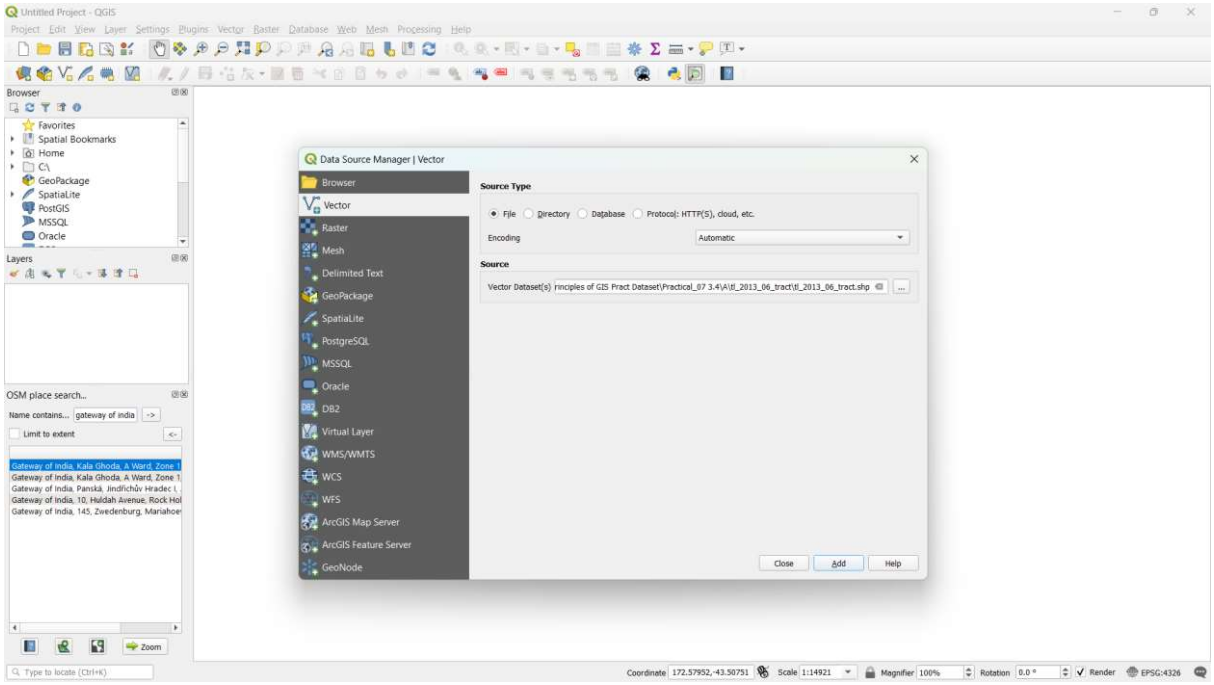
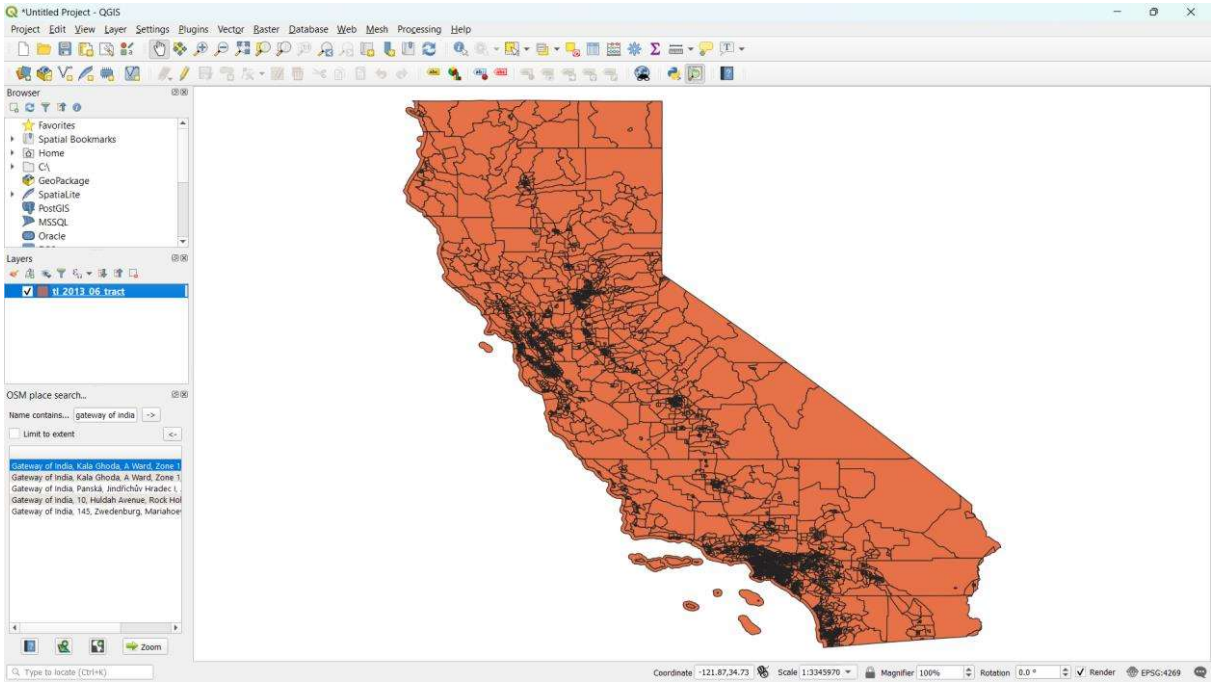
PRACTICAL – 7

Aim: Managing Data Tables and Saptial data Sets: Table joins, spatial joins, points in polygon analysis, performing spatial queries.

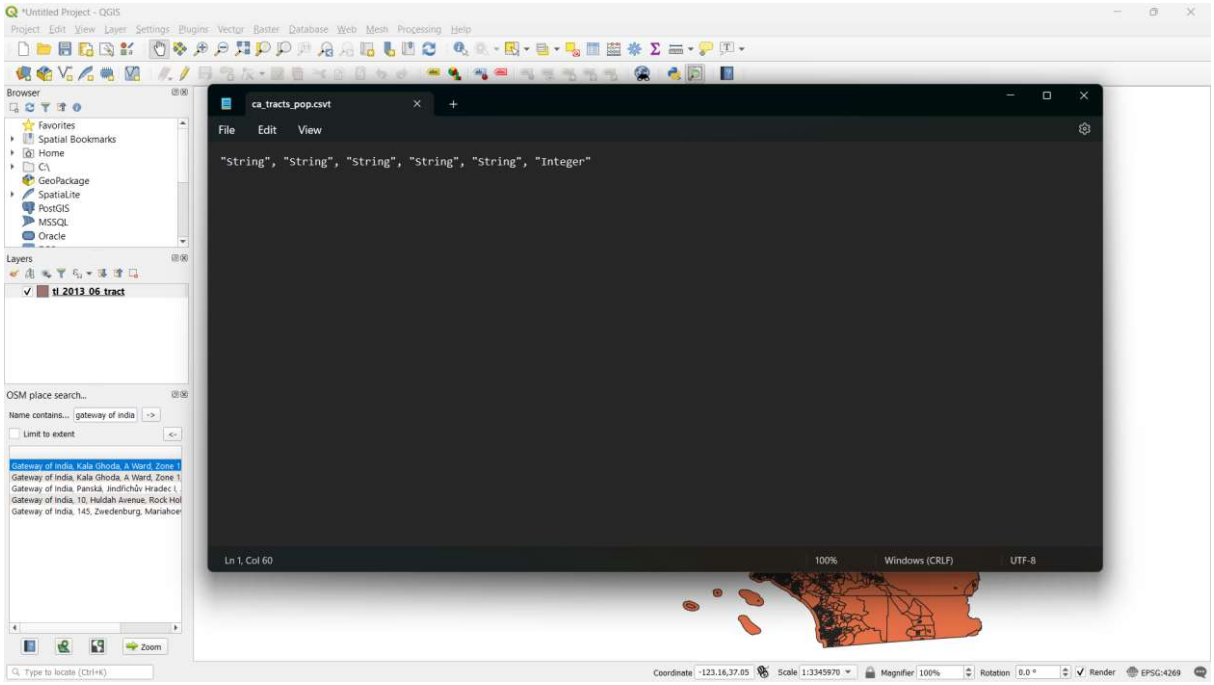
Steps:

Step 1 – Layer > Add Layer > Add Vector Layer. Select the following layer and hit add.

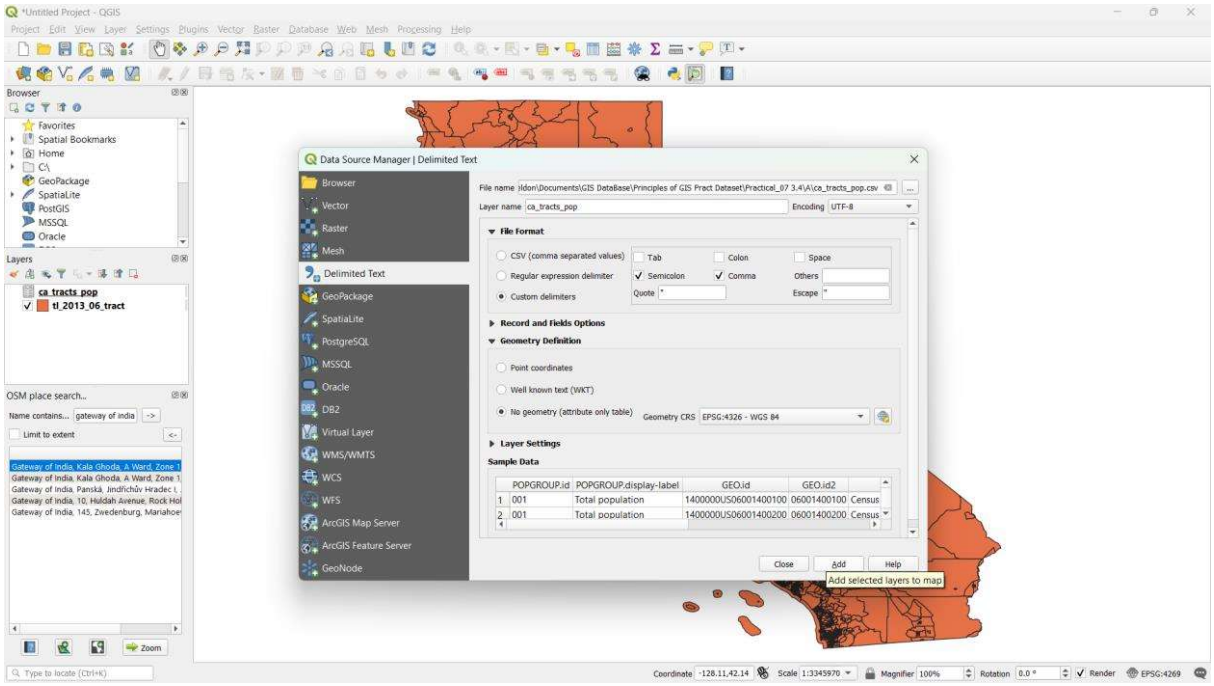




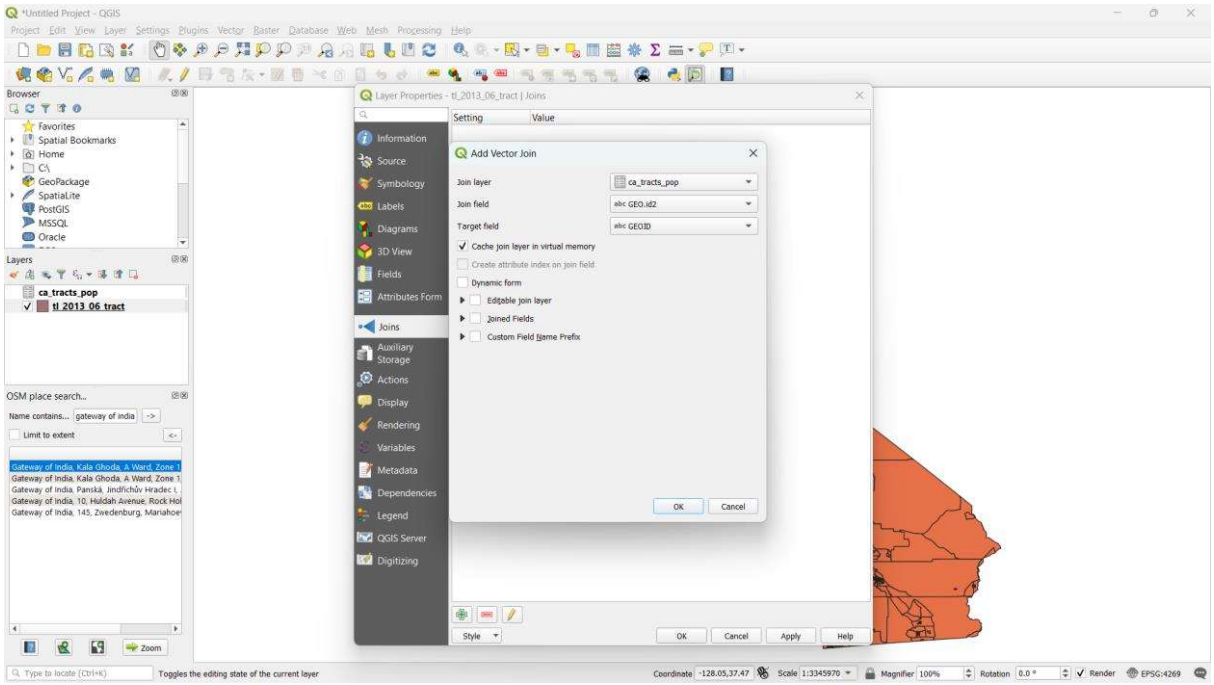
Step 2 – Open Notepad and create the following file.



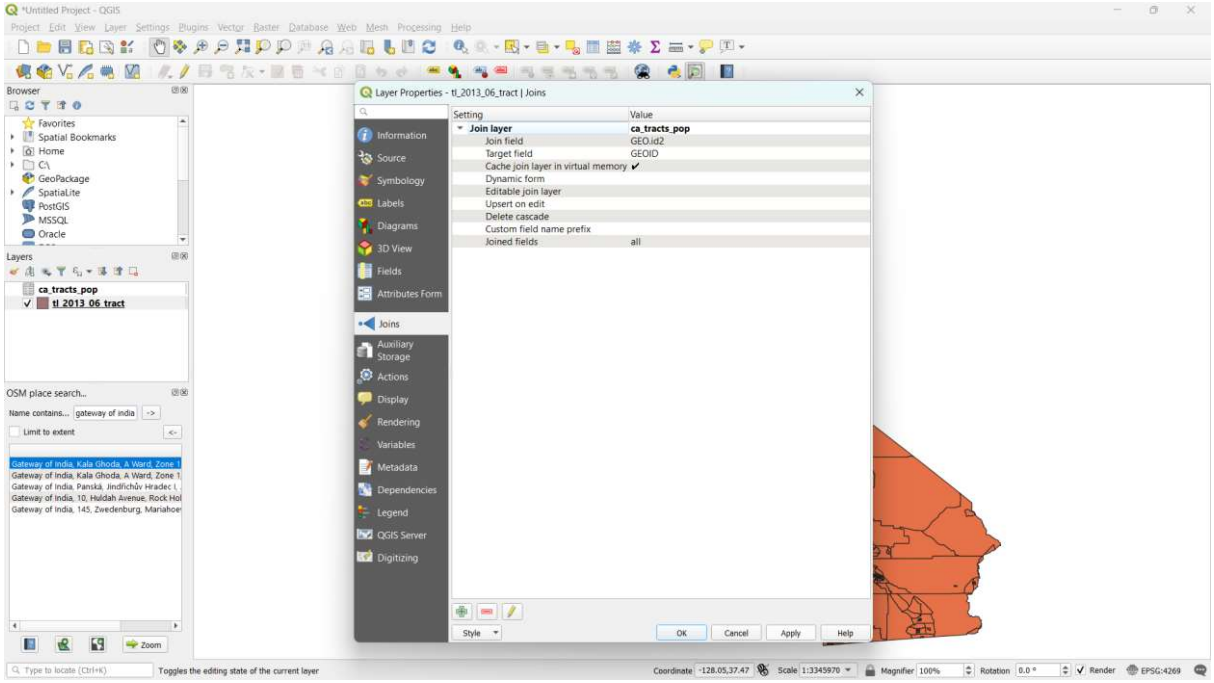
Step 3 – Layer > Add Layer > Add Delimited Text Layer. Set the following attributes and hit add.



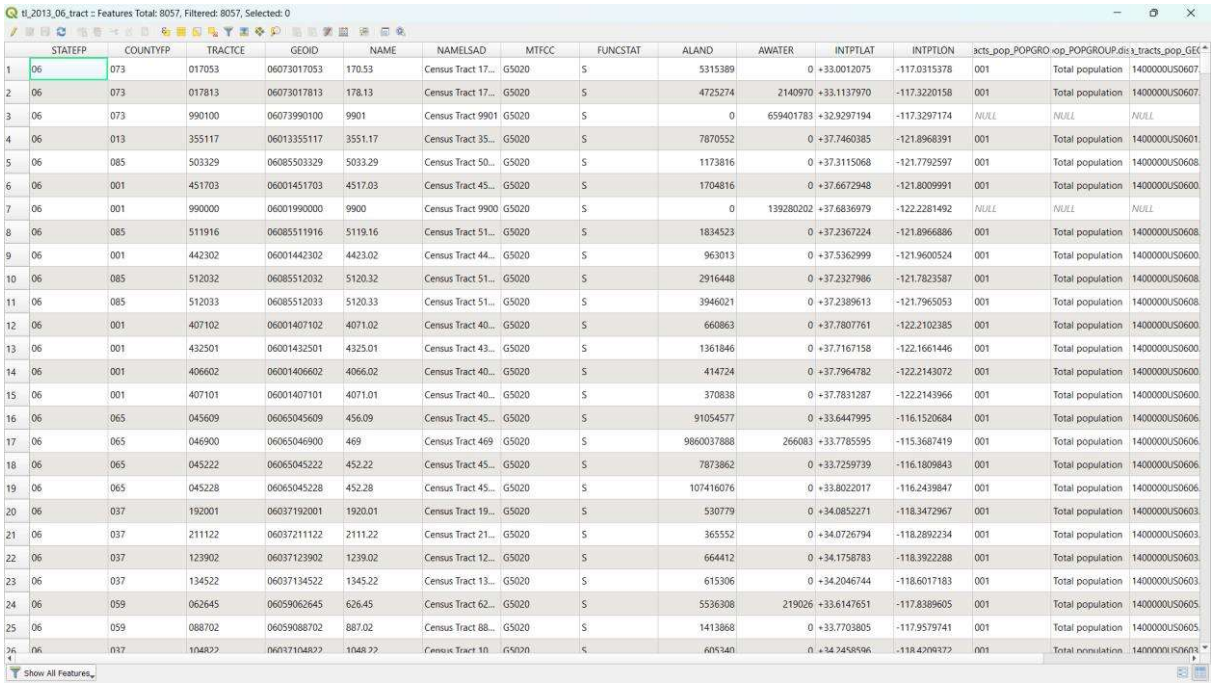
Step 4 – Open the properties of the first layer and click on the Joins menu. There set the following parameters.



Step 5 – Finally click Apply.

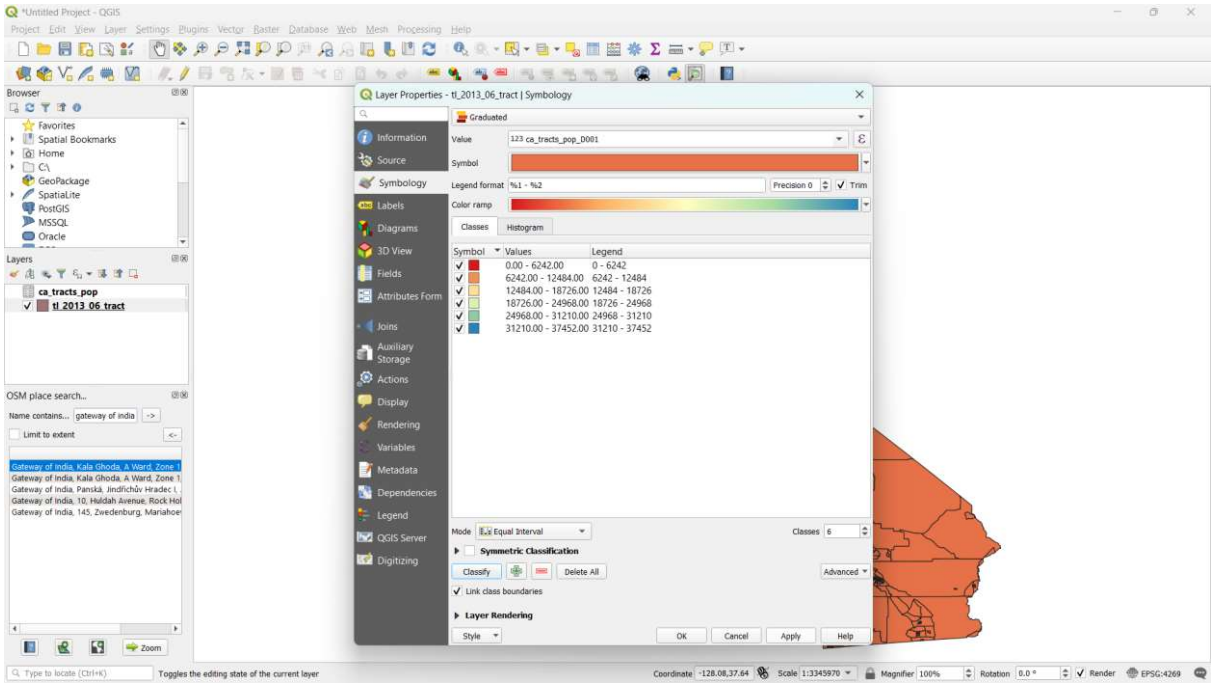


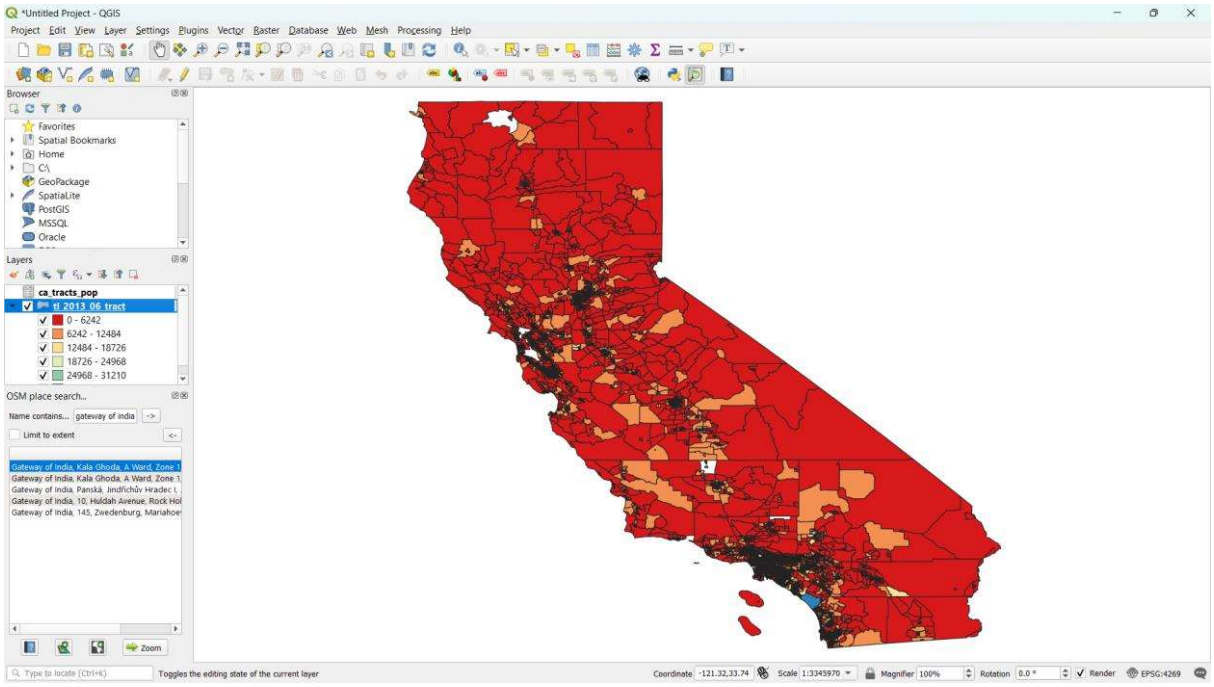
If you want to check if the join worked open the attribute table of the first layer.



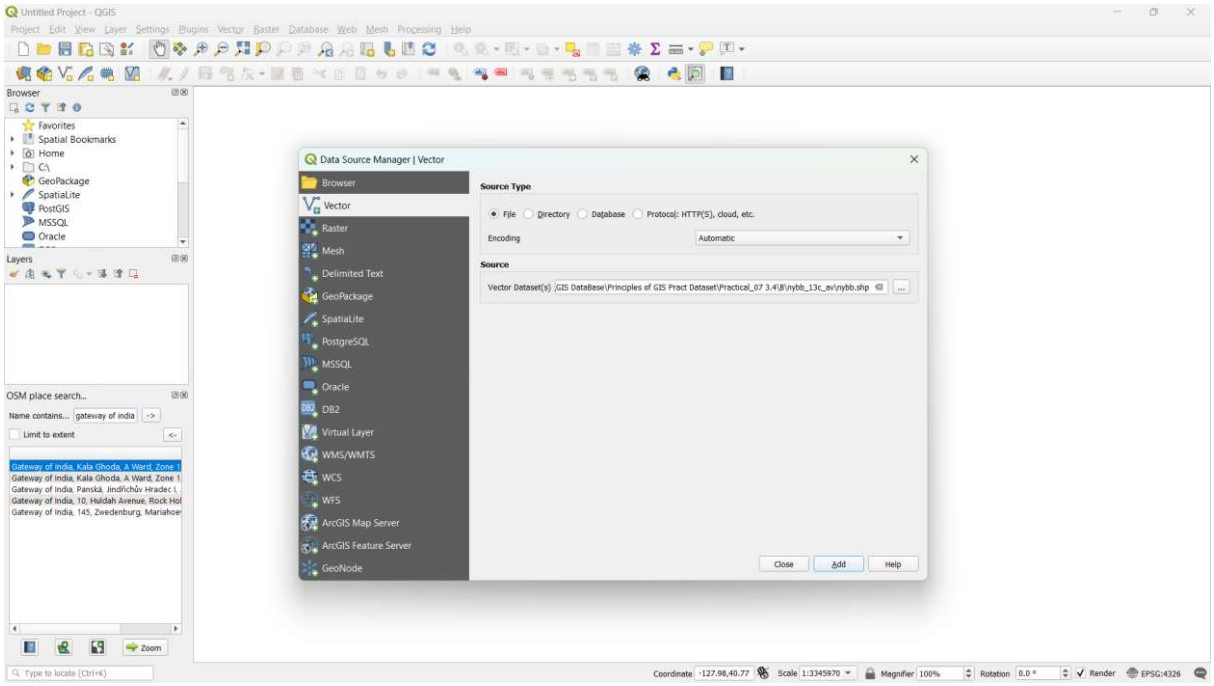
	STATEFP	COUNTYFP	TRACTCE	GEOID	NAME	NAMELSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	acts_pop_POPGRO	op_POPGROUP.dis	s_tracts_pop_GE
1	06	073	017053	06073017053	170.53	Census Tract 17...	G5020	S	5315389	0	+33.0012075	-117.0315378	001	Total population	1400000US0607
2	06	073	017813	06073017813	178.13	Census Tract 17...	G5020	S	4725274	2140970	+33.1137970	-117.3220158	001	Total population	1400000US0607
3	06	073	990100	06073990100	9901	Census Tract 9901	G5020	S	0	659401783	+32.9297194	-117.3297174	NULL	NULL	NULL
4	06	013	355117	06013355117	3551.17	Census Tract 35...	G5020	S	7870552	0	+37.7460385	-121.8968391	001	Total population	1400000US0601
5	06	085	503329	06085503329	5033.29	Census Tract 50...	G5020	S	1173816	0	+37.3115068	-121.7792597	001	Total population	1400000US0608
6	06	001	451703	06001451703	4517.03	Census Tract 45...	G5020	S	1704816	0	+37.6672948	-121.8009991	001	Total population	1400000US0600
7	06	001	990000	06001990000	9900	Census Tract 9900	G5020	S	0	139280202	+37.6836979	-122.2281492	NULL	NULL	NULL
8	06	085	511916	06085511916	5119.16	Census Tract 51...	G5020	S	1834523	0	+37.2367224	-121.8966886	001	Total population	1400000US0608
9	06	001	442302	06001442302	4423.02	Census Tract 44...	G5020	S	963013	0	+37.5362999	-121.9600524	001	Total population	1400000US0600
10	06	085	512032	06085512032	5120.32	Census Tract 51...	G5020	S	2916448	0	+37.2327986	-121.7823587	001	Total population	1400000US0608
11	06	085	512033	06085512033	5120.33	Census Tract 51...	G5020	S	3946021	0	+37.2389613	-121.7965053	001	Total population	1400000US0608
12	06	001	407102	06001407102	4071.02	Census Tract 40...	G5020	S	660863	0	+37.7807761	-122.2102385	001	Total population	1400000US0600
13	06	001	432501	06001432501	4325.01	Census Tract 43...	G5020	S	1361846	0	+37.7167158	-122.1661446	001	Total population	1400000US0600
14	06	001	406602	06001406602	4066.02	Census Tract 40...	G5020	S	414724	0	+37.7964782	-122.2143072	001	Total population	1400000US0600
15	06	001	407101	06001407101	4071.01	Census Tract 40...	G5020	S	370838	0	+37.7831287	-122.2143966	001	Total population	1400000US0600
16	06	065	045609	06065045609	456.09	Census Tract 45...	G5020	S	91054577	0	+33.6447995	-116.1520684	001	Total population	1400000US0606
17	06	065	046900	06065046900	469	Census Tract 469	G5020	S	9860037888	266083	+33.7785595	-115.3687419	001	Total population	1400000US0606
18	06	065	045222	06065045222	452.22	Census Tract 45...	G5020	S	7873862	0	+33.7259739	-116.1809843	001	Total population	1400000US0606
19	06	065	045228	06065045228	452.28	Census Tract 45...	G5020	S	107416076	0	+33.8022017	-116.2439847	001	Total population	1400000US0606
20	06	037	192001	06037192001	1920.01	Census Tract 19...	G5020	S	530779	0	+34.0852271	-118.3472967	001	Total population	1400000US0603
21	06	037	211122	06037211122	2111.22	Census Tract 21...	G5020	S	365552	0	+34.0726794	-118.2892234	001	Total population	1400000US0603
22	06	037	123902	06037123902	1239.02	Census Tract 12...	G5020	S	664412	0	+34.1758783	-118.3922288	001	Total population	1400000US0603
23	06	037	134522	06037134522	1345.22	Census Tract 13...	G5020	S	615306	0	+34.2046744	-118.6017183	001	Total population	1400000US0603
24	06	059	062645	06059062645	626.45	Census Tract 62...	G5020	S	5536308	219026	+33.6147651	-117.8389605	001	Total population	1400000US0605
25	06	059	088702	06059088702	887.02	Census Tract 88...	G5020	S	1413868	0	+33.7703805	-117.9579741	001	Total population	1400000US0605
26	06	037	104822	06037104822	1048.22	Census Tract 10...	G5020	S	605340	0	+34.2458596	-118.4209372	001	Total population	1400000US0603

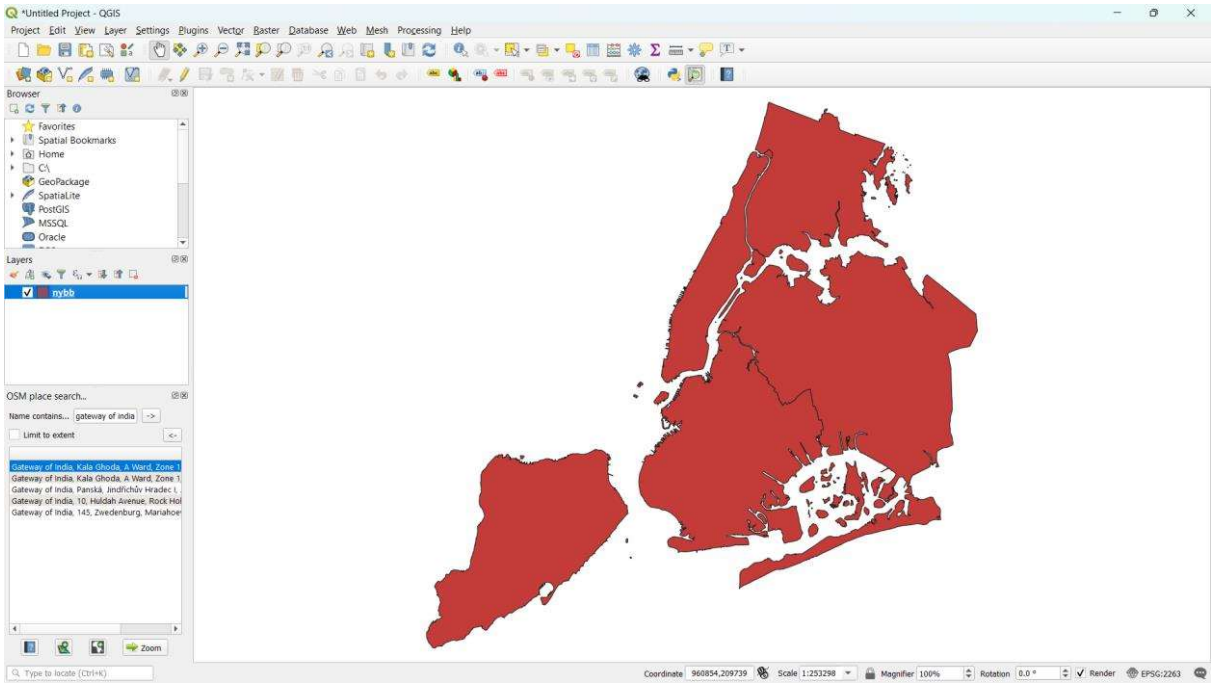
Step 6 – Now open the properties of the first layer go to the symbology menu and set the following parameters then hit apply.



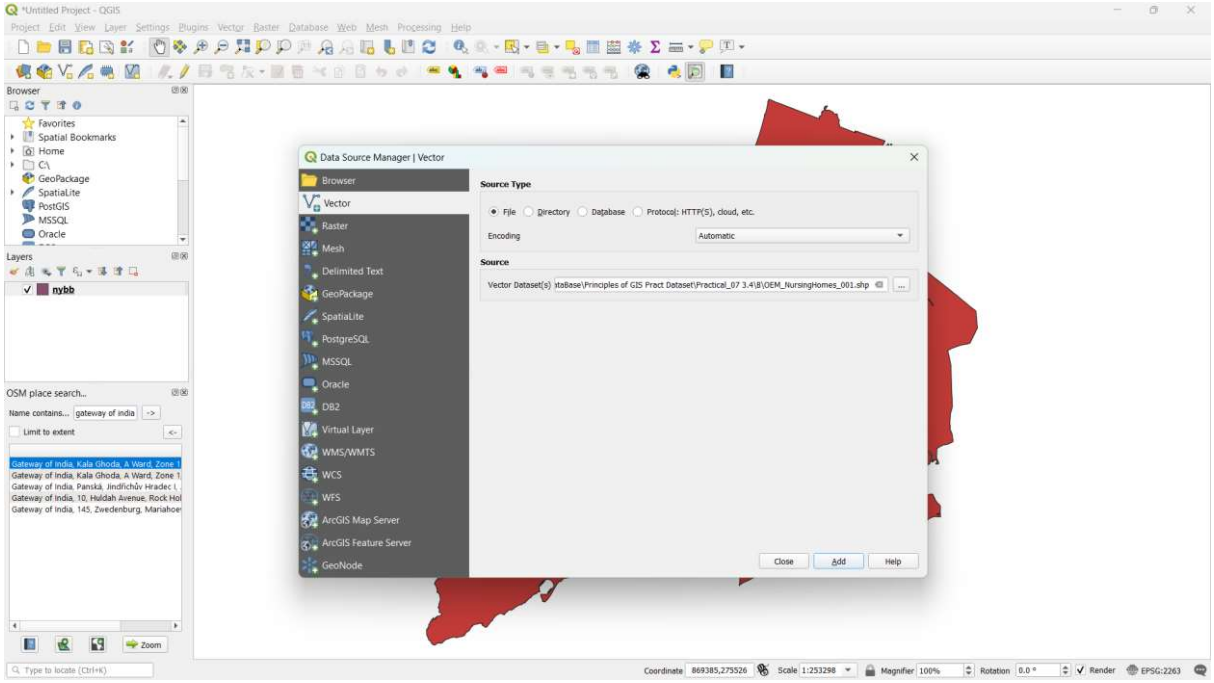


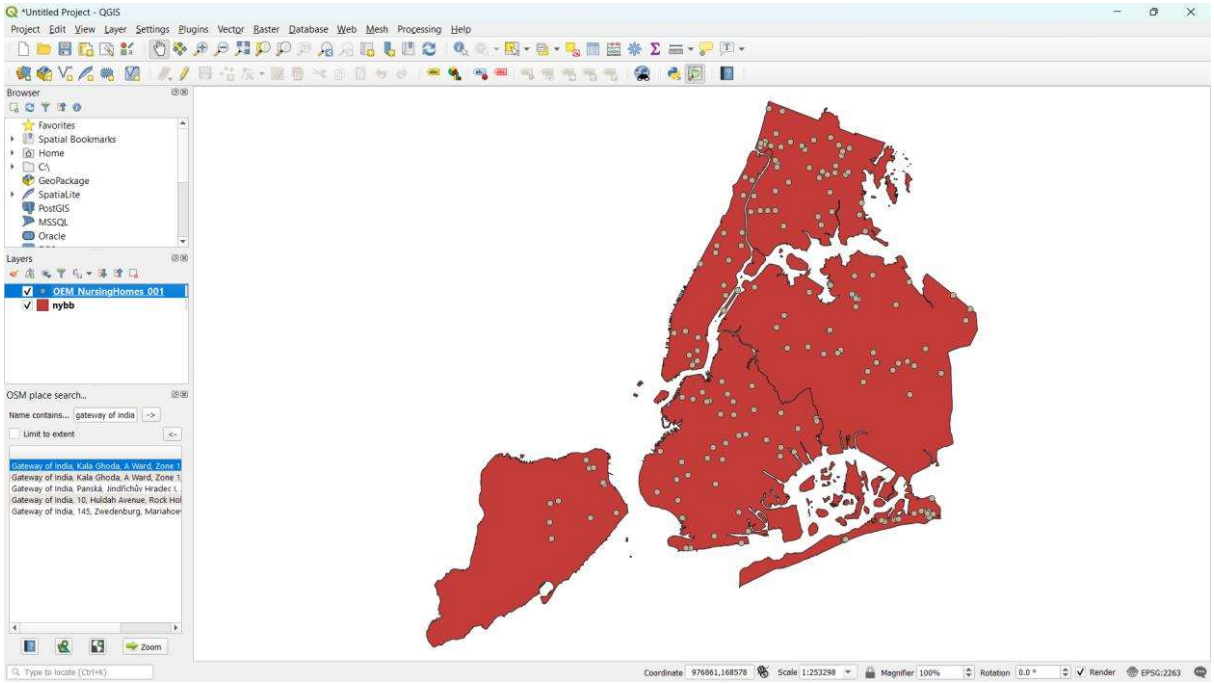
Step 7 – Now open a new project. Layer > Add Layer > Add Vector Layer. Select the following file and click add.



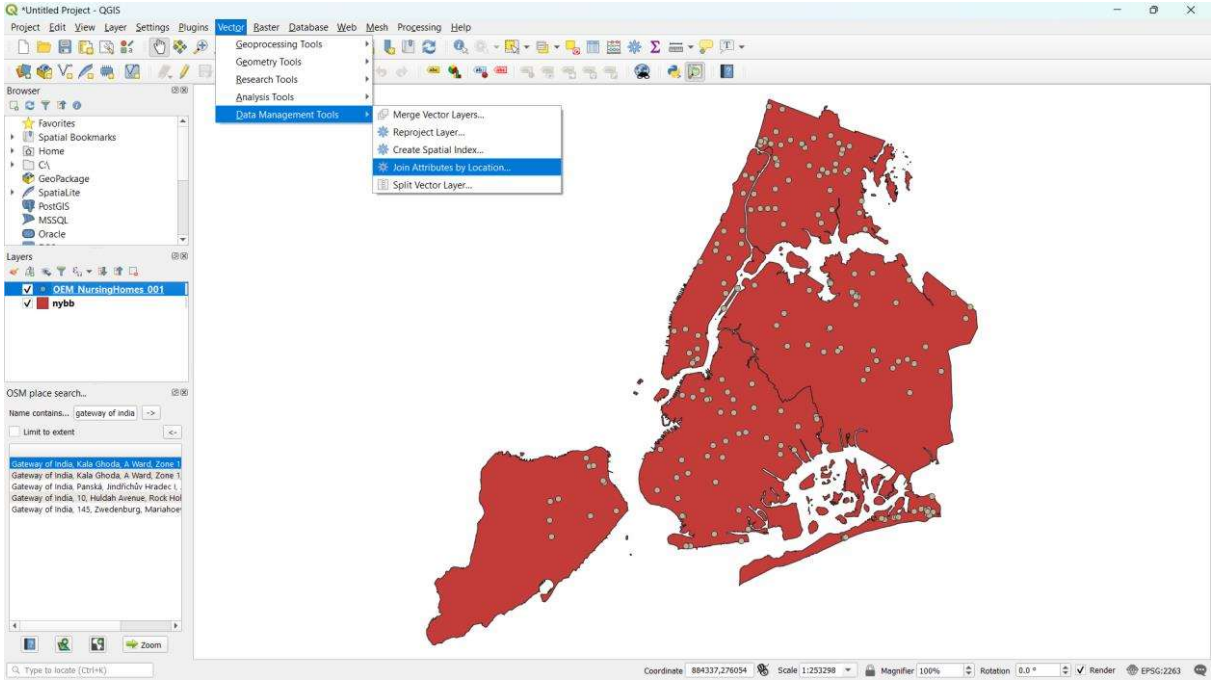


Step 8 – Add another .shp file the same way.

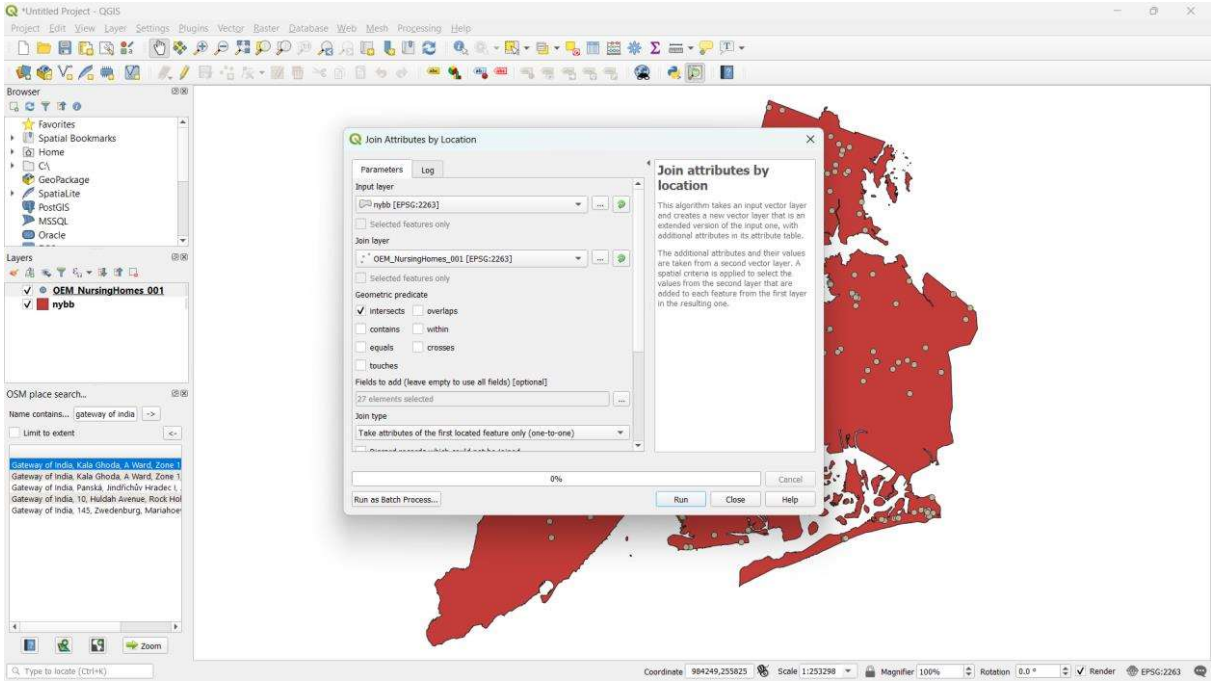




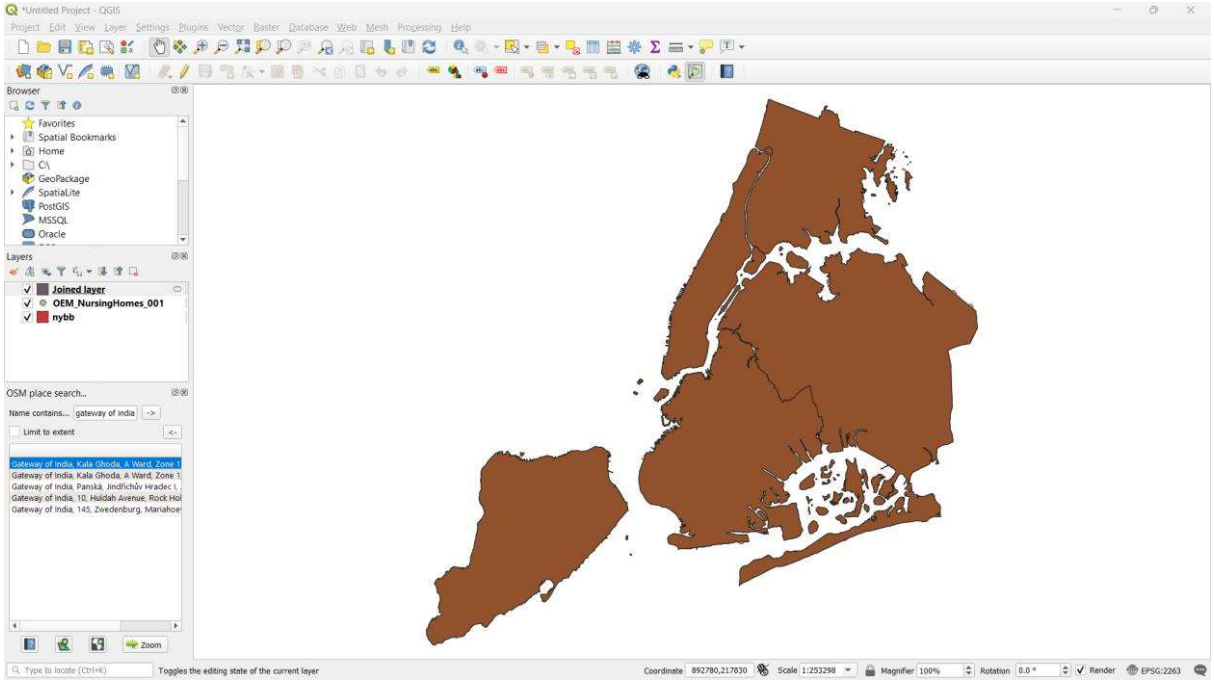
Step 9 – Vector > Data Management Tools > Join Attributes by Location.



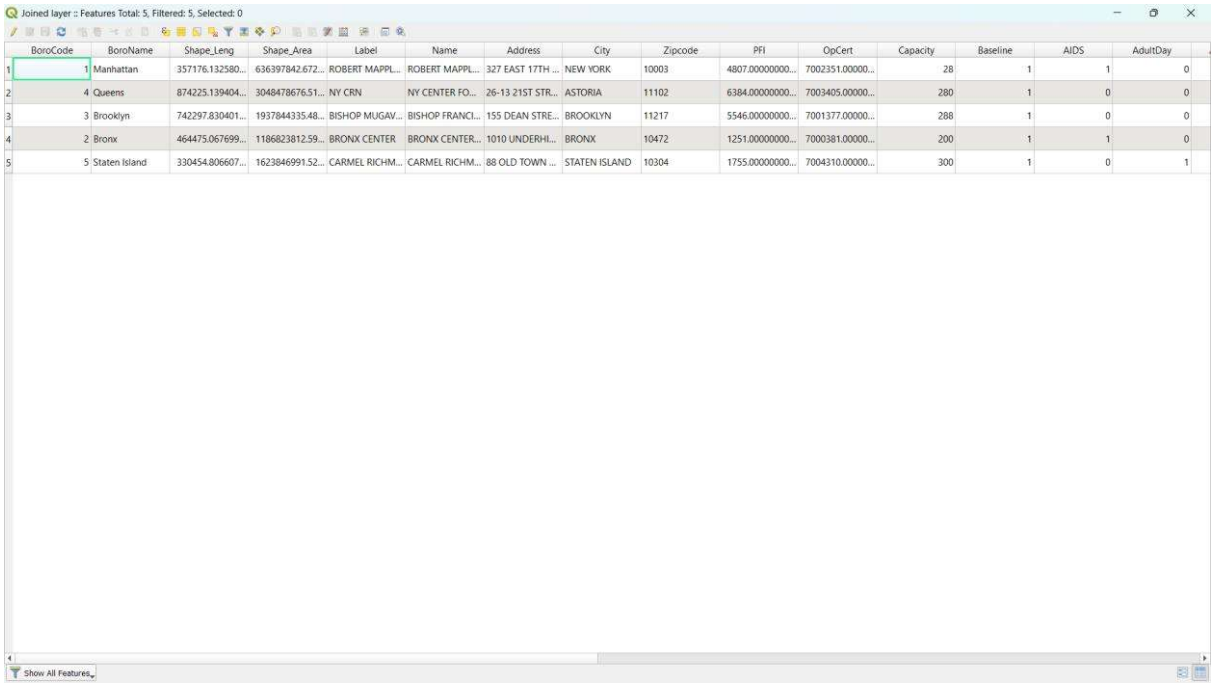
Step 10 – Set the following parameters and hit run.



A new layer is created.

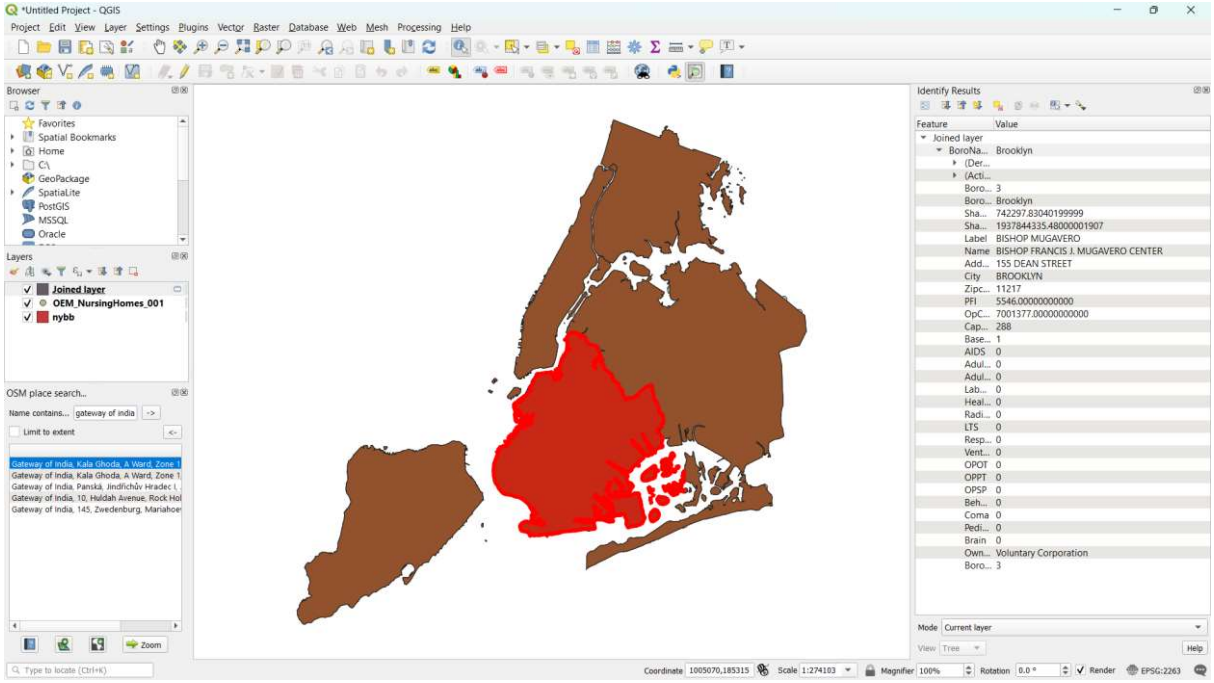


You can open its attribute table to verify.

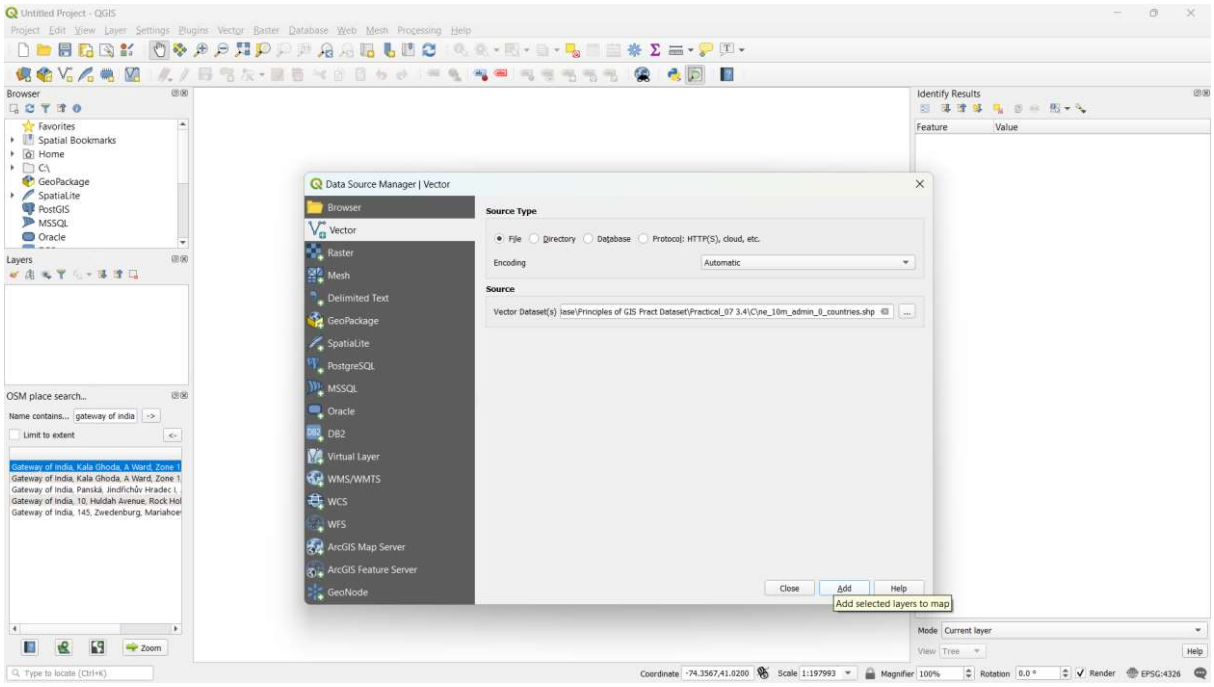


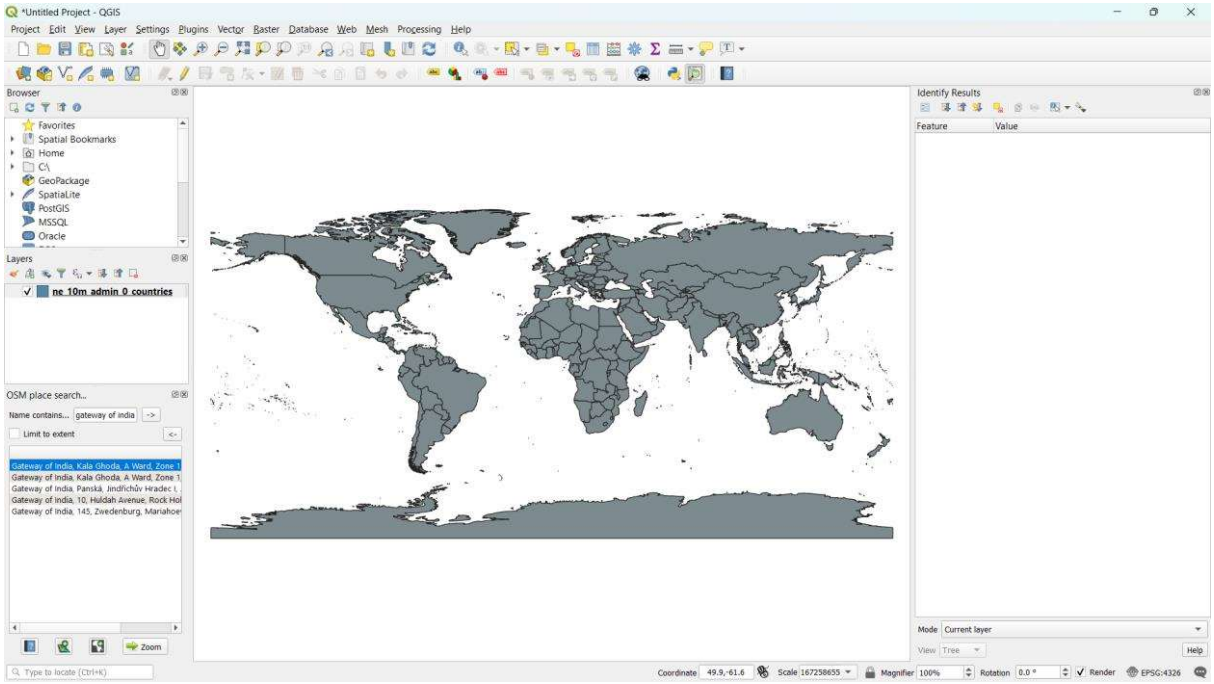
	BoroCode	BoroName	Shape_Leng	Shape_Area	Label	Name	Address	City	Zipcode	PFI	OpCert	Capacity	Baseline	AIDS	AdultDay
1	1	Manhattan	357176.132580...	636397842.672...	ROBERT MAPPL...	ROBERT MAPPL...	327 EAST 17TH ...	NEW YORK	10003	4807.00000000...	7002351.00000...	28	1	1	0
2	4	Queens	874225.139404...	304847867 6.51...	NY CRN	NY CENTER FO...	26-13 21ST STR...	ASTORIA	11102	6384.00000000...	7003405.00000...	280	1	0	0
3	3	Brooklyn	742297.830401...	1937844335.48...	BISHOP MUGAV...	BISHOP FRANCI...	155 DEAN STRE...	BROOKLYN	11217	5546.00000000...	7001377.00000...	288	1	0	0
4	2	Bronx	464475.067699...	1186823812.59...	BRONX CENTER	BRONX CENTER...	1010 UNDERHI...	BRONX	10472	1251.00000000...	7000381.00000...	200	1	1	0
5	5	Staten Island	330454.806607...	1623846991.52...	CARMEL RICHM...	CARMEL RICHM...	88 OLD TOWN ...	STATEN ISLAND	10304	1755.00000000...	7004310.00000...	300	1	0	1

Step 11 – Select the identify features tools and click on an area to see its features.

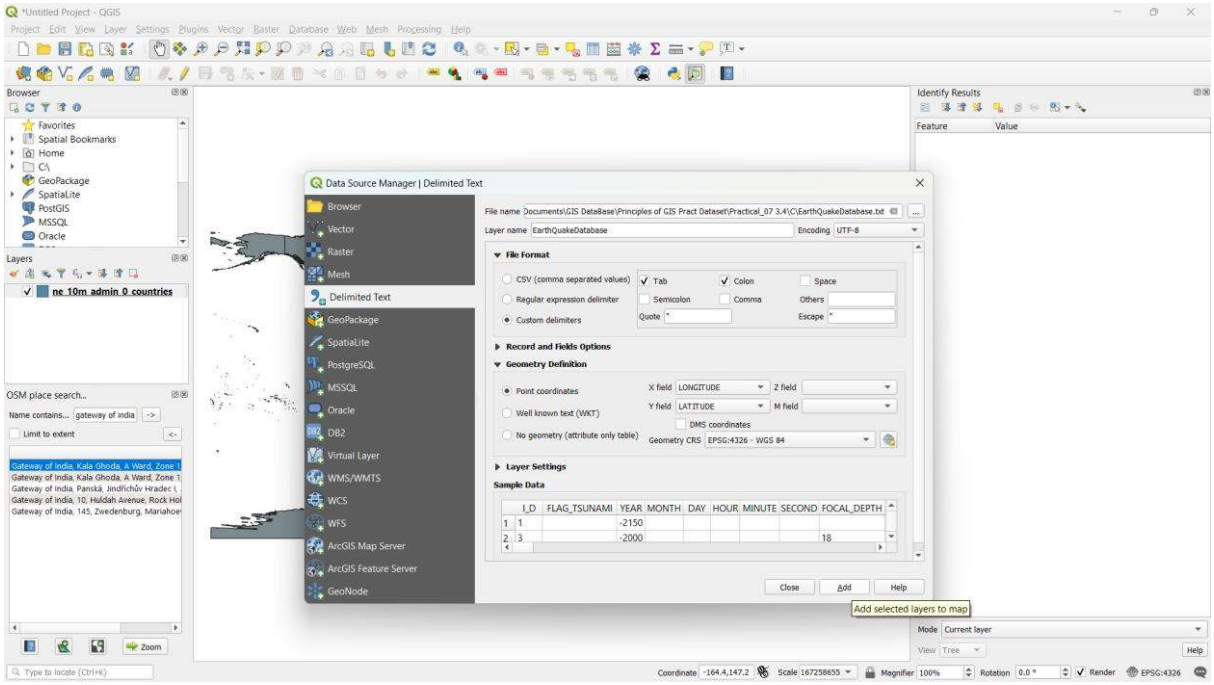


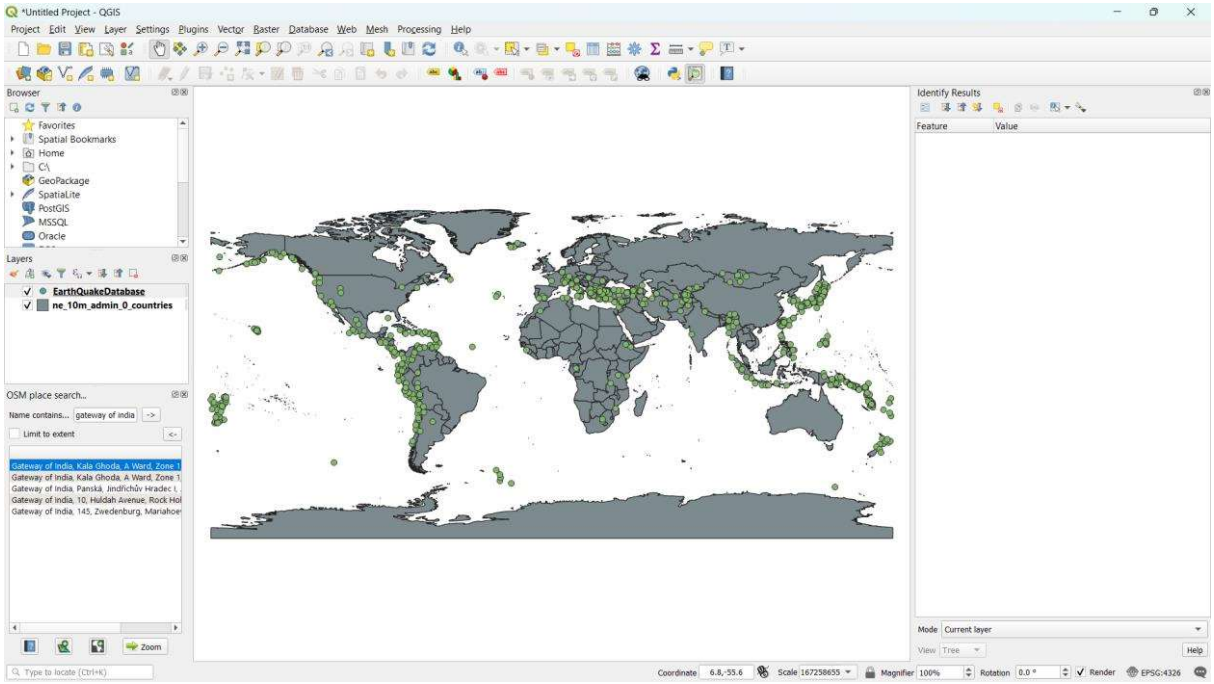
Step 12 – Create a new project. Add a new vector layer.



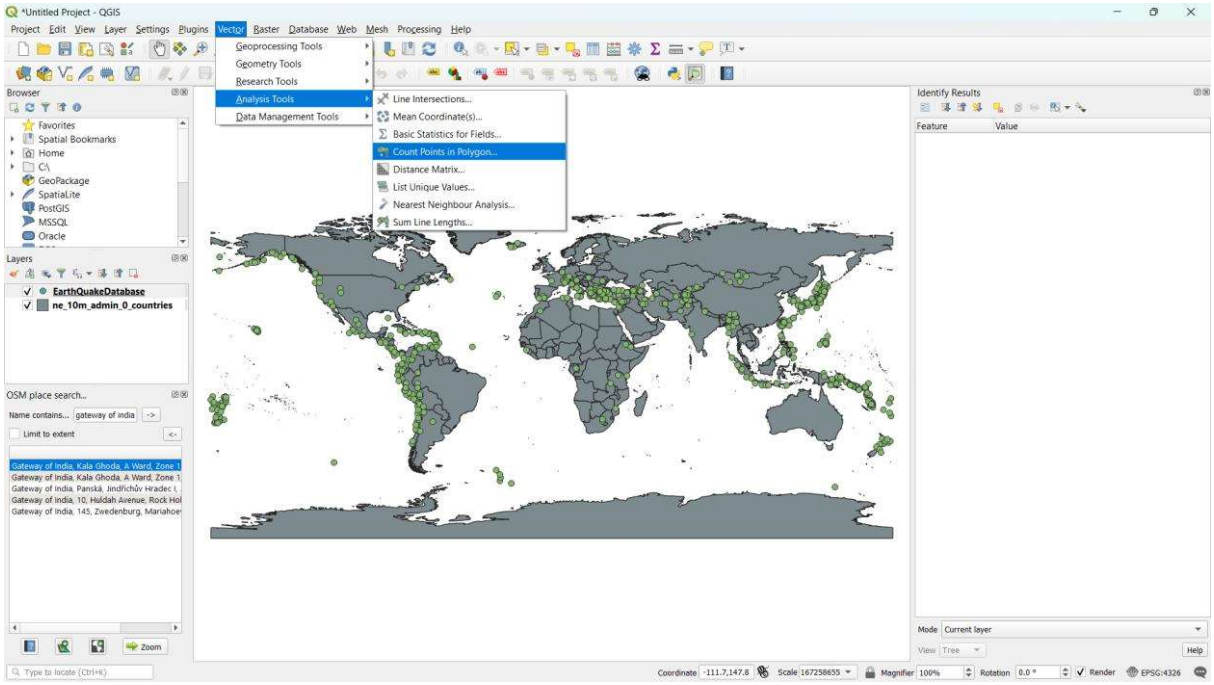


Step 13 – Add a new delimited text layer. Set the following parameters and hit add.

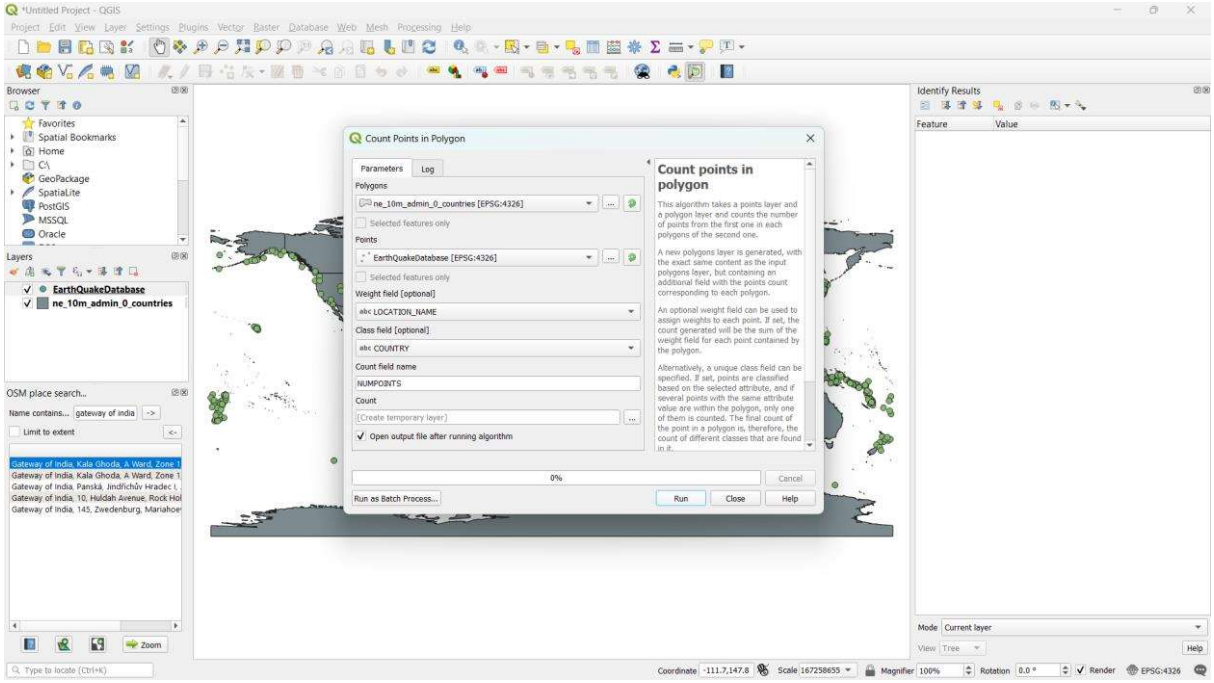


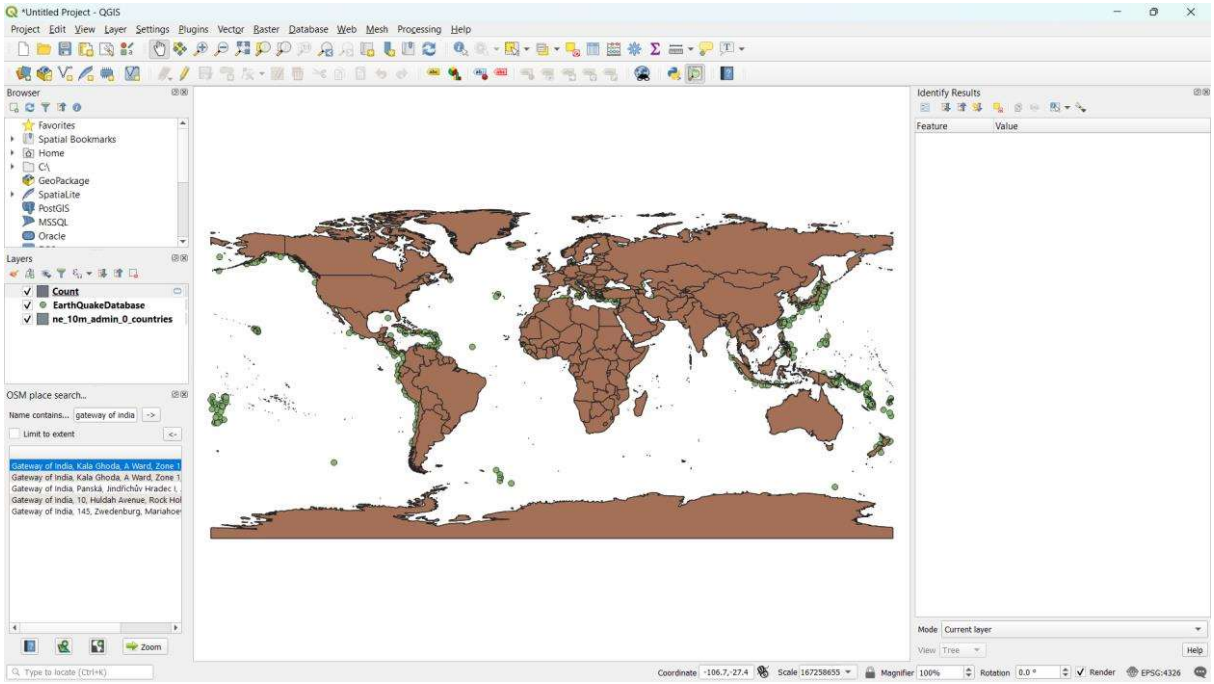


Step 14 – Vector > Analysis Tools > Count Points in Polygons.

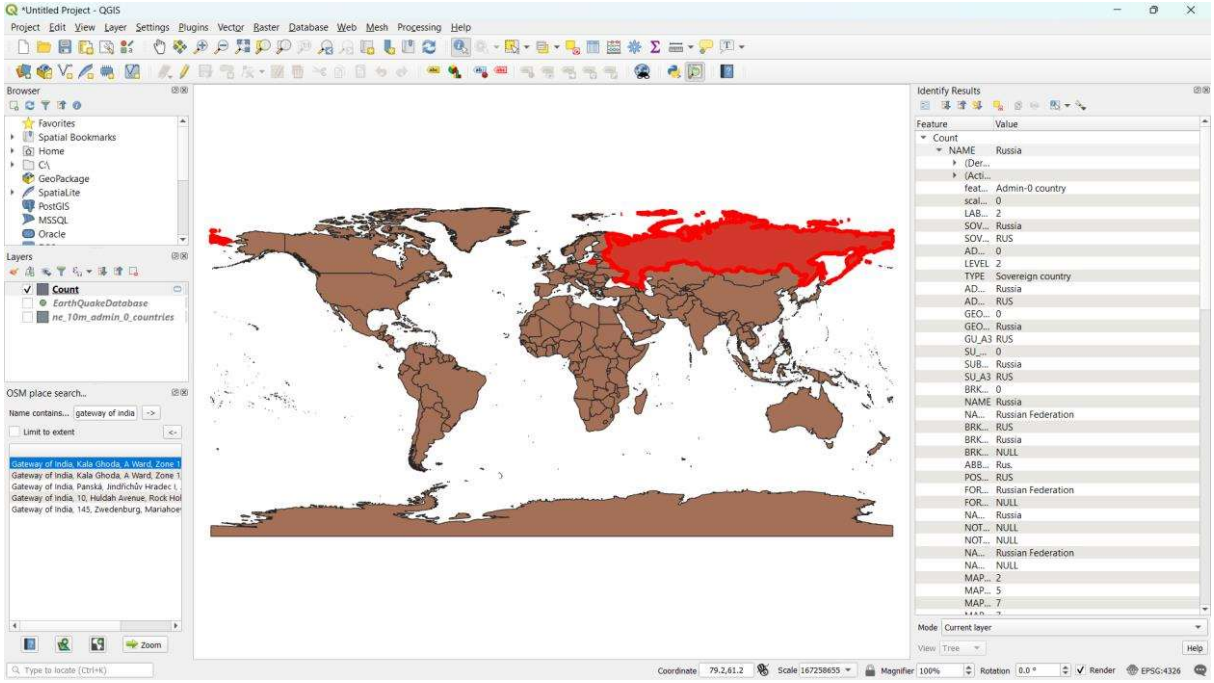


Step 15 – Set the following parameters and hit run.

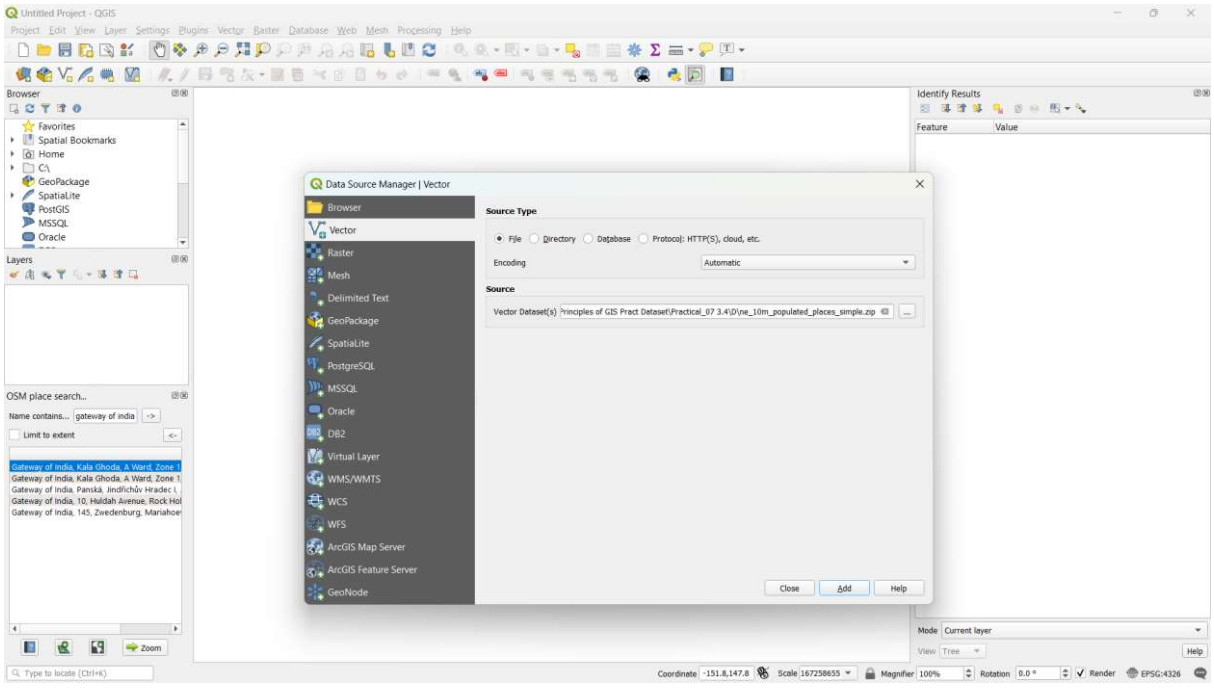


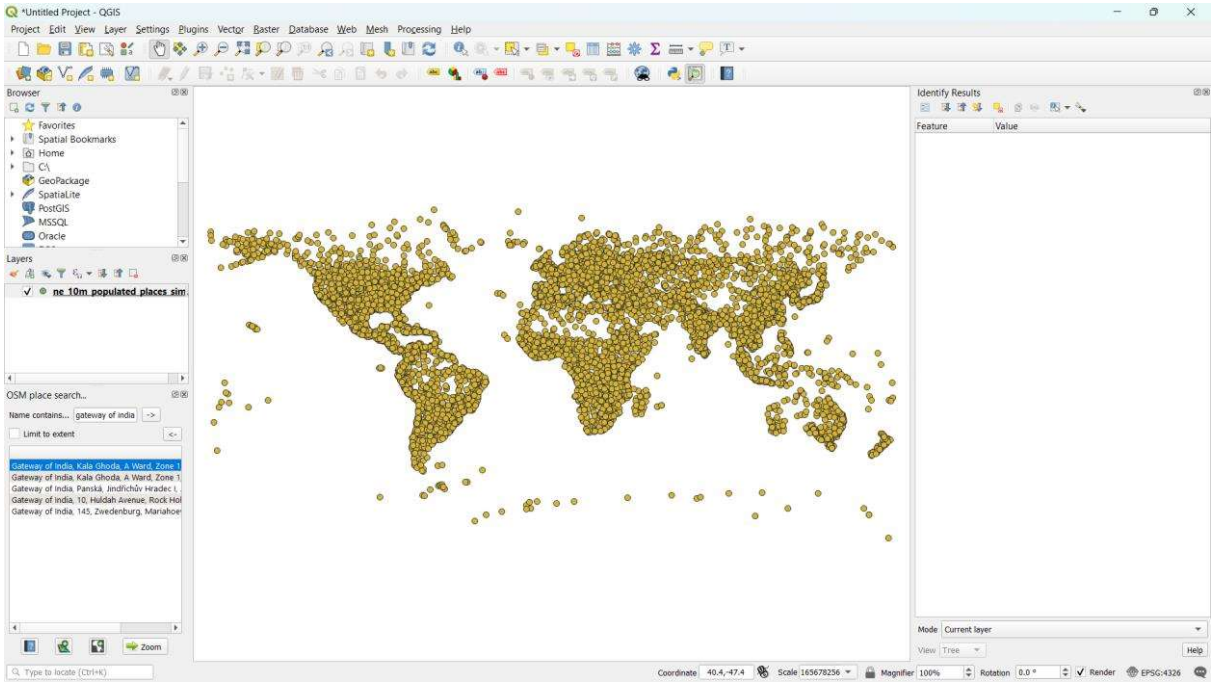


Step 16 – Again select the identify features tool and click on a region to show its features.

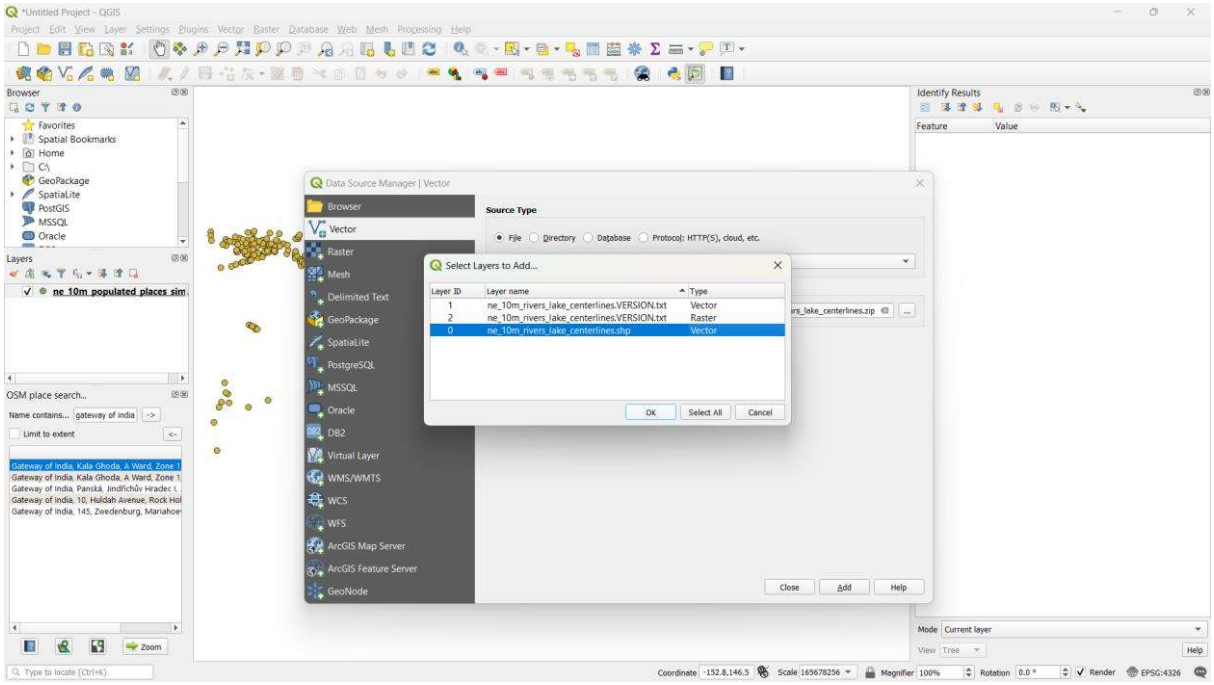


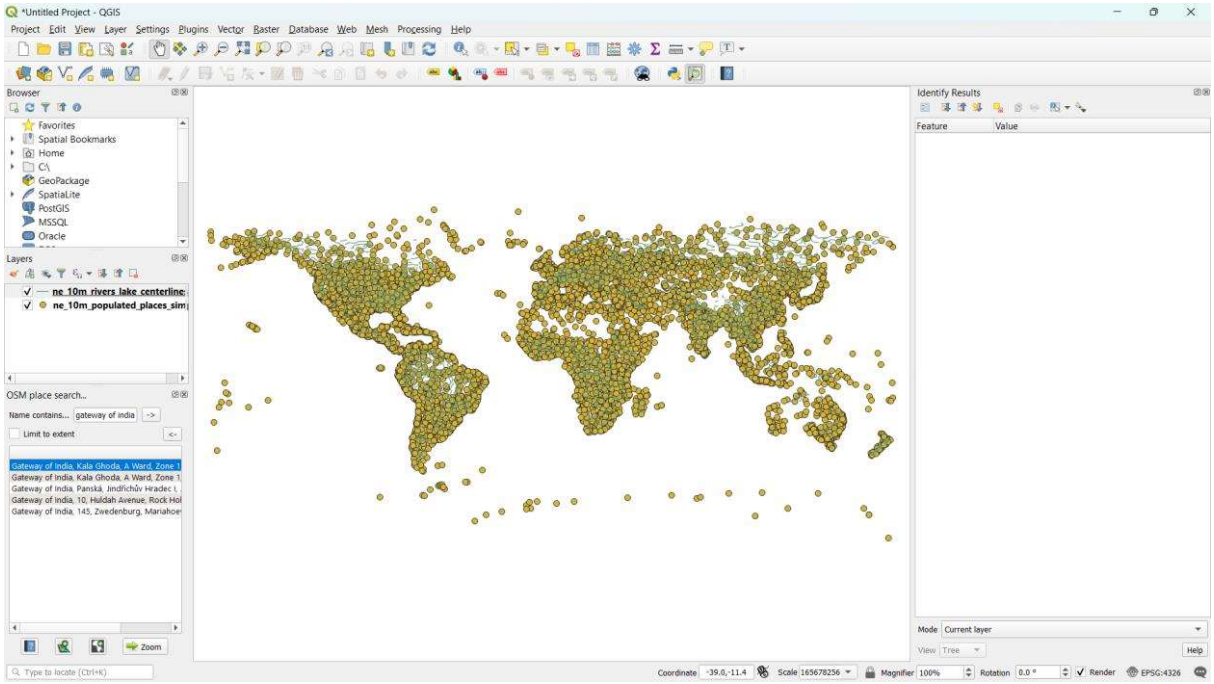
Step 17 – Open a new project. Add a new Vector layer.



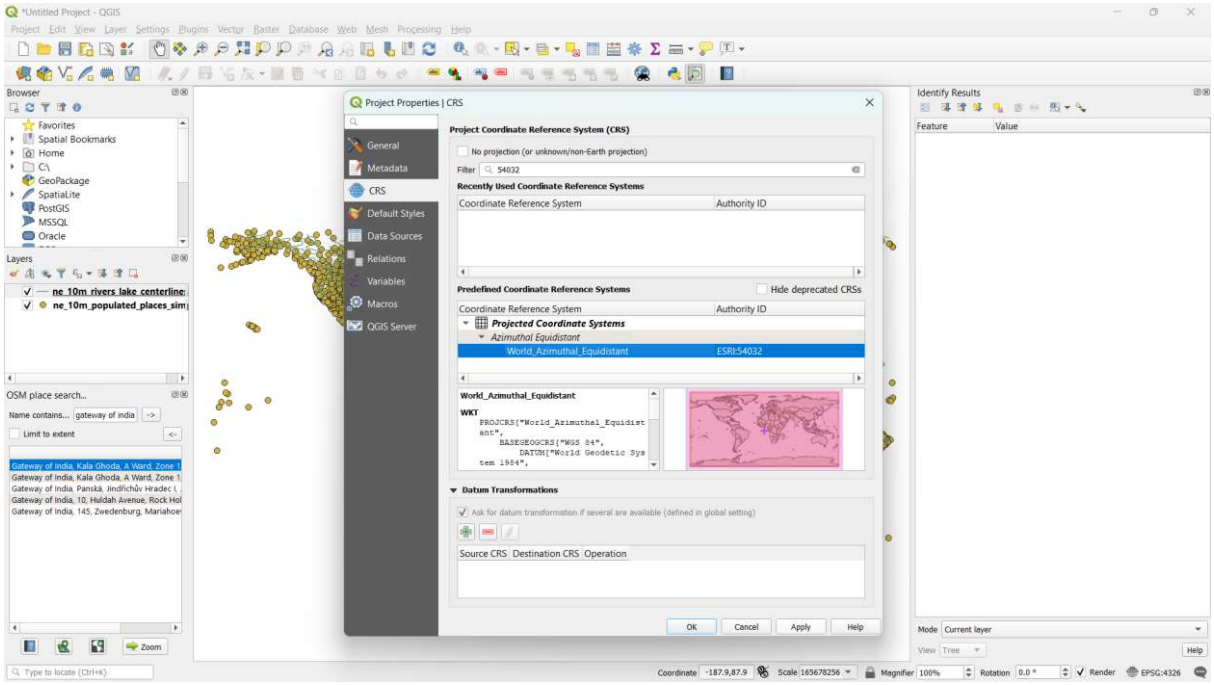


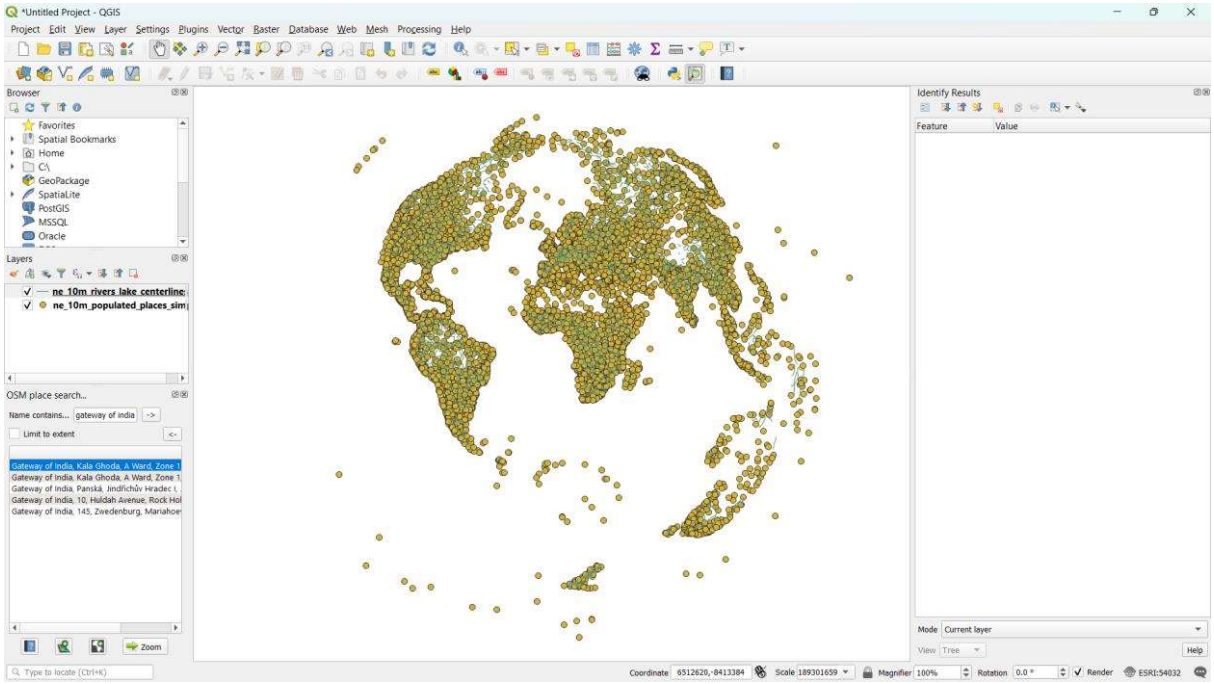
Step 18 – Add another vector layer.



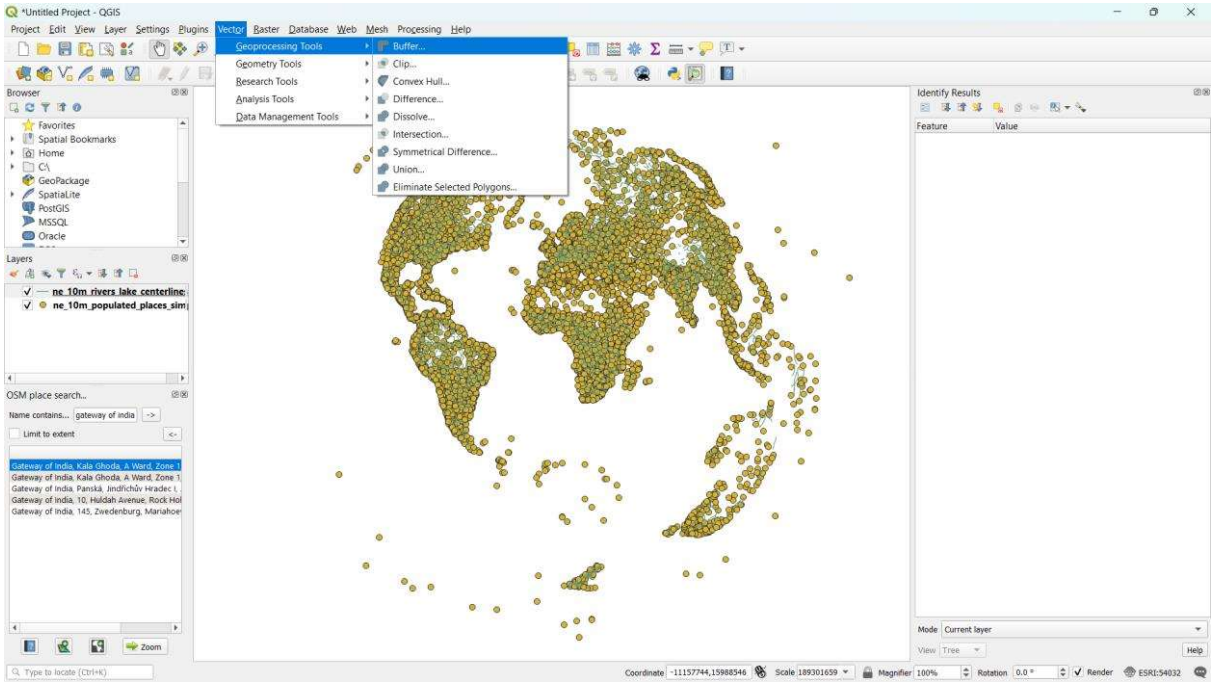


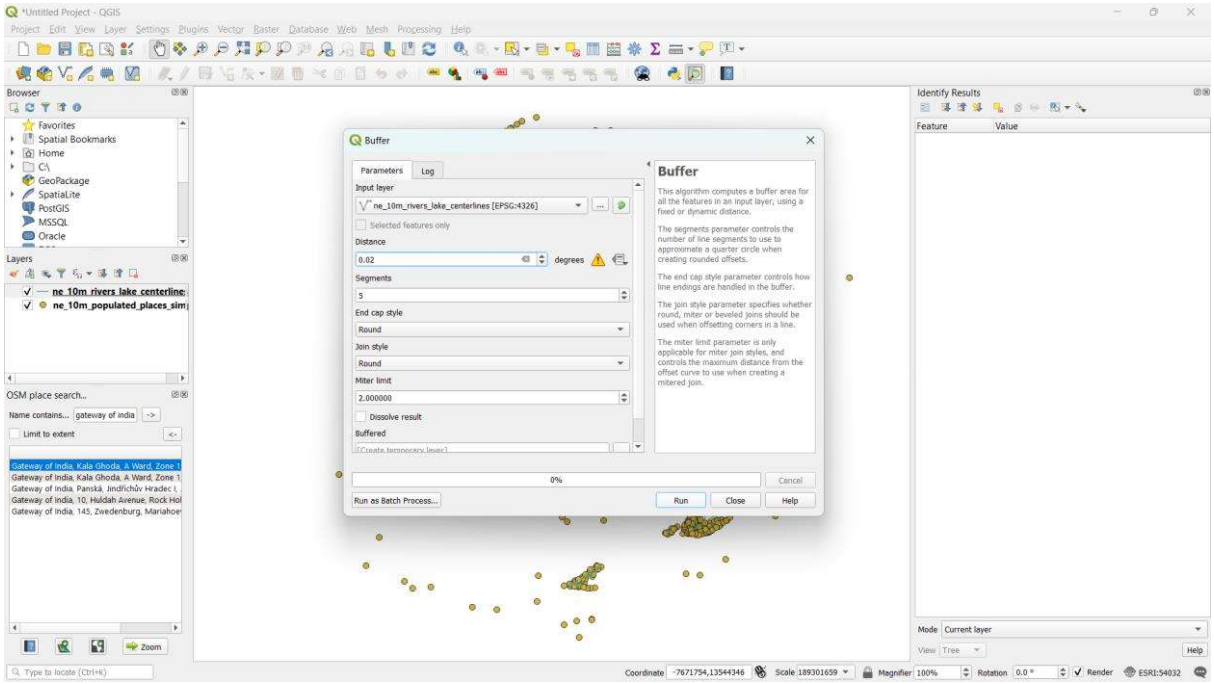
Step 19 – Project > Properties. Set the following parameters and click apply.

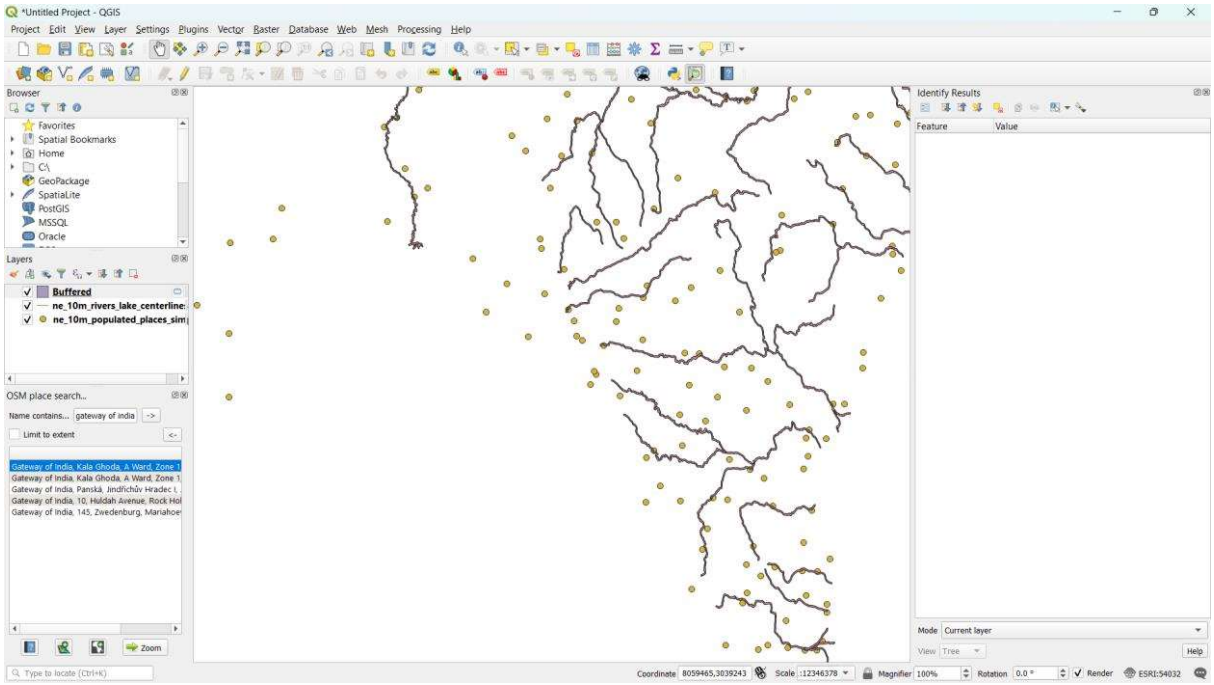




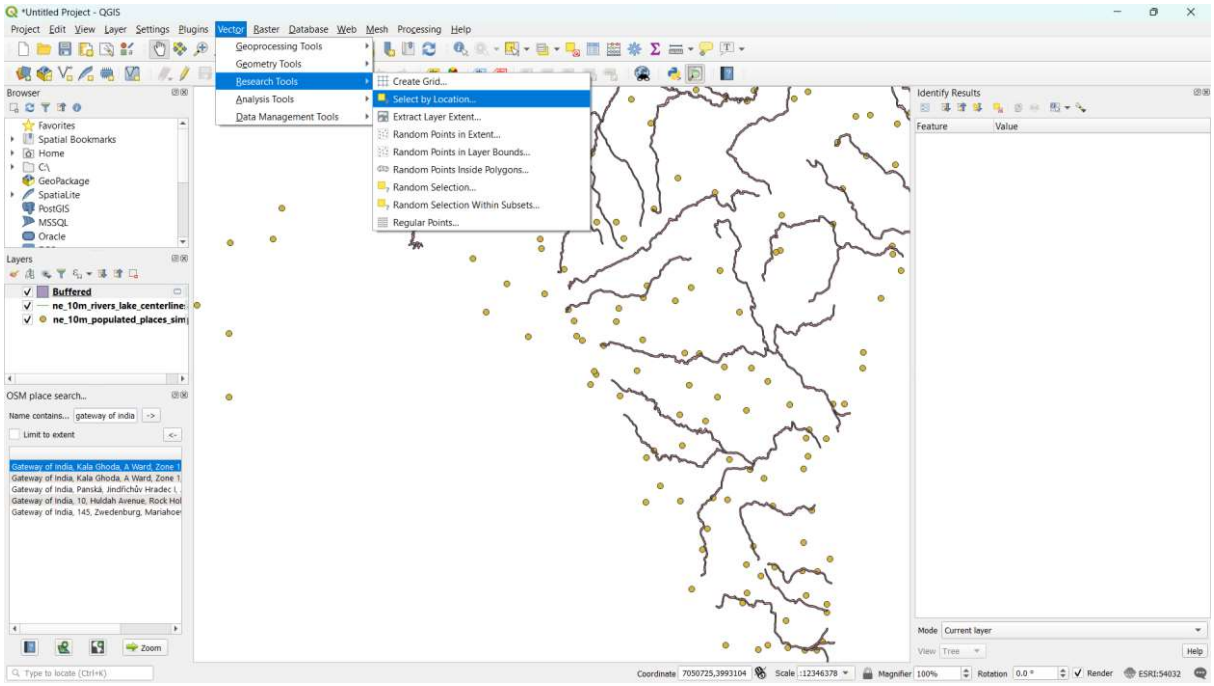
Step 20 – Vector > Geoprocessing > Buffer. Set the following parameters and hit run.

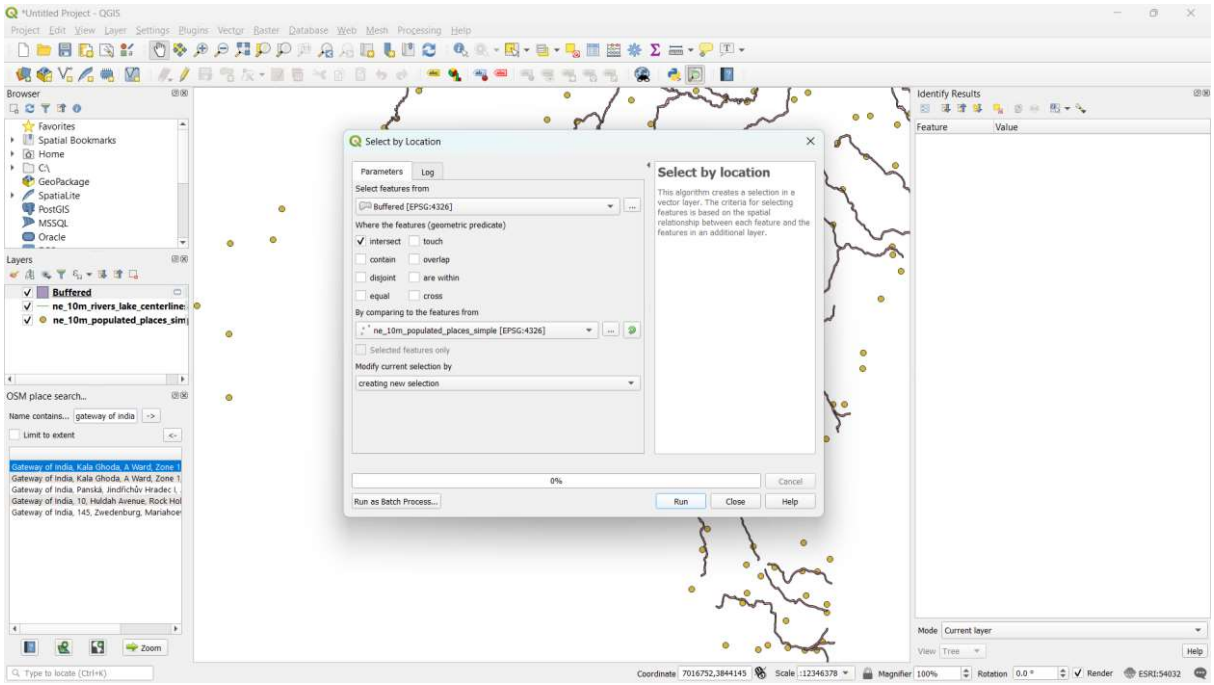


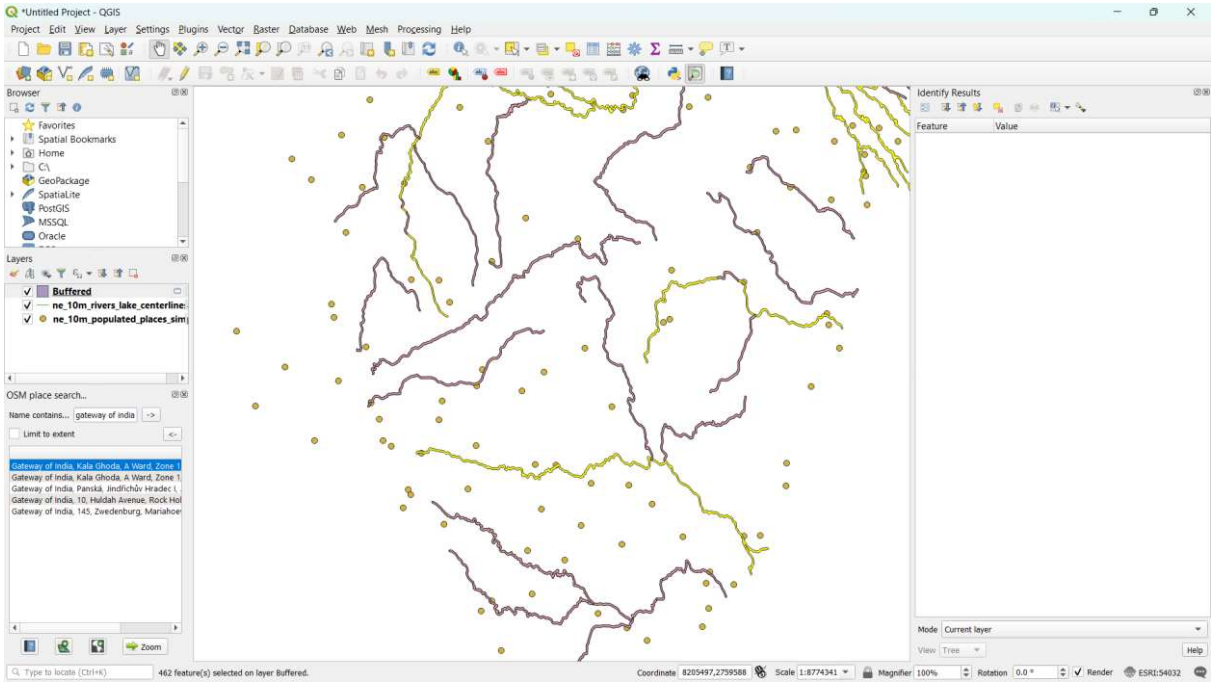

*Untitled Project - QGIS
Buffer
Parameters
Log
Input layer
ne_10m_rivers_lake_centerlines [EPSG:4326]
Selected features only
Distance
0.02
degrees
Segments
5
End cap style
Round
Join style
Round
Miter limit
2.000000
Dissolve result
Buffered
0%
Cancel
Run as Batch Process...
Run
Close
Help
Buffer
Identify Results
Feature
Value
Browser
Layers
OSM place search...
Zoom


*Untitled Project - QGIS
Buffered
Identify Results
Feature
Value
Browser
Layers
OSM place search...
Zoom

Step 21 – Vector > Research Tools > Select by Location. Set the following parameters and hit run.






*Untitled Project - QGIS
Project Edit View Layer Settings Plugins Vector Raster Database Web Mesh Processing Help
Browser
Favorites
Spatial Bookmarks
Home
C:\
GeoPackage
SpatiaLite
PostGIS
MSSQL
Oracle
Layers
Buffered
ne_10m_rivers_lake_centerline
ne_10m_populated_places_sim
OSM place search...
Name contains... gateway of india
Limit to extent
Gateway of India, Kala Ghoda, A Ward, Zone 1
Gateway of India, Kala Ghoda, A Ward, Zone 1
Gateway of India, Panská, Jindřichův Hradec I
Gateway of India, 10, Huldah Avenue, Rock Hol
Gateway of India, 145, Zwedenburg, Mariahoe
Zoom
Identify Results
Feature
Value
Mode Current layer
View Tree
Help
Type to locate (Ctrl+K)
462 feature(s) selected on layer Buffered.
Coordinate 8205497,2759588
Scale 1:8774341
Magnifier 100%
Rotation 0.0 °
Render
ESRI:54032