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Web Map Guide
for the
State College Area Connector
Planning and Environmental Linkage
(PEL) Study



JULY 27, 2021

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Web Map Vocabulary

Base Map: A collection of GIS data or satellite imagery that form a background setting for a map.

Layer: In GIS mapping, a layer refers to a piece of geographic data containing the location and information of a related group of features. (e.g.- Rivers, Land Use, Roads, ETC.).

Feature: A subset of a layer - geographic data represented by points, lines, or polygons.

Attribute Table: A database containing information about a geographic feature. Each row of the table represents a map feature and each column represents a different piece of information about that feature.

Data Set: A collection of data, usually presented in a table format.

Field: In GIS, a subset of a data set that is generally expressed as a column within a data table.

Legend: A description of the types of geographic features included in a specific map with an associated graphical representation of what that feature looks like.

Extent: The current display area shown on a map.

Scale Bar: A visual representation of distance and length of features on the current map extent.

Map Navigation

Panning

Within the web map application, users can move around to various locations using a desktop mouse or finger swipe on mobile devices. On desktop computers, click and hold the left mouse button to pan through the various sections of the map. A four-way arrow cursor will denote that the user is currently panning (see Figure 1). In a similar fashion, mobile users should tap and drag on their touchscreen to change the map view.

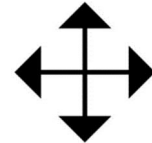


Figure 1

Zooming in and Out

Zooming in for a closer look? There are several ways to adjust the scale of the current map display on the desktop version of the web map. Using a standard computer mouse, scroll the mousewheel forward to zoom in closer on an object of interest and scroll the mousewheel backward to get a larger picture of the area. Alternatively, the plus and minus buttons located in the top right of the map view function by left clicking to zoom in or out (see Figure 2). On mobile, pinch to zoom functionality is enabled in addition to the plus and minus buttons.



Figure 2

Home

The home button is located underneath the plus and minus buttons in the top left-hand corner of the map view and is used to re-center the user around the area of interest (see Figure 2). After using the home button, users may pan and zoom at their convenience.

Basic Map Tools

Layers, Legend, and Base Map Gallery

Layers

The primary interest of the web map experience is the various themed layers associated with the PEL study area. Each layer is broken down categorically into either Agriculture, Aquatics, Potential Hazardous Waste, Historic Resources, Socioeconomic, or Terrestrial geographic features. To view these layers, click on the map layers icon in the top left of the screen (see Figure 3).

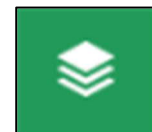


Figure 3

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From here, users can view each layer either one at a time, or in combination with one another by checking the associated checkbox for each layer. For example, it is possible to look at the watercourses within the study area or both the watercourses and wetlands at the same time (see Figure 4).

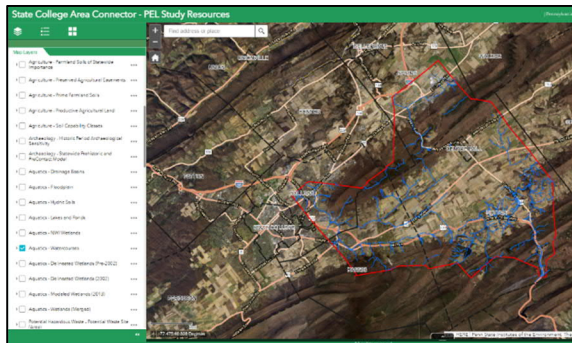


Figure 4

Legend

Users can differentiate between different map layers by opening the legend, denoted by the icon in Figure 5. When opened, the legend displays the currently active layers and their associated map symbology. Each map symbol represents either a point, line, or polygon feature on the map.

Base Map Gallery

To better serve the web map experience, base map images can be changed to fit the user's preference. These additional base maps can be accessed through the icon with four squares to the right of the legend icon. To select a new base map, simply click on the image and description associated with the base map style (see Figure 6). Styles range from minimalistic, street maps, and satellite imagery.

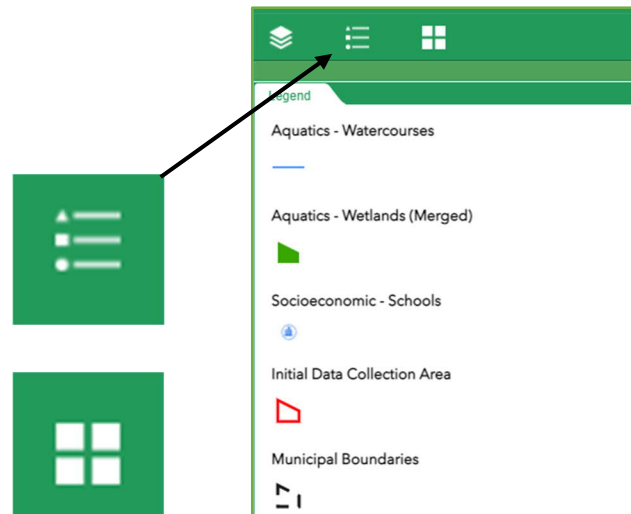


Figure 5

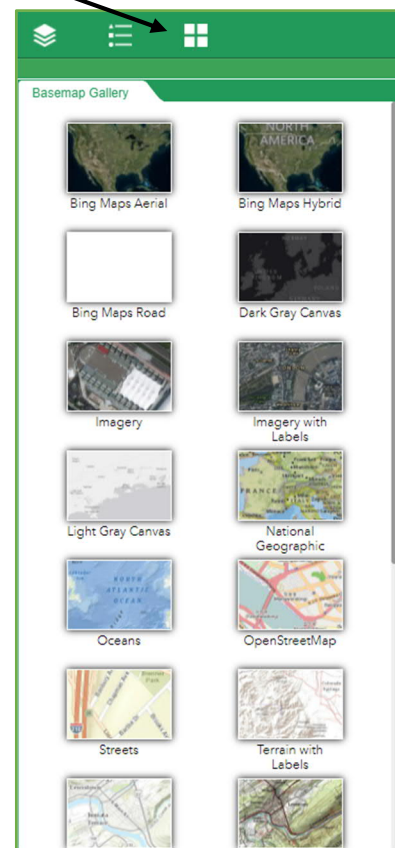


Figure 6

Identifying Map Features

By left-clicking on a specific geographic feature within a layer, map users can view additional information associated with it. For example, when looking at the “Existing Land Use” layer within the web map and left-clicking on a specific feature, information such as the category, subcategory, municipality, or planning region can be found (see Figure 7).

Advanced User Actions

Viewing the Attribute Table

To gain even more information regarding map features, users can utilize the attribute table within the web map. The attribute table can be accessed through several methods. The first method is by clicking on the up arrow at the bottom of the map window pane (see Figure 8). Doing so will open the attribute table for a given layer. By default, the layers “Municipal Boundaries” and “Initial Data Collection Area” will be displayed at the top of the attribute table.



Figure 7

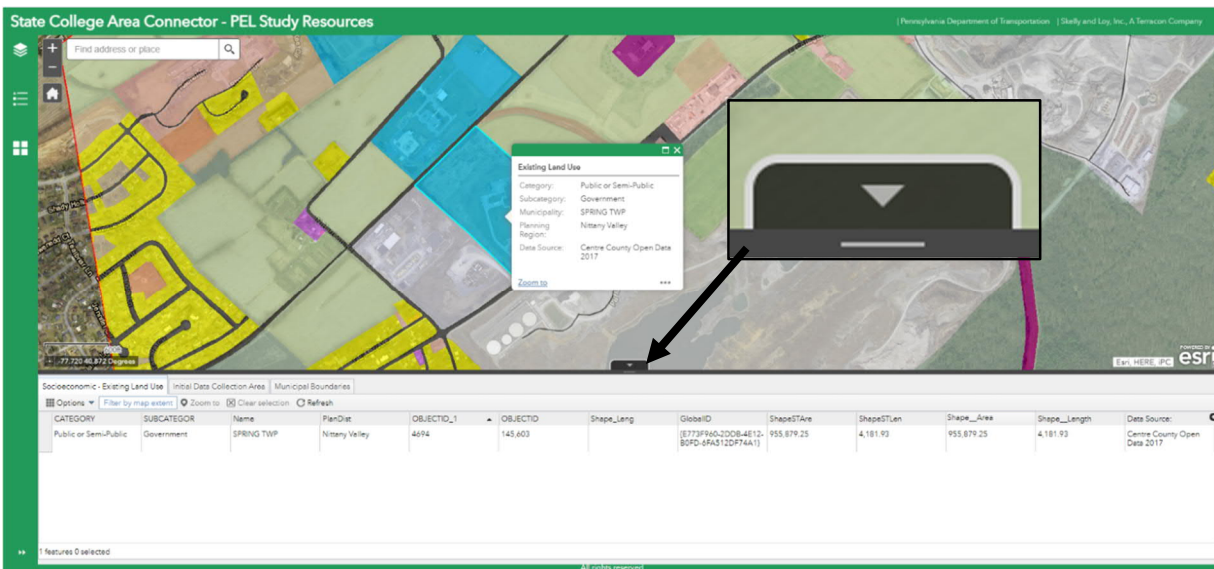


Figure 8

Another useful way to open the attribute table is through the “additional information” icon after left clicking a feature to select it (see Figure 9). A dialog box will appear with the option to view the

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feature in the attribute table. Once doing so, the user can see all the feature's associated attributes.

To see all available information regarding a selected feature in the attribute table, users can scroll



Figure 9

using the horizontal scroll bar at the bottom. Doing so will give the user access to detailed items such the feature's area, length, or data source. Additionally, each data column can be sorted either by ascending or descending order by left clicking on the column heading (see Figure 10).

To view all available features within a layer, click the "refresh" button at the top of the attribute table (see Figure 11). From here, users can scroll through the large list of all related features in a layer. By clicking on the area just to the left of a feature, a selection can be made. This selection highlights the selected feature in the attribute table as well as the visual representation on the map (see Figure 12). After making a successful selection it is possible to unselect all selected features by using the "clear selection" button

just to the right of the refresh button (see Figure 11).

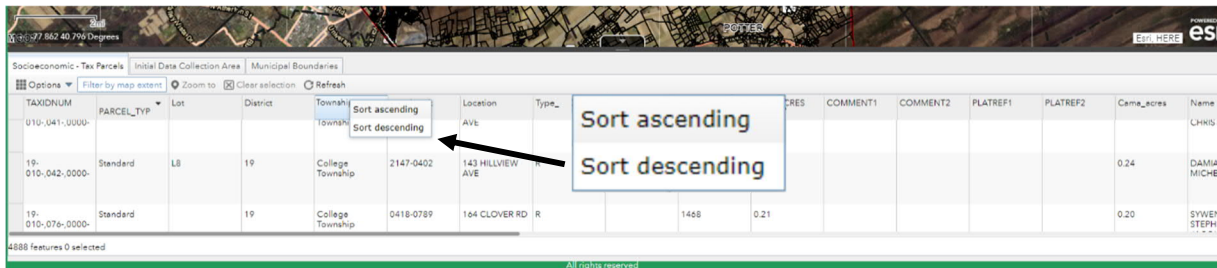


Figure 10

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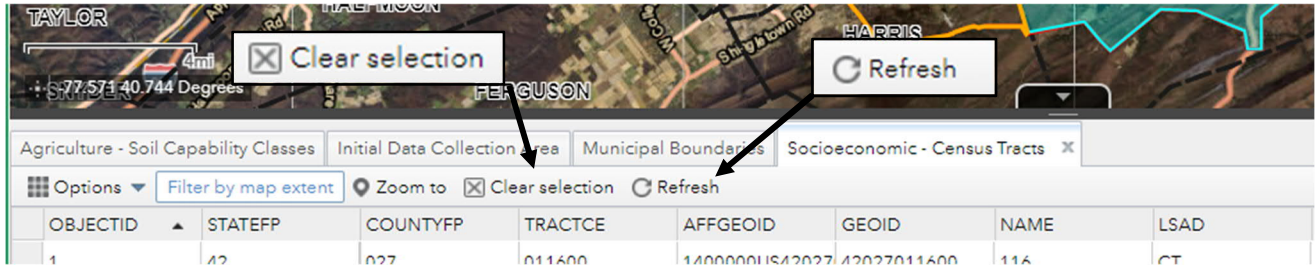


Figure 11

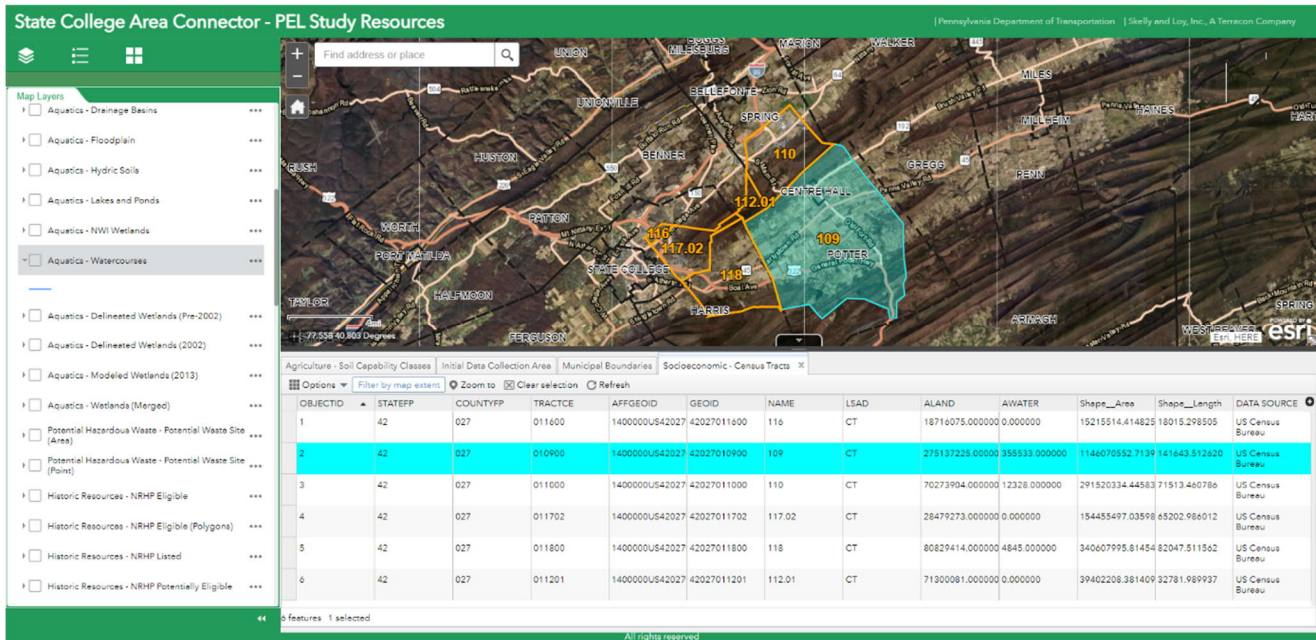


Figure 12

Filtering Layers

In certain circumstances, it may be difficult for the user to find one specific feature within a large dataset. In these cases, it is possible to write simple expressions to filter out any unnecessary data. To give an example, one may be searching for all tax parcels that fall within “College Township”. To filter the tax parcel data to just these locations, open the options tab within the attribute table and select the filter drop down option (see Figure 13).

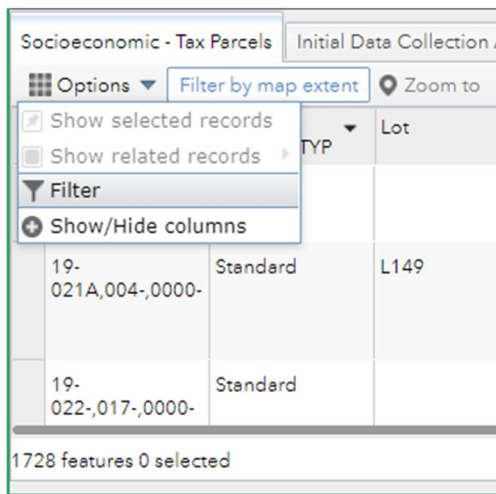


Figure 13

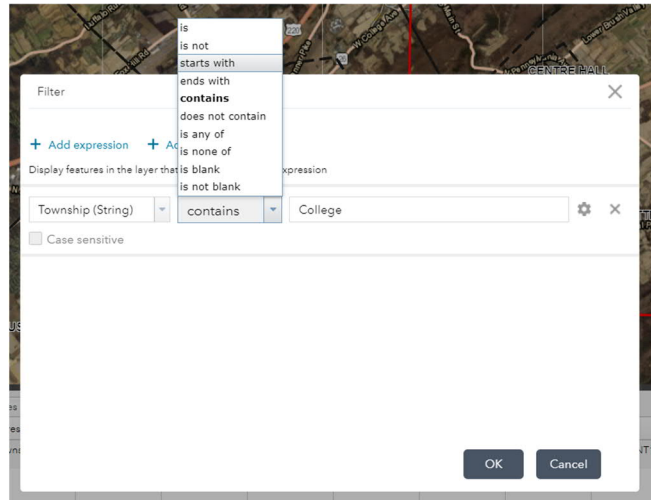


Figure 14

Next, a window will appear with the options to “Add Expression” or “add set”. To search for tax parcels just within “College Township” select the add expression option. Two drop down boxes and one text box will appear below (see Figure 14). The first drop down box indicates the field on which the filter will be applied. In this case, the field in question is “Township”. The second drop down box is the type of filter the web map will apply. For our purposes, we will use the word “contains” as a way to find all records that contain the word “college”. Finally, the text box is used to enter a key word or value that the filter will search for. Again, since the objective is to find all tax parcels that fall within College Township, a good key word to use is “College”. After hitting OK, the results of your filter will be shown in the attribute table (see Figure 15).

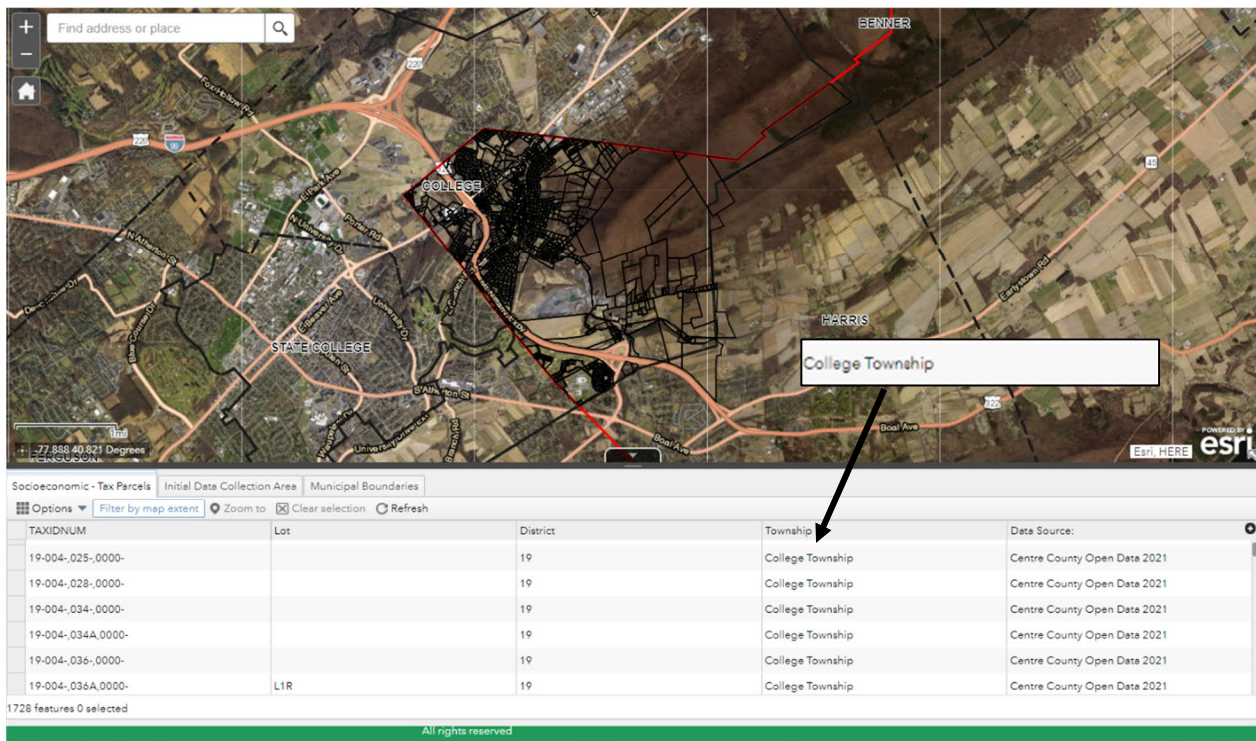


Figure 15

Although this a simple example of the filter function, users can combine multiple expressions to create more complex filters. To extend the earlier example, the usage of multiple filters could allow for tax parcels within “College Township” located on “Elm St” to be the only selectable features within the attribute table. Using this flexible system, the possibilities for filtering data are nearly endless.

Adding a Marker

Marking a feature for later reference can be a useful function of the web map. To do this, the user must first select a feature by left clicking on it. This action will open the additional information associated with it. From this familiar window, left clicking on the “additional information” icon will give the user the ability to place a temporary marker on the geographic location of a feature (see Figures 16 and 17).

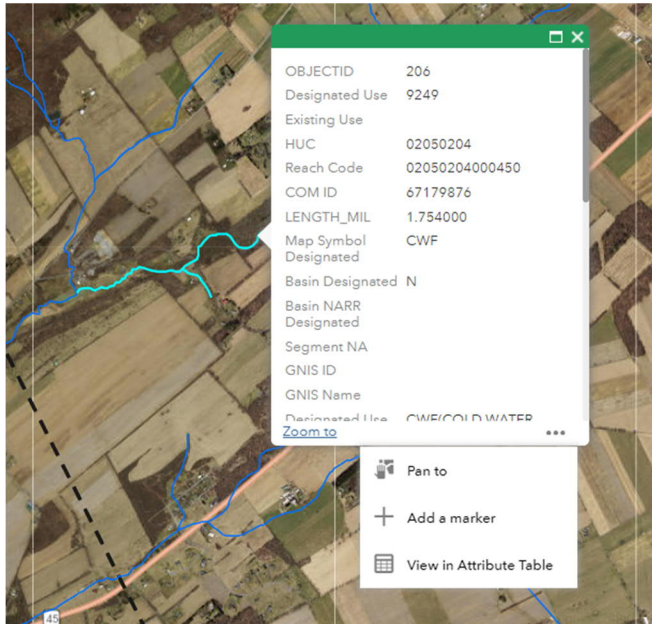


Figure 16

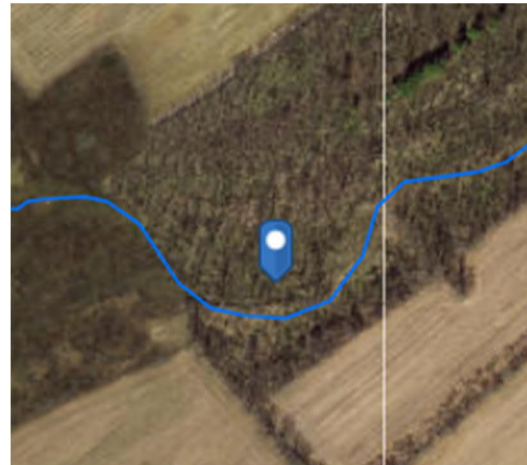


Figure 17