

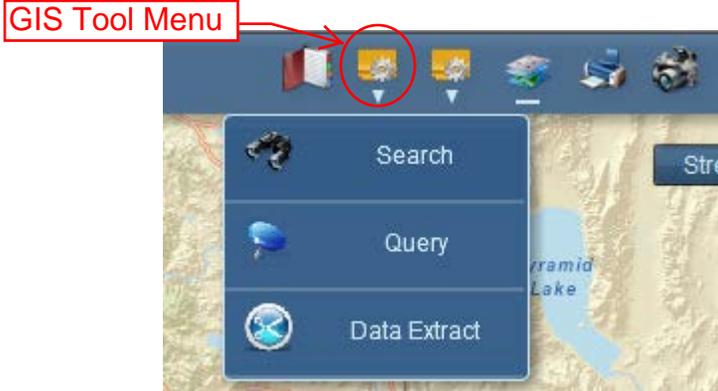
Functionality of Search Tool

Purpose

The purpose of the tutorial is to showcase the functionality of the Search Tool. Search Tool is used to perform graphical and spatial search on the map. It allows you to graphically select defined map features by clicking on the map using different tools. Additionally you can do a text search for defined map features by name.

Search Tool

1. Click on the Search icon. Search is located in the dropdown menu of GIS Tools.



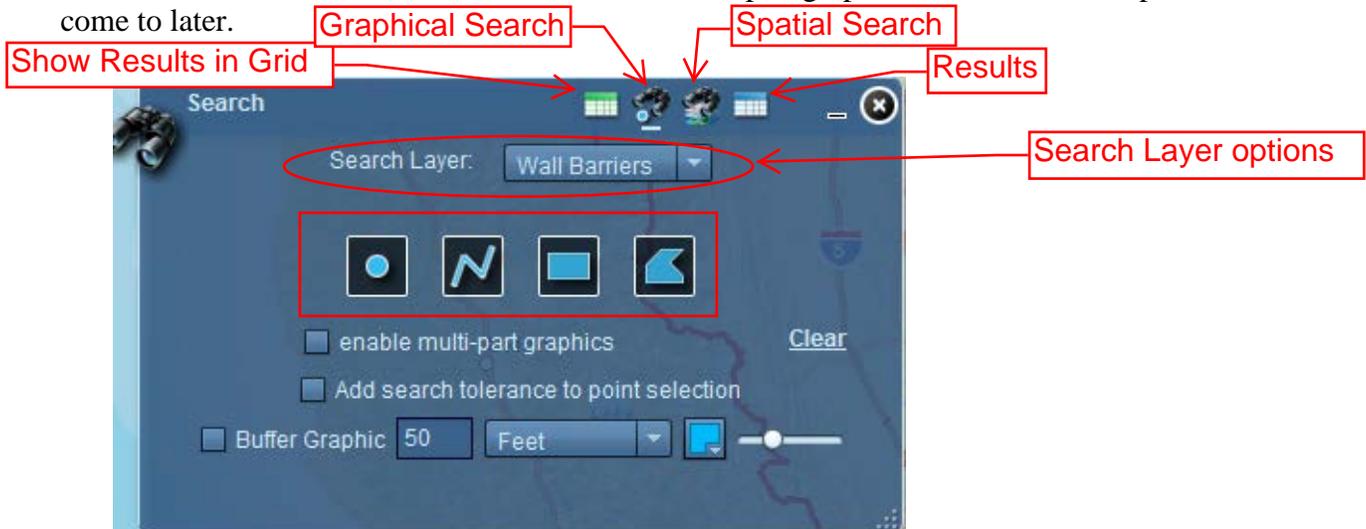
2. When you click on the search tool, the search window appears with several options.

One of them is Search Layer option where one can select from the categories like Schools, Wall Barriers or anything else from the menu that needs to be located in the area selected on the map.

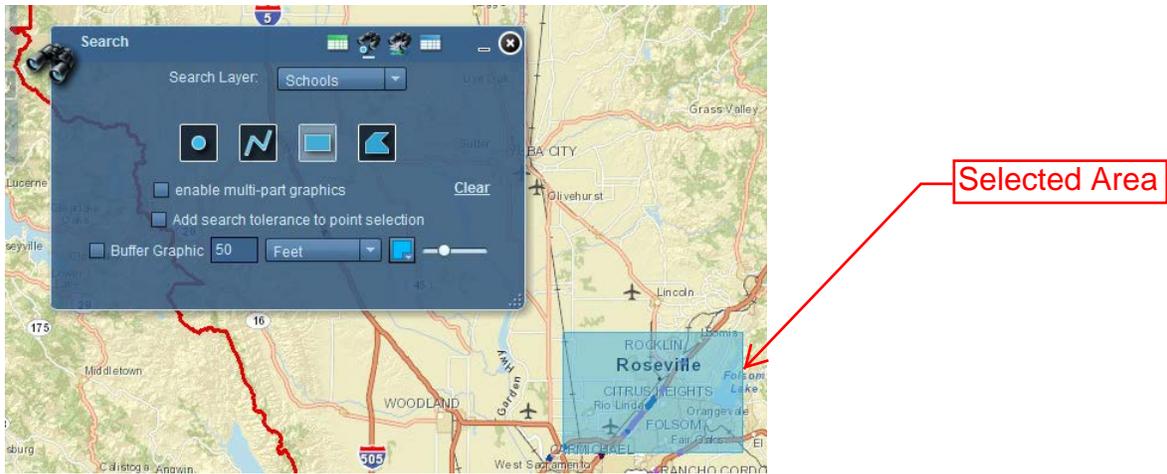
Next is the option of how you want to choose the area – there are options of selecting a rectangular area, selecting a point or line or selecting an area by polygon.

The four icons on the top right-hand-side in order from left to right are for showing results in Grid, Graphical Search, Spatial Search and Results. When you click on the first icon, it will show the results in table format in a separate window. Graphical search is the one that needs to be selected for regular search or for a new search.

There are other additional features like “enable multi-part graphics” and “Buffer Graphic” which we will come to later.



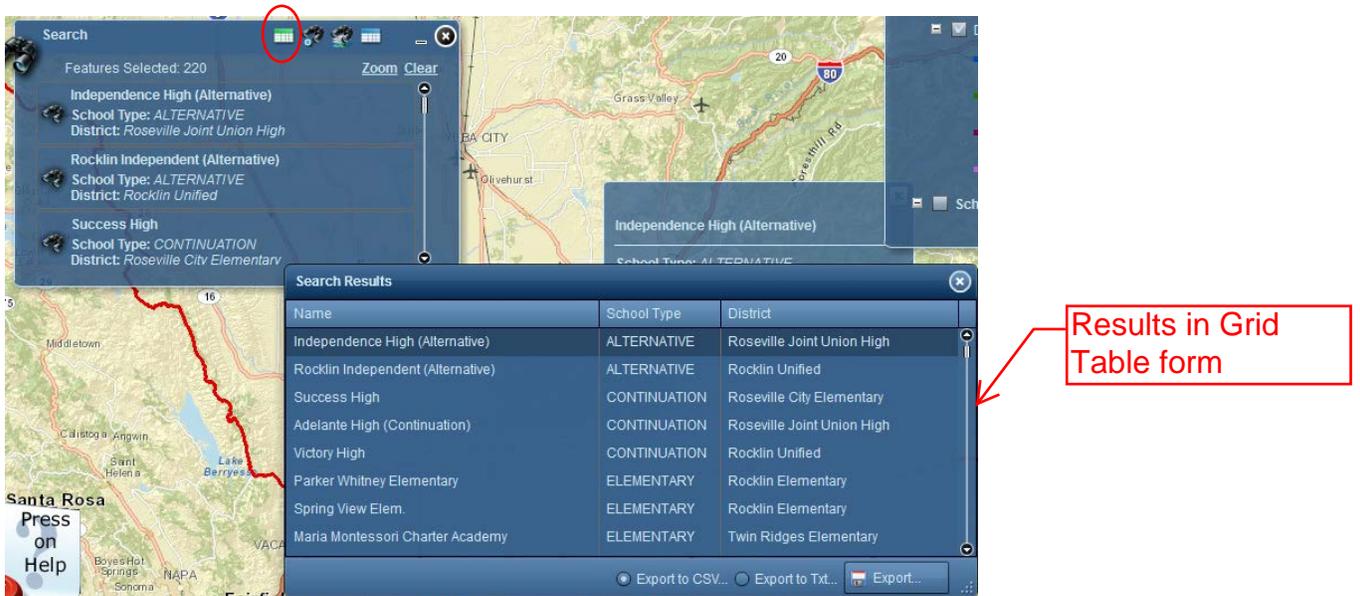
- Let us do a graphical search. The line under the Graphical Search icon shows that it is the one currently selected. Select the Rectangular option. For the Search Layer, let us choose Schools. Now we take the mouse and click on the map. Press down the mouse to select the rectangular area and let go to finish the selection.



- We get the results in the same window in a list format. Also we get the schools marked on the map. Scroll down to see all the schools in the list.



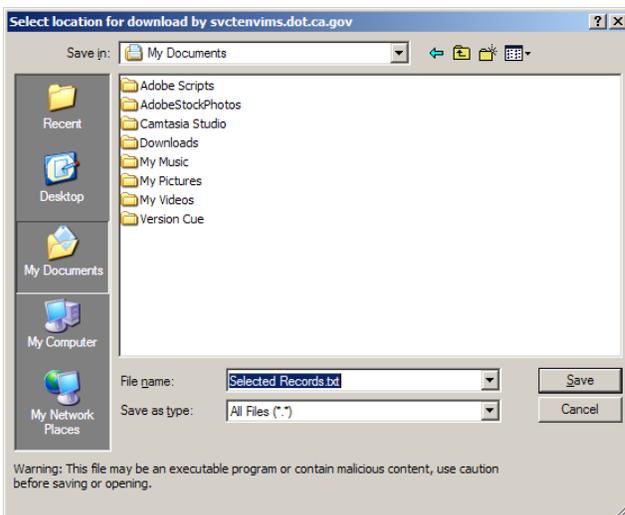
- Now if you click on the first icon “Show Results in Grid” located on the top right hand side, a separate window will come up with the results in a tabular format.



- This Search Results window has the option of exporting the results to CSV format or to txt format. Choose one of the options and click on export if you want to save a copy of the search.



- You will get a window to save the exported file in your desired location. Save the file with a new name or the default name in your desired location.



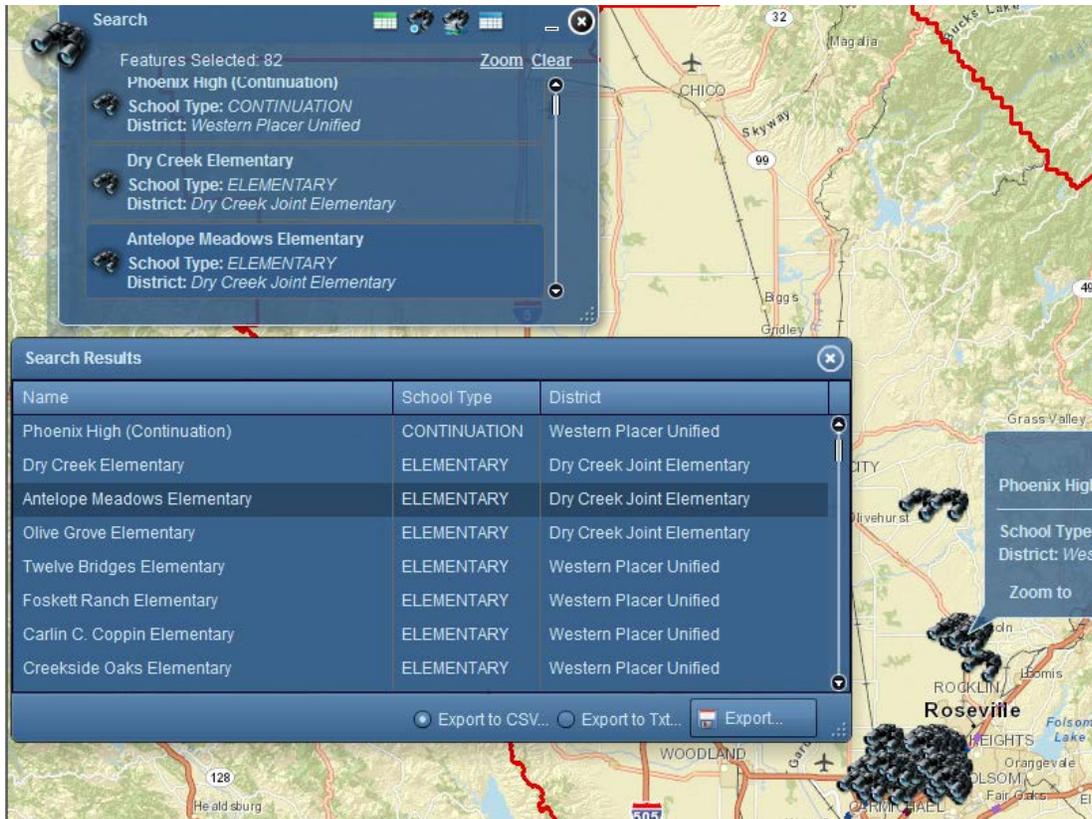
- To perform another search, click on 'Clear' and start over again. You might need to click on the Graphical Search Icon or Spatial Search icon again depending on what you want to do next.
- Now let us see some advanced features. Check the box for "enable multi-part graphics." This lets you do a search on more than one area at a time. When we check that, a button appears for Search. This is because the application waits for us to click the Search button after we are done choosing 3 or 4 or more areas.

Select the Rectangular option. For the Search Layer, let us choose Schools. Select the areas on the map and click on Search. Let's select 3 areas and then click Search in the Search Box.

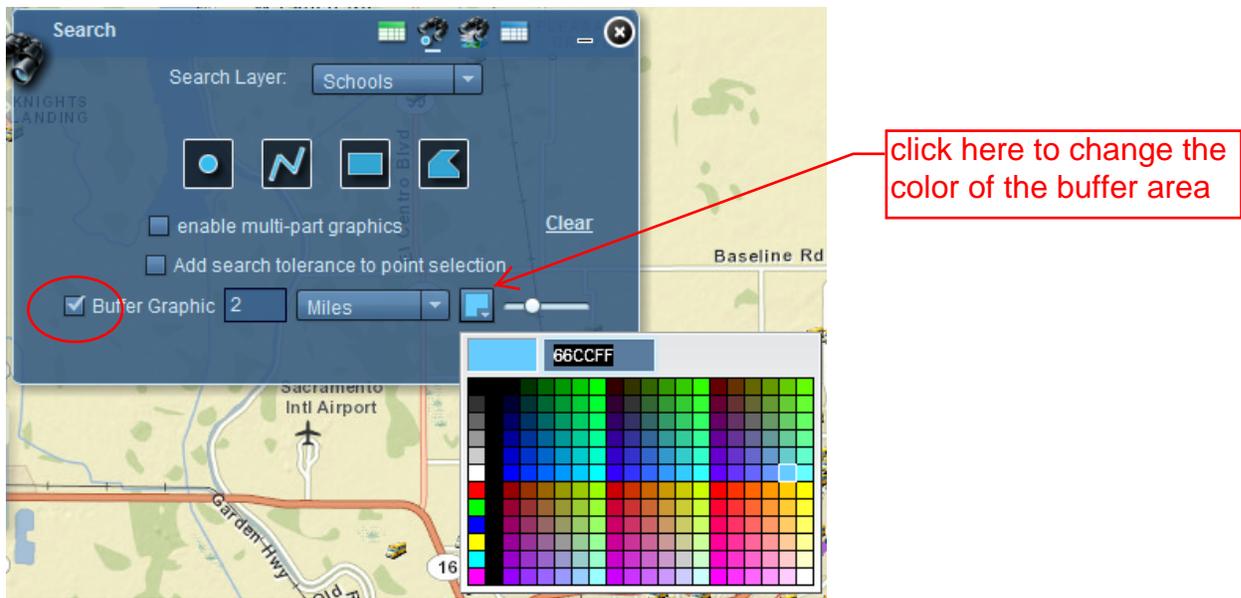
Annotations:

- check here to enable Multi-part Graphics
- Search button appears when multi-part box is checked
- The three selected areas

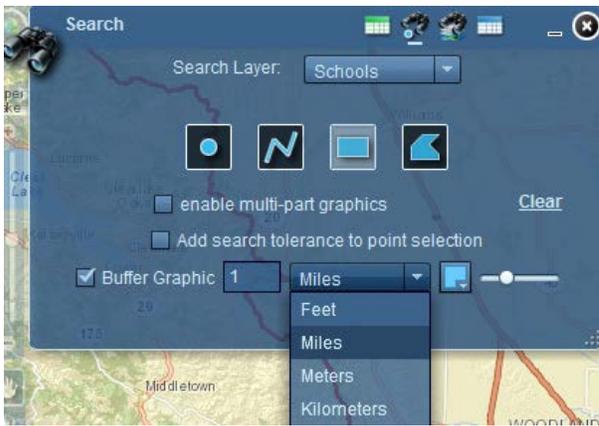
11. The result is the combination for all the three areas.



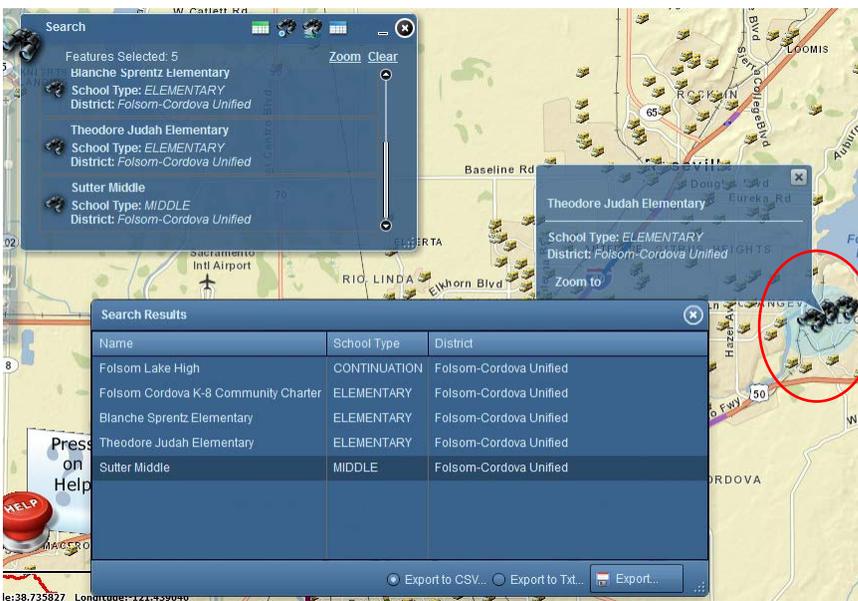
12. Clear the search to perform a new search. Now let us go thru another useful feature called Buffer Graphic. Check the box for buffer graphic. Type in the distance. For example if you choose 2 miles buffer area then the area covered is 2 miles around the point or 2 miles around the center of the rectangular selection. You also have the option of changing the buffer area color to the one you want by clicking on the down arrow in the color panel.



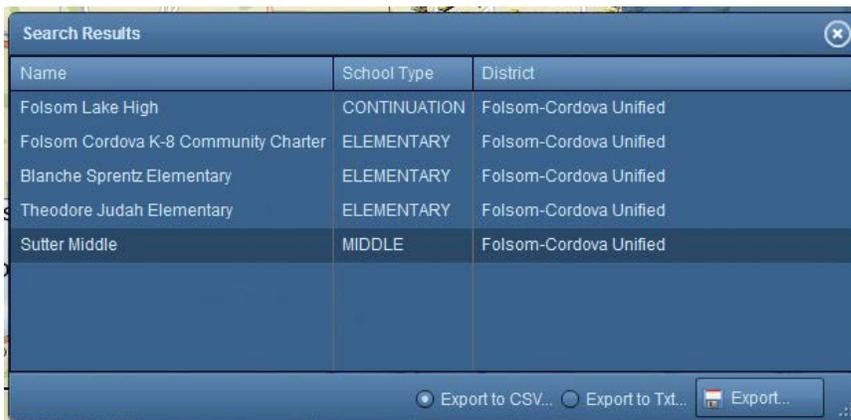
13. Now let us do a search with Buffer Graphic. Select the Search Layer. Let us select 'Schools'. For the selection of the area, let's choose the rectangular option. Check the Buffer Graphic and for the purpose of this example let us choose 1 mile.



14. After you click on the rectangular area selection, go to the map. Then press down to select and let go to finish. Once we draw the rectangle, it shows all the schools that are located in that area. The result also includes the buffer area of 1 mile from the center of that rectangle.



15. You get the search results in the search window. Click on Show Results in Grid to see the results in tabular format in a separate window called 'Search Results'. That window has the option of exporting the results to CSV format or to txt format. Choose one of the options and click on export and save the file in a desired location as explained earlier.



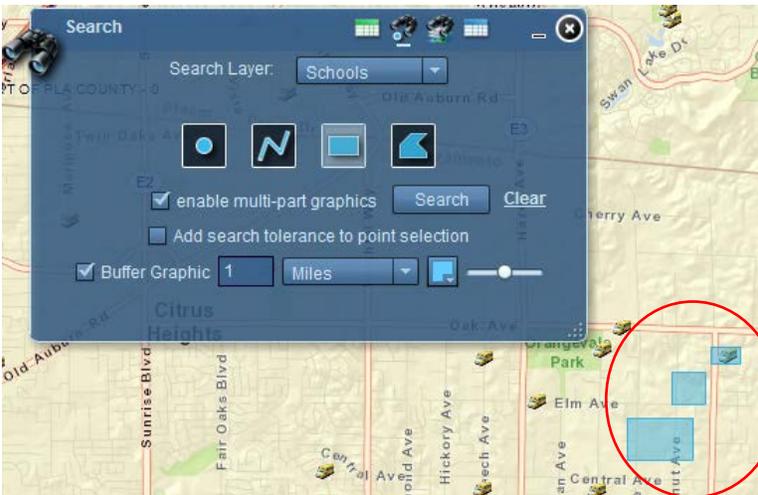
16. To perform another search, click on 'Clear' and start over again.

17. Now let us choose the Point Selection and a Buffer Graphic of 2 miles. It is pretty much the same thing except that you are choosing a point and the buffer area is 2 miles around that point.
18. Now let us do a search with “Buffer Graphic” and “multi-part graphics”. Check both the boxes.



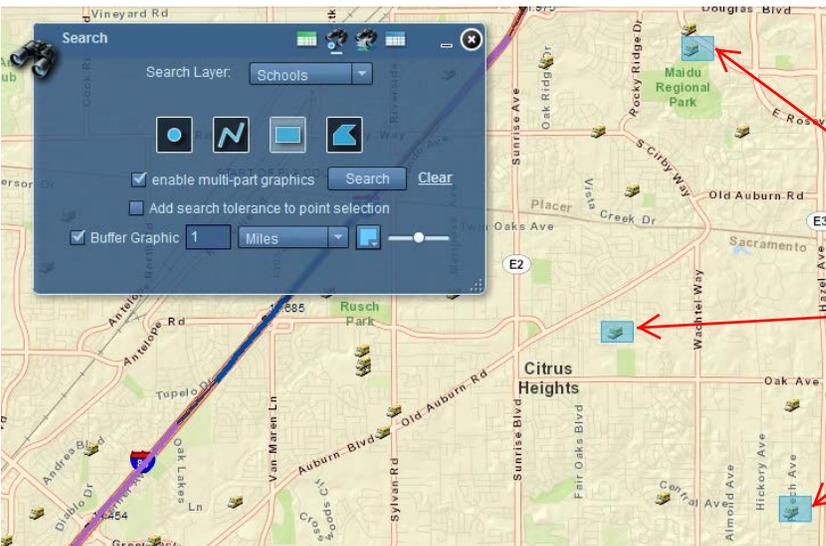
19. We choose the rectangular selection area. The buffer area is 1 mile. Let’s select 3 areas and click Search in the Search Box.

- a. 3 areas chosen close to each other



3 areas chosen close to each other

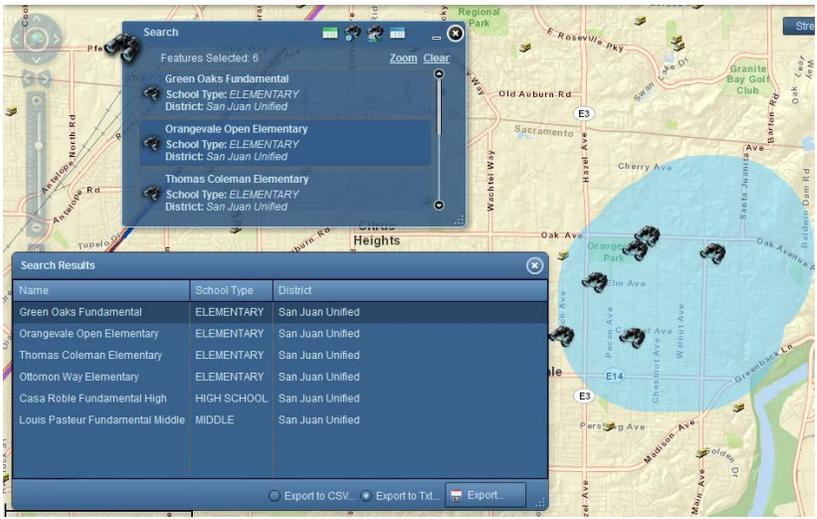
- b. 3 areas chosen far from each other



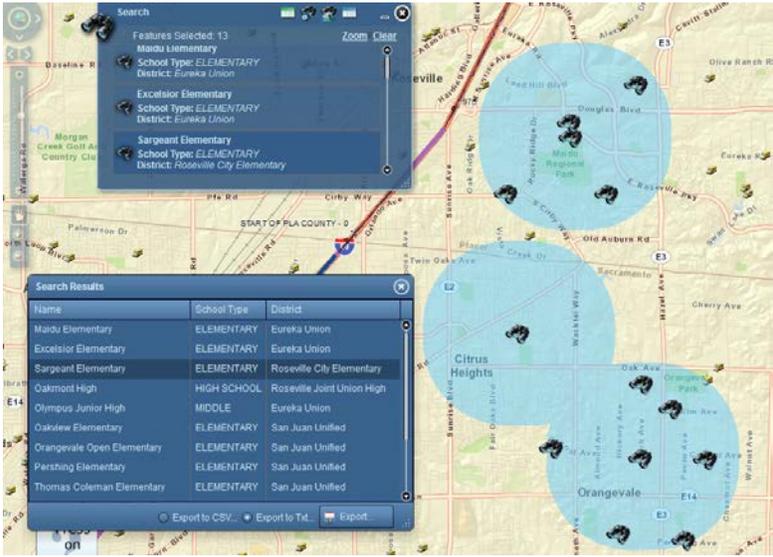
3 areas chosen far from each other

20. The result is the combination for all the three areas. Again, as explained earlier, you can save a copy of the results in CSV or TXT format.

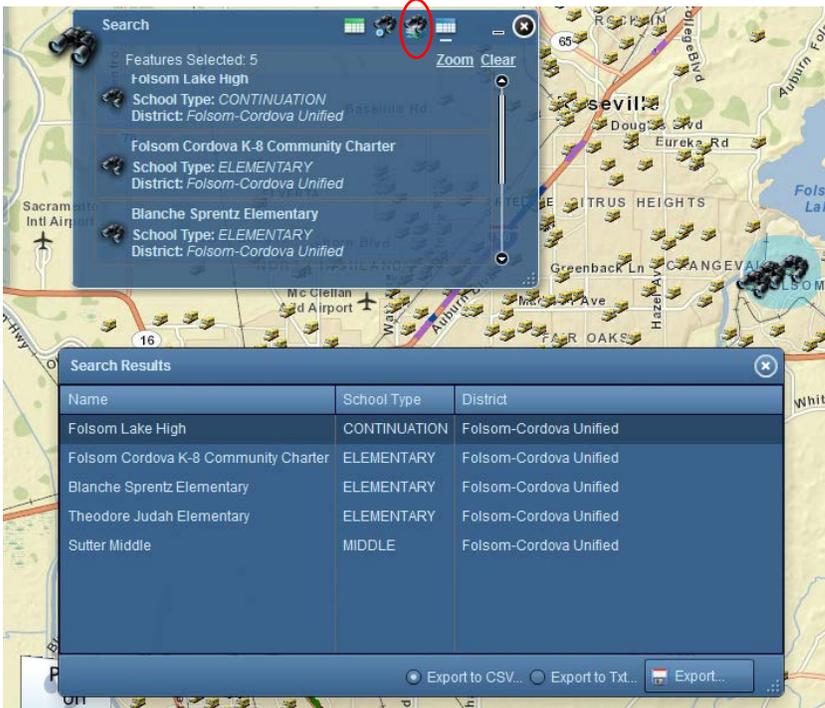
- a. Result for 3 areas chosen close to each other



b. Result for 3 areas chosen far from each other



21. So far we did Graphical Search. Now let us do a Spatial Search. However for spatial search we need to do a graphical search first. The spatial search will create a buffer for each item of the result. So for the graphical search we do a search of schools for 1 mile buffer and get 5 items for result.



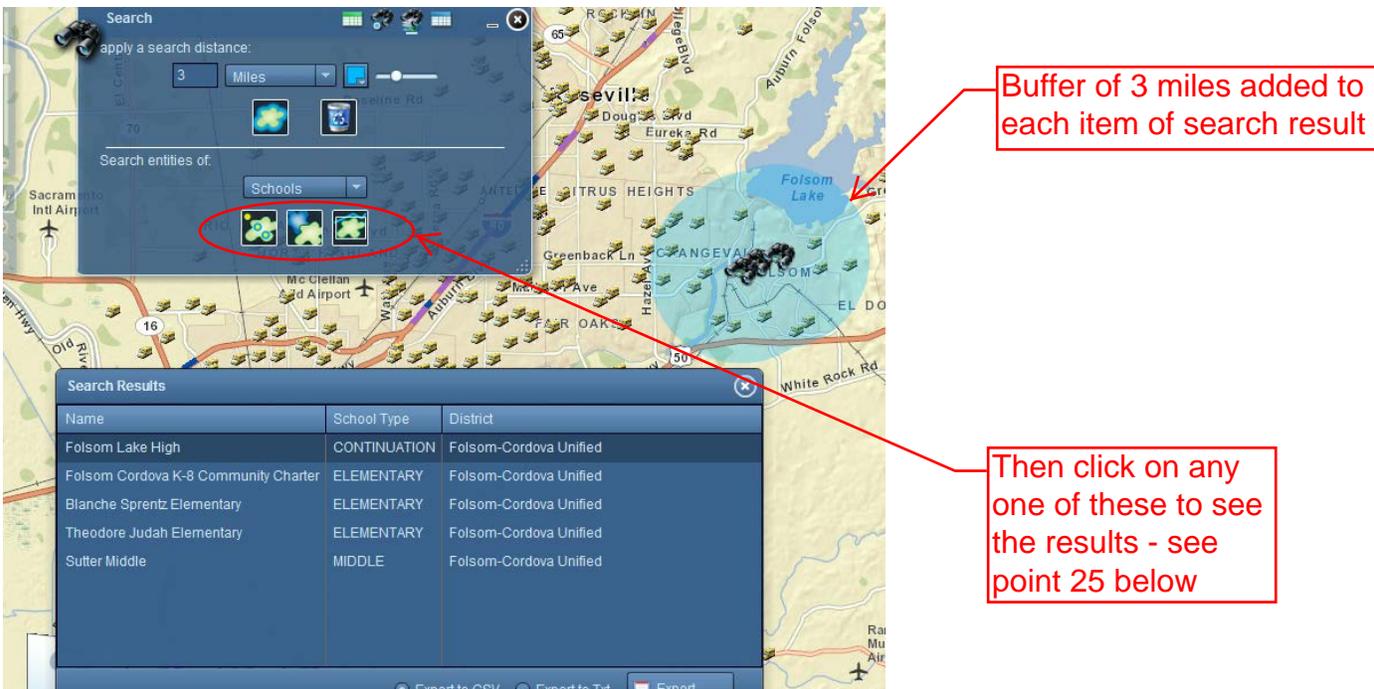
22. Now we click the spatial search button on the menu of the search window.



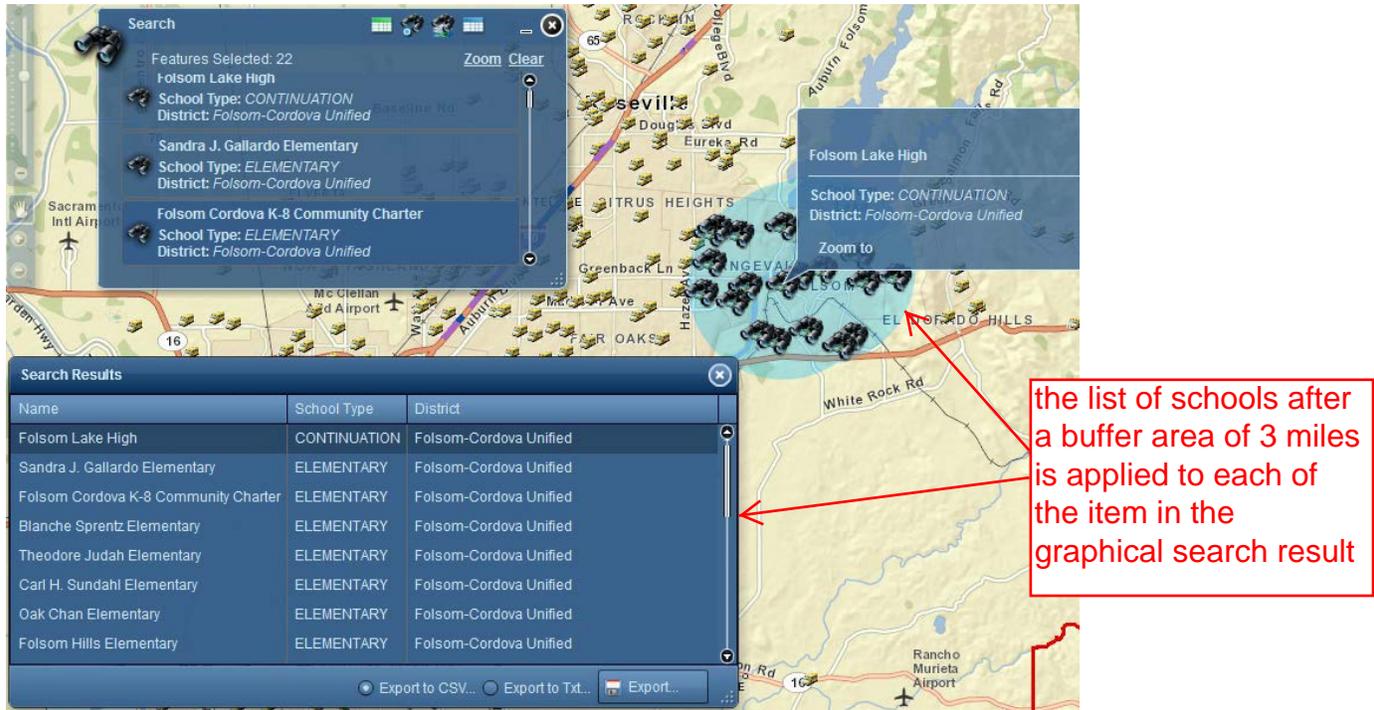
23. We can set a buffer and that buffer will be set on each of the 5 items in the results. Let's set a buffer of 3 miles and click the first button "Apply Buffer".



24. When we do that, the buffer area increases to a radius of 3 miles buffer for each of the 5 search result items.



25. Once the buffer area is set, we can select the search entity. Let's select Schools again. The three buttons after that are options for "entirely contained in", "intersected by" and "intersected by envelop of". As the name suggests the first one, if selected, will show all schools located in the buffer area. The second option, if selected, will also show if part of the search entity falls within the buffer area. This option will be more visible for Wall Barriers rather than Schools.
26. Let us select the first option "entirely contained in" and see the results. The number of items now is way more than 5 which was the result for graphical search.



For a video tutorial of this topic, visit http://env.dot.ca.gov/env_gis/tutorials/search/search.html