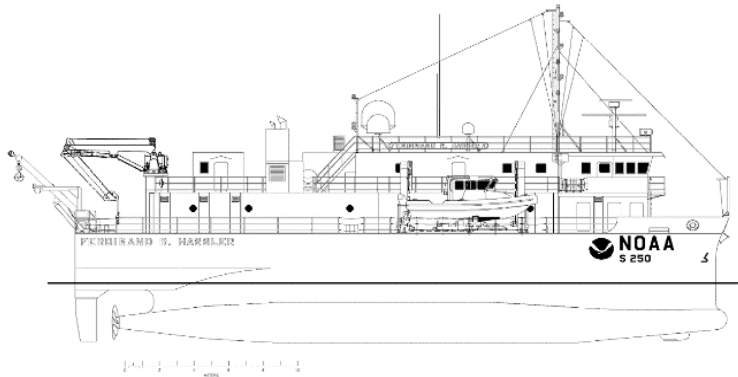


*Ferdinand R. Hassler*  
**Creating Polygons in ArcMap**  
 Standard Operating Procedures



**Revision History**

Date	Revision Description (Reason/What)	Updated by
04/12/2014	New	Mueller
05/21/2021	General Review	ST Tigges
11/19/2023	Review	LT Debrousse

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## 1. OVERVIEW

ESRI ArcMap software may be used as an alternative to Hypack or Caris for line and polygon planning. The following is an outline of steps necessary to create survey polygons in ArcMap.

## 2. WORK INSTRUCTIONS

### 2.1 CREATE A PROJECT FOLDER, NEW GEODATABASE, AND NEW FEATURE CLASS

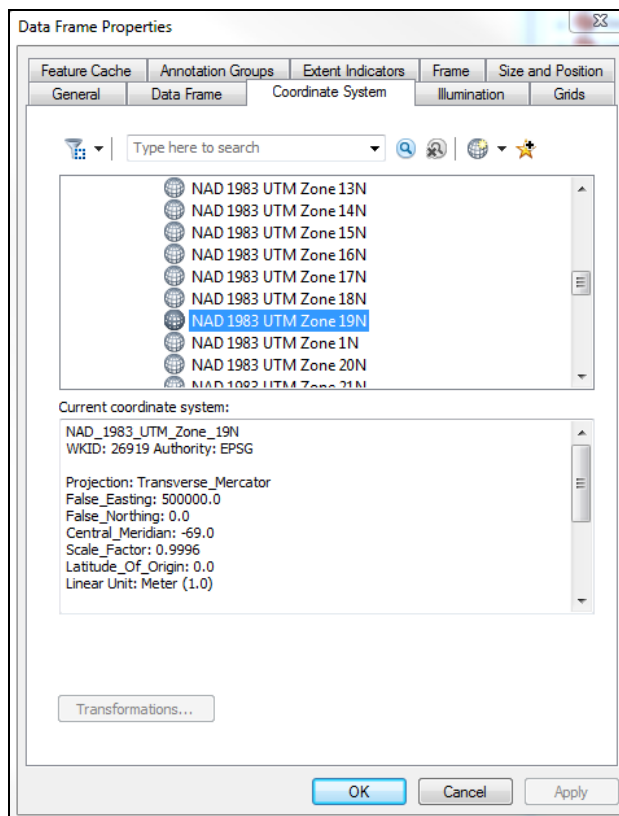
Open ArcMap

Click Cancel when the 'Getting Started' dialogue appears

Highlight 'Layers' in the Table of Contents → Right Click → Properties

In the Data Frame Properties dialogue, click the Coordinate System Tab and navigate to:

Projected Coordinate System → UTM → NAD 1983 → NAD 1983 UTM Zone xxN

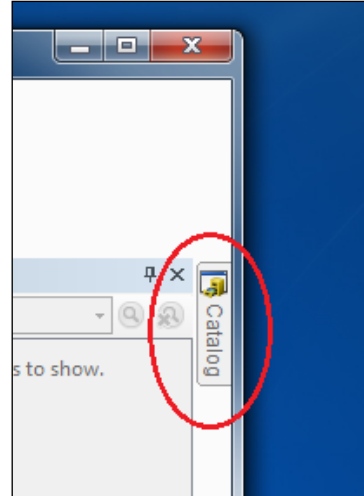


Click Apply. Click OK.

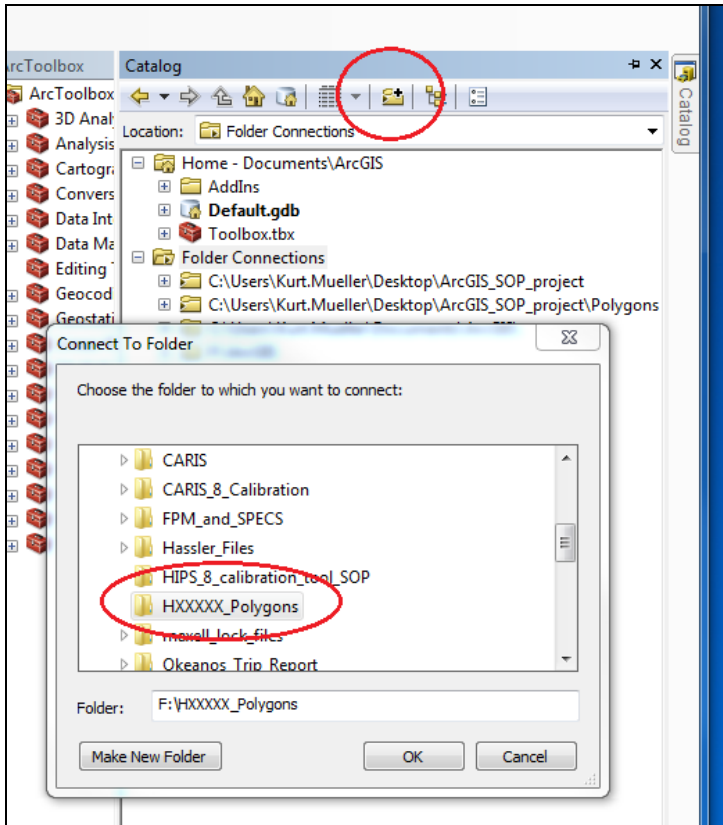
From within ArcMap, open ArcCatalog by clicking on the ArcCatalog icon or the ArcCatalog tab that appears at the far right of the screen:



OR:

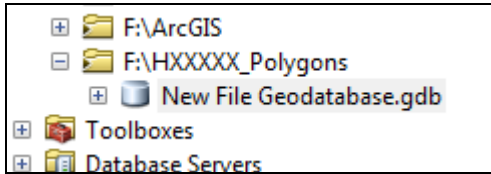


Connect to a project folder in ArcCatalog:



Click OK

Highlight the project folder →right click→New→File Geodatabase



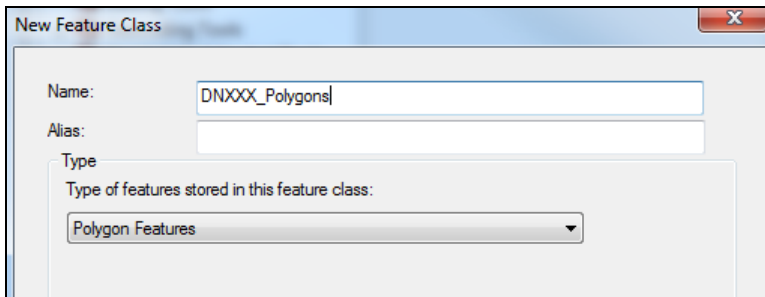
Name the Geodatabase 'HXXXXX\_Polygons'

Create a new Feature Class within the file geodatabase.

Highlight the file geodatabase→Right click→New → Feature Class

Name your polygons DNXXX\_Polygons

Under 'type', choose 'Polygon Features' Click Next.



Define the coordinate system the same as in the previous step. (Projected Coordinate System →UTM →NAD 1983→NAD 1983 UTM Zone xxN)

Hit Next.

For XY Tolerance, accept the defaults →Next

For database storage configuration, accept the defaults → Next

The new polygon layer will appear in the Layers tree.

Open the appropriate raster chart by dragging it into the Layers (Table of Contents) Window. Click Yes to build Pyramids.

Click 'Close' if the Geographic Coordinate Systems Warning dialogue appears.

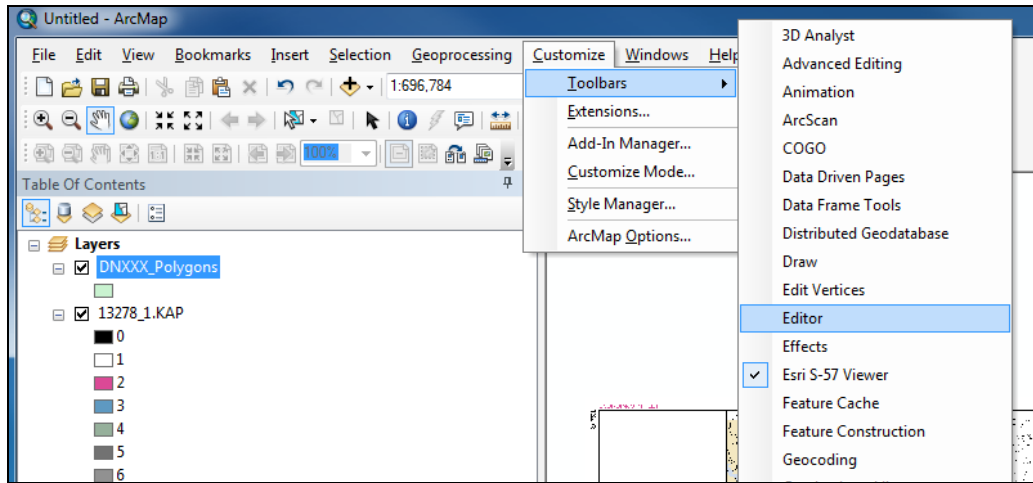
\*Note: Surfaces in the .bag format may also be opened by dragging it into the Layers (Table of Contents) Window.

\*Note: To view an ENC, the ESRI S-57 Viewer must be downloaded and installed. A copy of the viewer is located on the ships network (Survey\_Storage\02\_Software\ESRI) and may also be downloaded here:

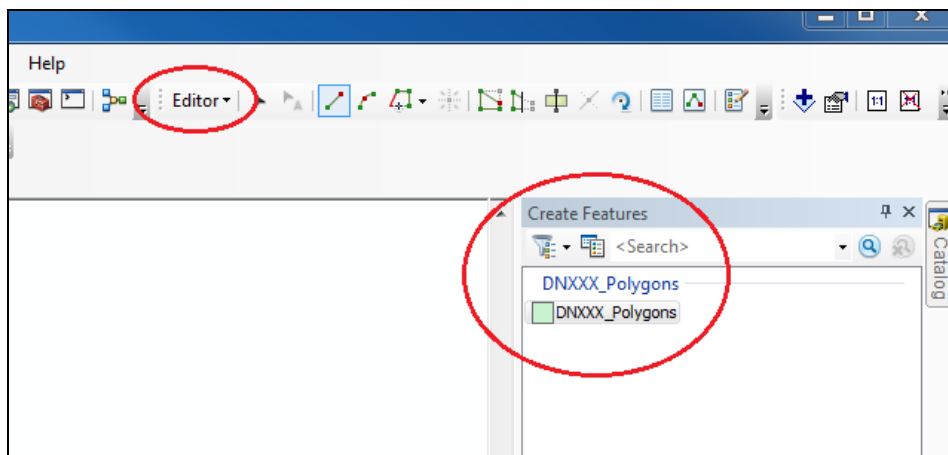
<http://www.esri.com/software/arcgis/extensions/esri-s57>

## 2.2 CREATE SURVEY POLYGONS

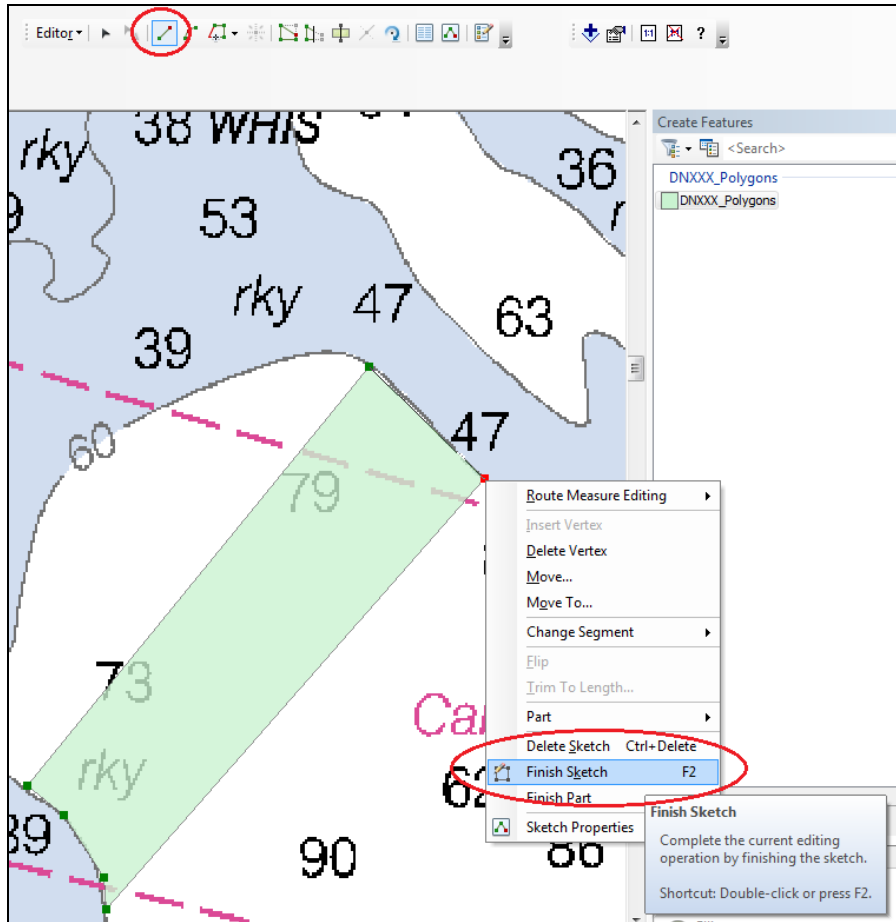
If the Editor Toolbar is not already in ArcMap, go to Customize → Toolbars → Editor. The Editor Toolbar will be added at the top of the ArcMap GUI.



Click the arrow next to the editor toolbar → Start Editing. Then highlight your polygon feature in the Create Features window:



Once the polygon feature is highlighted in the Create Features window, a variety of drawing tools will become activated in the editor menu.

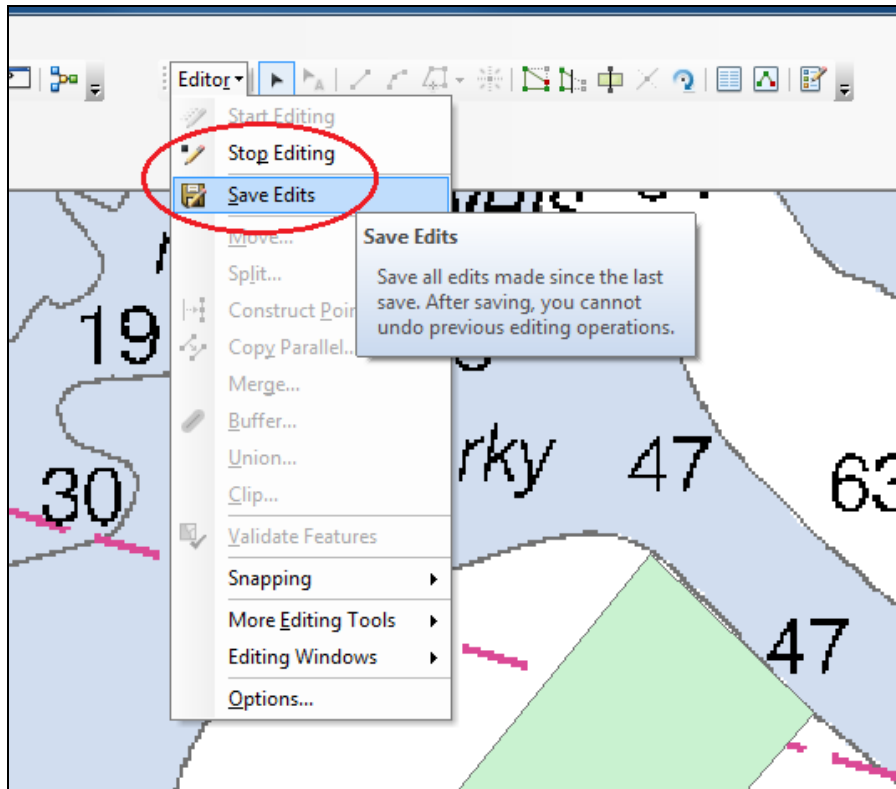


Begin digitizing the polygon using the 'Straight Segment' tool. Once the polygon is drawn, Right Click → Finish Sketch. You can also Right Click → Delete Sketch to start over.

Once you are satisfied with the polygon(s), go to Editor → Save Edits

and then

Editor → Stop Editing

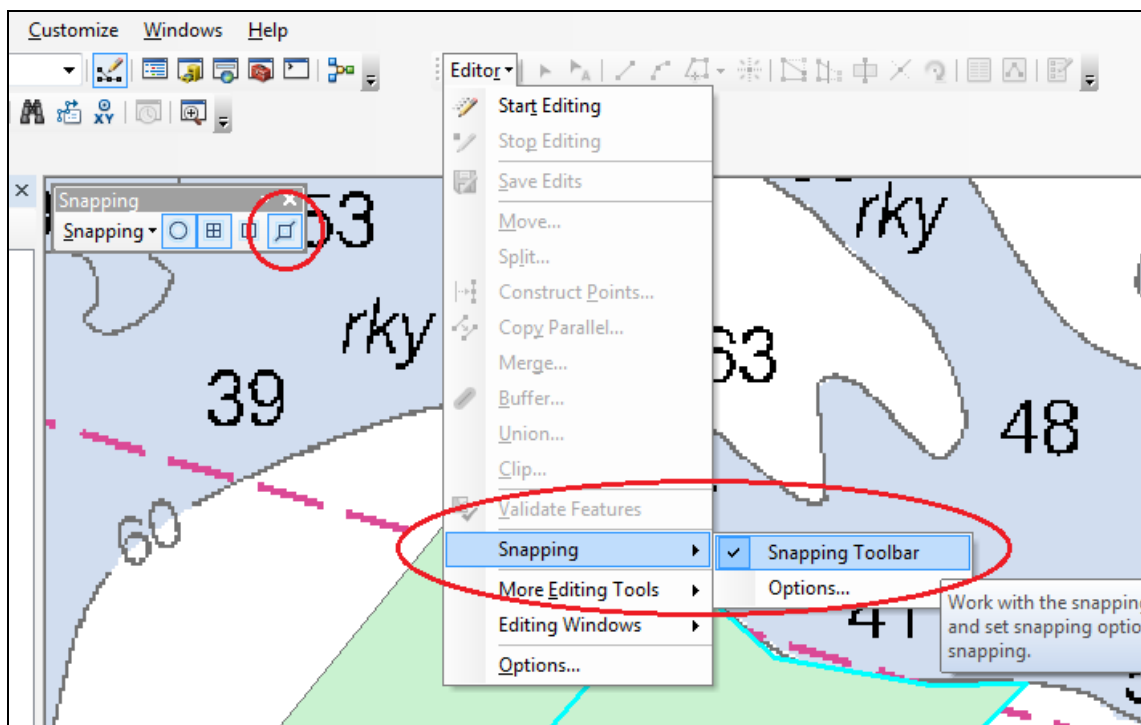


You've drawn your first polygon.

Draw another polygon, and Enable the snapping toolbar:

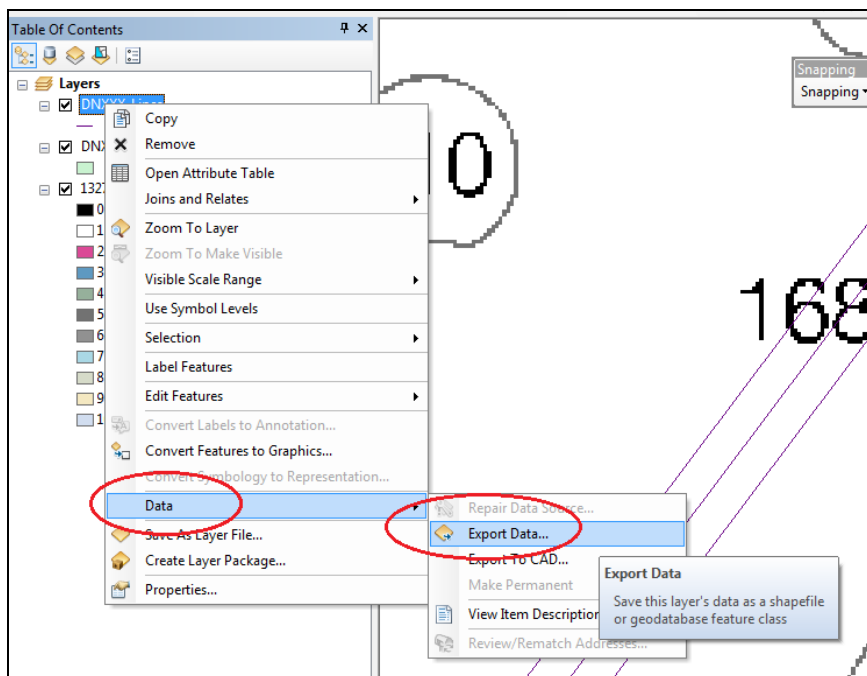
Editor → Snapping → Snapping Toolbar

Click the Edge snapping icon and begin a new polygon, snapping to the edges of the previous polygon.



Repeat as needed. Once all polygons are complete: Editor→Save Edits→Stop Editing.

To Export as a shapefile for use in Hypack or CARIS Base Editor, highlight the DNXXX\_Polygons in the Layers window →Right Click →Data→Export



In the Export Data dialogue:

Export: All Features

Use the same coordinate system as: the data frame.