

GSC FIELD APP – CREATING AND USING A TILE PACKAGE

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WHAT IS A TILE PACKAGE?

- A tile package is a single, easy-to-share file that is created in ArcMap.
- Tile packages are used as a background map in the GSC Field App and can incorporate any standard datasets.
- Tile package datasets are not editable in the GSC Field App nor can you query TPK data.
- TPKs are only used as background
- TPK maps must be in the same projection as the projection used in the GSC Field App.
- TPK MXDs should only contain the layers needed as additional layers tend to inflate the size of the TPK.
 - Even layers that are turned off can add to the TPK size.
 - The goal is to keep the tile package as small as possible.

DATA THAT CAN BE USED IN TILE PACKAGE

- GanFeld data from previous years (as published and georeferenced raster maps)
- other legacy geology data
- digital elevation models and hillshades
- topography (toporama rasters or symbolized vectors)
- satellite imagery
- geophysical data

TILE PACKAGE RECOMMENDATIONS

- Create one TPK per layer
 - E.g. the symbolized vector topography can be one TPK, the legacy geology can be another.
 - You can display more than one TPK in the GSC Field App at the same time.
 - Adjust dataset transparency if necessary in ArcMap.
 - Layer Properties->Display tab

- Download Toporama geo-referenced raster topo data from:
 - <http://atlas.gc.ca/toporama/en/index.html>
- Symbolized vector topography
 - Download CanVec vector topo data from:
 - <http://maps.canada.ca/czs/index-en.html>
 - Symbolize using the Symbology MXD (TopbaseSymbolizer_10_2.mxd)
 - <https://gcdocs.gc.ca/nrcan-rncan/llisapi.dll?func=ll&objaction=overview&objid=9306050>
- Geophysical raster data - <http://gdr.agg.nrcan.gc.ca>

FOR MORE INFORMATION

- Check out these ESRI websites for more information:
 - [About tile packages](#)
 - [Fundamentals for creating tile packages](#)
 - [How to create a tile package](#)
 - [Tips for creating tile packages](#)

HOW TO PREPARE DATA FOR A TPK

Visibility Scale

1. In ArcMap, load and symbolize the data sets you wish to use.
2. Open the properties of the layer for which you wish to set visibility scale.
3. Under the General tab, click on 'Don't show layer when zoomed:'
4. Set the Out beyond value to be the scale you wish to zoom in to make that layer appear.
5. Set the In beyond value to be the scale you wish to zoom in to make that layer disappear.

Note: the Out beyond value is always larger than the In beyond value.

Layer Properties

General Source Key Metadata Extent Display Symbology

Layer Name: ☐ Visible

Description:

Credits:

Scale Range

You can specify the range of scales at which this layer will be shown:

☐ Show layer at all scales

☒ Don't show layer when zoomed:

Out beyond: (minimum scale)

In beyond: (maximum scale)

OK Cancel Apply

Transparency

1. In ArcMap, load and symbolize the data sets you wish to use.
2. Open the properties of the layer for which you wish to set transparency.
3. Under the Display tab, set the Transparency value. (100%=fully transparent — 0%=fully opaque)
4. Set the Out beyond value to be the scale you wish to zoom in to make that layer appear.
5. Set the In beyond value to be the scale you wish to zoom in to make that layer disappear.

Layer Properties

General Source Key Metadata Extent Display Symbology

☐ Show MapTips

☐ Display raster resolution in table of contents

☐ Allow interactive display for Effects toolbar

Resample during display using:

Contrast: %

Brightness: %

Transparency: %

Display Quality

Coarse Medium Normal

Orthorectification

☐ Orthorectification using elevation

☒ Constant elevation:

☐ DEM

Elevation adjustment

Z factor:

Z offset:

Geoid: ☒

OK Cancel Apply

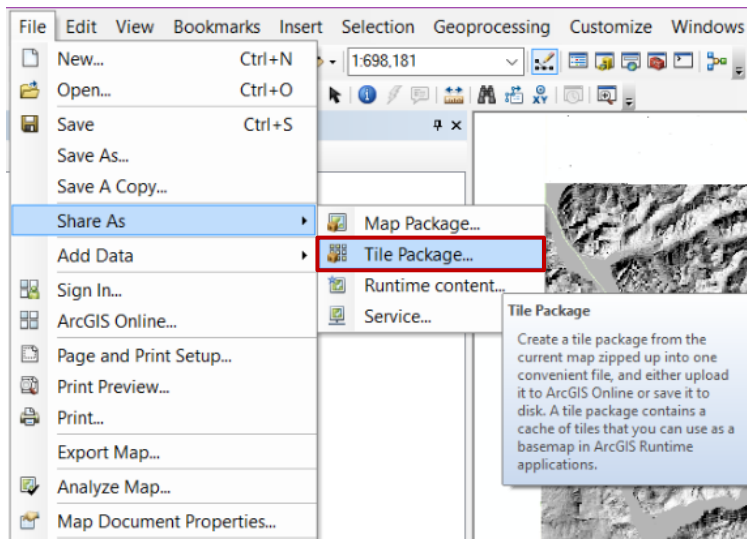
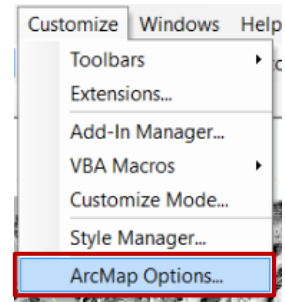
HOW TO CREATE A TPK

To create a TPK, I must first enable the use of the tile package tool.

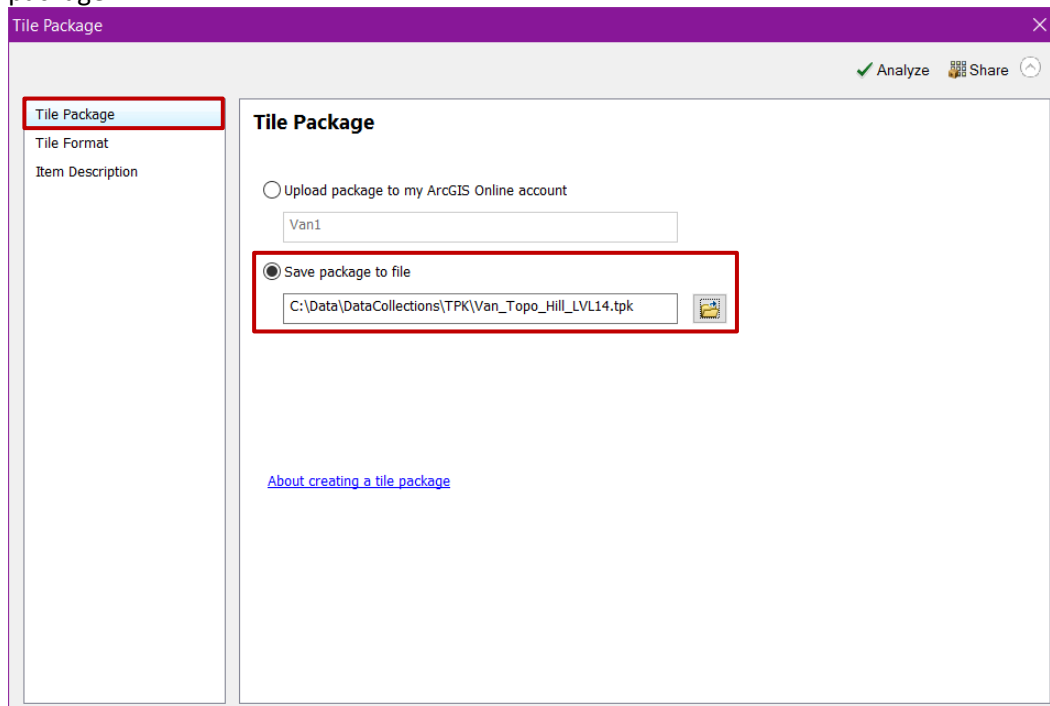
1. In ArcMap, navigate to Customize->ArcMap Options.
2. Click on the Sharing tab and ensure that the Enable ArcGIS Runtime Tools is checked.

To export data to a tile package:

1. In ArcMap, navigate to File->Share As->Tile Package...



2. In the Tile Package tab, click on Save package to file and enter a descriptive name for the tile package.



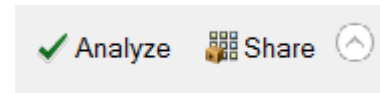
3. Navigate to the Tile Format tab.
4. Use the default ArcGIS Online/Bing Maps/Google Maps Tiling Scheme option.
5. The tile format should match the bit sampling of the data you are using. In other words, if you are using an 8-bit raster, use PNG8.
6. The Levels of Detail relate directly to how long it takes the TPK to generate. We recommend you use a setting of 15 to get a relatively small file that has a good level of detail.

The screenshot shows the 'Tile Package' window with the 'Tile Format' tab selected. The 'Tiling Scheme' is set to 'ArcGIS Online / Bing Maps / Google Maps' and the 'Tile Format' is set to 'PNG8'. The 'Approximate Cache Size' is 7 Mb. Under 'Levels of Detail', the 'Highest Level of Detail' is set to 15 of 20. Below this, the 'Level' is 14 and the 'Scale' is 1:36,111.90. A small map thumbnail labeled 'Town' is shown.

7. Navigate to the Item Description tab
8. Enter the basic required metadata for the TPK. Use commas to separate the tags from each other.

The screenshot shows the 'Tile Package' window with the 'Item Description' tab selected. The 'Summary (required)' field contains 'Toporama and hillshade'. The 'Tags (required)' field contains 'Toporama, hillshade, Vancouver, 092G06'. The 'Description' field contains 'The Toporama (50% transparency) and hillshade for Vancouver, West Vancouver and North Vancouver (NTS 092G06)'. The 'Access and Use Constraints' and 'Credits' fields are empty.

- Click on the Analyze button in the upper right-hand corner to see if everything is looking good. We might find that a raster does not have pyramids built or that some of our layers are in the wrong projection. The issues are rated in terms of severity.
- Once we are happy with the analysis, click on the Share button and let it process. You will see that the first 5 or 6 levels complete pretty fast, but the last few levels will take the majority of the processing time.



HOW TO USE A TPK IN THE GSC FIELD APP

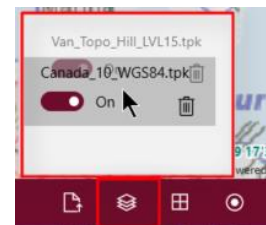
Loading a Tile Package

- In the GSC Field App, click on the Add Layers button on the lower-right corner of the footer bar and click on 'Yes' to add a TPK.
- Navigate to the location of the .tpk file you wish to add. The App will automatically zoom in on you location.



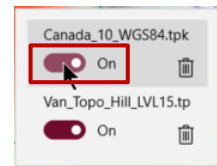
Adjusting the draw order of Tile Packages

- By default, the Topo TPK will draw on top of the Canada TPK since it is the most recently added. Change the draw order of the TPKs by clicking on the Layers button and dragging the Canada TPK to the top.



Turning off Tile Packages

- Turn off a tile package by clicking on the Layers button and clicking on the switch for the layer you wish to turn off.



Removing Tile Packages

- Remove a tile package by clicking on the Layers button and clicking on the trash can for the layer you wish to turn off. Click 'Yes' to confirm TPK removal.

