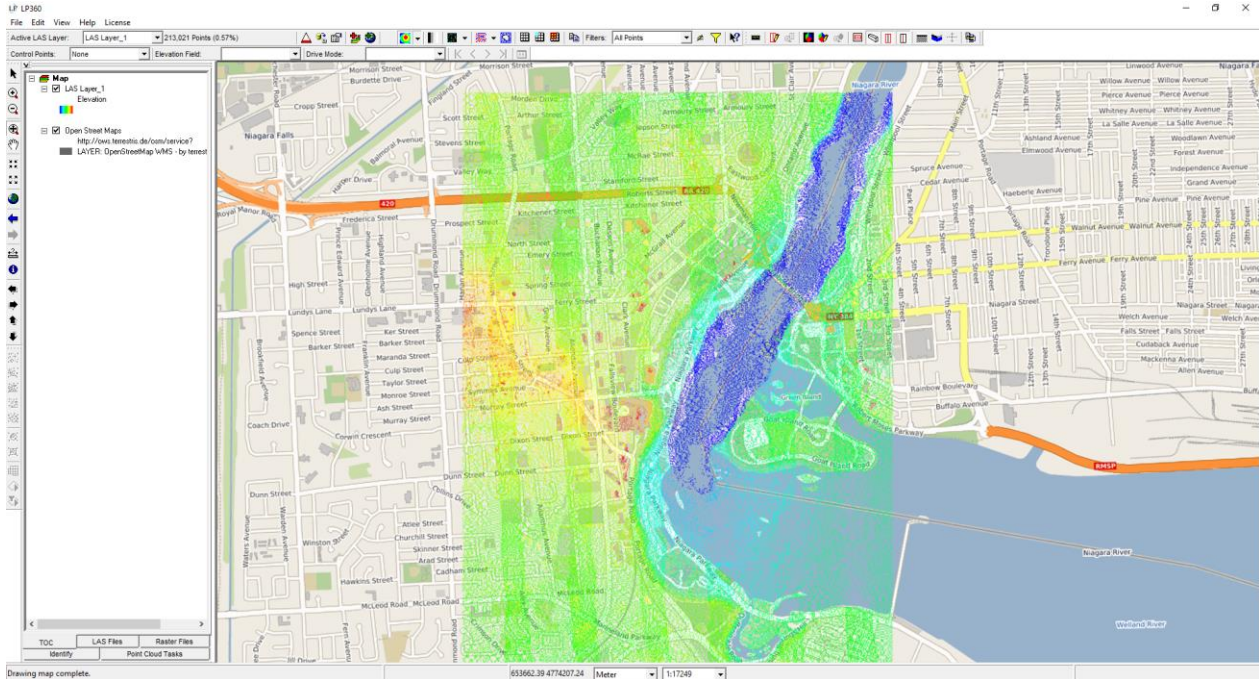


5. Once the WMS Layer has been added to the catalog it can then be added to the map view by selecting it from the drop down layer




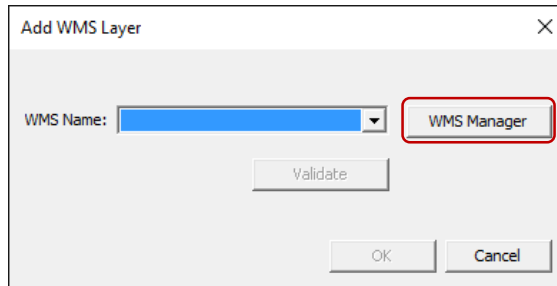
Tools

WMS Layers in LP360



Reckon data in LP360

1. Click on the Add WMS Layer button 
2. Select WMS Manager



3. Select Add
4. Log into the company website for Reckon.
5. Go to the Home page and selected Sites.
6. Click Actions for the site that you want and then click "Get WMS Link":

Tools

WMS Layers in LP360



Sites

NAME	DESCRIPTION	PROJECTION	SIZE	
Plant 11 - Open Pit	Butler, KY	NAD_1983_StatePlane_Kentucky_North_FIPS_1601_Feet	2.2 GB	Actions
Plant 2 - South Limestone	Tanner, AL	NAD_1983_StatePlane_Alabama_West_FIPS_0102_Feet	1.7 GB	Actions
Plant 4 - Sand Plant	Arlington, TN	NAD_1983_StatePlane_Tennessee_FIPS_4100_Feet	2.1 GB	Actions
Plant 7 - Whites Creek	Nashville, TN	NAD_1983_StatePlane_Tennessee_FIPS_4100_Feet	1.3 GB	Actions
Plant 8 - North Huntsville	Huntsville, AL	NAD_1983_StatePlane_Alabama_East_FIPS_0101	3.1 GB	Actions

First Prev **1** Next Last

Actions

- Get WMS Link
- Download Prj

7. A dialog is displayed which contains link that you can “Copy to Clipboard”:

A WMS Server Link

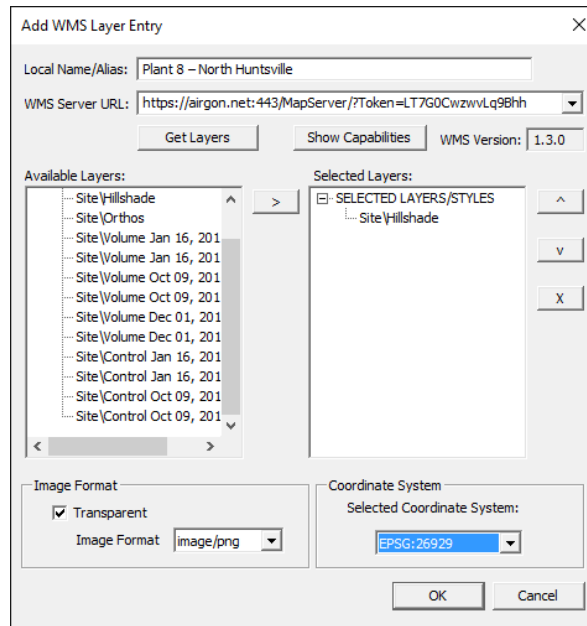
Please use the following WMS link for the project "Plant 8 - North Huntsville" that is valid for the next 1 hour(s).
<https://airgon.net:443/MapServer/?Token=LT7G0CwzwwLq9Bhh>

[View GetCapabilities](#) [Copy to Clipboard](#) [Email](#) [Done](#)

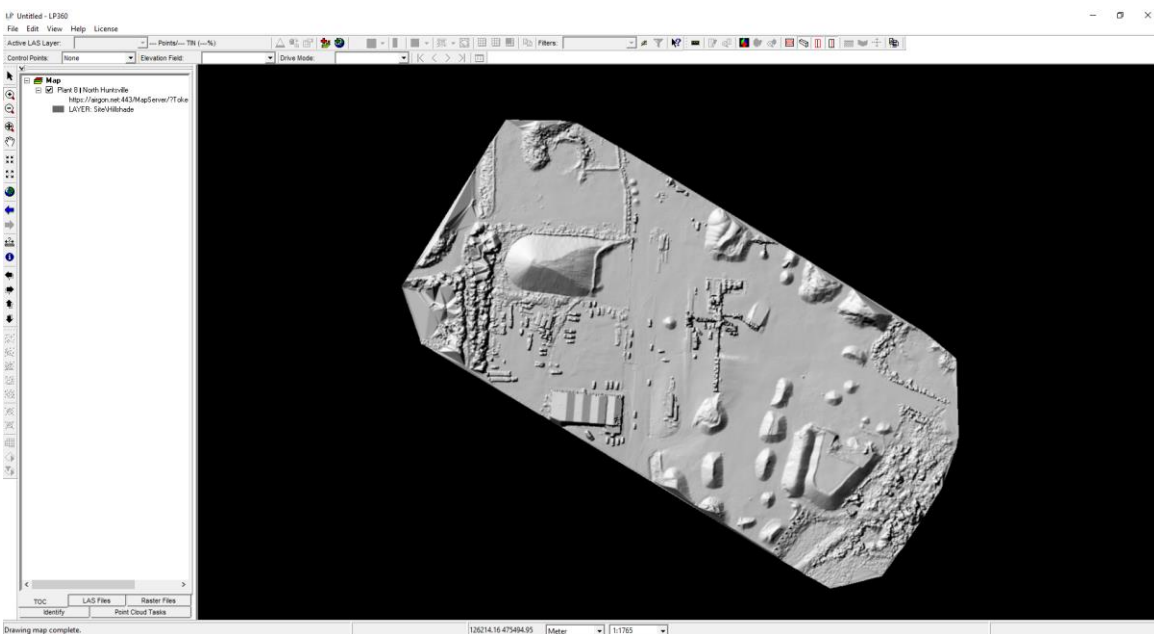
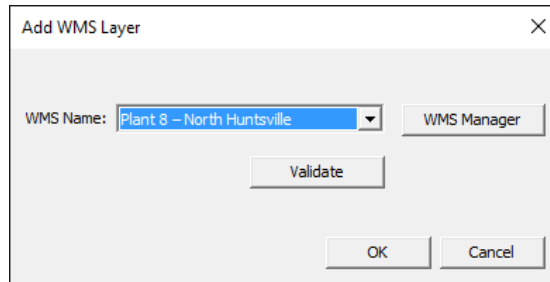
8. Copy the address listed
9. In this example project being added is Plant 8 – North Huntsville
 - a. Give the WMS Layer a name
 - b. Provide the WMS Server URL
 - c. Click on Get Layers
 - d. Add the desired Available Layers/Styles
 - e. Provide a Coordinate System
 - f. Select OK to add the new WMS Layer to the Catalog

Tools

WMS Layers in LP360



10. Once the WMS Layer has been added to the catalog it can then be added to the map view by selecting it from the drop down layer




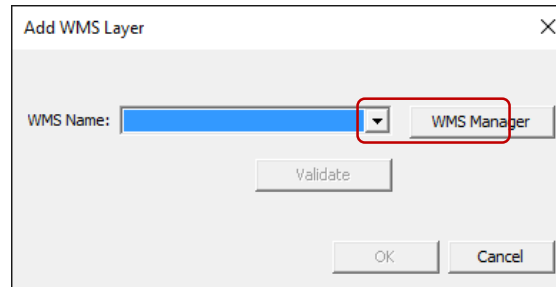
Tools

WMS Layers in LP360



LIDAR Server in LP360

1. Click on the Add WMS Layer button 
2. Select WMS Manager



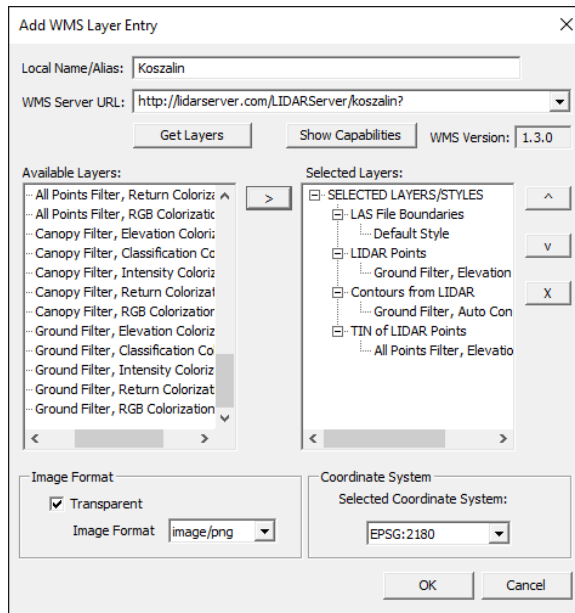
3. Select Add
4. Select a project from the LIDAR Server list and click on View Metadata

Title	Description	View Metadata
05_LILLEHAMMER2006 LIDAR	05_LILLEHAMMER2006 LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
05_RINGSAKER2010 LIDAR	05_RINGSAKER2010 LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
AK_VALDEZ LIDAR	AK_VALDEZ LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
AlabamaPower LIDAR	AlabamaPower LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Austin LIDAR	Austin LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Bialystok	Bialystok LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Chorzow	Chorzow LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Dolina Mnikowska	Dolina Mnikowska LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Gdynia	Gdynia LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Gniezno	Gniezno LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Gothenburg Lidar	Gothenburg LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Indy LIDAR	Indy LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Kansas LIDAR	Kansas LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Katowice	Katowice LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Kielce	Kielce LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
KKC	KKC LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Klodzko	Klodzko LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Koszalin	Koszalin LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
KS_Douglas_2006 LIDAR	KS_Douglas_2006 LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
McIntosh LIDAR	McIntosh LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
MO_St_Louis_2012 LIDAR	MO_St_Louis_2012 LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata
Mount St Helens Sample LIDAR	Mount St Helens LIDAR Data, WMS powered by LIDAR Server from QCoherent Software	View Metadata
Nashville LIDAR	Nashville LIDAR WMS, powered by LIDAR Server from QCoherent Software	View Metadata

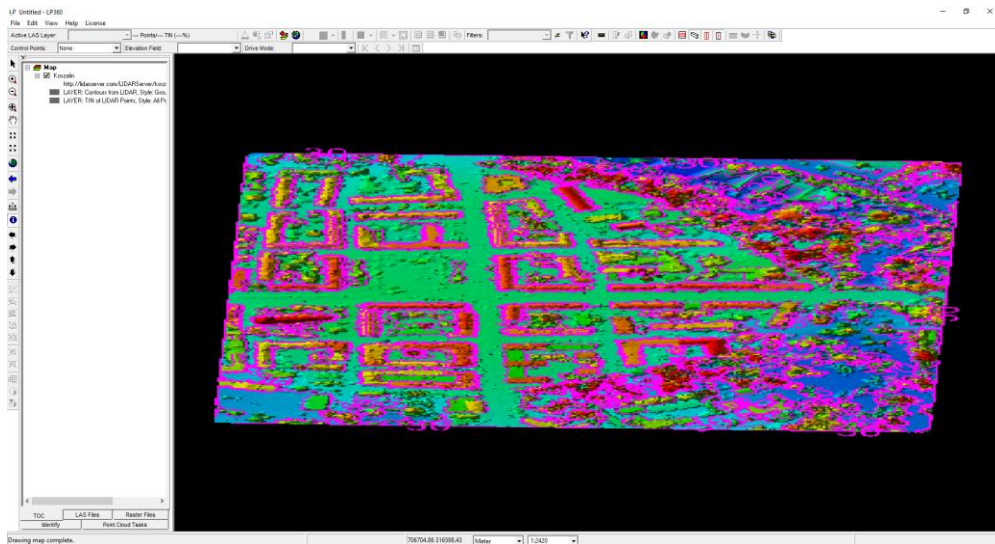
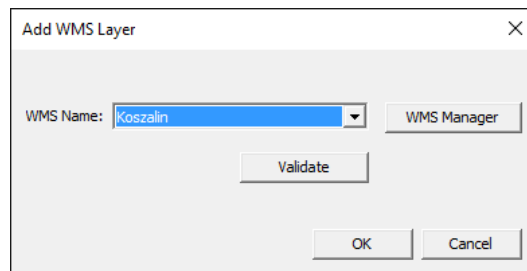
5. Copy the address listed
6. In this example project being added is Koszalin
 - a. Give the WMS Layer a name
 - b. Provide the WMS Server URL: <http://lidarserver.com/LIDARServer/koszalin?>
 - c. Click on Get Layers
 - d. Add the desired Available Layers/Styles
 - e. Looking at the metadata for the layer provides the spatial reference in this case EPSG:2180
 - f. Select OK to add the new WMS Layer to the Catalog

Tools

WMS Layers in LP360



7. Once the WMS Layer has been added to the catalog it can then be added to the map view by selecting it from the drop down layer



Tools

WMS Layers in LP360



Reckon data in Mission Planner

Mission Planner is used to construct flight plans for drones and is open source software.

1. Run Mission Planner



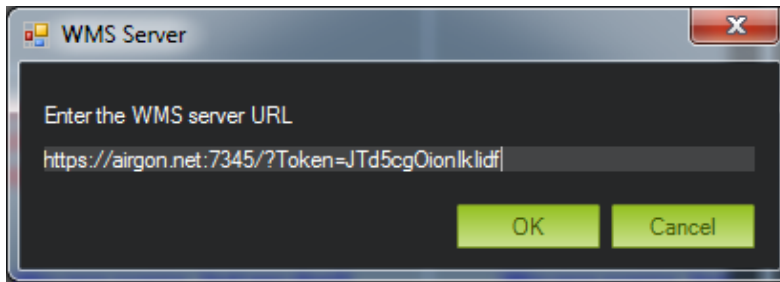
2. Go the FLIGHT PLAN and select WMS Custom from the menu:



3. Input the WMS Link from Reckon

Tools

WMS Layers in LP360



4. Select the image layer:

