

IMDEX ioGAS™

ArcGIS Pro AddIn v3.0 (build 201460)



IMDEX™

 **IMDEX**
ioGAS™

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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/>.

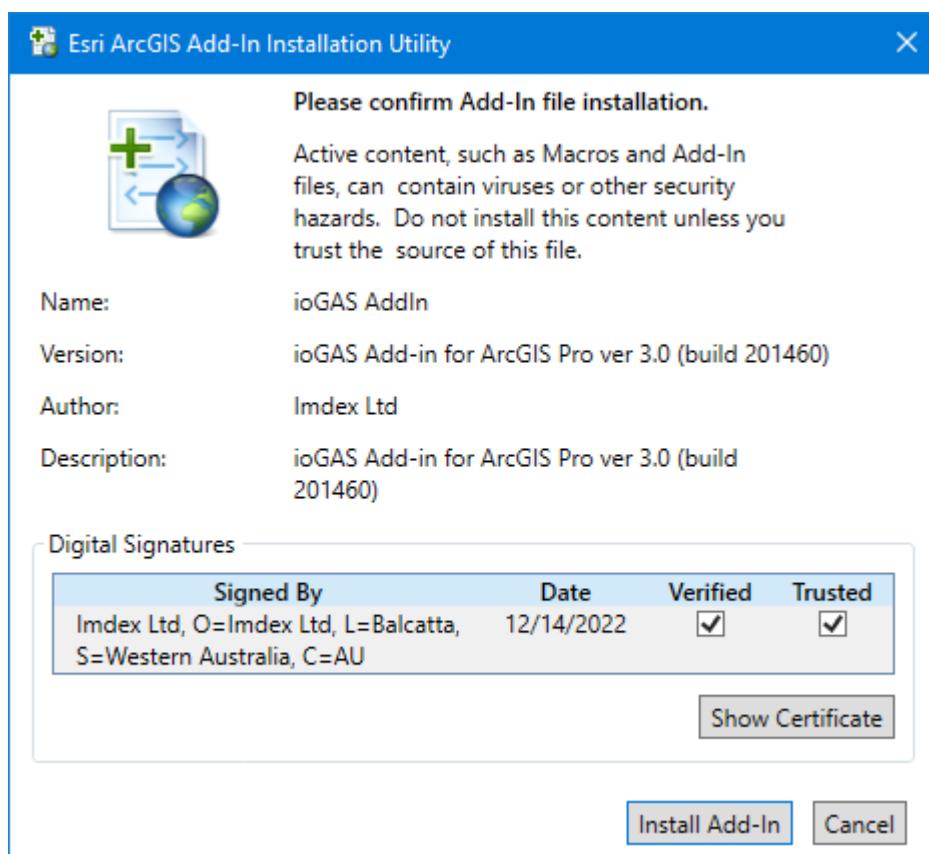
In addition to the live link, the AGP Add-In also enables data from an ioGAS file (.gas) to be imported directly into AGP as a feature class only or feature class and layer file.

System Requirements

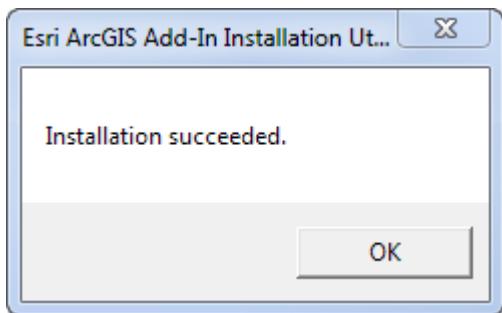
- Windows 10 OS or later
- ioGAS 8.0 or later
- ArcGIS Pro v3.0 or later
- ioGAS for AGP Add-In (build 201460)
- ioGAS file (.gas) v 5.1 or later

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.



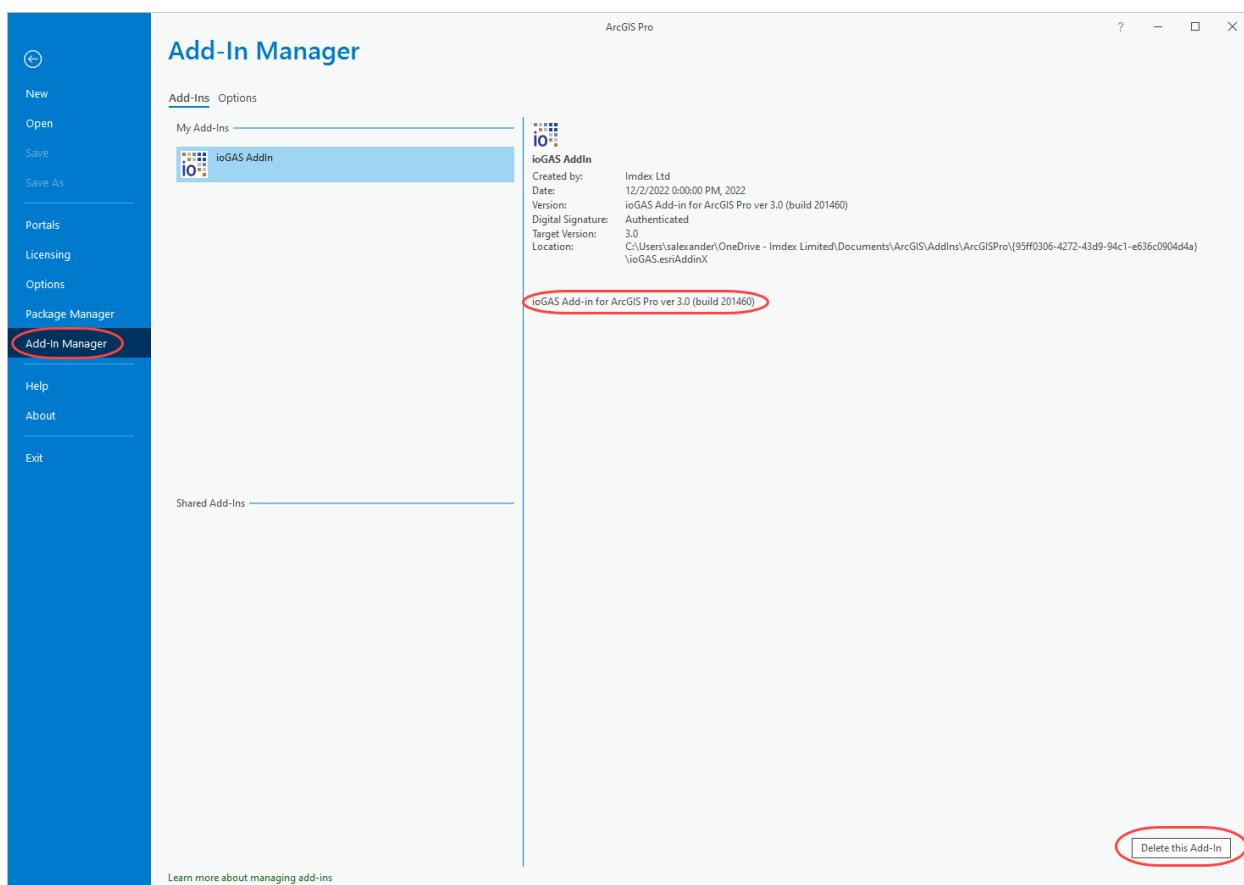
3. Select **Install Add-In**. If the installation is successful the following dialog will appear.



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.

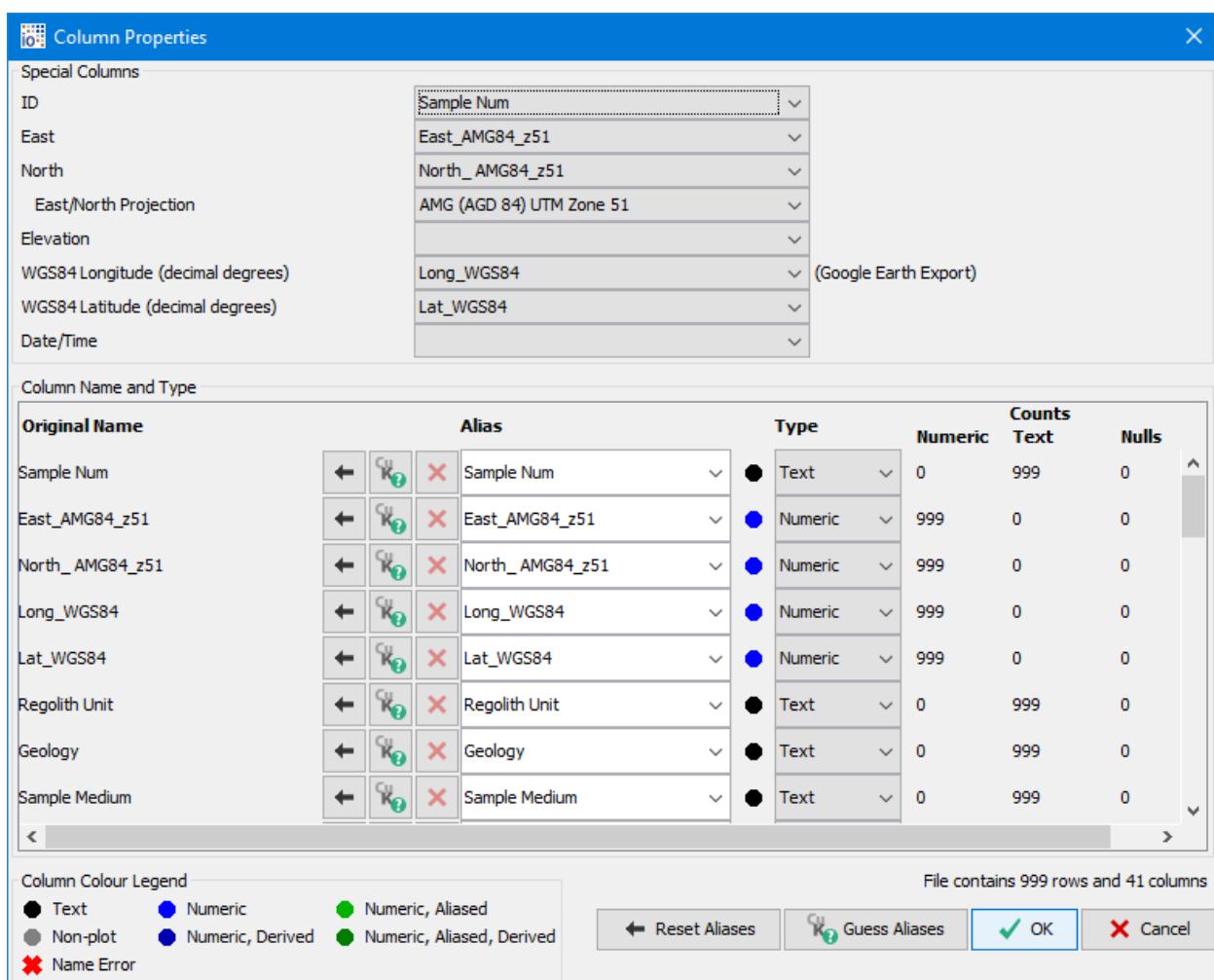


The ioGAS Add-In for AGP supports attribute map symbology only. To import variable map symbology into AGP select the **Export visible rows to multiple .gas files** button on the Variable Map toolbar within ioGAS. This will generate separate .gas files for each variable map which can be imported into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

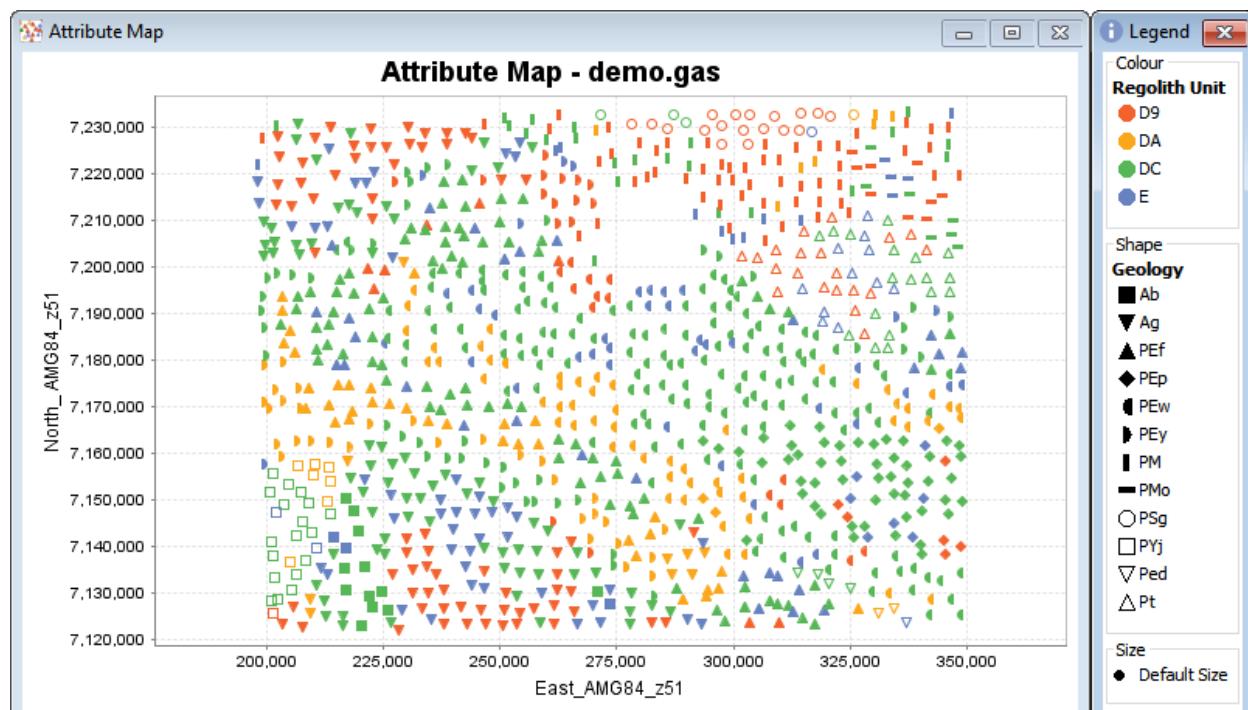
Prepare Data in ioGAS

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.



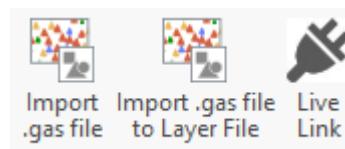
2. Set the desired colour, shape, size and filter/visibility in the Attribute Manager.



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

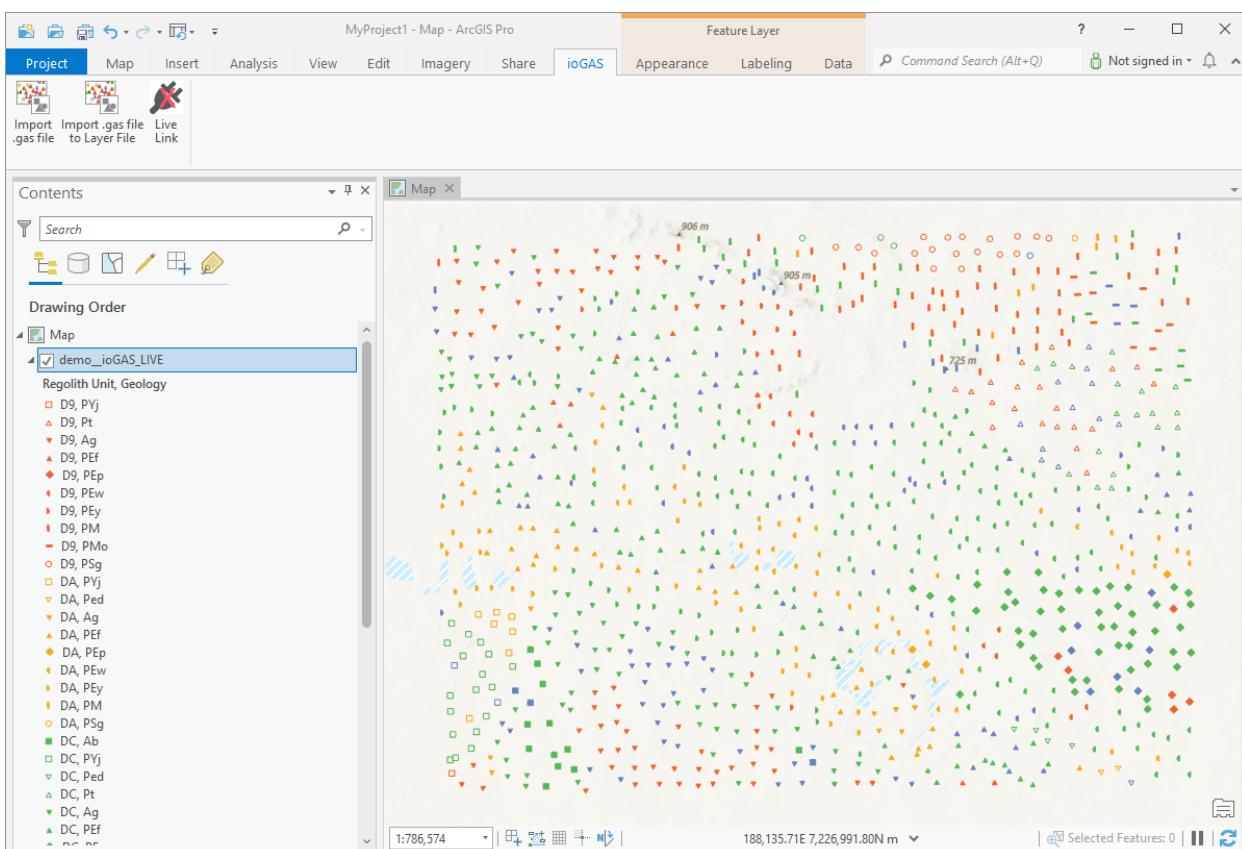
Import one or more .gas files as individual layers in the current AGP map window. The data is added as a feature class to the geodatabase designated as the default project geodatabase.

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.



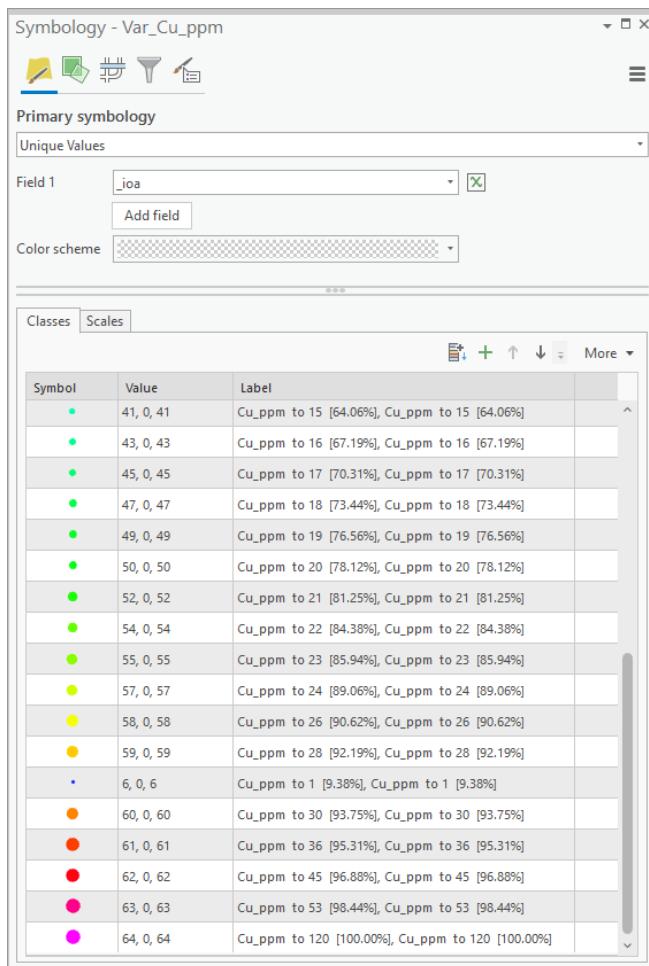
AGP Projection

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.

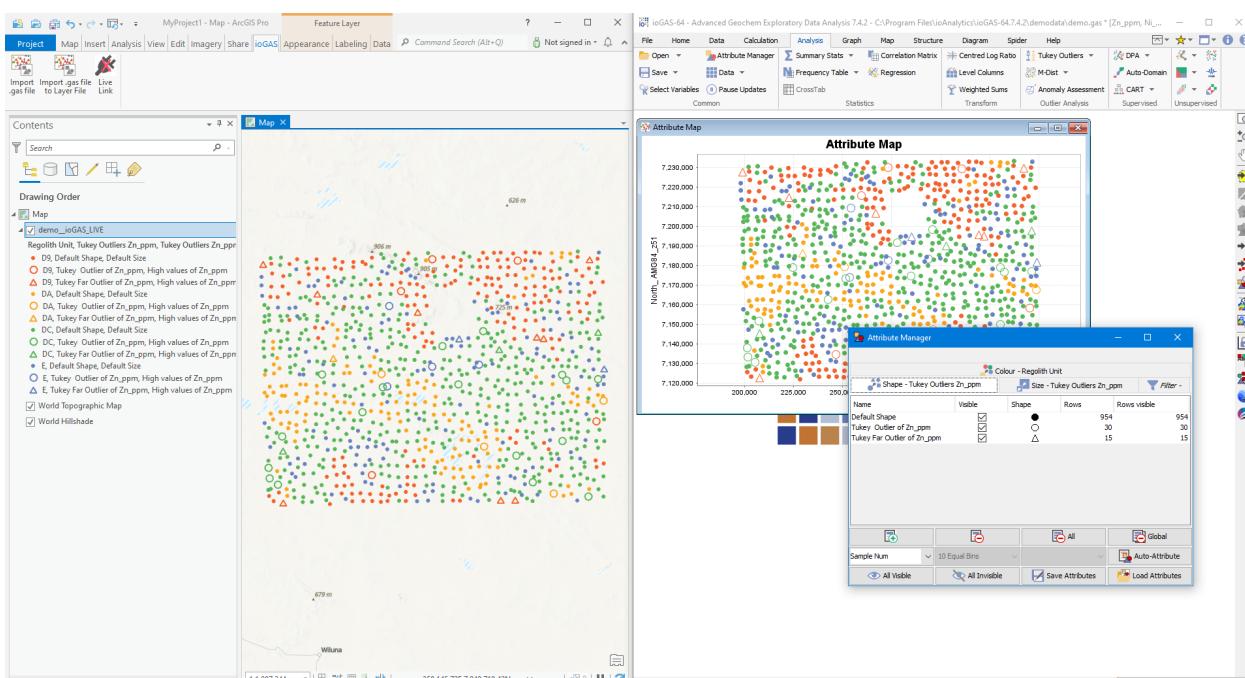
For live link layers, all of the variables in the dataset are displayed in AGP.

Field:	Add	Calculate	Selection:	Select By Attributes	Zoom To	Switch	Clear	Delete	Copy									
OBJECTID	Shape	Sample_Num	East_AMG84_z51	North_AMG84_z51	Long_WGS84	Lat_WGS84	Regolith_Unit	Geology	Sample_Medium	SiO2_pct	TiO2_pct	Al2O3_pct	Fe2O3_pct	MgO_pct	CaO_pct	Na2O_pct	K2O_pct	P2O5_pct
1	Point	GRA 102	324556	714609	121.251549	-25.791384	D9	PEp	SPL	92.24	0.16	2.72	2.12	0.18	0.01	0.03	0.11	0.01
2	Point	GRA 95	322521	7148864	121.23163	-25.766155	D9	PEp	SPL	92.09	0.17	2.5	1.87	0.18	0.03	0.02	0.08	0.01
3	Point	GRA 98	318667	7146832	121.192937	-25.784023	D9	PEp	SHTW	78.65	0.4	7.72	6.6	0.07	0.01	0.04	0.49	0.03
4	Point	GRA 96	317583	7148512	121.182361	-25.768725	DC	PEp	STRM	79.66	0.4	7.87	6.38	0.02	0.03	0.06	0.56	0.06
5	Point	GRA 83	314966	7151216	121.156653	-25.743992	DC	PEp	SHTW	78.4	0.46	9.31	4.86	0.01	0.005	0.03	1.16	0.02
6	Point	GRA 82	317537	7153360	121.182569	-25.724963	DC	PEp	SHTW	80.8	0.39	7.42	6.02	0.12	0.03	0.04	0.41	0.02
7	Point	GRA 79	314597	7153936	121.153355	-25.719396	DC	PEp	STRM	77.43	0.46	8.6	6.18	0.04	0.005	0.03	0.96	0.02
8	Point	GRA 67	318890	7157808	121.197552	-25.684995	DC	PEp	SHTW	77.69	0.41	7.81	6.89	0.13	0.03	0.02	0.46	0.02
9	Point	GRA 76	323407	7154336	121.241189	-25.716872	DC	PEp	SHTW	88.15	0.19	3.95	3.04	0.2	0.03	0.01	0.22	0.005
10	Point	GRA 91	330633	7149696	121.312597	-25.759605	DC	PEp	SHTW	85.75	0.27	5.15	4.96	0.17	0.04	0.01	0.25	0.005
11	Point	GRA 89	325158	7150032	121.258069	-25.755929	E	PEp	STRM	78.73	0.37	7.78	7.39	0.11	0.02	0.02	0.59	0.02

Update Data from ioGAS

Colour, shape, size, visibility and filter settings can be modified in ioGAS by manually making changes to the Attribute Manager, e.g. making selections, changing visibility or applying attributes.

Attributes can also be automatically updated by using other ioGAS analysis tools such as generating clusters groups or identifying outliers. New variable columns may also be added to the dataset during these processes.



When the live link layer is active any of the changes made above in ioGAS are displayed in real time in the AGP map window.

If using the import options, any new attribute manager or data view changes in ioGAS must first be saved in the .gas file and the file re-imported into AGP. If a previous feature class or layer of the same name already exists in AGP it will be deleted during the 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

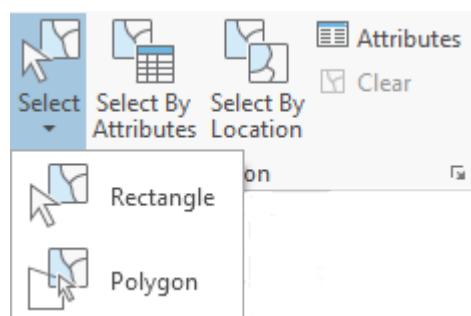
When the live link layer is active, selected data points of interest in AGP can be added to the attribute manager in ioGAS as a new or to an existing attribute group.

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.

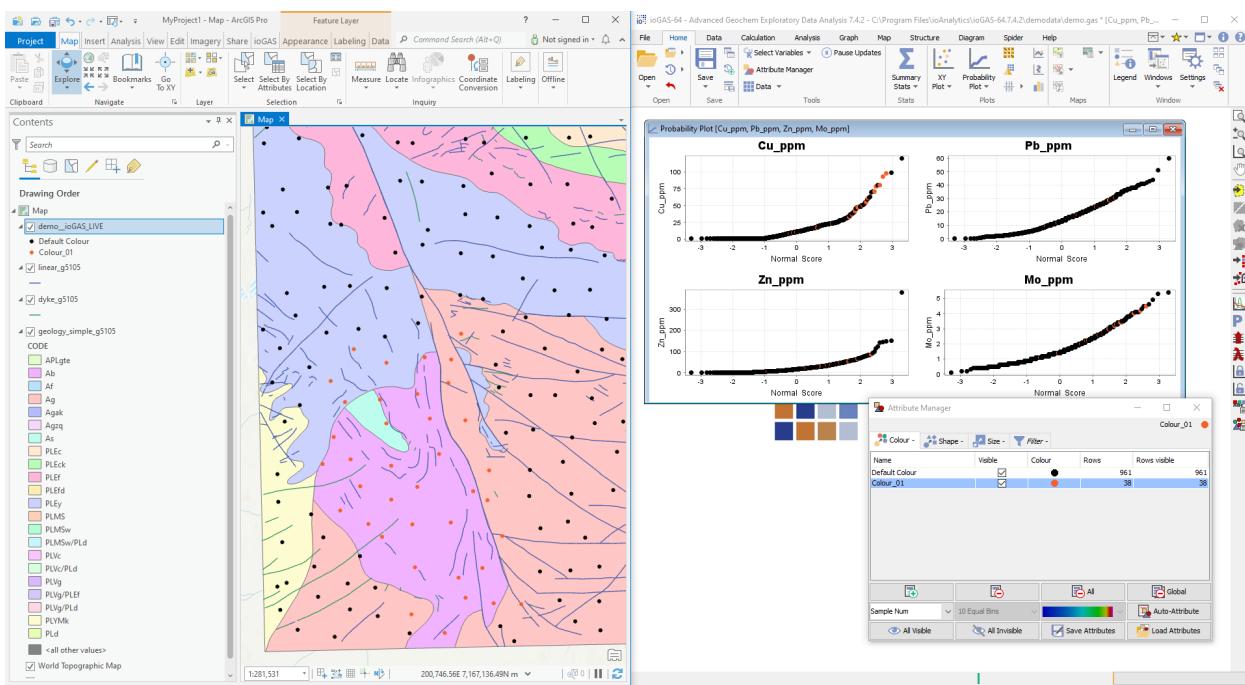


Any changes to the live link layer symbology or visibility in AGP are not reflected in ioGAS. These changes can only be controlled via the attribute manager in ioGAS.

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 logas.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 one at a time.
Multiple legend and/or map data refreshes when adding or removing rows and columns over live link	Use Pause Updates when making multiple changes to the colour/shape/size attributes. Use Resume Updates to send current settings across to AGP.
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.



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