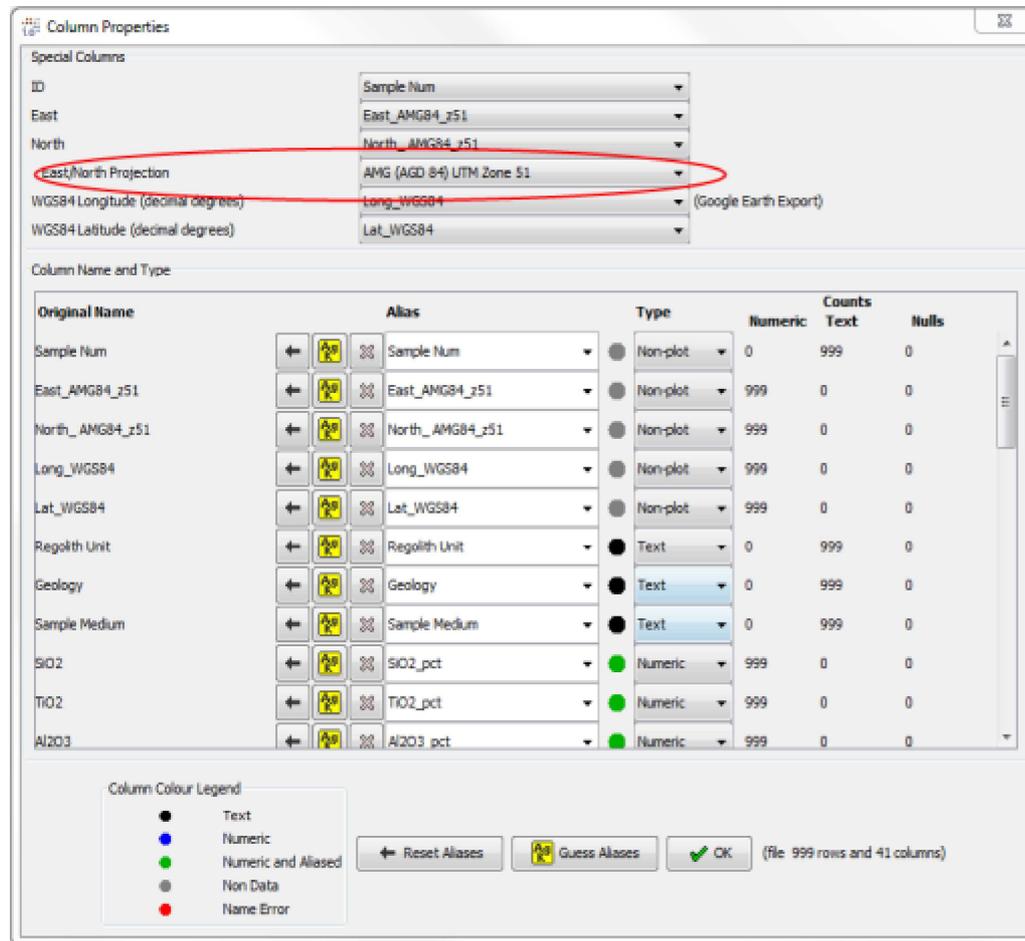# Add Custom Projection

In order to export data to an ArcGIS geodatabase, MapInfo TAB file or to export ioGAS grids as GeoTiff images or ER Mapper grids so that they plot in the correct geographical location in other software programs a projection must be assigned in the Column Properties dialog.

Column Properties dialog showing East/North projection information

The **East/North Projection** must match the coordinates used in the East and North columns for the export to work correctly.

If the required projection cannot be found in the East/North Projection pull-down list then it may be possible to add a custom one to the projections list. In order for any custom projections created in ioGAS to be viewed in other software applications they must contain an EPSG code so that the projection in ioGAS can be matched correctly with the projection/EPSG code in the other program. ioGAS cannot export data in local or affine custom projections.

In order for the correct coordinate system to be interpreted by another software program it must have an EPSG code. The EPSG geodetic parameter dataset is a compilation of global coordinate reference systems with a unique identifier. A list of EPSG codes can be found in the ioGAS installation under the **uct\reference** folder in the epsg.codes.xls file. Various websites also publish EPSG codes (For more information see www.epsg.org)

Note that if a projection is not being read correctly by another software program it may be possible that the projection (or just the EPSG code) is missing from their list of available coordinate systems.

Create Custom Projection

1. Browse to one of the following locations:

     - PC installation C:\Users*UserName*\AppData\Roaming\ioGAS\userConfig folder

       (*username* = your login)

     - Mac installation Applications\ioGAS\Contents\Resources\app\data folder

* The AppData folder is a hidden folder. If the folder is not visible in Windows Explorer then go to Organize>Folder and Search menu option and click on the View tab. Under Hidden files and folders make "Show Hidden files, folders, and drives" active. Click OK to finish.

2. In this folder there are three files which make up the East/North Projection list:

     - geotiff.epsg.LL.1.txt

     - geotiff.epsg.UTM.1.txt

     - geotiff.epsg.other.1.txt

3. Open up any of these files into any text editor such as WordPad, NotePad, etc and view the contents.

   The LL file contains "geographical" coordinate systems where X and Y coordinates are expressed as decimal degrees of latitude and longitude, eg. WGS84, GDA94, NAD27, etc.

   The UTM file contains "projected" coordinate systems such as WGS84 UTM Zones 1 to 60 N and S, MGA Zones 48 to 58, etc

   The OTHER file contains any other coordinate systems, eg. KKJ/Finland Uniform Coordinate System or Leigon/Ghana Metre grid.

   Basically the format required in all of the ioGAS projection files is Coordinate System Name, EPSG Code (and in the case of the UTM file - the Start and End zone numbers). For example:

   Leigon/Ghana Metre Grid, 25000

   Leigon/Ghana Metre Grid = COORD_REF_SYSTEM_NAME

   25000 = COORD_REF_SYSTEM_CODE (EPSG Code)

   The next example demonstrates how to enter a projection which is made up of UTM Zones.

   GDA 94, 48, 58, 28300

   GDA 94 = COORD_REF_SYSTEM_NAME

   48 = Start Zone

   58 = End Zone

   28300 = COORD_REF_SYSTEM_CODE (Generic EPSG code)

   Note that if the coordinate system is a UTM projected one, include the start and end zone numbers separated by commas as in the GDA 94 example above. In this instance there will be multiple COORD_REF_SYSTEM_CODE (EPSG) numbers - one for each zone - but only the generic EPSG code

needs to be used. For example, the EPSG codes for zones 48 to 58 are 28348 to 28358. Rather than entering all of these individually we can use one generic 28300 code and ioGAS can generate the correct EPSG code during export by adding the selected zone to the generic value, eg. GDA94 Zone 53 will be exported with EPSG code 28353 created by adding 53 to the generic 28300 code.

3. Open up the epsg.codes.xls file into Excel. This file lists all of the COORD_REF_SYSTEM_NAME and COORD_REF_SYSTEM_CODE entries which can be added to the projection files. The COORD_REF_SYS_KIND column denotes whether the coordinate system is geographical or projected.

4. Find the new coordinate system in the COORD_REF_SYSTEM_NAME column and see whether it is geographical or projected.

5. Open up the relevant LL, UTM or OTHER text file to add the new coordinate system. Copy and paste the COORD_REF_SYSTEM_NAME into this file, along with the corresponding COORD_REF_SYSTEM_CODE.

6. Save the file and re-start ioGAS to view the new projection in the East/North Projection list.

 See Also:

Help>Training Videos (web): *Gridded Images* (Maintained users only)

Gridding

ArcGIS Export

MapInfo Export