

Basic Vector Styling

QGIS Tutorials and Tips



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Geographic Information Systems (GIS) and Remote Sensing

Geographic Information Systems (GIS) and Remote Sensing are tools used to collect, store, analyze, and display spatial data. GIS is a computer-based system that allows users to create maps and analyze spatial data. Remote Sensing is the process of obtaining information about the Earth's surface from a distance, typically using satellite imagery. QGIS is a free and open-source GIS software that can be used to create maps and analyze spatial data. It is a powerful tool for GIS professionals and students alike.

Geographic Information Systems (GIS)

Geographic Information Systems (GIS) are computer-based systems that allow users to create maps and analyze spatial data. They are used in a wide range of applications, including urban planning, environmental management, and transportation. GIS is a powerful tool for analyzing spatial data and making decisions based on that data.

Remote Sensing

- Remote Sensing is the process of obtaining information about the Earth's surface from a distance, typically using satellite imagery.

Geographic Information Systems (GIS) and Remote Sensing

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lifeexpectancy.zip

lifeexpectancy.zip [SAGE]

Geographic Information Systems (GIS)

1. Geographic Information Systems (GIS) are computer-based systems that allow users to create maps and analyze spatial data. They are used in a wide range of applications, including urban planning, environmental management, and transportation. GIS is a powerful tool for analyzing spatial data and making decisions based on that data.



2. lifeexpectancy.zip newsweek_data.shp WGS84 EPSG:4326 ().



3. **CRS Selection**, **Coordinate Reference System** **WGS 84**, **Authority ID** **EPSG:4326**, **Selected CRS:** **WGS 84**, **PROJ string** **+proj=longlat +datum=WGS84 +no_defs**.



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5. **newweek_data** is a vector layer. It contains a table with the following fields: **LIFEXPCT**, **Life Expectancy** - **newweek_data**.

Attribute table - newswk_data :: Features total: 165, filtered: 165, selected: 0

	GRWRATE	URBPOP	MIG_RATE	POP_15	POP65_	LIFEXPCT	CONTRCEP
0	2.620000000	47.000000000	0.000000000	45.200000000	3.800000000	47.000000000	7.000000000
1	2.660000000	33.000000000	0.000000000	44.900000000	3.100000000	42.000000000	4.000000000
2	1.900000000	53.000000000	-0.400000000	33.200000000	5.100000000	76.000000000	58.000000000
3	0.940000000	35.000000000	-9.900000000	32.300000000	4.000000000	65.000000000	31.000000000
4	3.320000000	46.000000000	2.200000000	46.000000000	3.700000000	55.000000000	6.000000000
5	3.170000000	44.000000000	0.500000000	48.100000000	2.800000000	52.000000000	1.000000000
6	3.360000000	32.000000000	-0.100000000	48.000000000	2.500000000	50.000000000	8.000000000
7	3.400000000	5.000000000	0.700000000	49.800000000	2.300000000	46.000000000	10.000000000
8	2.880000000	8.000000000	0.000000000	46.300000000	2.900000000	48.000000000	9.000000000
9	3.720000000	29.000000000	-0.200000000	47.100000000	2.900000000	46.000000000	1.000000000
10	2.840000000	49.000000000	-0.100000000	48.500000000	2.200000000	49.000000000	1.000000000
11	3.310000000	15.000000000	-7.700000000	49.200000000	2.600000000	45.000000000	7.000000000
12	2.370000000	51.000000000	-0.100000000	39.700000000	3.900000000	59.000000000	30.000000000
13	2.830000000	27.000000000	32.000000000	44.900000000	3.300000000	47.000000000	4.000000000
14	2.970000000	25.000000000	-0.300000000	44.600000000	2.800000000	60.000000000	43.000000000
15	3.180000000	33.000000000	0.000000000	45.000000000	3.400000000	58.000000000	26.000000000
16	1.550000000	84.000000000	0.000000000	30.500000000	6.400000000	72.000000000	43.000000000
17	2.920000000	25.000000000	0.000000000	44.900000000	3.300000000	68.000000000	33.000000000
18	2.690000000	46.000000000	0.000000000	39.600000000	3.600000000	67.000000000	48.000000000
19	2.370000000	60.000000000	0.200000000	37.500000000	4.000000000	62.000000000	48.000000000
20	2.680000000	30.000000000	0.000000000	42.500000000	3.100000000	57.000000000	20.000000000
21	2.470000000	9.000000000	0.000000000	40.700000000	3.900000000	56.000000000	5.000000000

Show All Features

6. **GRWRATE** **URBPOP** **MIG_RATE**. **POP_15** **POP65_** **LIFEXPCT** **CONTRCEP**
GRWRATE **URBPOP** **MIG_RATE** **POP_15** **POP65_** **LIFEXPCT** **CONTRCEP**.



7. The screenshot shows the QGIS 2.0.1-Dufour interface. The main window displays a world map with landmasses in green. On the left, the 'Layers' panel shows a single layer named 'newweek_data'. A right-click context menu is open over this layer, listing various actions. The 'Properties' option is highlighted by the mouse cursor. The bottom status bar indicates the current coordinate is -187.8, 113.1, the scale is 1:245366721, and the coordinate reference system is EPSG:4326.



8. The 'Layer Properties' dialog box is used to configure the appearance of a layer. It contains several tabs, including 'General', 'Style', 'Labels', 'Fields', 'Display', 'Actions', 'Joins', 'Diagrams', and 'Metadata'. The 'Style' tab is used to define the symbology for a layer. It includes options for 'Layer rendering' (transparency, blending mode) and 'Symbol' (Single Symbol, Categorized, Graduated, Rule-based, Point displacement). The 'Symbol' section shows a list of 'Saved styles' (corners, diagonal, dotted, green, land, water, wine) and a 'Symbol layers' section for defining the layer's symbology. The 'Layer Properties' dialog box is used to configure the appearance of a layer.

9. **THE UNITED STATES, BY AND THROUGH THE ATTORNEY GENERAL, REQUESTS THAT THE COURT GRANT IT PERMISSION TO FILE A MOTION TO DISMISS THE COMPLAINT.**



10. The first step in the process of creating a map is to define the data. This is done by specifying the data source and the data format. The data source can be a file, a database, or a web service. The data format can be a vector format (e.g., shapefile) or a raster format (e.g., GeoTIFF). The data source and data format are specified in the 'newweek_data' layer in the Layers panel. The data source is 'newweek_data' and the data format is 'Shapefile'.



11.

1. The first step is to open the 'Layer Properties' dialog for the layer you want to style. This can be done by right-clicking on the layer in the 'Layers' panel and selecting 'Properties'.

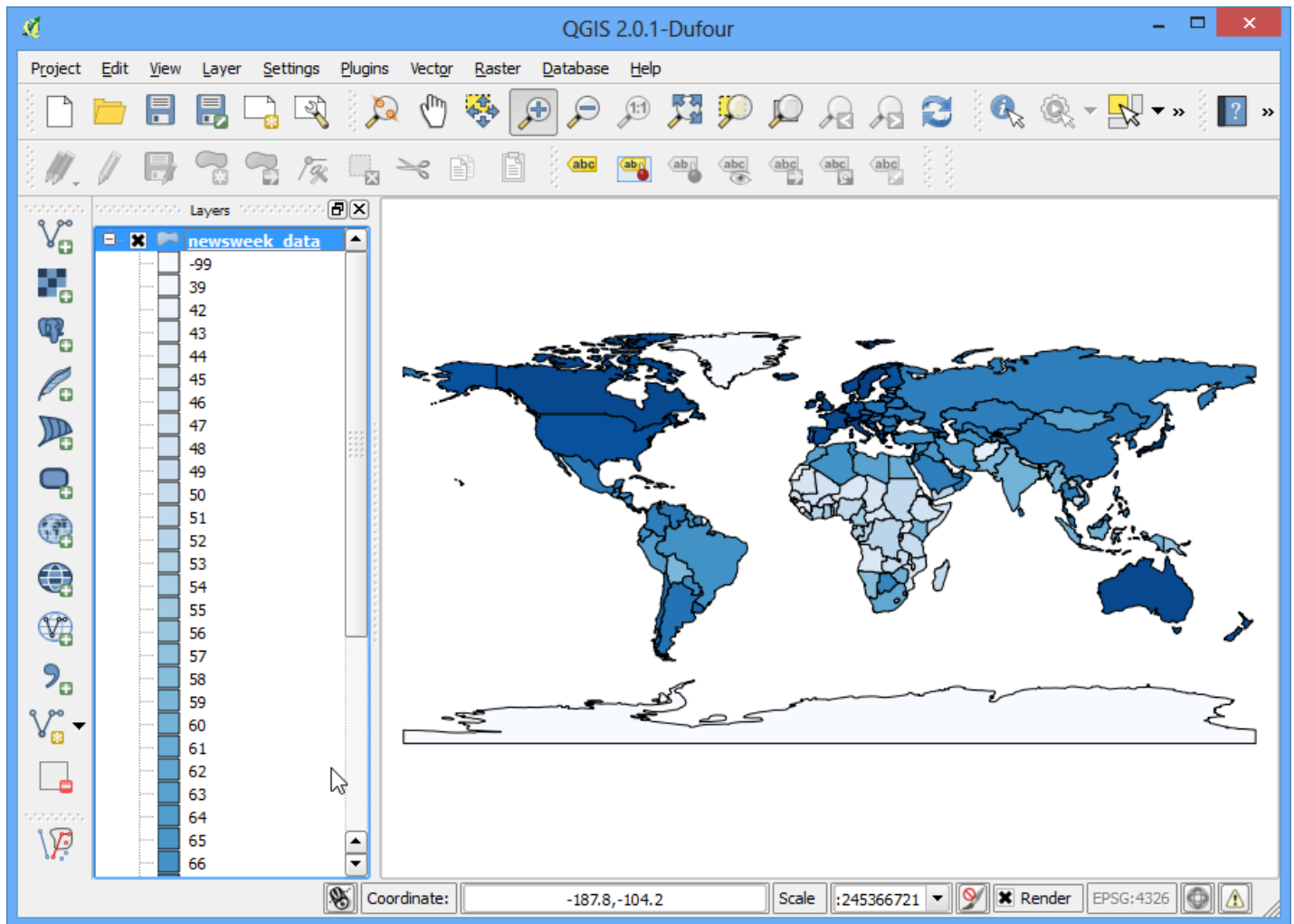
2. In the 'Style' tab, you can choose the 'Categorized' method for styling. This method allows you to create a legend for your data based on the values of a specific attribute.

3. The 'Column' dropdown menu allows you to select the attribute you want to use for categorization. In this case, the 'LIFEXPCT' attribute is selected.

4. The 'Symbol' dropdown menu allows you to choose a symbol for each category. In this case, the 'Blues' color ramp is selected.

5. The 'Classify' button is used to create the legend for the categorized data. This button is highlighted with a red box in the screenshot.

6. The 'OK' button is used to apply the changes and close the dialog. This button is also highlighted with a red box and a mouse cursor in the screenshot.



12. **Graduated** **Style** **classes** **3** **LOW, MEDIUM HIGH. LIFEXPCT Column** **3** **Mode options** **5** **Equal, Quantile, Natural (Jenks), Standard, Pretty** **10** **10**

- **0-100, 10** **0-10, 10-20, 20-30** **10**
- **100** **4** **25**
- **10** **10**

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-: R's pretty algorithm.

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Note

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Layer Properties - newweek_data

General

Style

Labels

Fields

Display

Actions

Joins

Diagrams

Metadata

Style

Layer rendering

Layer transparency

Layer blending mode

Feature blending mode

Graduated

Column

LIFEXPCT

Symbol

Change...

Color ramp

[source]

Classes

Mode

Quantile (Equal Count)

Symbol	Value	Label
	-99.0000 - 55.6667	-99.0000 - 55.6667
	55.6667 - 70.0000	55.6667 - 70.0000
	70.0000 - 79.0000	70.0000 - 79.0000

Classify

Add class

Delete

Delete all

Advanced

Restore Default Style

Save As Default

Load Style ...

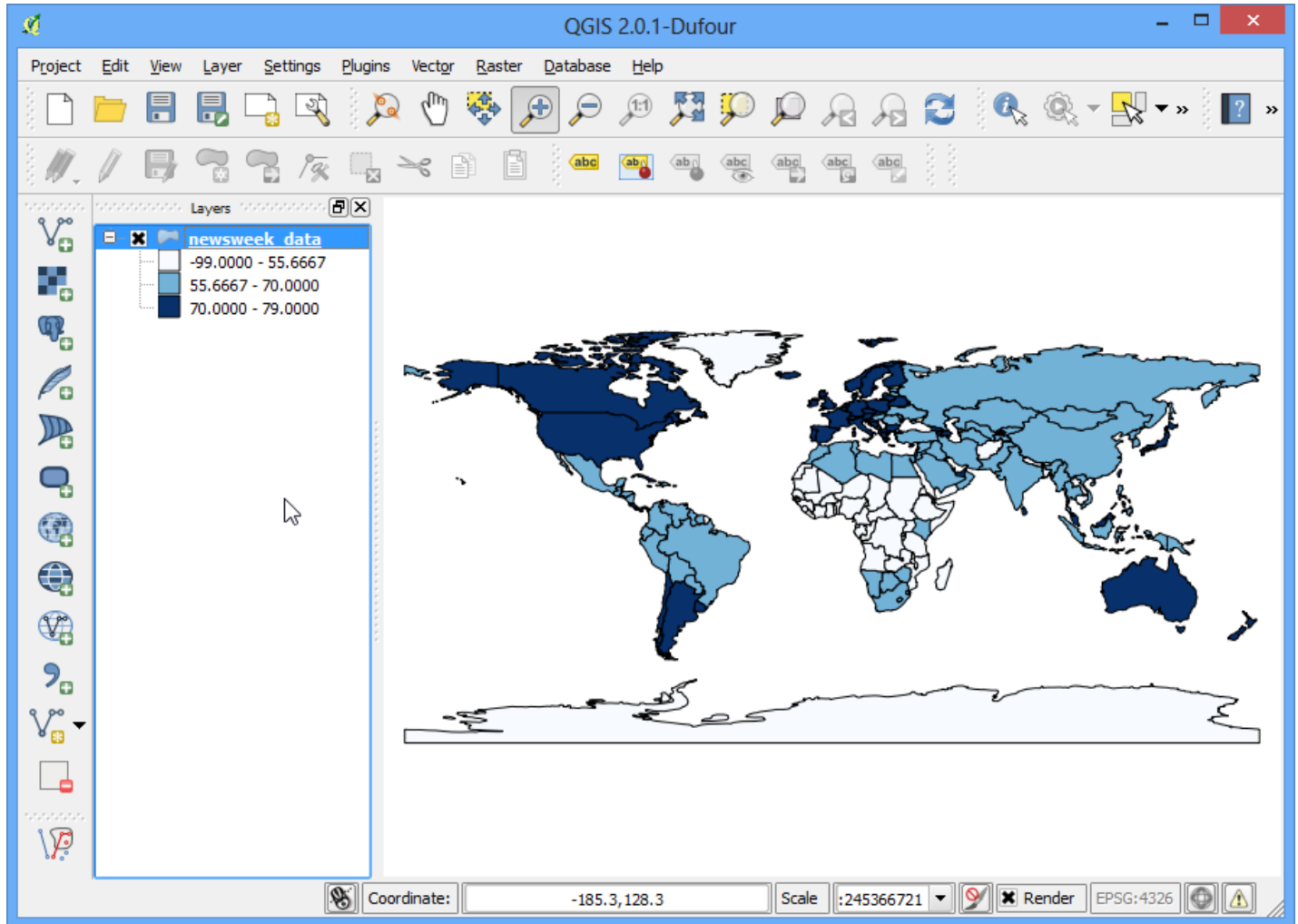
Save Style

OK

Cancel

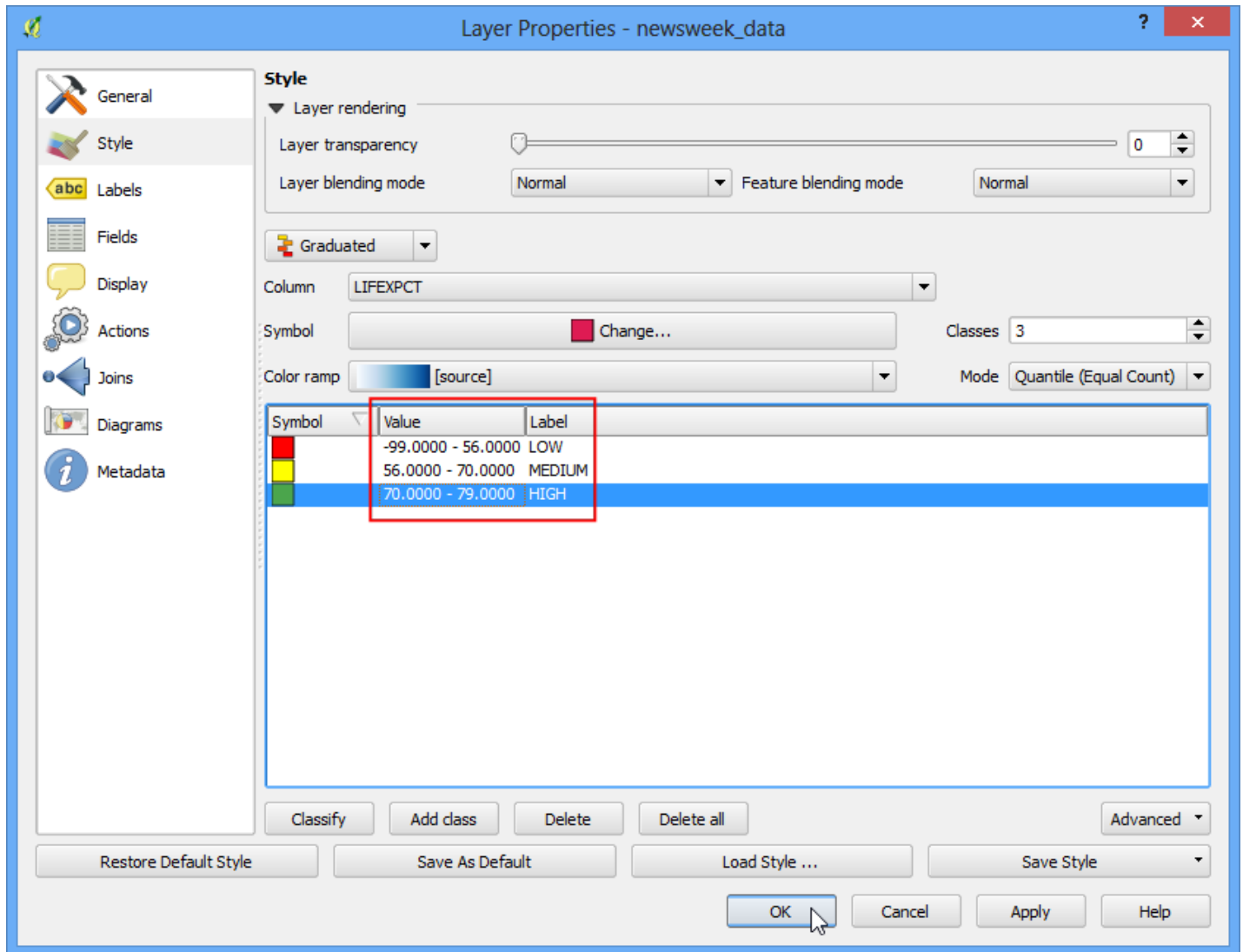
Apply

Help

[illegible]

14. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED], [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED]. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]. [REDACTED] [REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]. [REDACTED]
[REDACTED] [REDACTED] [REDACTED], [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED], [REDACTED]
[REDACTED] [REDACTED], [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED].

17. The following steps describe how to create a graduated color style for the newsweek_data layer. The first step is to click the Style button in the Layer Properties dialog box. The second step is to click the Graduated button in the Style section. The third step is to click the Column button and select LIFEXPCT. The fourth step is to click the Color ramp button and select [source]. The fifth step is to click the Classes button and select 3. The sixth step is to click the Mode button and select Quantile (Equal Count). The seventh step is to click the Symbol button and select Change... The eighth step is to click the Value button and select -99.0000 - 56.0000. The ninth step is to click the Label button and select LOW. The tenth step is to click the Value button and select 56.0000 - 70.0000. The eleventh step is to click the Label button and select MEDIUM. The twelfth step is to click the Value button and select 70.0000 - 79.0000. The thirteenth step is to click the Label button and select HIGH. The fourteenth step is to click the OK button.



18. The following steps describe how to create a graduated color style for the newsweek_data layer. The first step is to click the Style button in the Layer Properties dialog box. The second step is to click the Graduated button in the Style section. The third step is to click the Column button and select LIFEXPCT. The fourth step is to click the Color ramp button and select [source]. The fifth step is to click the Classes button and select 3. The sixth step is to click the Mode button and select Quantile (Equal Count). The seventh step is to click the Symbol button and select Change... The eighth step is to click the Value button and select -99.0000 - 56.0000. The ninth step is to click the Label button and select LOW. The tenth step is to click the Value button and select 56.0000 - 70.0000. The eleventh step is to click the Label button and select MEDIUM. The twelfth step is to click the Value button and select 70.0000 - 79.0000. The thirteenth step is to click the Label button and select HIGH. The fourteenth step is to click the OK button.

