

Using historical aerial imagery in GDA2020 projects

Introduction

Historical aerial imagery (i.e. imagery collected in 2019 or earlier) is available in a series of 1 km × 1 km rectified images covering the Mackay local government area. The naming convention adopted for some of the tiles was the coordinate of the lower left corner of the 1 km × 1 km square e.g. SW_691000_7657000_1km.tif. As part of the transformation process to GDA2020, these tiles have been reprojected, but, to minimise the amount of rework in GIS databases, the **file names have not changed**.

Prior to GDA2020, it was the practice of some users to insert the 1 km × 1 km images into CAD programs using the naming convention as the insertion point. For example, image SW_691000_7657000_1km.tif would have been inserted at E 691000.000, N 7657000.000. However, with the move to GDA2020, the naming convention for historical imagery no longer has a relationship to the position of the image and inserting a tile in this manner will no longer position it in the correct location. Using our example tile, the correct insertion point into a GDA2020 project will be E 691000.756, N 7657001.430.

These tiles are Georeferenced TIFFs and all the spatial information relating to the image is embedded in the GeoTIFF meaning there would be little benefit in renaming thousands of historical aerial images to match their new position in GDA2020. **Important: imagery in the ECW format has not been transformed from GDA94.**

The following methods outline best practice for inserting GeoTIFFs into common GIS and CAD software packages used at Mackay Regional Council.

Future aerial images will be provided in GDA2020. Consequently, the naming convention for imagery collected after 1 July 2020 may again correspond to the actual position of the image. However, if this is the case, it is recommended that the following processes continue to be followed because the name of an image is easily changed and should not be relied upon. Always check and remember:

“Know your data, know your datum”

This fact sheet provides some background on the changes made to Mackay Regional Council's aerial imagery due to the adoption of GDA2020. It provides an overview of the steps to follow when importing images georeferenced to GDA2020 into a GDA2020 project.

Further Information

Refer to detailed data transformation flowchart for raster data on the Department of Natural Resources, Mines, and Energy GDA2020 website:

<https://www.dnrme.qld.gov.au/titles-valuations/initiatives/gda2020-queensland>

General information and resources relating to the datum modernisation – including a simple explanatory animation, frequently asked questions, fact sheets, technical tools and progress updates – are available on the ICSM website:
www.icsm.gov.au



Assumptions

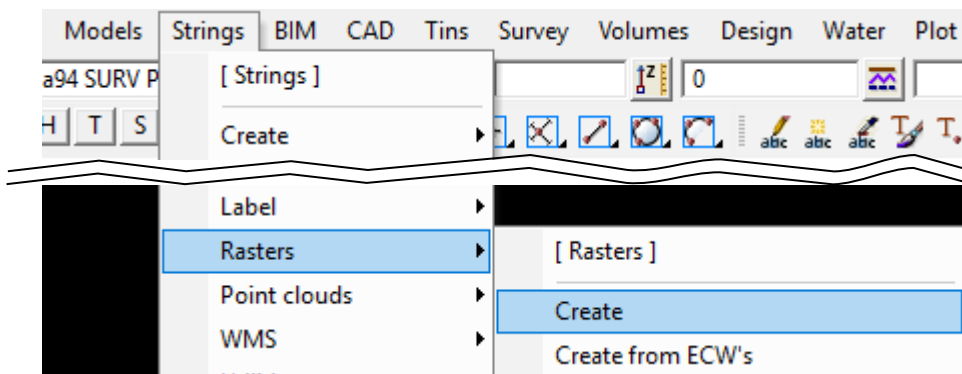
- The horizontal datum of the project is GDA2020
- The user is importing a GeoTIFF from Mackay Regional Council's GIS server that has already been reprojected onto GDA2020

Pre-requisites

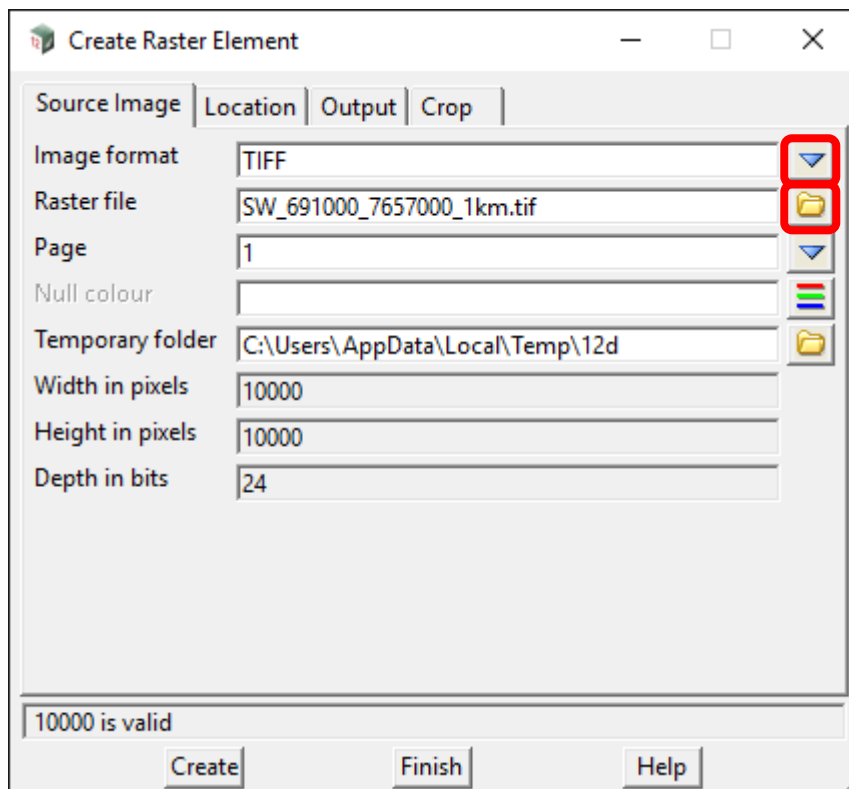
- 12d Model (no specific version), or
- ArcGIS Desktop 10.6+, or
- AutoCAD Map 3D 2019+

Importing a GeoTIFF into 12d Model

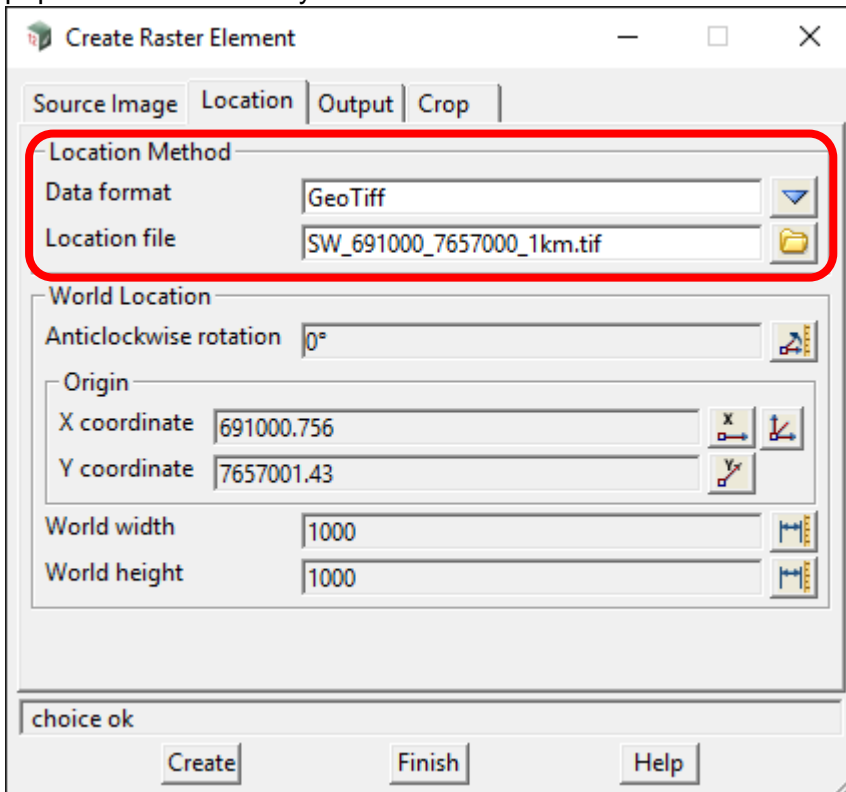
1. In the **Strings** menu, select **Rasters**, then **Create**



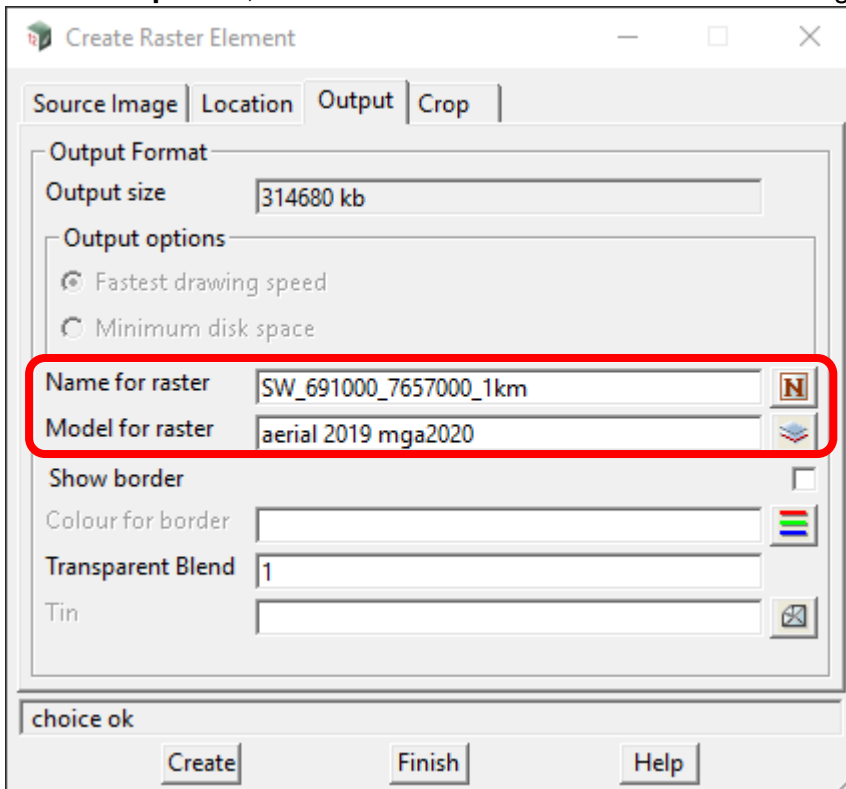
2. On the **Source Image** tab, select **TIFF** from the Image Format drop down then browse for the Raster File (i.e. GeoTIFF)



- On the **Location** tab, confirm the format is **GeoTIFF**. The World Location fields should have populated automatically.



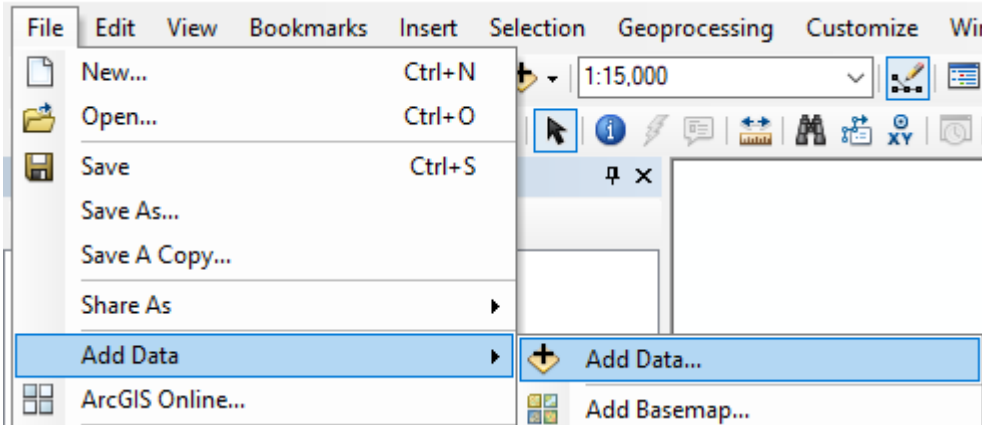
- On the **Output** tab, add the **Model for raster** name that the image will be added into



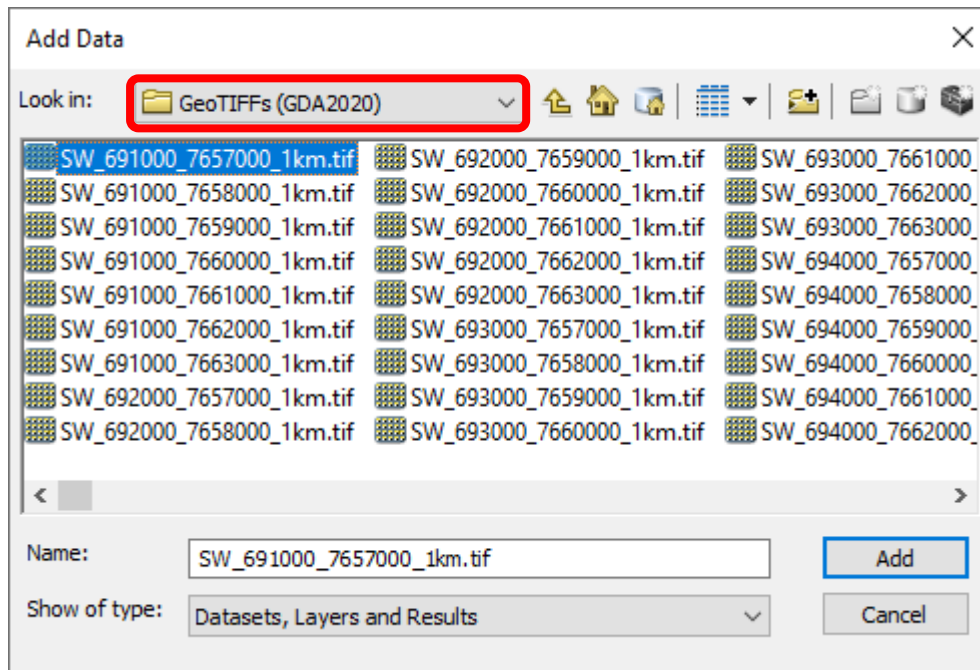
- Click **Create**, then **Finish**

Importing a GeoTIFF into ArcMap

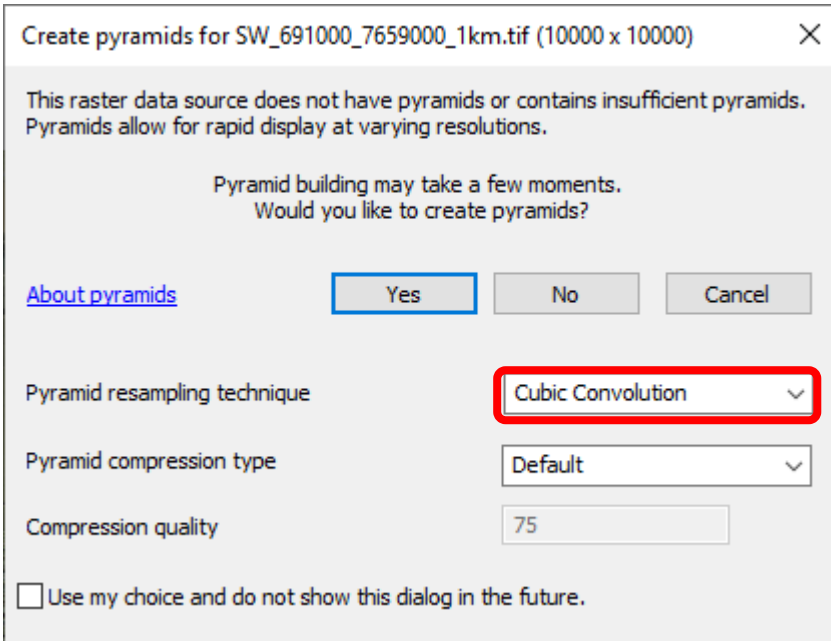
1. In the **File** menu, select **Add Data**, then **Add Data...**



2. Browse to the GeoTIFF location and select **Add**



3. If ArcMap prompts you to create pyramids, select **Cubic Convolution**, then click **Yes**

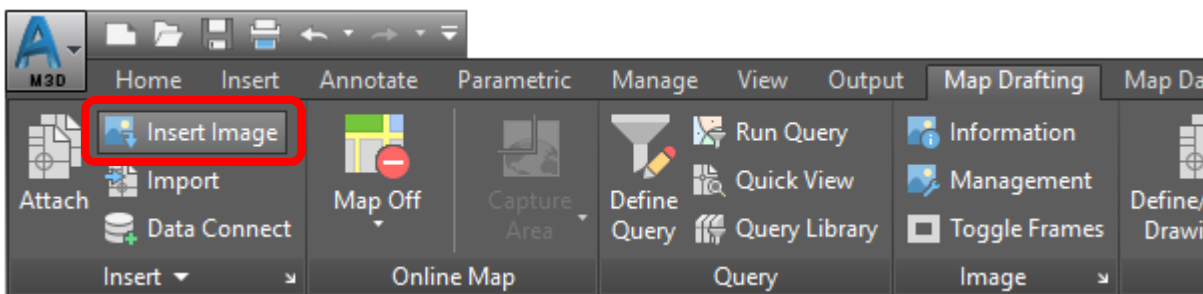


Importing a GeoTIFF into AutoCAD Map 3D

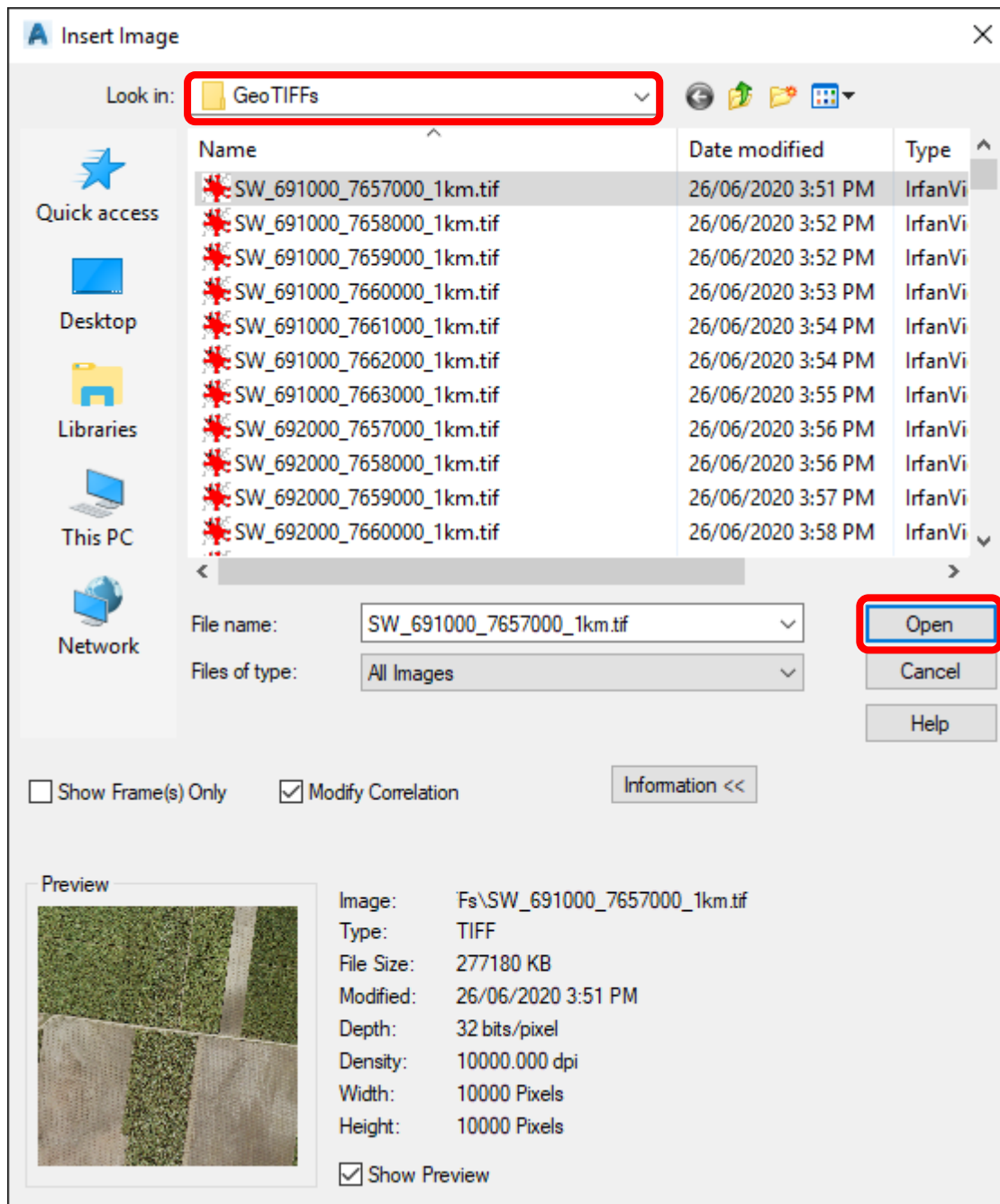
1. Check the coordinate system of the drawing is **MGA/20-55**. Refer to the *Transforming GDA94 <> GDA2020 using AutoCAD Map* fact sheet in this series for more information about setting a coordinate system.



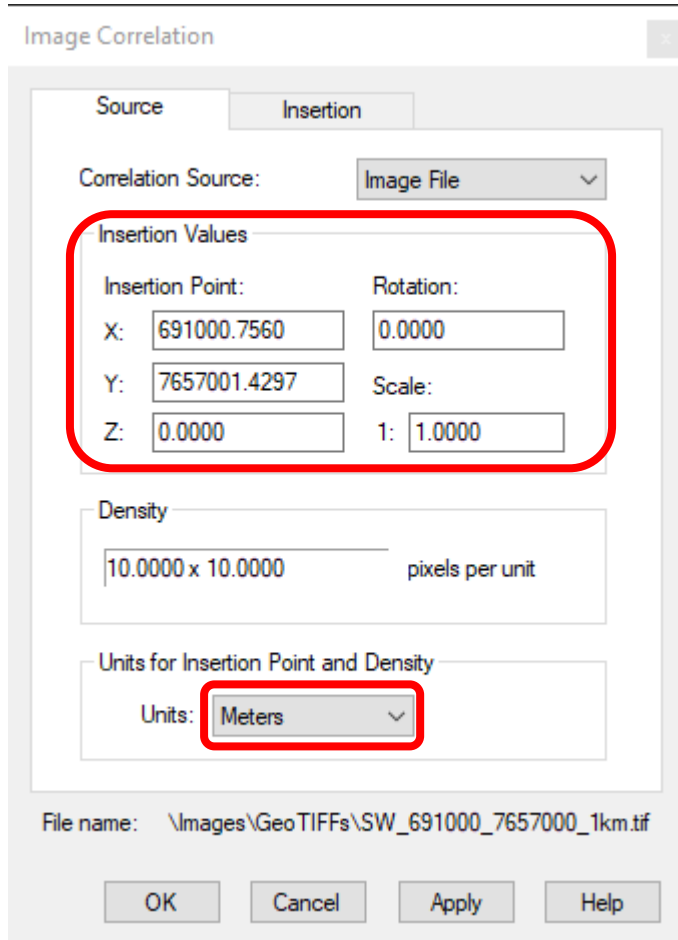
2. Under the **Application Button > Drawing Utilities > Units**, check the **Units to scale inserted content** is **Meters**. Refer to the *Transforming GDA94 <> GDA2020 using AutoCAD Map* fact sheet in this series for more information about setting the drawing units
3. On the **Map Drafting** ribbon, select **Insert Image**



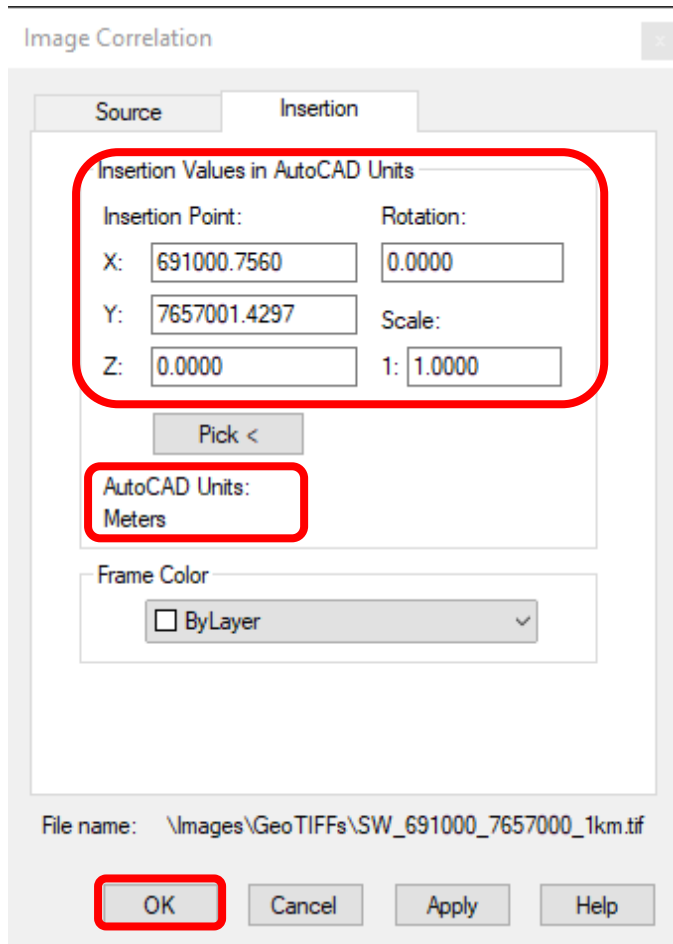
4. Browse to the GeoTIFF location and select **Open**



- On the **Source** tab, check the units are **Meters**. The Insertion values should have populated automatically.



- On the **Insertion** tab, check the AutoCAD Units are **Meters** and that **the Insertion Values in AutoCAD Units** are consistent with the **Insertion Values** on the **Source** tab



- Click **OK**