

How to Edit the Event GDB with ArcGIS Pro

Document Description

After the creation of the incident geodatabase, a GISS follows a general method of work steps to populate the GDB with point, line and polygon features. Those steps include creating, editing, attributing, and doing analysis (e.g. calculate acres). These are the main data components, in the *general* order of processing:

Fire Polygon

- Create and/or edit the fire polygon
- Add attributes
- Calculate fire polygon acres

Fireline

- Create from fire polygon
- Split and/or attribute

Division and Branch Breaks

- Create point features
- Rotate

Other point features

- Create, attribute
- Calculate coordinates

Other line features

- Create, attribute

This how-to document covers the **ArcGIS Pro** tools used to create and edit point, line and polygon feature data.

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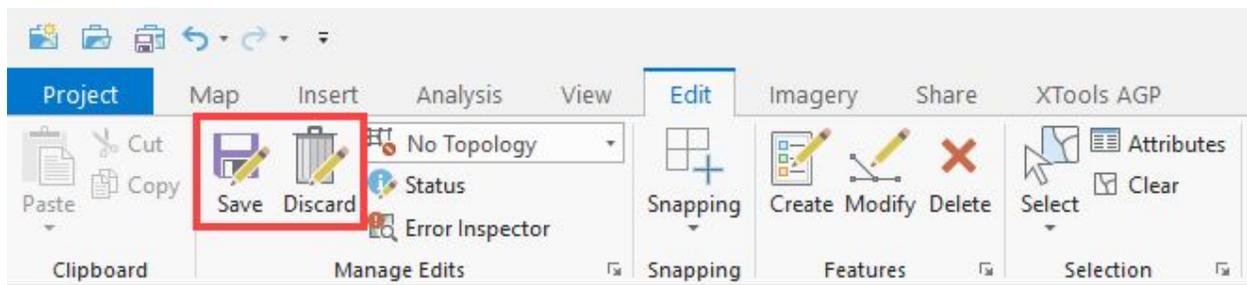
General Best Practices and Methods for Editing All Feature Classes

The most important general practice when working with the Event Geodatabase in ArcGIS Pro is to leave the Event Features in the WGS 1984 Geographic Coordinate System that they are distributed in.

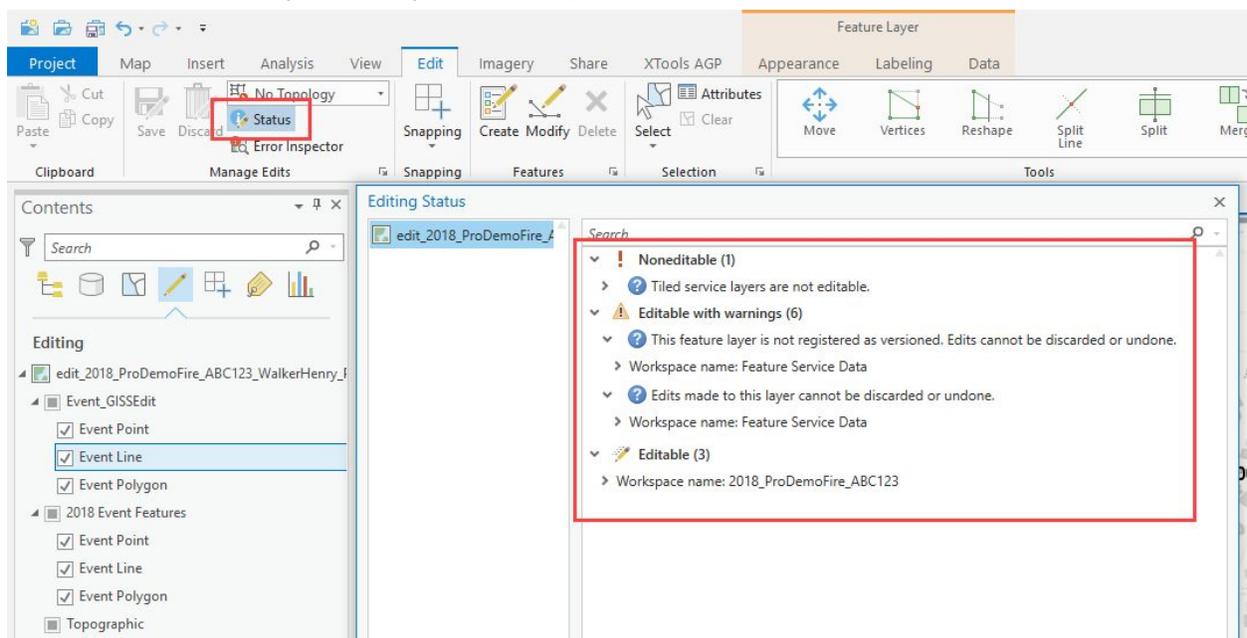
Due to current limitations in available geoprocessing functions, it is much simpler and more effective to only change the map data frame to the local projected coordinate system. This is still the best practice when using ArcMap as well, but it is much more significant in ArcGIS Pro.

Unlike in ArcMap, there are no edit sessions in ArcGIS Pro.

However, all edits must still be Saved. Once edits are made in a map, the Save and Discard buttons will become available on the Edit ribbon tab.



To check the editability of the layers in a map, click the Status button on the Edit ribbon tab.

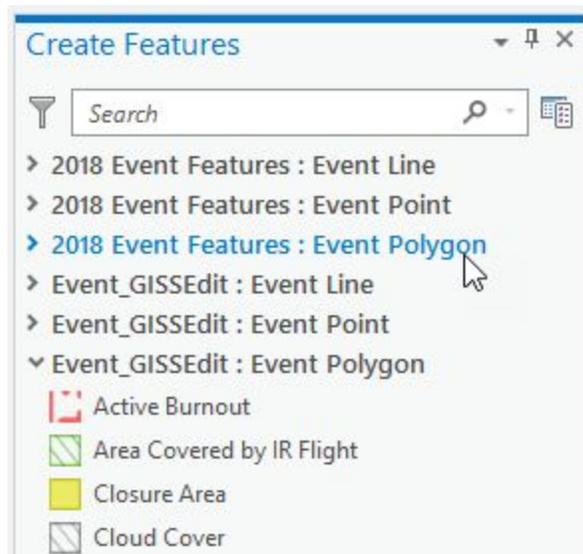


In the screenshot above, there is a local Event GDB (the master incident database), the National Incident Feature Service, and a tiled basemap service.

The Editing Status window breaks down the status of all the layers in the table of contents.

1. The basemap is not editable
2. The National Incident Feature Service is “Editable with Warnings”
 - a. Edits cannot be discarded or undone
3. The master incident database is Editable

Because editing is enabled on all available workspaces, when creating features it is extremely important to pay close attention to the Feature Template being used.



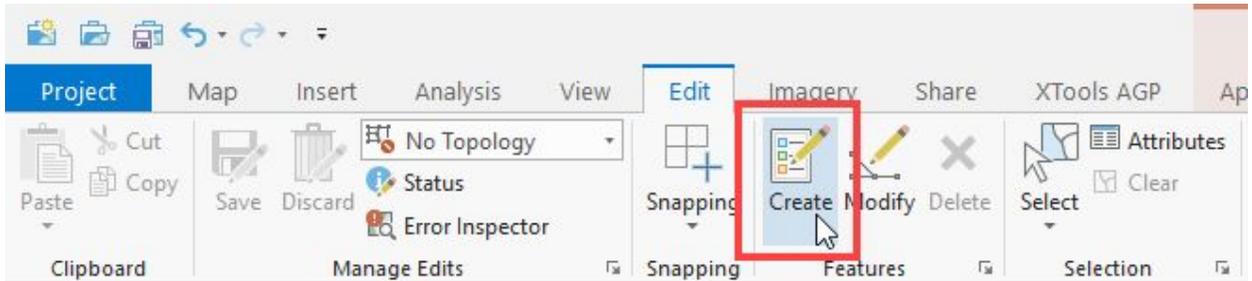
Highlights:

- Leave the Event Features in WGS84.
- Editing is always on in Pro. No edit sessions but edits must still be Saved.
- While Feature Services can be edited directly in Pro, those edits cannot be discarded or undone. Any errors will need to be fixed manually.
- Editing is enabled on all workspaces available. No need to select a single one, but pay close attention to what layer is being edited.

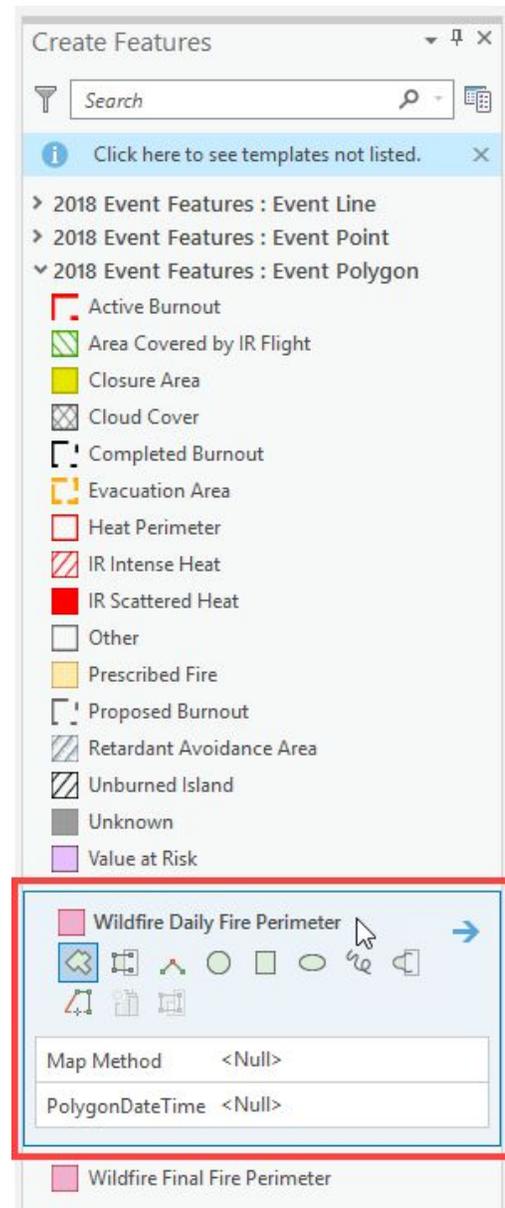
Event Polygon

Digitize a New Fire Polygon

1. From the Edit ribbon tab, click the Create button to open the Create Features pane.



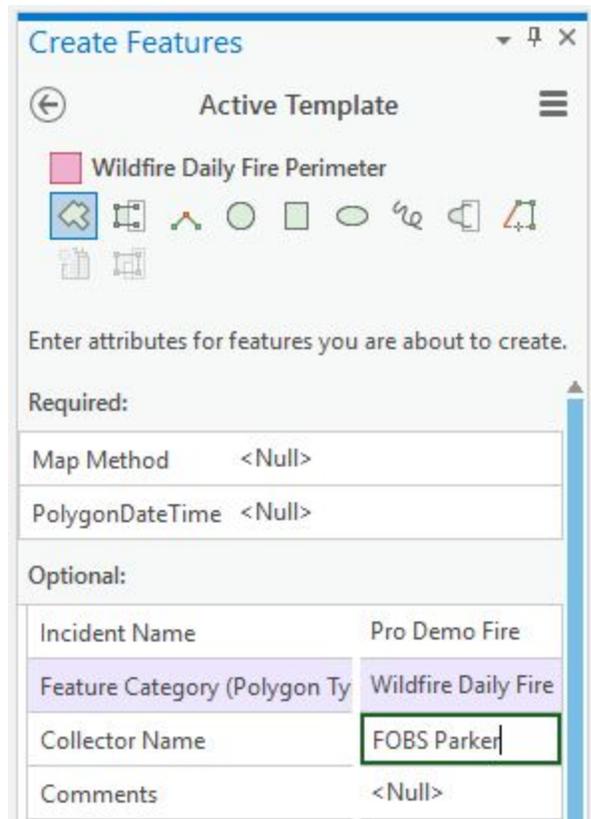
2. From the Event Polygon feature template, select Wildfire Daily Fire Perimeter. Fields that have the *Prompt for Attribute Value* box checked in the feature template will be displayed. In this case, Map Method and PolygonDateTime are being prompted for collection.



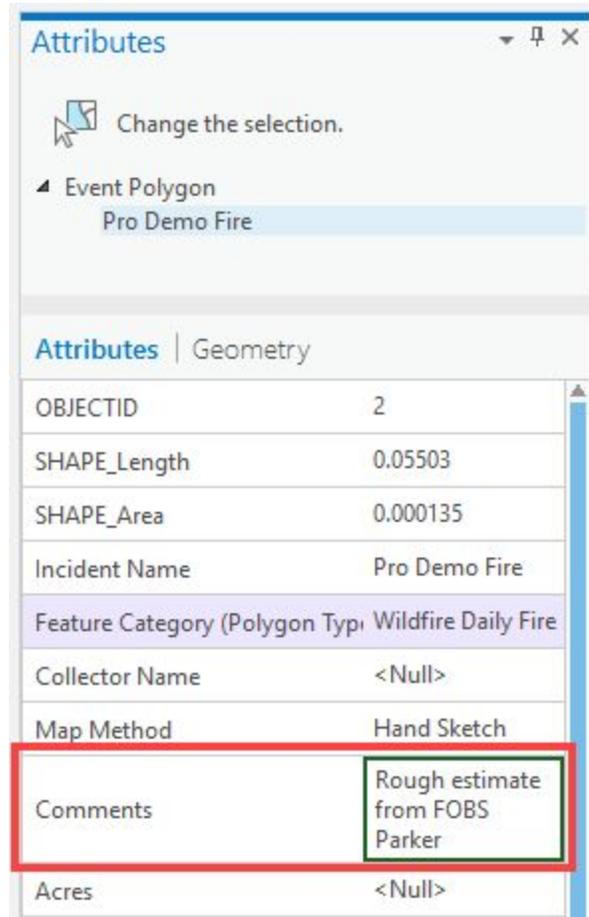
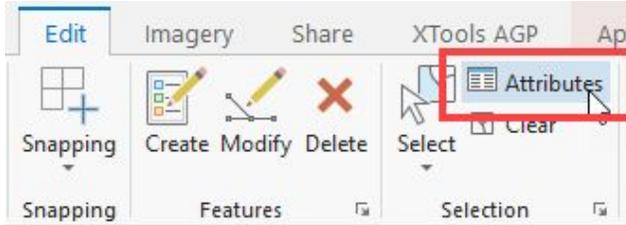
- Fill in the prompted fields and begin clicking on the map to digitize the fire polygon. Double-click to finish the sketch.



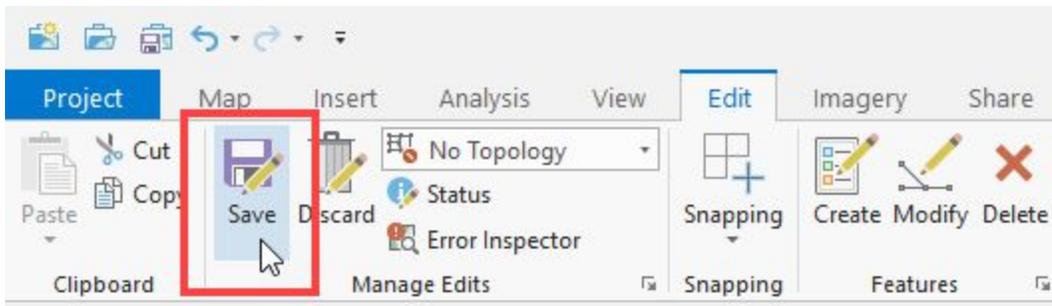
- If the necessary attributes are not enabled for prompt, the blue arrow can be clicked to open the active template and the attributes filled in there.



- 5. The attributes can also be added after the geometry by opening the Attributes pane and filling them in.

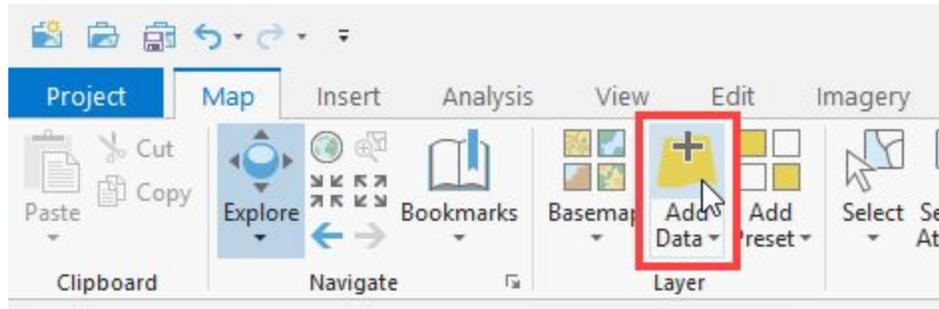


- 6. Save the edits.

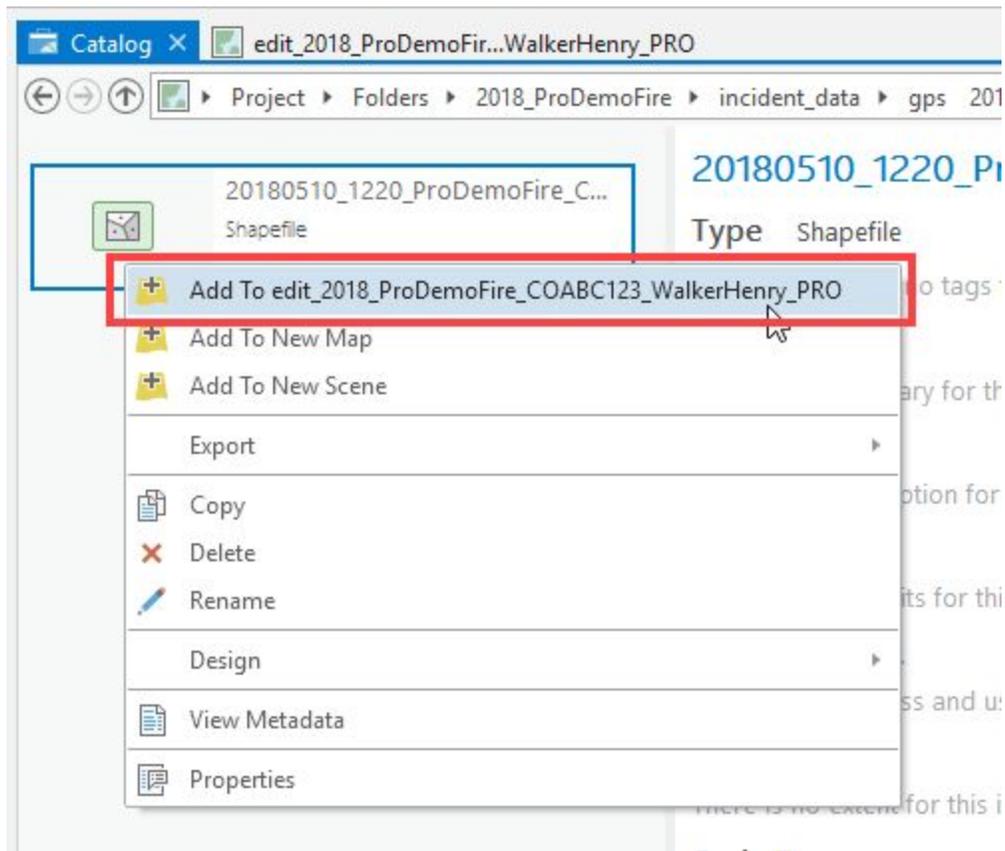


Create a New Fire Polygon from a Different Layer

1. Add the layer to the map.
 - a. The Add Data button is on the Map ribbon tab.

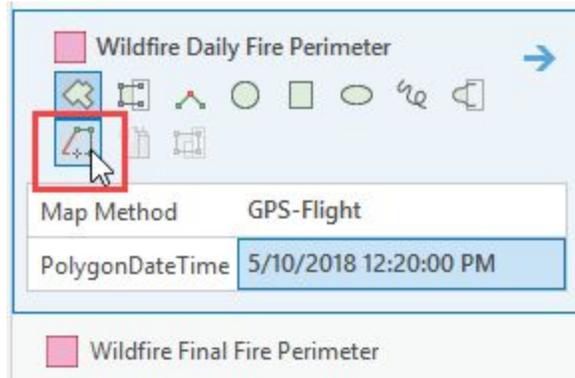


- b. Alternatively, new data can be browsed to in the Catalog pane and added by right-clicking and selecting one of the Add To options.

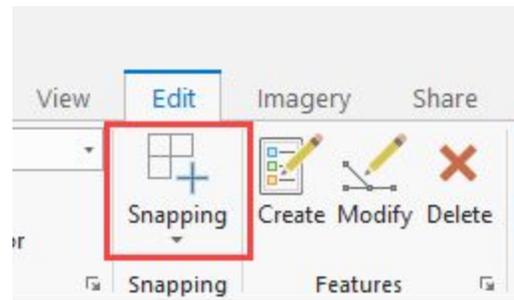


Note: Replace Sketch is not yet available in Pro. Two common alternatives are Copy/Paste and Trace.

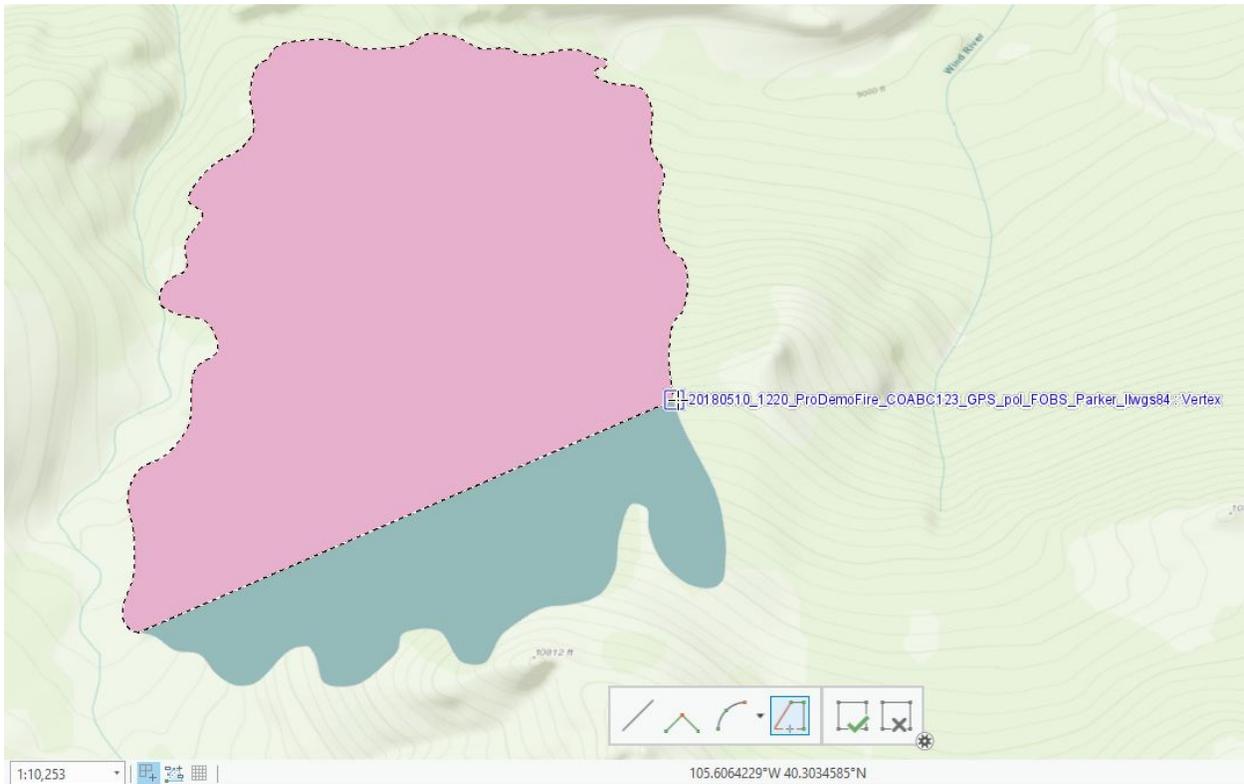
2. To use Trace, from the Create Feature Pane, select Wildfire Daily Fire Perimeter from the Event Polygon feature template and populate the necessary attributes (by prompt or attribute pane).
 - a. Select the Trace tool from the drawing options.



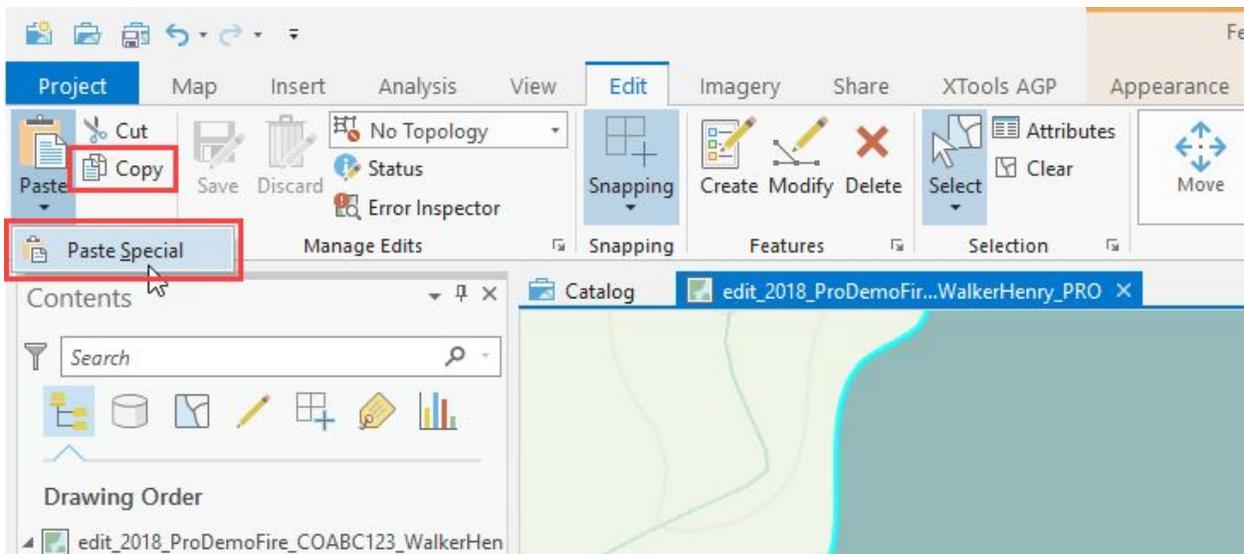
- b. Turn on Snapping so that the Trace can be started precisely on perimeter layer. The Snapping on/off button is on both the Edit ribbon tab and at the base of the map.



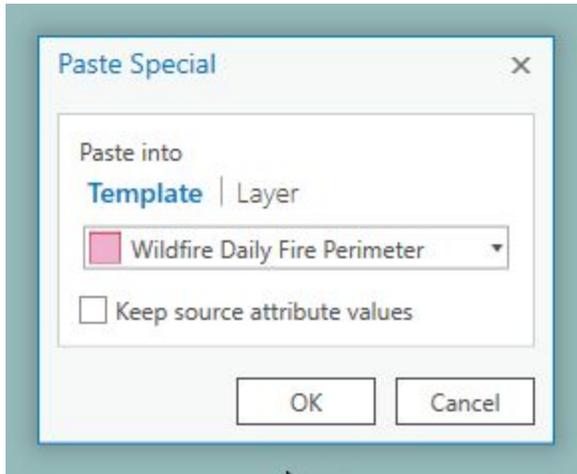
- c. Click the perimeter of the shape to be copied and then trace around it with the mouse. Double-click to finish or click once to stop tracing and use the Finish button or F2..



- 3. To use Copy/Paste, select the shape to be copied and click Copy and then Paste Special on the Edit ribbon tab.



- a. Select the Wildfire Daily Fire Perimeter Template to paste into.



- b. Because Pro allows you to paste into the template, the template defaults are applied to the new feature. Fill in additional attributes required.

Attributes

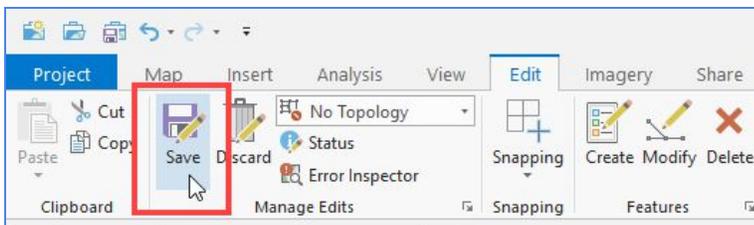
Change the selection.

Event Polygon
Pro Demo Fire

Attributes | Geometry

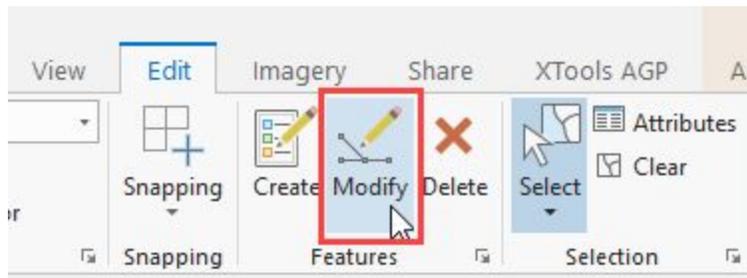
OBJECTID	6
SHAPE_Length	0.052864
SHAPE_Area	0.000129
Incident Name	Pro Demo Fire
Feature Category (Polygon Type)	Wildfire Daily Fire
Collector Name	<Null>
Map Method	<Null>
Comments	<Null>
Acres	<Null>
Delete this feature?	No
Label	<Null>
Feature Access	Cooperators
Feature Status	Proposed
IsVisible	Yes
CreateName	WFEIGALHENRY
CreateDate	5/11/2018 3:02:37
EditName	WFEIGALHENRY
DateCurrent	5/11/2018 3:02:37
ContactName	Walker Henry
ContactEmail	WalkerHenry@err
ContactPhone	1234567890
PolygonDateTime	<Null>
ComplexName	<Null>
ComplexID	<Null>

- 4. Save the edits.

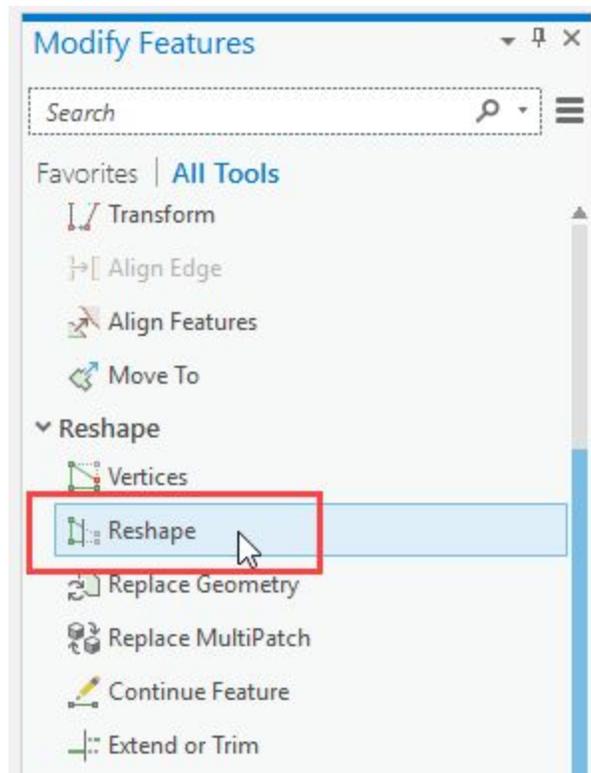


Reshape the Fire Polygon by Digitizing

1. Open the Modify Feature pane by clicking the Modify button on the Edit ribbon tab.

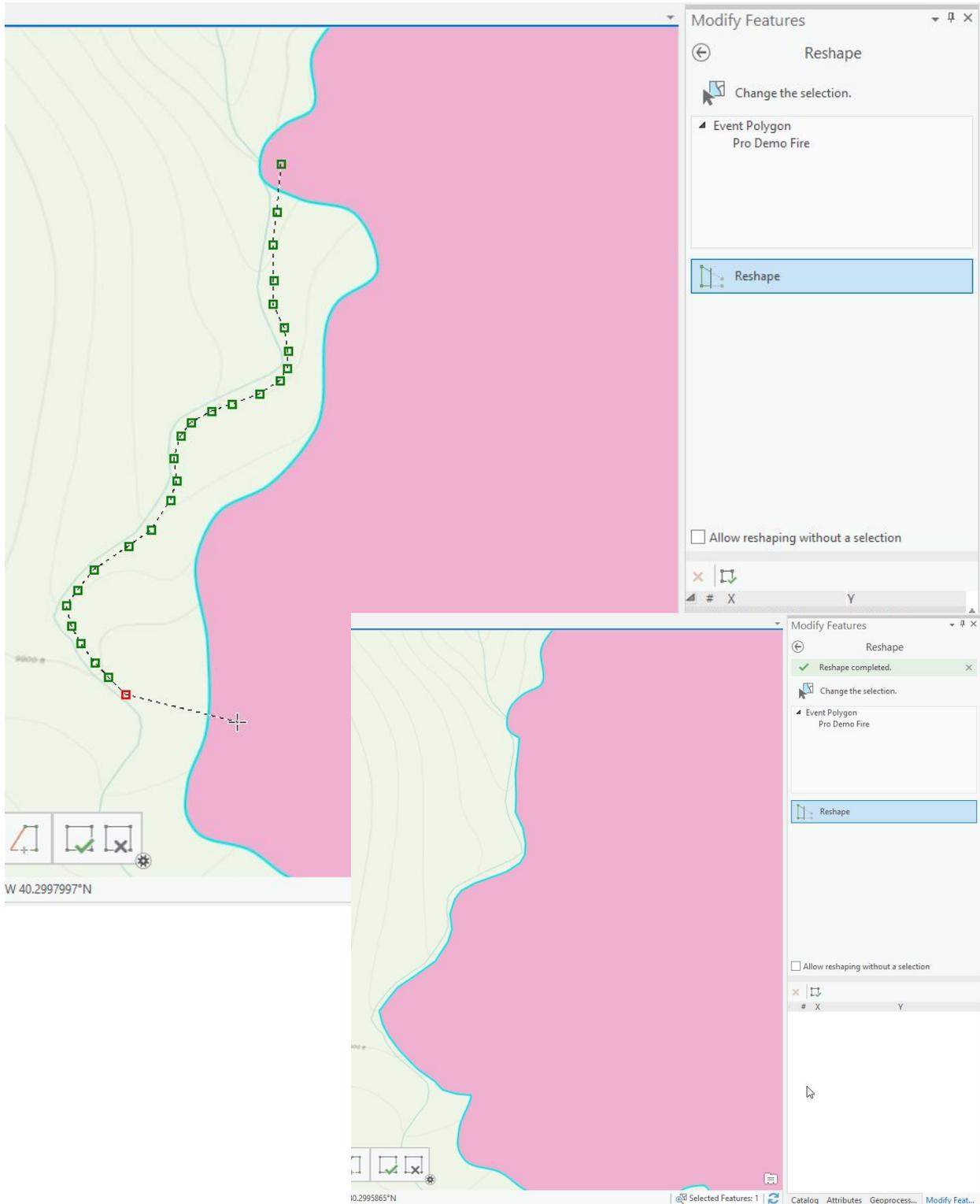


2. Select the Reshape tool from the Modify Feature pane. (The Reshape tool is also in the Tools Gallery on the Edit ribbon tab by default)

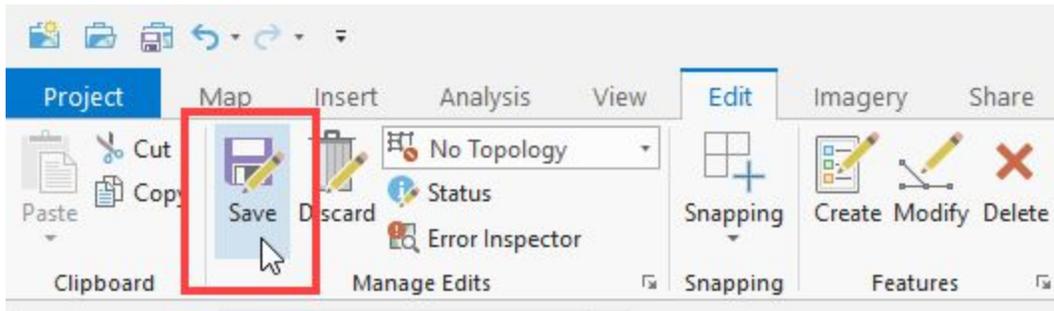


Note: Tools can be made available in multiple location in Pro, such as the quick access toolbar at the top of the window, the tools gallery on the Edit ribbon tab, Favorites in the Modify Feature pane, and more. Right click a tool to see placement options.

3. The fire polygon can be selected before or after selecting the Reshape tool. If not selected before, the tool will prompt the selection of the feature to be modified.
4. Click along the line the polygon will be reshaped to. Be sure and cross the polygon boundary at both the beginning and end of the sketch.

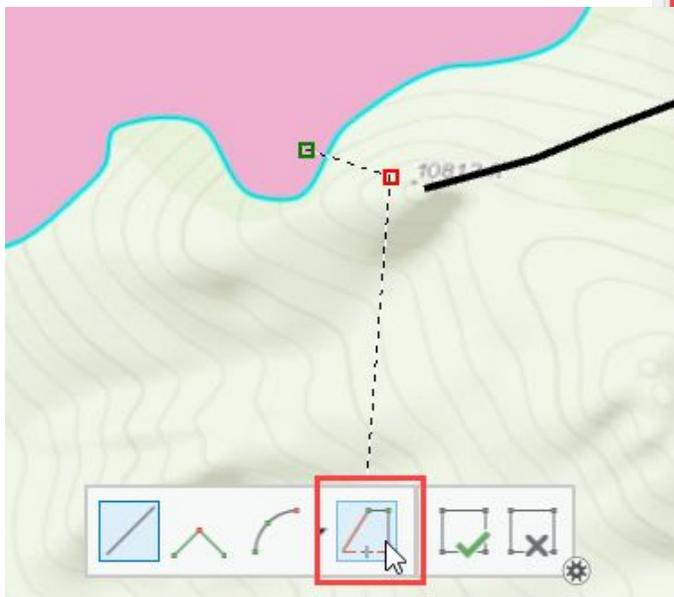
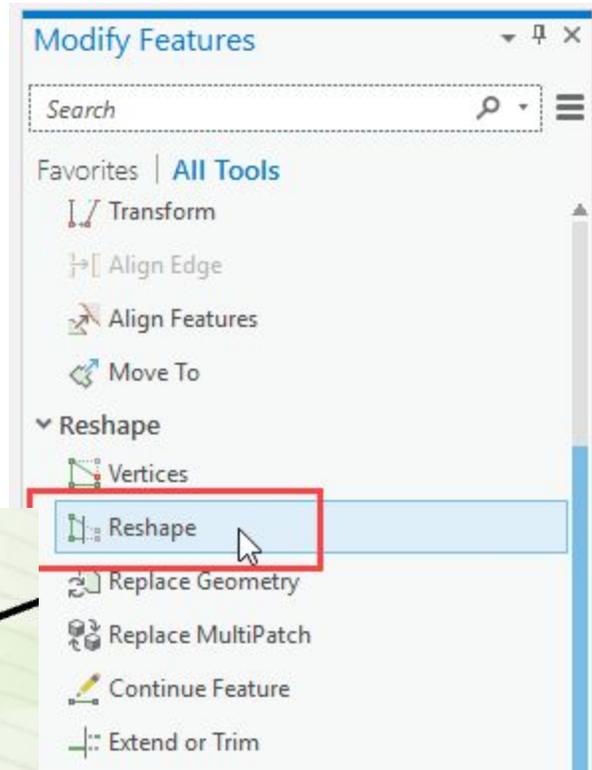


5. Modify the attributes as needed.
6. Save the edits.



Modify the Fire Polygon by Tracing a Line from Another Layer

1. Add the layer containing the feature to be traced to the map if it is not already.
2. Select the Reshape tool from the Modify Feature Pane.
3. Start the sketch along which to reshape the fire polygon and then select Trace from the tool options at the base of the map.



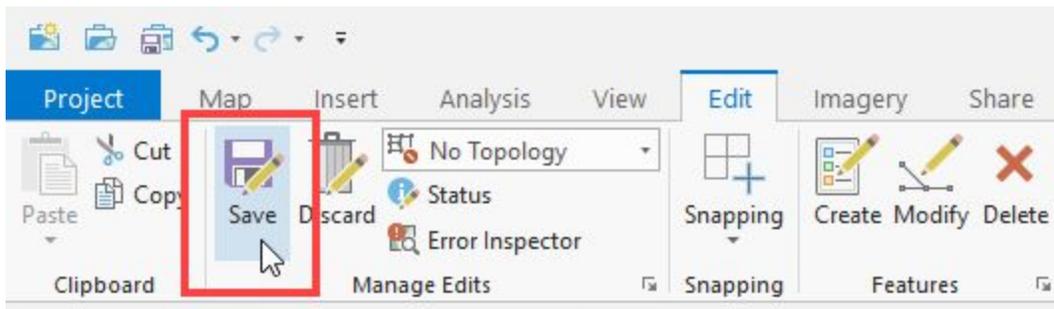
4. Click on the feature to be traced and move the mouse along it.



5. Double-click to finish the sketch and reshape. Be sure that the sketch crosses the fire polygon boundary at the beginning and end.

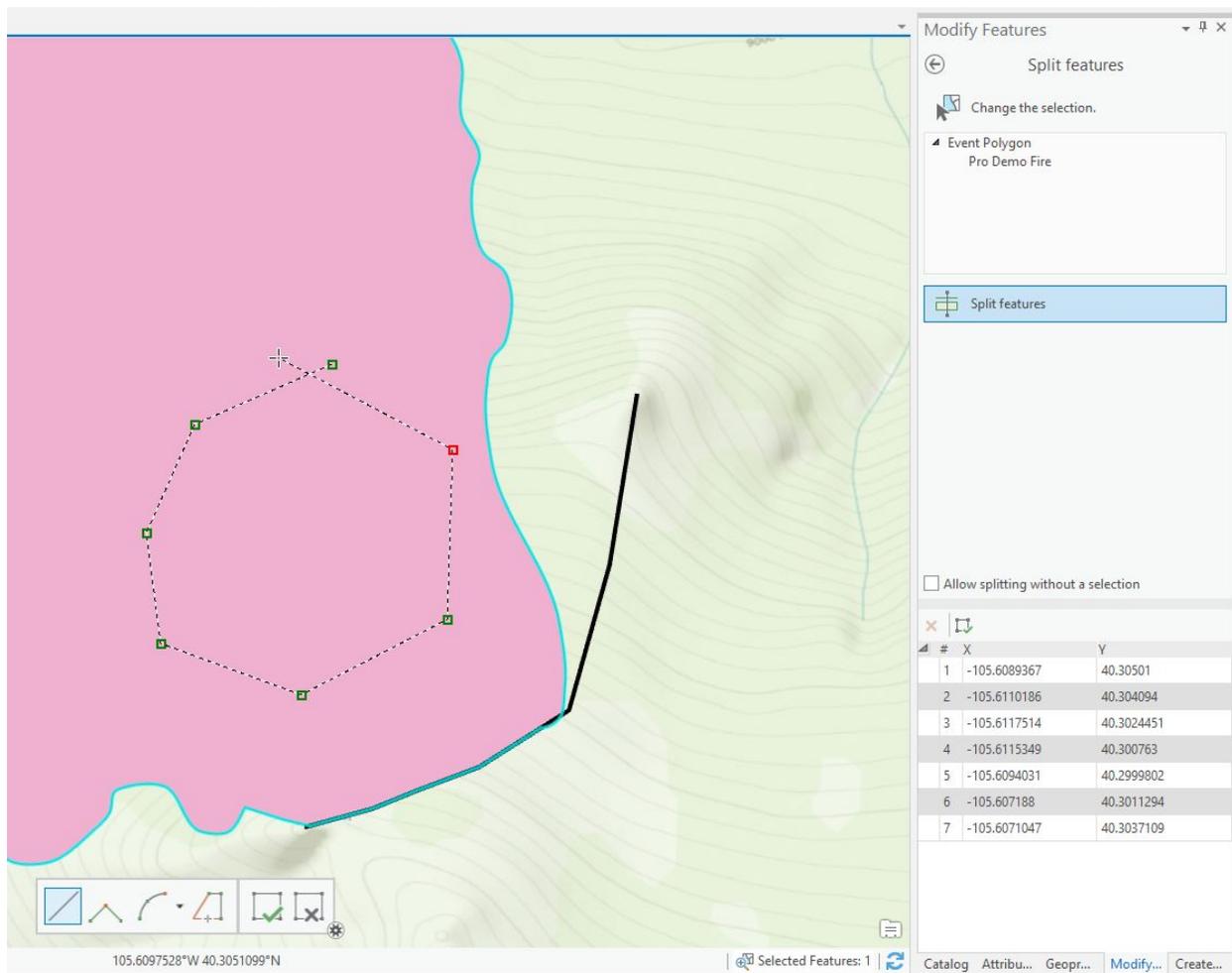


6. Edit the attributes as needed.
7. Save the edits.

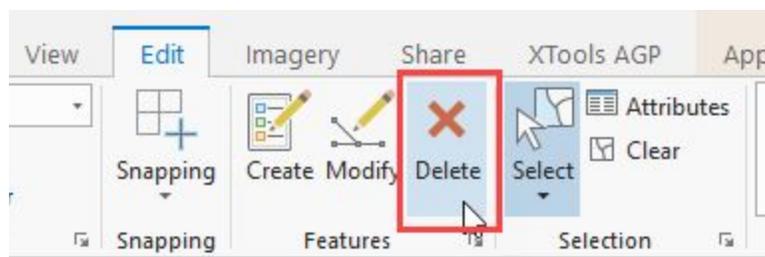


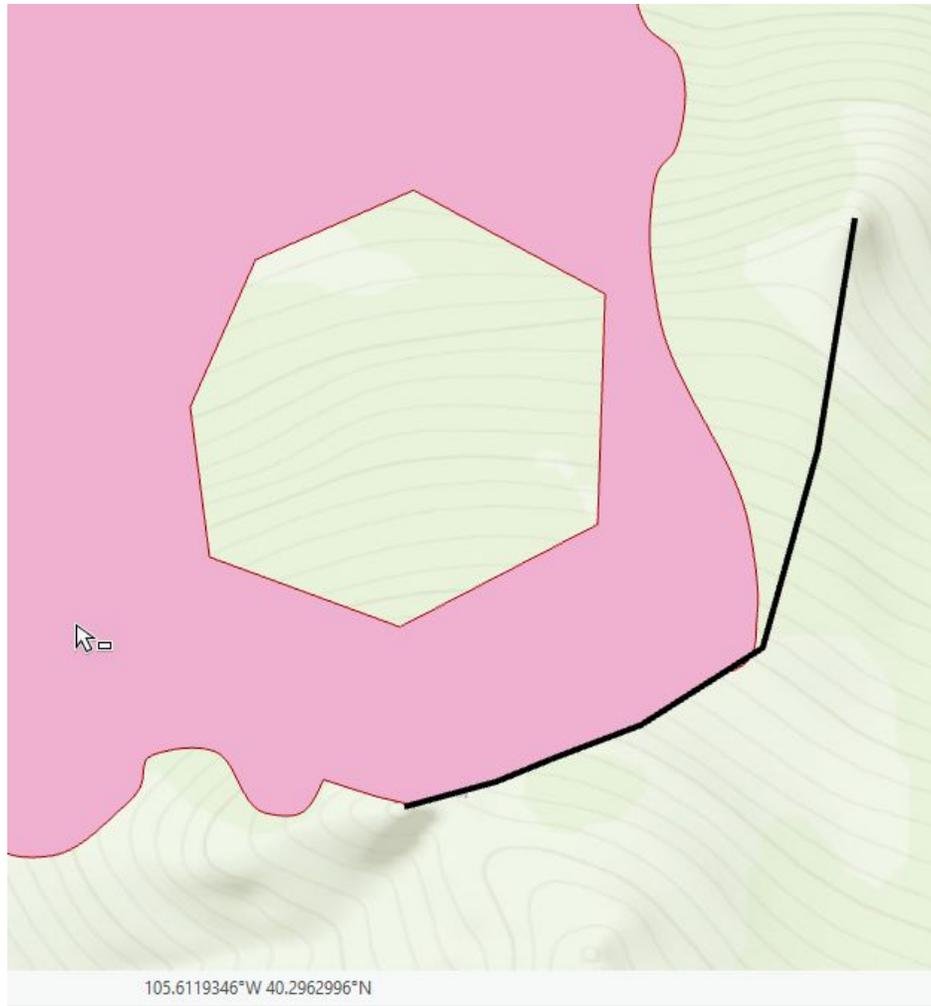
Create an Island

1. Open the Split tool from the Modify Features pane. The fire polygon can be selected before or after opening the Split tool. If not selected before, the tool will prompt the selection of the feature to be modified.
2. Click within the fire polygon to draw the area of the island. Be sure that the sketch forms a closed polygon. Double-click to finish the sketch.

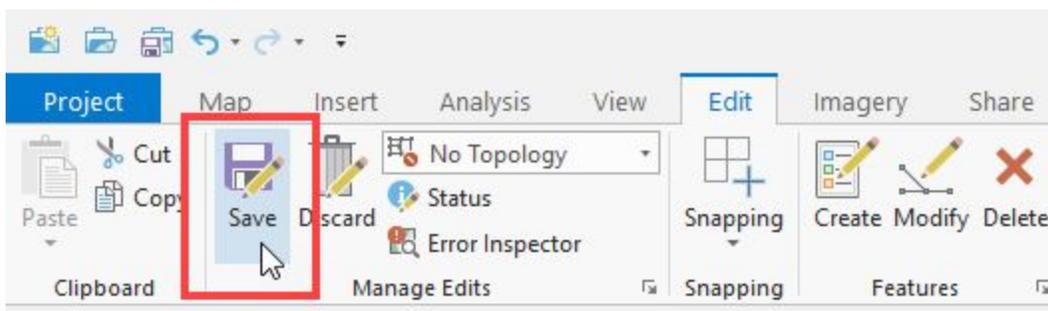


3. Select only the new polygon that was just created and use the delete key or click Delete on the Edit ribbon tab to remove it.



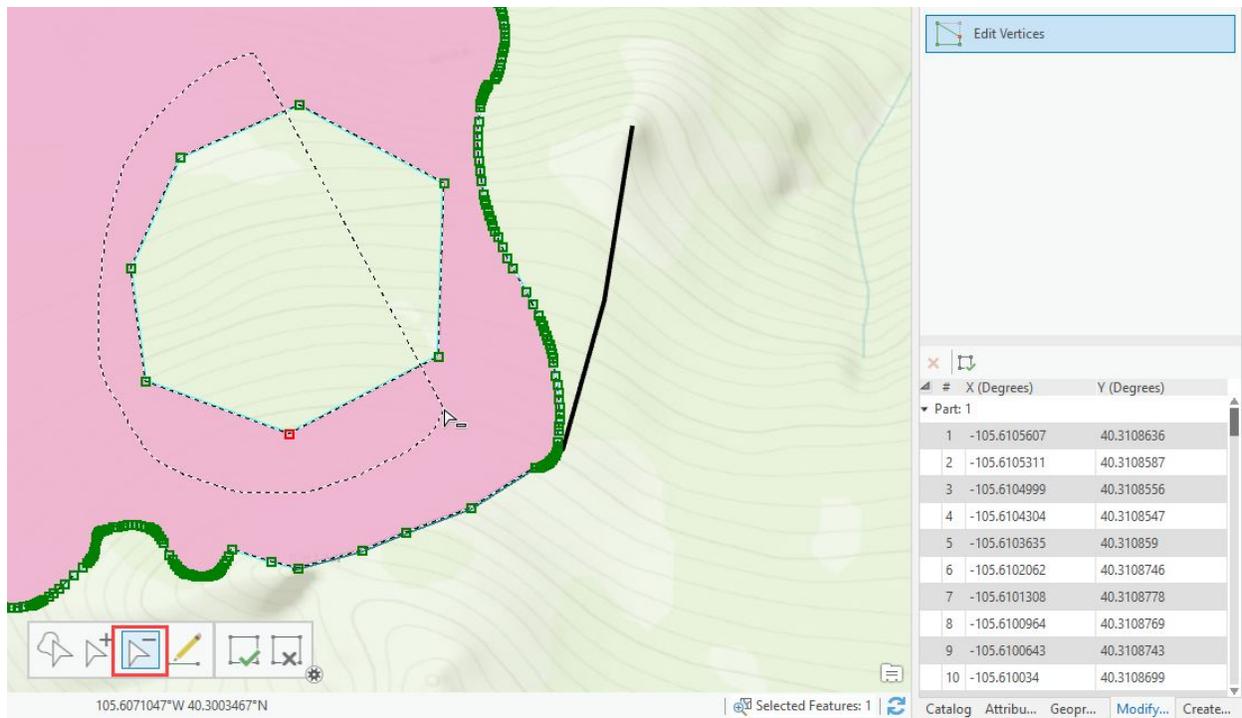
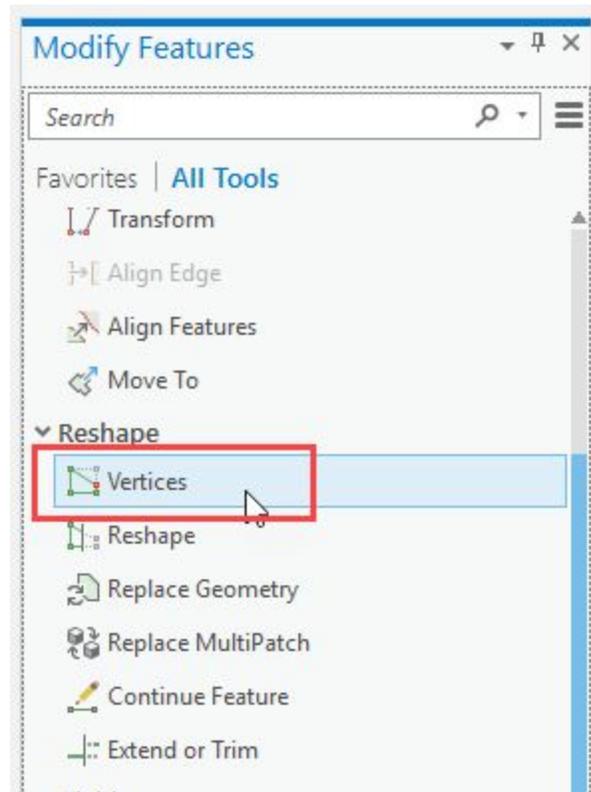


4. Update the attributes as necessary.
5. Save the edits.

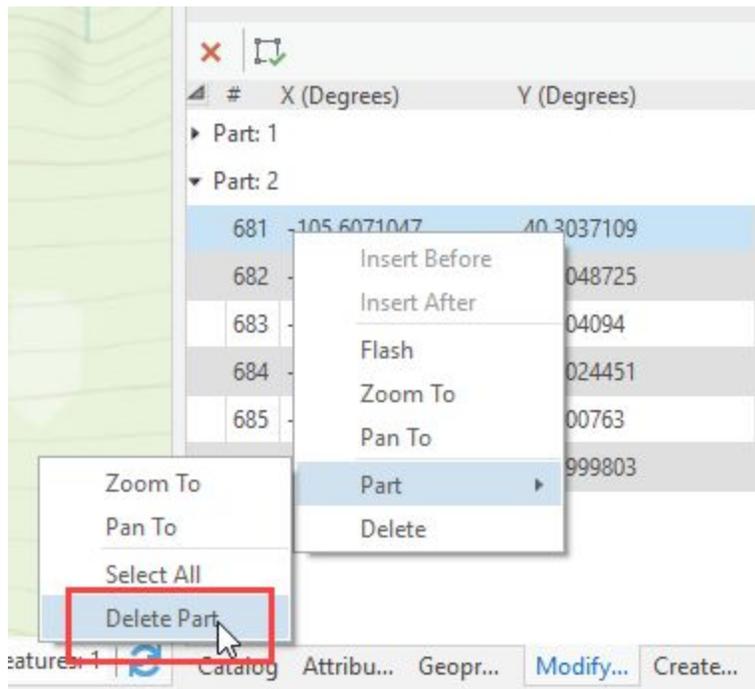


Remove an Island

1. Select the fire polygon and click the Vertices tool from the Modify Features pane (The Vertices tool is also in the Tools Gallery on the Edit ribbon tab by default). If the Vertices tool is opened first, it will prompt the selection of the feature to be modified.
 - a. Choose the Delete cursor from the tool options at the bottom of the map and draw around the island. (**Note:** the default draw is freehand, unlike boxes in ArcMap)



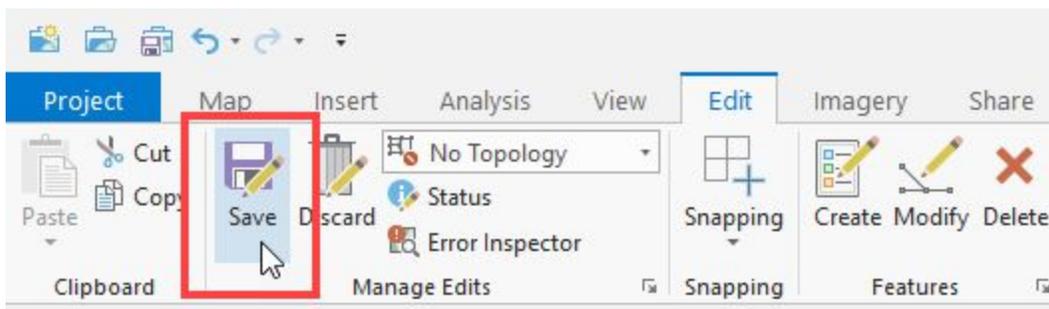
- b. Alternatively, right click one of the vertices in the feature Part that is the island and select Part >> Delete Part.



2. Complete the edit by clicking the Finish button or pressing F2.

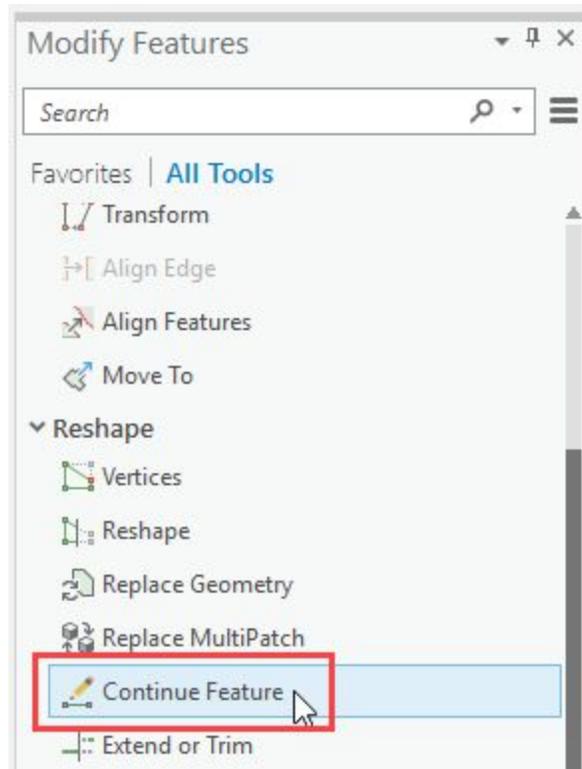


3. Edit the attributes as necessary.
4. Save the edits.

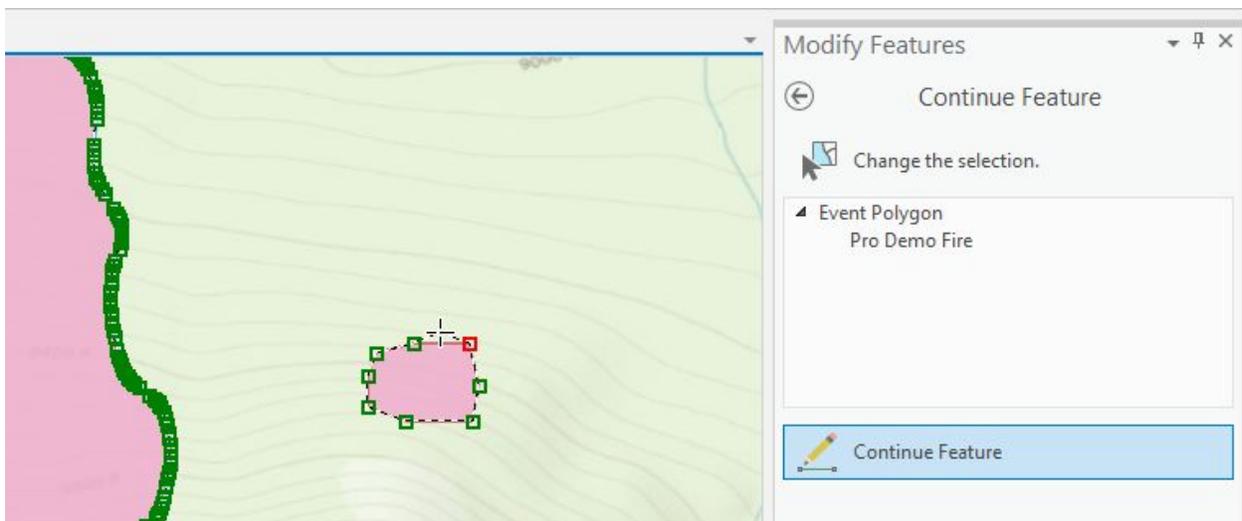


Add the Perimeter of a Spot Fire to the Fire Polygon by Digitizing

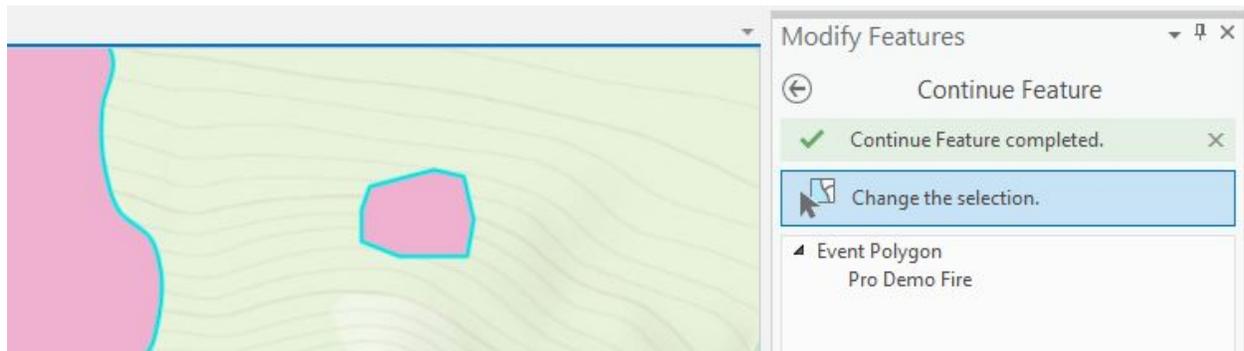
1. Open the Continue Feature tool from the Modify Features pane. If the fire polygon is not selected first, the tool will prompt selection of the feature to be continued.



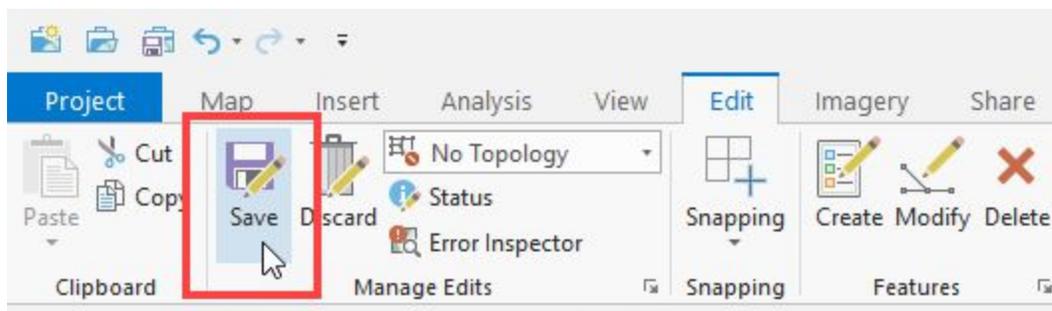
2. Click to draw the spot fire. Double-click to finish the sketch.



- The drawn feature is added to the existing fire polygon as a part, rather than as its own feature (to separate a multipart feature, use the Explode tool).



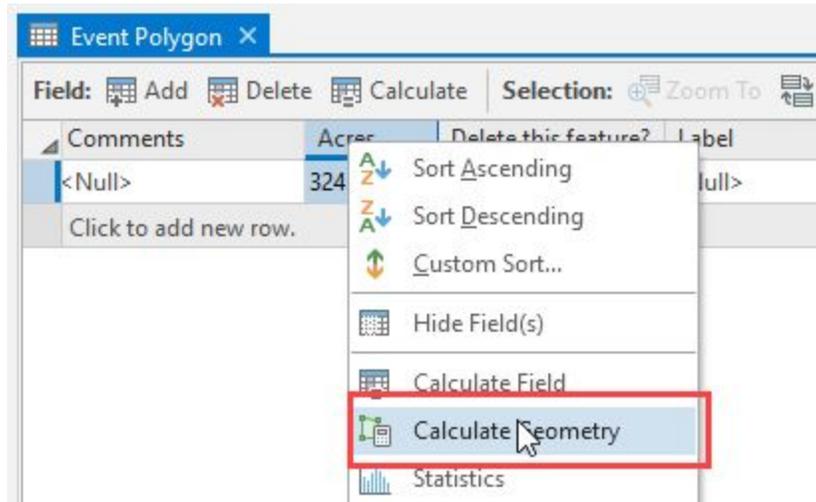
- Edit the attributes as necessary.
- Save the edits.



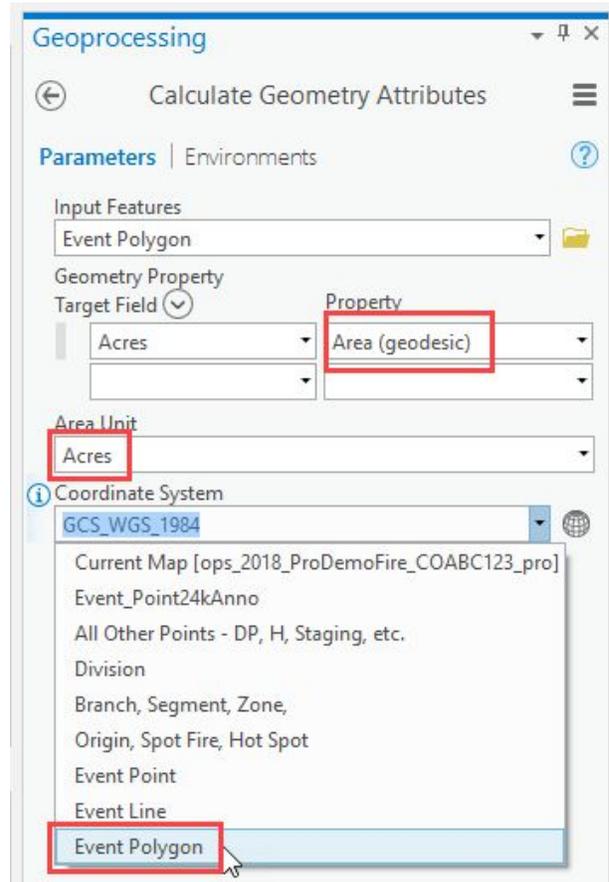
Calculate the Acres of the Fire Polygon

The Calculate Geometry GP tool was added to ArcGIS Pro in the 2.2 release. If using an older version of Pro, please see the [Calculate Geometry using Python](#) document.

1. From the Event Polygon attribute table, right-click Calculate Geometry.



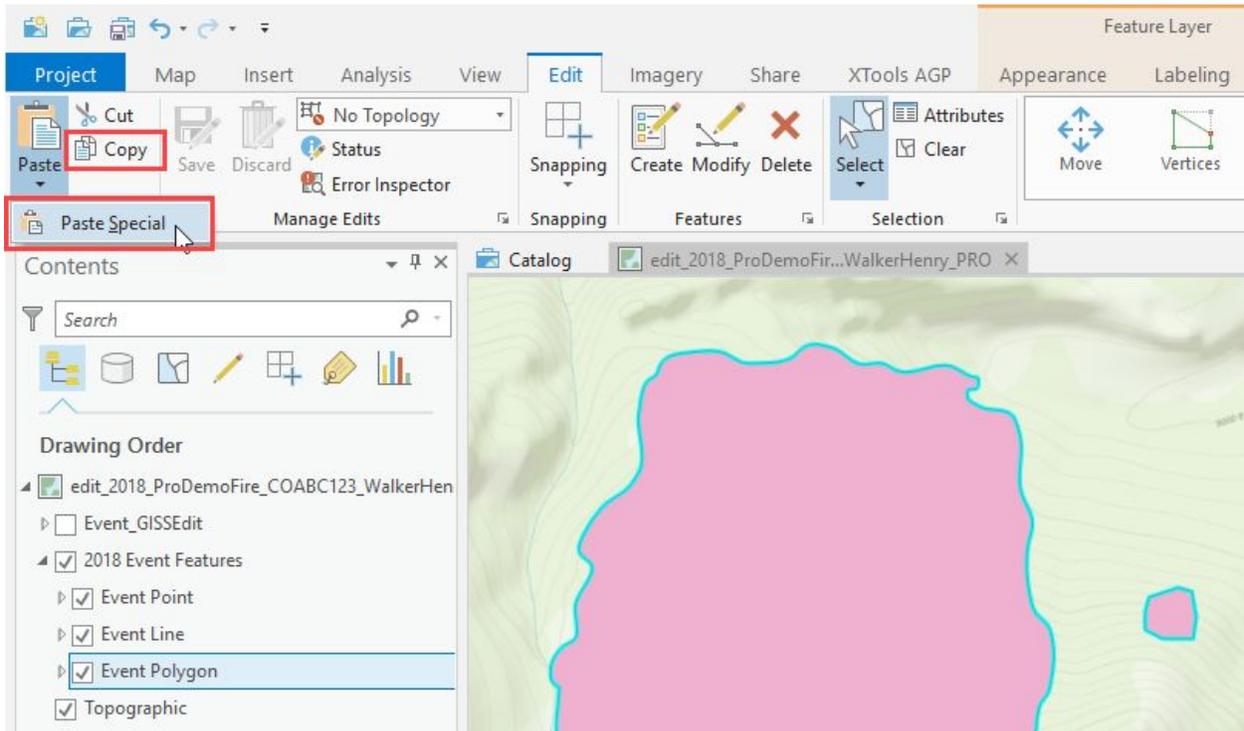
2. The Calculate Geometry Attributes tool will open in the Geoprocessing pane.
3. Enter Area for the Property, Acres as the area unit, and select the Event Polygon layer as the Coordinate System.
4. Click Run.



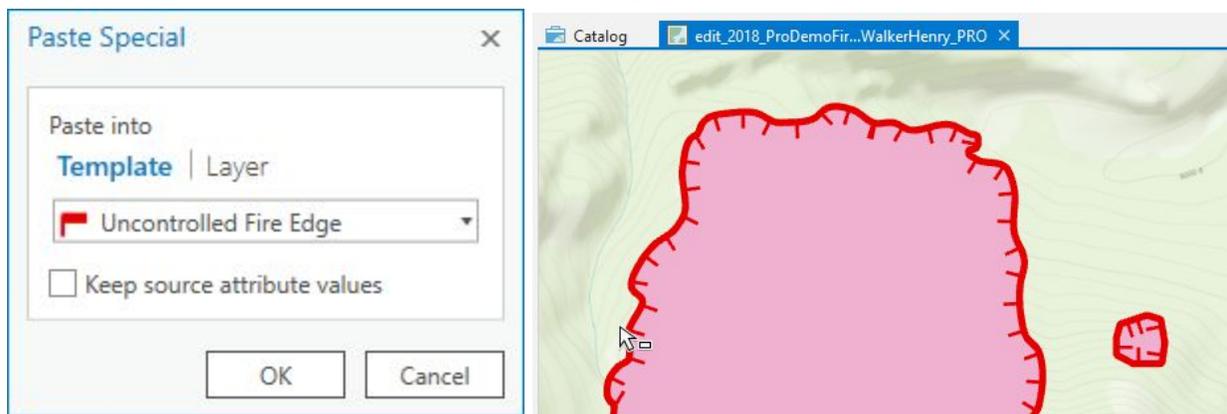
Event Line

Create Fireline by Copying the Fire Polygon

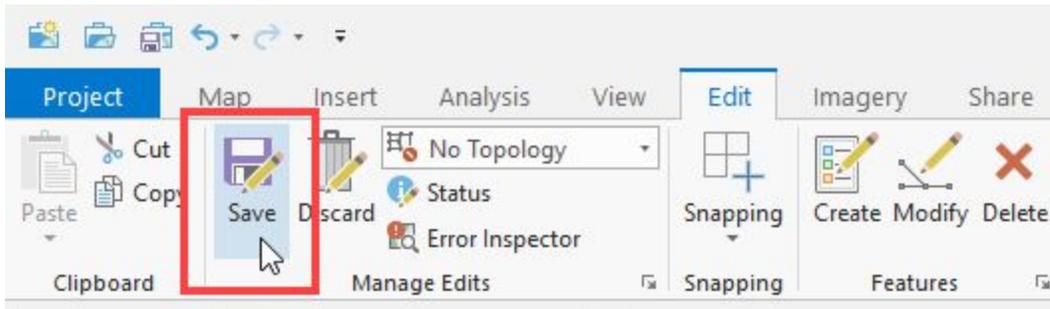
1. Select the Fire Polygon.
2. On the Edit ribbon tab, click Copy then Paste Special.



3. Paste into the Uncontrolled Fire Edge template.

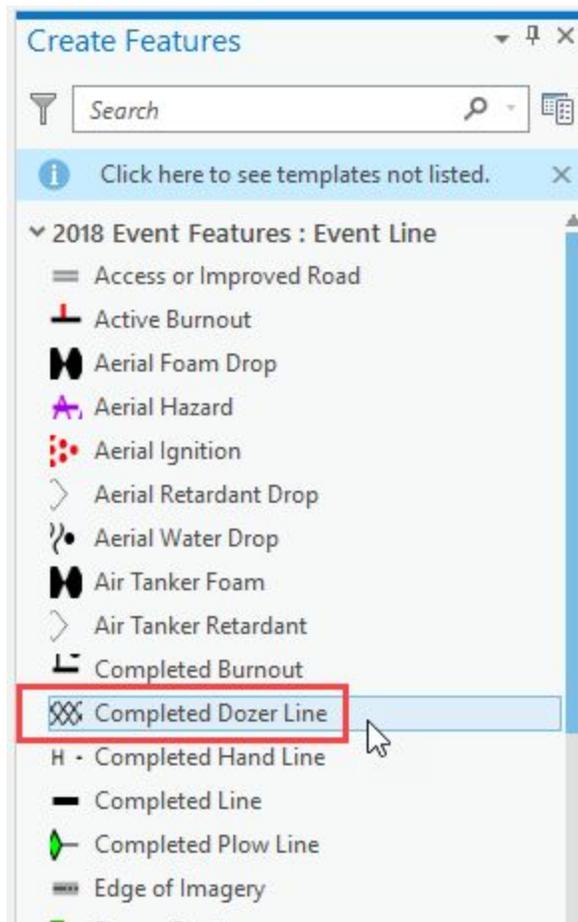


4. Update the Attributes as necessary.
5. Save the edits.

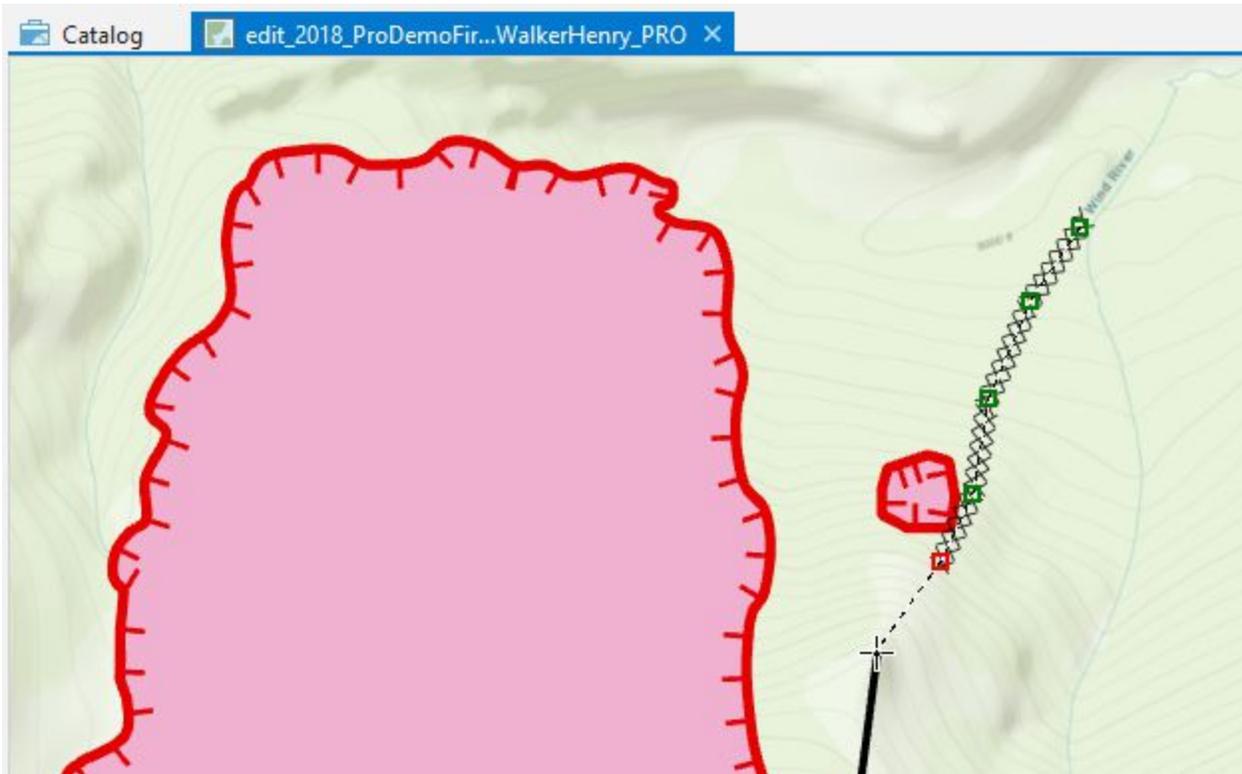


Create Fireline by Digitizing

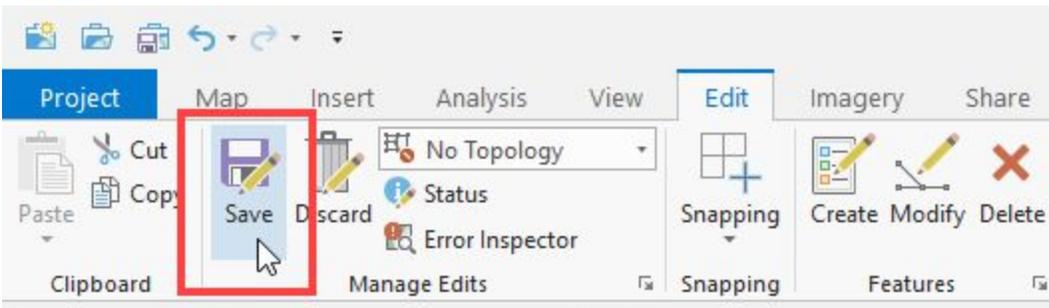
1. Open the Create Feature pane and select the Feature Category of line to create.



2. Click to draw the line. Press Finish or F2 to complete the sketch.

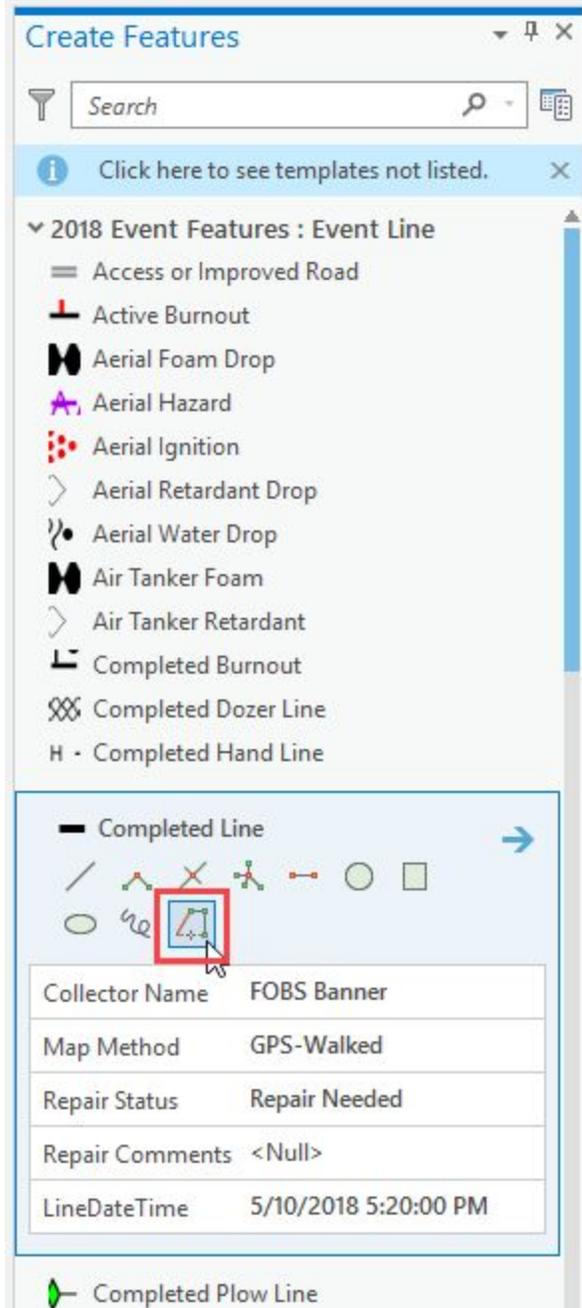


3. Update the Attributes as necessary.
4. Save the edits.

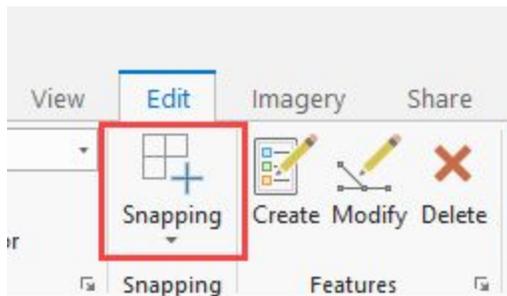


Create Fireline by Tracing Another Feature

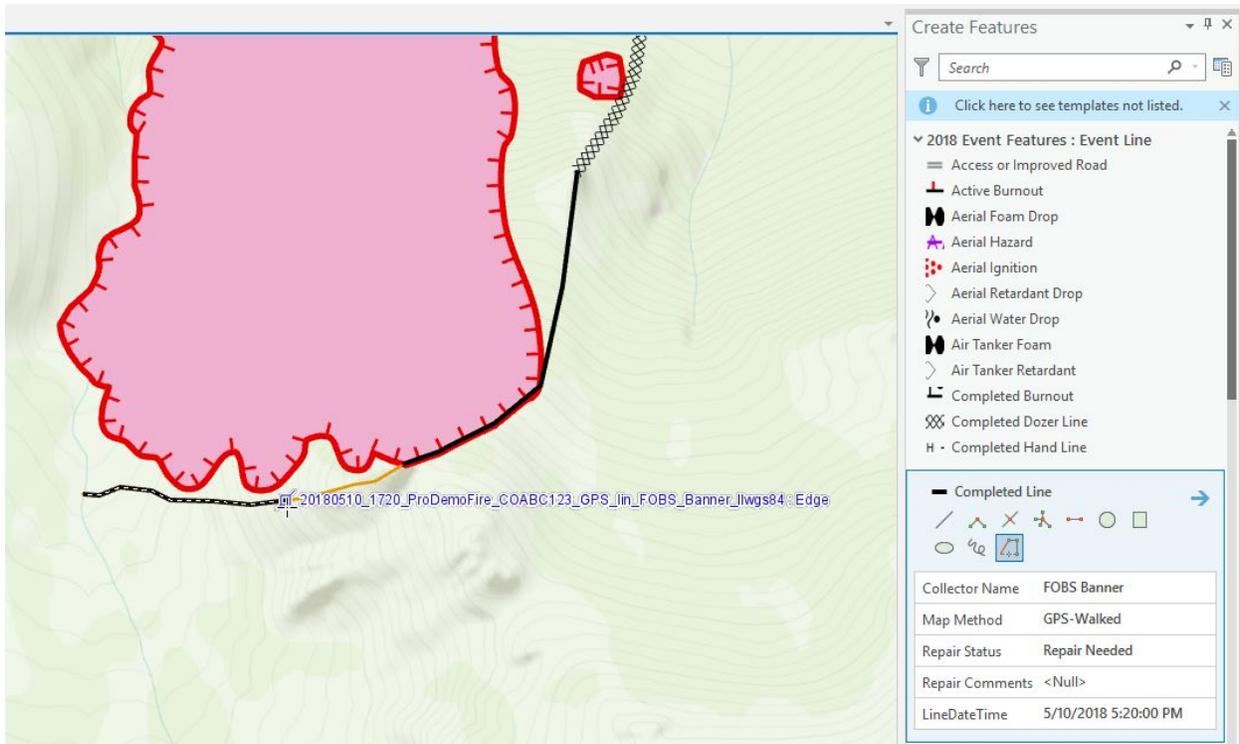
1. Add the layer to be traced to the map.
2. Select the Event Line feature category from the Create Features pane, fill in the prompted attributes, and select the Tracing drawing option.



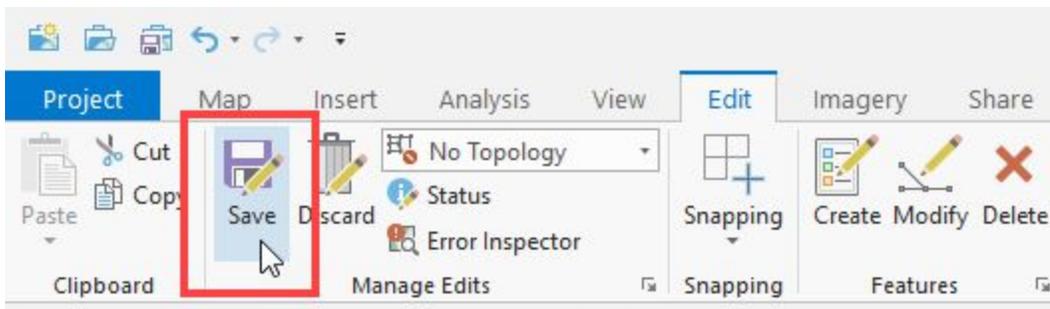
3. Turn on Snapping if it is not enabled.



- Beginning at one end of the line, click the endpoint and then move the cursor along the feature. Double-click to complete the sketch, or click again at the location to stop tracing and click the Finish button (or hit F2).

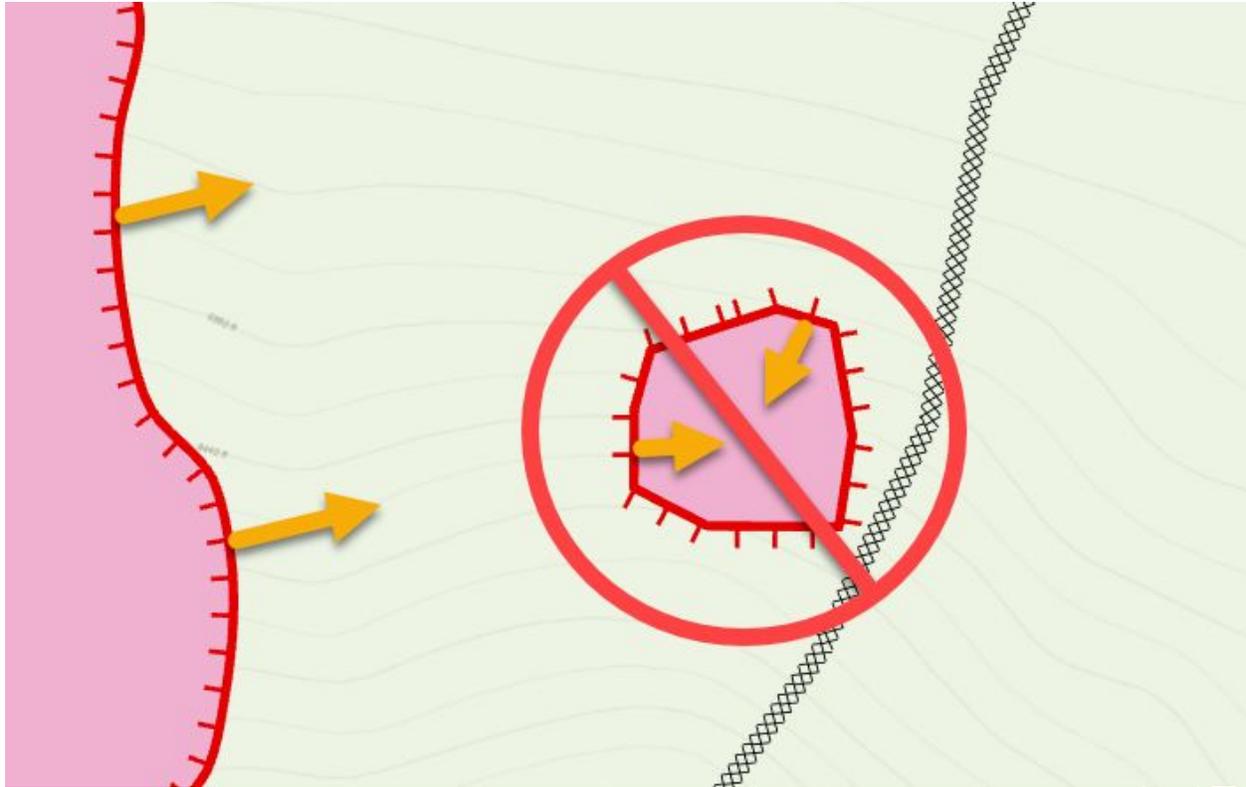


- Update the attributes as necessary if prompts are not configured.
- Save the edits.

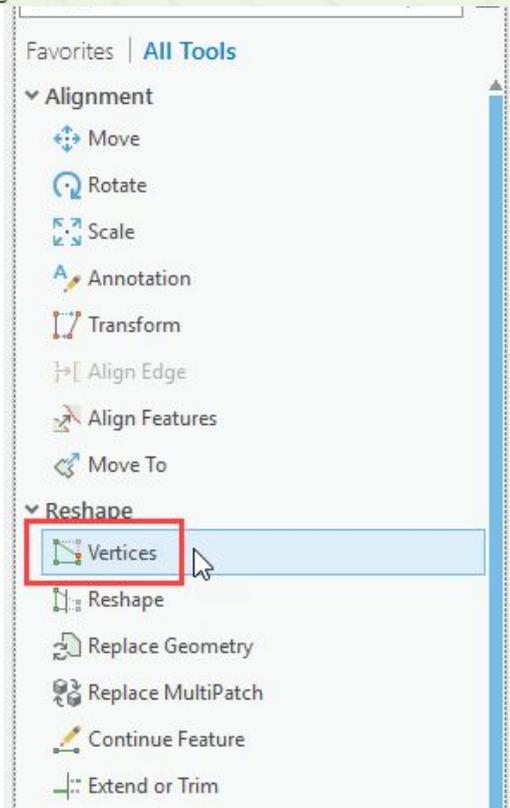


Flip the Fireline (if the Uncontrolled Fire Edge hash marks are facing out)

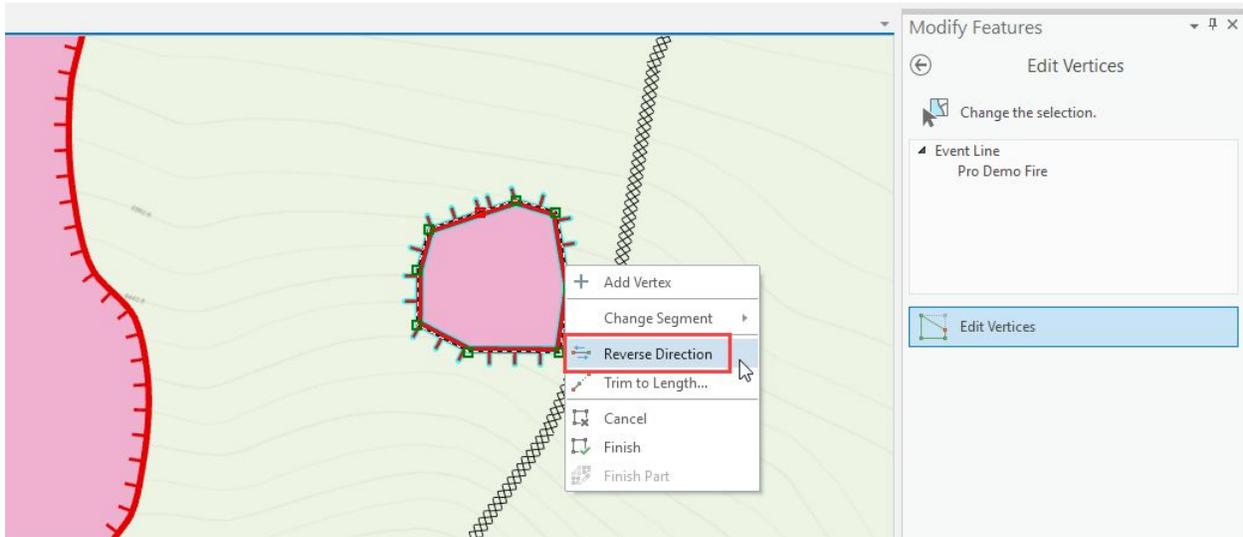
Uncontrolled Fire Edge symbology should always display the dashes on the line facing into the fire, as if they are trailing behind the fire growth.



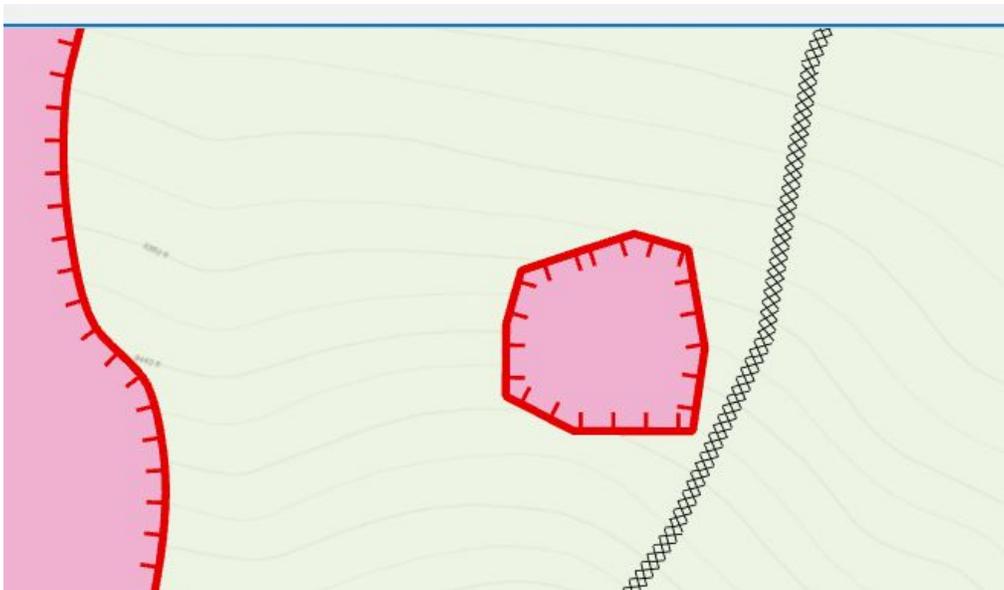
1. Open the Vertices tool in the Modify Feature pane. If the fireline to be flipped is not already selected, the tool will prompt selection of a feature.



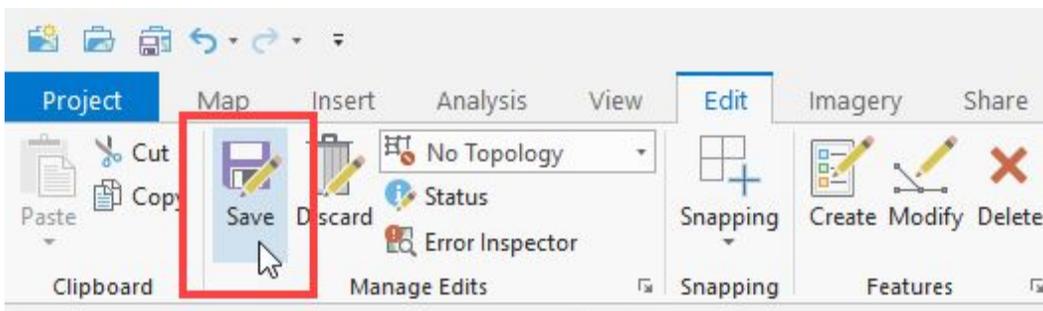
2. Right-click the line and select Reverse Direction.



3. Click anywhere off the line or the Finish button.

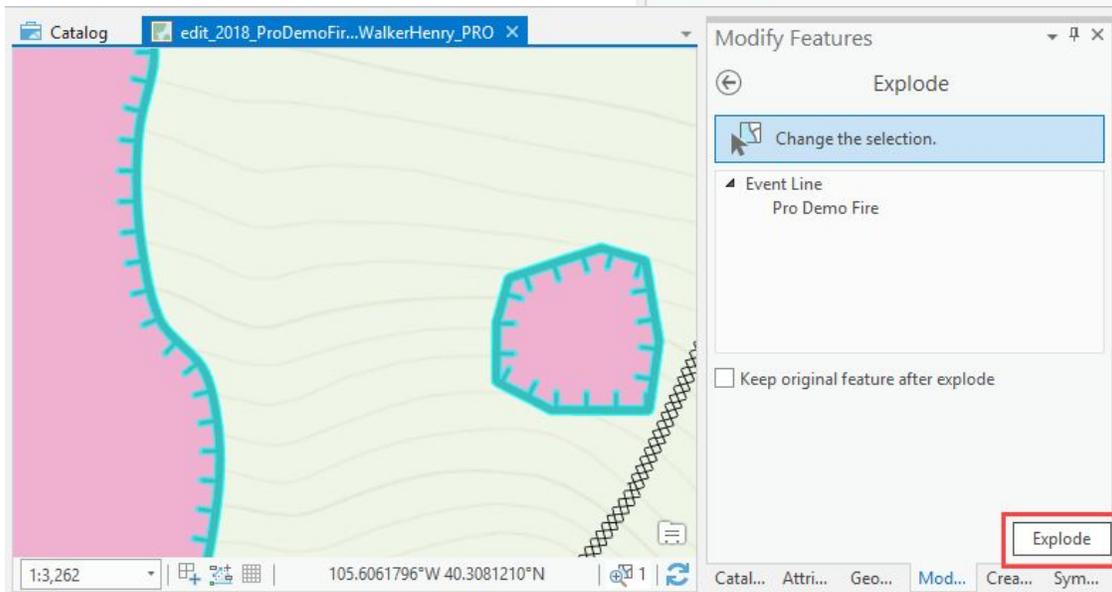
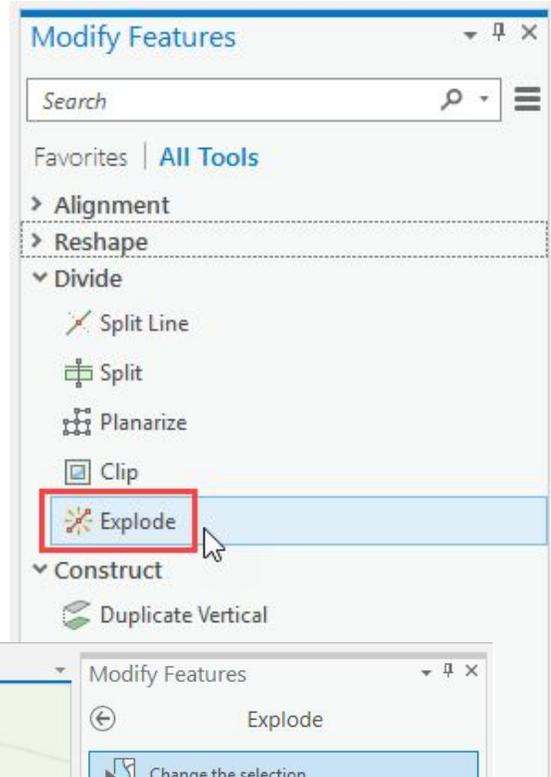


4. Save the edits.

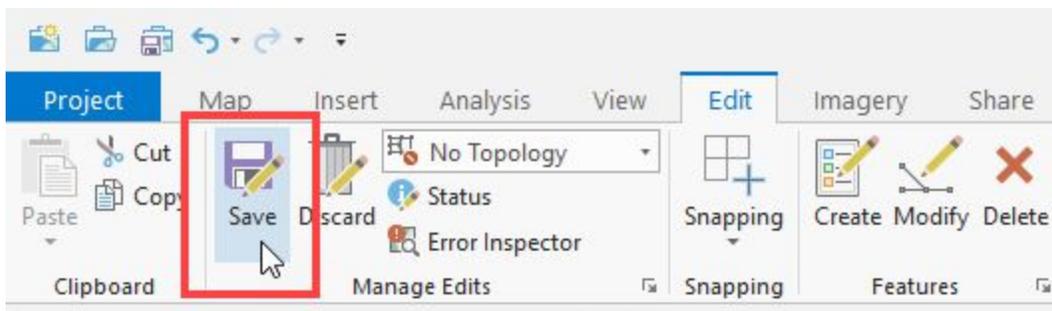


Separate the Fireline of an Island or Spot Fire from the Fireline of the Main Fire

1. Open the Explode tool from the Modify Features pane. If the feature to be exploded is not selected first, the tool will prompt for selection.
2. Click Explode to separate the selected multipart feature.

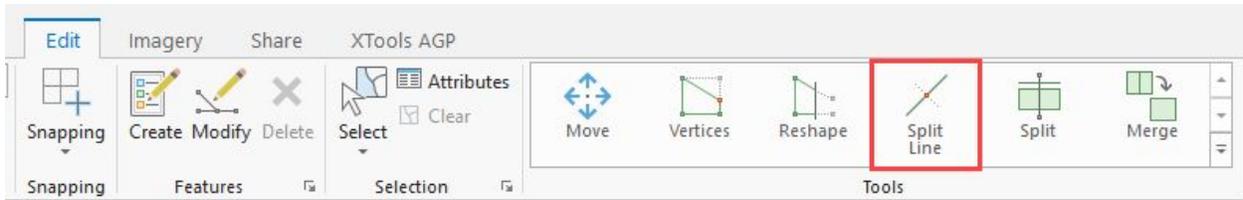


3. Update the Attributes as necessary.
4. Save the edits.

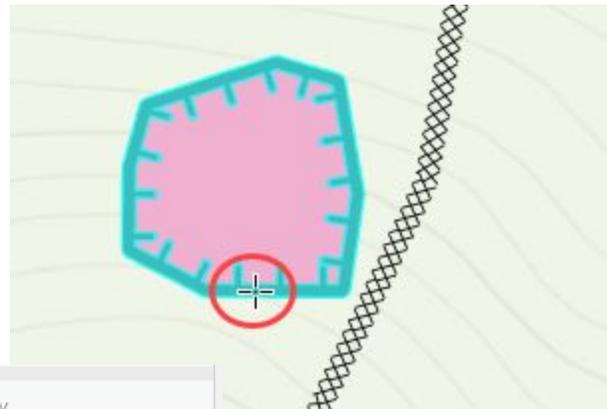


Split a Fireline

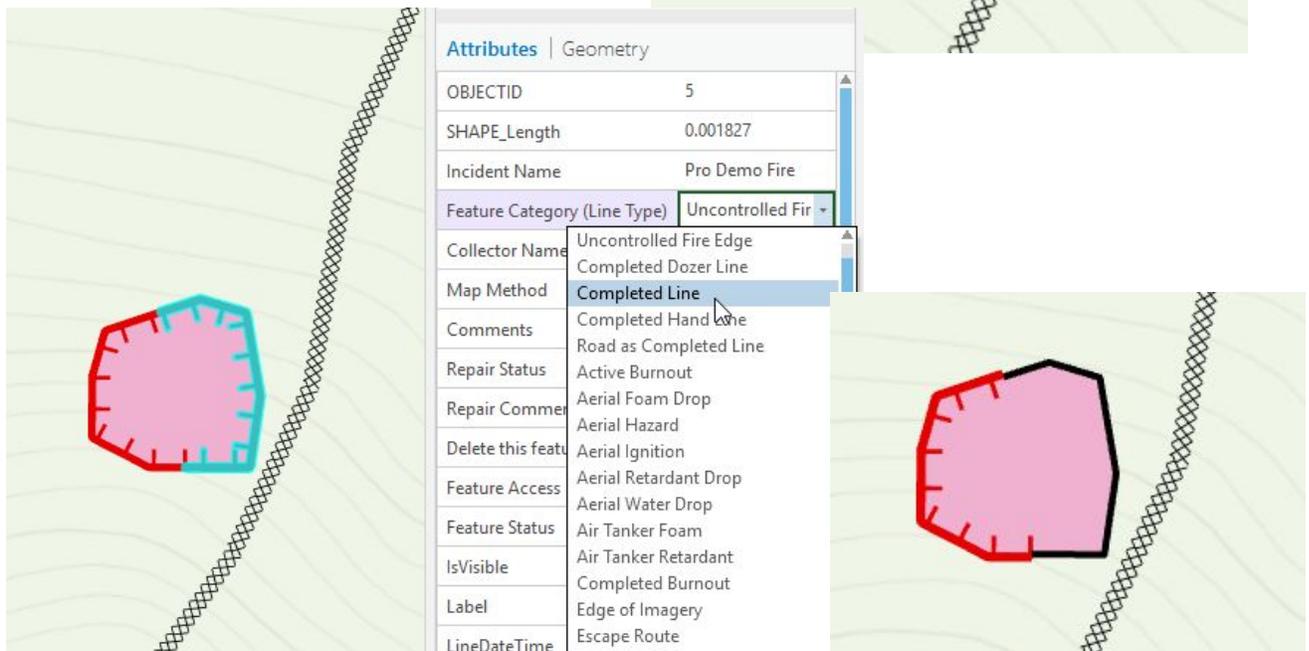
1. Open the Split Line tool from the Modify Features pane (this tool is in the Tool Gallery by default as well). If the line to be split is not selected first, the tool will prompt selection.



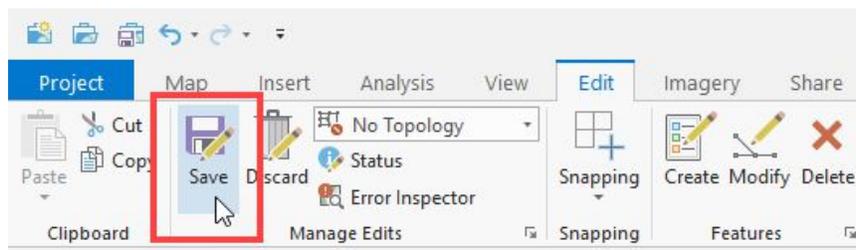
2. Click where the line is to be split.



3. Update the Attributes as necessary.



4. Save the edits.

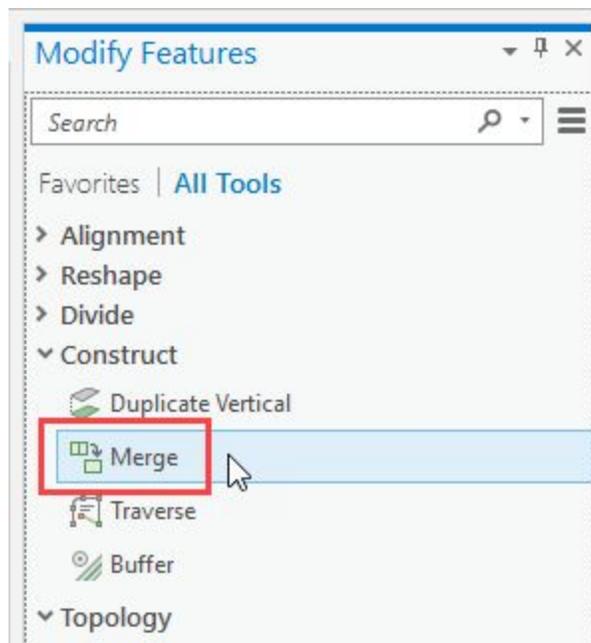


Join (Merge) Firelines

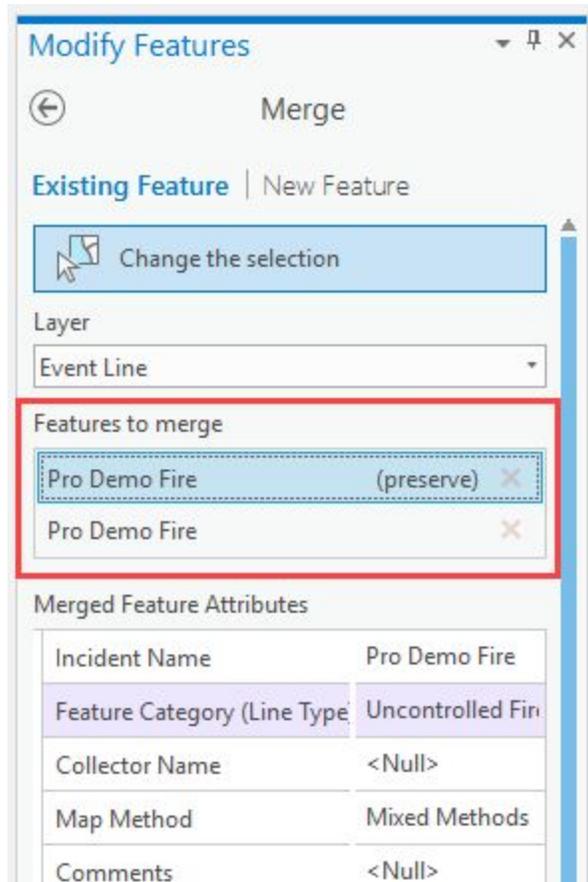
To combine two separate features into one. Non-adjacent features will create a multipart.



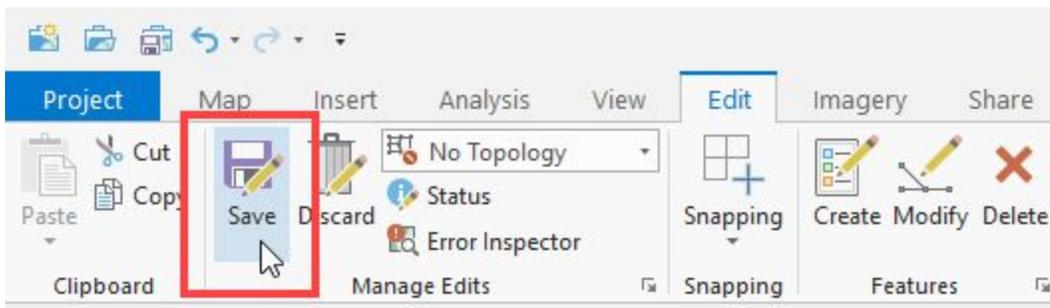
1. Open the Merge tool from the Modify Feature pane. If the features to be merged are not selected first, the tool will prompt selection.



- Choose the feature that is to be preserved (this features attributes will be used for the new, combined geometry). Clicking the features will highlight them in the map and display the attributes.



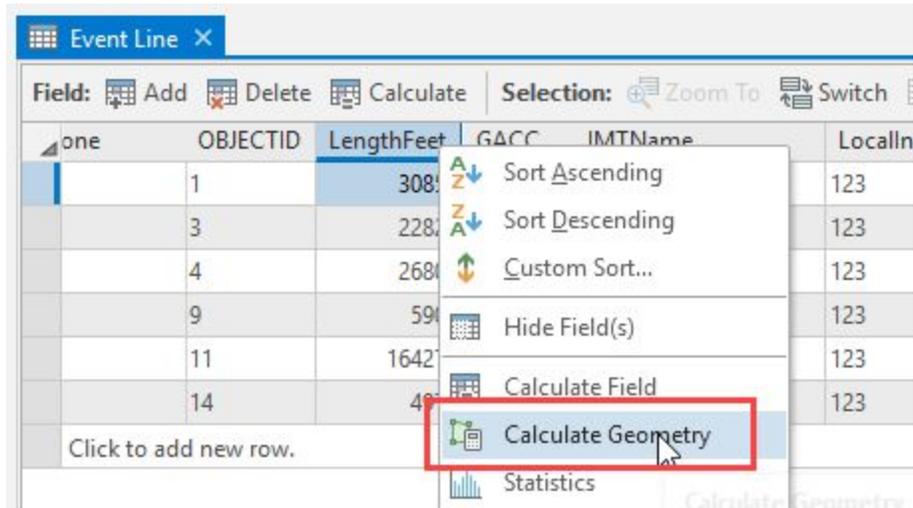
- Click Merge
- Save the edits.



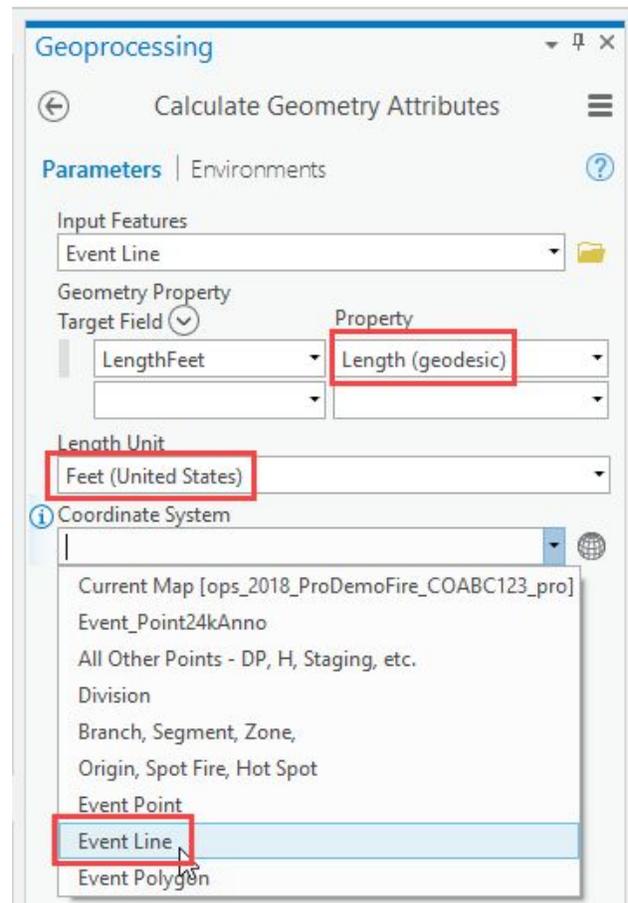
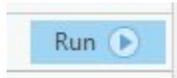
Calculate Line Lengths

The Calculate Geometry GP tool was added to ArcGIS Pro in the 2.2 release. If using an older version of Pro, please see the [Calculate Geometry using Python](#) document.

1. From the Event Polygon attribute table, right-click Calculate Geometry.



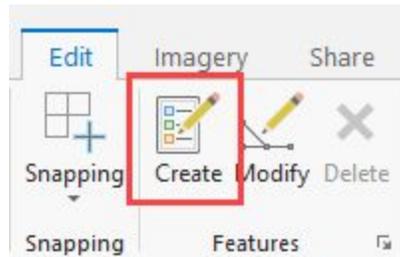
2. The Calculate Geometry Attributes tool will open in the Geoprocessing pane.
3. Enter Length as the Property, Feet as the Length Unit, and Event Line as the Coordinate System.
4. Click Run.



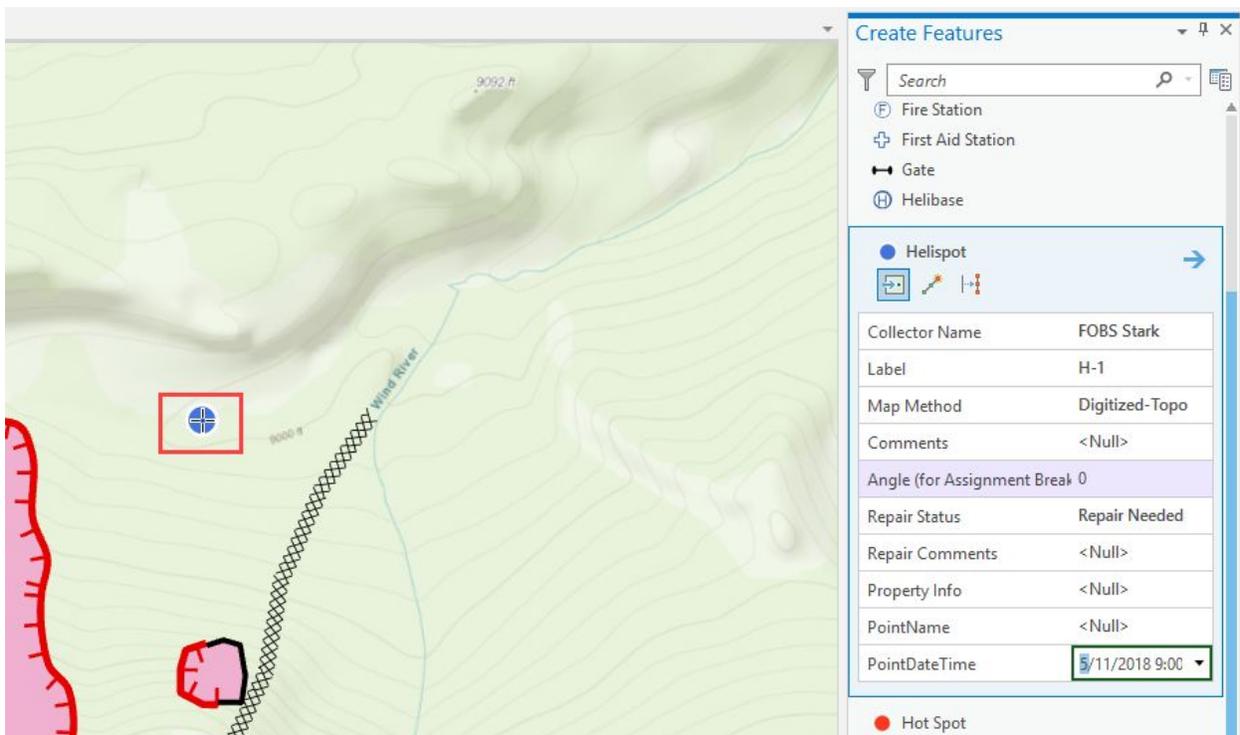
Event Points

Create Points from Digitizing or from XY Coordinates

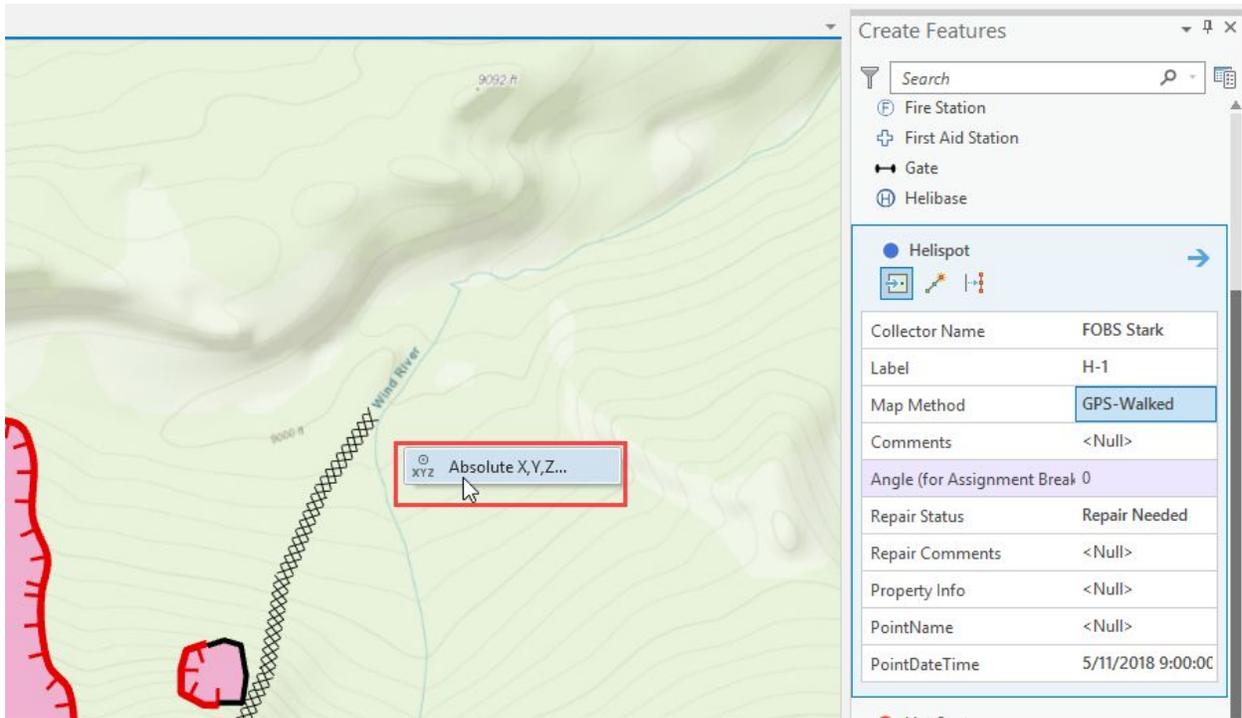
1. Open the Create Feature pane.



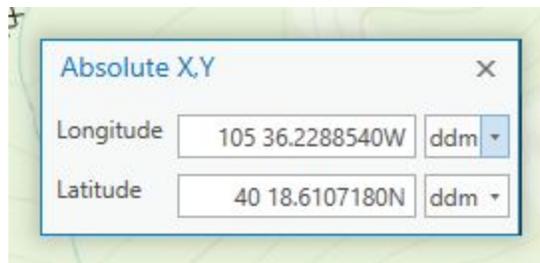
2. Select the Point feature category to be created and fill in the prompted attributes (if attributes are not set to prompt, fill them in through the Attributes pane after creation).
3. Click on the map at the location to create the point.



4. To place the point from XY coordinates, right click in the map and select



5. Enter the coordinates and press the Enter key.



6. Update the attributes, if necessary.

The screenshot displays a map interface with a topographic background. A blue point feature labeled 'H-1' is visible on the map. To the right, the 'Attributes' window is open, showing the following data:

Attributes Geometry	
OBJECTID	4
Incident Name	Pro Demo Fire
Feature Category (Point Type)	Helispot
Collector Name	FOBS Stark
Label	H-1
Map Method	GPS-Walked
Comments	<Null>
Angle (for Assignment Breaks)	0
Latitude	<Null>
Longitude	<Null>
Repair Status	Repair Needed
Repair Comments	<Null>
Property Info	<Null>
Delete this feature?	No

7. Save the edits.

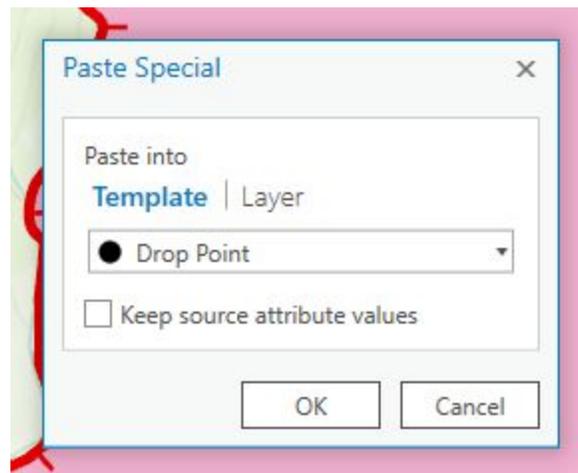
The screenshot shows the ArcGIS Pro ribbon interface. The 'Edit' tab is active, and the 'Save' button is highlighted with a red box. Other visible buttons include 'Project', 'Map', 'Insert', 'Analysis', 'View', 'Snapping', 'Imagery', and 'Share'. The 'Clipboard' group contains 'Paste' and 'Copy'. The 'Manage Edits' group contains 'Discard', 'Status', and 'Error Inspector'. The 'Snapping' group contains 'Snapping'. The 'Features' group contains 'Create', 'Modify', and 'Delete'.

Copy Points from Another Layer and Edit the Attributes of Multiple Points at Once

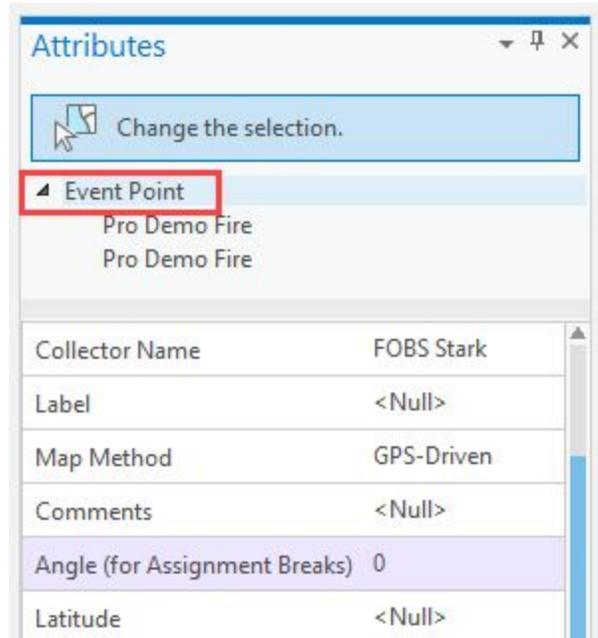
1. Add the layer containing the points to be copied to the map.
2. Select the points to be copied
3. Click Copy, then Paste Special.



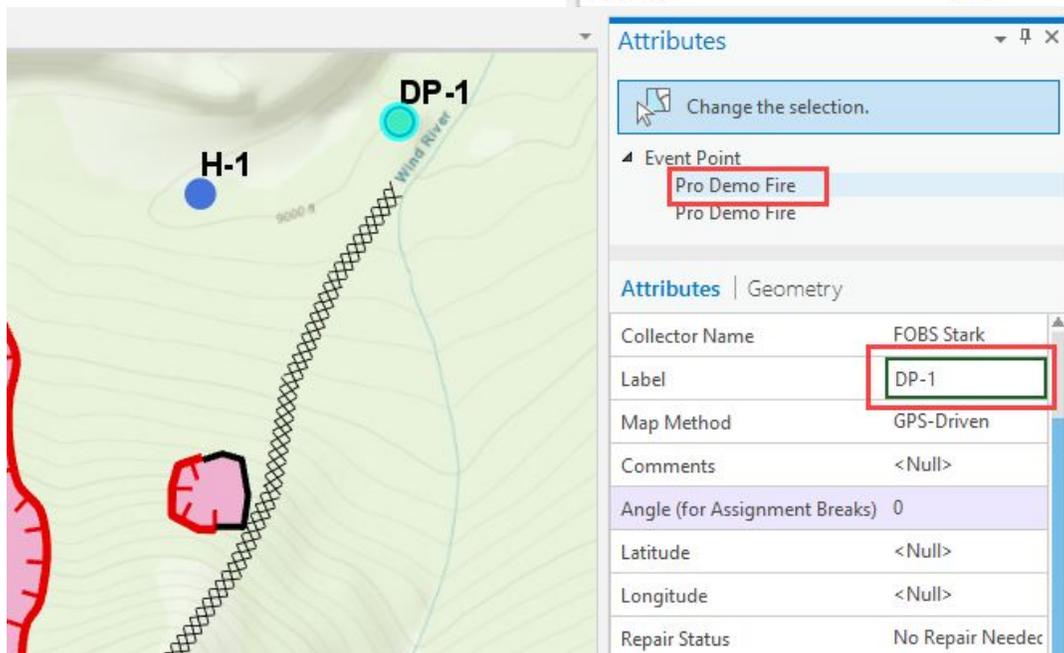
4. Select the Event Point feature category to paste the points into.



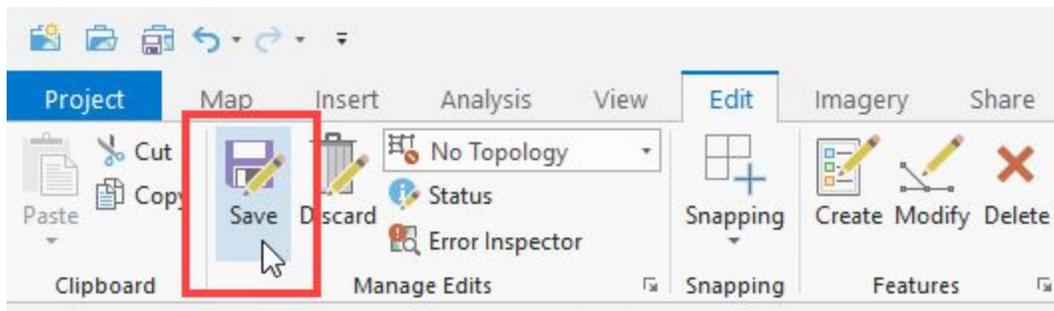
- In the Attributes pane, select the Event Point layer rather than an individual point and enter the values that apply to all the selected features.



- Update the individual feature attributes by clicking on each point below the Event Point layer as necessary.

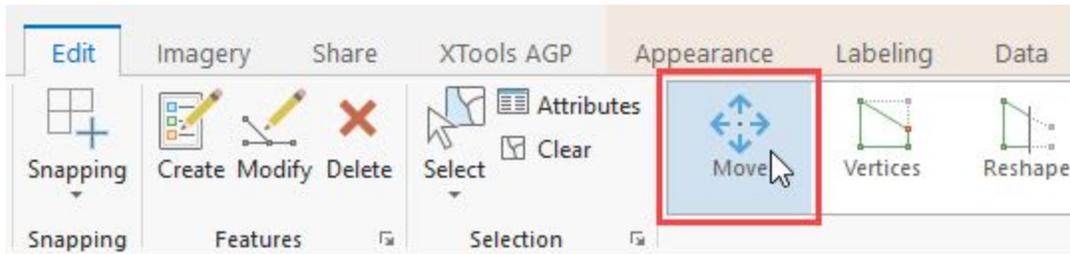


- Save the edits.

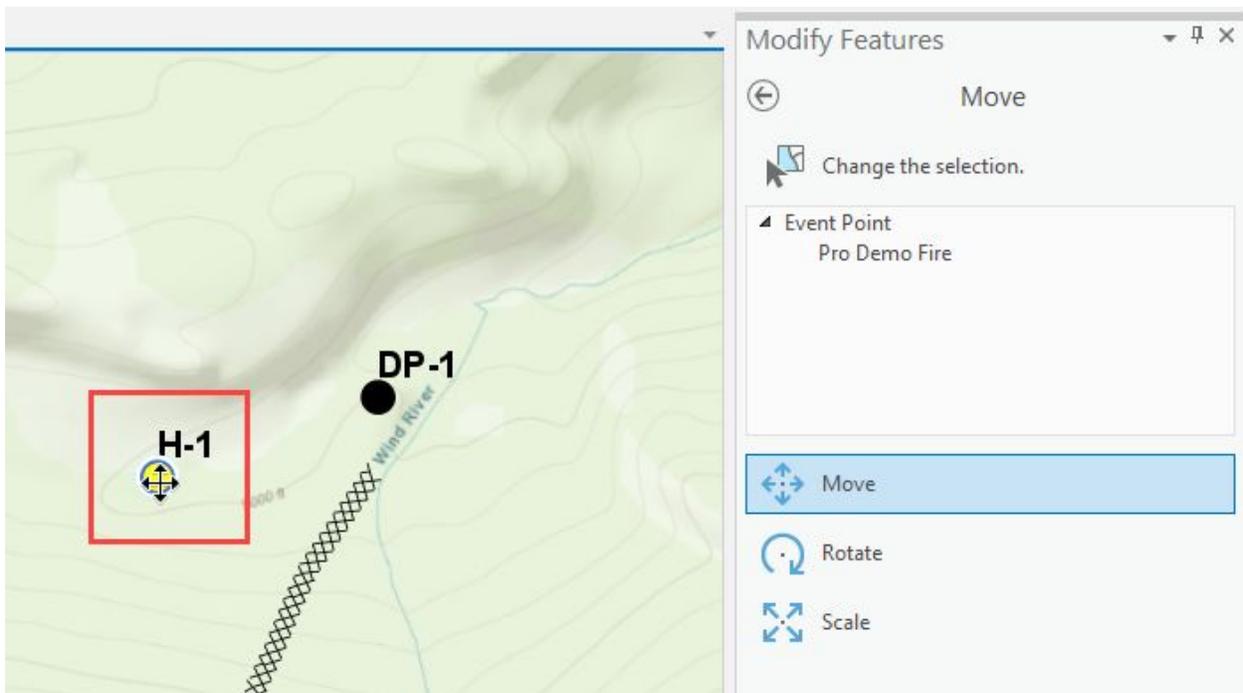


Move an Existing Point Manually

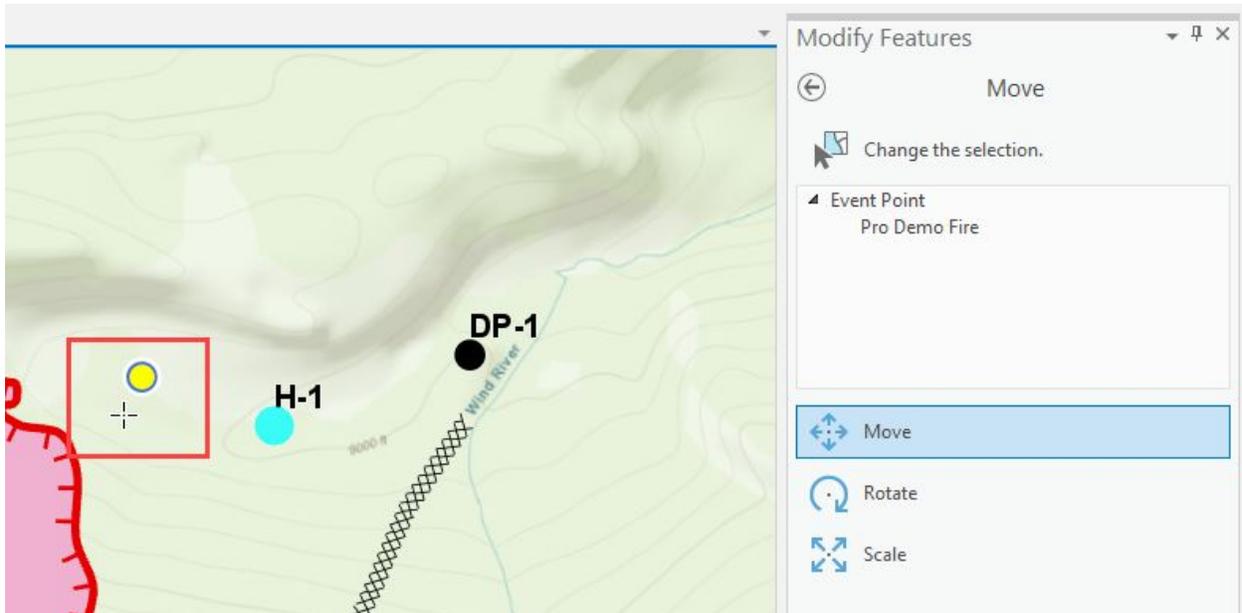
1. From the Edit ribbon tab, open the Move tool in the Tools Gallery (Move is also available in the Modify Features pane). If the point to be moved was not already selected, the tool will prompt selection.



2. Hovering over the selected point will change the cursor to the Move symbol.



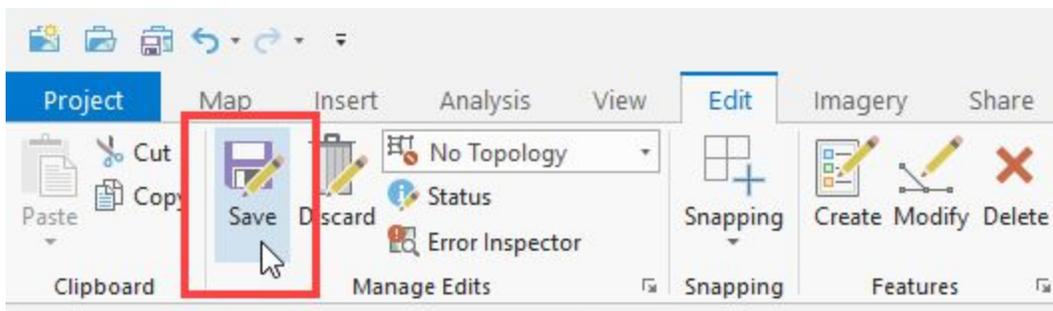
3. Click and hold to drag the point to the desired location.



4. Click the Finish button or hit F2 to complete the move.

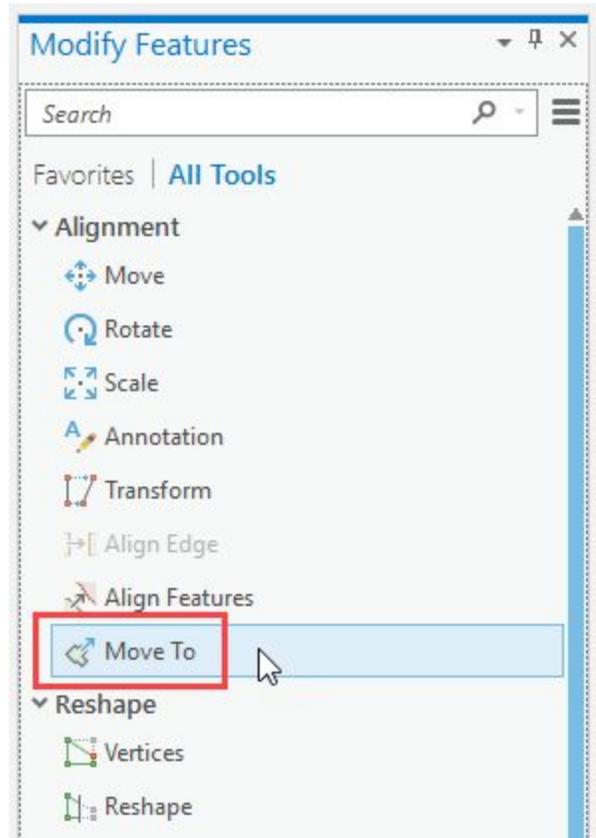
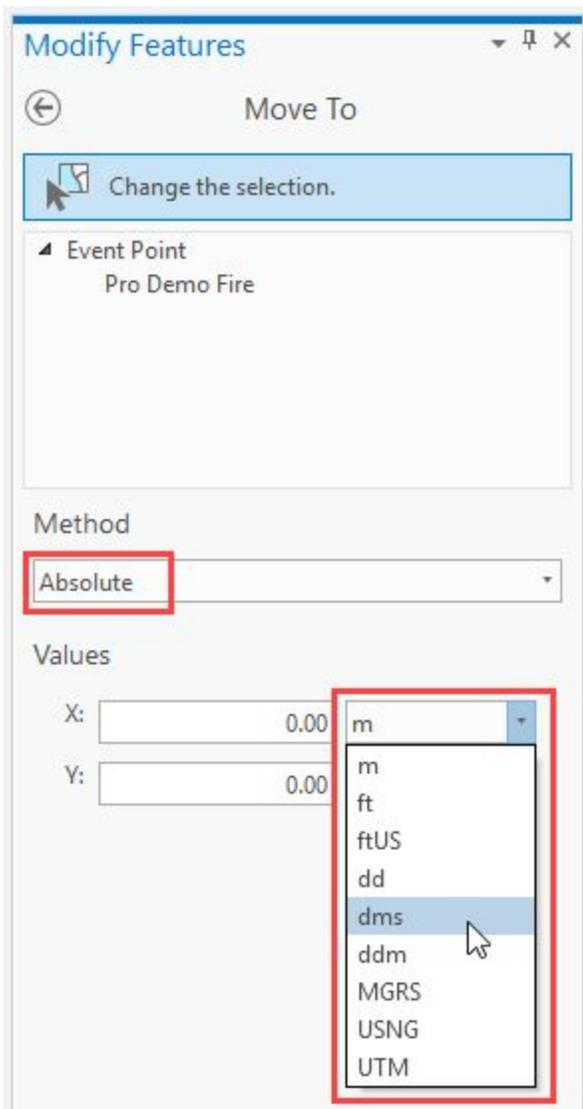


5. Edit the attributes if necessary.
6. Save the edits.

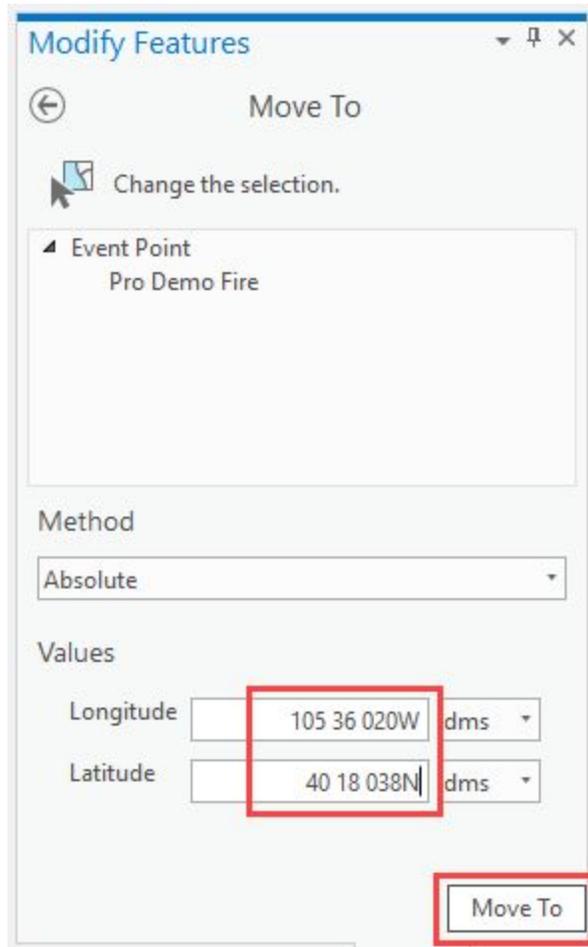


Move an Existing Point to Known Coordinates

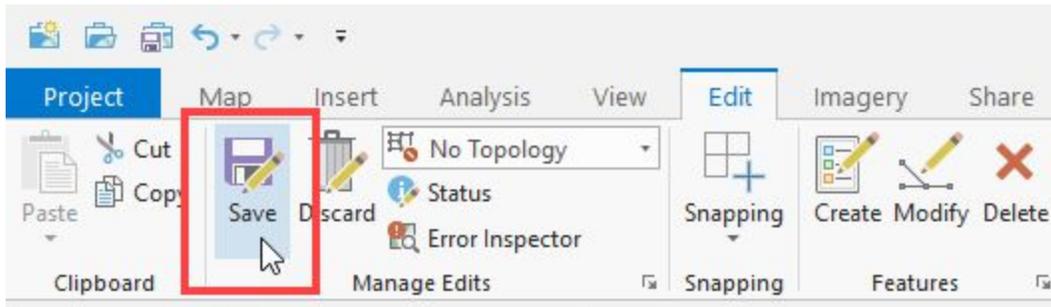
1. From the Modify Features pane, open the Move To tool. If the point to be moved was not already selected, the tool will prompt selection.
2. Select Absolute as the Method and choose the coordinate format from the XY dropdowns.



3. Enter the X and Y coordinates and click Move To.

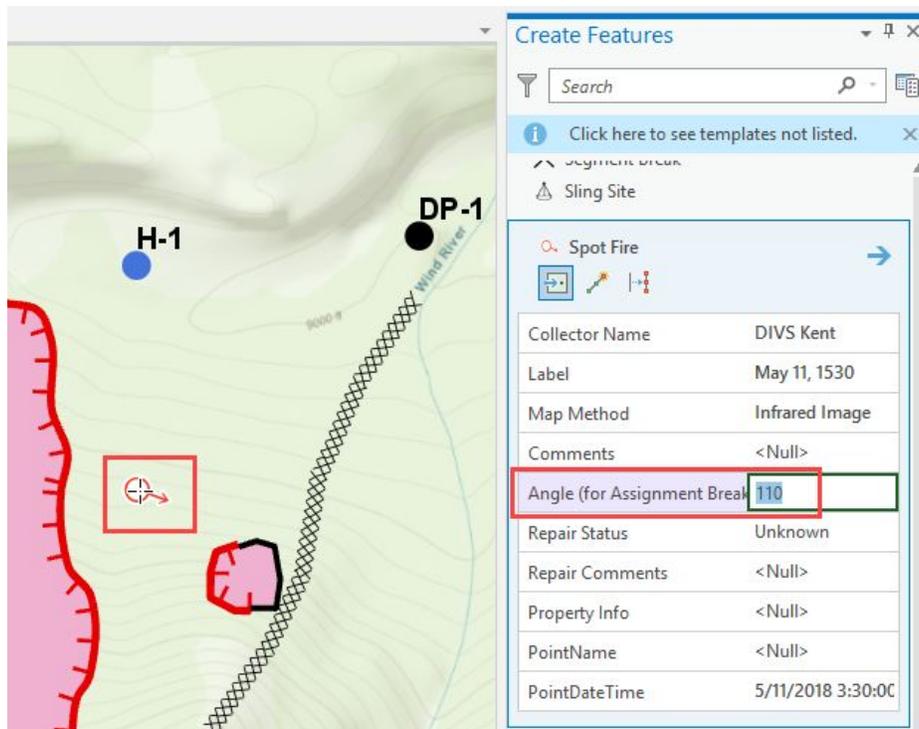


4. Edit the attributes if necessary.
5. Save the edits.

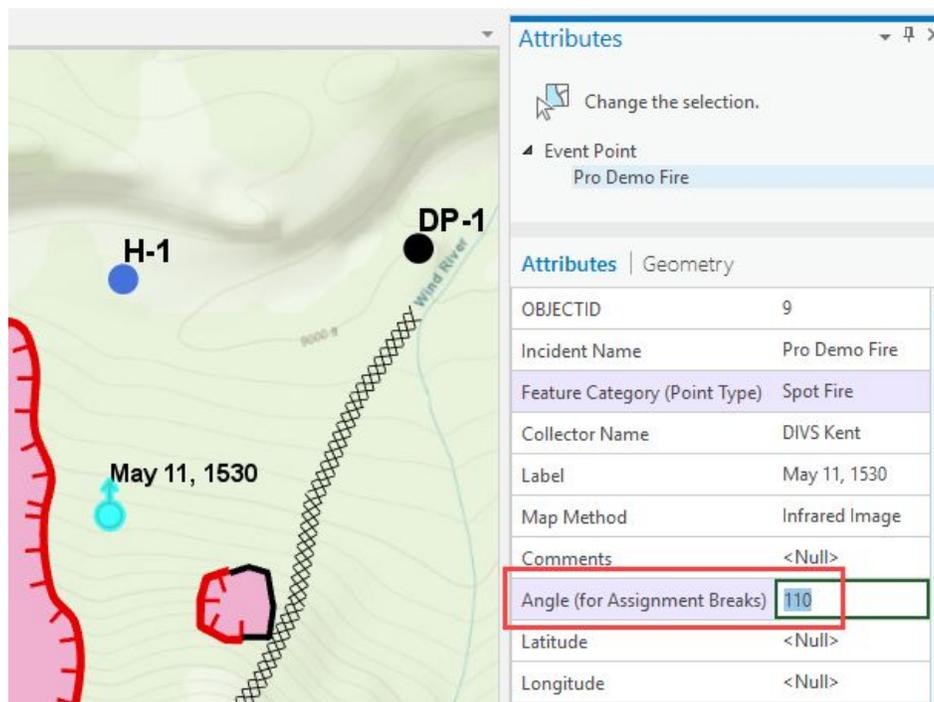


Rotate Point Symbols (Division/Branch Breaks, Spot Fires)

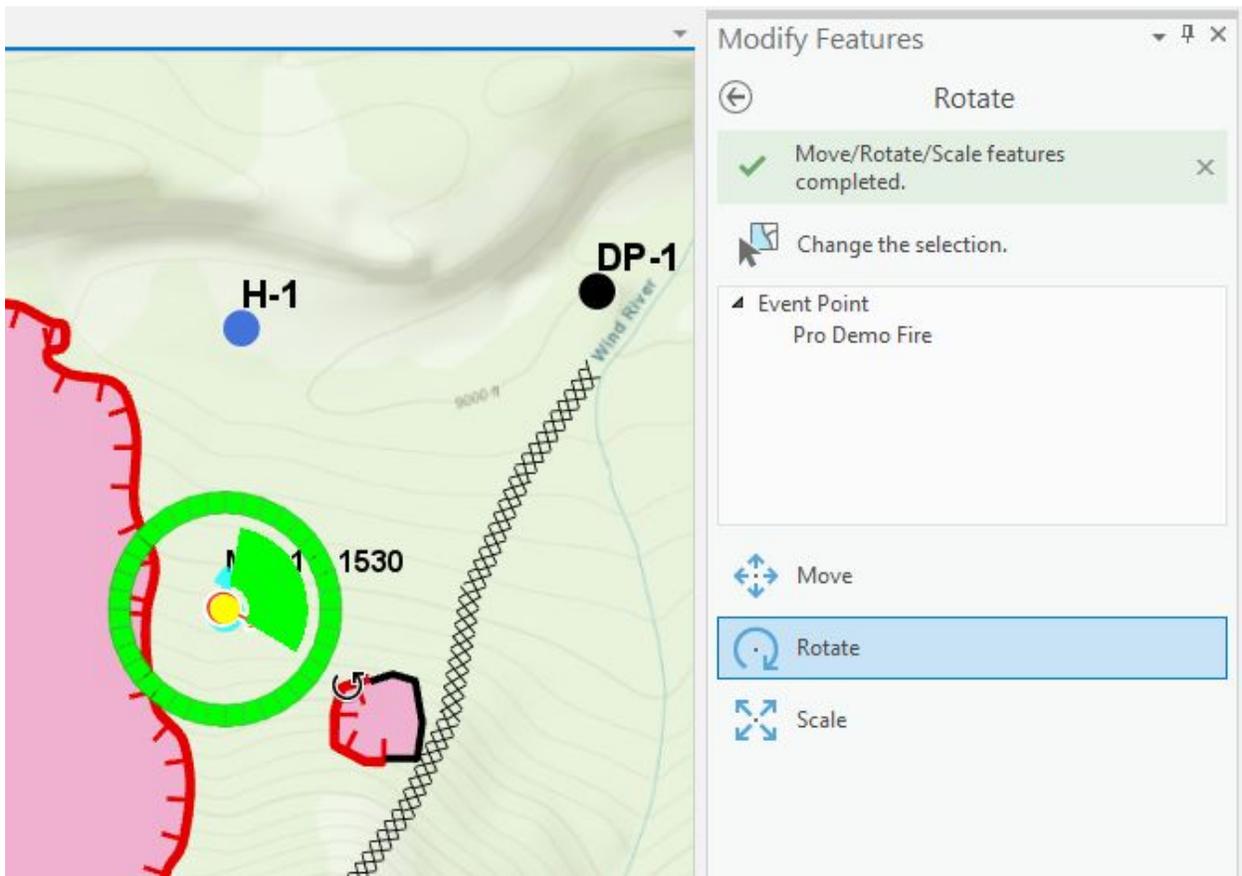
1. In the Create Features pane, editing the Angle field in the prompted attributes will rotate the symbol before the point is even created, allowing visual confirmation.



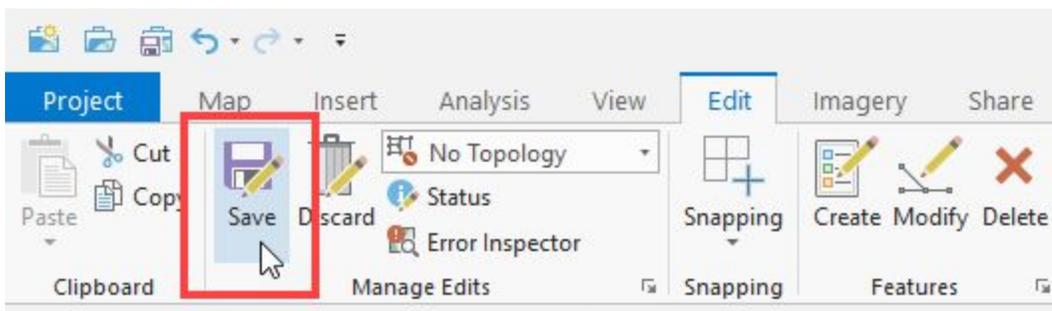
2. The Angle field can also be edited after point creation from the Attributes pane.



- Points can also be rotated using the Rotate tool found in the Modify Features pane (Rotate can also be accessed within the Move tool).



- Changes made with the Rotate tool will be reflected in the Angle field.
- Save the edits.



Calculate Latitude and Longitude for Point Features

As of the ArcGIS Pro 2.2 release, Calculate Geometry does not support DDM as an output coordinate format. Please see the [Calculate Geometry using Python](#) document.