



GEO 3HR3

INSTRUCTIONS FOR USING ARCVIEW

ArcView software is available for this assignment in the UTS Computer Lab (Burke Science Building Room 241 and 242), in the Map Collection (Mills Library, Room 110) and in the Gateway Data/GIS Lab (Mills Library Room 111A)

When working in the UTS Lab in Burke Science Building:

If you wish to print in the Lab, you must put money on your printer account (purchase vouchers in Titles Bookstore) 24 hours before you need to print your maps.

Log on to a computer. Select the **Course Folders** icon from the desktop, then click on **Science**, then click on **geo3HR3**. Double click on the ArcView icon to start the software.

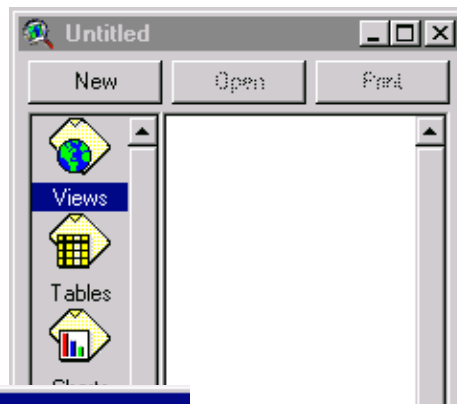
**** You must enter the folders in this sequence to load the map files ****

When working in the Library:

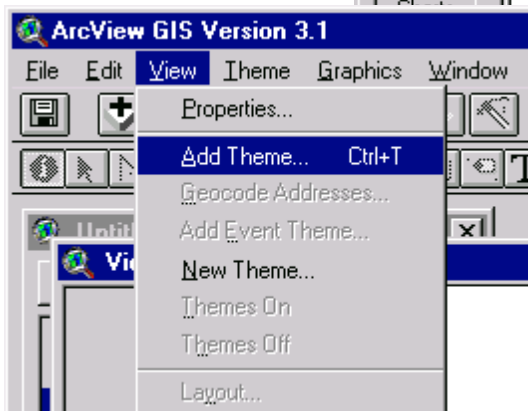
Click on **Start, Programs, Maintenance**

Click on "Initialize map data", then "Courses", then "Geo3hr3" to load a fresh set of boundary files.

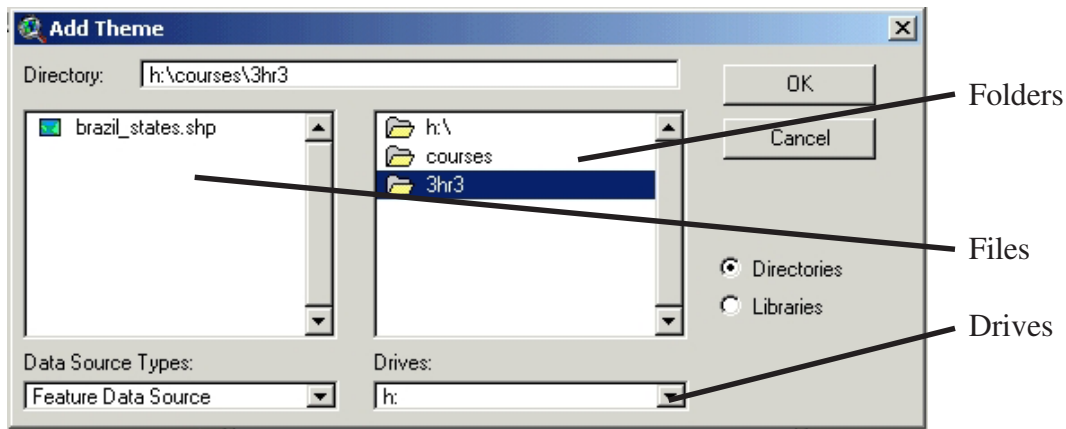
Click on **Start, Programs, ArcView GIS 3.2** to start the software. (In the Gateway Data/GIS Lab, you will be prompted for your LibAccess or MacID).



Click on the word **Views** and then on the **New** button.



Click on the word **View** at the top of the screen, and then on **Add Theme...**



Under **Drives**, click on the drop down menu and select

C: if you are in the UTS Lab. In the upper right box (**Folders**), double click on the **temp** folder.

**** If you do not see your files, close ArcView and start again, following the sequence for logging in on the first page - you must enter through these folders to load the data files ****

or **H: if you are in the Library.** In the upper right box (**Folders**), double click on the folder for **courses** and then on the folder for **Geo3hr3**.

**** If you don't see the courses folder, double click on H: to get to the root directory first ****

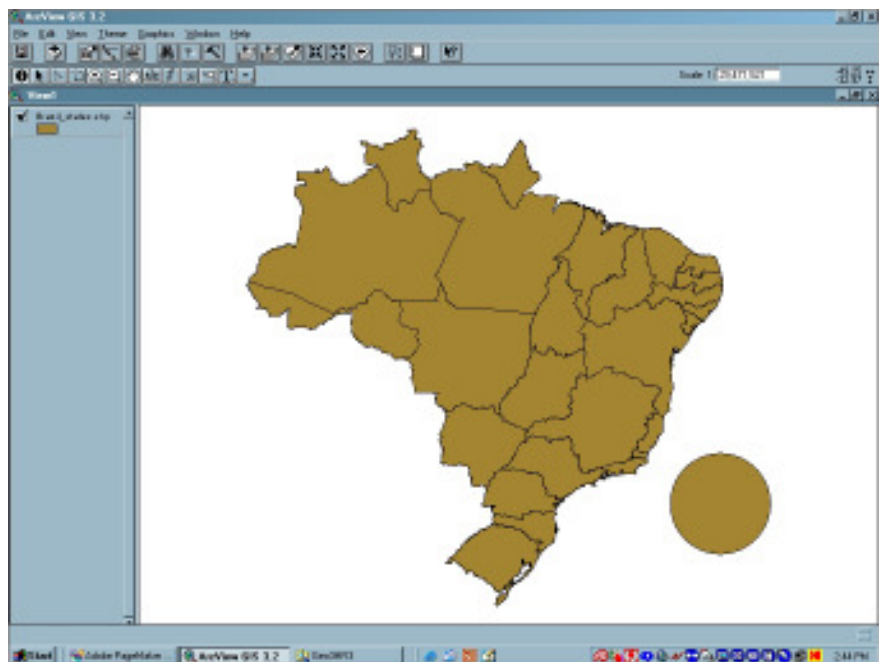
In the left hand box (**Files**), click on **Brazil_states.shp** and then click OK.



Click on the gray box to the left of the word **Brazil_states.shp** to turn on that theme.

An outline map of Brazil should appear.

It displays the very smallest state (Distrito Federal) as a circle outside the outline, so that its data will be easier to see.



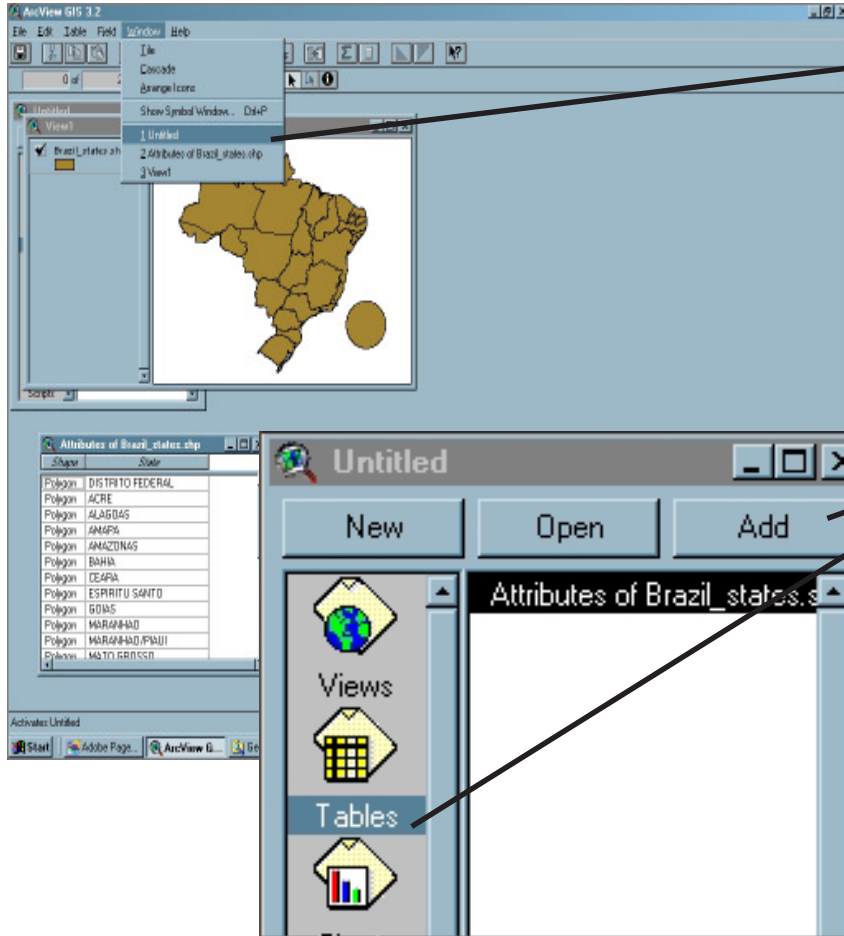


Click on the **Open Theme Table** button.



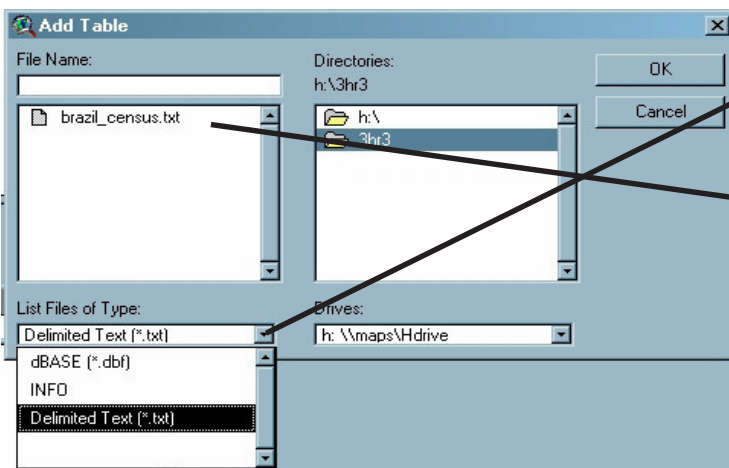
Use the **Resize Window** button to shrink the table to a more manageable size. Pull the sides of the table inwards if necessary to make it smaller.

Move the **Brazil_states.shp** table over to the left side of the screen.



At the top of the screen, click on **Window**, and then click on **Untitled**.

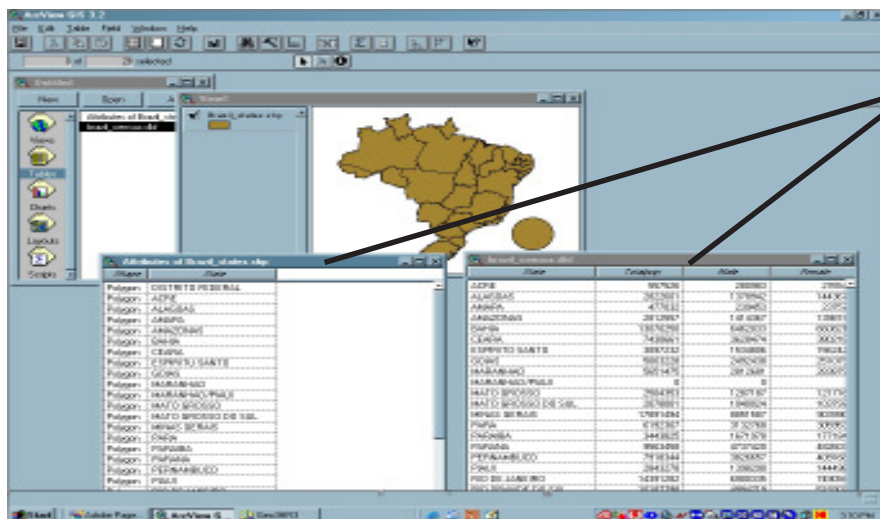
Click on the word **Tables**, and then on the **Add** button.



Click on the down arrow beside **List Files of Type:** and select **Delimited Text (*.txt)**.

Click on the filename **brazil_census.txt**.

Click the **OK** button.



Resize and move the two table windows until you have them positioned side by side.

The **Attributes of Brazil_states.shp** table must be on the left side.

The **brazil_census.txt** table must be on the right.

brazil_census.dbf	
State	Totalpop
ACRE	557526
ALAGOAS	2822601
AMAPA	477032
AMAZONAS	2812557

Click on the title bar of the **brazil_census.txt** table.

And then click on the label at the top of the column called **State**.

Attributes of Brazil_states.shp	
Shape	State
Polygon	DISTRITO FEDERAL
Polygon	ACRE
Polygon	ALAGOAS

Click on the title bar of the **Attributes of Brazil_states.shp** table.

Then click on the label at the top of the column called **State**.



In the menu at the top of the screen, click on **Table**.

Then click on **Join**.

Attributes of Brazil_states.shp			
State	Totalpop	Male	Female
DISTRITO FEDERAL	2051146	981356	1069790
ACRE	557526	280983	276543
ALAGOAS	2822601	1378942	1443679
AMAPA	477032	239453	237579
AMAZONAS	2812557	1414367	1398190
BAHIA	13070250	6462033	6608217
CEARA	7430661	3628474	3802187
ESPIRITU SANTO			
GOIAS	5003228	2492438	2510790
MARANHAO	5651475	2812681	2838794
MARANHAO/PIAU	0	0	0
MATO GROSSO	2504353	1287187	1217166

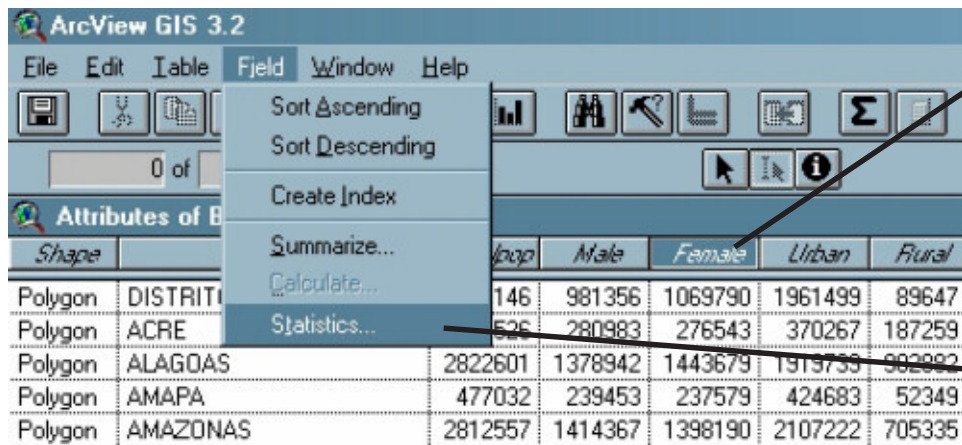
The **brazil_census.txt** table should close.

The **Attributes of Brazil_states.shp** table should now display the columns of data from the **brazil_census.txt** table.

Look at the fields available in the table and determine what you must calculate to produce a map of your assigned variable.

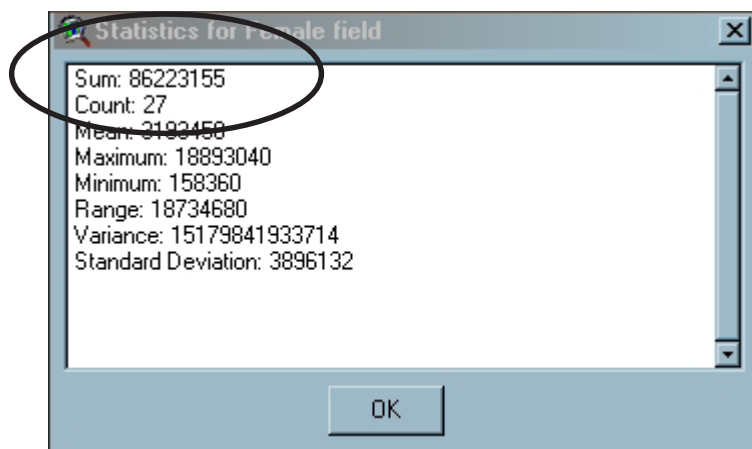
Some assigned variables create a ratio or percentage using a numerator and a denominator which already exist in the table. Some assigned variables require you to determine the national total for the given data so that this information can be as the denominator.

If you must sum data in the table for your variable, follow the steps on this page.
If you do not need to sum, then go on to page 6.



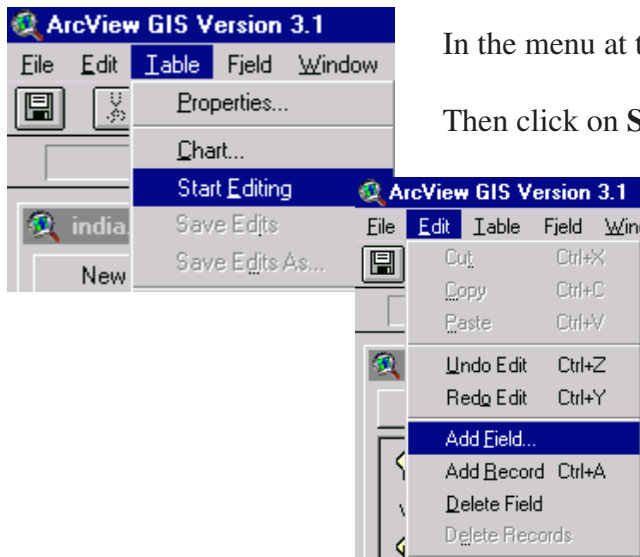
Click first on the name at the top of the column to select the correct field. (*Selected field should appear as a darker gray.)

At the top of the screen, select **Field** then **Statistics...**



The **Sum** of data in this field appears at the top of the displayed window.

Copy down this number to use later as the demoninator in your calculation.



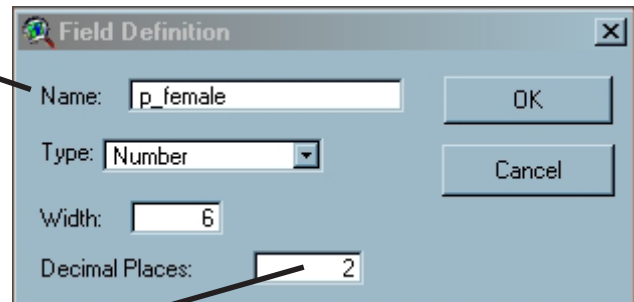
In the menu at the top of the screen, click on **T**able.

Then click on **S**tart **E**diting.

In the menu at the top of the screen, click on **E**dit.

Then click on **A**dd **F**ield...

In the **Field Definition** dialogue window, click on the **Name** box and type a name for the new field which will contain your calculated data - the name must be 8 characters or less. (*This example uses **p_female** for a field which will contain percentage of the total population which is female.)



Leave Type set at **Number**. Set field Width to accommodate the largest possible result of your calculation. (*This example uses Width = 6, including 2 decimal places.)

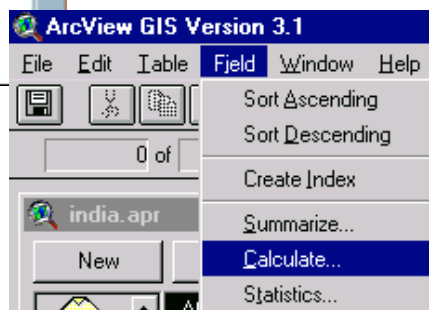
Click the **OK** button.

Area_sqkm	p_female
94.8	5802
76.9	152522
68.2	27819
88.8	142816
84.7	1570947
78.4	564273
75.3	145712

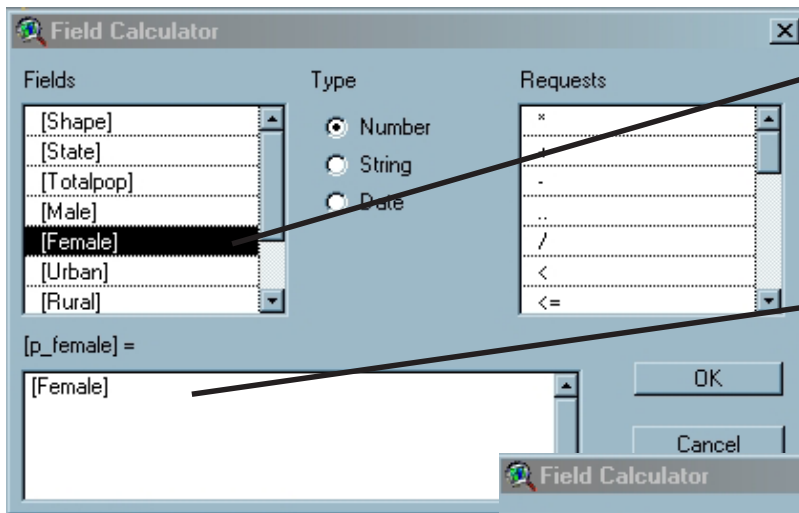
A new column with this name should be displayed in the **Attributes of Brazil_states.shp** table.

To calculate the values for this field, click on **F**ield at the top of the screen.

Then click on **C**alculate...



The following example shows how to calculate the percentage of the total population which is female:
 $\langle \text{Females} \rangle \text{ divided by } \langle \text{Total Population} \rangle \text{ multiplied by } 100 = \text{percentage}$



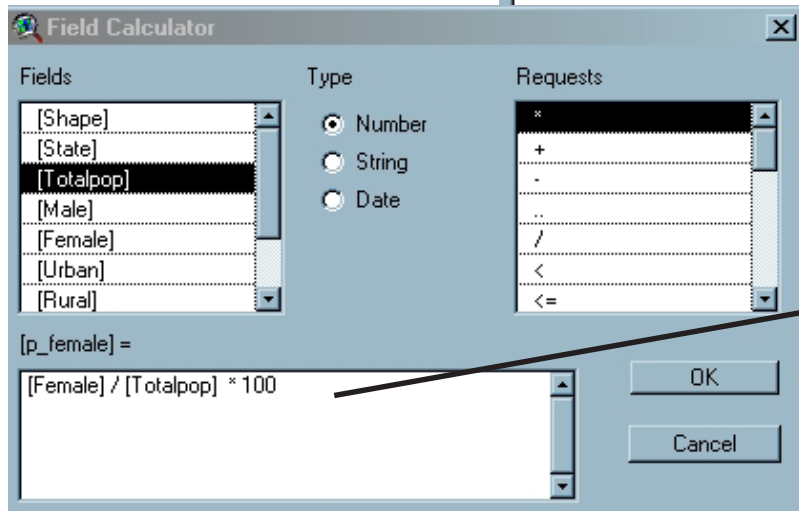
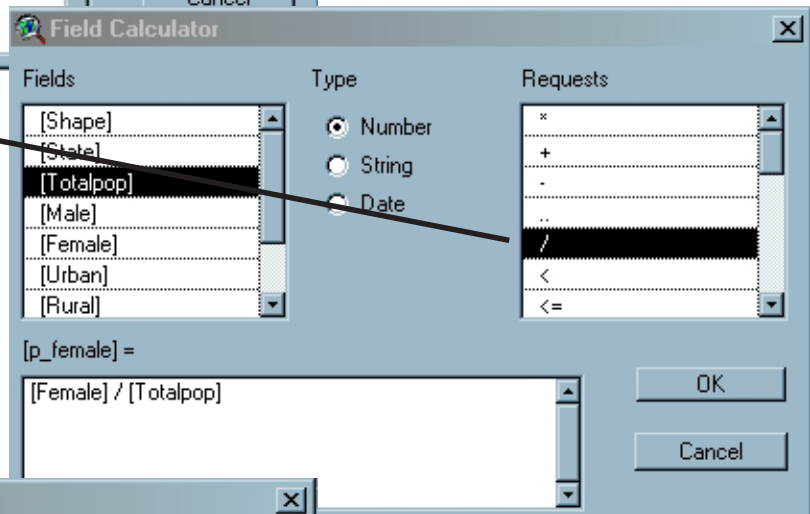
In the Field Calculator dialogue window, scroll down the **Fields** list and double click on the name of your **numerator**. (*This example uses **female**.)

The field name [female] should appear in the lower box.

In the **Requests** box, double click on the division sign (/).

In the **Fields** box, double click on the name of your **denominator**. (*This example uses **Totalpop**.)

These should be added to the query in the lower box.



In the **Requests** box, double click on the multiplication sign (*).

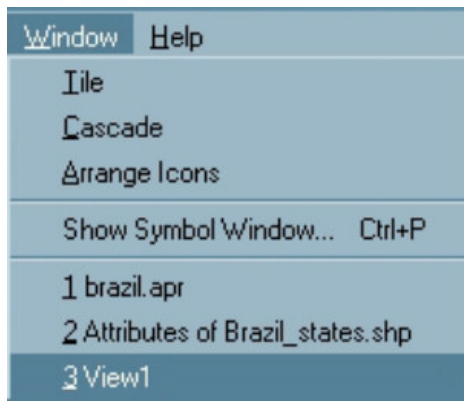
Then type the number 100.

The final query should read **[Female] / [Totalpop] * 100**.

Click the **OK** button.

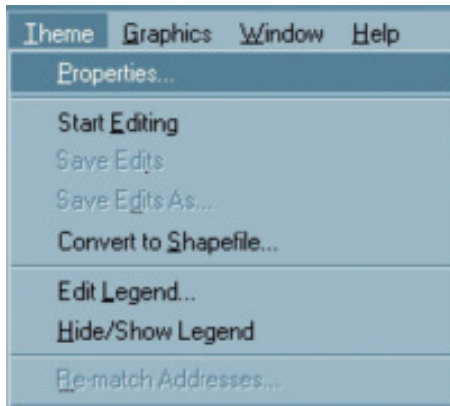
p_female
52.16
49.60
51.15
49.80
49.71
50.56
51.17

The new field should now show values.



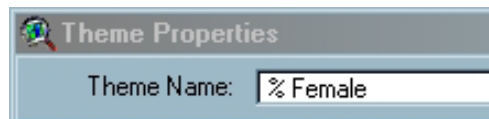
In the menu at the top of the screen, click on **Window**.

And then click on **View1**, to bring your map window to the front. You may wish to maximize the window size for easy viewing.



In the menu at the top of the screen, click on **Theme**.

Then click on **Properties...**

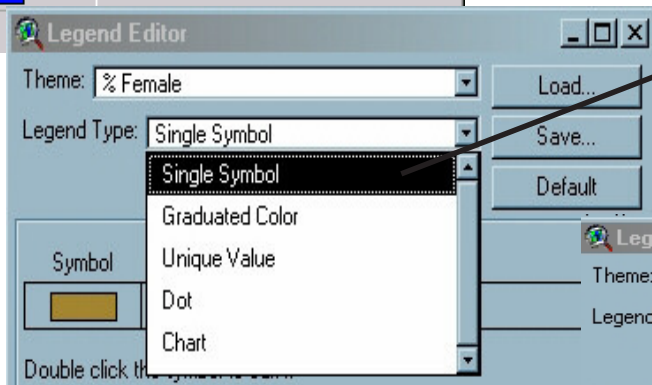


In the **Theme Name** box, type a name for this variable. This is the label that will appear above the legend on your map. Keep it short.

Click the **OK** button.

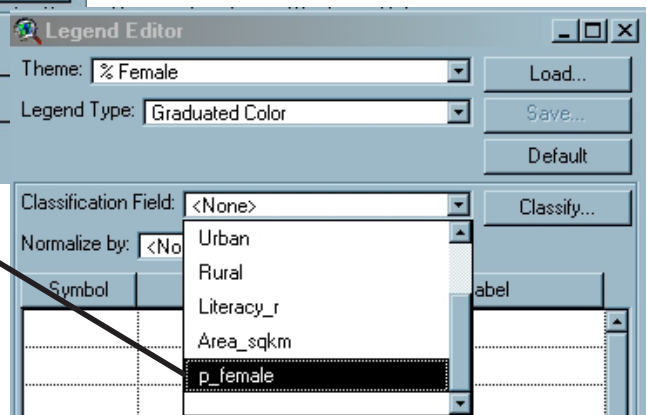
In the menu at the top of the screen, click on **Theme**.

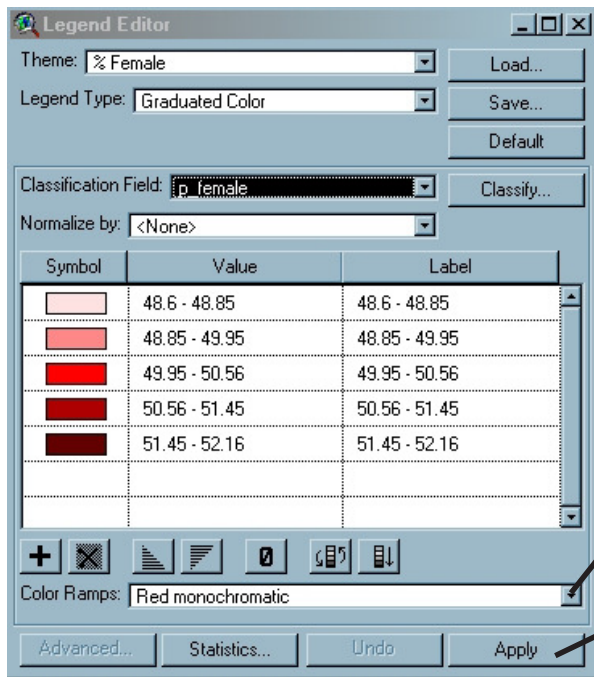
Then click on **Edit Legend**.



In the drop down menu for **Legend Type**, click on **Graduated Color**.

In the drop down menu beside **Classification Field**, click on the name of the field which you created.

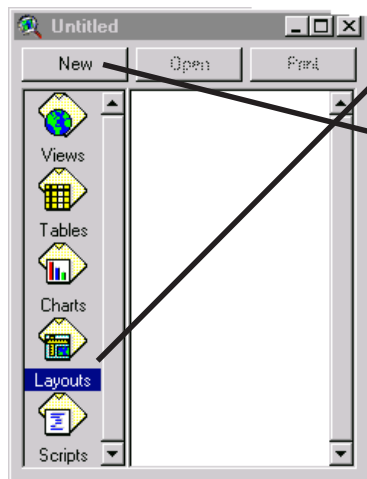
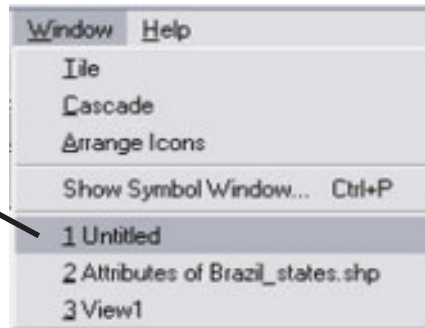




If you wish to print in black and white, change the **Color Ramps** to **Gray monochromatic**.

Click on **Apply** to change the map View.

When the map is finished, click on **Window** and then click on **Untitled** to go back to the starting screen.

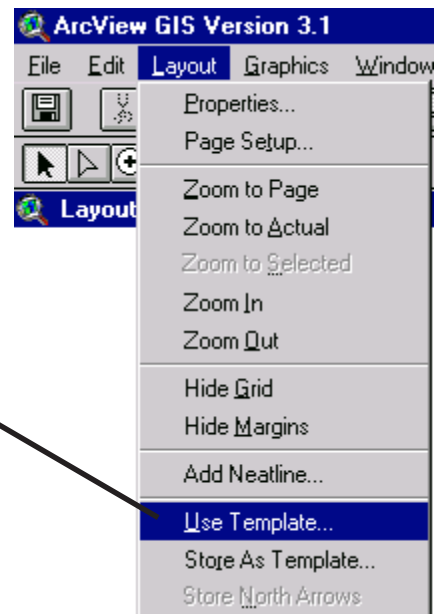


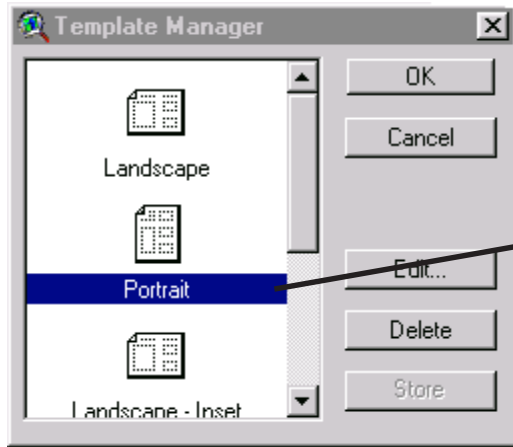
Click on the word **Layout**.

Then click on the **New** button.

In the menu at the top of the screen, click on **L**ayout.

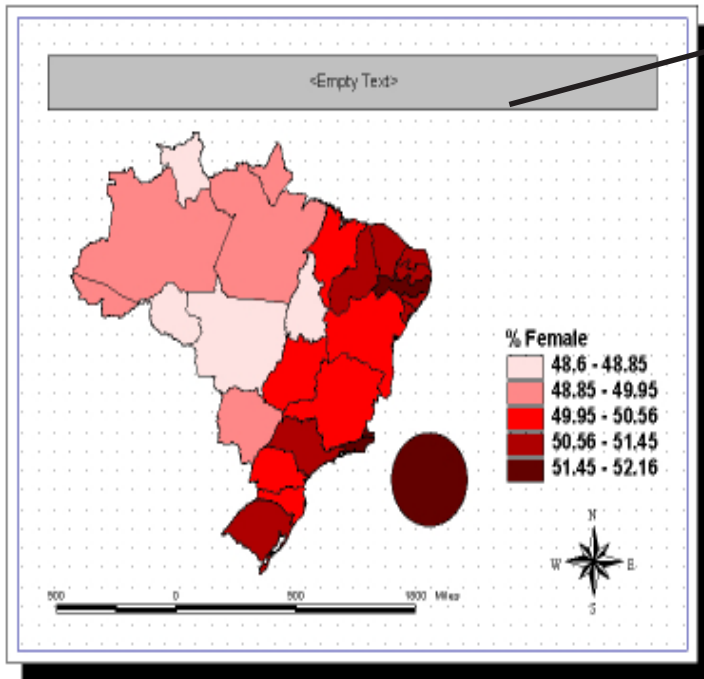
Then click on **U**se Template...





In the **Template Manager** window, click on **Portrait** or **Landscape** for the shape of map you want .

Click the **OK** button.



Double click on the Empty Text box, and type a title for your map. Click OK.

Click once on any element (title, map, legend, north arrow or scale bar) to select it. Black squares will appear in the corners of a selected object.

You can then resize the object by pulling the corner black squares in or out.

You can move the object by clicking in the centre and dragging.

To add a source or other additional text to the map, click on the **Text** button and type the desired text.



To add a dot or line to the map, click on the **Draw** button, select the desired graphic and drag the mouse to position it on the map.



After you have used the Text tool or the Draw tool, you must turn it off by clicking the **Pointer** tool



Draw a line to link the inset for Distrito Federal to its real location.

When you have finished your map completely, click on **File...**



Choose **Print...** to send the map to the printer.

Under **Setup**, select the Colour or Black & White printer and confirm that the paper orientation matches your layout.

The Library printers operate using the CopiCard system (about \$.10 for black & white, \$1.50 for colour).



Choose **Export...** to save the map as a file for printing at home or to email to yourself as an attachment.

Under **List Files by Type**, select the last option **JPEG**.

Indicate a drive letter and filename. Click **OK**.

You can save to a USB keychain drive, to the **U:** drive in the Library or to **C:/temp** in the UTS Lab. Do not save to the Desktop on Library computers.