

# INDEX ioGAS™

ArcGIS Pro AddIn v3.0



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## ioGAS Link for ArcGIS Pro

Esri ArcGIS Pro (AGP) is a desktop geographic information system (GIS) application that enables the visualisation, editing and analysis of geospatial data. Used in conjunction with the ioGAS for AGP Link, geoscientific point datasets can be analysed in real time and the results viewed simultaneously with other GIS layers such as geology, geophysics, regolith maps, tenement boundaries, topography and more in AGP.

The ioGAS for AGP Link creates a special 'live' layer in AGP that synchronises with the dataset currently loaded in ioGAS. The data for the live layer may be opened directly into ioGAS and then viewed as a live layer in AGP or a copy of an existing point layer in AGP can be selected as the live layer and be opened up into ioGAS for analysis. Only one dataset can be in use by the live link at any time.

Once the live layer is activated, all attribute changes in ioGAS (including visibility and set filter groups) are displayed in the live link layer in AGP in the same way as they appear in ioGAS. Data can also be selected for attribution in ioGAS using the standard selection tools in AGP, or any of the standard ioGAS tools that modify symbols (e.g. polygon select, classification diagrams, attribute manager, etc).

The live link is activated via the free AGP Add-In developed by IMDEX which can be downloaded from our website at <https://reflexnow.com/product/iogas/>.

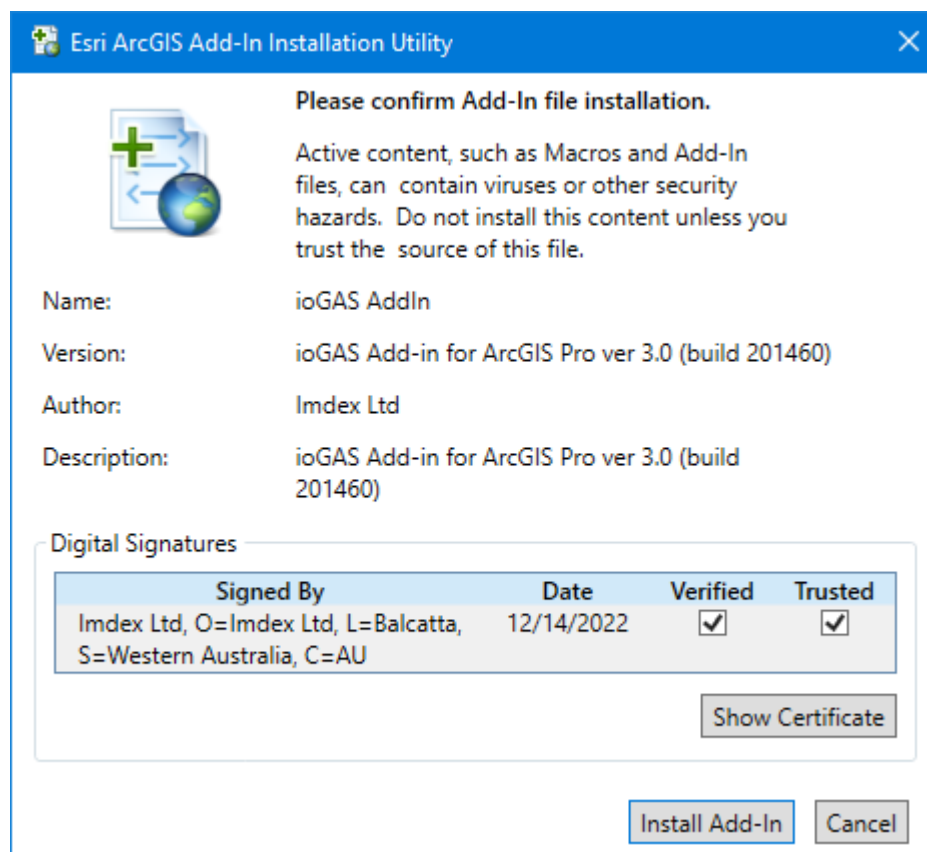
In addition to the live link, the AGP Add-In also enables data from an ioGAS file (.gas) to be imported directly into AGP as a feature class only or feature class and layer file.

## System Requirements

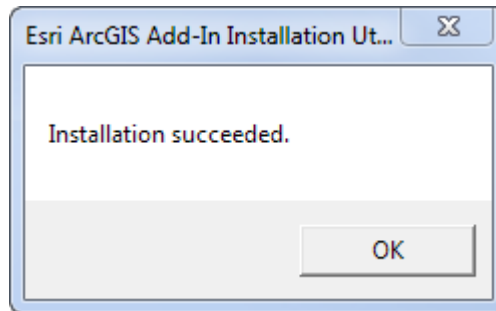
- Windows 10 OS or later
- ioGAS 8.0 or later
- ArcGIS Pro v3.0 or later
- ioGAS for AGP Add-In (build 201460)
- ioGAS file (.gas) v 5.1 or later

## Installation

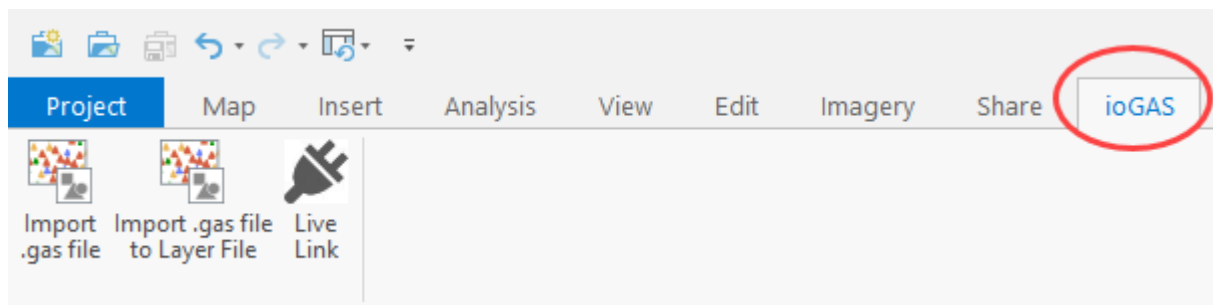
1. Download the ioGAS for ArcGIS Pro Add-In zip file from our [website](#).
2. Extract the contents of the zip file and double-click the ioGAS.esriAddinX file.



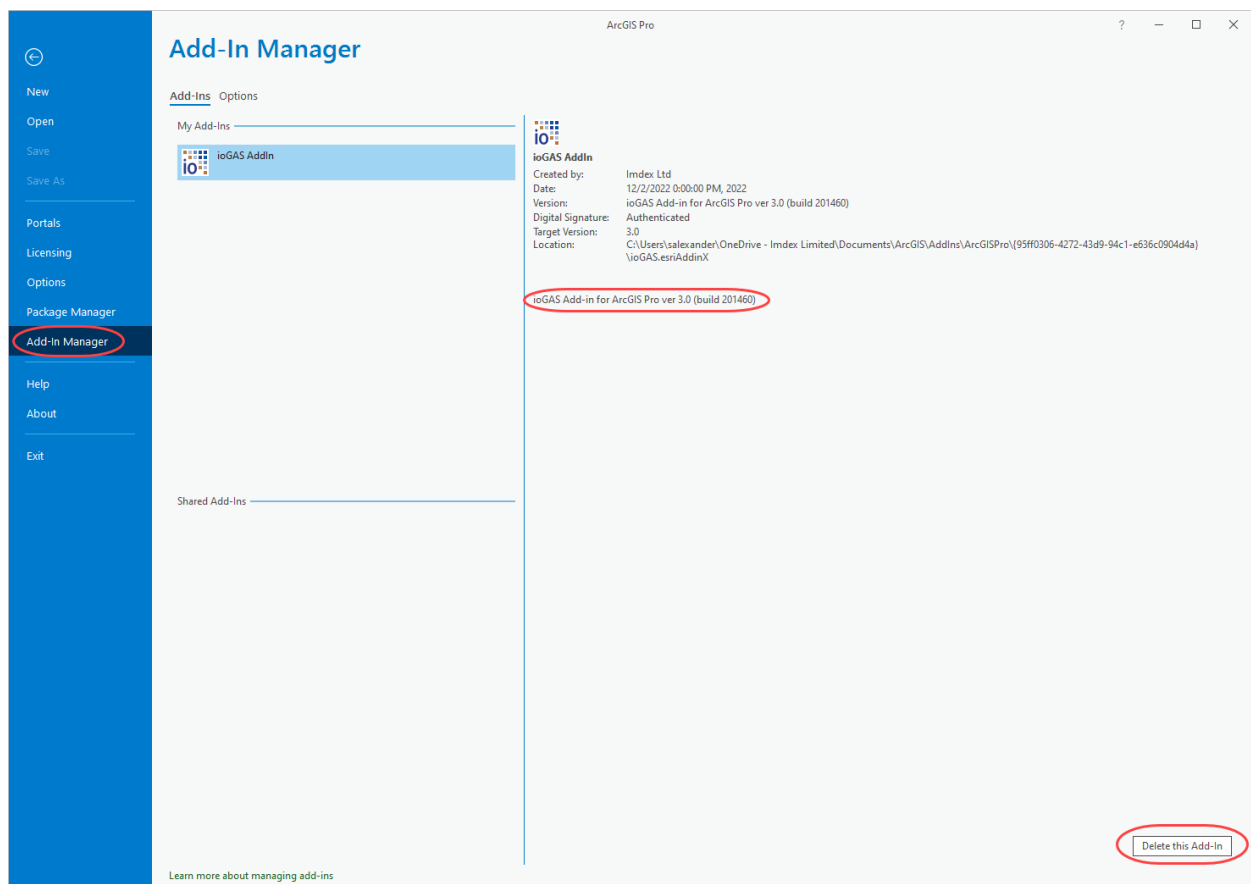
3. Select **Install Add-In**. If the installation is successful the following dialog will appear.



4. Start ArcGIS Pro. A new ioGAS tab is present containing the Add-In.



To view the Add-In metadata in AGP go to the **Add-In Manager** located under the **Settings** button or **Project** tab. To remove the Add-In at any time use the **Delete this Add-In** button.



To use the 'live link' option, both AGP and ioGAS must be installed on the computer. When importing .gas files only, AGP must be installed on the computer, but ioGAS is optional.

## Conventions Used

In ioGAS and AGP the term “attribute” is used differently. An attribute in an ioGAS context refers to the appearance of a data point, i.e. the colour, shape or size. In AGP this is referred to as the symbology.

An attribute in an AGP context refers to a variable displayed in tabular form, i.e. open Attribute Table. In ioGAS this is referred to as a data view.

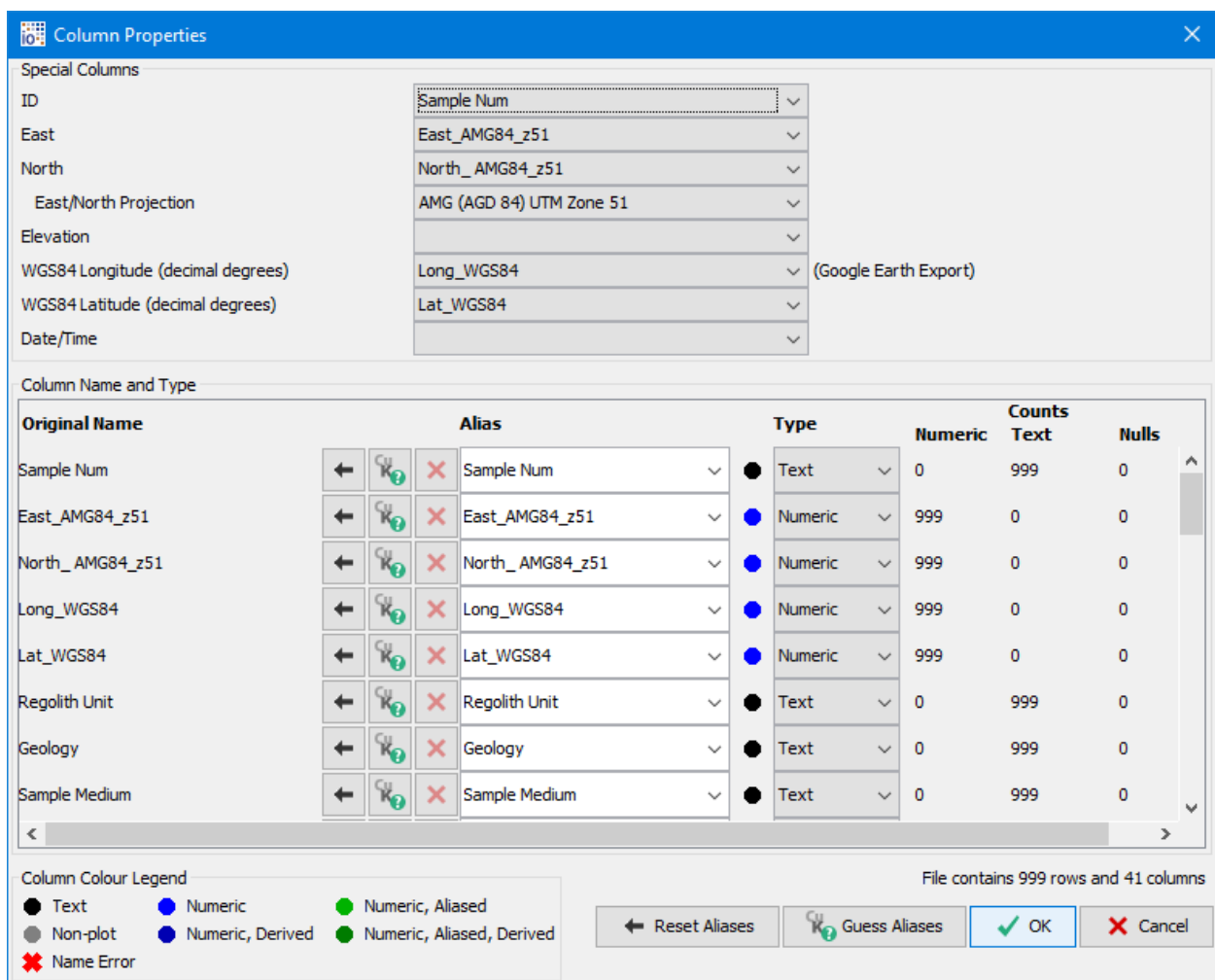


The ioGAS Add-In for AGP supports attribute map symbology only. To import variable map symbology into AGP select the **Export visible rows to multiple .gas files** button on the Variable Map toolbar within ioGAS. This will generate separate .gas files for each variable map which can be imported into AGP as individual layers.

## Prepare Data in ioGAS

The rendered symbology in AGP is derived from either the currently open colour, shape, size attributes as defined in the ioGAS **Attribute Manager**(when using the 'live link') or from the last saved attributes in the .gas file (when using the Add-In import options).

1. In the **Column Properties** dialog make sure the East and North Special Columns are populated and the **East/North Projection** is set correctly. This projection is used to display the data in the correct geographic location in AGP.



**Column Properties**

Special Columns

ID: Sample Num

East: East\_AMG84\_z51

North: North\_AMG84\_z51

East/North Projection: AMG (AGD 84) UTM Zone 51

Elevation:

WGS84 Longitude (decimal degrees): Long\_WGS84 (Google Earth Export)

WGS84 Latitude (decimal degrees): Lat\_WGS84

Date/Time:

Column Name and Type

Original Name	Alias	Type	Numeric	Counts Text	Nulls
Sample Num	Sample Num	Text	0	999	0
East_AMG84_z51	East_AMG84_z51	Numeric	999	0	0
North_AMG84_z51	North_AMG84_z51	Numeric	999	0	0
Long_WGS84	Long_WGS84	Numeric	999	0	0
Lat_WGS84	Lat_WGS84	Numeric	999	0	0
Regolith Unit	Regolith Unit	Text	0	999	0
Geology	Geology	Text	0	999	0
Sample Medium	Sample Medium	Text	0	999	0

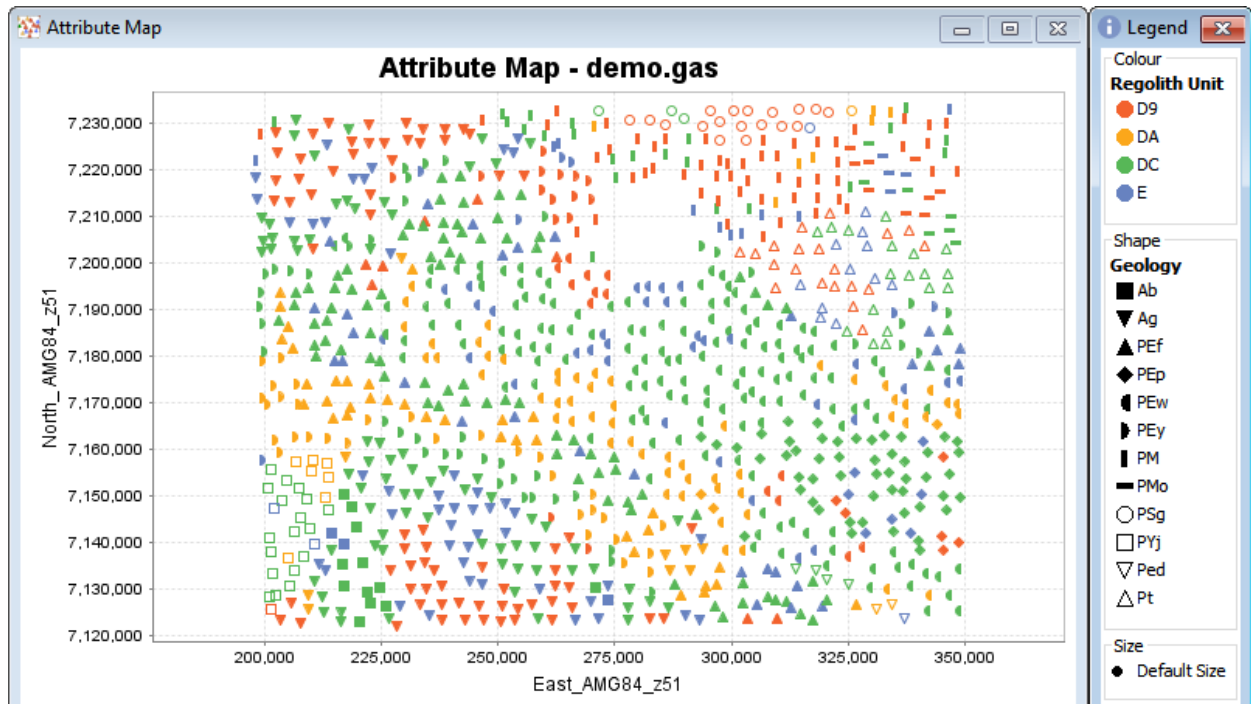
Column Colour Legend

- Text
- Numeric
- Numeric, Aliased
- Non-plot
- Numeric, Derived
- Numeric, Aliased, Derived
- Name Error

File contains 999 rows and 41 columns

Reset Aliases Guess Aliases OK Cancel

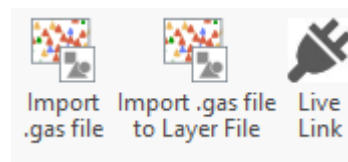
2. Set the desired colour, shape, size and filter/visibility in the Attribute Manager.



3. When the dataset is ready it is time to open the plugin. If the data is to be imported into AGP instead of via the live link save the ioGAS file now.
4. Start the AGP application and open a project and map window. If no map window is present a new one will be opened during the live link/import process.
5. Select the ioGAS tab to display the ribbon bar.

## View Data in ArcGIS Pro

The following three options to view data in AGP are available:



### Import .gas file

Import one or more .gas files as individual layers in the current AGP map window. The data is added as a feature class to the geodatabase designated as the default project geodatabase.

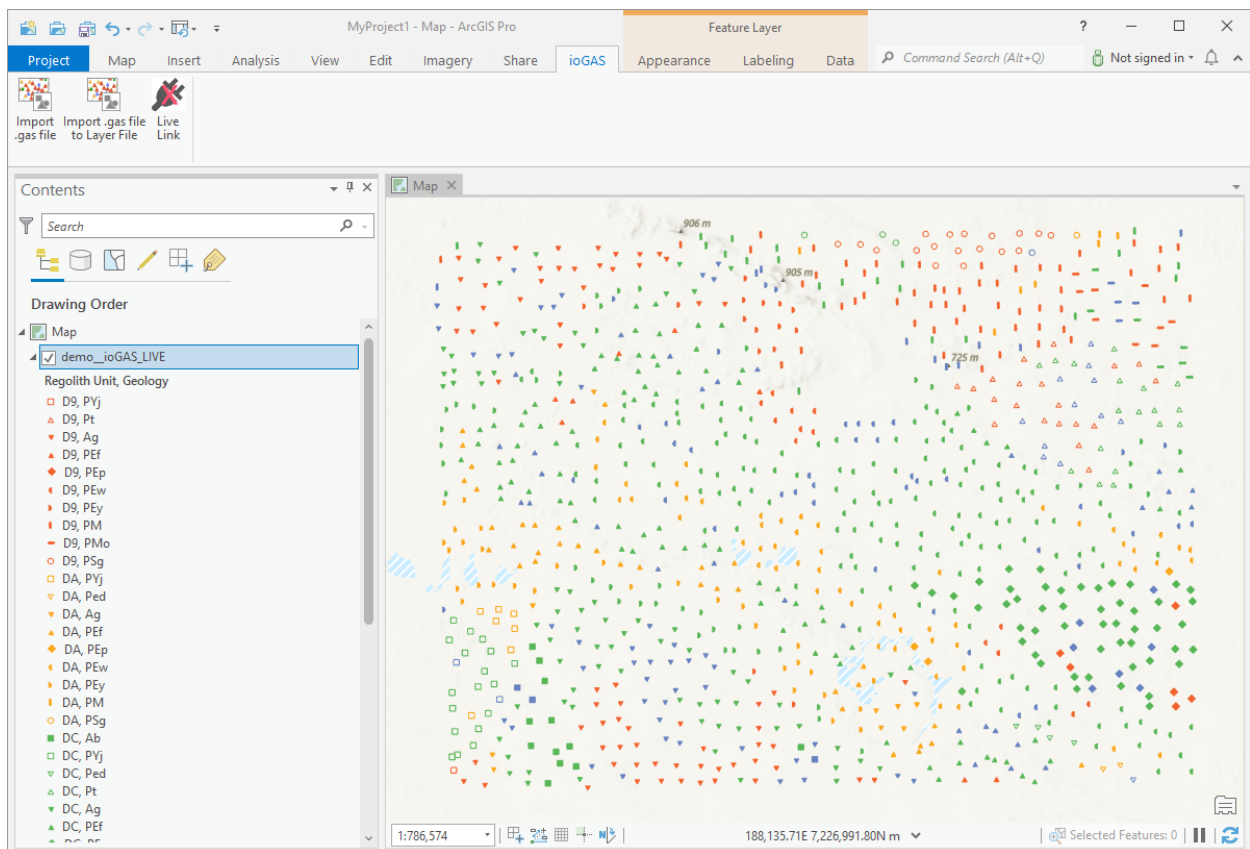


## Import .gas file to Layer File

Import one or more .gas files as individual layers in the current AGP map window. The data is added as a feature class to the geodatabase designated as the default project geodatabase. A .lyrx file is also generated in the same folder as the imported .gas file which contains the colour/shape/size symbology.

## Live Link

Open a special 'live' layer in AGP that synchronises with ioGAS. The currently open dataset in ioGAS or an existing AGP layer can be defined as the live link data layer. The live link layer is removed when the AGP or ioGAS session is closed and should not be saved in AGP Projects.



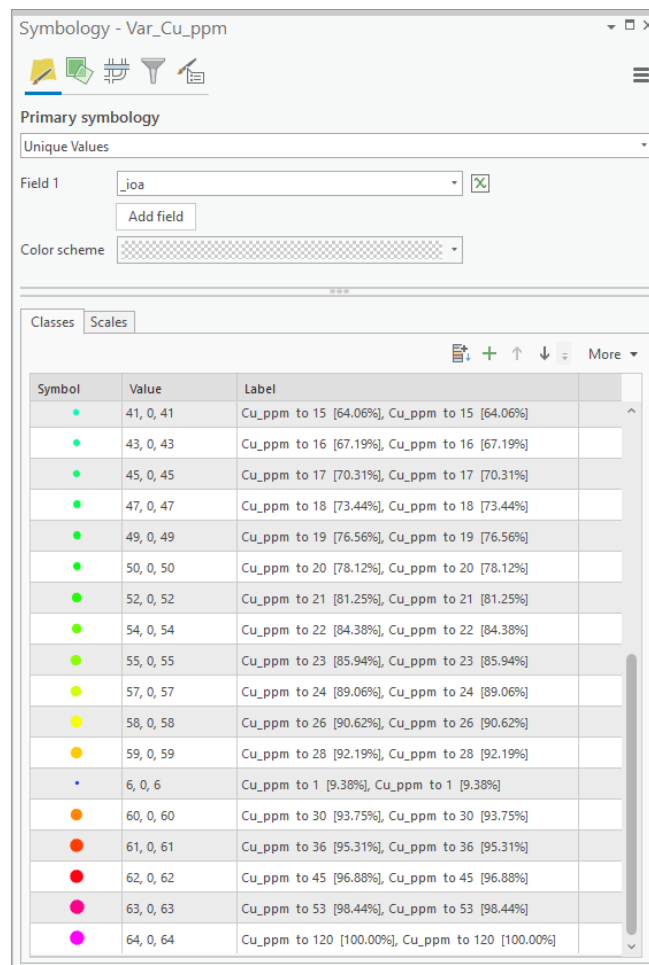
## AGP Projection

The projection set in the Column Properties dialog in ioGAS is used as the AGP map window projection unless the projection of the incoming data is different to the currently open AGP map window projection. In this case the data is reprojected on-the-fly to display in the correct geographical space.

## AGP Legend and Symbology

The symbolised layer is added to the **Contents** pane using the same name as the original ioGAS filename (when imported as a feature class and/or layer file) or ioGAS filename ioGAS\_LIVE in the case of the live link layer.

The colour, shape and size attributes are combined to make a single unique legend entry. To view the legend properties right-mouse click on the layer name in the **Contents** pane and select **Symbology**.



## AGP Attributes

To view the imported variables as a table, right-mouse click on the layer name in the **Contents** pane and select **Attribute Table**.

For imported layers the ID, North, East, WGS84 Longitude, WGS84 Latitude, Date/Time special columns as designated in the **Column Properties** dialog are imported into AGP automatically along with all of the selected variables. For drillhole data, the depth from, depth to and grouping fields may also be automatically included.



import process. If re-importing occurs in the same session, the ioGAS Add-In may find it necessary to save any pending edits in the project.

## Update Data from AGP - Live Link Layer Only

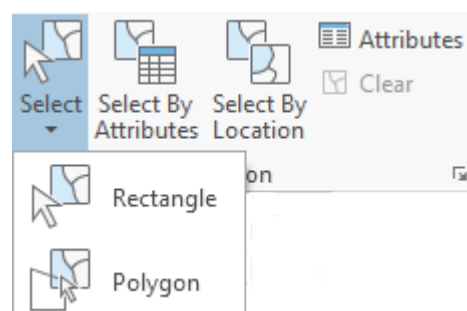
When the live link layer is active, selected data points of interest in AGP can be added to the attribute manager in ioGAS as a new or to an existing attribute group.

In ioGAS these data selections can be viewed in any open plot windows, used with other analysis tools such as summary statistics, discriminant projection analysis, etc which generate results based on attribute groupings or as a filter group to subset the dataset.

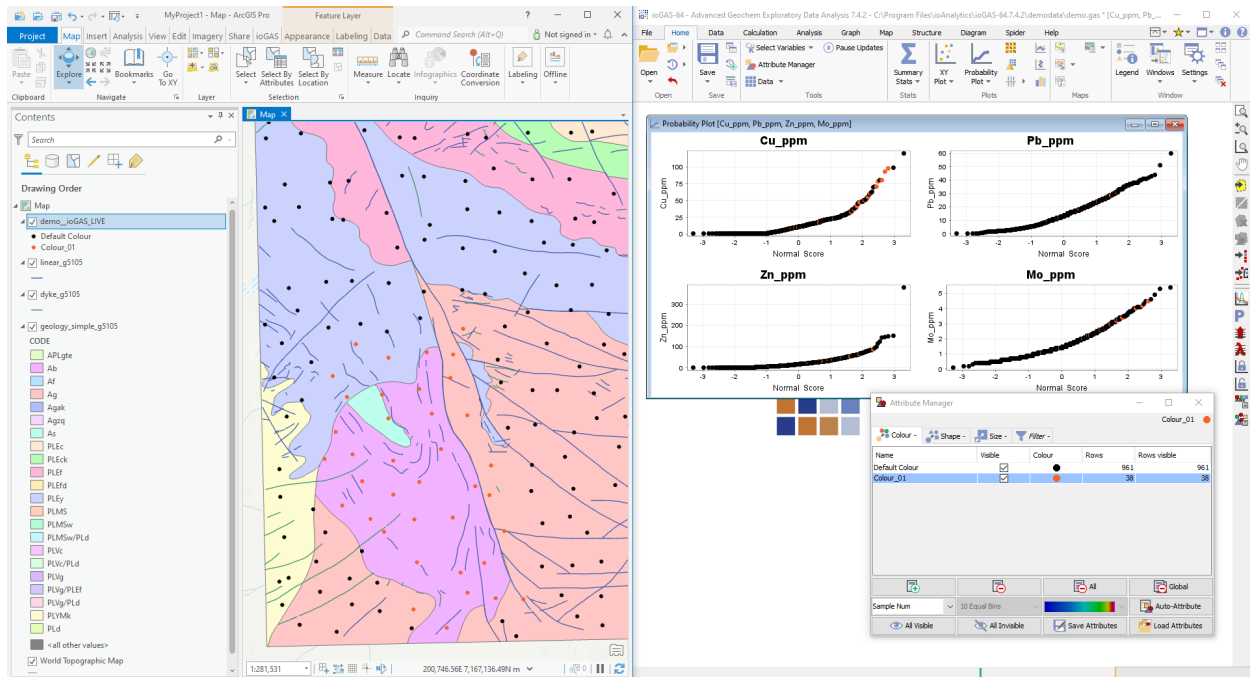


Any changes to the live link layer symbology or visibility in AGP are not reflected in ioGAS. These changes can only be controlled via the attribute manager in ioGAS.

1. In ioGAS highlight a new or existing attribute group in the Attribute Manager. The selected data AGP is added to the highlighted attribute group.
2. In AGP make sure that the live link layer is at the top of the list in the layer pane. (This is so the selection tools will select the points from the correct layer)
3. Use any of the following AGP tools to select and highlight the desired data points from the live link layer in the AGP map window:



4. Once the points are selected they are attributed in both ioGAS and the AGP map window.



Additional selections can be made in the AGP window and added to the existing attribute group in ioGAS or to new attribute groups.

5. Continue making selections in AGP or ioGAS and analysing the data in ioGAS.

## Activate Live Link Layer from AGP

The workflow above shows how to open a dataset in ioGAS and view the data points as a live layer in the AGP map window. It is also possible to select an existing layer in the map window to use as the live link layer and analyse the data in ioGAS.

1. Start the AGP application and open all of the desired GIS layers into an AGP map window.
2. Go to the **Live Link** button on the ioGAS ribbon.
3. Start the ioGAS application. In the **File** ribbon select **Open Link Data**.
4. If there is only one point layer visible in the AGP map window it is automatically selected as the live link layer. If there is more than one point layer, select the desired layer from the displayed dialog in ioGAS.
5. A copy of the selected point layer is added to the AGP Contents pane using the name of layer and an **ioGAS\_LIVE** extension. The data points are displayed with the default colour, shape, size attributes.

6. In ioGAS the same data layer is loaded, ready for analysis. Each point is assigned the coordinates from its location in the open AGP map window however the default projection in ioGAS is Non-Earth. To change this go to Column Properties.
7. Proceed to make selections and update attributes using the analysis tools in ioGAS as usual.

## Save Live Link Layers

The live link layers displayed in both AGP and ioGAS are temporary layers only. To save a live link layer in ioGAS use the **Save** or **Save As** menu options.

To save a live link layer in AGP, right click on the layer and select **Data>Export Features**.

## End Live Link Session

To stop a 'live link' session at any time click on the **Live Link** button on the ioGAS ribbon in AGP. Alternatively close the ioGAS or AGP applications.

## Trouble Shooting

If you have difficulty with the ioGAS AGP Add-In please lodge a support issue through the IMDEX [Customer Care Portal](#) or send an email to [iogas.support@imdexlimited.com](mailto:iogas.support@imdexlimited.com).

Log files are used by IMDEX to diagnose technical support issues so please try to include this file with your support query. By default, the Add-In log.txt file is located in:

- C:\Users\Username\AppData\Roaming\ioGAS.ESRI\log folder (Windows)

## Current Limitations and Known Issues

Problem	Workaround
Possible slow performance on large datasets over live link	Reduce size of data by using filter groups in ioGAS Attribute Manager
Multiple legend and/or map data refreshes when modifying attributes	Select multiple attribute groups when turning visibility on/off, etc instead of selecting each group

Multiple legend and/or map data refreshes when adding or removing rows and columns over live link	<p>one at a time.</p> <p>Use Pause Updates when making multiple changes to the colour/shape/size attributes. Use Resume Updates to send current settings across to AGP.</p>
AGP crashing when live link turned on/off when switching between projects and new data loaded in ioGAS	Make sure new project is fully opened in AGP and/or data loaded into ioGAS before turning live link back on.
Non-earth data may get projected onto a map in default WGS84 LL coordinate system	
Data points with null coordinates are not included	
Special characters in ioGAS column names such as ( ) + - are replaced with _ in AGP	Where duplication of column names may occur as result of this, the duplicated column is assigned a prefix such as fld_1_ to provide a unique name
Max column name in AGP is 64 characters	Column names in ioGAS longer than this are truncated and named "replaced_fieldname_[field-number]" to prevent duplicate column names

## Support

### Customer Service Portal

The Help ribbon provides access to the IMDEX [Customer Service](#) portal for existing ioGAS users. Search the ioGAS knowledge base, get help or request an enhancement. The support portal can also be used to lodge licence requests. A one-off registration is required to access the customer service portal.

Where possible include a screen capture of the **Help>About** information and a copy of the **log.txt** files. (Use **Browse to Logs** on the Help ribbon to locate the log files).

Technical support is not intended to provide remote training in the software. For training enquiries please contact [iogas@imdexlimited.com](mailto:iogas@imdexlimited.com).



Technical support is available for maintained clients only. Server and single seat (timed) licences automatically include technical support. Existing single seat (perpetual) licence holders must pay an ongoing annual maintenance fee in order to continue to receive technical support.



### Email Support

Email support is available for trial users and existing ioGAS clients who are unable to access the IMDEX Customer Service Portal.

Contact Details:

Email: [iogas.support@imdexlimited.com](mailto:iogas.support@imdexlimited.com)