Editing Tips and Tricks

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Overview

• Topics
  - Creating features
  - Editing features and attributes
  - Aligning and editing coincident features

• Format
  - Software demonstrations
  - Q&A session at the end

Look for tips in green boxes.
Preparing a map for editing

- Best to have all data in same, local projection
- Set layer properties before you start editing
  - Symbology tab
  - Fields tab: alias, visibility, highlighting, read-only
  - Display tab: Display expression
  - Definition query: works best with discrete (=) queries
Creating features with feature templates

- All info needed to create a feature
  - initial attribute values, target layer, default construction tool
- Templates are used anytime you create features
  - After feature is created, no connection back to template
- Saved in .mxd (also .lyr files, packages, and web services)

Any geodatabase default values are automatically set as defaults for feature templates.
Best practices for feature templates

- Create templates
  - Auto-generated at edit session start if not present for layer
  - Multiple templates in a layer with different defaults (tools, attributes)
- Set good layer, symbol names, and field aliases
- Add description and tags for easy searching
- Delete templates you are not using

If you see a gray symbol and draw warning, re-create the template. Happens if you change the renderer after templates were created.
Managing feature templates

• **Organize Feature Templates window**
  - Create, modify, delete templates
  - Update properties for multiple templates

• **Use existing feature as “template” for new template**
  - Makes it easy to set target layer and default attribute values
  - Select a feature > Open Organize Feature Templates window

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You can manage templates when not in an edit session. Right-click layer in table of contents > Edit > Organize Feature Templates.
Why are my feature templates hidden?

• To avoid creating features that cannot be drawn

• Layer or group is not visible
  - Turned off, beyond scale range

• Default attribute values do not fulfill definition query
  - More info: see Best practices blog

• In a parcel fabric: use Parcel Editor toolbar

• Or templates may not exist – need to create yourself
Setting up fields to track edits and add attachments to features

- For geodatabases only: enable from Catalog window
- Editor tracking: automatically records editor’s name, creation date, or last edit date
- Attachments: add documents and images to features
  - manage on Attributes window

Attachments use relationship classes to match the attached files to features, so require Standard or Advanced licenses.
Switching among tools while editing

• Use keyboard shortcuts: E, C, X, Z, and B
  - E key to toggle among construction, Edit, and Edit Annotation tools
  - C key to pan
  - X key to zoom out
  - Z key to zoom in
  - B key to zoom and pan continuously

• Use the navigation shortcuts with any ArcMap tool

See the help for a complete list of editing shortcuts.
Creating a sketch using measurements

- **Feature Construction toolbar or right-click**
  - Parallel or perpendicular
  - At a specific coordinate or angle
  - With a specific length
- **Feature Construction toolbar**
  - Press Tab to show and hide toolbar
  - Off by default
  - Enable permanently on Editor Options
Overriding map units

- Use unit abbreviation after distance value
- DD, DMS, or DDM when map has a projected coordinate system to enter Absolute XY and Delta X,Y
- See the help for a full list of abbreviations

<table>
<thead>
<tr>
<th>Unit</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter</td>
<td>m</td>
</tr>
<tr>
<td>Kilometer</td>
<td>km</td>
</tr>
<tr>
<td>Foot</td>
<td>ft (or ′)</td>
</tr>
<tr>
<td>Mile</td>
<td>mi</td>
</tr>
<tr>
<td>Survey Foot</td>
<td>ftUS</td>
</tr>
<tr>
<td>Survey Mile</td>
<td>miUS</td>
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<tr>
<td>Decimal degrees</td>
<td>dd</td>
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<tr>
<td>Degrees minutes seconds</td>
<td>dms</td>
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<tr>
<td>Degrees decimal minutes</td>
<td>ddm</td>
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</tbody>
</table>
Switching among construction methods in the middle of a sketch

- Use Editor or Feature Construction toolbar palette

Press Tab to show or hide the Feature Construction toolbar.
Creating a sketch by tracing other features

- Use Trace construction method
- Features do not need to be selected
  - Use Ctrl key to limit to trace to selected features
- Spans gaps and works on non-editable layers.

Press O to access Trace Options and set an offset.
Creating a sketch at the midpoint of a line

- Use Midpoint construction method
- Click two points, vertex added at midpoint
Copying and pasting features

• Select features > Copy , Paste 
  - Within same layer or between layers and types (such as polygon pasted as lines)
  - Can copy from non-editable layer, such as CAD
  - Attributes copied if schemas match

• Copy Features tool on Advanced Editing toolbar
  - Copy and scale features

• Copy Parallel on Editor menu
  - Creates new parallel lines at an offset
Using snapping

- **Snapping toolbar – simple**
  - Set tolerance on Snapping Options
  - Works with non-editing tasks (measure)
  - Snap to any visible layer

- **SnapTips**
  - pop-ups with layer name, snap type

- **Classic snapping**
  - fine-grained control over snapping
  - Enable on Editor Options

Temporarily suspend snapping by holding down the Spacebar.
Editing on top of imagery

- **Editing Options**
  - Uncheck Use symbolized feature to see wireframes
  - Change edit sketch symbols

- **Snapping Options - SnapTips**
  - Turn on background and change text symbol
Editing features and attributes
Selecting the features you want

- **Table of contents – List By Selection**
  - Groups layers by selection info
  - Use icons to set selectable and visible layers
  - Deselect individual features in a layer
  - Clear all selections

- **Attributes window**
  - Deselect, navigate, copy attributes
Selecting from overlapping features

- Click with the Edit tool to display selection chip
  - Only displays if you click the map. Dragging a box selects all overlapping features
  - Hover over feature in list to flash
  - Click feature in list to select it
  - Features listed by display expression

You can also press N to cycle the selection through overlapping features.
Preventing accidental feature movement when selecting

- Set the sticky move tolerance
- Editing Options > General tab
- Prevents feature movement within tolerance
Editing segments and vertices

• Double-click feature with Edit tool or select it and use Edit Vertices on Editor toolbar
• Select, move, and delete multiple vertices
• Change segment types (straight, curved, Bezier)
• Select and delete parts of features

Hover over a feature and press V to show vertices.
Creating donut holes in polygons

• When digitizing the feature initially
  - Right-click and click Finish Part
  - Digitize the hole and finish sketch
• Continue Feature
  - Available on the Edit Vertices toolbar
• Cutting hole to match another shape
  - Select polygon, use Cut Polygons tool, and trace other feature
  - Can also use Editor menu > Clip with discard the area that intersects option

When clipping, turn off any polygon layers that you don’t want to be clipped.
Removing donut holes in polygons

- Double-click feature to modify its shape
- Right-click feature > Part > Delete
- Can also open Edit Sketch Properties menu to delete

- Use Edit Vertices toolbar to delete vertices
Changing the coordinates of a feature

- Edit Sketch Properties window
- Right-click to insert, delete, zoom to vertices
- Edit X, Y, M, and Z values
Flipping the direction of a line

- Editing geoprocessing toolbox > Flip tool
  - Works on selected features or whole layer

- Flip command on Edit Sketch context menu
  - Double-click feature
  - Right-click > Flip

Editing toolbox requires a Standard or Advanced license.
Extend an existing line by sketching

- Continue Feature tool on Edit Vertices toolbar
  - Double-click feature to modify
  - Click Continue Feature
  - Enter sketch mode—constraints and constructors available
Updating attributes of multiple features at once

- Select features and open Attributes window
- Click layer name in tree to update all in layer
- Ctrl or Shift in tree to update multiple features
- Click field and type values
- Can also update attributes of related features or records

Only update the values you want applied to multiple features.
Adding selected features to a relationship

- Select features
- Set primary key on primary feature
- Right-click relationship label > Add Selected
- Foreign key on related features is set automatically
Aligning and editing coincident features
Aligning data to a shape you trace

- **Align to Shape on Advanced Editing toolbar**
  - Trace adjacent features to align to
  - Choose which layers will be updated
  - Specify buffer tolerance
  - Preview
Replacing a feature's geometry with an entirely new shape

- Replace Geometry on Advanced Editing toolbar
  - Maintains ObjectID and attributes of original feature
  - Original shape displayed for reference: can snap or trace to it
  - Use Reshape Feature instead if you need to modify only a portion

Also works to add a shape to null geometry, such as addresses that could not be matched when geocoding.
Editing coincident features with topology

- Use Topology toolbar to edit coincident features

- Two types of topology in ArcGIS
  - Map topology
    - Simple way to edit connected features
    - Geodatabases or shapefiles
    - All licenses, built from Topology toolbar
  - Geodatabase topology
    - Rules about how features share geometry
    - Requires Basic or Advanced license, built in Catalog window

Topology edits are performed the same regardless of type.
Selecting topology edges

- **Topology Edit tool**
  - Drag or use Topology Edit Trace tool to select multiple connected edges

- **Shared Features window**
  - Lists features the connected to the selected edge
  - Uncheck layers or features so they are not affected by edits (temporary)
Reshaping multiple topology edges

- Reshape Edge tool to update connected edges
- Use Topology Edit Trace tool to select edges

Reshape Edge works on multiple edges. Modify Edge is one edge at a time.
Moving topology edges

• Drag selected topology elements to move all coincident features at once

• Move an edge and reconnect it ("split-move")
  - Select edge, then drag and snap endpoint at new location
Aligning an edge to match another edge

- Align Edge tool
  - Match edges quickly so they are coincident without having to reshape manually
  - Two clicks: click edge to update and then click edge to align to
Simplifying the shapes of edges

- Reduce vertex count, integrate features of different resolutions, remove true curves
- Generalize Edge tool
  - Only way to simplify and maintain coincidence
  - Select one or more edges, set deviation, and preview
Getting more help

- **Context-sensitive help**
  - Hover over tools for tooltips

- **Resources**
  - Help: Desktop > Editing data
  - ArcGIS Blog: Editing category

- **Training**
  - Editing Data with ArcGIS for Desktop
Additional Sessions at the User Conference

ArcGIS Pro: What’s new in Editing and Data Management
- Tues 3:15, Ballroom 6A
- Thur 3:15, Ballroom 6A

Editing in ArcMap: An Introduction
- Tues 10:15, Room 9
- Wed 10:15, Room 7A/B

Data Alignment and Management in ArcMap
- Wed 3:15, Room 14B
- Thur 10:15, Room 14A

Using Spatial Adjustment Tools (demo theater)
- Wed 9:30, Geodata Management – Exhibit Hall C
Thank you

• Please fill out the session survey:

First Offering ID:  1162 (Tuesday)
Second Offering ID:  1279 (Wednesday)

Online – www.esri.com/ucsessionsurveys
Paper – pick up and put in drop box