

Editing in ArcGIS: General Tips and Tricks

Transcript

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Welcome to our ESRI Instructional Series podcast entitled Editing Tips and Tricks. I'm Colin Childs from the Educational Services Department at ESRI in Redlands, California. I teach a host of ArcGIS classes ranging from geodatabase design to working with Spatial Analyst. Today I will be exploring a collection of general editing tips and tricks that will help you become more efficient and productive while editing spatial features in ArcGIS. This discussion is tailored to users of the ArcGIS software who perform edits to data on a regular basis and who would like to pick up a series of useful techniques and pointers to improve workflow and productivity. During the presentation, I will present you with some challenges and scenarios, and then provide you with solutions to solve those challenges.

Let's take a look at the workflow for creating and editing features. This is really just a very quick recap. So, you choose the workspace and data frame that you'd like to edit. Start at the editing session in ArcMap. Choose which layer within your workspace you want to be the target for your actions. So remember the three "Ts".

- Choose the *target* layer.
- Choose the appropriate *task*.
- Choose the appropriate sketch *tool*.

Next, choose whether you want to create new features or edit existing ones, from choosing the appropriate task.

Set up any additional properties or options such as *snapping*, setting the layers that you wish to be selectable, and then specify any input units.

Then choose the appropriate tool from the Editor toolbar, which contains the most frequently used simple featured editing tools. You may also consider using tools from the additional toolbars such as the Editing Topology toolbar, the geometric network route annotation feature tools. You may then select the feature you would like to target for editing, or you may use a sketch tool and continue sketching your new feature. Once done, save your edits and stop editing.

So, once we know what this general workflow is, and we're pretty much aware of that if we're listening to this podcast, I want to point out a few things that are very useful to get help. Often

we want to get help in a very context-sensitivity way, so instead of going to the help menu's and the Help Documentation, one way to get in situ help is for the in context help. There are several different ways to do this: by positioning your mouse pointer over a button or menu you will notice that a small box (a kind of *tip* will appear) that gives you the brief description; and also in the status bar, a slightly more detailed description of what that button or tool will do for you.

Additional help can also be accessed by using the *What's this?* button. Now the *What's this?* button can be recognized as a button that has a question mark and an arrow pointer. If you pick up the *What's this?* button and point at any button or tool, it will definitely give you some very detailed, and often very, very useful in situ context help. Obviously it's a little more difficult to get to the *What's this?* button while working in a context menu, so we have the same functionality but will be using Shift F1; so point at something in a context menu, click Shift F1 on the keyboard and the *What's this?* button's help functionality will be invoked for you. If you're working in your table of contents or within the Identify Results window, and you want some help, you use Shift F1 instead.

An area that we often get asked about is: How can I improve my performance while editing? In other words, sometimes snapping takes a little longer, or sometimes redraws may take a little longer. Is there a way for me to improve this, especially if I'm working with data in an ArcSDE geodatabase that I may be editing? Well the solution to this is to turn on your Map Cache. The Map Cache is the toolbar under the View Toolbars area, which allows you to temporarily store your geodatabase features that you're editing in a Map Cache on your machine. So, by building a Map Cache, you reduce the load of your network and your geodatabase, since ArcMap accesses all the information on your computer's ram, and reduces the number of queries that the client will make to execute on the server.

You can also become more efficient by using some of the additional windows that are available. From the Windows menu, you can get a Magnifier, an Overview, and a View window, if you wish to. These are very useful for having an overview of the larger area, and then a magnified area (a small portion of what is magnified), and having multiple View windows, you can focus what you're doing on different areas of the larger study area. In fact, what's really nice is that you can choose to edit any of those viewer windows if you wish to, and you can even make some of the viewer and magnify windows static, so that you have static views (if you like), of things.

The other area that people ask us a lot about is: How do I work with distance units that are different from those of my current data frame? Now remember, when you bring data in, the very first dataset that you bring into a data frame supplies the coordinate system for that data frame, and if your data was in meters, then that coordinate system will use m, but you foresee some kind of descriptions of a new spatial feature that has to be created using different units? Perhaps they are in kilometers or feet to miles, or even in survey feet, or survey miles, or survey yards, for that matter. That's pretty common. Well, to do this you can very easily use distance abbreviations at any point where a distance of value can be given such as the length option when sketching a new feature. Type in *length* and followed by the abbreviation *mi* for mile, and ArcGIS will automatically convert from mile to meters if your data frame was in meters, or feet if your data frame was in feet, for example. So it's not necessary for you to go and do the conversion manually; the software will do it for you, simply by recognizing the abbreviation that you apply at the end of that distance that you give.

So, there are some challenges when editing data in projected space. So here's our scenario: if you've connected data from a wide variety of sources, the chances are that not all the layers contain the same coordinate system information. This could be a challenge when you're editing your data. Obviously reprojecting the data into a common coordinate system would be advisable, but it's not always practical. So you may want to edit data that is from different projection sources in the same data frame. Now keep in mind that ArcMap will project that data to the projection of the data frame for you. That means that all your data can effectively be edited in the projection of the data frame, irrespective of what its source projection might have been.

Now one of the problems that could happen in this respect, is things you need to watch out for such as the changing of shapes of features—things like snapping to the edge of the boundary of features or extending and trimming of features. These are all edit options that can be affected when digitizing or creating new sketches or editing existing features in a different projection from their source. The problems are more likely to occur when features that you're editing are close to the edge or beyond the area of the coordinate system that you're working on. Also, editing curves is a particular case, where you need to make note of when editing in projected space.

People often ask us also about changing x,y coordinates of existing features, or getting to the x,y coordinates of a feature that is being sketched. How do we do this? Well, it's very simple for you to get to the Sketch Properties dialog box, which is the very last button on the Editing

toolbar. By looking at the Sketch Properties dialog box, it is very easy for you to insert and delete vertices, remove parts of multipart features, and even to manipulate and change the z and m values, if the features that you're working with have z values.

Now, this leads me to setting up z values, because more and more of you are actually going to be working with z values, and might be working with z values. Some people have asked how we go about setting z values for features. Really, there are three ways to do this: one way is to expose a customized tool called the Set Currency tool. The Set Currency tool lets you set a default currency value, and any new vertex generated will be given that z value. This might not be applicable if you have different z values, so using the Sketch Properties again, you can go and edit those individual z values if need be. Another option is to use 3D Analyst to define those z values, and by converting from 2D features to 3D features using 3D Analyst and a surface, you can then assign z values to every vertex. 3D Analyst also gives you the option to digitize new features over a surface, and when you do it will interpolate the z values for you.

So, in conclusion, as you've just heard, ArcGIS has a wide variety of tools and commands to edit and manipulate your data. The content of this presentation really covers just a few editing tips and tricks for you to explore and integrate into your daily GIS tasks to improve your productivity. I'd highly recommend looking at some additional instructor-led and virtual campus classes that could teach you even more about editing. Some of the virtual campus classes you could consider looking at would be *Creating and Editing Geodatabase Features in ArcGIS 9*, and *Creating and Editing Geodatabase Topology in ArcGIS 9*. You may also want to consider attending a *Data Production and Editing Techniques* instructor-led class, or an instructor-led class called *QA/QC for GIS Data*, or perhaps even a class entitled *Creating and Editing Parcels with ArcGIS*. For further resources, please check out our instructor-led training courses at www.esri.com/training.

Thank you for tuning in to this session of our ESRI Instructional Series podcast. Stay tuned for future broadcasts.