



ARIS Export Tools for ArcGIS 10 User's Manual

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ARIS B.V.
<http://www.aris.nl/>

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1 Introduction

The ARIS Export Tools for ArcGIS facilitate the export of features to files with KML and GeoJSON format.

1.1 GeoJSON

The 'Export to GeoJSON'-tool exports a featureclass or featurelayer to a GeoJSON-file. GeoJSON is a geographic data interchange format based on JSON (JavaScript Object Notation) and can be used to load data into GeoServer, convert data with GDAL or display geographic data with amongst others OpenLayers and Leaflet.

Advantages of the 'Export to GeoJSON'-tool compared to the 'Features to JSON'-tool in ArcGIS are:

- Choose the Geographic Transformation
- Choose which Attribute Fields are being exported (only export meaningful fields)
- Export All features or Selected features only
- Better support for the latest GeoJSON specifications

1.2 KML

The 'Export to KML'-tool exports a featureclass or featurelayer to a KML-file. KML (Keyhole Markup Language) is a file format used to display geographic data in Google Earth, Google Maps, Google Maps for mobile and OpenLayers. KML uses a tag-based structure with nested elements and attributes and is based on the XML standard.

Note that this tool generates a KML-file and **not** a KMZ-file.

Advantages of the 'Export to KML'-tool compared to the 'Layer to KML'-tool in ArcGIS are:

- Choose the Geographic Transformation
- Choose which Attribute Fields are being exported (only export meaningful fields)
- Export All features or Selected features only
- Export Label Field
- Export to human readable KML file

2 Installation

2.1 Requirements

Required is one of the following ArcGIS 10.0, 10.1, 10.2, 10.2.1, 10.2.2, 10.3, 10.3.1, 10.4, 10.4.1, 10.5, 10.5.1 or 10.6 licenses:

ArcView / ArcGIS Desktop Basic
ArcEditor / ArcGIS Desktop Advanced
ArcInfo / ArcGIS Desktop Enterprise

For other ArcGIS versions check the ARIS Export Tools for ArcGIS website:

http://www.aris.nl/export_tools_arcgis

Before you can install ARIS Export Tools you should have installed the following:

- Microsoft .NET framework 3.5 (will also need to be installed for ArcGIS)
- ArcGIS 10.0, 10.1, 10.2.x, 10.3.x, 10.4.x., 10.5.x and 10.6 (ESRI)

We refer to ESRI for installation of the above software.

2.2 Install

Install the ARIS Export Tools by running ArisExportTools.msi while ArcMap or ArcToolbox is not running. The Windows installer will guide you through the installation process.

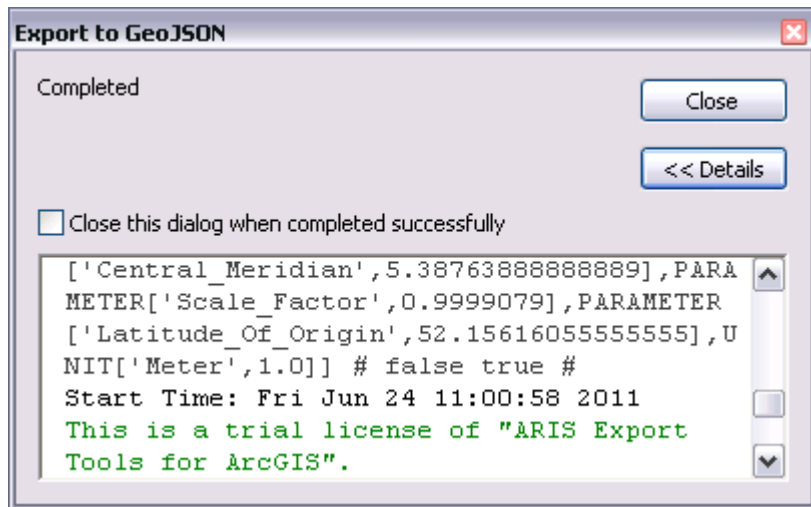
3 Registration

The distributed version of the ARIS Export Tools for ArcGIS is an evaluation version. This means it can be used for evaluation purposes for 5 days. After this period, the tool will be locked until a valid license key is entered.

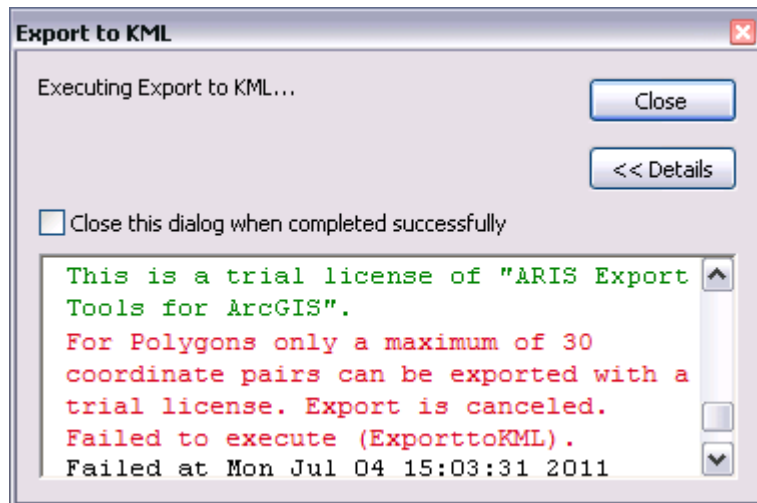
While in evaluation mode, only featureclasses with a maximum number of coordinate pairs can be exported. The export of featureclasses or selected features containing more than the maximum number of coordinate pairs will be cancelled.

The maximum number of coordinate pairs is 10, 20 and 30 for featureclasses with the (multi-) point, polyline and polygon featuretype respectively.

While in evaluation mode, each time you start running one of the Export tools, a reminder message will be shown in the ArcToolbox results view.



When the maximum number of coordinate pairs is exceeded in evaluation mode an error will be shown in the message log and the export will be cancelled.



While in evaluation mode the following form will be shown to be able to register the tool.



Pressing the **Register** button will take you to the registration form.

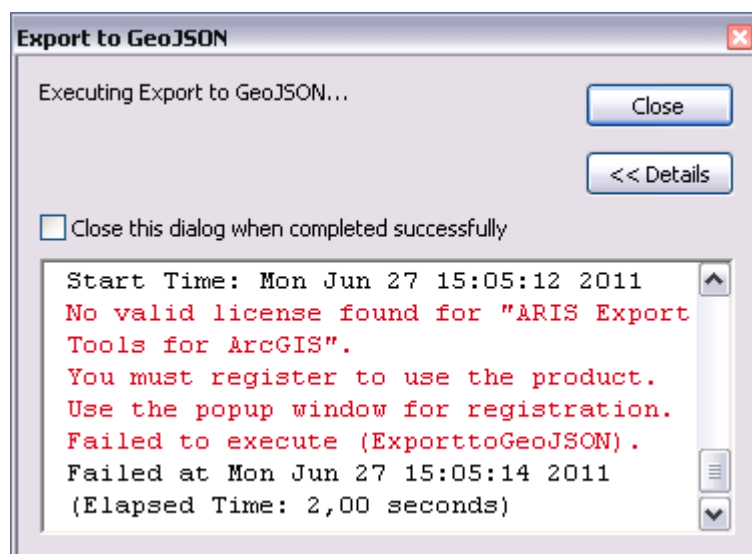


If you don't have a registration key, you can press the button **Buy Now!**. This will take you to our online store, where you can purchase the product. Note that you will need the hardware fingerprint of your computer shown in the registration form. After you have completed your purchase, a personal registration key will be sent to you by email. Please store this key in a safe place.

Once you have entered you name and a valid registration key, press **OK**. This key will be stored on your computer. The reminder message will not be shown again.

Note: To store your license persistent between sessions it may be necessary to run the registration as administrator. Having administrator privileges may not be sufficient

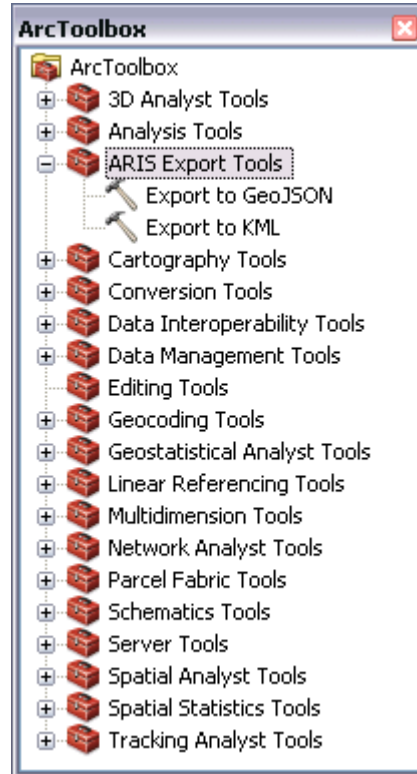
When your trial license is expired the following message appears in the ArcMap result view and a popup window is shown to register the tool. Execution of the tool is aborted.



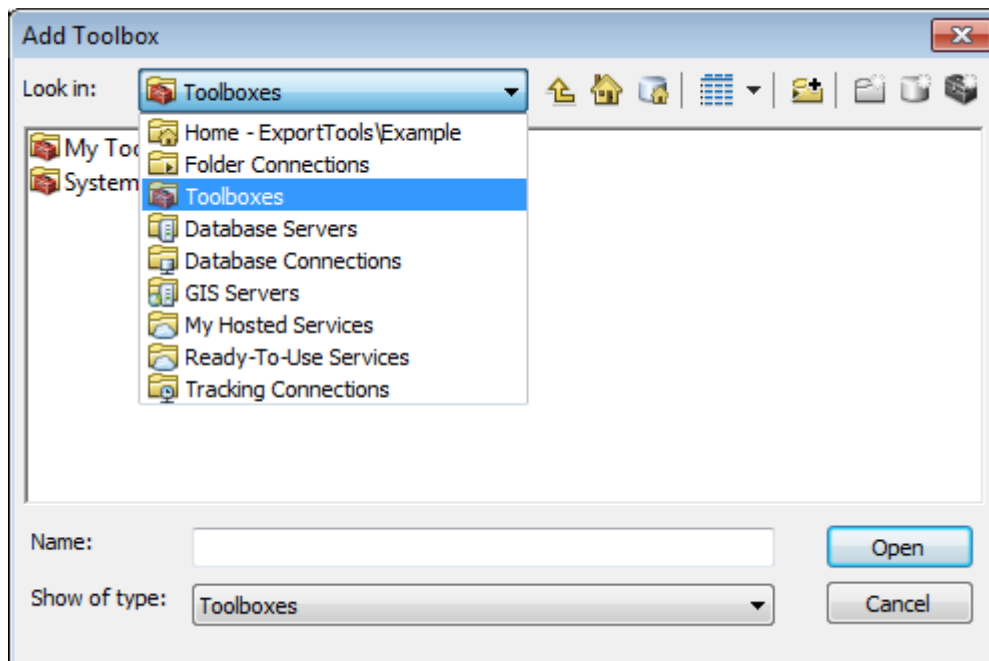
4 Using Export Tools in ArcMap

4.1 Open the toolbox

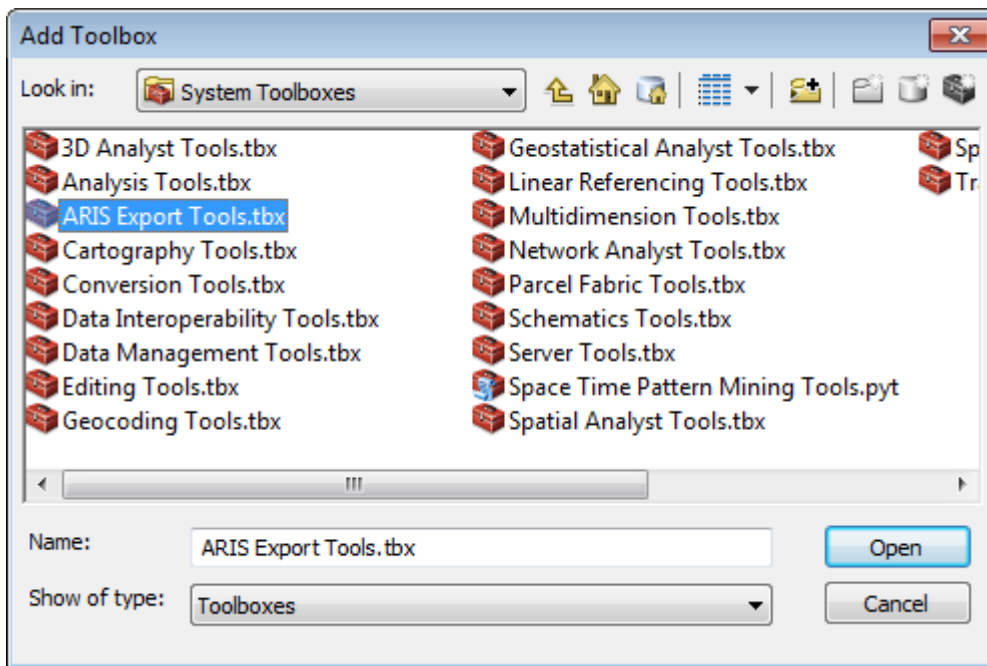
Start ArcMap and open **ArcToolbox window**. The toolbox **ARIS Export Tools** should be present in ArcToolbox.



If not, right click the ArcToolbox folder and choose **Add toolbox...**



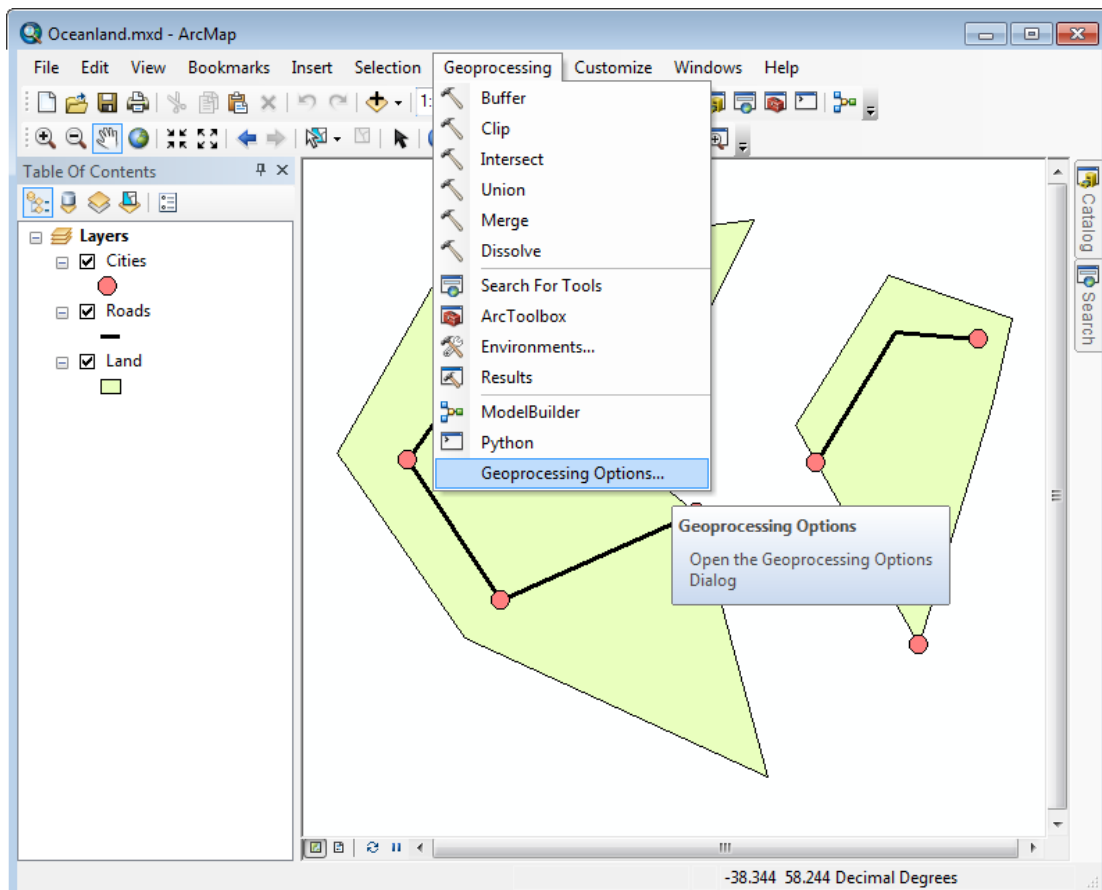
Browse to **Toolboxes - System Toolboxes** and select **ARIS Export Tools.tbx**.

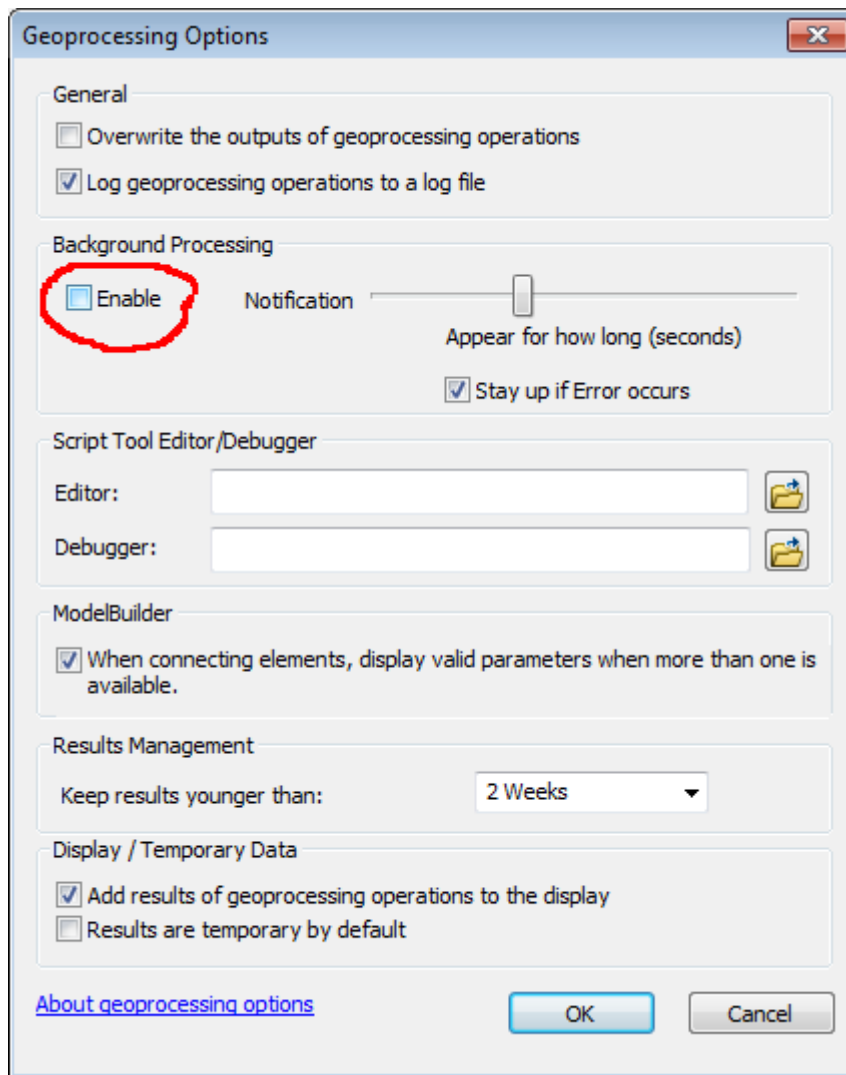


The tool is ready to use now. The tools can also be run from the Catalog window in ArcMap (see 5 Using Export Tools in ArcCatalog)

This tool cannot run in Background Processing mode. Be sure to **disable Background Processing** in ArcMap menu:

Geoprocessing | Geoprocessing Options... | Background processing





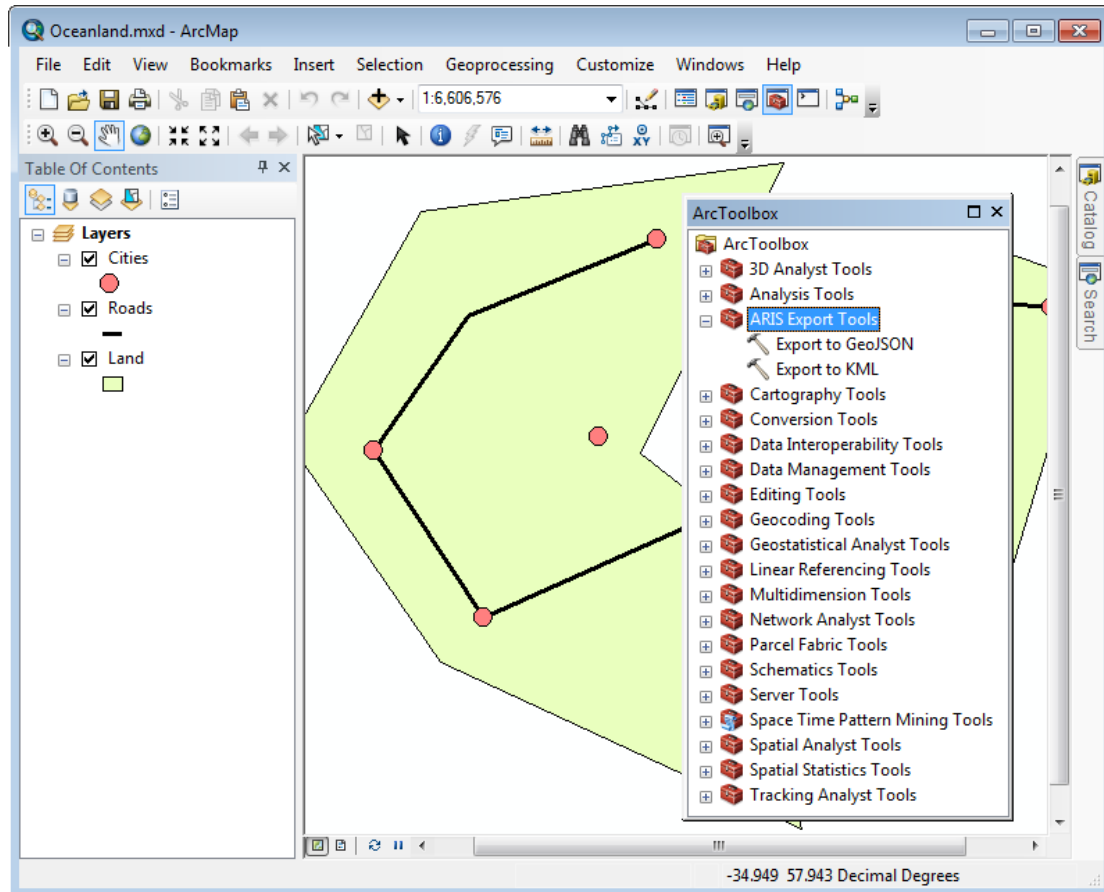
Above the Background Processing is set to disabled as required by this tool.

4.2 Start using the example

For evaluating the ARIS Export Tools it is advised to use the example first.

To work with the example:

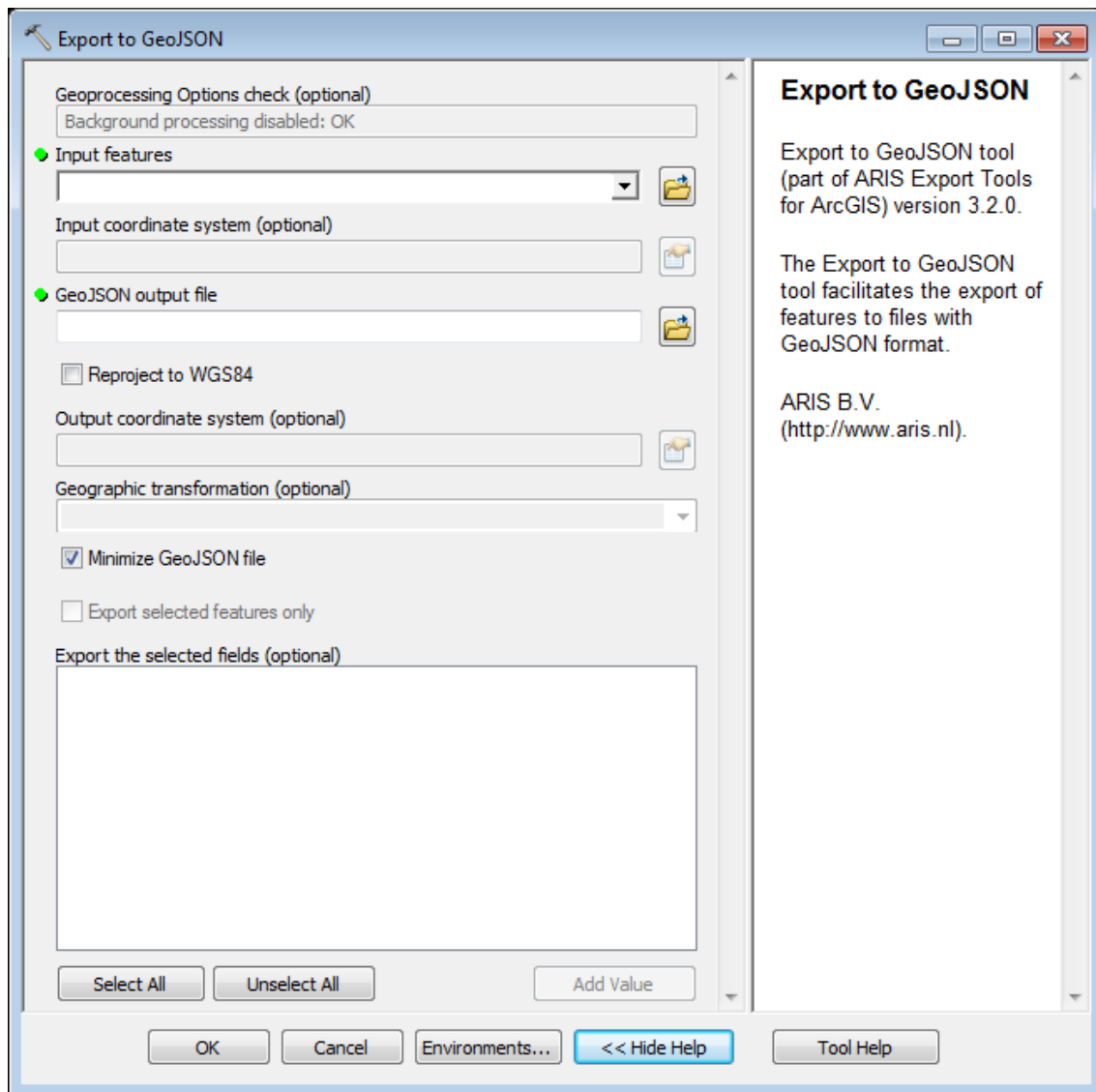
- Preferably **copy the example directory** (<program files>\ARIS\ExportTools\Example) to a directory of your choice e.g. C:\Test
- **Open the example** C:\Test\Example\Oceanland.mxd.
- Open the **ArcToolbox** window
- Start the **Export to GeoJSON** or **Export to KML** tool from the toolbox
- Go to the corresponding paragraph below for further instructions



4.3 Using Export to GeoJSON

The 'Export to GeoJSON'-tool exports features of a featurelayer in the map or featureclass on disk to a file with GeoJSON-format.

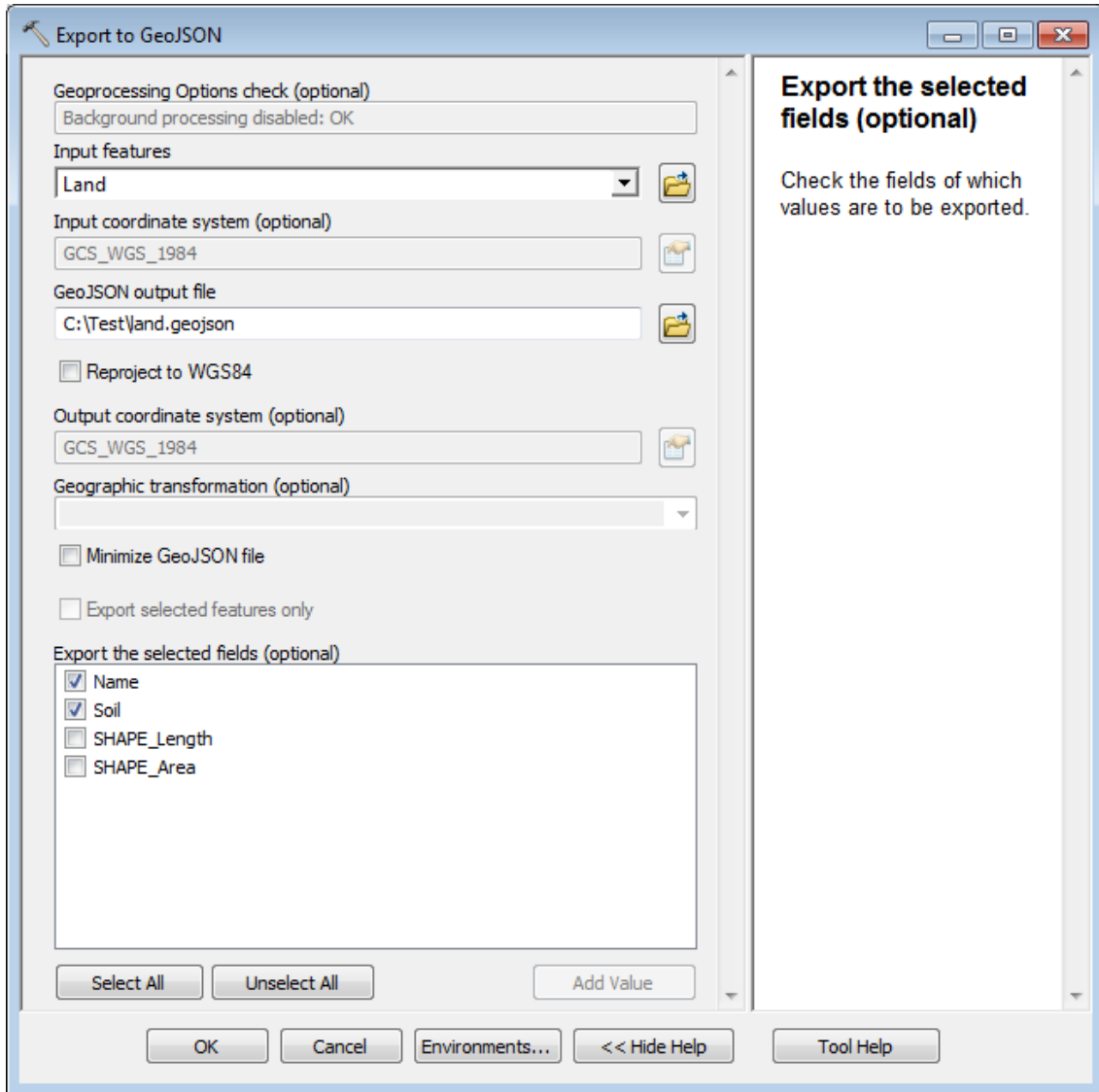
The user has to provide the input features, the output file and the geographic transformation method. A number of options are available.



The following parameters are available for this tool:

Parameter	Description
Geoprocessing Options check	This is not really a parameter, but is used to check if Background processing is disabled.
Input features	Features from selected layer or featureclass will be exported in GeoJSON format.
Input coordinate system	The coordinate system of the Input Features layer. This is determined automatically and can not be changed.
GeoJSON output File	Full path of GeoJSON output file to be written. If no extension or another extension than ".json" or ".geojson" is specified, the extension ".json" will be added to the output file automatically.
Reproject to WGS84	Option to convert the coordinates from the input coordinate system to GCS_WGS_1984.
Output coordinate system	Coordinate system of coordinates written to export file. The output coordinate system is the same as the input coordinate system, unless the option Reproject to WGS84 is checked. In that case the output coordinate system is GCS_WGS_1984. The output coordinate system can not be changed by the user.
Geographic transformation	The transformation method to be used to convert the input coordinate system to the output coordinate system. This parameter is enabled only when a reprojection is desired and transformation methods are available.

Minimize GeoJSON file	When this option is checked the output GeoJSON file is written as one single line, without any unnecessary blanks.
Export selected features only	When this option is checked only features currently selected in the feature layer are exported.
Export the selected fields	The fields of which values are to be exported. Note that by default no fields are checked.



In the example above all features from the layer "land" are exported to GeoJSON. Two fields will be exported to the properties of each feature in the output GeoJSON file.

This results in the below GeoJSON file:

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "id": "1",
      "properties": {
        "Name": "Main Island",
        "Soil": "Rocky"
      },
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [

```

```

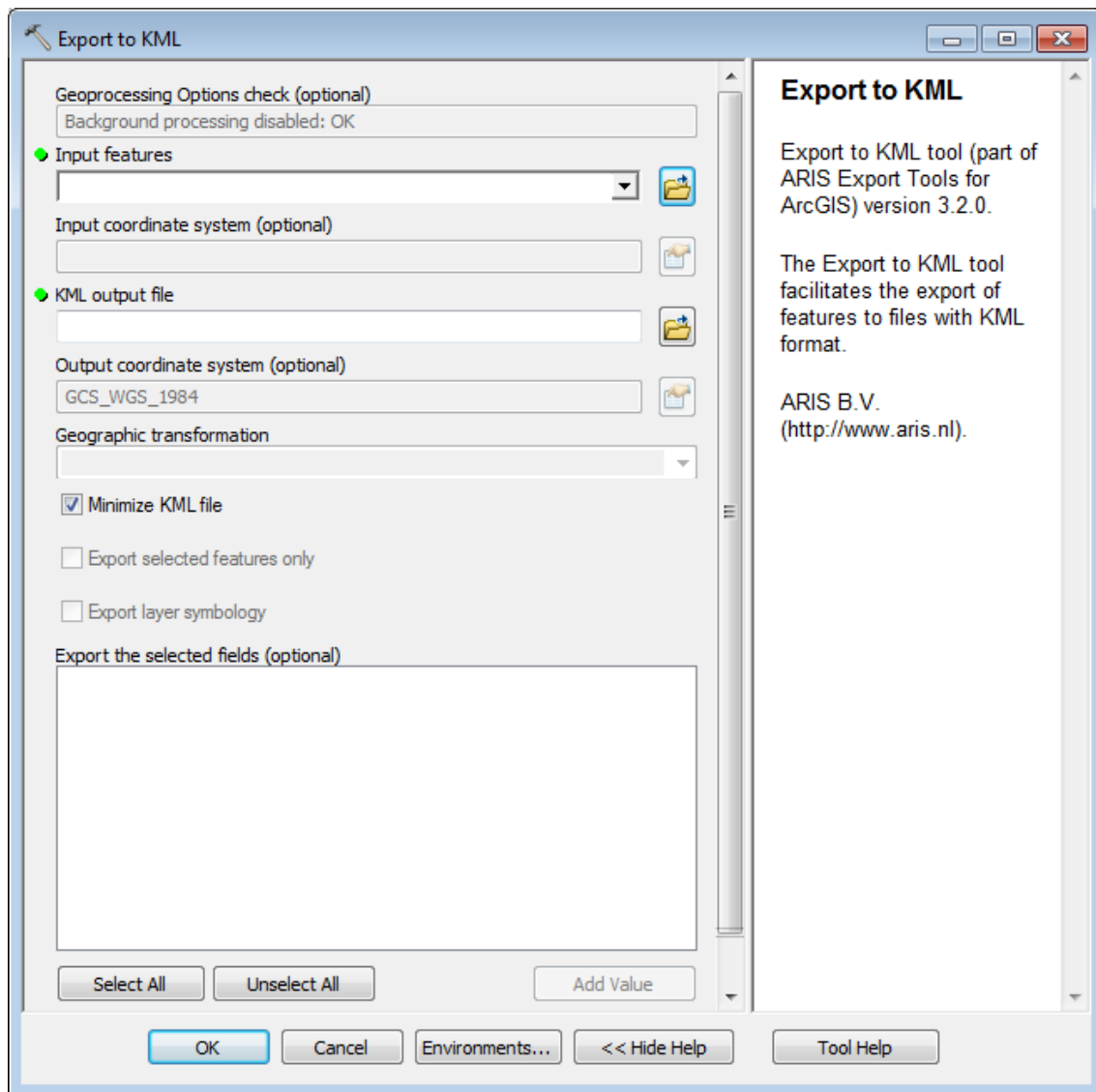
        [
            -40.1509798669999,57.4879593860001
        ],
        [
            -41.6475223489999,54.8769703750001
        ],
        [
            -39.9280905609999,52.3933466820001
        ],
        [
            -35.8524003969999,50.5147082470001
        ],
        [
            -36.8076402789999,54.0809371400001
        ],
        [
            -37.6673561729999,54.7496050580001
        ],
        [
            -36.0434483739999,58.0292619860001
        ],
        [
            -40.1509798669999,57.4879593860001
        ]
    ]
}
},
{
    "type": "Feature",
    "id": "2",
    "properties": {
        "Name": "Sub Island",
        "Soil": "Vulcanic"
    },
    "geometry": {
        "type": "Polygon",
        "coordinates": [
            [
                [
                    -34.2284925979999,57.2650700810001
                ],
                [
                    -35.4862251089999,55.2590663280001
                ],
                [
                    -33.8145553159999,52.2978226940001
                ],
                [
                    -32.8274741039999,55.5456382930001
                ],
                [
                    -32.5727434689999,56.6919261510001
                ],
                [
                    -34.2284925979999,57.2650700810001
                ]
            ]
        ]
    }
}
]
}

```

4.4 Using Export to KML

The 'Export to KML'-tool exports features of a featurelayer in the map or featureclass on disk to a file with KML-format.

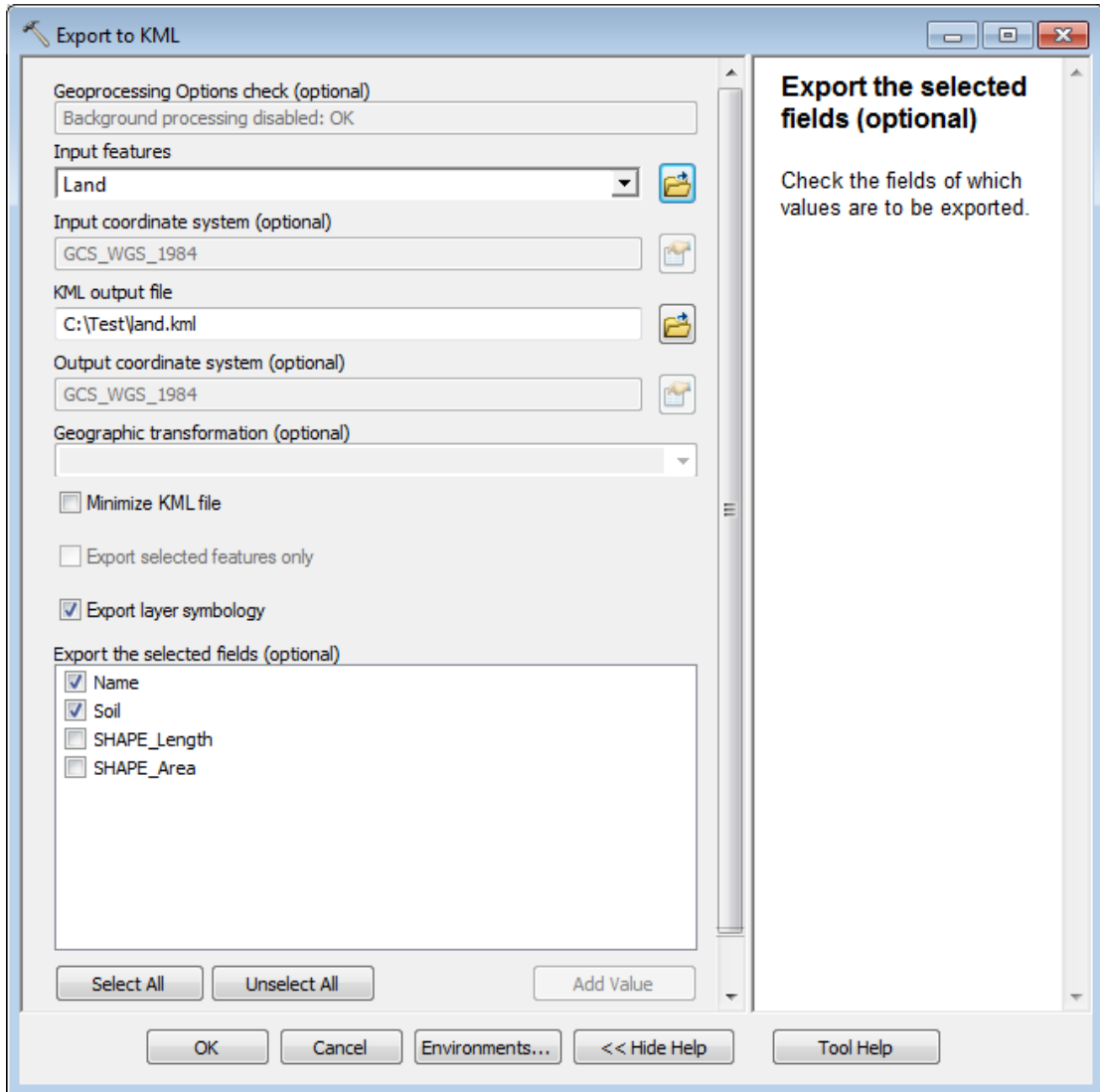
The user has to provide the input features, the output file and the geographic transformation method. A number of options are available.



The following parameters are available for this tool:

Parameter	Description
Geoprocessing Options check	This is not really a parameter, but is used to check if Background processing is disabled.
Input features	Features from selected layer or feature class will be exported in KML format.
Input Coordinate System	The coordinate system of the Input Features layer. This is determined automatically and can not be changed.
KML Output File	Full path of KML output file to be written. If no extension or another extension than ".kml" is specified, the extension ".kml" will be added to the output file automatically.
Output Coordinate System	Coordinate system of coordinates written to export file. The output coordinate system always is GCS_WGS_1984, cannot be changed and is only displayed for information.
Geographic transformation	The transformation method to be used to convert the input coordinate system to the output coordinate system.
Minimize KML file	When this option is checked the output KML file is written as one single line, without any unnecessary blanks.
Export selected features only	When this option is checked only features currently selected in the ArcMap project are exported.
Export layer symbology	Use Symbology properties from ArcMap. At this time

	only color and line thickness will be used for export.
Export the selected fields	The fields of which values are to be exported. Note that by default no fields are checked.
Export labels	The values of the selected field will be attached to the exported features so they can be used for labeling (placemark).



In the example above all features from the layer "land" are exported to KML. Two fields will be exported to the properties of each feature in the output KML file.

This results in the below KML file:

```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://earth.google.com/kml/2.2">
  <Document id="land">
    <name>land</name>
    <Snippet></Snippet>
    <Style id="0">
      <LineStyle>
        <color>FF000000</color>
        <width>1</width>
      </LineStyle>
      <PolyStyle>
        <outline>1</outline>
        <fill>1</fill>
        <color>FFBEEFE9</color>
      </PolyStyle>
    </Style>
    <Folder id="FeatureLayer0">
```

```

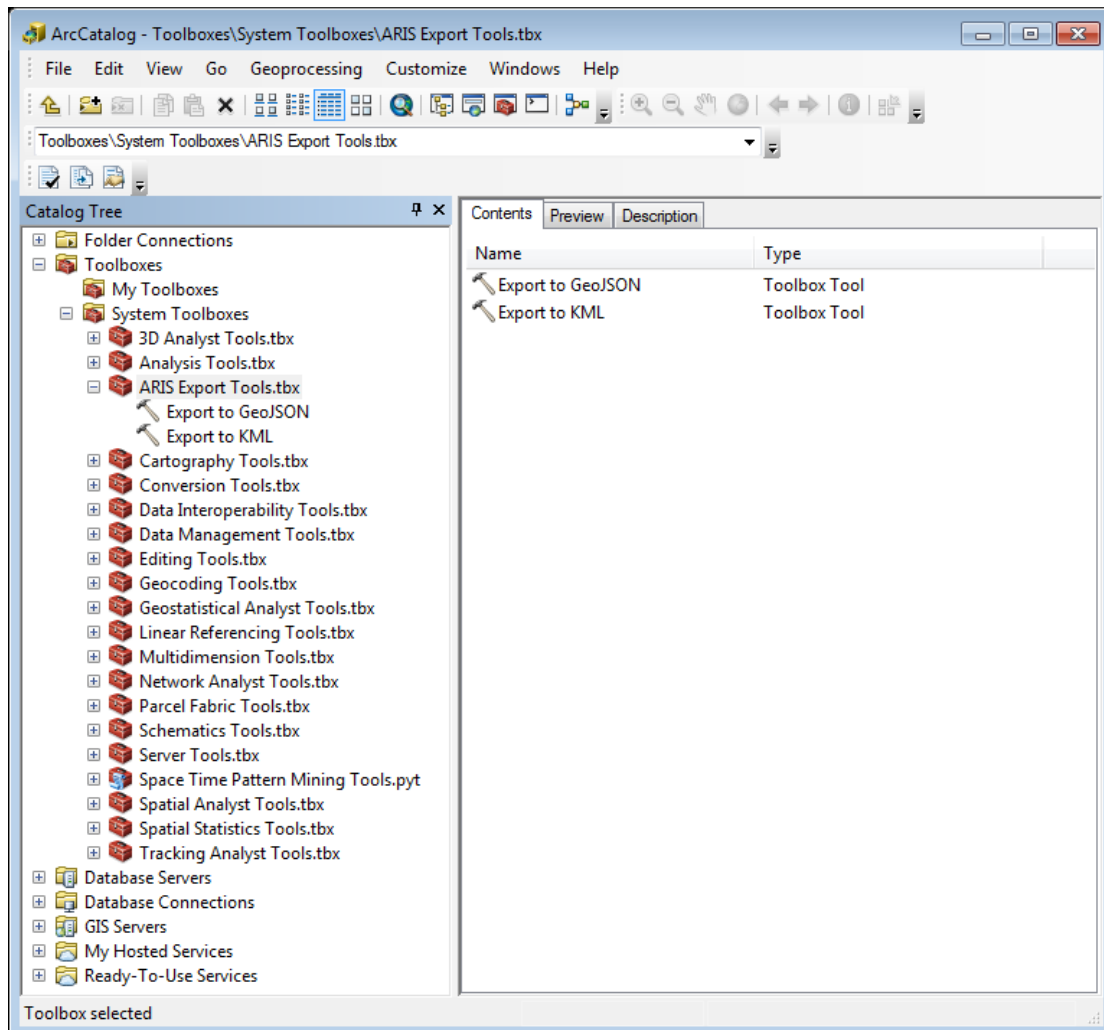
<name>Land layer</name>
<Snippet></Snippet>
<Placemark>
  <description>
    <![CDATA[
      Name = Main Island<br />
      Soil = Rocky
    ]]>
  </description>
  <Snippet maxLines="0"></Snippet>
  <styleUrl>#0</styleUrl>
  <Polygon>
    <extrude>0</extrude>
    <altitudeMode></altitudeMode>
    <outerBoundaryIs>
      <LinearRing>
        <coordinates>
          -40.1509798669999,57.4879593860001
          -41.6475223489999,54.8769703750001
          -39.9280905609999,52.3933466820001
          -35.8524003969999,50.5147082470001
          -36.8076402789999,54.0809371400001
          -37.6673561729999,54.7496050580001
          -36.0434483739999,58.0292619860001
          -40.1509798669999,57.4879593860001
        </coordinates>
      </LinearRing>
    </outerBoundaryIs>
  </Polygon>
</Placemark>
<Placemark>
  <description>
    <![CDATA[
      Name = Sub Island<br />
      Soil = Volcanic
    ]]>
  </description>
  <Snippet maxLines="0"></Snippet>
  <styleUrl>#0</styleUrl>
  <Polygon>
    <extrude>0</extrude>
    <altitudeMode></altitudeMode>
    <outerBoundaryIs>
      <LinearRing>
        <coordinates>
          -34.2284925979999,57.2650700810001
          -35.4862251089999,55.2590663280001
          -33.8145553159999,52.2978226940001
          -32.8274741039999,55.5456382930001
          -32.5727434689999,56.6919261510001
          -34.2284925979999,57.2650700810001
        </coordinates>
      </LinearRing>
    </outerBoundaryIs>
  </Polygon>
</Placemark>
</Folder>
</Document>
</kml>

```


5 Using Export Tools in ArcCatalog

5.1 Open the toolbox

Start ArcMap and open **ArcToolbox window**. The toolbox **ARIS Export Tools** should be present in ArcToolbox. If not, right click the ArcToolbox folder and choose **Add toolbox...**. Browse to **Toolboxes - System Toolboxes** and select **ARIS Export Tools.tbx**. (same instructions as in 4.1 Open the toolbox. The tool is ready to use now. The tools can also be run from the Catalog window in ArcMap by browsing to **Toolboxes | System Toolboxes**.



This tool cannot run in Background Processing mode. Be sure to **disable Background Processing** in ArcCatalog menu:

Geoprocessing | Geoprocessing Options... | Background processing

5.2 Using Export to GeoJSON and Export to KML

This works similar to working in ArcMap with these tools. Only difference is that in ArcCatalog no layers can be selected from the active Map (as there is no map in ArcCatalog). You will always have to browse for input features.

The selected features option will not be available, as we cannot have features selected in ArcCatalog.

6 Known Issues

This tool cannot run with Background Geoprocessing enabled.

After registering the Export Tools for a permanent license it could occur that you have to enter your registration name and code every time you start up ArcGIS. Be sure to register the tool as administrator. Note: Having administrator-privileges may not be sufficient.

Sometimes the parameter Geographic Transformation is not set required, while it should be. In this case the tool does not check whether Geographic Transformation is filled in and the features will be exported without transformation.

When opening the tool again from the Results Window, the tool dialog opens with populated parameters based on the tool execution. The tool can run again with the unchanged parameters without a problem. However, in this case the dependency between the parameters does not work well, so changing for example, the Reproject-option does not affect the Output Coordinate System (as it should) and can give undesired results.

Rerun the tools from the Results Window may cause the error '*ERROR 000820: The parameters need repair.*' followed by the error '*R6025 - pure virtual function call*' when closing ArcMap'.

Error '000816: The tool is not valid' may occur when you rerun from the Results Window. Most of the time this caused by Background Processing. Disable Background Processing and try again.

The ARIS Export Tools toolbox has disappeared from ArcToolbox. Probably you have opened an ArcGIS project (MXD) where this toolbox was not set. Add the toolbox again as described in 4.1 Open the toolbox.

7 Version History

7.1 Version 1.0

Version 1.0 is the first release of ARIS Export Tools for ArcGIS and can be used with ArcGIS 9.2 (not released publicly).

7.2 Version 2.0

ArcGIS 9.3 and 9.3.1 compatibility

- Version 2.0 of the ARIS Export Tools for ArcGIS can be used only with ArcGIS 9.3 and 9.3.1.

7.3 Version 3.0

ArcGIS 10 compatibility

- Version 3.0 of the ARIS Export Tools for ArcGIS can be used with ArcGIS 10.0 (and not with earlier versions of ArcGIS).

7.4 Version 3.0.1

Bug fix

- Exporting styles and labels did not work correctly when exporting to KML. This problem is solved.

7.5 Version 3.0.2

Installation

- Better check on valid ArcGIS versions in setup.

7.6 Version 3.1.0

ArcGIS 10.1 and 10.2 compatibility

- Version 3.1.0 of the ARIS Export Tools for ArcGIS can be used with ArcGIS 10.0, 10.1 and 10.2.

7.7 Version 3.2.0

ArcGIS 10.2.1 - 10.6 compatibility

- Version 3.2.0 of the ARIS Export Tools for ArcGIS can be used with ArcGIS 10.0, 10.1, 10.2, 10.2.1, 10.2.2, 10.3, 10.3.1, 10.4, 10.4.1, 10.5, 10.5.1 and 10.6.

Changed functionality

- In the tool window background processing is checked. If background processing is enabled an error will be shown with a hint to disable background processing.
- When no attributes are exported in GeoJSON, now "properties" = null will be exported to comply with the GeoJSON standard.
- Geometry in ArcGIS with abnormal direction of polygon vertices will now be written in the correct order (outer polygon clockwise / follow right-hand rule and holes counter-clockwise / left-hand rule)

Example

- New in this version an example is installed for an easy getting started with the tool.

Manual

- Extended information on getting started with the tool.

Appendix A. License Agreement

ARIS Software License Agreement for ARIS Export Tools for ArcGIS

This is a license agreement and not an agreement for sale. This license agreement (hereinafter referred to as AGREEMENT) is between the end user (hereinafter referred to as LICENSEE) and ARIS b.v., The Netherlands (hereinafter referred to as ARIS), and gives the LICENSEE certain limited rights to use the proprietary ARIS software, examples, on-line and hardcopy documentation and updates (if applicable), hereinafter referred to as PRODUCT. All rights not specifically granted in this AGREEMENT are reserved to ARIS.

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ARIS Export Tools for ArcGIS 10 - User's Manual

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Governing Law

This AGREEMENT is governed by the laws of the Netherlands without references to conflict of laws principles.

Entire Agreement

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