Viewing WEPP GIS Layers in ArcGIS

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The following files are included in the zip file downloaded from the online WEPP GIS:

Projection.txt – The layers are in UTM coordinates. This file contains the UTM zone.

Boundary.asc – The watershed area. Cells with a value of 1 are contained in the watershed.

Channels.asc – The channel network as a grid. Cells with a value of 1 indicate a channel cell.

Landcov.asc – The landcover indices – not complete needs translation file.

Soilsmap.asc - The soil indices – not complete needs translation file.

Subcatchments.asc – The subcatchments in the watershed, a unique ID for each subcatchment and channel.

Subcatchments.shp, subcatchments.dbf, subcatchments.shx – The subcatchments as an ESRI shapefile, channels will also appear. The polygon ID's are included as a field. This information is the same as the subcatchments.asc file.

utmSlice.asc – The DEM file.

There are several WEPP output grids:

weppFLoss.asc – Results of flowpath runs, soil loss cell values are t/ha/year

weppLoss.asc – Results of representative hillslope watershed runs, soil loss cell values are t/ha/year. All cells in a subcatchment will have the same value.

weppSediment.asc - Results of representative hillslope watershed runs, sediment leaving. All cells in a subcatchment will have the same value. t/ha/year.

weppRunoff.asc - Results of representative hillslope watershed runs, runoff cell values are mm/year. All cells in a subcatchment will have the same value.

The other files are related to WEPP simulations but are not yet compatible with the desktop version of the WEPP interface.

To view the files in ArcGIS 10 the following steps should be done.

Extract the contents of the downloaded WEPP Zip file *weppproj.zip* to a subdirectory on your machine.

Click the Add Layer button and load the base DEM file *utmSlice.asc*
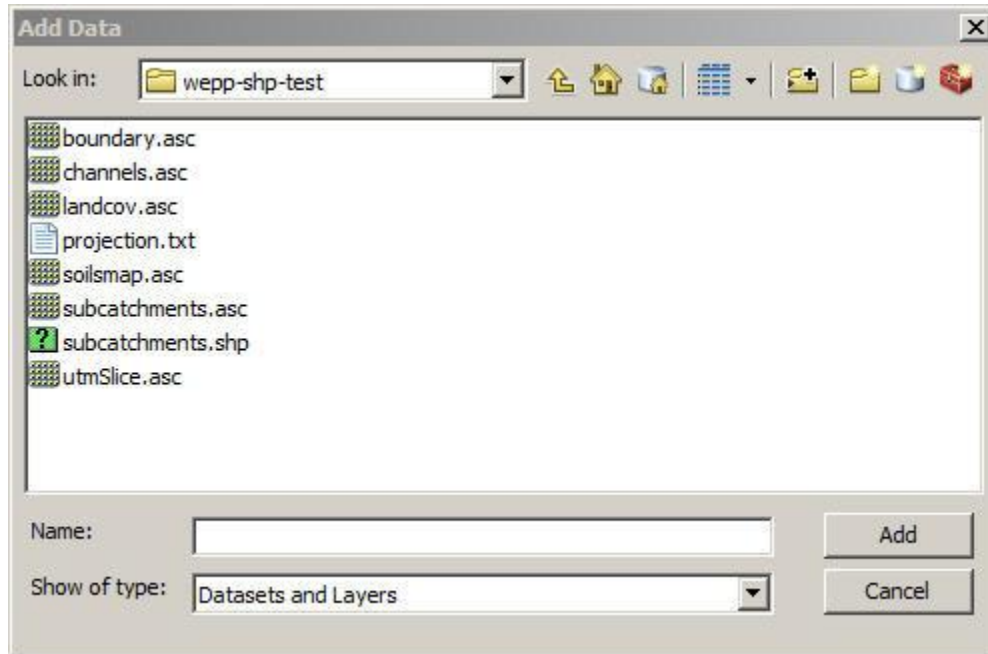

The files do not have projections associated with them so ArcGIS will display this warning, click the OK button. A projection will be defined in the next step.
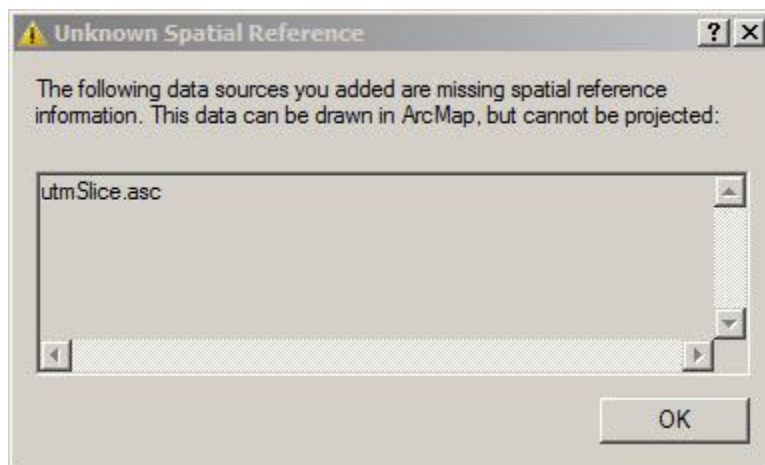
Open the ArcToolbox and navigate to the Define Projection utility and then double click to start.
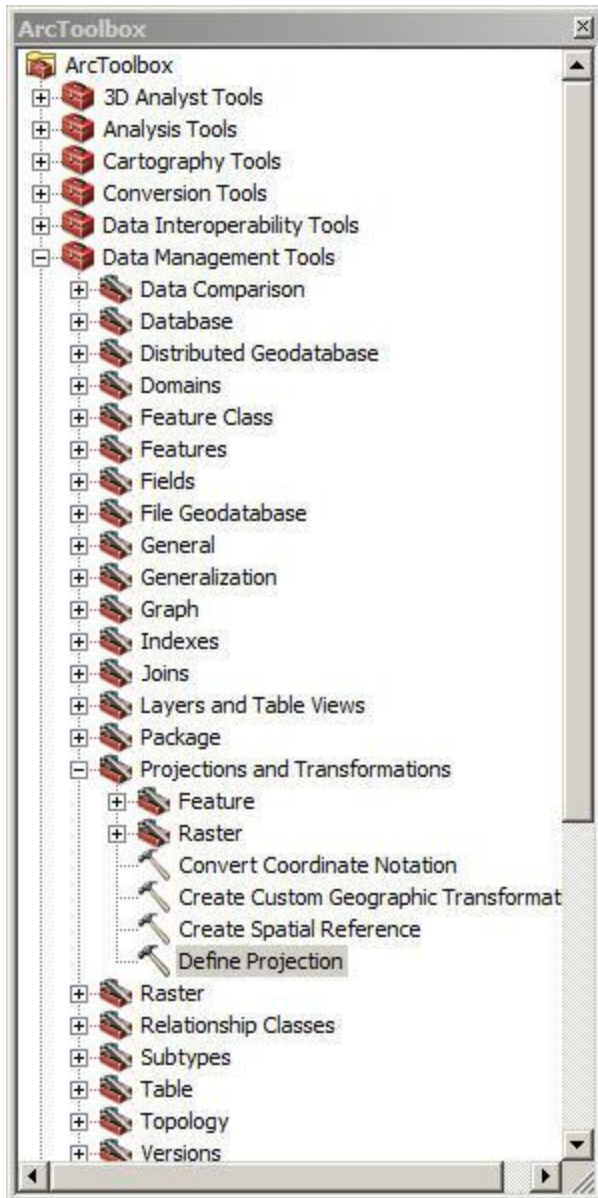
When the Define Projection utility opens select the utmSlice.asc as the input dataset. Next to the 'Coordinate System' click the icon.
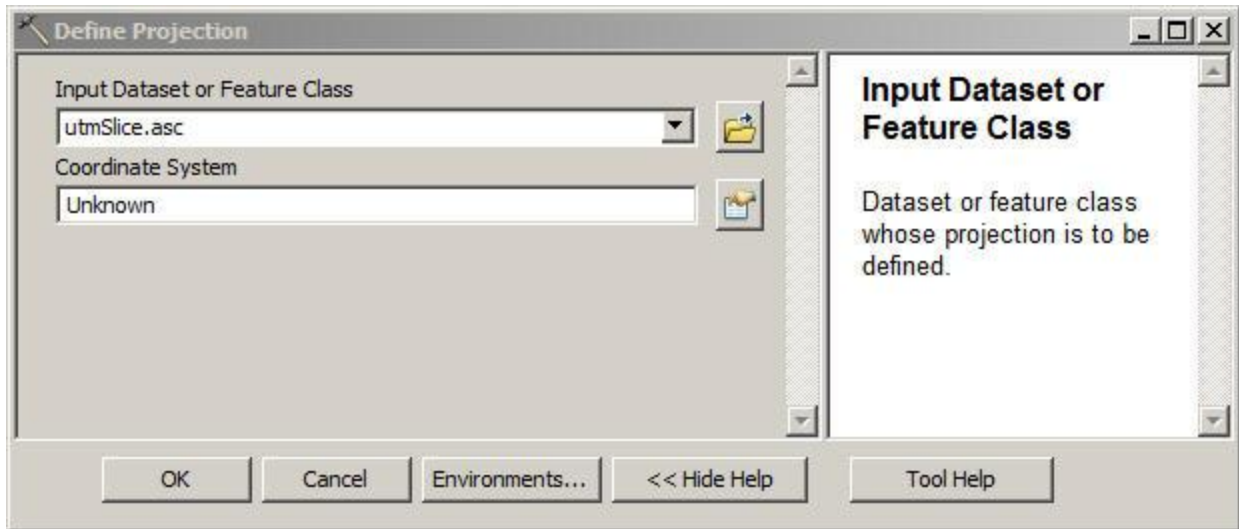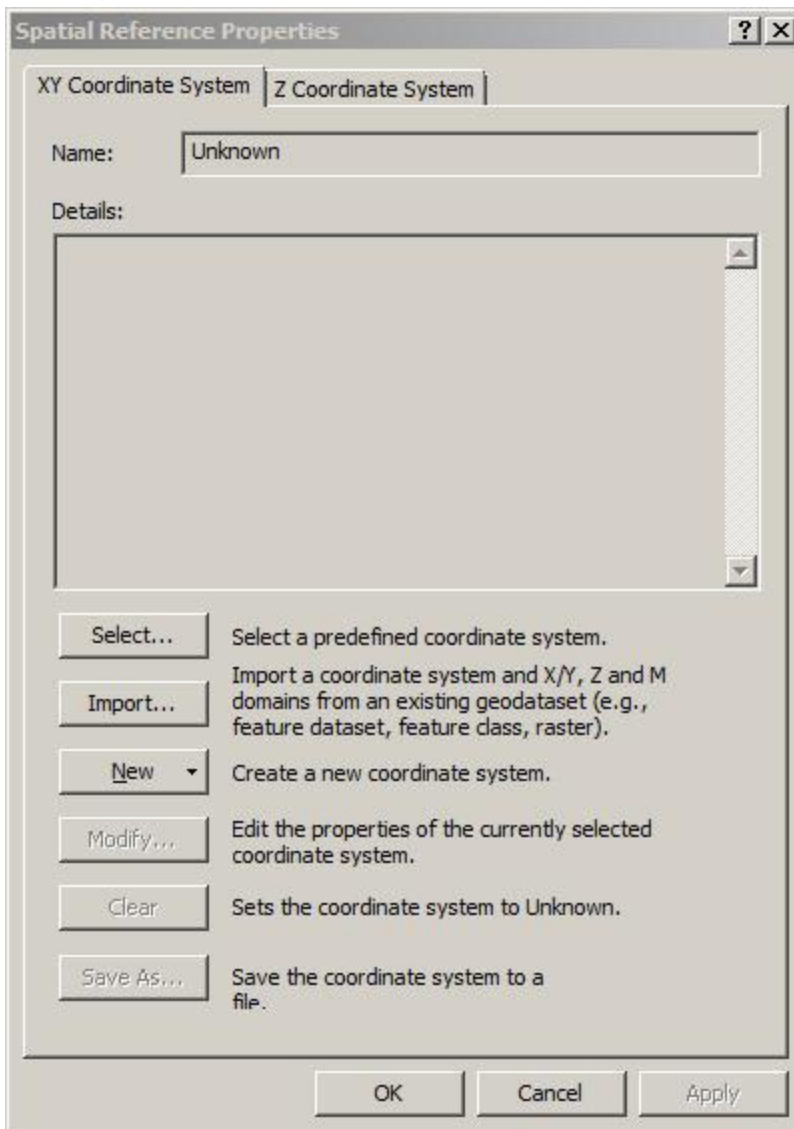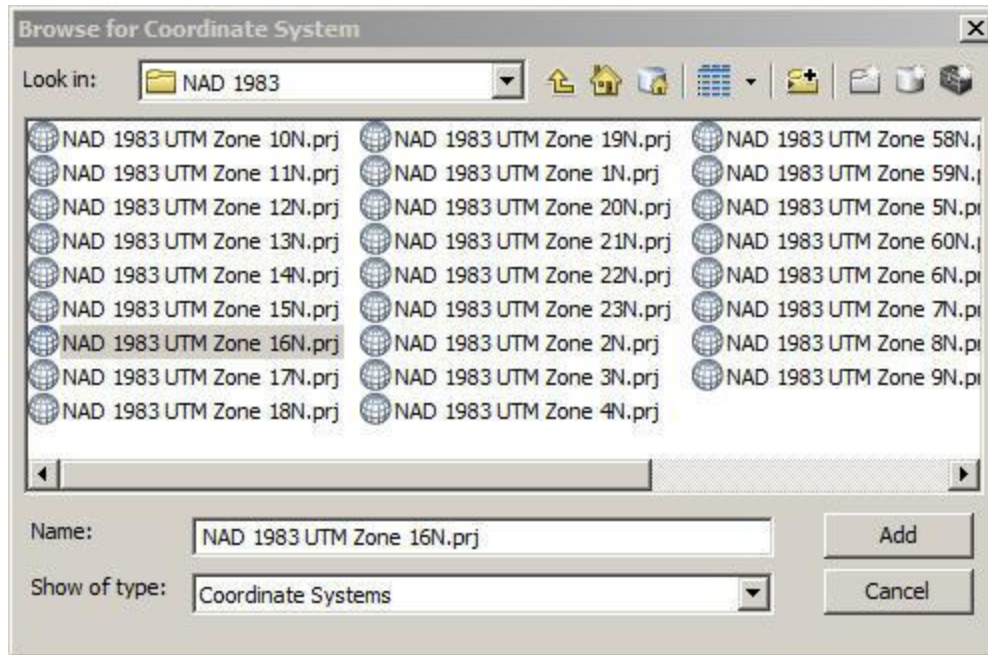
In the next window click the 'Select' button to choose the coordinate system. The files are in the UTM projection. The projection requires a zone number, the file in the download *projection.txt* contains the zone number to use.

For example, here are the contents of the projection.txt file:

UTM Zone: 16

In this example when selecting the projection look for 16N.

Spatial Reference Properties

XY Coordinate System | Z Coordinate System

Name: Unknown

Details:

| Select... | Select a predefined coordinate system. |
Import...	Import a coordinate system and X/Y, Z and M domains from an existing geodataset (e.g., feature dataset, feature class, raster).
New ▼	Create a new coordinate system.
Modify...	Edit the properties of the currently selected coordinate system.
Clear	Sets the coordinate system to Unknown.
Save As...	Save the coordinate system to a file.

OK   Cancel   Apply

Projected Coordinate Systems -> UTM -> NAD 1983 -> 'then select your zone' and click the 'Add' button. And click 'Apply' and 'OK' to close the Define Projection utility.

The DEM might not have a good color scheme to change it double click on utmSLice.asc in the left window and then choose the 'Symbology' tab. Select the 'Classified' option and select the number of classes from the dropdown and a color ramp. Finally, click 'Apply' and then 'OK'.
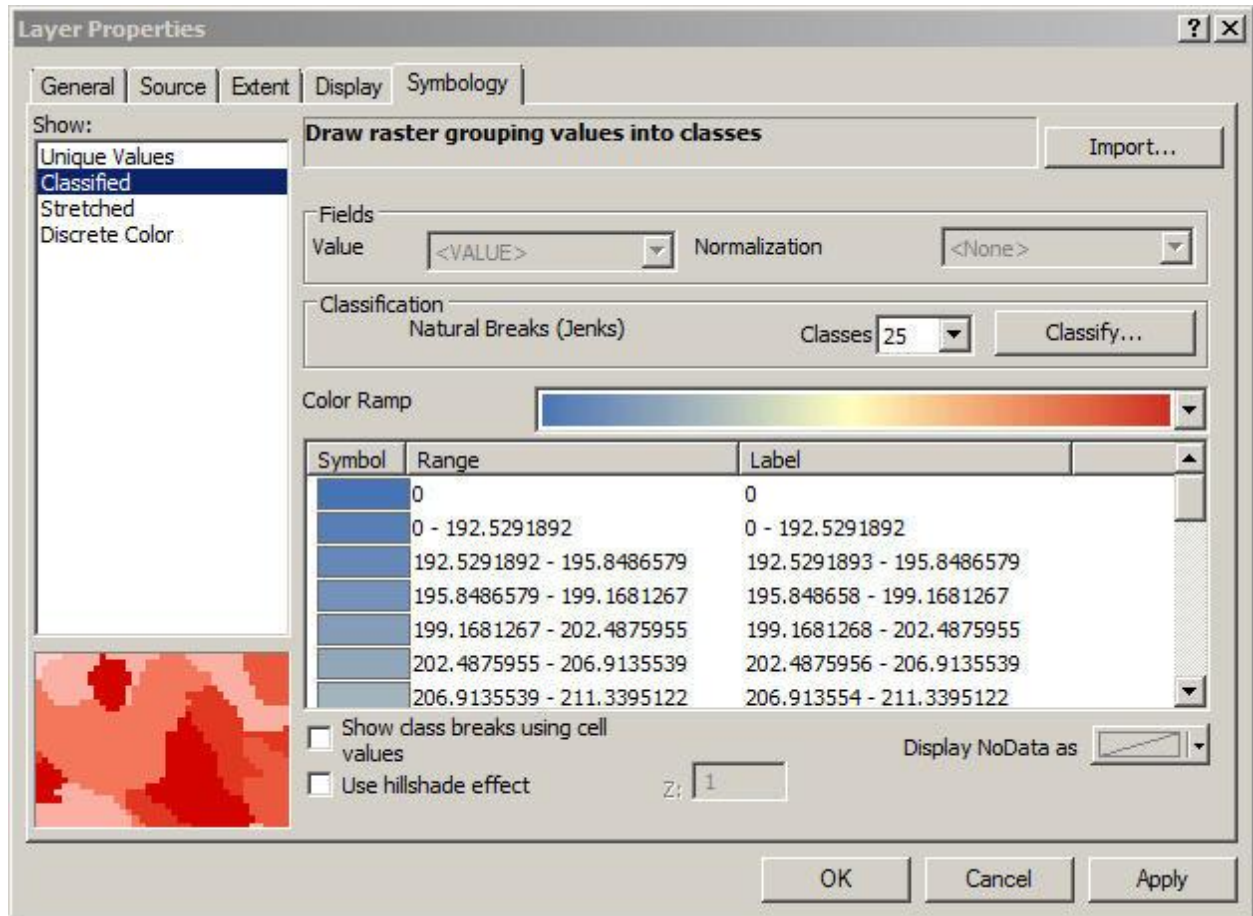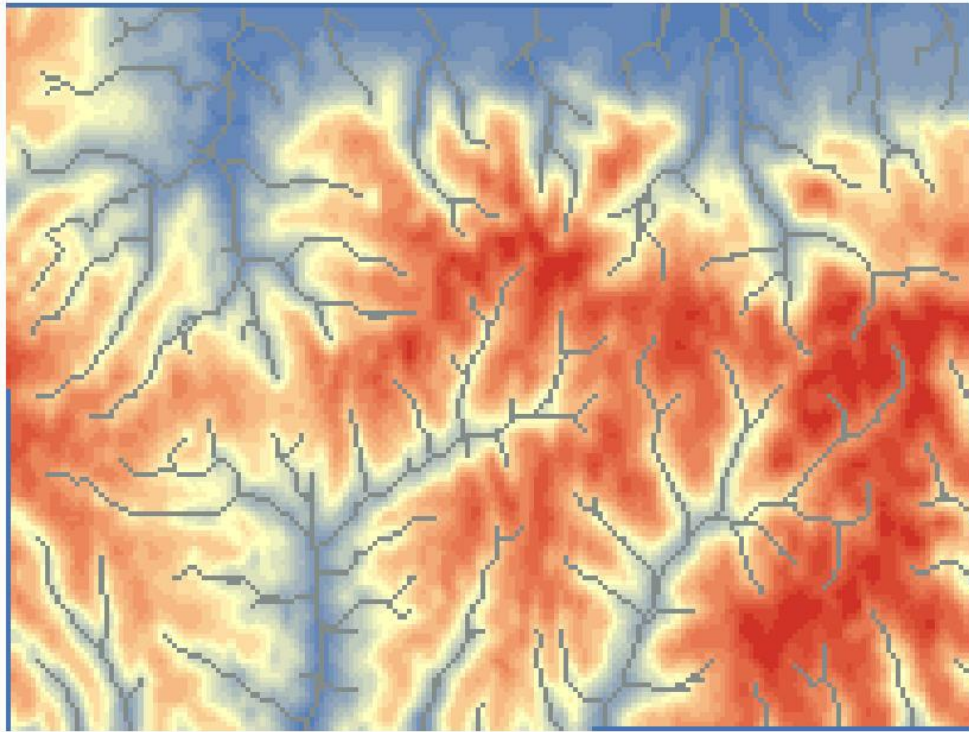
The next step is to load the channel network, this is also an ascii grid file. Click the 'Add Layer' button and then select the *channels.asc* file.

After the channels are loaded double click on the name in the left window and change the symbology to unique values. All channels cells contain a 1.
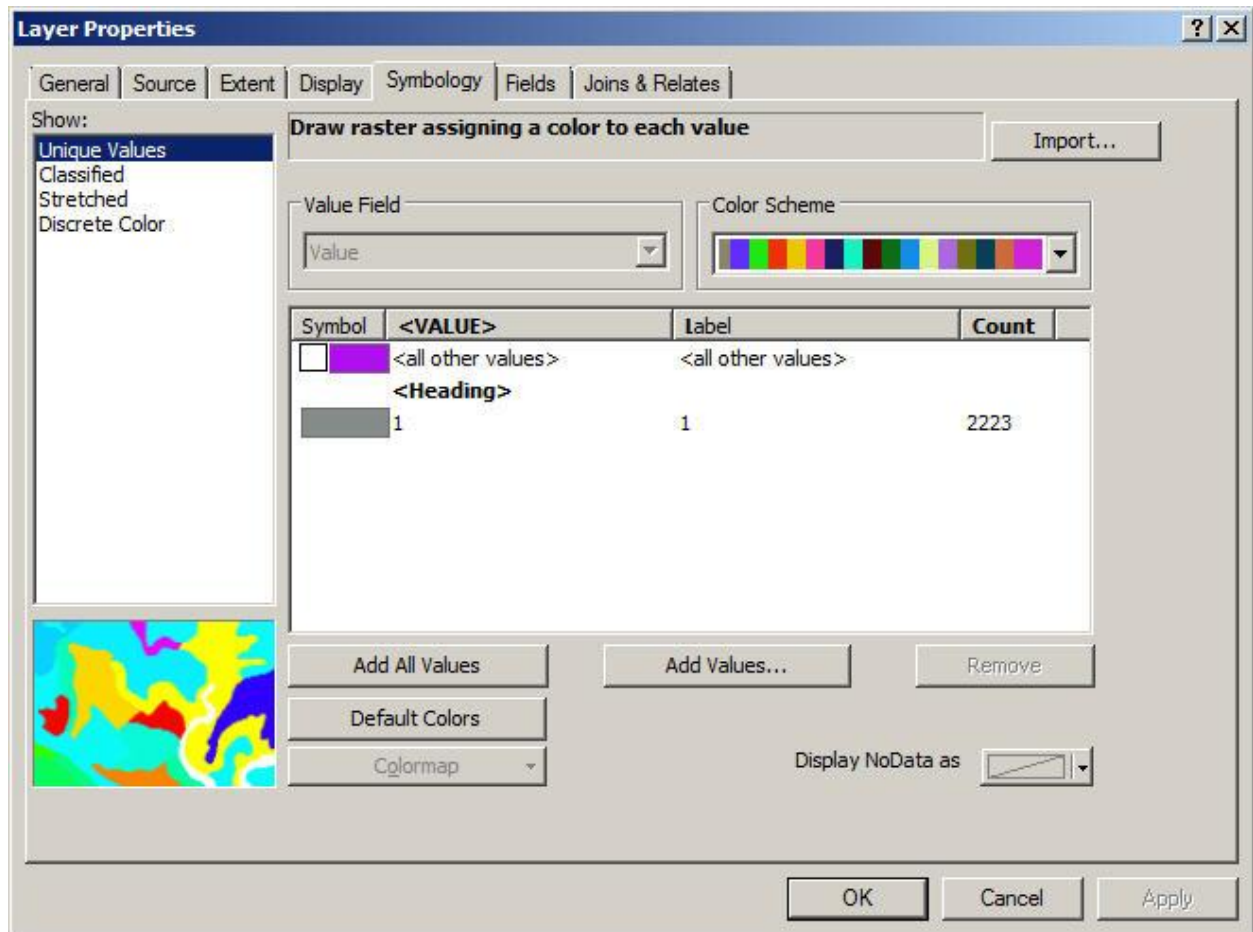
After loading the channels the layers look like this:

Next add the *subcatchments.shp* file. This is an ESRI shapefile file the subcatchments in the watershed and also the channels. Since all the processing is done on a grid with 30m cells the outlines have a very jagged appearance.
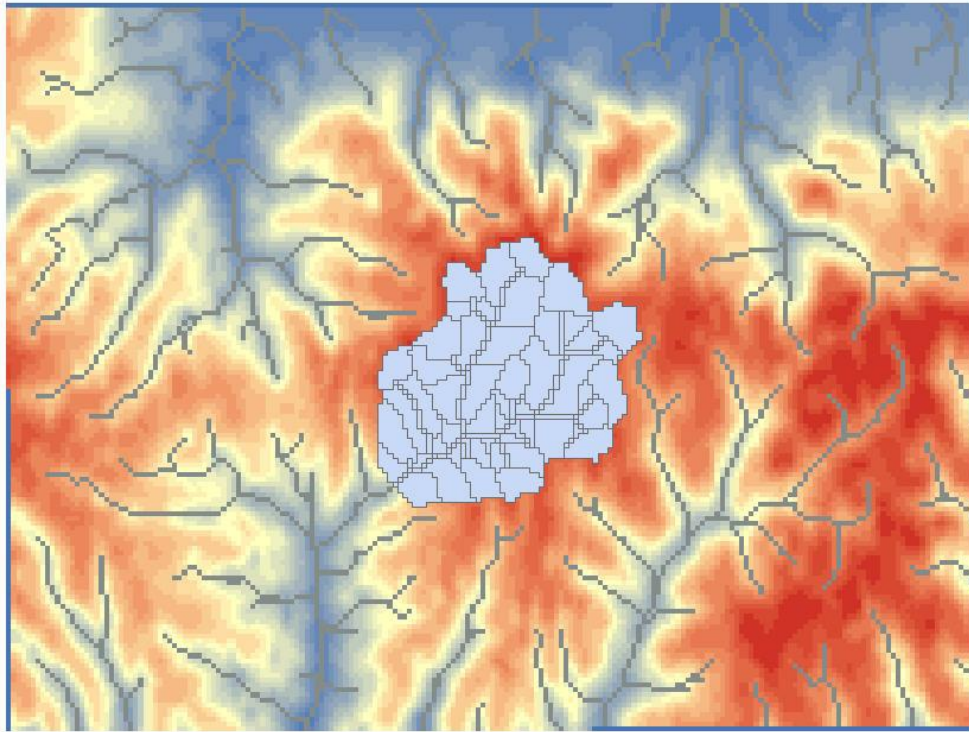
The first chage will be label the subcatchments. Double click on the subcatchments name in the left window and then select the 'Label' tab and then check 'Label Features in this layer' and click 'Apply' and 'OK'.
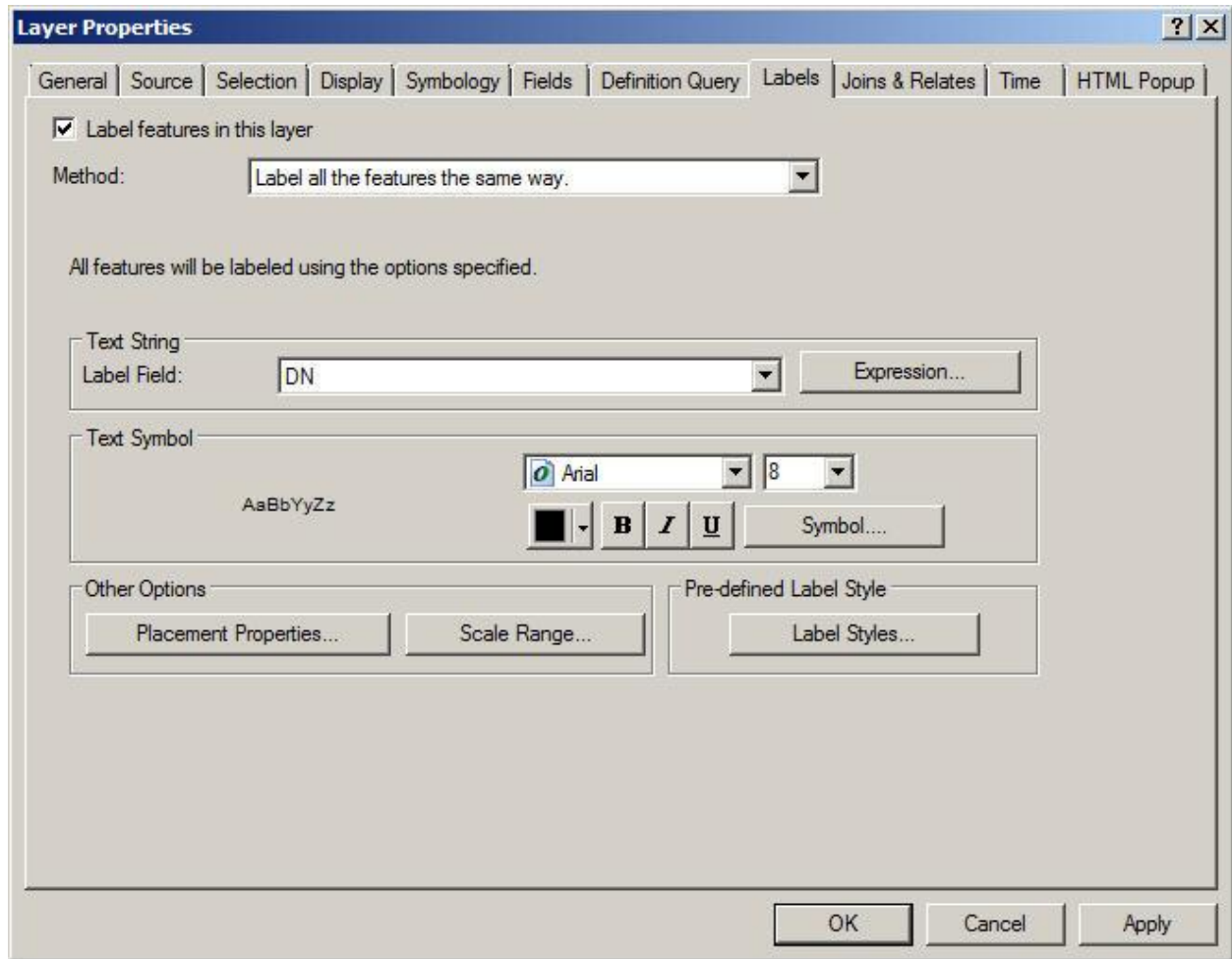
To change the colors click the Symbology tab and then 'Unique Values' and then click the 'Add All Values' button and then 'Apply' and 'OK'.

Layer Properties

General | Source | Selection | Display | Symbology | Fields | Definition Query | Labels | Joins & Relates | Time | HTML Popup

Show:

Features
Categories
    Unique values
    Unique values, many
    Match to symbols in a
Quantities
Charts
Multiple Attributes

Draw categories using unique values of one field.　Import...

Value Field
DN

Color Ramp

Symbol	Value	Label	Count
☑	<all other values>	<all other values>	0
	<Heading>	DN	135
	22	22	1
	23	23	1
	24	24	4
	31	31	1
	34	34	1
	42	42	2
	43	43	1
	44	44	4
	51	51	1

Add All Values | Add Values... | Remove | Remove All | Advanced ▾

OK | Cancel | Apply

If the channels layer is the first layer in the left window it is easier to see all the channels because they are displayed in the same color.