



## Templates in HGIS: Customized Data Attribution

(last updated May 2006)

In HGIS, a “Template” allows a user to link preexisting attribute structure (e.g. the fields listed on a field data collection sheet) to a new empty spatial data layer in order to facilitate the data collection process with a specific set of attributes. Some programs refer to this as a “data dictionary” while others call it an attribute structure or variable list.

From the perspective of HGIS, templates are “invisible” instructions/data entry guidelines you are giving to facilitate the attribution of new spatial data layers. Templates may be defined, opened, and saved just like spatial data layers. A Template may include attributes (a.k.a., fields or variables or data record types) which require the user to manually type in the relevant information for a particular point, line or polygon (boundary). The Template may also include attributes where the user can select from a drop down list of common entries (a.k.a., values) known as a “Pick List” of options for each attribute (a.k.a., fields/parameters/variables). For example, one attribute in the template may be called LIFEFORM; and the pick list for that attribute might include: Tree, Shrub, Forb, Fungus, etc. This makes for faster, more effective data collection, but does not require any special programming skills.

Any regular map layer may be opened as a Template if the user wishes to use a specific attribute structure.

### *How to Create a Template*

It is easiest to use the desk top version of HGIS to create a template so you can use a full keyboard.

1. Open HGIS (and open at least one map or image layer).
2. Choose “File” “Template...” “Define Template”.
3. In the “Layer Name” window, give your template a name and select what mapping feature(s) it will involve (point, line, boundary). When you select “OK” it will record a file name for your template layer (e.g. weeds.TPF if you were designing a template to map weeds).
4. A Window will appear called “Layer Structure”. The attributes with a “\*” are auto-generated by HGIS. To create new attributes tailored to your template layer, choose “ADD”.
5. Characterize each attribute:
  - a. In the “Name:” field, type over the default “Field\_000” with the name of the attribute you wish to add (eg: SPSNAME or HEIGHT). NOTE: Though it seems like it will take a long name, keep this name as short as possible – 10 characters or less! )
  - b. Next select the proper data type (in this example, “Character (Text)” and width (in this case, the default of 31 characters is fine).
  - c. When you are finished choose “ADD”. **DO NOT** click “OK” yet!!!!
  - d. Repeat a-c for each attribute you wish the users to collect when they are making this type of map. When you are done listing all of them, click “OK”.
6. At this point you have the option of adding a “Pick List” to any of your newly created attributes. If you don’t use this option for a particular attribute, then you are expecting the data collector to hand type associated data while they are in the field collecting data. (This will be the nature of some attributes, particularly those with a wide variety of possible entries (e.g., NOTES). If ALL attributes are of this type, choose Create and then Finished. If any require Pick Lists, continue with number 7 below.





7. For those attributes where the possible entries are known, it is possible to create a Pick List to make it much easier (and efficient) for the data collector. Under the “Edit Pick List” window, beneath the buttons “Previous Attr.” and “Next Attr.” you will see the name of your first attribute.
  - a. In the space below it you will need to type the first entry on the pick list (if these need to be in a particular order, order them *before* typing).
  - b. For each Pick List entry, you must select “New”.
  - c. A window called “Add New Pick List Items” will open.
  - d. Choose “Add” – type in the first Pick List item. (DO NOT choose “Enter” until you are done with all of them!)
  - e. Type in the next one, chose “Add” for each entry until you are finished.
  - f. After you have added the last one, choose “Done”.
  - g. You can test you Pick List on the “Edit Pick List” menu by clicking the down arrow next to the list. You can change things or delete the whole entry.
  - h. If additional attributes require a “Pick List,” chose “Next Attr.” from the top, and repeat a – g.
  - i. If not, choose “Finished” .
  - j. When the “Save Template” window opens, store the template under a “Templates” directory on your computer. On the Pocket\_PC, store the template under \My Documents. At Startup, templates are automatically located in \My Documents\ or StorageCard\My Documents\ .

### ***How to Edit a Template (not the spatial data, but the Template itself)***

1. Open HGIS (and at least one data layer).
2. Open the template. Choose “File” “Template” “Open Template...”
3. Open the template structure to edit. Choose “File” “Template” “Template Structure...”
4. Scroll to the entry that needs to be adjusted, edit it.
5. Scroll to the next, edit it, etc.
6. Choose “Add” or “Delete” where appropriate.
7. When finished, choose “MODIFY”.
8. To Edit a Pick List, choose “File” “Template” “Pick List...” and select your template file.
9. See the above instructions on creating a Pick List.

### ***How to Create a Map Layer Using a Template***

For this you follow the normal instruction for connecting your GPS to the handheld PC, etc. Instead of defining a new layer as usual, you will do so with an associated template.

1. Open HGIS and add whatever background images or layers you will need.
2. When you are ready to collect new data using the template (that is, create a new mapping layer), choose “File” “Layer” “New from Template...”
3. The window will open called “Template”. Select the .TPF file appropriate for the data layer you are trying to create and attribute.
4. The “Layer Name” window will pop up. Type in what you want to call the layer (keep it short and simple – e.g., “weeds” or “trails”) and then select whether the feature will be points, lines or boundaries (polygons). Tap “OK”.
5. Now, when you choose GPS Draw from the tools menu (far right column, top) you can begin mapping.
6. After you enter each point, line or polygon, tap the “Attrib” icon to input the attributes from the template you designed. (Remember: the first attributes to appear (AUTO\_ID, WGS84\_LON, etc. are auto-generated.) Use the scroller-bar on the left to bring your customized attributes into view. Tap the down arrow to the right of each attribute to bring up the Pick Lists and select whatever is appropriate.