

## #3b – Merge Shapefiles Together

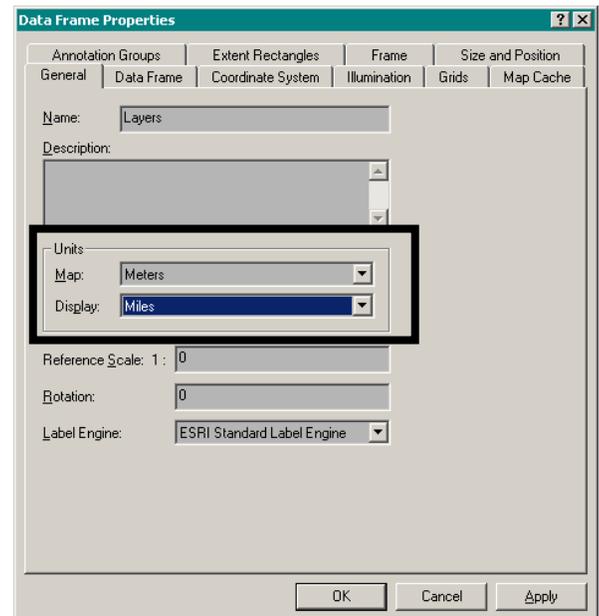
**DESCRIPTION:** Merge combines input features from multiple input sources (of the same [data type](#)) into a single, new, output feature class. The input data sources may be point, line, or polygon [feature classes](#) or [tables](#).

Use the Merge process when you want to create a new theme containing two or more adjacent themes of the same shapefile type. For example, you may want to merge or append highway data delivered as a series of tiles. Or, you have done a number of analyses and you want to merge all of the results together into 1 file for better classifying and symbolizing of the data. Merge allows you to append the data while maintaining the attributes contained in whichever shapefile you select.

**GOAL:** The goal of this lab is to Merge together the 3 shapefiles created in the Select exercise – Hospitals and the 2 that each student chose to create. The end result will be a new shapefile (or dataset) that contains only those landmarks that represent the end result of your previous analyses and that originally existed as 3 separate shapefiles.

### Initial Project Setup:

1. Open ArcCatalog.
2. In your **C:\ Home \ Projects** folder, create a new subfolder called **Merge**. Under the Select folder, create another new folder called **Shapes**. This is where you'll store the new data you create in this exercise.
3. To Begin and Save your Project:
  - Open ArcMap, if not already opened.
  - We'll begin by reopening the **Select.mxd** project you created in Exercise #1b.
  - Immediately, click on **File - Save As – Merge.mxd**. *Make sure you navigate and save this project to your **C:/Projects/Select** folder.*
  - If any features are highlighted (blue), click on **Selection** menu – **Clear Selected Features**.
4. In the “Table of Contents”...left pane in ArcMap,
  - a. Right-Click on **Layers** (Also called the Data Frame.)
  - b. Select **Properties – General**
  - c. Set the following Units:
    - i. Map to Meters and
    - ii. Display to Miles
    - iii. Click OK and close.



Note: If you're opening up a previous project to work from, this step may already be set to the correct units.

Reminder: If you had already added one of the shapefiles that we'll be using in this lab to your project before doing Step #3, ArcGIS would have automatically registered that the Map Units were Meters.

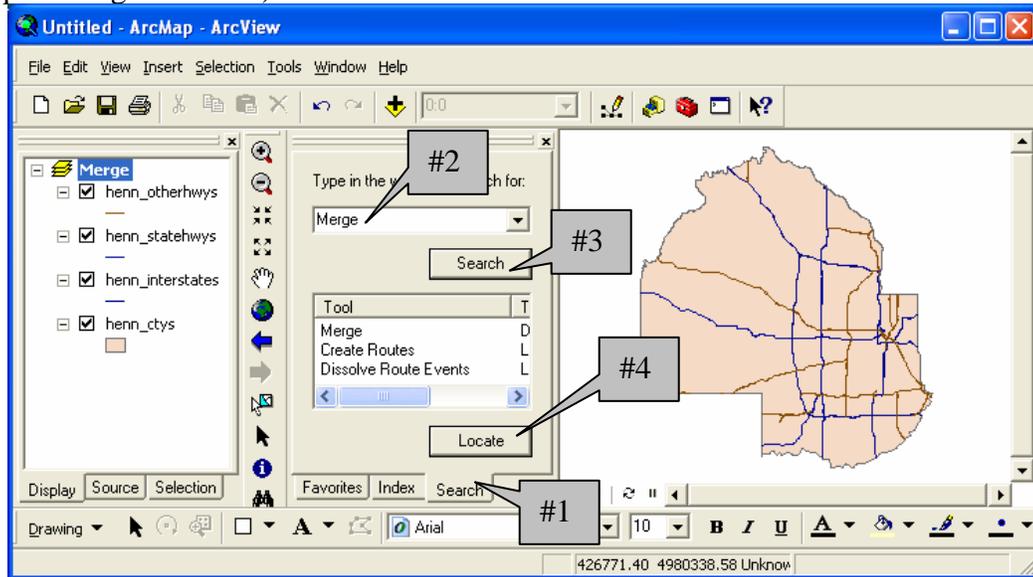
Also recall that the “Display: Miles” is what is used when you add a Scale Bar to your Layout – distance will be measured in miles (vs. feet, meters, etc.).

## Process:

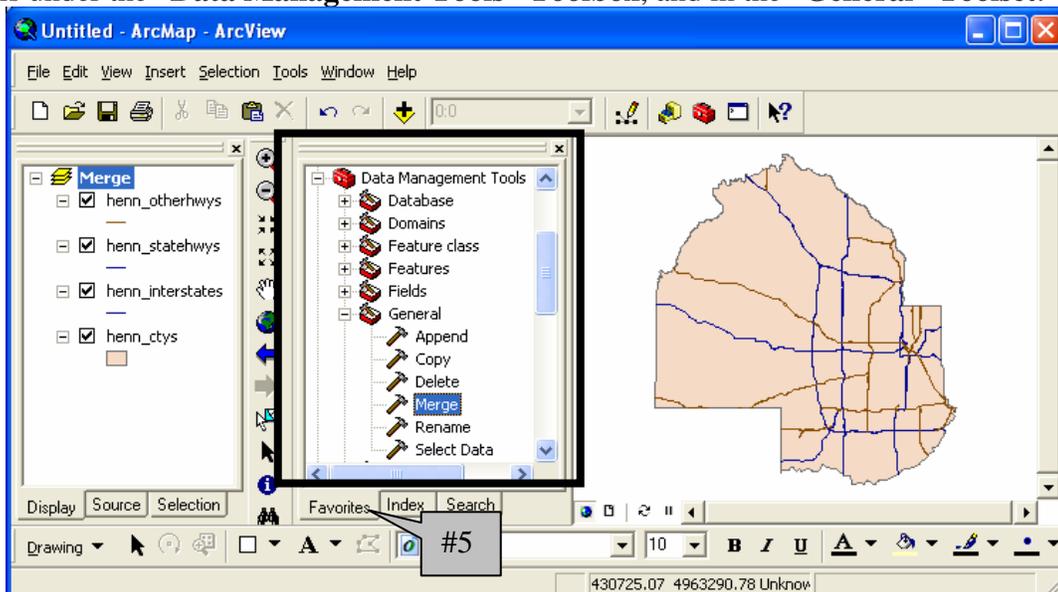
In this exercise, you will be using a tool from ArcToolbox. But, first, you need to learn a few steps that will help you easily “locate” a specific tool out of all of the toolboxes, toolsets, and tools available to use!

Open up the help and type in “toolbox.” The following is from the Help section, but you might want to investigate a little deeper to get a better understand. “All tools are stored in a toolbox. Within a toolbox, related tools can be organized into toolsets to make them easier to find. A toolset may also contain other toolsets. The toolboxes provided with ArcGIS can be found in the System Toolboxes folder. Toolboxes that you create can be found in the My Toolboxes folder. You might create a toolbox to store system tools that you use frequently or to store new tools that you have created.”

3. Open ArcToolbox – click on **Search** Tab – type in **Merge** – click on **Search** – then click on **Locate** (follow numbered steps in diagram below).

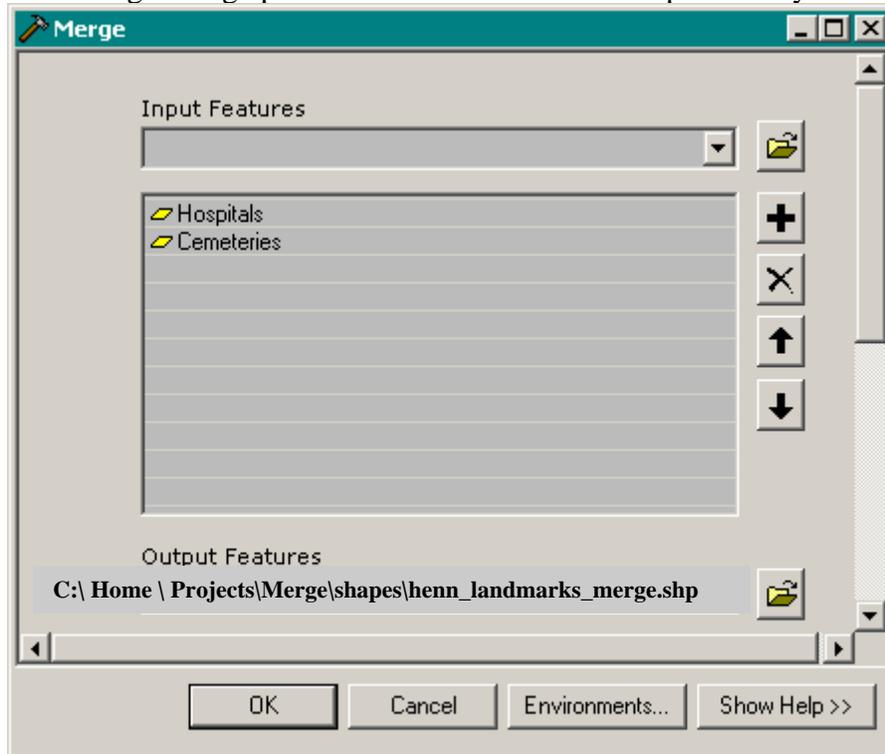


4. Results of ArcToolbox once you’ve clicked on the Locate button to find the Merge tool. You can see that the **Merge** tool is under the “**Data Management Tools**” Toolbox, and in the “**General**” Toolset.



3. Click on Favorites Tab

4. Next, **Double-click** on **Merge** to open dialog box.
  - a. Click and drag each of the 3 datasets onto the dialog box. (In my example, I only have 2 datasets, but you should have 3 from the “3a – Select” Exercise you did previous. Other than Hospitals, your 2 other datasets may differ from what you see below.
  - b. Call the new shapefile “**henn\_landmarks\_merge.shp**”. This will let you know, in the future, that this dataset was created using a merge process for landmarks in Hennepin County. **Click Ok when done.**



5. Click **Ok** and **Close** the Dialog box when it says “Completed.”
6. Open up the attribute table for the new **henn\_landmarks\_merge.shp**. Because the fields were the same to begin with, each shapefile was, basically, just appended altogether. If the fields had been different, the different fields would have just been added to the end of the attribute table. Notice just hospitals and cemeteries!

| Attributes of henn_landmarks_merge |       |         |                           |           |          |
|------------------------------------|-------|---------|---------------------------|-----------|----------|
|                                    | GNIS_ | GNIS_ID | FEAT_NAME                 | FEAT_TYPE | CNT      |
|                                    | 13    | 13      | Abbott Hospital           | hospital  | Hennepin |
|                                    | 643   | 643     | Asbury Hospital           | hospital  | Hennepin |
|                                    | 1704  | 1704    | Beth-el Cemetery          | cemeterly | Hennepin |
|                                    | 2264  | 2264    | Bloomington Cemetery      | cemeterly | Hennepin |
|                                    | 2746  | 2746    | Brooklyn-Crystal Cemetery | cemeterly | Hennepin |
|                                    | 6096  | 6096    | Crystal Lake Cemetery     | cemeterly | Hennepin |
|                                    | 6352  | 6352    | Dawn Valley Memorial Park | cemeterly | Hennepin |
|                                    | 6382  | 6382    | Deaconess Hospital        | hospital  | Hennepin |
|                                    | 7418  | 7418    | Eden Prairie Cemetery     | cemeterly | Hennepin |

7. **CREATE A LAYOUT** showing the newly merged shapefile, along with the County boundary **ONLY**. **Symbolize according to FEAT\_TYPE**, and add some couple of labels (from the FEAT\_NAME) field.
  - a. Remove any datasets that are not part of this project.
  - b. Save your project.
  - c. Print out your map to hand in.