Tips & Tricks for ArcGIS

Presented by:
Jim Mallard, Crime Analysis Supervisor
Arlington, Texas

2007 IACA Conference - Pasadena, Ca
# Table of Contents

Lock & Load Labels for Maximum Speed! ..........................................................2
Choose your own Extent (9.2 only) .........................................................3
Unlimited Possibilities with Definition Queries .......................................5
Know Your Limits (with Extent Rectangles) ............................................8
Keep Yourself Together with Grouping in the TOC .............................13
Sort Things Out with the 9.2 Sorting Feature .......................................15
Time to Make the Queries ........................................................................16
Tools You Just Can’t (Shouldn’t) Live Without ....................................18
Select by…Graphics? ............................................................................20
Magnify your Map with the Magnifier Window ....................................22
Move your Bookmarks! ..........................................................................23
Thumbnails of your data in ArcCatalog .................................................24
Rename Data Connections in ArcCatalog (9.2) ......................................26
More Data Connection Tips ....................................................................27
How Do I Add Thee Data? Let Me Count the Ways! .........................28
Does @th#4 ever happen to you? .............................................................29
Turn on & off layers in PDFs (It’s about time!) ....................................30
The Labeling Toolbar is your Friend .....................................................32
Lock & Load Labels for Maximum Speed!

Description

This performance tip allows you to “freeze” your labels so they do not redraw when you pan or zoom in the map. This speeds up your work considerably. Labels are locked based on the current extent and are not unlocked until you click the “Lock Labels” button again.

How to Use

1. Make sure your labeling toolbar is visible (View | Toolbars | Labeling)
2. Zoom to the extent in which you want to see the labels and make sure they are visible
3. When the map has finished drawing, click the [Lock Labels] button on the labeling toolbar (as shown above)
4. You can now move around the map and your labels will not continuously redraw. Note that you will only see labels that were visible when you initially set the lock. If you pan to another area that was not visible when you initially set the lock, you won’t see the labels
5. To remove the lock, click the [Lock Labels] button once again

Example of Use

You want to examine crimes in just one beat, and you need to pan around the beat to see all the crimes. By zooming into the beat and locking the street labels, you can see all the street names as you pan around without having to wait for the map to redraw each time.
Choose your own Extent (9.2 only)

Description

This productivity tip allows you to define the limit of the “full extent” feature of ArcMap. This is the extent you would see when using the globe icon 🌍.

It achieves the same effect as if you created a spatial bookmark, but for people who tend to use the globe often, this tip might be a better solution.

How to Use

1. Go to (View | Data Frame Properties)

   ![Data Frame Properties dialog box]

2. Go to the Data Frame tab and see the section at the bottom
3. Choose “other”, and click the “specify extent” button
4. Here, you have several options. You can choose to use the current extent, you can select an existing layer (and choose all or only visible features from that layer), or you can manually enter a custom extent.

5. Now, whenever you want to view the “full extent”, it will represent your custom setting rather than the default ArcMap setting.

**Example of Use**

You have a layer of states, as well as all the counties in each state. You want the “full extent” to be Oklahoma, not the entire US.
Unlimited Possibilities with Definition Queries

Description

This performance & productivity tip allows you to apply a SQL query to a layer, such that only features matching your criteria will be displayed. This is an immensely powerful feature that allows you to view a subset of the layer without selecting & exporting those features to a new layer each time. You can also apply dynamic SQL queries that don’t have to be modified.

How to Use

1. Right click on a layer in the Table of Contents and choose “Properties”.
   a. You can also use Shift + Double Click.
2. Go to the Definition Query tab
3. Click on the Query Builder button. This takes you to the same dialog box as if you were selecting features by attributes

4. Here, you can filter your data however you choose

5. You can also paste SQL queries directly into the definition query box (just remember you cannot verify the syntax of your query using this method)
6. Click OK, and your layer is filtered according to the query you entered

**Example of Use**

Definition queries are so versatile that only you can imagine the possibilities in your shop! Here are just some ideas to get you started:

- You want to see each offense type (burglaries, robberies, etc) in separate layers. Bring in your source data, make copies of it, then alter the definition query of each layer to match the offense you want to view!
- You want to see your residential burglaries by day of week. Do the same thing as above, but define each layer as a day of the week instead of an offense type! You could do the same thing with shifts, daytime/nighttime, etc.
- You have a centerline of the whole city, but you only want to overlay two of the six police districts. Define your layer to only include these districts!
- You only want to see crimes that occurred within the last week. Rather than changing your definition query every day, use a query such as “[DateField] >= Date()-7”. This query may vary depending on the format of your source data, but the idea is to use a dynamic query that always pulls the last 7 days of data.
Know Your Limits (with Extent Rectangles)

**Description**

Have you ever produced an inset map that shows where you are in relation to some larger area?

Did you know that ArcMap has a built-in tool to create and update this “extent rectangle” automatically? If not, read on!

**How to Use**

1. Activate the data frame which will contain the extent rectangle (this assumes you have more than one data frame in your map). To do this, Right click the data frame name in the table of contents and choose “Activate”. The name of the data frame should now be bolded.
2. Go to (View | Data Frame Properties)
3. Click on the [Extent Rectangles] tab
4. Define the source of the extent rectangle. From the list on the left, choose the data frame for which the extent rectangle should apply. If you only have two data frames in your map, the only choice here will be the one not selected in step one. Click the > arrow or double click to move it over to the right side
5. To edit the appearance of the rectangle, highlight the choice and click the "Frame" button.
6. Here you can change the color & size, among other settings.
7. Click Ok, and your final output contains an extent rectangle that readjusts automagically!
Keep Yourself Together with Grouping in the TOC

Description

This productivity tip will show you how to group layers in the table of contents (TOC) so that you can better organize the data in your map.

How to Use

1. Select the layers that you want to group
2. Right click and choose “Group”
3. Those layers are now grouped. You can rename the group, add subgroups, etc.
4. You can drag-and-drop layers into or out of groups

Example of Use
**Note:** Although groups are supported in several versions, 9.2 added new grouping features. For example, grouping is retained in (most) dialog boxes such as the “Select by Attributes” example below:
Sort Things Out with the 9.2 Sorting Feature

Description

When performing a “Select by Attribute” task, this obscure button allows you to sort field names in ascending, descending, or natural order. This is new to 9.2.

How to Use

1) Go to Selection | Select by Attributes
2) Look for the incredibly tiny down-facing arrow (circled below)
3) Click this arrow (if you can!) and it will allow you to sort your fields ascending, descending, or natural order. You can also show field names or aliases (if the fields have been assigned aliases)

Example of Use

This tip is great when working with tables with a lot of fields…it’s much easier than trying to scroll through an unordered list of fields!
Time to Make the Queries

Description

ArcMap allows you to save and load queries. This works when selecting by attributes as well as definition queries. You can do the same thing with custom labels, too!

How to Use

1) Look for the “Load” and “Save buttons in the Select by Attribute box (same box used in definition queries)

2) Once you add text in the query box below, “Save” will become active and you can save your query:
3) To retrieve a previously saved query, use the “Load” button. Just browse to the location where you stored the query (.exp file) and select it.

**Example of Use**

This tip is great for sharing common queries and for documenting complex ones. Store them in a shared folder so all analysts can access the same queries.
Tools You Just Can’t (Shouldn’t) Live Without

Description

This customization tip shows you some time-saving tools that you should add to your toolbar for one-click access!

How to Use

1) Double click an empty gray area of a toolbar to access the “Customization” dialog box
2) Go to the Commands tab, then add the following tools
3) This one clears all selected features (same as Selection | Clear selected Features)

4) This one is my favorite tool in ArcMap – Continuous Pan/Zoom. This tool replaces 3 tools on your toolbar (zoom in, zoom out, pan) with a single tool.
   a. Dragging downward zooms in
   b. Dragging upward zooms out
   c. Dragging with the right button pans around
   d. It takes a few minutes to get used to it, but it is an absolute must have tool for me!
Select by...Graphics?

Description

This productivity tip shows you how to select data in your map based on a graphic you create. It’s great for selecting features in an irregularly shaped area or ones that can’t easily be selected by attributes or by their location relative to another layer.

How to Use

1. Select the “New Polygon” tool from the drawing toolbar

![Drawing toolbar with New Polygon tool highlighted]

2. Click once to create a vertex; continue until you’ve drawn a polygon around all the features that you want to select.
3. Double click to complete the polygon and create the graphic

![Completed polygon graphic]

4. With the graphic still selected, go to Selection | Select by Graphics
5. And the features contained within the graphic that you created will be selected

6. Bonus tip: To save this graphic for future use, you can convert it to a shapefile. To do this, download XTools Pro (http://www.xtoolspro.com) and use the “Convert Graphics to Shapes” function.
Magnify your Map with the Magnifier Window

*Description*

This productivity tip shows you how to use the ArcGIS magnifier window. This feature allows you to take a closer look at your data without having to zoom in and out.

*How to Use*

1. Go to Window | Magnifier
2. Drag the magnifier around your map as desired. As you drag, a set of crosshairs helps you identify areas of interest. When you release the mouse button, you have a magnified view of your data. You can adjust the magnification level from 100% to 1000%.
Move your Bookmarks!

Description

Many ArcGIS users take advantage of spatial bookmarks. For heavy bookmark users, this productivity tip will speed up access to your favorite locations.

How to Use

1. Double click an empty gray area of a toolbar to access the customization dialog box.
2. Go to View | Bookmarks. Grab this button and drag it to the main toolbar.

3. Now, you can access the bookmarks menu directly, without have to go to the View menu first. If you use bookmarks often, having one less click will speed up your work!
4. Sometimes moving menu items is tricky. You can “lose” a menu very easily. If this happens, just click the “Reset” button in the customization dialog box. This will reset your “Main Menu” items to the default setting.
Thumbnails of your data in ArcCatalog

Description

ArcCatalog is great for browsing spatial data, but the “contents” icon isn’t always useful (ok, it’s never useful!).

This tip will show you how to turn this useless icon into a thumbnail of the data layout so you can browse your data more intuitively.

How to Use

1. In ArcCatalog, browse to a data layer. Notice the “Create Thumbnail” icon is grayed out while on the “Contents” tab. Also note the useless icon highlighted below:

2. Click the “Preview” tab to see your data. Note that the thumbnail icon is now active:
3. Click the “Create Thumbnail” button.
4. Now go back to the “Contents” tab. You’ll notice that the icon from step one has been replaced with a thumbnail image of your data.

5. You only have to do this once for each layer. Now when you browse, you can see what the data looks like without having to actually “preview” it. Note: The thumbnail is static; if you make significant changes to your data, you will need to create a new thumbnail.
**Rename Data Connections in ArcCatalog (9.2)**

*Description*

Like most people, you probably have gazillion connections to various folders containing data. The name of each connection is the path to the location of the data. Prior to version 9.2, this could not be changed. Now it can!

*How to Use*

1. In ArcCatalog, select any of your data connections (the folders with globe icons). Click F2, or right click and choose “Rename”. Change the name to whatever you want it to be called.
More Data Connection Tips

Description

You probably have a bunch of connections in ArcCatalog, but did you know this slows down ArcCatalog tremendously? For better results, remove links to subfolders and just have one for the root of the drive. Then you can drill down as needed. For example, the following connections:

C:\GIS
C:\GIS\Data
C:\Documents and Settings\Me\Desktop
C:\Dev\Other\GIS\Data

Can all be consolidated into one ArcCatalog connection pointing to C:\. Reducing connections from four to one speeds up ArcCatalog! The other advantage is that if you move your data around or rename the folder, you don't have to modify the connection in ArcCatalog!
How Do I Add Thee Data? Let Me Count the Ways!

Description

This tip lists several ways to add data to an ArcMap MXD.

How to Use

1. Use the “Add Data” button in ArcMap. You can use the ctrl or shift keys to select multiple layers.
2. Drag and drop data from Windows Explorer to the TOC (or to the data frame). Be sure to grab the .shp file!
3. Drag data directly from ArcCatalog to the TOC (or to the data frame).
Does @th#4 ever happen to you?

Description

Ever export a map to PDF, only to find your carefully-chosen north arrow has become ®? Luckily, there's an easy fix!

How to Use

In the “Export” dialog box, there are two tabs at the bottom, General and Format. On the Format tab, check the box by “Embed All Fonts”. This will retain your formatting when exporting to PDF.
Turn on & off layers in PDFs (It’s about time!)

Description

In version 9.2, ESRI enhanced the export to PDF feature. The visible layers in the TOC are now preserved in PDFs. After exporting to PDF, these layers can be turned on and off as needed.

How to Use

1. Start with a map project with some active layers

2. Export to PDF (File | Export) and open the resulting file in Acrobat Professional or in Acrobat Reader.
3. Notice that the layers tab contains all the active layers from your TOC! Each layer has an “eye” icon; clicking the icon turns off that layer.
The Labeling Toolbar is your Friend

Description

Labeling in ArcMap can be tedious, but using the labeling toolbar can minimize your frustration.

How to Use

1) Go to View | Toolbars, and check “Labeling”. You’ll see the labeling toolbar below:

```
Label Manager
Label Priority Ranking
Label Weight Ranking
Lock Labels (see Lock & Load Labels for Maximum Speed!)
```

These tools work the same way as the options in the “Placement” & “Conflict Detection” tabs in the label properties area. The big difference is you can quickly change multiple layers and see the settings of other layers. For example, you can edit label and feature weights directly in the Label Weight Ranking dialog box: