

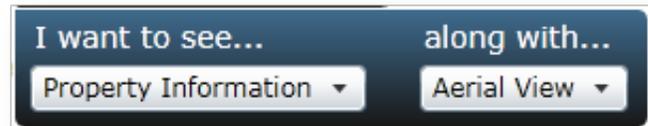
## Fall 2012 - Working With Layers in the New DCGIS

By Kent Tupper

The new version of DCGIS has access to all the same GIS information that our old application did. To see all this GIS information you use the Maps Toolbar.

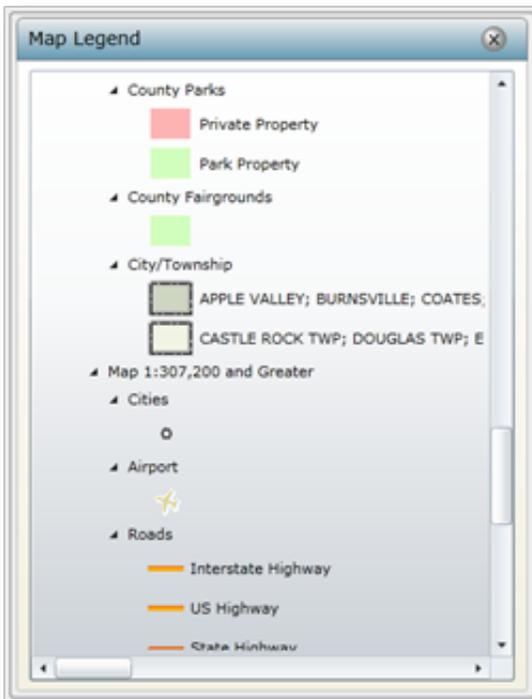


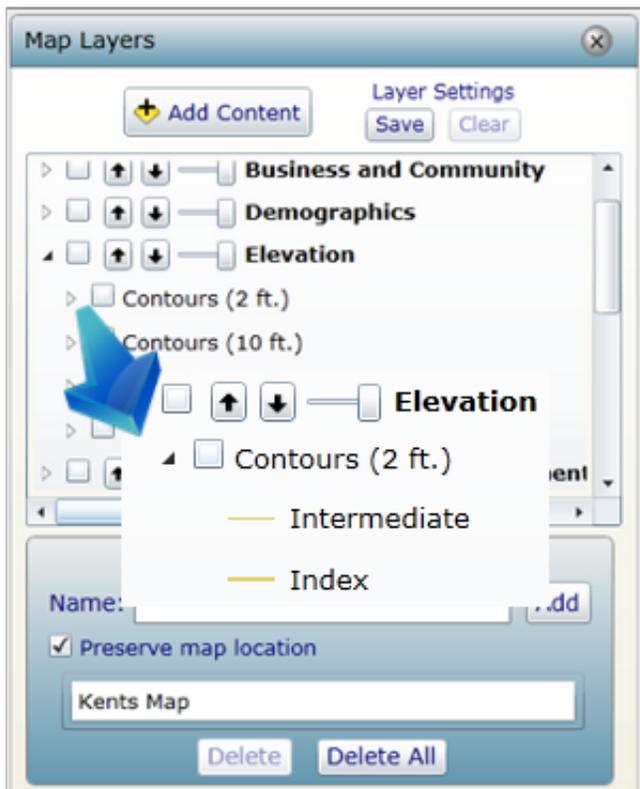
The Maps pull down is similar to the Themes function in our old DCGIS application. Predefined GIS layers are displayed in common groupings for specific interests.



Additionally, the user can select the background basemap they want to see. Currently there is an Aerial View and a Street View available.

*The Legend button displays the legend for whatever is currently displayed on the Map.*





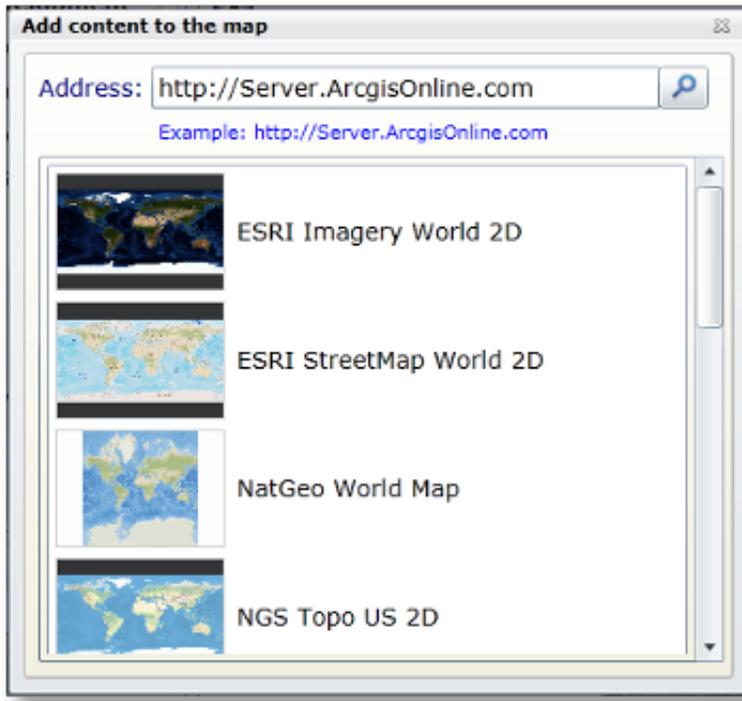
The Layers button is where you go to add any available GIS information that you want to see. The first thing you'll see are the Layer Groupings. These are the same as the folders you first saw in our old application. By clicking on the arrow to the left of the Grouping you will see the available layers under that Grouping. If you click on the arrow next to the layer you will see the symbolization for that layer.

What's new is now you are able to reorder the Layer Groupings. This gives you control over how layers are displayed on the map.



Additionally you can adjust the transparency of each of the Layer Groupings using the sidebar.

Another new feature is the ability to add content from other ArcGIS Server services. This is done by clicking the Add Content button and putting in the URL.



Currently our ArcGIS Server requires certain cross-domain access to allow Silverlight to access the services, but this is very easy to configure on the server.

This is only a brief summary of the Map Layers display. Please read our additional articles to expand on other features of our new version of DCGIS.

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## Fall 2012 - Selecting Features in the New DCGIS

By Dan Castaneda

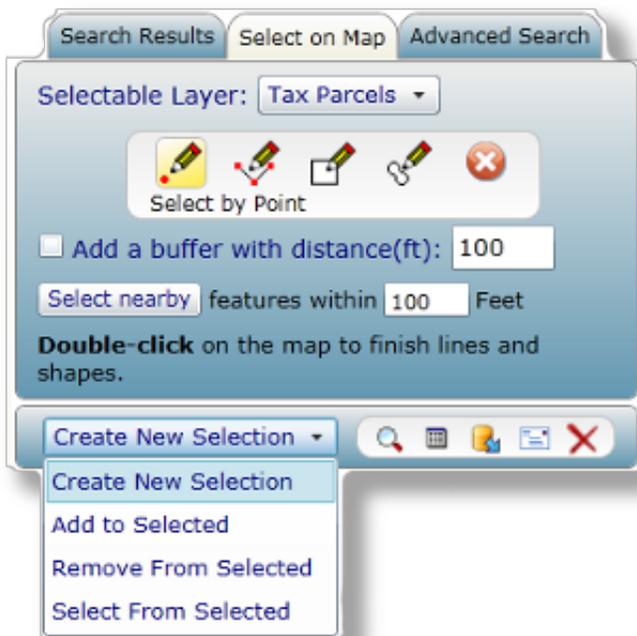
Similar to the previous version of DCGIS, the new version maintains the ability to perform data queries and selections. All of the tools that were previously available are included in the new version of DCGIS, with enhancements and new options that will allow the user greater control and flexibility when selecting features. Below are some instructions on how to use the selection tools in the new version of DCGIS.

### What is selecting and why would I want to do it?

Selecting in a GIS refers to the process of identifying a subset of the features in a layer based on some user-specified criteria. Features can be selected based on location or attribute information. You can even select features based on their proximity to other features. Once you have selected a subset of features, you can zoom to those features on the map, open a table of attributes for those features, or, if the selected features are parcels, create mailing labels.

### How do I select features?

As in the previous version, there are multiple ways to select features. In the new version of DCGIS, the first step is to bring up the select features dialog. This can be done by clicking on the Select Features tool (located on the



right side toolbar), or on the menu item “Applications” and choosing Search and Select. Once the dialog has opened, you will see all of the options available for selecting features on the map.

New tools for selecting features have joined the existing tools, such as select by shape (polygon). Select by point, line and rectangle have all been added to the new version of DCGIS. These additional tools are enhancements to the Select by Graphics tool found in the previous version of DCGIS.

To select features using the point, line, rectangle, or shape tool, all you need to do is choose the tool you want to use, and click to draw a graphic on the map. The graphics you draw will select the features on the map. For the Select by Line and the Select by Shape tool, you will need to double click to finish your graphic. When drawing graphics, you can use the arrow keys to pan the map and continue drawing. This is helpful if you need to trace a trail or other features from aerial

photography. Single feature selections will appear in the select features dialog, and selections containing multiple features will appear in the attribute table at the bottom of the browser window.

Additional enhancements added to the new version are the ability to add, remove, and select features to your current selection. These are available in the drop down menu on the select features dialog and function similarly to the existing tools in ArcMap. Simply select the option to add or remove features and use the tools you prefer to create or update your selection.

## How do I clear the selected features?

 You can clear selected features with the Clear Selected tool found on the select features dialog.

## Can I select features within a specific area?

Yes, there are two methods to accomplish this task. You can buffer an existing selection by using the Select nearby button, or you can check the Add a buffer with distance (ft) option. The Select nearby option is used for buffering currently selected features, and the Add buffer method is used to buffer the graphics drawn by the user.

## Can I zoom in to the features that I have selected?

 Yes. You can zoom in to selected features with the Zoom To Selected tool found on the select features dialog.

## Can I export the attribute/data table for the selected features?

Yes. There is an Export Data Table tool on the select features dialog that will allow you to export your selected features to multiple formats including Excel, PDF, comma separated value file (CSV), and a rich text format file (RTF). If you are working with the parcel data, the Export Data Table also allows you to choose which fields you would like to include in your table; in all other tables, the fields are predefined. (See the article, "[Flexing Your Tabular Muscle in the New DCGIS](#)", in this newsletter for more information.)

## How do I create mailing labels?

You can create mailing labels by clicking on the envelope icon on the select features dialog. Since mailing labels are generated from parcel data, you need to have at least one parcel selected. A new window will open with the mailing labels pre-generated. Make your choice of Avery 5160 or Avery 5161 mailing labels, then hit the Export to Microsoft Word button. Choose the option to Save your document, then open the Word rich text format (.rtf) document to print or, if necessary, modify your labels. Note that printing the mailing labels directly out of your web browser is not recommended, as the labels are not formatted properly.

If you need additional help using the select features tools, you can consult the Help in the Tools menu or contact anyone in the Office of GIS.

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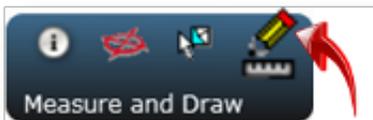
## Fall 2012 - Using the Measure and Draw Tools in the New DCGIS

By Mary Hagerman

The tools for measuring and drawing in the new version of DCGIS are far superior to those in the previous version. Measuring was easy enough in the old version, but you weren't able to select the units of measurement, measurements were not labeled on the map, and the sketch disappeared immediately. The drawing tools were a bit awkward to use. The style options chosen (size, color, etc.) didn't take effect right away; they were a default symbol until the 'Refresh Drawing' button was clicked. It was impossible to select or edit text or graphics; deleting all and starting over was the only option. Also, you were unable to save your drawing for later use.

Many of these limitations have been remedied in the latest version of DCGIS. You can select your units of measurement for length and area. There are many more style options, and they become effective immediately. You can select and delete an individual graphic. And, the icing on the cake, your drawings can be saved for later use or shared with others.

*Click the Measure and Draw button to get started*



### Measure tools



Measure Distance

To measure distance, select the Measure Distance tool to make it active. Choose the units that the measurements should be in from the Length dropdown. Click on the map at the starting point of the distance you wish to measure. Double-click at the ending point of the distance you wish to measure. If you are not measuring a simple straight-line distance, you can click along the line to shape curves or corners. The measurements will display at the bottom of the Measure and Draw dialog. Measure Distance measures the total distance, the distance of the last line segment, and the bearing of the last line segment. If the 'Label all measurements' box is checked, the total distance and each segment length will be labeled on the map as well.



Measure Area

To measure area, select the Measure Area tool to make it active. Choose the units that the measurements should be in from the Length and Area dropdowns. Click on the map at the first corner of the shape you wish to measure. Click on each corner around the shape. Double-click at the last corner of the shape you wish to measure. The measurements will display at the bottom of the Measure and Draw dialog. Measure Area measures the area, the perimeter, the distance of the last line segment, and the bearing of the last line segment. If the 'Label all measurements' box is checked, the area and the length of each perimeter segment will be labeled on the map as well.



Measure Radius

To measure the radius of a circle or arch, select the Measure Radius tool to make it active. Choose the units that the measurements should be in from the Length and Area dropdowns. Click on the map at the center of the circle

you wish to measure. Double-click at the edge of the circle you wish to measure. The measurements will display at the bottom of the Measure and Draw dialog. Measure Radius measures the area of the circle and the radius of the circle. If the 'Label all measurements' box is checked, the radius distance will be labeled on the map as well.



Cancel Measure

To clear any measure graphics on the map, and to clear the displayed measurements, click the Cancel Measure button.

## Draw tools



Draw Point

To draw a point, select the Draw Point tool to make it active. Select a point symbol from those shown, or choose one from the Custom dropdown. The color and size of custom symbols can be modified with the color picker and the size slider. Click on the map at the location where you would like the point to be. If the label Coordinate box is checked, the point will be labeled with the current map coordinates.



Draw Line

To draw a line, select the Draw Line tool to make it active. Specify the appearance of the line by choosing a color, line style, and width for the line. Choose the units that the measurements should be in from the Length dropdown. Click at the beginning of the line. You can click along the line to shape curves or corners. Double-click at the end of the line. The measurements of the line will display at the bottom of the Measure and Draw dialog.

Measurements include the total distance of the line, the distance of the last segment, and the bearing of the last segment. If the label Segment length box is checked, the length of each segment will be labeled on the map as well. If the label Distance box is checked, the total distance of the line will be labeled on the map.



Draw Shape

To draw a shape, select the Draw Shape tool to make it active. Specify the appearance of the shape by choosing a fill color, an outline color, and an outline width for the shape. Choose the units that the measurements should be in from the Length and Area dropdowns. Click on the map to begin drawing the shape. Click for each corner of the shape. Double-click at the last corner to finish the shape. The measurements of the shape will display at the bottom of the Measure and Draw dialog. Measurements include the perimeter of the shape, the distance of the last line segment, and the bearing of the last line segment. If the label Segment length box is checked, the length of each segment of the perimeter will be labeled on the map as well. If the label Area box is checked, the area of the shape will be labeled on the map.



Draw Circle

To draw a circle, select the Draw Circle tool to make it active. Specify the appearance of the circle by choosing a fill color, an outline color, and an outline width for the circle. The radius line is determined by the current Draw Line settings. Choose the units that the measurements should be in from the Length and Area dropdowns. Click at the center of the circle you wish to draw. Double-click at the edge of the circle to finish the drawing. The measurements of the circle will display at the bottom of the Measure and Draw dialog. Measurements include the area and the radius of the circle. If the label Radius box is checked, the radius distance will be labeled on the map as well.



Add Text

To add text to your map, select the Add Text tool to make it active. In the Text input box, type in the text you would like added to the map. Select a color, size, and font for the text. Click on the map at the location where you

would like the text to be.



### Select graphic for editing

To delete a graphic or text, select the Select graphic for editing tool to make it active. Click on the graphic on the map that you would like to delete. Press any key to delete. For text, points and lines, click and hold and press any key to delete.

To edit a graphic or text, select the Select graphic for editing tool to make it active. Click on the graphic on the map that you would like to edit. For text and points, click and drag to move or reposition the graphic. For lines and shapes, click and drag the white squares at the ends or corners to reshape. You can also add vertices by clicking and dragging on an edge of a line or shape. Editing circles is not recommended.



### Delete all graphics

To clear any graphics on the map, and to clear the displayed measurements of the graphics, click the Delete all graphics button. This will delete all text and graphics. To delete a specific graphic, use the Select graphic for editing tool.

## **Saving your drawings**

In the new version of DCGIS, not only do you have far more options when adding text and graphics, you can save your drawings, too. When you are finished with your drawing, click the Save as... button. This button can be found near the bottom of any drawing tool dialog. You will be prompted for a name and location for your drawing file. Saved drawings are stored as .drw files. You can share your drawings with others by sharing this file.

To load saved drawings, click the Open... button. Navigate to the drawing file you wish to load. Click Open. The saved drawings will be loaded and the map will zoom to their location. You can load drawing files shared by others the same way.

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## Fall 2012 - Flexing Your Tabular Muscle in the New DCGIS

By Todd Lusk

Dakota County's newest implementation of its interactive map, or DCGIS as it is commonly referred to, provides some very robust capabilities for working with tabular data, particularly for property information. New features now available include the ability to customize the table results view, more table export options and the ability to group columns in the table results window. By the time you are done reading this, you will hopefully have a better understanding of how to make tables in DCGIS work for you and how to better meet your needs for tabular information.

Before getting started, it is important to note that you must have something selected in the map area before you can see the tabular data (for a more detailed explanation on how to select data using the Advanced Search capabilities of DCGIS, see the article titled *Using the Advanced Search Features in the New DCGIS* in this newsletter). Once you have some features of interest selected you can begin the process of playing with the data in tabular form.

### Working with Parcel Data



By default, the layer that is active, or "selectable", when DCGIS first loads is "Tax Parcels". This means that if you were to take the "Select Map Features" tool and click on the map, you would be selecting tax parcels. Parcel information is what a lot of users come to DCGIS to look for; as a result, it is the only layer where the table layout can be customized.

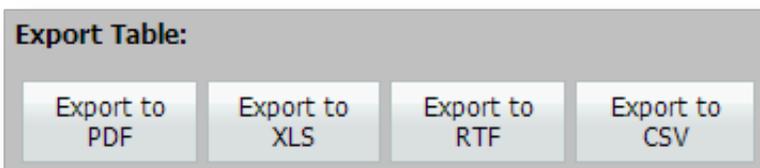
After selecting at least one parcel, you can access the data table by clicking on the "Export Data Table" icon. The exact location of the button varies slightly depending on which selection method tab you use, but in all cases the button itself looks the same.

#### Export Data Table button

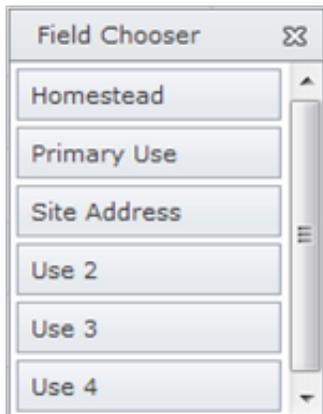


Clicking on that button should open a new window that looks like a table. Across the top, there are several new buttons for exporting the table in different formats.

#### Data export formats



There is also a new “Show/Hide Fields Window” button. This button will allow you customize the look of the table by “hiding” (or turning off) or “showing” (turning on) columns. To start hiding or showing columns, simply click on the “Show/Hide Fields” button. A new “Field Chooser” window will open on top of the table. To hide a column, simply click-and-hold on the column header in the table, drag it down to the “Field Chooser” window and “drop” the column name in the window. Once you let go of the mouse button, the column in the table should disappear and the column name should appear in the “Field Chooser” window. Conversely, columns can also be added back to the data table by dragging them from the Field Chooser back to the data table view. Columns added back to the table view can be rearranged and reordered, as can the columns in the table view itself.



A good example of where this can be very useful is the case of a mail merge.

Perhaps you are interested in doing a mass mailing to several constituents along a road corridor because of some upcoming road work. First, you select the parcels along the corridor using one of the several different selection options. Next, you open the “Export Data Table” dialog window. In the next step, you push the “Show/Hide Fields Window” button and begin dragging the “non-address” columns you are not interested in (i.e. “Common Name”, “Primary Use”, “Use 2”, etc.) into the “Field Chooser” window. Once you complete that, you choose to export the data to a format of your choice using the “Export to” buttons along the top of the window.

It is important to note that, while you can export selected features of other layers, the options for customizing which columns you get and the format of the exported table are limited. For all layers besides parcel data, the tabular data is exported as a comma-separated values (CSV) file containing only the columns you see in the selection results below the map.

#### Exporting non-parcel data

Street Address	Unit	Street	Postal City	Zip Code	Municipality	Comments
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#### CSV export of non-parcel data

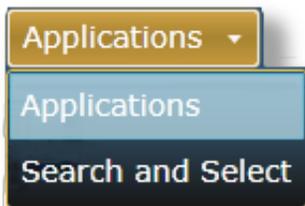
File	Edit	Format	View	Help
Street Address,Unit,Street,Postal City,Zip Code,Municipality,Comments				
14302 AZALEA CT,,AZALEA,ROSEMOUNT,55068,ROSEMOUNT,Bulk move to Building Centroid				

Now that you have seen how you can add and remove columns from a table, sort data in a table and reorder columns in a table, hopefully you have the skills to make tables in DCGIS work better for you.

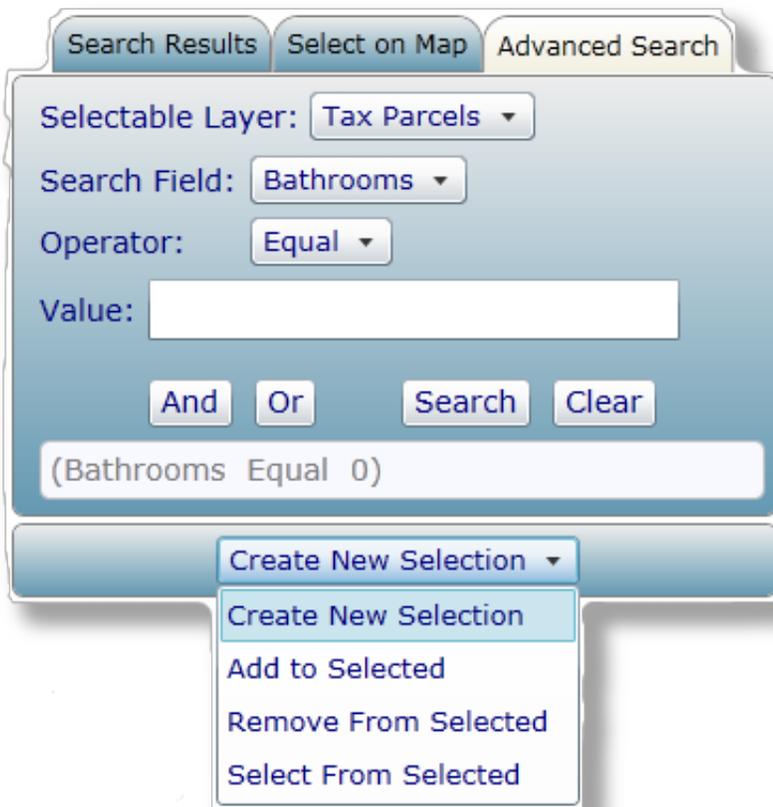
## Fall 2012 - Using the Advanced Search Features in the New DCGIS

By Scott Laursen

The newest version of Dakota County GIS (DCGIS) contains many exciting new features, including advanced search options that let users search many different layers and perform queries on the attributes of the data. Similar to the Select by Attributes option in the previous version, the Advanced Search feature in the new DCGIS is faster and easier to use.



To start using the Advanced Search options, go to the Applications drop-down menu at the top of the screen and choose the "Search and Select" option. This opens a window along the left side of the screen that contains three tabs: Search Results, Select on Map, and Advanced Search. Click on the Advanced Search tab, and the window should look something like this:



As you can see, you now have the option of choosing which layer to search and which attribute information you want to search on. Once you have performed your search, you now have the option to refine that search by choosing to add, remove or select from items already selected by using the dropdown at the bottom.

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## Fall 2012 - Creating Custom Map Themes in the New DCGIS

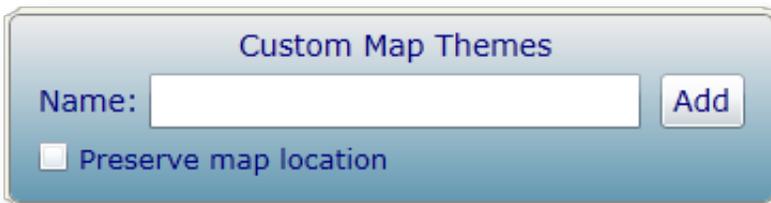
By Randy Knippel

DCGIS provides several options for you to customize your experience and retain that customization for future use. One of these customizations is called the “Custom Map Theme”. This capability bundles the other customization options of bookmarks, standard themes, and layer settings. This means that you can turn on and off the layers you wish and save it as your own theme, optionally also saving the map location, like a bookmark.

### Maps Toolbar



As you become familiar with the layers available, you will likely find combinations of layers that you like to see for certain kinds of work you do. Saving them as a custom map theme allows you to quickly switch to your combination of layers. Custom map themes are managed at the bottom of the “Map Layers” panel, under the “My Custom Maps” heading. The “Map Layers” panel is opened by clicking the “Layers” button on the top of the map display.

The image shows a dialog box titled 'Custom Map Themes'. It has a text input field labeled 'Name:' followed by an 'Add' button. Below the input field is a checkbox labeled 'Preserve map location' which is currently unchecked.

After turning layers on or off, and adjusting layer transparency, type in a name for your custom map theme and click “Add”. Uncheck “Preserve map location” so your custom map theme will only change the layer settings without adjusting the map scale or position.

Custom map themes are saved from session to session. Individual map themes can be deleted, or all map themes can be deleted at once. Custom map themes cannot be modified. However, if you wish to modify one, click on the map theme to set everything, make the changes you want, delete the map theme, and save it again with the same name. A similar technique will allow you to easily create multiple variations of the same theme.

## Fall 2012 - Adding Content to the New DCGIS

By Joe Sapletal

So you found some more data you want to have a look at in Dakota County GIS (DCGIS). It could be weather data, data from the Metropolitan Council, or perhaps you want to add a regional or larger area basemap.

Click on "Layers"



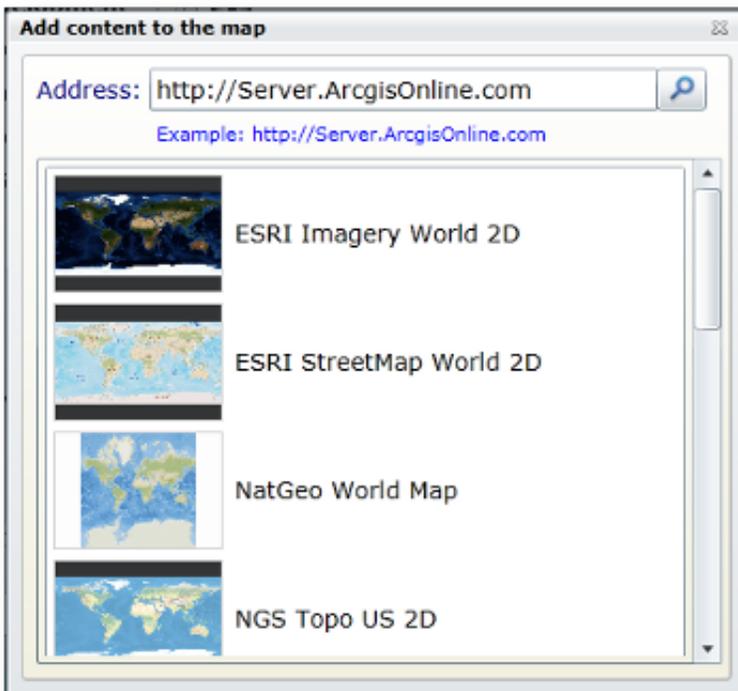
Click on "Add Content"



Let's say you want to add a different basemap from Esri.

1. Click on the "Layers" button
2. Click on the "Add Content" button
3. In the dialog that opens click on the link that says, "Example: <http://Server.ArcgisOnline.com>"
4. A list of basemaps (map services) provided by Esri appear; click on one or more and close the dialog box

Click on a basemap



You will notice your selected map service has been added to the top of the "Map Layers" list. Being that this is a basemap you may want to move it down the layers list so you can display the other existing data on top of it. Click the down arrow to the left of the layer name and it will move down the list. (You'll have to click it a few times

to get it to the bottom by the existing basemaps.) If you now click the “Layer Settings – Save” button, that map service will be saved in your “Map Layers” window.

Unfortunately, DCGIS doesn’t allow for exploring folders that may be on the server you just added content from. But you can open a tab in your browser and paste the address from the dialog there, then hit return and you will see a list of folders and content. For example, paste <http://Server.ArcgisOnline.com> in the browser and explore. You will see a folder named “Canvas”. Click on it, now copy the URL from the address bar and paste it in the “Add Content” address box and click on the search button. Now you can load the “World Light Gray Base”. This is a great basemap for displaying data on top of without taking away from your data of interest.

Want to explore some data from the MetroGIS DataFinder? Add Content from <http://gis2.metc.state.mn.us/ArcGIS/rest/services/MetroGIS/> and see a list of map services. I selected Business Economics and turned on Shopping Centers. It shows the shopping centers in the Twin Cities metro area. Looks good on top of that gray basemap.

Below are a few more map services for you to explore.

Weather related map services at NOAA - <http://gis.srh.noaa.gov/ArcGIS/rest/services/>

Get a NEXRAD map service from the National Map - [http://services.nationalmap.gov/arcgis/rest/services\\_](http://services.nationalmap.gov/arcgis/rest/services_)

Weather Radar and other data from Indiana - <http://129.79.145.13/ArcGIS/rest/services/Maps>

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