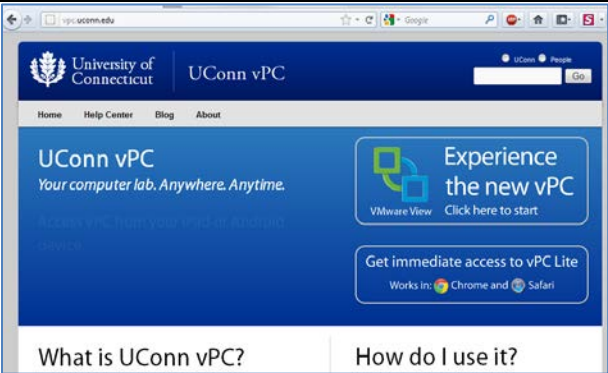
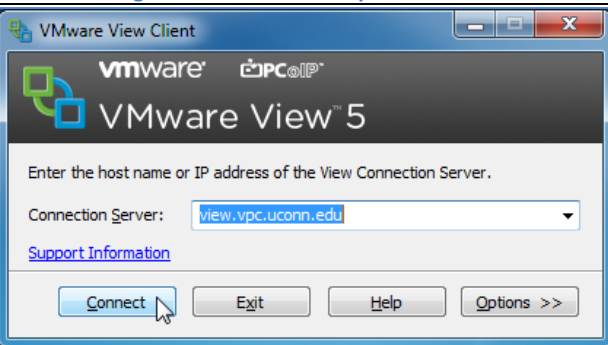
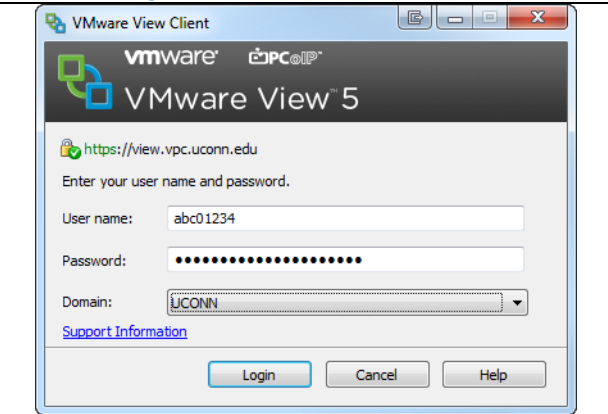
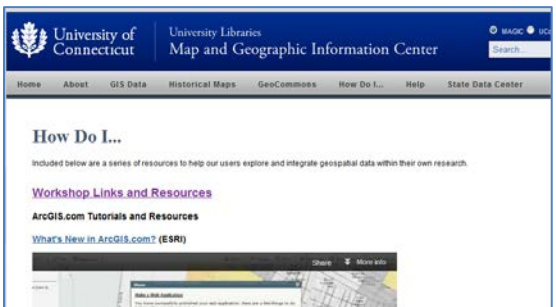
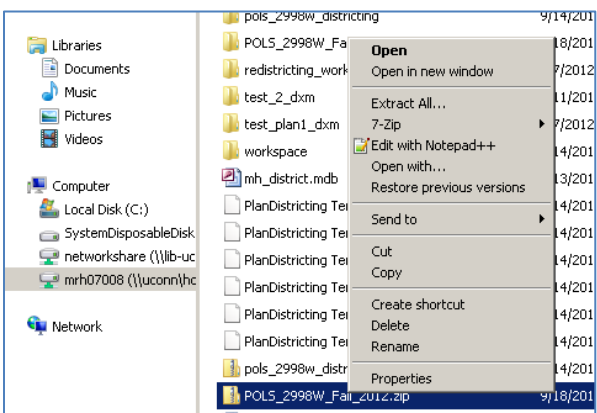


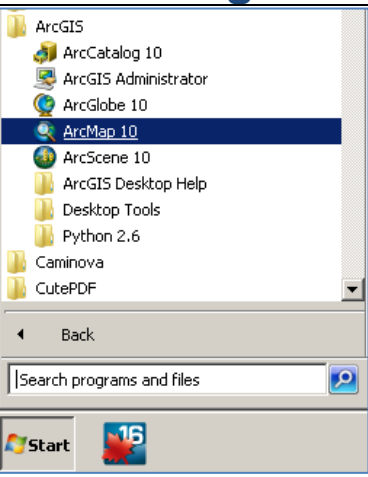
### Accessing ArcGIS at UConn via the vPC

<ul style="list-style-type: none"><li>• Access ArcGIS ArcMap from the UConn vPC at <a href="http://vpc.uconn.edu">http://vpc.uconn.edu</a> and click the Experience the new vPC icon to download the WMWare View client for a Windows or Mac computer.</li><li>• After installing the client, open the VMWare View client.</li></ul>	 <p>Figure 1: Access vPC at <a href="http://vpc.uconn.edu">vpc.uconn.edu</a></p>
<ul style="list-style-type: none"><li>• Type view.vpc.uconn.edu into the Connection Server field if it is not already filled in.</li><li>• Leave box for Log in as current user UNCHECKED.</li><li>• Click Connect.</li></ul>	 <p>Figure 2: Connection Server for vPC</p>
<ul style="list-style-type: none"><li>• Enter your username and password. For most people, Username is your NetID, Password is your NetID Password, and Domain is UCONN.</li><li>• From the vPC click Start-&gt; All Programs, click the ArcGIS folder, and then select ArcMap.</li></ul>	 <p>Figure 3: Login to vPC with NetID</p>

### Downloading and Preparing Data

<ul style="list-style-type: none"><li>For the POLS 2998W class districting project the data you will need is available via the MAGIC website in the How Do I... section. From this page click the <a href="#">Workshop Links and Resources link</a></li><li>From the Redistricting Using ArcGIS Section of the page download the Connecticut Data to the p:\ drive on the vPC.</li></ul>	 <p>Figure 4: Download Data from MAGIC Website</p>
<ul style="list-style-type: none"><li>After downloading the data for this project, you will need to unzip the folder. To unzip the folder, navigate to the p:\ drive on your computer, and then right click on the POLS_2998W_Fall_2012.zip file.</li><li>Select Extract All to unzip the folder.</li></ul>	 <p>Figure 5: Unzipping Folder</p>

### Opening ArcGIS ArcMap and Adding Data

<ul style="list-style-type: none"><li>From the Start menu in vPC, select All Programs and then Select ArcGIS.</li><li>From the ArcGIS folder open ArcMap.</li></ul>	 <p>Figure 6: Select ArcGIS ArcMap Application</p>
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# Developing District for POLS 2998W

## How to Use the Districting Tool for ArcGIS 10

9/18/2012 edition

- Once ArcMap opens, select Blank Map and Click OK to begin

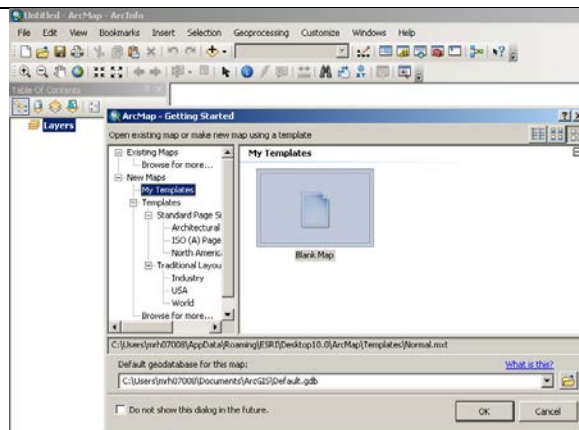


Figure 7: Create a New Map

- In ArcMap, click the Add Data button from the menu bar along the top of the program.

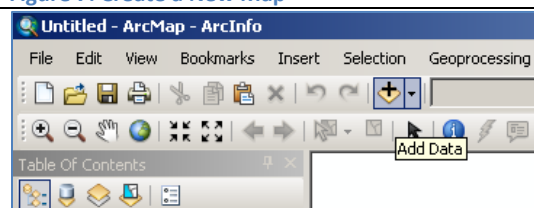


Figure 8: Activate the Districting Toolbar

- From the Add Data window, click the Connect to Folder icon (folder with a plus sign) and select the p:\ drive and Click OK.

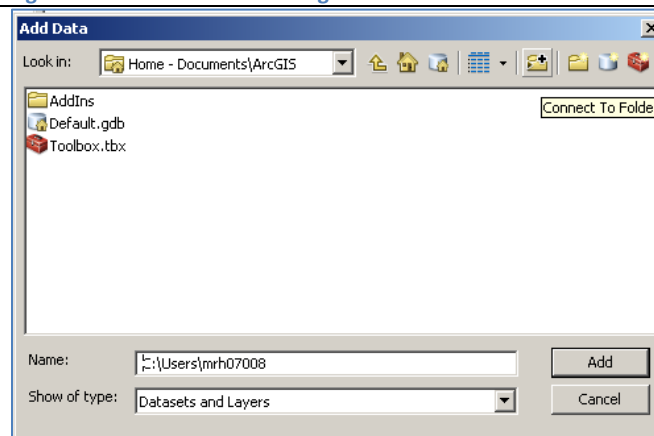


Figure 9: Add Data

- From the P:\ drive open the POLS\_2998W\_Fall\_2012 folder, open the Data folder, and click on the CT\_Towns 2010.gdb files.
- Select the ct\_town\_data and the ct\_towns files by clicking on one file, holding your shift key on the keyboard and then select the other file. Once you have selected both files click Add and then will be added to the map.

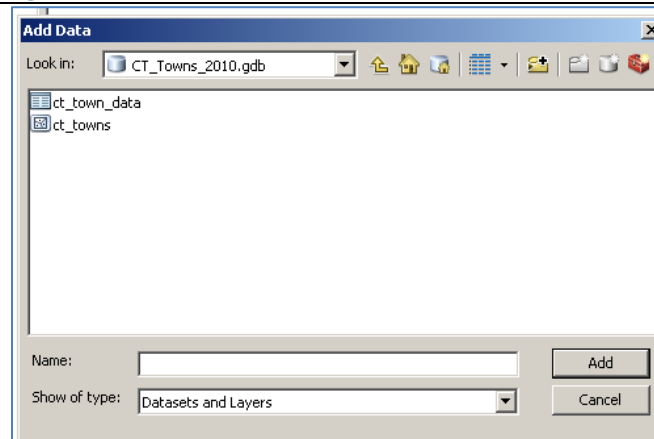


Figure 10: Add Shapefile and Data

### Joining Data in ArcGIS

- To enable the data to be mapped for each town in Connecticut, we will need to Join the table of data to the shapefile (map).
- To Join data, right click on the ct\_towns layer select Joins and Relates, and then select Join...

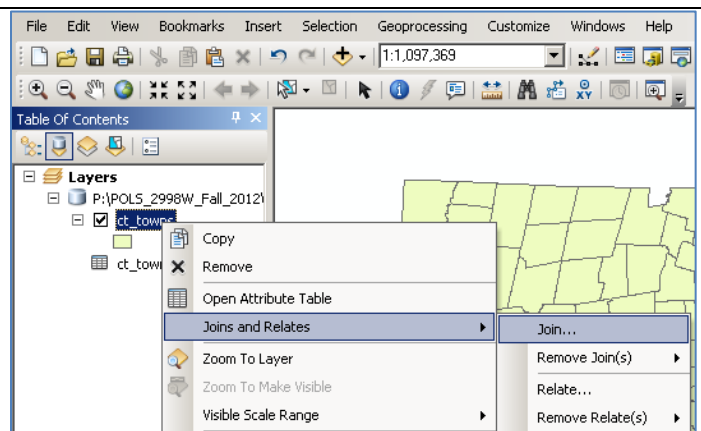


Figure 11: Join Data to Shapefile

- From the Join Data window, select GEOID\_AFF2 for the first drop down window.
- Select ct\_town\_data for the table to join to the layer
- Select GEOID\_AFF2 for the field in the table to base the join on
- Click OK
- If prompted to create an index, click No.
- Now your data is joined to the shapefile (map)!

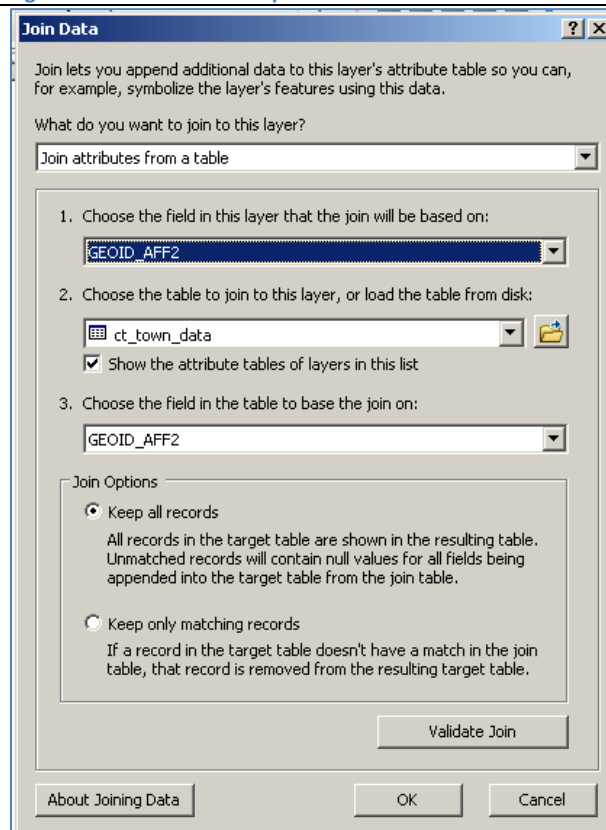


Figure 12: Join Data Window Options

### Creating Maps in ArcGIS

- To create a map based on the data you have joined, right click on the ct\_towns layer and select **Properties...**

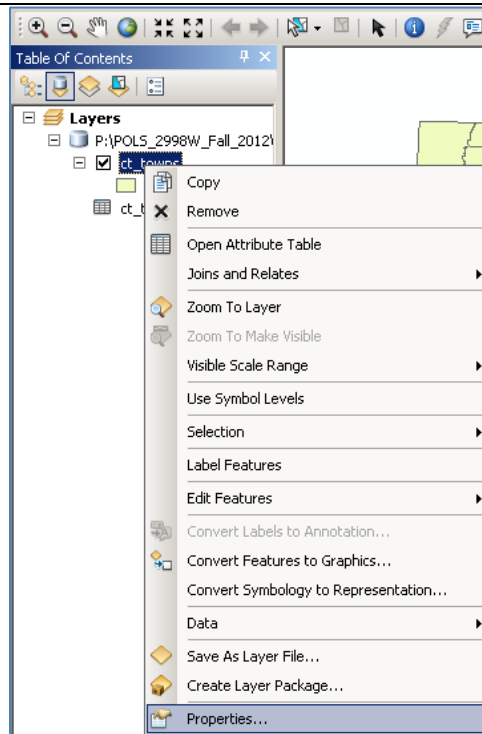


Figure 13: Layer Properties

- From the Layer Properties window, click on the Symbology tab
- From the Symbology tab select Quantities and graduated colors from the Show: menu (along the left)
- From the Fields section for the Value select the data you wish to map.
- Select a color scheme and then click OK to see the map of Connecticut Towns.

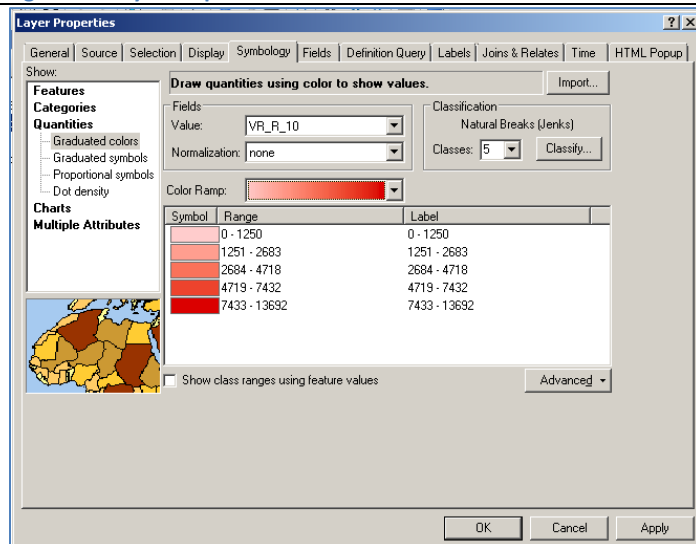


Figure 14: Layer Properties Window - Symbology

- Once you have created your map, it's a great idea to save your map. To save the map, from the File menu select Save As... and save the .mxd file to your p:\ drive.

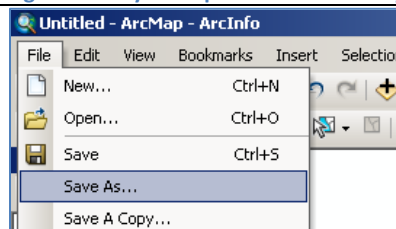


Figure 15: Save Project File (.MXD)

### Using Districting Toolbar in ArcGIS ArcMap

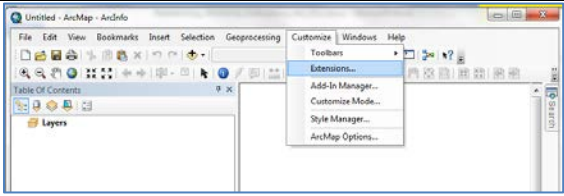
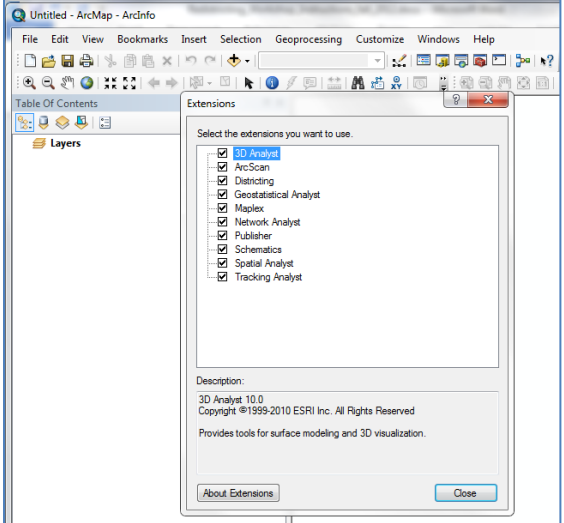
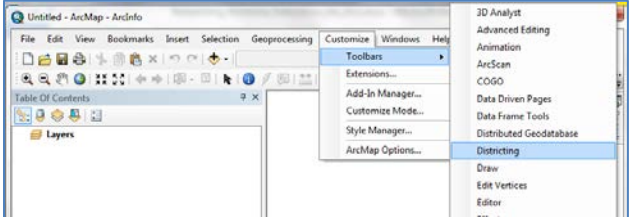
<ul style="list-style-type: none"><li>• Activate the Districting Toolbar within ArcGIS ArcMap by clicking on the Customize menu (along the top menu bar) and select Extensions</li></ul>	 <p>The screenshot shows the ArcGIS ArcMap interface with the 'Customize' menu open. The 'Extensions...' option is highlighted, indicating the user is about to activate an extension.</p>
<ul style="list-style-type: none"><li>• Verify that the Districting Extension is active (check box is clicked) and click Close</li></ul>	 <p>The screenshot shows the 'Extensions' dialog box. The 'Districting' checkbox is checked, indicating it is active. Other extensions like '3D Analyst', 'ArcScan', 'Geostatistical Analyst', 'Maplex', 'Network Analyst', 'Publisher', 'Schematics', 'Spatial Analyst', and 'Tracking Analyst' are also listed with their respective checkboxes.</p>
<ul style="list-style-type: none"><li>• To activate the Districting toolbar within ArcGIS ArcMap, from the Customize menu select Toolbars and the click Districting. The toolbar should now display within ArcGIS ArcMap.</li></ul>	 <p>The screenshot shows the ArcGIS ArcMap interface with the 'Customize' menu open. The 'Toolbars' option is selected, and the 'Districting' toolbar is visible in the bottom right corner of the application window.</p>

Figure 16: Customize Menu in ArcGIS

Figure 17: Activate the Districting Toolbar

Figure 18: Adding the Districting Toolbar

### Developing a Districting Plan – Opening Files

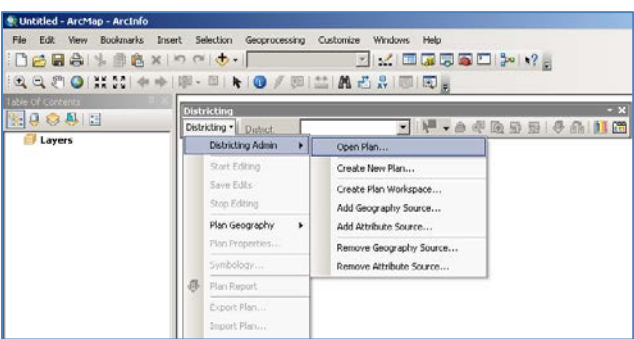
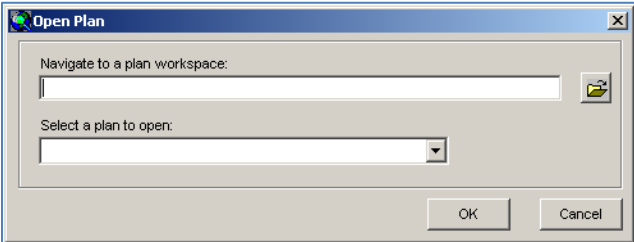
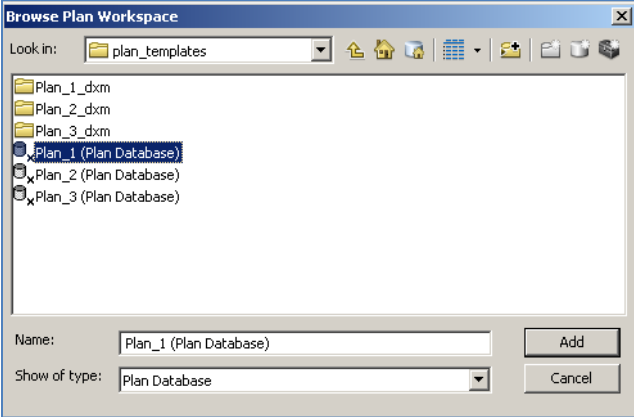
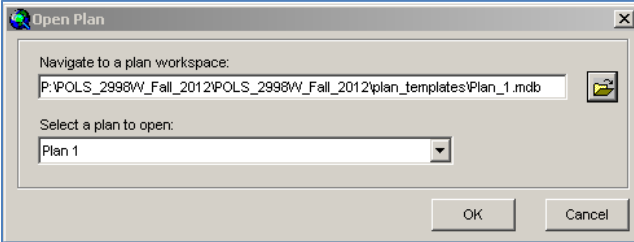
<ul style="list-style-type: none"><li>From the Districting toolbar, select Districting -&gt; Districting Admin -&gt; and then Open Plan...</li></ul>	 <p>The screenshot shows the ArcMap interface with the Districting toolbar open. The 'Districting Admin' menu is expanded, and the 'Open Plan...' option is highlighted. Other options in the menu include 'Start Editing', 'Save Edits', 'Stop Editing', 'Plan geography', 'Plan Properties...', 'Symbology...', 'Plan Report', 'Export Plan...', and 'Import Plan...'. The 'Open Plan...' sub-menu is also visible, listing options like 'Create New Plan...', 'Create Plan Workspace...', 'Add Geography Source...', 'Add Attribute Source...', 'Remove Geography Source...', and 'Remove Attribute Source...'.</p>
<ul style="list-style-type: none"><li>From the Open Plan Window, click the folder icon to navigate to a plan workspace. For this plan, you will navigate to the p:\ drive to the POLS_2998W_Fall_2012 folder</li></ul>	 <p>The screenshot shows the 'Open Plan' dialog box. It has a title bar with a folder icon and a close button. The main area contains a text field for 'Navigate to a plan workspace:' with a folder icon button to its right. Below it is a dropdown menu for 'Select a plan to open:'. At the bottom are 'OK' and 'Cancel' buttons.</p>
<ul style="list-style-type: none"><li>From the POLS_2998W_Fall_2012 folder, select plan_templates folder and select Plan_1(Plan Database) and click Add.</li></ul>	 <p>The screenshot shows the 'Browse Plan Workspace' dialog box. The 'Look in:' field shows 'plan_templates'. The main area is a file list showing folders 'Plan_1_dxm', 'Plan_2_dxm', and 'Plan_3_dxm', and files 'Plan_1 (Plan Database)', 'Plan_2 (Plan Database)', and 'Plan_3 (Plan Database)'. The 'Plan_1 (Plan Database)' file is selected. At the bottom, there is a 'Name:' field containing 'Plan_1 (Plan Database)', a 'Show of type:' dropdown set to 'Plan Database', and 'Add' and 'Cancel' buttons.</p>
<ul style="list-style-type: none"><li>From the Open Plan window you will click OK to begin developing your districting plan.</li></ul>	 <p>The screenshot shows the 'Open Plan' dialog box with the 'Navigate to a plan workspace:' field filled with the path 'P:\POLS_2998W_Fall_2012\POLS_2998W_Fall_2012\plan_templates\Plan_1.mdb'. The 'Select a plan to open:' dropdown is set to 'Plan 1'. The 'OK' and 'Cancel' buttons are at the bottom.</p>

Figure 19: Open Plan from Districting Toolbar

Figure 20: Open Plan Window

Figure 21: Select Plan

Figure 22: Open Plan Window Settings

### Developing a Districting Plan – Statistics

- To provide details on the data you will be using to help construct your districts, the districting tool can be customized by selecting Districting and the Selecting Plan Properties...

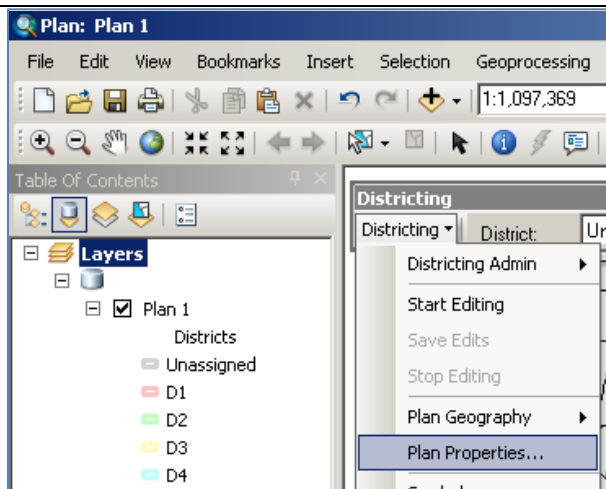


Figure 23: Plan Properties - For Statistics Options

- From the Plan Properties window you can select the variables from your data for statistics which will be updated as you add towns to your districts.
- Once you have selected your variables click OK

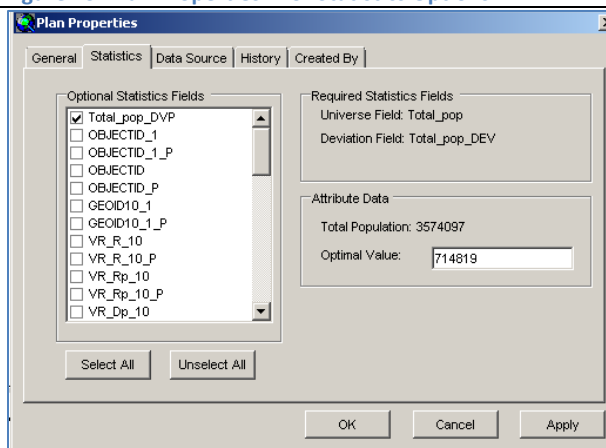


Figure 24: Selecting Statistics for Districting

- You may also want to view statistics as you begin to create your districts to help identify how close you are to your target for each district. From the Districting toolbar, select Districting and click Statistics Window and/or Chart Window.

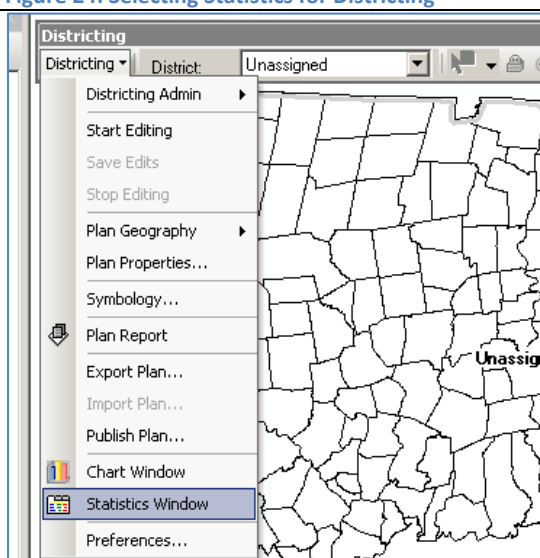


Figure 25: Display Statistics Window



### Developing a Districting Plan – Assigning Districts

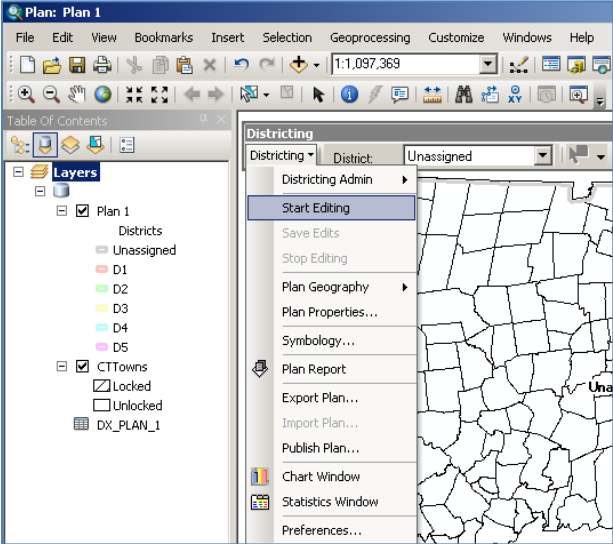
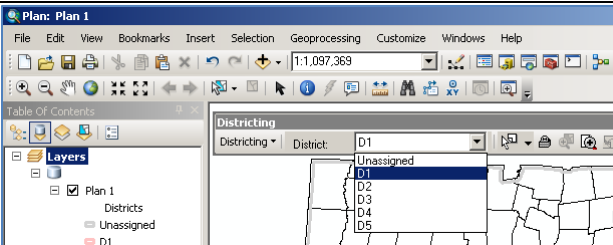
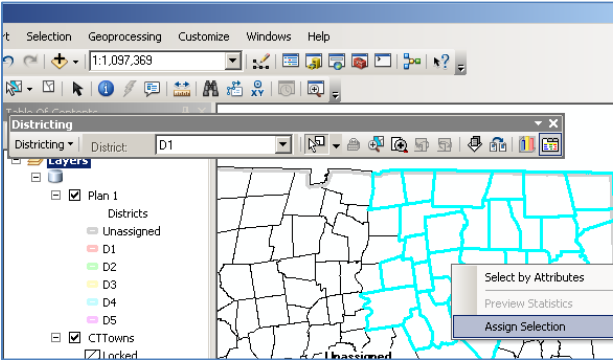
<ul style="list-style-type: none"><li>To begin creating your districts, from the Districting Toolbar click Districting and then Start Editing</li></ul>	 <p>The screenshot shows the ArcGIS 10 interface with the Districting toolbar open. The 'Districting' dropdown menu is expanded, and 'Start Editing' is highlighted. The background shows a map with district boundaries and a Table of Contents on the left.</p>
<ul style="list-style-type: none"><li>Next select the district you want to create from the District drop-down menu in the Districting toolbar</li></ul>	 <p>The screenshot shows the Districting toolbar with the 'District' dropdown menu set to 'D1'. The map background shows the same district boundaries as in the previous figure.</p>
<ul style="list-style-type: none"><li>To select your towns, click the Selection tool (next to the drop down menu for your districts) and click on the towns you want to add to the district</li><li>Once you have selected the towns you want to include in your district, right-click in one of the select towns and select Assign Selection.</li></ul> <p><b>TIP:</b> To select more than one town, hold your shift key and then click on the towns you want to include in your selection.</p>	 <p>The screenshot shows the map with several towns highlighted in cyan. A context menu is open over one of the towns, with 'Assign Selection' highlighted. The Districting toolbar shows 'D1' is still selected.</p>

Figure 26: Start Editing Districts

Figure 27: Select District Menu

Figure 28: Assign Selection

# Developing District for POLS 2998W

- To create the next district, change the district from the drop down menu, select your towns, and then right-click and Assign Selection to add the towns to the district.

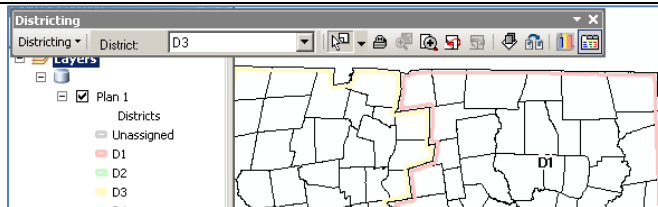


Figure 29: Select District Menu

- Once you have created your districts you will want to save your edits. From the Districting toolbar, click Districting -> Save Edits.
- Once you have finished all your edits, from the Districting toolbar, click Districting -> Stop Editing.

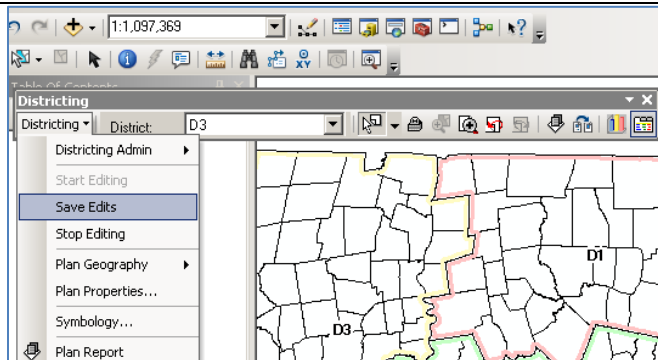


Figure 30: Save Edits to District

- You will also want to save the project file for your Districting Plan.
- To save from the File Menu Select Save.

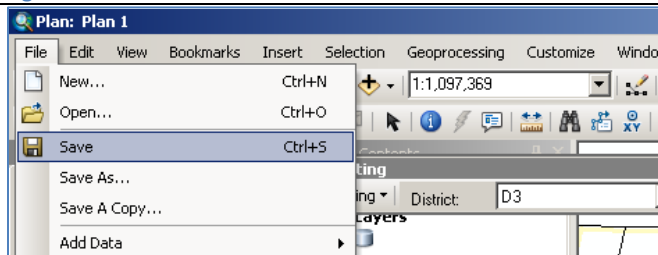


Figure 31: Save District Plan

- The final step for your districts is to create a Shapefile which will allow you to create a custom map of your districts.
- From the Districting Toolbar, select Districting -> Plan Geography -> Create Shapefile...

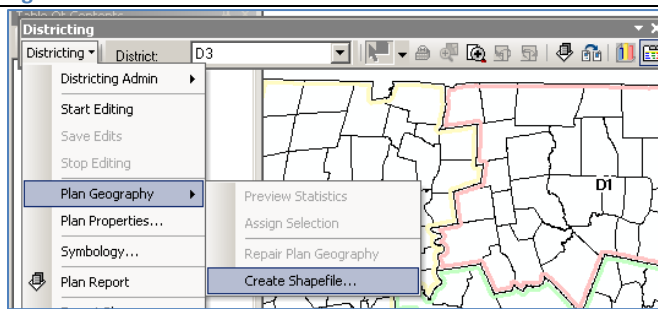


Figure 32: Create Shapefile from Districts

### Creating your Final District Map

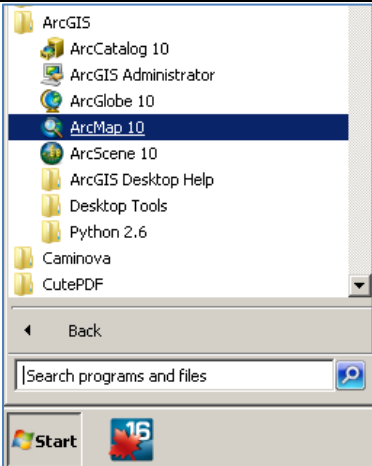
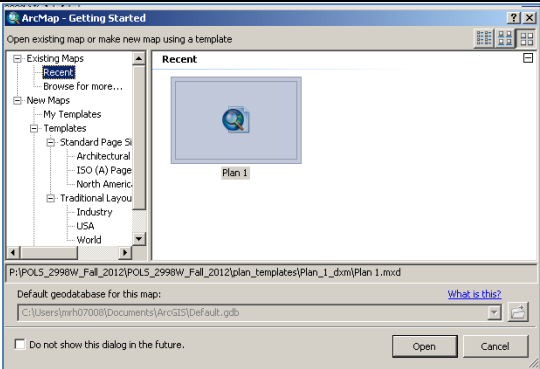
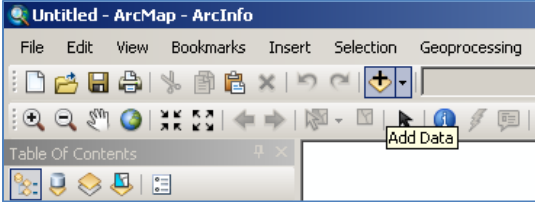
<ul style="list-style-type: none"><li>• Open ArcGIS ArcMap as a new instance by going to the Start menu in vPC, select All Programs and then Select ArcGIS.</li><li>• From the ArcGIS folder open ArcMap.</li></ul>	 <p>The screenshot shows the Windows Start menu with the 'ArcGIS' folder expanded. 'ArcMap 10' is highlighted in blue. Other items in the folder include ArcCatalog 10, ArcGIS Administrator, ArcGlobe 10, ArcScene 10, ArcGIS Desktop Help, Desktop Tools, Python 2.6, Caminova, and CutePDF. The Windows taskbar at the bottom shows the Start button and the number '16'.</p>
<ul style="list-style-type: none"><li>• Once ArcMap opens, Select a Blank Map (if that's an option) or click Cancel to continue.</li></ul>	 <p>The screenshot shows the 'ArcMap - Getting Started' dialog box. The 'Recent' tab is selected, showing a 'Plan 1' map thumbnail. The 'Existing Maps' list on the left includes 'Recent', 'Browse For more...', 'New Maps', 'My Templates', and 'Templates'. The 'Templates' folder is expanded, showing 'Standard Page Size', 'Architectural', 'ISO (A) Page', 'North America', 'Traditional Layout', 'Industry', 'USA', and 'World'. The file path at the bottom is 'P:\POLS_2998W_Fall_2012\POLS_2998W_Fall_2012\plan_templates\Plan_1_dwm\Plan 1.mxd'. The 'Default geodatabase for this map' is 'C:\Users\jrh07008\Documents\ArcGIS\Default.gdb'. There are 'Open' and 'Cancel' buttons at the bottom right.</p>
<ul style="list-style-type: none"><li>• In ArcMap, click the Add Data button from the menu bar along the top of the program.</li><li>• Navigate to the shapefile you created from the Districting Toolbar for your districts</li></ul>	 <p>The screenshot shows the ArcMap main interface. The title bar reads 'Untitled - ArcMap - ArcInfo'. The menu bar includes 'File', 'Edit', 'View', 'Bookmarks', 'Insert', 'Selection', and 'Geoprocessing'. The toolbar contains various icons, with the 'Add Data' button (a blue square with a white plus sign) highlighted. Below the toolbar is the 'Table Of Contents' pane.</p>

Figure 33: Select ArcGIS ArcMap from Start Menu

Figure 34: Create Blank Map in ArcMap

Figure 35: Add Data in ArcMap

# Developing District for POLS 2998W

- Right-click on your district shapefile, and select Properties. This will let you change the Symbology for the districts to allow for different colors than the default settings.
- You can also enable Labeling from the Labels tab.
- You may wish to add the towns to the map, to add these navigate to the data folder in the POLS\_2998W\_Fall\_2012 folder.

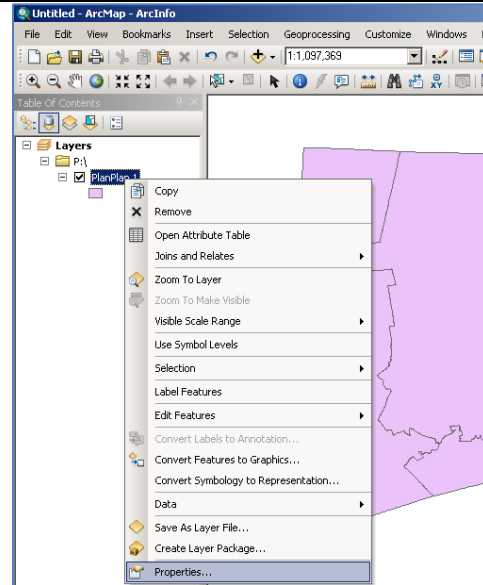


Figure 36: Change Symbology of Districts

- Once your map is complete, from the File Menu select Export Map. From the Export Map option you can select PDF, JPEG or other formats and adjust the settings based on your needs.
- Once you have completed your map, from the File menu select Save and save this project file to your p:\ drive.

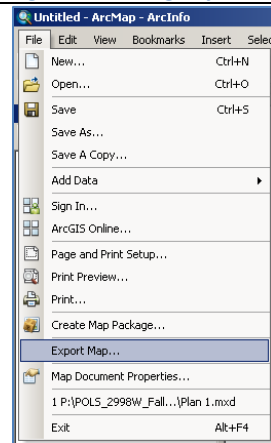


Figure 37: Create JPEG Map