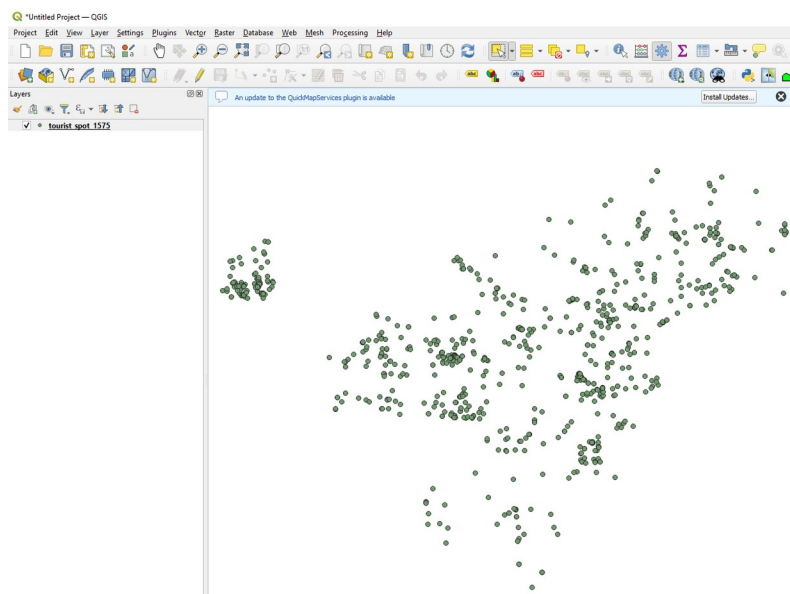


VECTOR Data Processing

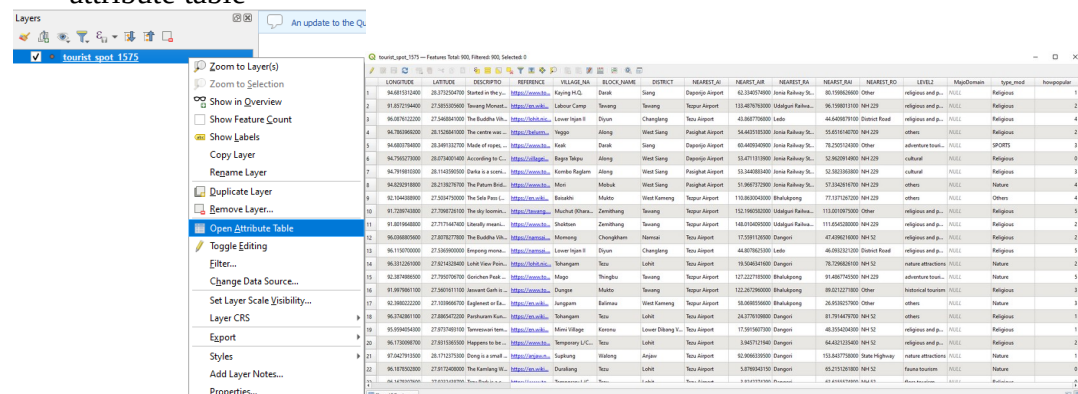
Authors: Ritu Anilkumar , Saswati Mondal

Prepared On: 18th January 2024

1. Launch QGIS on the computer
2. Ensure that the shapefile that is to be add have all necessary files .shp,.shx,.dbf,.prj,.cpg are in same directory.
3. Navigate to the folder containing the shapefile in windows explorer, drag and drop it onto the QGIS map canvas or layer panel
4. The point shapefile appears in the map window and the file name in the layers panel. As was the case with raster layers, the check box can be checked or unchecked to have the shapefile switched on or off in the map window

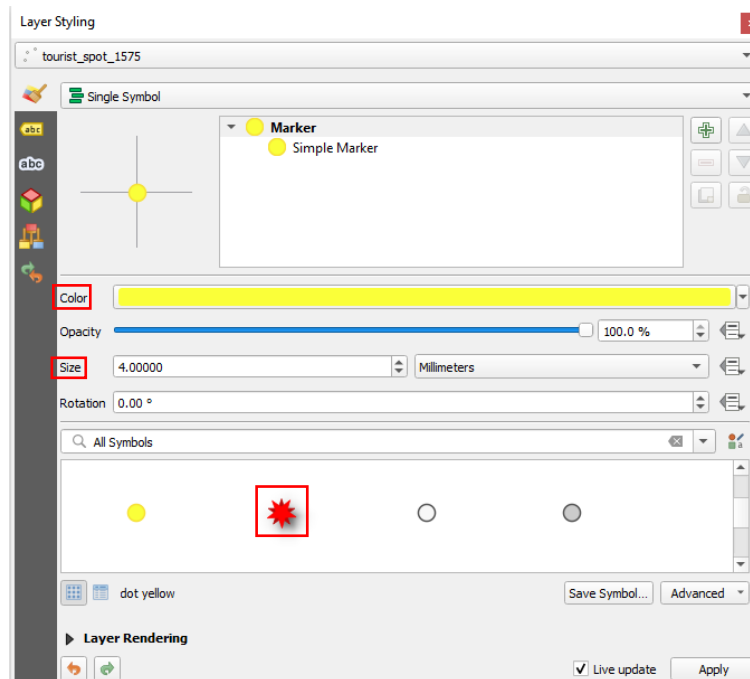


5. The vector files, in addition to the location values can contain several fields of information in a tabular structure. This is referred to as an attribute table. To view the attribute table, right click on the file name on the layers panel and select open attribute table

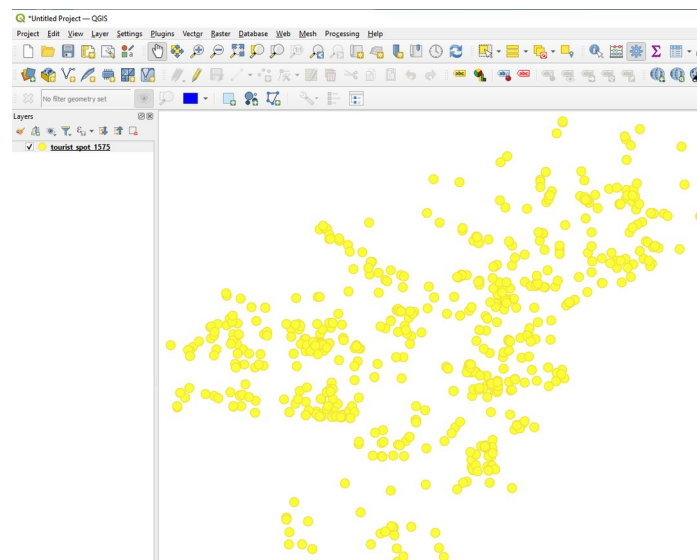


Change the colour, shape and Size of the point shapefile


1. Click on the layer Styling icon  in the Layers panel.
2. In symbology you can change the colour ,size and shape of the point feature

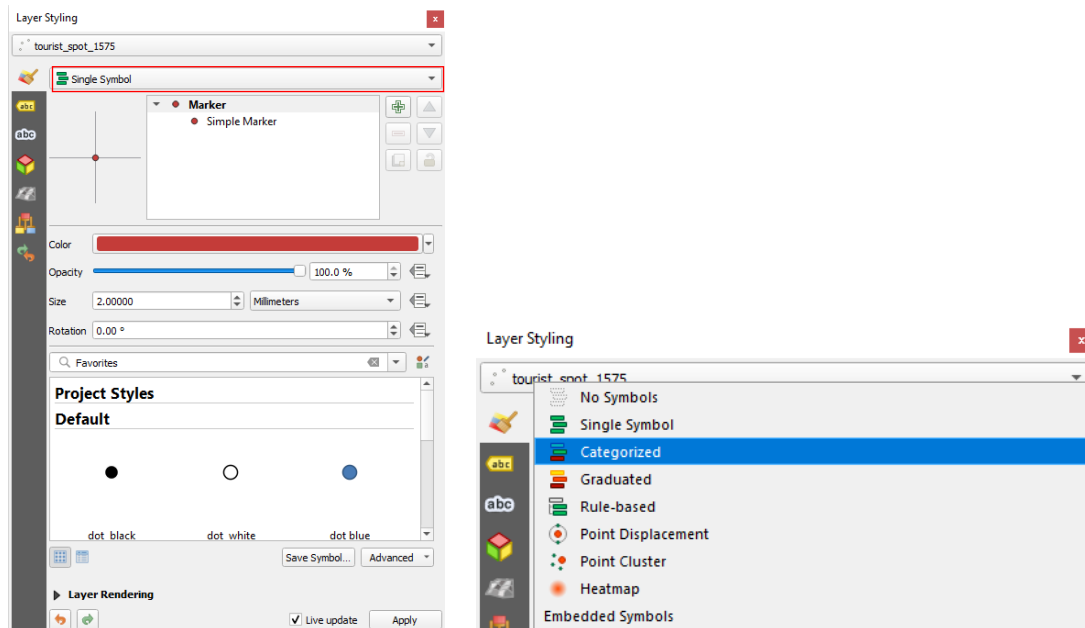


Visualized the feature

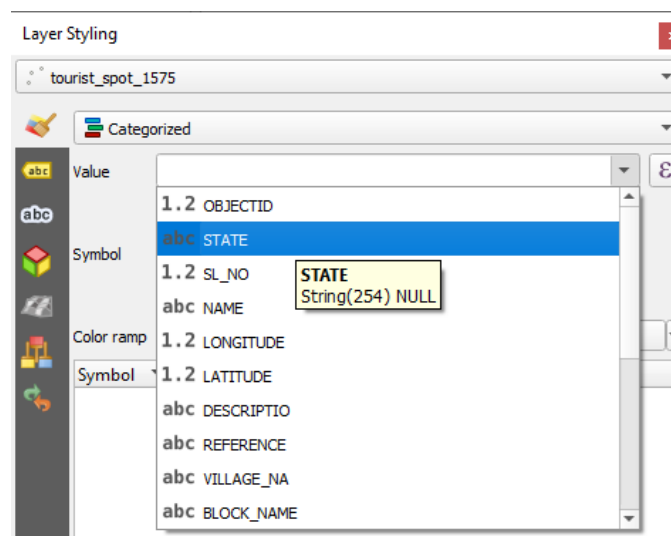


Change the colour of the point shapefile based on State

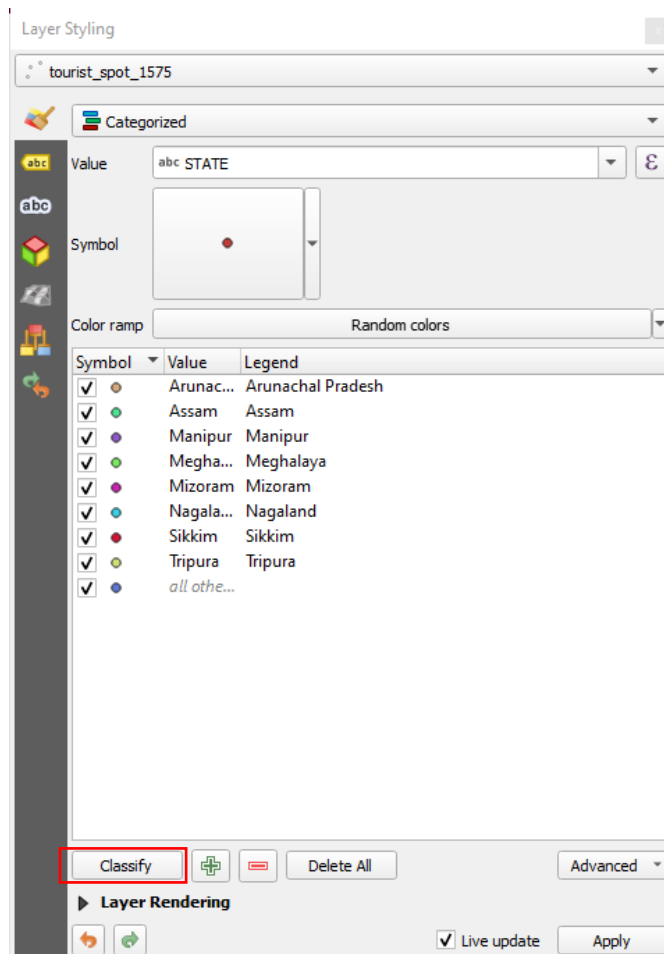
1. Click on the icon  for layer styling at the top of the layer styling panel.
2. Click on single symbol drop down menu and select categorized.



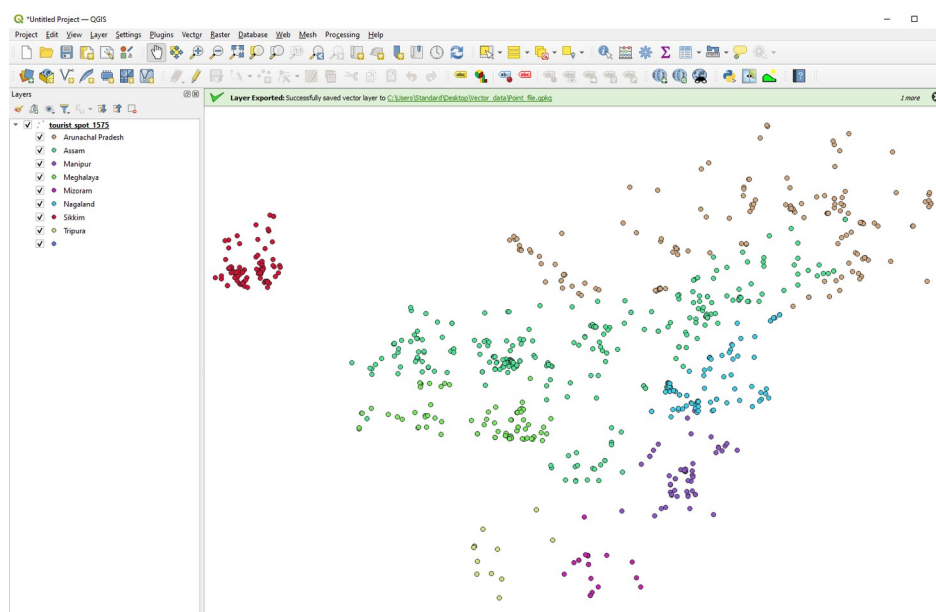
3. Click on the value drop down menu and select State



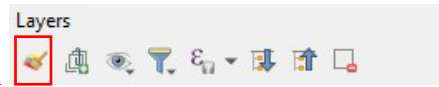
4. Click classify



Visualized the feature categorized based on State and identified with different color

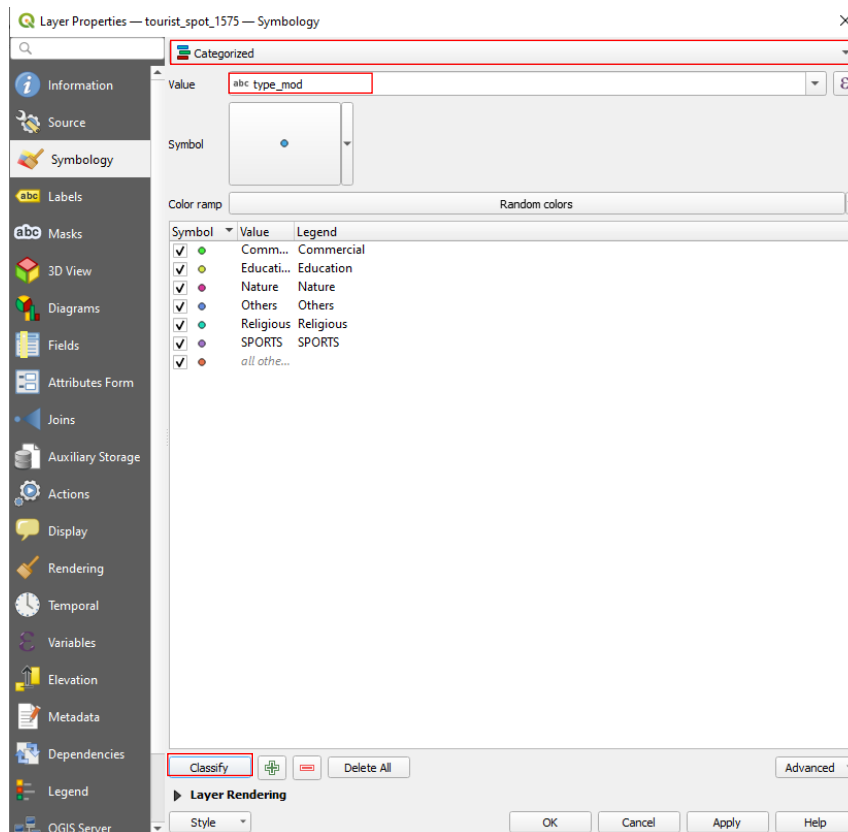


Change the marker based on type_mode

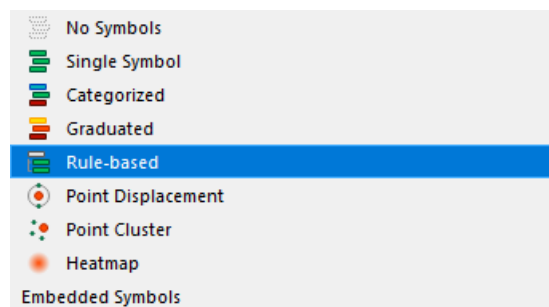


1. Click on the icon for layer styling.

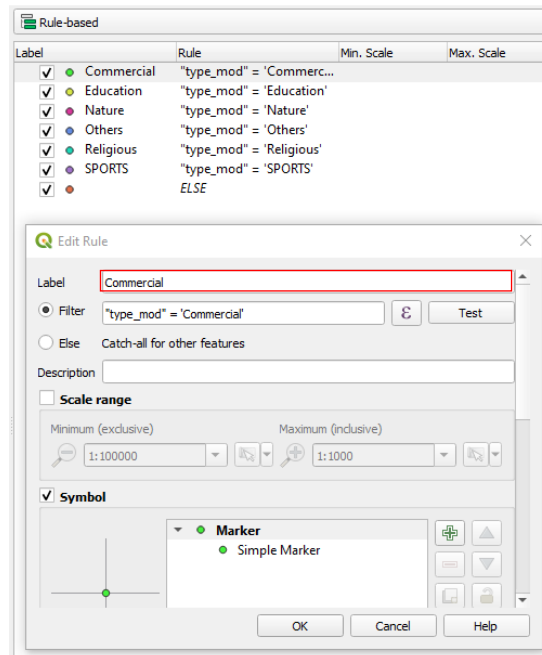
2. At first categorized the value based on type_mod and classify



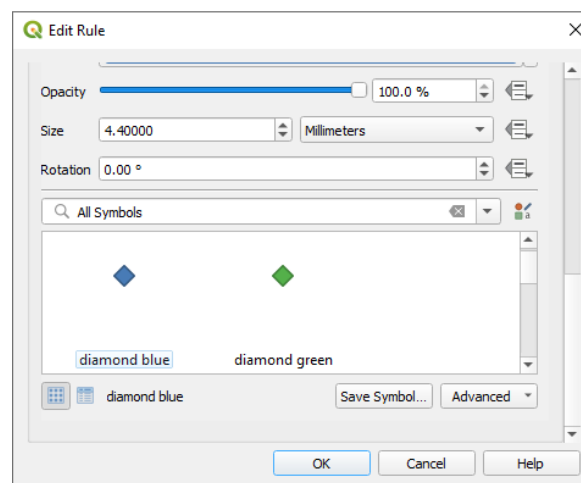
3. Then change the categorized into Rule-based.



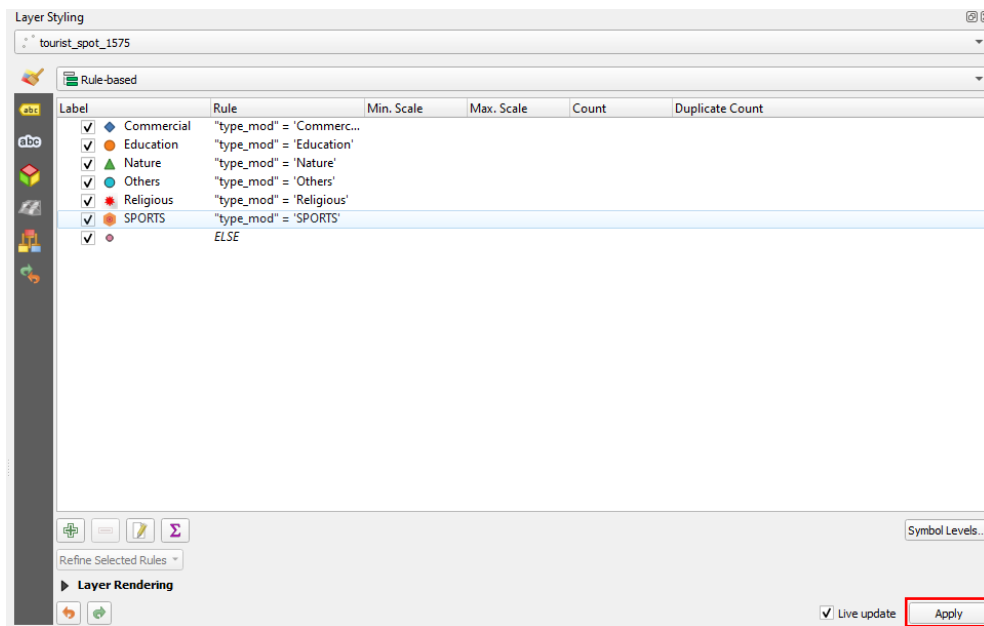
4. As the window popup> click for a specific label e.g. Commercial



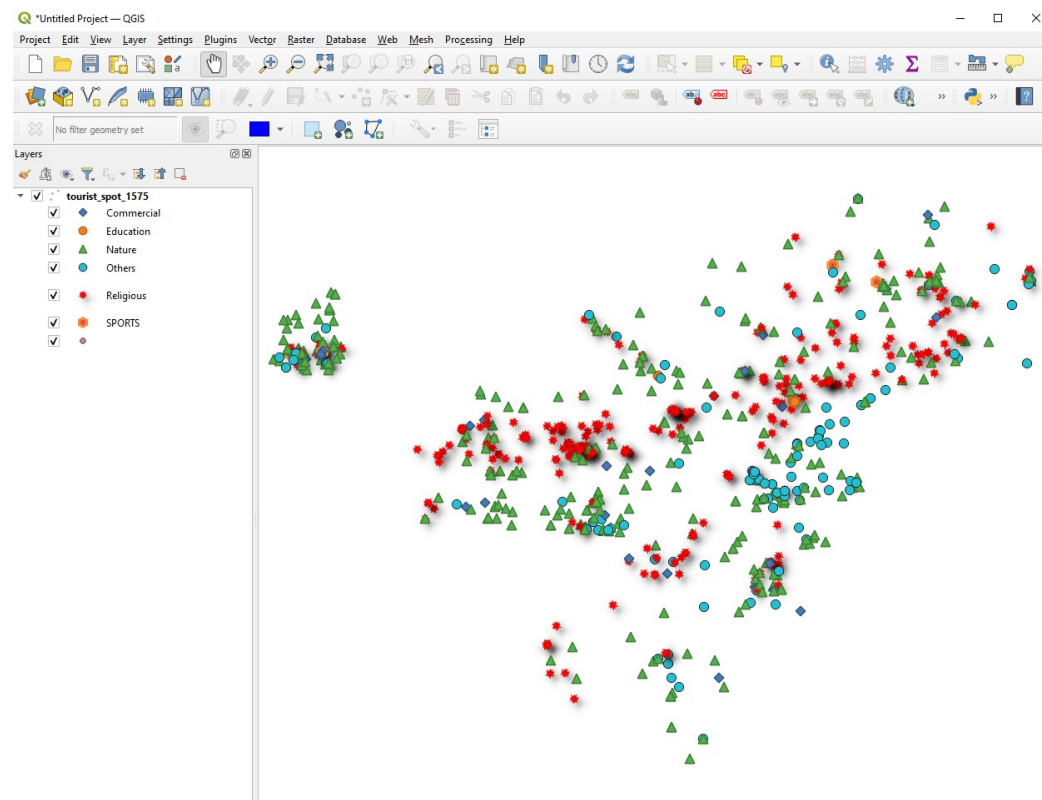
5. Scroll down change the marker > color > size for each label > Click OK



6. Once all the marker are set click apply

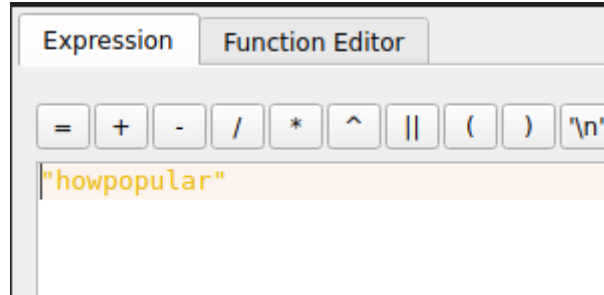


Visualize the feature marked based on different shape



Change the size of the marker based on how popular

1. Turn on the layer styling panel
2. Click on the button next to the marker size option and click Edit.
3. Enter the field name based on what the marker size should be defined



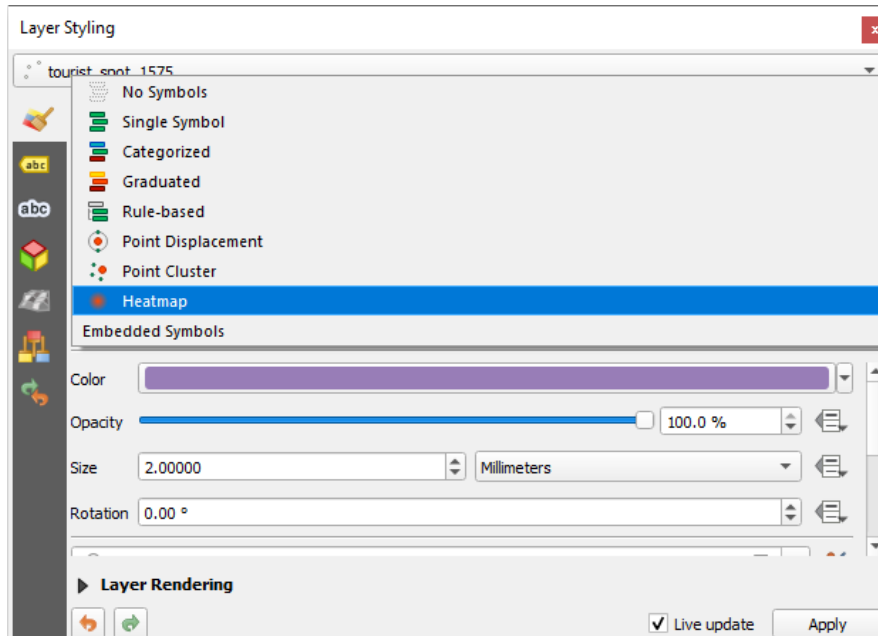
4. The points sizes are distributed based on how popular they are



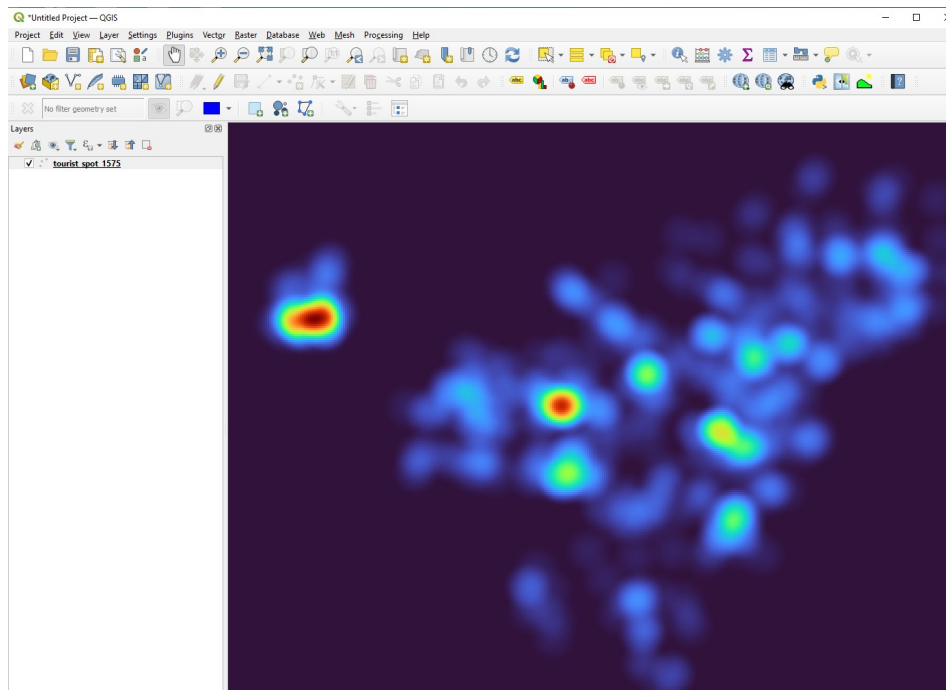
Do note that the popularity in this case is dummy data randomly assigned (If you plan to travel to these locations).

Visualize the point feature using heat map

- Click the layer Styling icon >> click the Heat Map

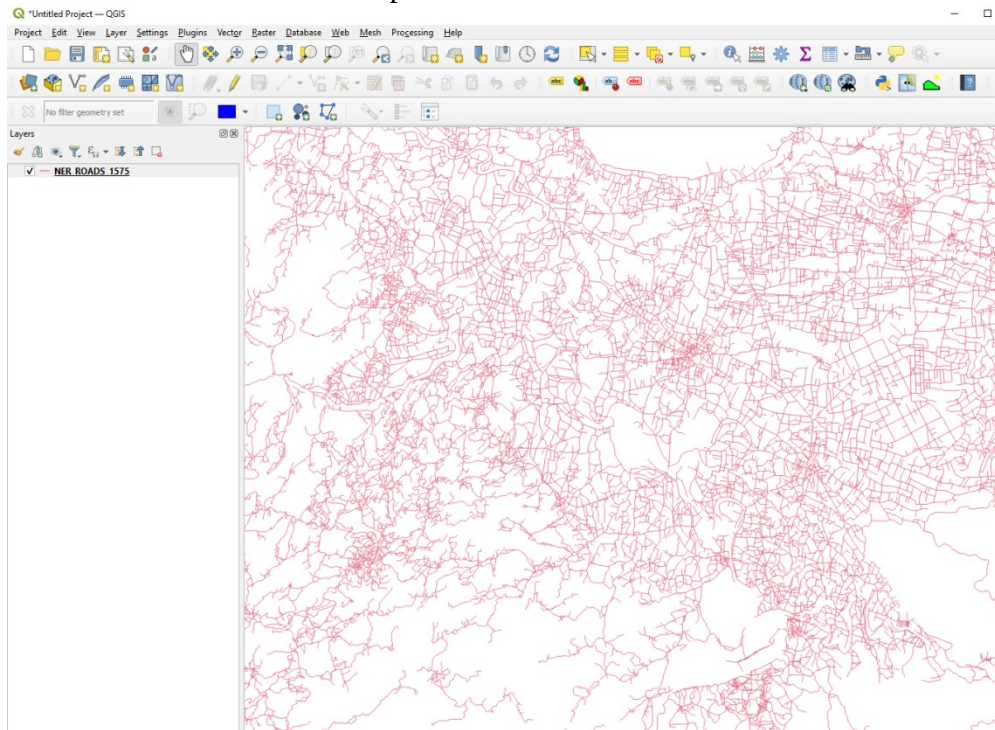


Visualize the map

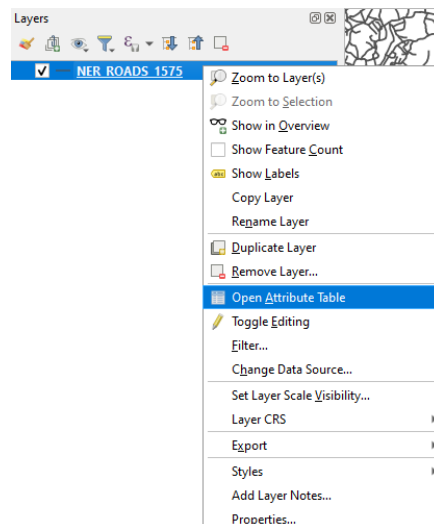


Working with Line Shapefile

1. Add the line shapefile such as road network
2. Visualize the line feature on map canvas



3. Right click on the layer and open the attribute table



Visualize the attribute table

NER_ROADS_1575 — Features Total: 466752, Filtered: 466752, Selected: 0

	OGC_FID	LAYER	CATEGORIES	TYPE	STATUS	TR_RDCODE	OWNERSHIP	NAME	REMARKS	ASCII_ID	LENGTH_IN
1	3	Transportation	Road	Pucca Road	National Highw...	TPPC	MCOR	NH 215	NULL	0	53602.4134301881
2	15	Transportation	Road	Pucca Road	National Highw...	TPPN	NHAI	NH 713A	NULL	0	14092.3206892746
3	24	Transportation	Road	Pucca Road	National Highw...	TPPV	Others	NH 215	NULL	0	55887.6434591460
4	26	Transportation	Road	Pucca Road	State Highway	TPPS	FRST	State Highway	NULL	0	52520.3948613601
5	34	Transportation	Road	Kutchha Road	Cart Track	TPKC	NULL	Cart Track	NULL	0	816.7320811437
6	39	Transportation	Road	Kutchha Road	Cart Track	TPKC	NULL	Cart Track	NULL	0	205.4166020137
7	114	Transportation	Road	Kutchha Road	Cart Track	TPKC	DEFN	Cart Track	NULL	0	49.6597566914
8	182	Transportation	Road	Kutchha Road	Cart Track	TPKC	FRST	Cart Track	NULL	0	540.3677245205
9	210	Transportation	Road	Kutchha Road	Cart Track	TPKC	FRST	Cart Track	NULL	0	230.8134420420
10	205	Transportation	Road	Kutchha Road	Cart Track	TPKC	FRST	Cart Track	NULL	0	1870.6438617943
11	216	Transportation	Road	Kutchha Road	Cart Track	TPKC	FRST	Cart Track	NULL	0	600.7937246314
12	289	Transportation	Road	Kutchha Road	Cart Track	TPKC	Others	Cart Track	NULL	0	132.4955844769
13	306	Transportation	Road	Kutchha Road	Cart Track	TPKC	Others	Cart Track	NULL	0	512.6299886824
14	307	Transportation	Road	Kutchha Road	Cart Track	TPKC	Others	Cart Track	NULL	0	247.5007619531
15	309	Transportation	Road	Kutchha Road	Cart Track	TPKC	Others	Cart Track	NULL	0	22.2051456850
16	335	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	19.5408418770
17	337	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	195.5615117485
18	398	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	338.2221509436
19	414	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	436.1561936557
20	427	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	239.4893512657
21	438	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	288.7925627291
22	473	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	252.9408094911
23	483	Transportation	Road	Kutchha Road	Cart Track	TPKC	PRAJ	Cart Track	NULL	0	232.9330327784

Show All Features

4. Click on the layer styling tab > change the color and the width

Layer Styling

NER_ROADS_1575

Single Symbol

Line

Simple Line

Color

Opacity 100.0 %

Width 0.46000 Millimeters

All Symbols

dash red effect emboss effect neon gray 1 line

gray 2 line gray 3 line gray 4 line pattern circles

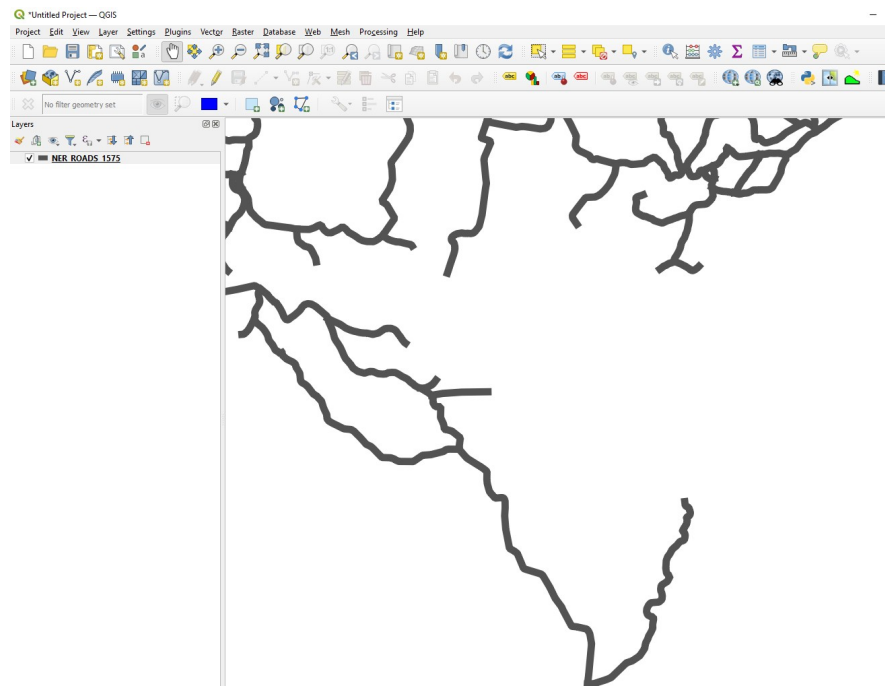
gray 4 line

Save Symbol... Advanced

Layer Rendering

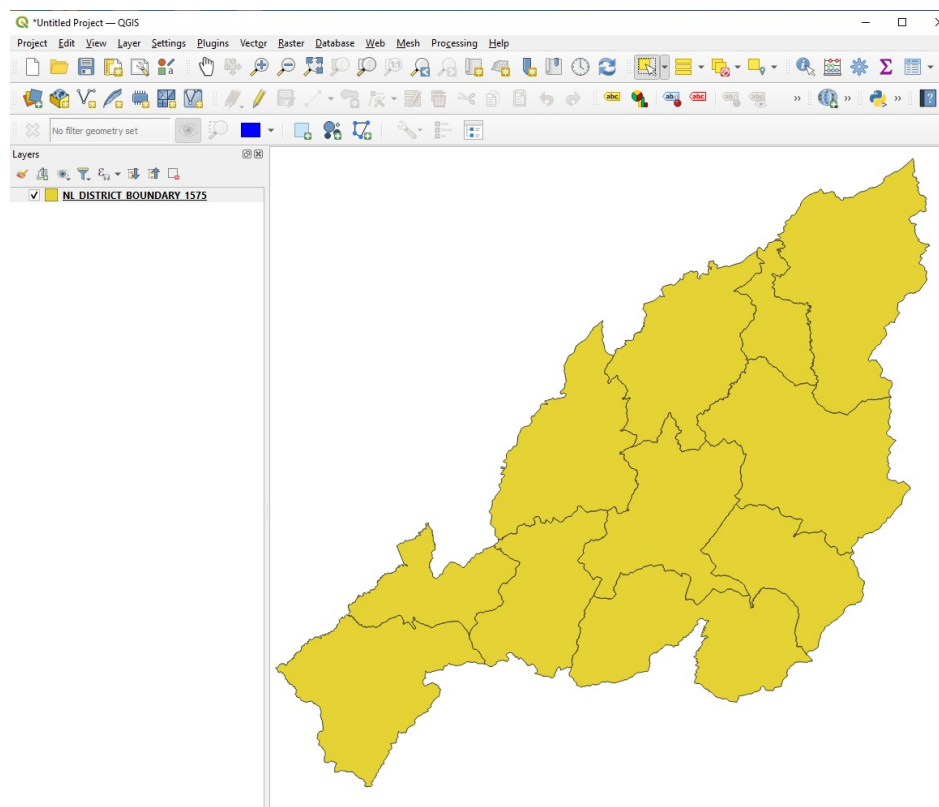
Live update Apply

Visualize the thickness of road



Working with polygon Feature

1. Add the polygon shapefile such as administrative boundary



2. Open the Attribute table

NL_DISTRICT_BOUNDARY_1575 — Features Total: 11, Filtered: 11, S...

	OGC_FID	DISTRICT	STATE	AREA_SQ_M	ASCII_ID
1	1	Mon	Nagaland	2184030909.000...	0
2	2	Longleng	Nagaland	566650755.2000...	0
3	3	Mokokchung	Nagaland	1626064905.000...	0
4	4	Wokha	Nagaland	1623851534.000...	0
5	5	Tuensang	Nagaland	2153502995.000...	0
6	6	Peren	Nagaland	1714332758.000...	0
7	7	Kiphire	Nagaland	1126544741.000...	0
8	8	Phek	Nagaland	1855884134.000...	0
9	9	Zunheboto	Nagaland	1570305417.000...	0
10	10	Dimapur	Nagaland	869845700.2999...	0
11	11	Kohima	Nagaland	1292621241.000...	0

Show All Features

3. Change the color of the polygon

Layer Styling

NL_DISTRICT_BOUNDARY_1575

Single Symbol

Fill

Simple Fill

Color

Opacity

Unit

Project

Default

Recent colors

Standard colors

Copy Color

Paste Color

Pick Color

Choose Color...

Save Symbol...

Advanced

Live update

Apply

Visualize the polygon with the color change

