The ArcMap Interface and Using Basic ArcMap Analysis Tools to Create a Map

*You will need a computer with ESRI ArcGIS Desktop version 9.3 or higher installed*

Save folder with the tutorial data (called GIS_tutorial_data) onto your computer desktop.

ArcMap Basics and Layout

1. Open ArcMap (start -> All Programs -> ArcMap)
2. Hit Cancel on the Getting Started Window. (see below)
3. Take a minute to look at the software screen. Notice the table of contents and the menus at the top of screen. Hover over the tools to see their function. (see below)
4. Click on the ArcCatalog tool
   a. Click on the connect to folder icon
   b. Navigate to Desktop -> GIS_tutorial_data and expand the folders beneath it.
      i. Geodatabases, shapefiles and a raster dataset.

5. Click on the ArcTools tool
   a. Look at some of the available tools.

6. Click on the Search tool
   a. Type in the word “buffer” and see all the tools that come up.

**Adding Data**

1. Click the **Add Data** button on the main menu at the top of the screen
2. Locate your c:\users\(username)\desktop folder
3. Click on **NREM Data**
4. Here we have two geodatabases and a shapefile. For now we will just open the **DelawareCountyData.gdb** by clicking on it twice. (see below)
5. Click on the first record, hit your shift key and then click on the last file to add them all to ArcMap at once. Click **Add**

6. Notice the feature layers added to the TOC contents on the left. This is the drawing order of your layers. Make sure that they are in correct drawing order.

**Zooming In and Out, Full Extent**

1. Using your zoom toolset zoom and pan around the map. When finished, click on the full extent globe to go to the full extent.

**Explore the Attribute Table**

1. Right click on “Underground Storage Tanks” in the Table of Contents, and open the attribute table.

2. Look at the Sub_PROG_T column in the attribute table. Notice that there are two different categories in this field (UST and UST\L) (see below)
3. Now open the attribute table of Corporate Boundaries (right click on the layer in the Table of Contents and open the attribute table.

4. Notice the City Field; we will symbolize the layers based on this field. Close the table by hitting the X in the right upper hand corner of the window. (see below)

   ![Attribute Table Image]

**Symbology**

1. Right click on CorporateBoundaries and click on Properties.
2. Look through the tabs.
3. On the **symbology** tab, click categories on the left hand of the window and then choose City for the **Value Field** and click on **Add all Values**. Notice the color ramp options. (see below)

4. Change the colors of the other feature layers according to your preference. (Right click on the layers in the tables of contents, choose properties, and go to the symbology tab.)

**Analysis**

We will be looking at underground storage tanks that are

1. Leaking

2. Within 250 feet of the White River and Prairie Creek Reservoir.

1. Click on **Selection -> Select by Attribute** (see below)
a. For Layer: **UndergroundStorageTanks**
b. Method: **Create New selection**
c. Click on **SUB_PROG_T**
d. Click on the equal button and then click **Get Unique values**.
e. Choose “**UST/L**” (leaking storage tanks)
f. Click **Apply**

![Select By Attributes window](image)

Needs to look exactly like this before you hit **Apply**
Results: with leaking storage tanks highlighted:

2. With the storage tanks highlighted right click on the UnderGroundStorageTanks feature class in the Table of Contents.
3. Choose Data -> EXPORT DATA
4. Change the name to StorageTanks_leaking and hit OK. (see below)
5. Click Yes on the window that pops up that asks if you want to add the new layer.
6. Turn off the UndergroundSTorateTanks layer by clicking on the box beside its name in the table of contents. (not the file you just created)
**Buffer the MajorWaterbodies layer**

1. Use your **Search** tool and type in **buffer** (or go to Geoprocessing on the main menu and click on buffer). Change the boxes to reflect what is below.
Use the **Clip** tool to clip the leaking storage tanks by the water buffer:

2. Search for clip (or go to **geoprocessing ->clip**)
3. Enter the parameters below and click **OK**.
Now you have a layer with Leaking underground storage tanks that are within 250 feet of the major water bodies in Delaware County.

Make a map of your results

1. Click on Layout view (see below)

2. Use your selector arrow to make the data go to the print borders of the page. (results below)
3. Go to **Insert** and add a **title**, **north arrow** and **scale bar**. Move them to the appropriate area on the map. (see below)
4. Label the Corporate Boundaries layer by right clicking on the layers in the table of contents and going to the labels tab. (see below)

5. Label the LST_nearriver layer using the Location_A field. (see below)
6. Add a legend...remove corporate boundaries from the **Legend Items** and accept all other default by hitting next through the wizard. (see below)

7. File -> Save
8. File -> Export (pdf or jpg)
FINISHED PRODUCT:

Leaking Underground Storage Tanks in Del Co.

Legend
- LST_NearRiver
- MajorRoads
- RailroadLines
- StreetsMaster
- MajorWaterbodies
- MajorWaterbodies_Buffer1
- CountyBoundary

Scale: 0.7515, 3, 4.5, 6 Miles