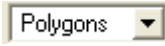



## LESSON 14 – TerraEdit Plugin

This lesson presents the functionalities of the TerraEdit plugin, intended to edit vector data. In addition to vector edit, it allows the edit of descriptive attributes associated to the vector elements.

The enabled tools are specific for the representation of the active theme, for instance, point, line, or polygon. If the theme has more than one representation, the user must choose the **Geometric Representation** to be edited using the list of theme representations , presented in the plugin tool bar.

To execute the steps of this tutorial, import the SP\_cities.shp and SP\_vegetation.mif files included in the data package of TerraView tutorial, downloadable from <http://www.dpi.inpe.br/terraview> site.

### 14.1 Starting TerraEdit

1. To use this tool, select the  icon in the TerraView toolbar.
2. The edit plugin window will be presented, as shown in Figure 14.1.

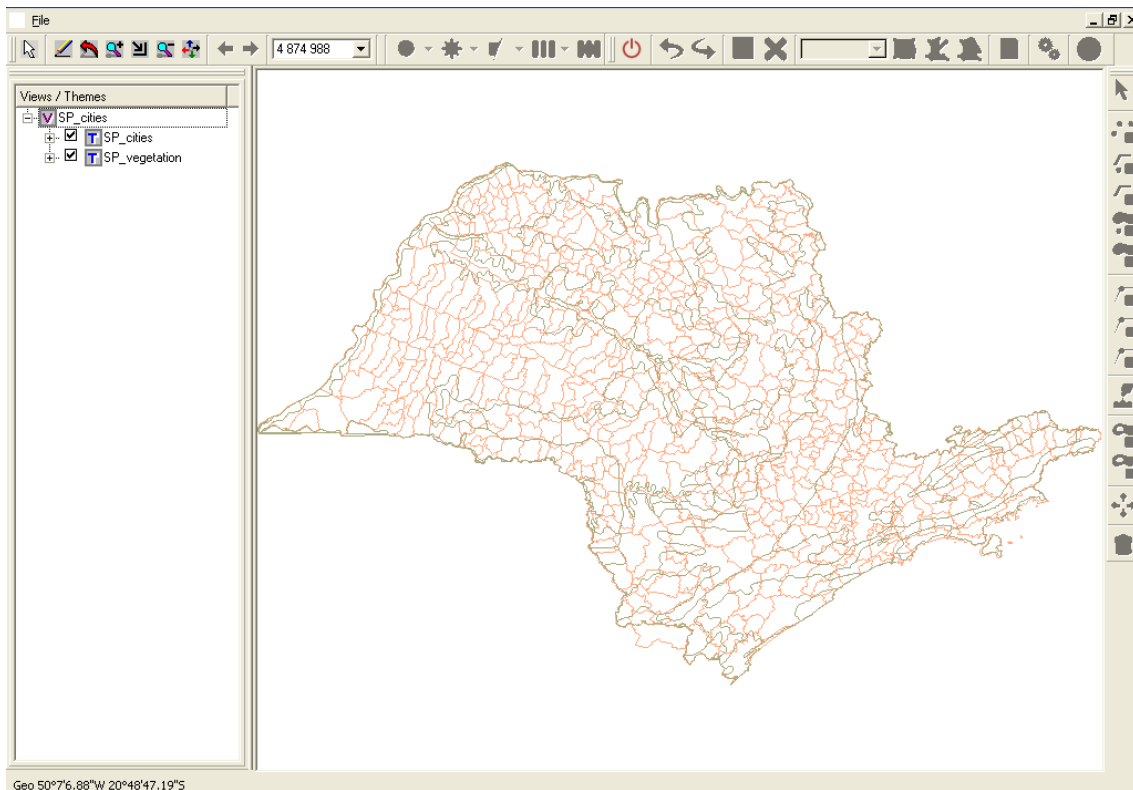

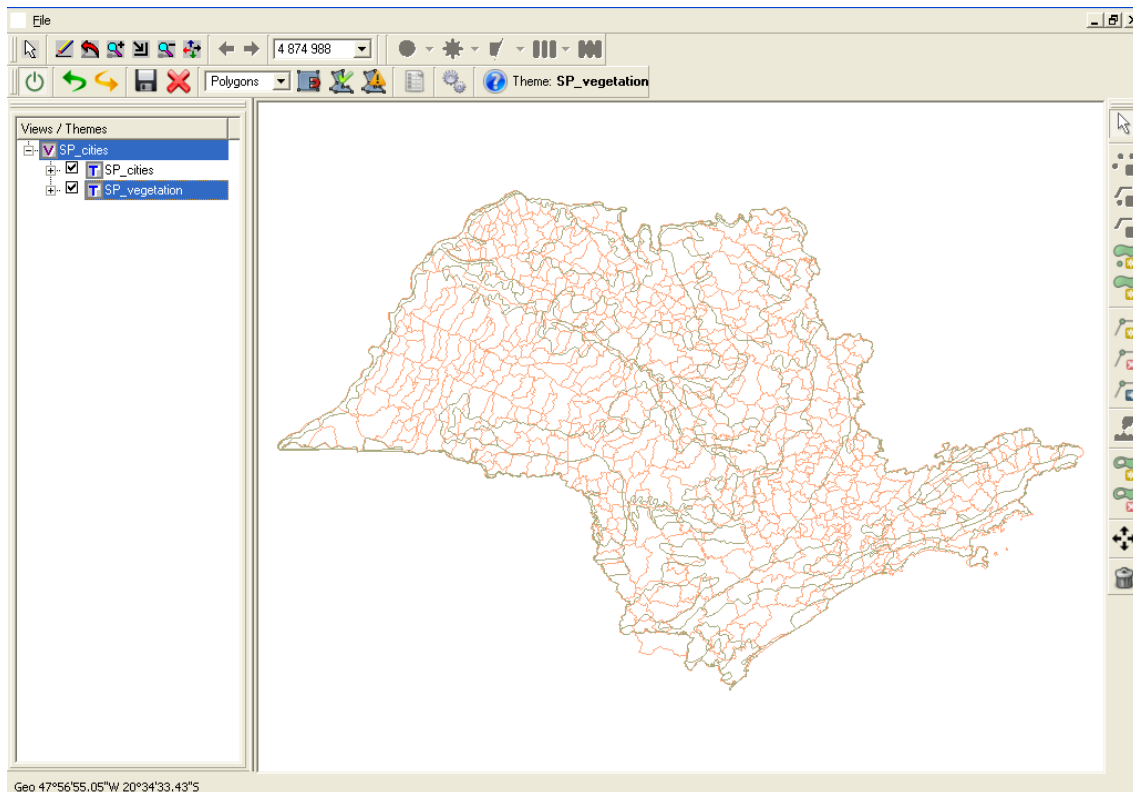



Figure 14.1 – Edit Main Window.

3. Select the SP\_vegetation theme, and click on  **Enter Edition Mode** icon.
4. The basic tools of the **Edit Mode** will be enabled, as shown in Figure 14.2.



**Figure 14.2 – Basic tools of Edit Mode.**

5. To start editing graphics, it is advisable to use the  **Zoom In** tool to reduce the size of the focus area of edit, thus details of geometries being edited will be better visualized, as shown in Figure 14.3.

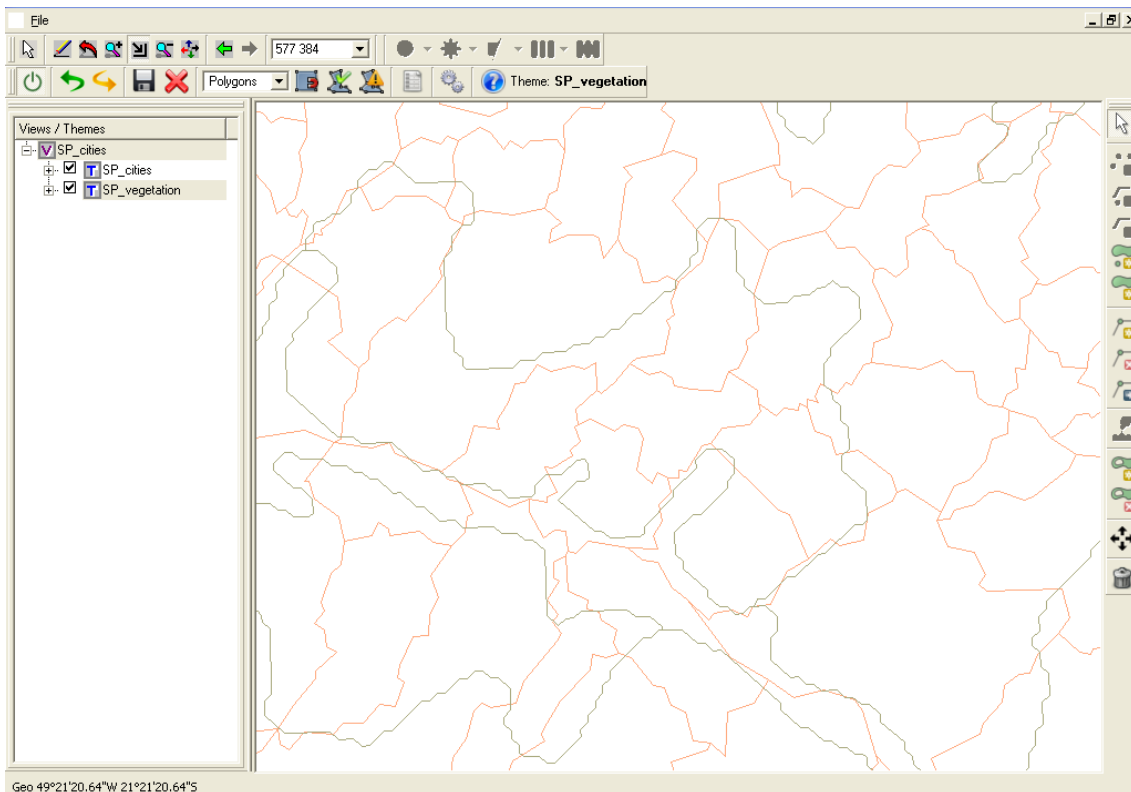


Figure 14.3 – Zoom to Edit.

## 14.2 Tool Preferences

This function allows the user to configure parameters that control TerraEdit behavior during the edit procedure.

- **Save Tab:**
  - **Auto save after creating a geometry:** when this option is selected, the attributes window will be displayed for all finished geometry; otherwise, the system will display the attributes window only when the user selects the **Save All Edition** button.
  - **Generate attributes automatically:** when this option is selected, for all finished geometries, the system will create automatically a link column and will not display the attributes window.

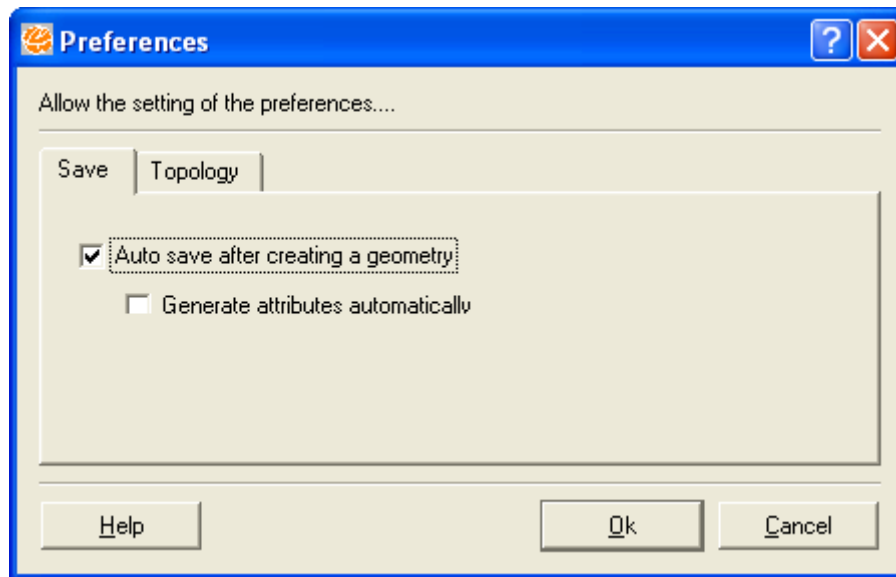


Figure 14.4 – Save Tab.

- **Topology Tab:**

- **Eliminate overlay of polygons:** when this option is selected, when drawing and finishing a geometry that overlays another drawn geometry, the overlaid region is cut off from the newest geometry, thus eliminating the overlay.

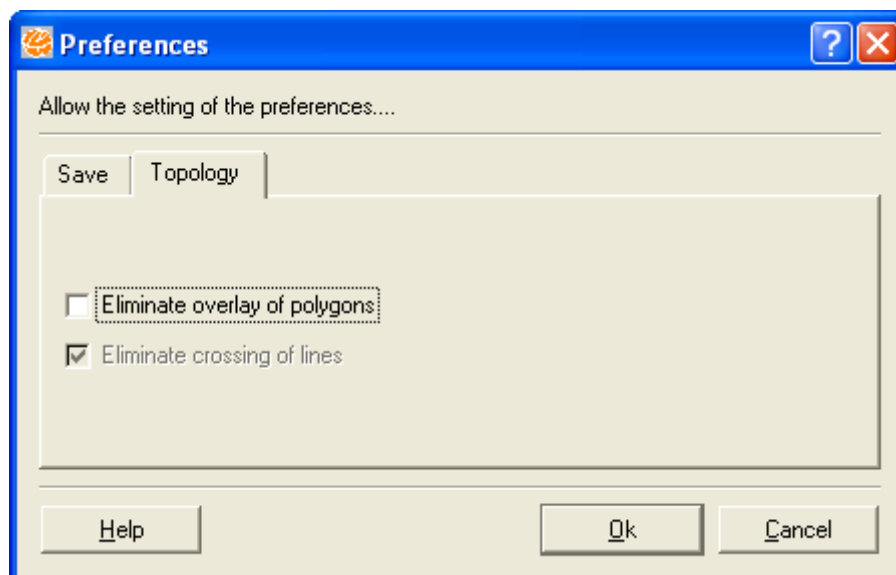

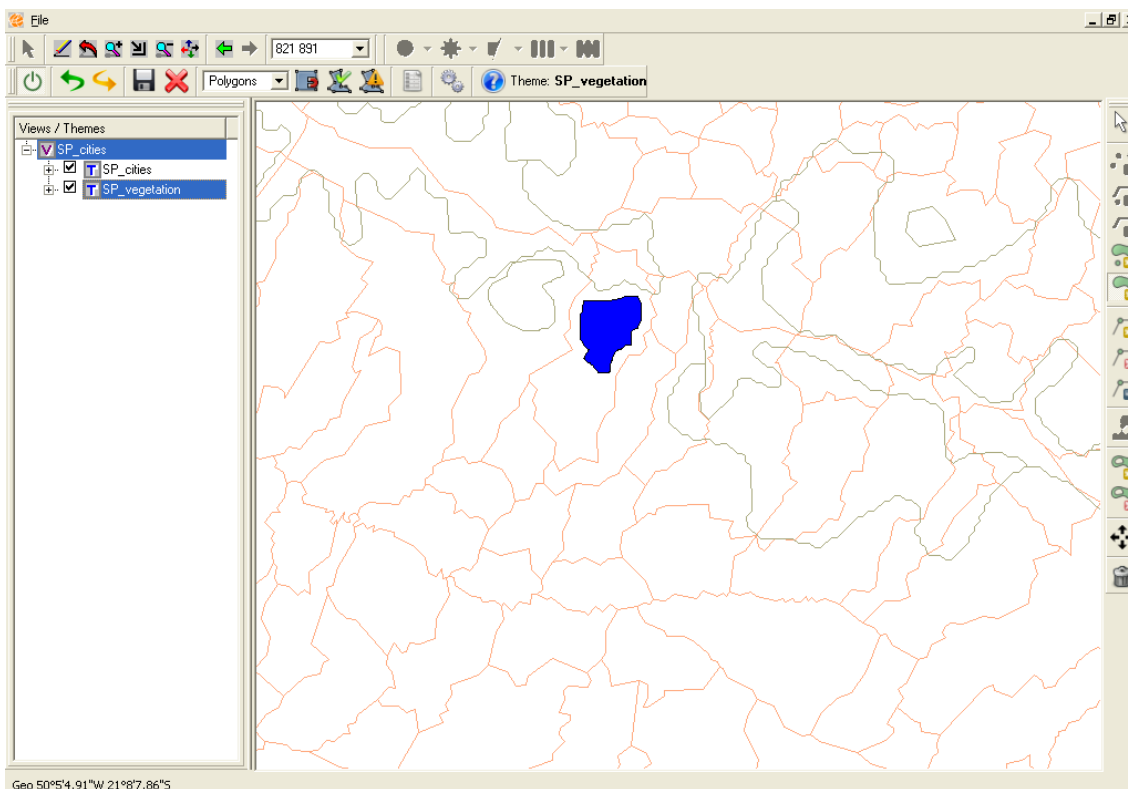


Figure 14.5 –Topology Tab.

### 14.3 Data Vector Edit

6. We will use the  **Create Continuous Polygons** tool. To finish a polygon, the user must right-click the mouse, as shown in Figure 14.6.



**Figure 14.6 – Created Polygon.**

7. At all drawn geometry, the attributes window will be displayed to inform the descriptive attributes associated to that geometry. Figure 14.7 shows an example of this case.

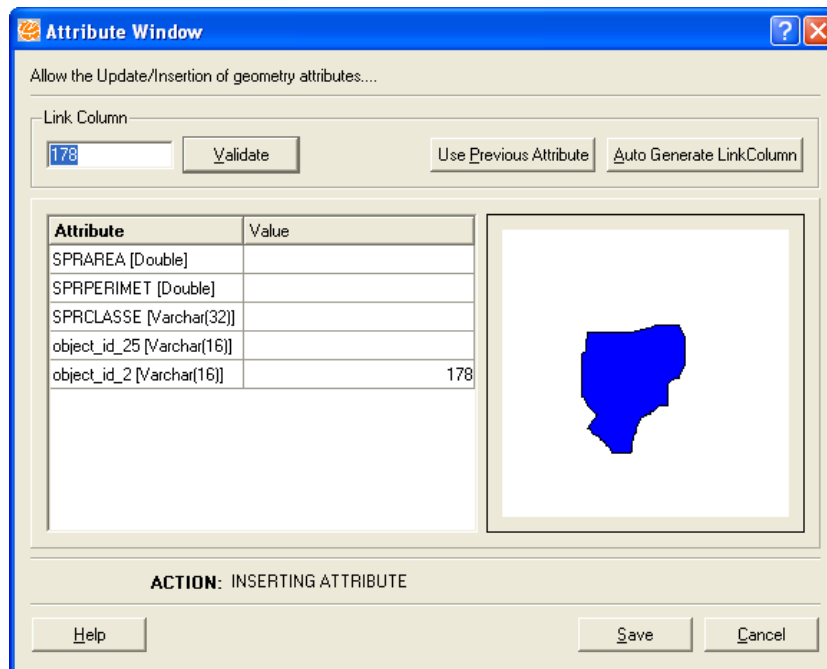
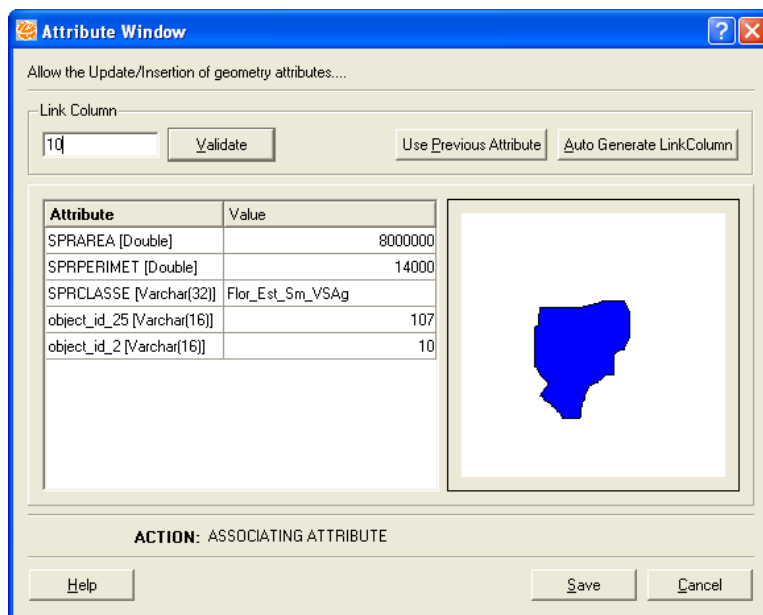


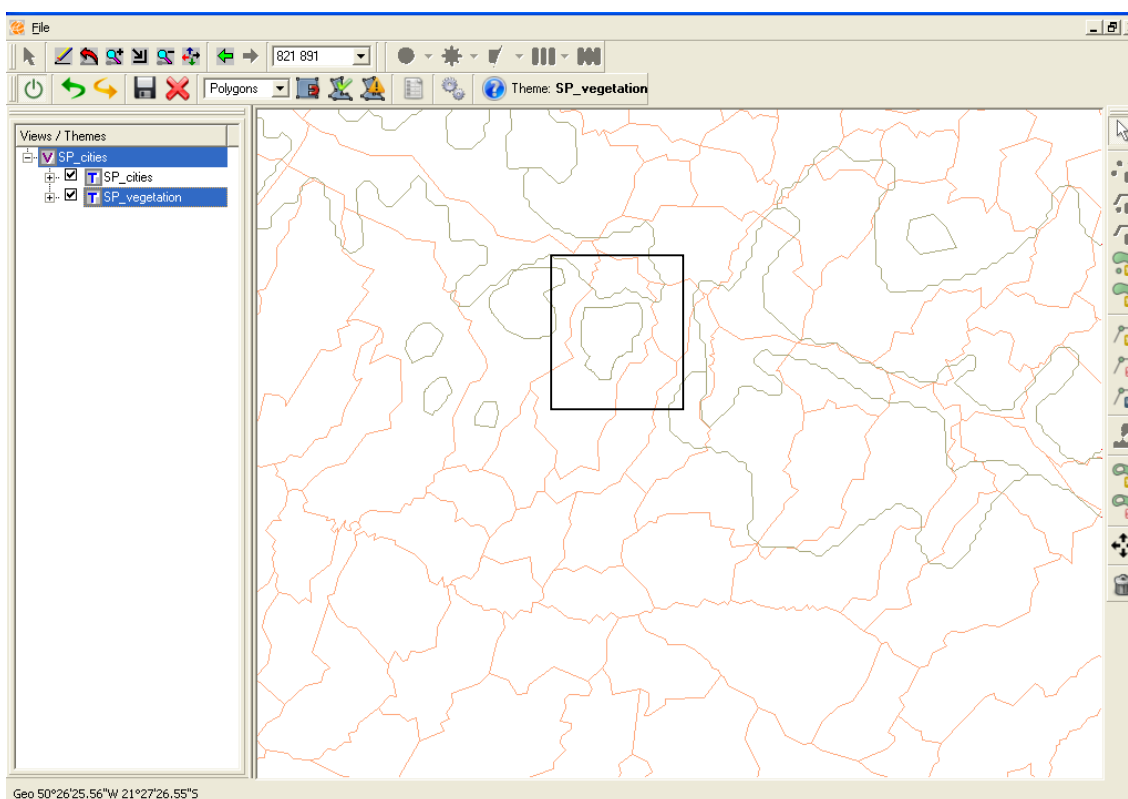
Figure 14.7 – Attributes Window.

8. Define a value for the link column in **Link Column** field.
  - When the value provided for link column already exists, the system will load in the attributes window the values stored for this geometry; the user must know that, when saving, more than one geometry will be associated to that record.
  - If you want to use the Value of the Previous Link Column, select the **Use Previous Attribute** button.
  - If you want the system to create automatically the value for link column (create value ID automatically), select the **Auto Generate LinkColumn** button.
9. Click on **Auto Generate LinkColumn** button or type in an existing **ID** (in Link Column field) to load the attributes window with values stored by this geometry and select **Validate** button to visualize them, as shown in Figure 14.8.



**Figure 14.8 – Create Identification Automatically.**

10. When filling in the form or typing an ID, the use of **Save** button will save the provide descriptive attributes and the corresponding graphic edit. The image presented in the Draw Area will include the executed edit.




**Figure 14.9 – Executed Edit.**

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11. To exit Edit mode, click on the  **Exit Edition Mode** button.
12. To visualize the edited/created polygons it is necessary to create a new theme, since the layer stores the edit instead of the visible theme; create a new view and add the SP\_vegetation theme.

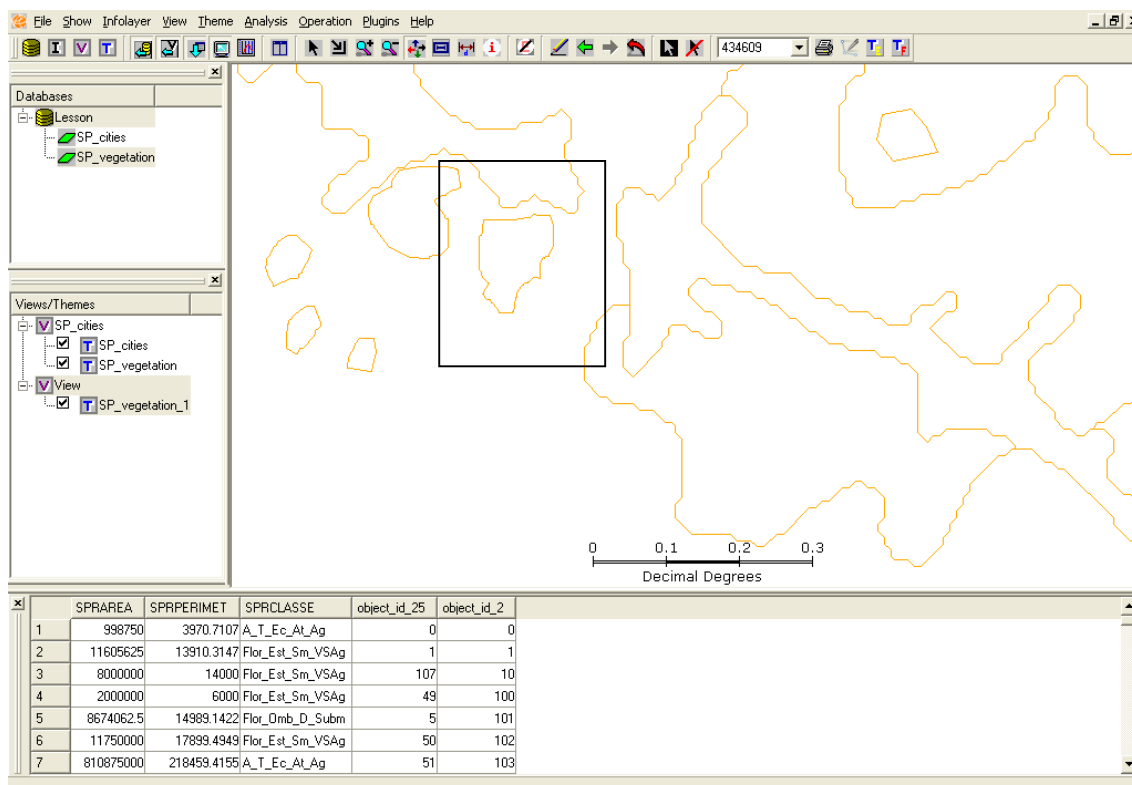




















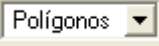








Figure 14.10 – Theme with Edit.

There are edits that do not require the creation of a new theme to visualize (such as, move vertex, remove vertex, aggregate, and subtract area....)

### 14.4 Tools Available to Edit




	<b>Select Edition Objects:</b> enables the cursor to select geometries in the Draw Area. The user can select more than one geometry through pointing (if the CTRL key is pressed).
	<b>Create Point:</b> enables the cursor to create a point.
	<b>Create Lines:</b> enables the cursor to create a line point by point. To finish a line, the user must right-click with the mouse.

	<b>Create Continuous Lines:</b> enables the cursor to create a line continuously. To finish a line, the user must right-click with the mouse.
	<b>Create Continuous Polygon:</b> enables the cursor to create a polygon continuously. To finish a polygon, the user must right-click with the mouse and the last point will be connected to the first point automatically.
	<b>Create Polygon:</b> enables the cursor to create a polygon point by point. To finish a polygon, the user must right-click with the mouse and the last point will be connected to the first point automatically.
	<b>Insert Vertex:</b> enables the cursor to insert vertices in the selected line or polygon.
	<b>Remove Vertex:</b> enables the cursor to remove vertices of the selected line polygon.
	<b>Move Vertex:</b> enables the cursor to move vertices of selected geometries.
	<b>Join Lines:</b> enables the cursor to join selected lines, to make sure that the lines have a common end. The lines will still exist.
	<b>Aggregate Area:</b> Aggregates an area to an already existing polygon. To use this tool, click on the  icon, select a polygon, select the Aggregate Area tool, draw the area to be aggregated in a way that it crosses the selected polygon, and, to finish, right-click with the mouse.
	<b>Subtract Area:</b> Remove an area from an existing polygon. To use this tool, click on the  icon, select a polygon, select the Subtract Area tool, draw the area to be subtracted in a way that it crosses the selected polygon, and, to finish, right-click with the mouse.
	<b>Move Selected Geometries:</b> enables the cursor to move selected geometries.
	<b>Remove Selected Geometries:</b> remove selected geometries.
	<b>Undo:</b> undoes the last edit action.
	<b>Redo:</b> redoes the last edit action that was undone.
	<b>Save All Edition:</b> saves the created/edited geometries in the database.
	<b>Cancel Edition:</b> cancels all edit action that were not saved in the database yet.
	<b>Representation:</b> presents the type of geometry to be edited. When the user changes it, only the tools that can be applied to that type of geometry will be enabled.
	<b>Turn on Snap:</b> when it is on (green color), the closest point to the current cursor position will be retrieved and used by the selected tool, if the mouse is clicked.
	<b>Check Topology Before Save:</b> Enforces verification of topology to avoid saving if there are errors.
	<b>Show Topological Errors:</b> Verifies if there are topology errors and

	highlights in yellow the new objects that overlay new objects or objects already saved in the database.
	<b>Show Attribute:</b> Displays the Attributes window with information about the selected object and allows changing.
	<b>Preferences:</b> allows the user to configure options that related to the edit procedure. (Create polygon ID polygon automatically and Avoid polygons overlay).
	<b>Help:</b> enables the help window.

**Table 1 – Tools available to Edit.**

## 14.5 Additional Information

- When editing, note that the not saved, edited objects are highlighted in blue color.
- Hash style indicates objects that were removed or moved to another location and will be presented in this way until they are saved in the database. After saving, that region will be updated with white color, indicating the object does not exist.
- Retrieval of points using the  **Turn on Snap** option will not stop working when the visualization scale is small (few details), since the limit of **snap** points will be hard to be reached. If the limit of **snap** points is reached, part of the geometries points inside the Draw Area will not be retrieved and will harm the good use of this tool. This case may occur with vector layers containing lots of geometries, with several points being displayed at the visualization scale.
- If during edit you realize that an error was made, use the  **Undo** tool to undo step by step each one of the edit actions that were not saved yet.
- If during edit you decide to delete all drawings that were not saved, use the  **Cancel Edition** option.
- The user can **Cancel** the descriptive attributes form; in this case, the graphic edit will be pending until their descriptive attributes are saved. However, the user may continue editing other geometries.
- In this procedure, when finishing the edition of a geometry, the user will always be asked to fill in the descriptive attributes of **all** previous geometries that did not have their attributes defined.
- When filling the values of each one of them, the form will be re-displayed to fill the values of the next geometry.
- In the case described above, if any error occurs in the storage operation of any elements data, for instance, any unpredictable error in the database or an power shortage, all five elements will be lost. This will happen because elements save occur in a single operation, where either all or none of them will be saved.

- Therefore, it is advised to fill in the descriptive attributes as soon as the edit of a geometry is finished, since saving values filled in the form also saves the freshly edited geometry.
- All objects of a vector layer must have a value in the link column, that is, must have a non-null value.

