# **USING GRID GARAGE TOOLBOX TO BUILD MCAS-S TIP FILES**

By Tom Barrett, NSW OEH, 22/05/2017

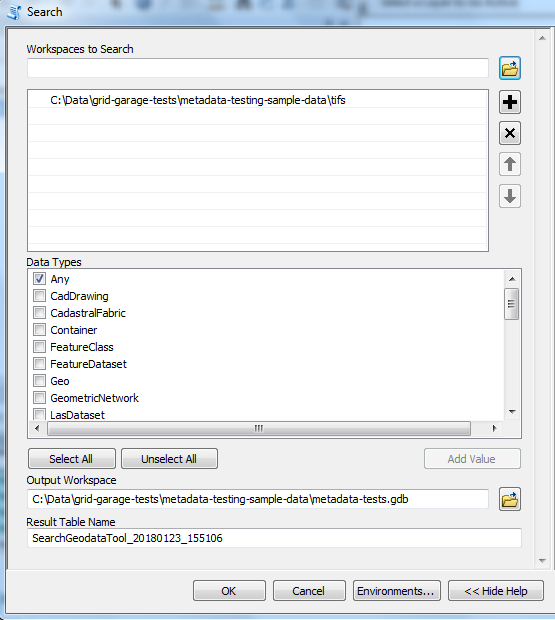
**How to create or update TIP files**

You will need the following:

* A template TIP file that contains all the fields you want in your TIP files
* Include in this template TIP file all the TIP field information that is common to all grids in your new MCAS-S data pack.
* Information for filling out non-standard TIP fields e.g. custodian of source data etc. This information may be generated from pre-existing TIP files or from running other Grid Garage Tools such that return information about data attributes e.g. ‘1.2 Describe Geodata’ or ‘3.1.3 Describe Rasters’ or ‘4.1 Describe Classes’.

**Step 1.** Create Result Table: Use the [Grid Garage > Geodata> Search] tool to generate a ‘Results Table’ that contains the list of grids you want to generate TIP files for.

*Output=Results Table that contains a list of the geodata that require a new TIP file.*



**Step 2.** Create a CSV table in Excel that includes all the fields you need in the final TIP files and include information that is common to all grids in your new MCAS-S data pack.

Example table (in ‘grid-garage-tests’ github reppo): ***C:\Data\grid-garage-tests\metadata-testing-sample-data\tifs\MASTER TIP TEMPLATE\_OEH\_with common info.csv***

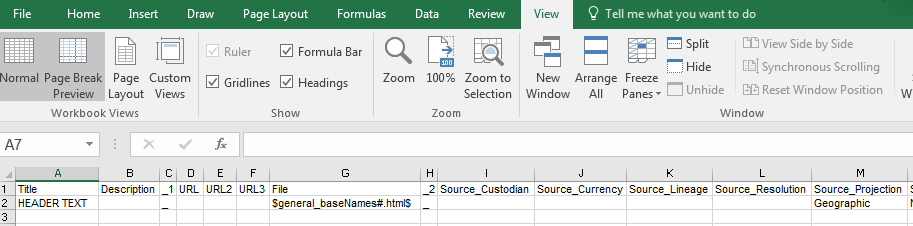
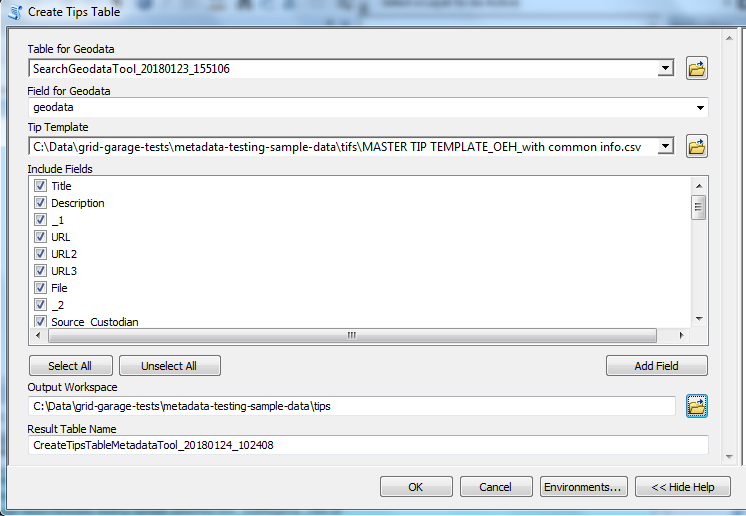


Figure Example of the CSV table created in Excel that contains the template for fields (row one) and default values (row two)

The tip template file needs to be a comma delimited (CSV) file. [See this link](https://environmentnswgov-my.sharepoint.com/personal/tom_barrett_environment_nsw_gov_au/_layouts/15/guestaccess.aspx?docid=153b9187252f04868a37f172f663350e7&authkey=AYGWldEGY_ZmsLCVJmqD0gU) [LINK NEEDS UPDATING.. SEE FILE ABOVE FOR NOW] for an example of a Tip Template file we have used to generate a NSW datapack in OEH. The first row in the CSV Tip template file contains the field names you want to appear in the MCAS-S TIP file. In the second row you can enter text that will be used as the default value for all raster geodata. You can pull values from the *Geodata > Describe* report by bracketing the field name in the $ symbol, for example ‘$dataset\_spatialReference$’ would pull out the spatial reference for each input raster. You can also use the field and add extra text, for example ‘$general\_baseName# - from OEH - Predictors used in state-wide vegetation modelling project$’ would add the ‘general\_baseName’ (the raster name) before the other text.

**Step 3.** Use the [Grid Garage > Metadata > Create Tips Table] tool to generate a table that contains a column (field) for each of the template TIP fields. [FAILING HERE]



*Input=Output table from Step 1. And Step 2. . SearchGeodataTool\_data&time and MASTER TIP TEMPLATE\_OEH\_with common info.csv.*

*Output=Master TIP file containing the full list of TIP fields with all information that is common to all data layers already filled in (‘CreateTipsTableMetadataTool\_date&time’).*

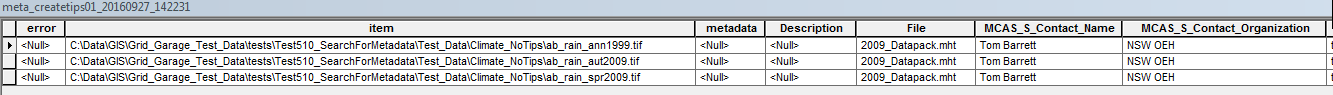


Figure 2 Example of the output table

**Step 4.** Edit the ‘*meta\_createtips01\_date&time*’ table to fill in empty fields.

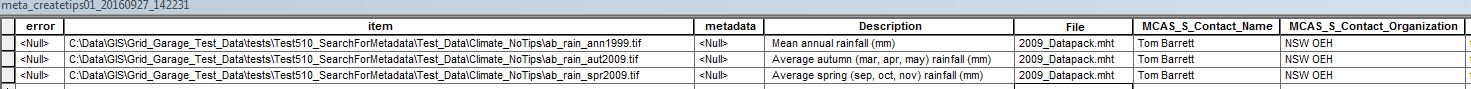


Figure Example of manually filling in empty fields in the ‘meta\_reatetips01’ table.

Step 5. Use the [Grid Garage>Metadata>Export Tips] tool to build the TIP files from the data in the ‘*CreateTipsTableMetadataTool\_date\_time*’ table.

Step 3. Create TIP Template Table: Use the [Grid Garage>5 Metadata Management>5.2 Create Tips] tool to generate a table that contains the template TIP fields.

Using the de

*Output=TIP table containing all the master template TIP fields which are filled in with information that is common to all data sets in the items table.*

**[INSERT EXAMPLE OF TABLE]**

Step 3. Create TIP Template Table: Use the [Grid Garage>5 Metadata Management>5.2 Create Tips] tool to generate a table that contains the template TIP fields. ??

QUESTION: How do you create this table – is this the correct GG Tool??

*Output=TIP table containing all the master template TIP fields which are filled in with information that is common to all data sets in the items table.*

**[INSERT EXAMPLE OF TABLE]**

Step 4. Update TIP table manually: Use the ArcGIS Table manipulation tools to complete info for all the non-standard TIP fields. You may need to:

* Edit the table manually.
* When there are pre-existing TIP files with information you want to carry over to the new TIP files use the Run the Grid Garage>5 Metadata Management>x5.3 Tabulate Existing Tips tool to generate a ‘TIP field table’ from the existing TIP files. Then join and copy this information into your new ‘TIP field table’.
* Join the table to other tables that contain the TIP information, such as information derived from using the Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster tool.

*Output=TIP table with all fields filled in (where relevant/possible).*

**[INSERT EXAMPLE OF TABLE]**

Step 5. Create TIP files: Use the [Grid Garage>5 Metadata Management>x5.2 Create Tips] tool to generate the TIP files for all the data layers in the items table.

*Output=TIP files for each of the data sets in the items table.*

**[INSERT EXAMPLE OF TABLE]**

Appendix 1 – Custom TIP template used by NSW OEH

|  |  |
| --- | --- |
| **Field in TIP file** | **Description** |
| HEADER TEXT | This is the text that appears when you place your mouse over the layer in the MCAS-S display window. |
|  |  |
| Description: | More detailed description, or summary, of the data. |
|  |  |
| URL: | URL link to metadata or other sources of information about the data. |
| URL2: | URL link to metadata or other sources of information about the data. |
| URL3: | URL link to metadata or other sources of information about the data. |
| File: | Link to a file. This is the name of any file that has been saved into the folder where the data is stored. So, for example, if there is no URL link available for the data then you can create your own metadata file (see manual for how to do this). |
|  |  |
| Source\_Custodian: | Custodian of the source data (used to generate MCAS-S raster grid). |
| Source\_Currency: | Currency of the source data (used to generate MCAS-S raster grid). |
| Source\_Lineage: | Lineage, or description of how the data was generated, of the source data (used to generate MCAS-S raster grid). |
| Source\_Resolution: | Resolution of the source data (used to generate MCAS-S raster grid). |
| Source\_Projection: | Projection of the source data (used to generate MCAS-S raster grid). |
| Source\_Extent\_Region: | Named regional extent of the source data (used to generate MCAS-S raster grid). Eg. Australia, NSW, Western Local Land Services etc. |
| Source\_Extent\_Coordinates: | Extent described by coordinates of the source data (used to generate MCAS-S raster grid).  **NOTE:** May be able to generate from Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster |
| Source\_Data\_Format: | Type of format of the source data (used to generate MCAS-S raster grid). E.g. ‘raster grid’, ‘Vector polygon’ etc..  **NOTE:** May be able to generate from Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster |
|  |  |
| MCAS-S\_Lineage: | Description of how the source data was processed and imported into the MCAS-S data pack. |
| MCAS-S\_Resolution: | Resolution of data layer in MCAS-S data pack, e.g. 100m, 50m etc.  **NOTE:** May be able to generate from Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster |
| MCAS-S\_Projection: | Projection of data layer in MCAS-S data pack.  **NOTE:** May be able to generate from Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster |
| MCAS-S\_Extent\_Region: | Named regional extent of data layer in MCAS-S data pack, e.g. Australia, NSW, Western Local Land Services etc.. |
| MCAS-S\_Extent\_Coordinates: | Extent described by coordinates of the data layer in MCAS-S data pack.  **NOTE:** May be able to generate from Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster |
| MCAS\_S\_Data\_Format: | Type of format of the data layer in MCAS-S data pack (used to generate MCAS-S raster grid). E.g. ‘raster grid’, ‘Vector polygon’ etc.  **NOTE:** May be able to generate from Grid Garage>3 Raster Operation>3.1 Information>3.1.3 Describe Raster |
|  |  |
| MCAS-S\_Data\_Type: | Data type (continuous or categorical) for data in MCAS-S data pack. |
| MCAS-S\_Units: | Projection of data layer in MCAS-S data pack. |
| MCAS-S\_Units\_Ranking: | For continuous data - What is the relativity of the values, e.g. high values represent higher rainfall, or, higher values equate to more alkaline (less acidic) soil. |
|  |  |
| MCAS-S\_Contact\_Organization: | Contact organisation for the person who built the MCAS-S data pack. |
| MCAS-S\_Contact\_Name: | Contact name for the person who built the MCAS-S data pack. |
| MCAS-S\_Contact\_e-mail: | Contact email for the person who built the MCAS-S data pack. |
|  |  |
| Raster Attribute Value Field: | This identifies the main ID or KEY field for categorical data that stores the category labels in a field in the *layer.tif.vat.dbf* file. |
| Raster Attribute Value Text: | This identifies label field for categorical data that stores the category labels in a field in the *layer.tif.vat.dbf* file. |
|  |  |
| *Numerical Weighting Field #1:* | For categorical data this is an optional descriptor of other fields (in the *layer.tif.vat.dbf* file) that store customised weightings for use in the Type = ‘Numerical’ display option. |