

## ArcGIS: Creating New Shapefiles (the on-screen digitizing way)

These instructions address making a new shapefile dataset and populating it by on-screen digitizing features. Both ArcCatalog and ArcMap are utilized. The instructions can be adapted to apply to a geodatabase feature class.

1. Open ArcCatalog.
2. In ArcCatalog, navigate to the location where the new data will be created. This will probably be in a “working” directory on your local machine or in a special folder on your GIS data server. Note: It is always good practice to have a separate location where you edit or update data versus final data because of possible read/write permissions conflicts and the possibility of corrupting existing, good data.
3. Create a new dataset. Right click in the Contents Tab (on the right side panel) or right click on the directory name (left side panel) and choose New → Shapefile.... A dialog box appears. You will need to specify the following:
  - a. Name (Use a name that fits the theme of your data. No spaces.)
  - b. Feature Type (point, polyline, or polygon)
  - c. Spatial Reference (hit the “Edit” button and in the new dialog box use the “Select” button to find: UTM, zone 13N, meters, NAD83)
4. Open ArcMap. Start a new project and save it.
5. Add any background data you will need for relative placement of your new on-screen digitized data. You can use the “Add Data” button or drag and drop data from ArcCatalog. Most of the time this will be raster data such as photos or DRGs.
6. Add your new, blank dataset created in step 3.
7. Check the Data Frames coordinate system. It needs to be set to the coordinate system that your background and new dataset are in. You can do this by double clicking on the data frame’s name (usually Layers) in the TOC portion of ArcMap. Layers → Coordinate System tab. Note: Depending on the data you already brought in, the coordinate system might already be set.
8. Make sure the *Editor* toolbar is part of your interface. You can do this by going to the View menu → Toolbars → click on Editor. Once it is on, you might want to drag and “dock” it somewhere.
9. Start Editing your data. *Editor* toolbar → Editor menu → Start Editing. Depending on what you have loaded into your ArcMap, you may get a dialog box asking which directory holds the data to be edited. Be sure to select the one with your new, blank dataset.
10. Take a look at the *Editor* toolbar’s TASK and TARGET dropdown boxes. For purposes of creating new data, these need to be set to:  
TASK: Create New Data  
TARGET: new dataset
11. Zoom to the area of interest where you will be drawing data into your new dataset.
12. Click on the pencil icon that is part of the *Editor* toolbar. This is the simplest sketch tool.
13. You can now trace or draw features on the data frame’s map display. Single click for points and single click to start a polyline or polygon. To end a polyline or polygon you can double click on your last vertex or right click and select “Finish Sketch”. Note: Save you edits often by going to *Editor* toolbar → Editor menu → Save Edits.
14. If you need to modify a feature, change the TASK and use the small black arrow tool on the *Editor* Toolbar.
15. If you need to delete a feature, select the feature with the small black arrow tool and then hit your keyboard’s delete key.
16. When you are done adding and modifying data, then go to the *Editor* toolbar → Editor menu → Save Edits & Stop Editing.
17. To edit or add data to the shapefile’s tabular data. Right click on the dataset’s name in the TOC → Open Attribute Table. Note: You can use the “Option” button to Add Fields when the dataset is not in editing mode. You can populate the new fields once you have started editing again (see step 9).

18. Once the tabular data is correct save edits and stop editing.

19. Save your ArcMap project and close it.

Further editing tips can be found in:

+ [Editing\\_in\\_ArcMap.pdf](#) (digital book)

+ArcGIS Desktop Help → Contents tab → ArcMap\Editing in ArcMap\Creating New Features