

Working with Attributes

QGIS Tutorials and Tips



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GIS is a system that captures, stores, analyzes, and displays geographic data. QGIS is a free and open-source GIS software that can be used to create maps and analyze spatial data.



The map scale is 1:1,000,000. This means that 1 unit on the map represents 1,000,000 units in the real world.



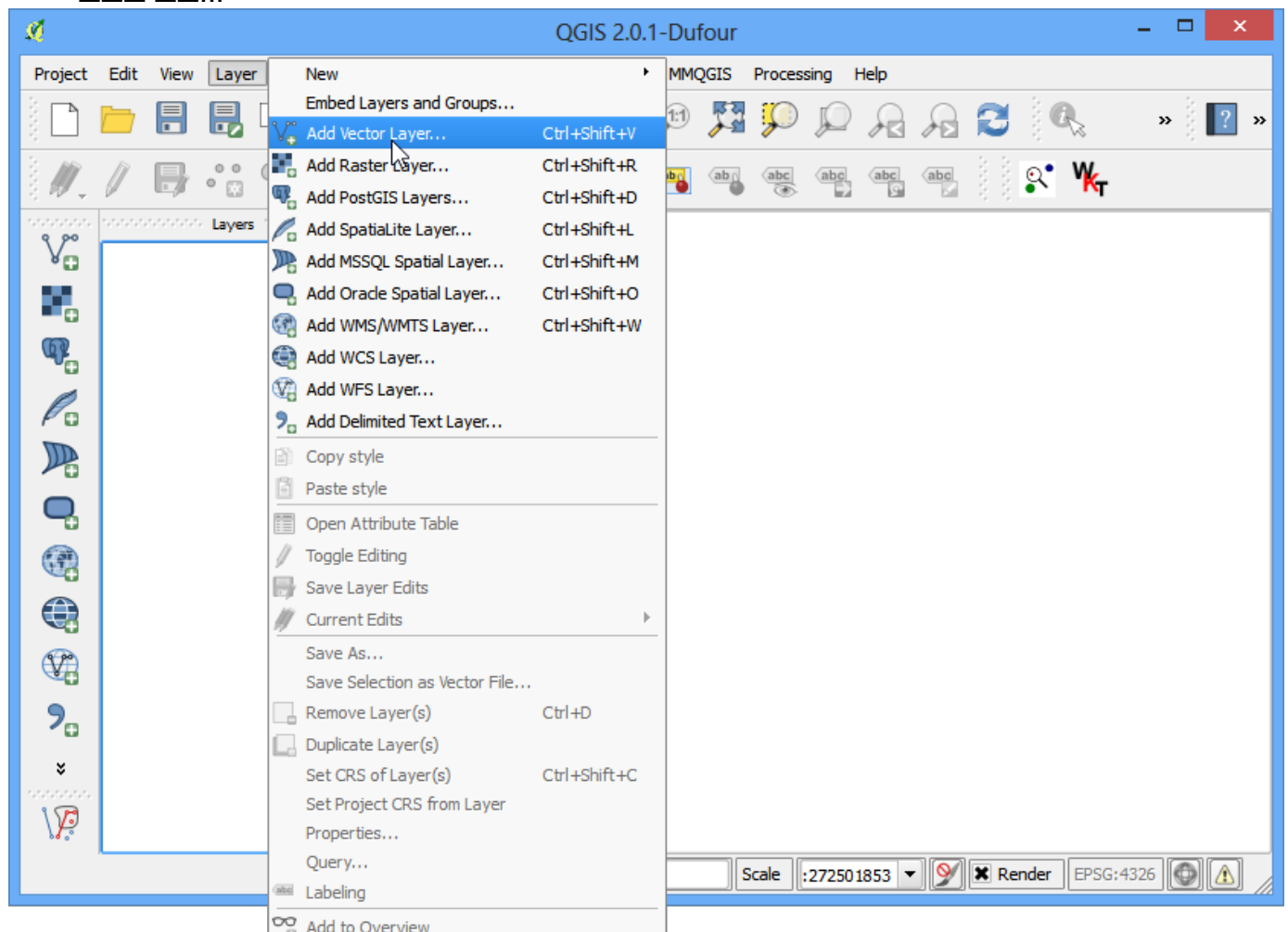
Download the Natural Earth Populated Places dataset.

Natural Earth Populated Places shapefile. <http://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne_10m_populated_places_simple.zip>_

[NATURALEARTH]



1. Open QGIS. Go to: menuselection: 'Layer' --> 'Add Vector Layer...' --> 'Browse'.



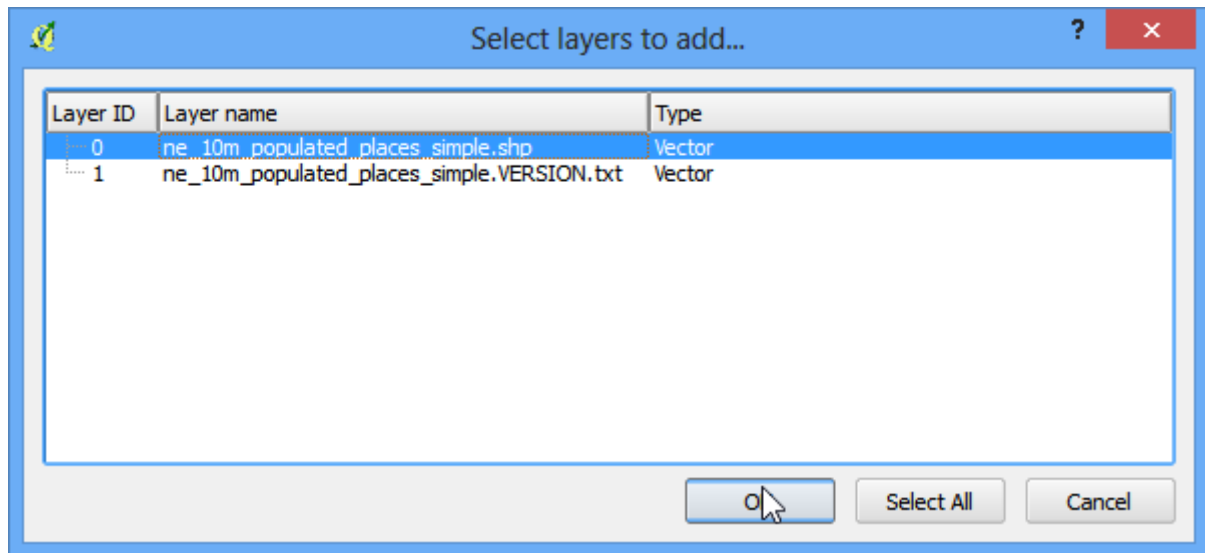
2. Click on *Browse* and navigate to the folder where you downloaded the data.



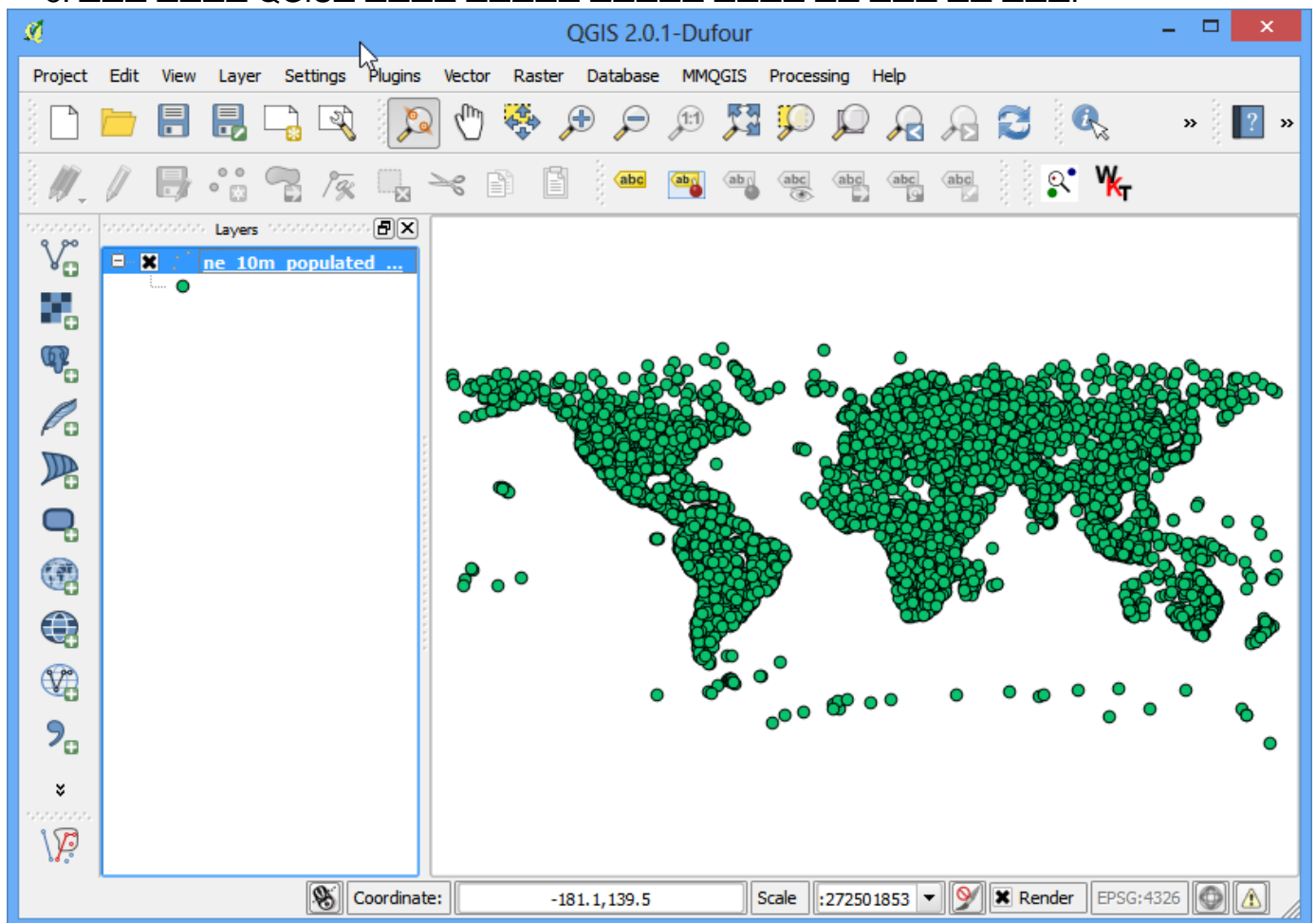
3. Locate the downloaded zip file *ne_10m_populated_places_simple.zip*. You do not need to unzip the file. QGIS has the ability to read zip files directly. Select the file and click *Open*.



4. `ne_10m_populated_places_simple.shp'`
`:guiabel:'OK'`



5. `ne_10m_populated_places_simple.shp` :guilabel: 'Open Attribute Table' `ne_10m_populated_places_simple.VERSION.txt`.



6. `ne_10m_populated_places_simple.shp` :guilabel: 'Open Attribute Table' `ne_10m_populated_places_simple.VERSION.txt`.



7. ■■■■ ■■■■ ■■ ■■■■ ■■■■■■.

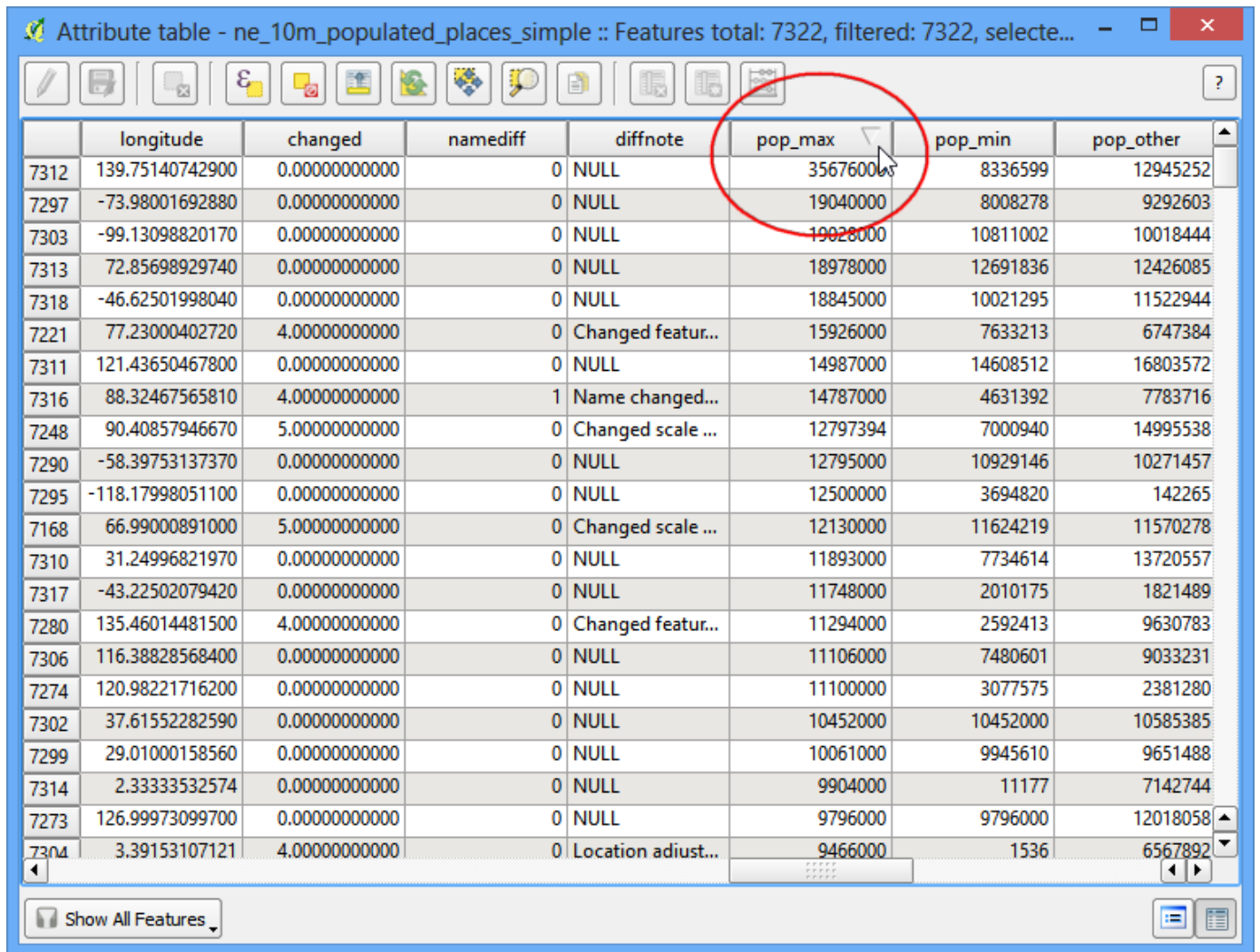
Attribute table - ne_10m_populated_places_simple :: Features total: 7322, filtered: 7322, selecte...

	scalerank	natscale	labelrank	featurecla	name	namepar	namealt
0	10	1	8	Admin-1 capital	Colonia del Sac...	NULL	NULL
1	10	1	8	Admin-1 capital	Trinidad	NULL	NULL
2	10	1	8	Admin-1 capital	Fray Bentos	NULL	NULL
3	10	1	8	Admin-1 capital	Canelones	NULL	NULL
4	10	1	8	Admin-1 capital	Florida	NULL	NULL
5	10	1	8	Admin-1 capital	Bassar	NULL	NULL
6	10	1	8	Admin-1 capital	Sotouboua	NULL	NULL
7	10	1	7	Admin-1 capital	Medenine	NULL	NULL
8	10	1	7	Admin-1 capital	Kebili	NULL	NULL
9	10	1	7	Admin-1 capital	Tataouine	NULL	NULL
10	10	1	7	Admin-1 capital	L'Ariana	NULL	NULL
11	10	1	7	Admin-1 capital	Jendouba	NULL	NULL
12	10	1	7	Admin-1 capital	Kasserine	NULL	NULL
13	10	1	7	Admin-1 capital	Sdid Bouzid	NULL	NULL
14	10	1	7	Admin-1 capital	Siliana	NULL	NULL
15	10	1	7	Admin-1 capital	Mahdia	NULL	NULL
16	10	1	7	Admin-1 capital	Monastir	NULL	NULL
17	10	1	7	Admin-1 capital	Zaghouan	NULL	NULL
18	10	1	5	Admin-1 capital	Tay Ninh	NULL	NULL
19	10	1	5	Admin-1 capital	Luan Chau	NULL	NULL
20	10	1	5	Admin-1 capital	Bac Kan	NULL	NULL
21	10	1	5	Admin-1 capital	Lana Son	NULL	NULL

Show All Features

8. ■■■■■■■■■■ ■■■■ ■■■■, `pop_max` ■■■ ■■■■■■. ■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■.

Attribute table - ne_10m_populated_places_simple :: Features total: 7322, filtered: 7322, selecte...

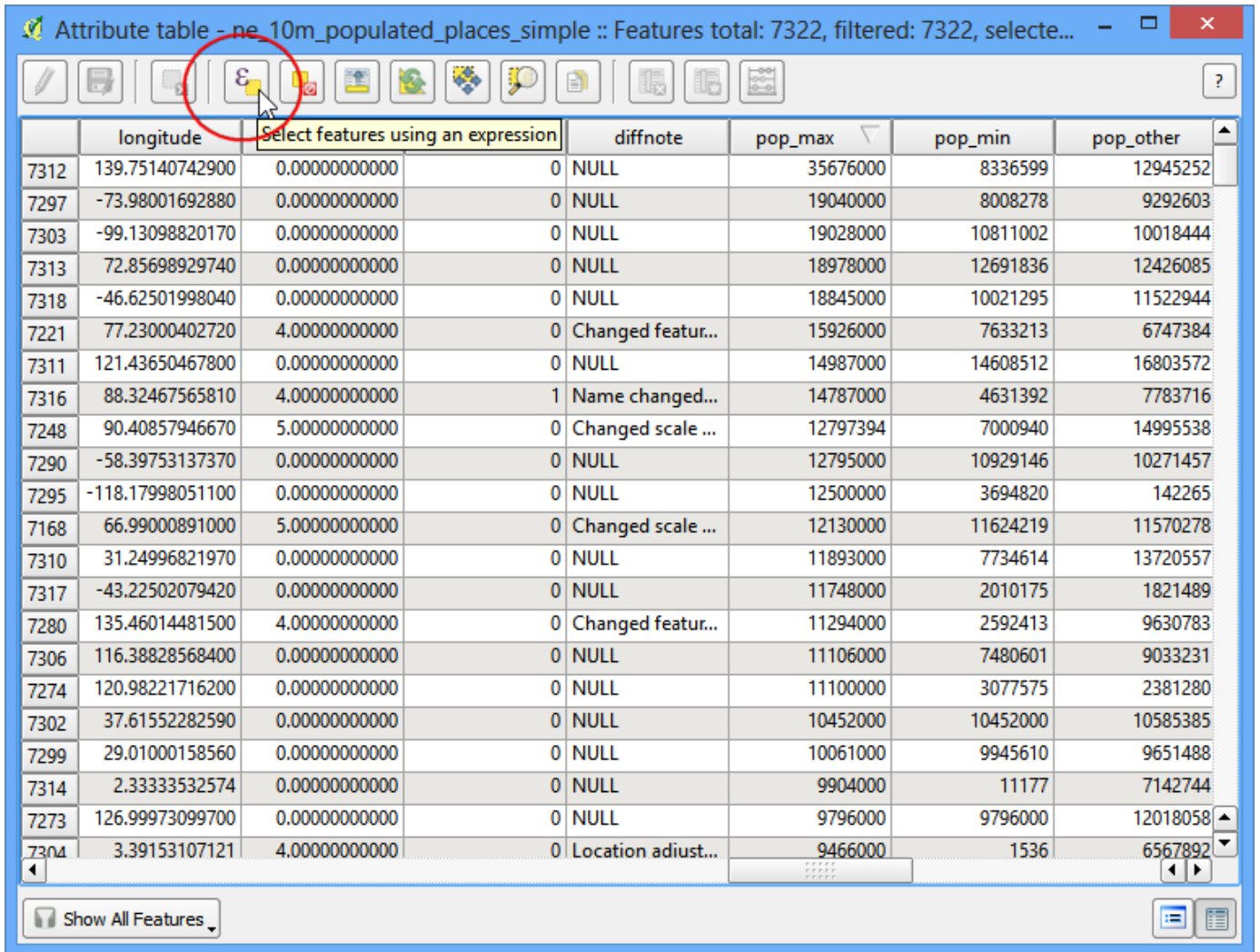


	longitude	changed	namediff	diffnote	pop_max	pop_min	pop_other
7312	139.75140742900	0.000000000000	0	NULL	35676000	8336599	12945252
7297	-73.98001692880	0.000000000000	0	NULL	19040000	8008278	9292603
7303	-99.13098820170	0.000000000000	0	NULL	19028000	10811002	10018444
7313	72.85698929740	0.000000000000	0	NULL	18978000	12691836	12426085
7318	-46.62501998040	0.000000000000	0	NULL	18845000	10021295	11522944
7221	77.23000402720	4.000000000000	0	Changed featur...	15926000	7633213	6747384
7311	121.43650467800	0.000000000000	0	NULL	14987000	14608512	16803572
7316	88.32467565810	4.000000000000	1	Name changed...	14787000	4631392	7783716
7248	90.40857946670	5.000000000000	0	Changed scale ...	12797394	7000940	14995538
7290	-58.39753137370	0.000000000000	0	NULL	12795000	10929146	10271457
7295	-118.17998051100	0.000000000000	0	NULL	12500000	3694820	142265
7168	66.99000891000	5.000000000000	0	Changed scale ...	12130000	11624219	11570278
7310	31.24996821970	0.000000000000	0	NULL	11893000	7734614	13720557
7317	-43.22502079420	0.000000000000	0	NULL	11748000	2010175	1821489
7280	135.46014481500	4.000000000000	0	Changed featur...	11294000	2592413	9630783
7306	116.38828568400	0.000000000000	0	NULL	11106000	7480601	9033231
7274	120.98221716200	0.000000000000	0	NULL	11100000	3077575	2381280
7302	37.61552282590	0.000000000000	0	NULL	10452000	10452000	10585385
7299	29.01000158560	0.000000000000	0	NULL	10061000	9945610	9651488
7314	2.33333532574	0.000000000000	0	NULL	9904000	11177	7142744
7273	126.99973099700	0.000000000000	0	NULL	9796000	9796000	12018058
7304	3.39153107121	4.000000000000	0	Location adjust...	9466000	1536	6567892

Show All Features

9. ■■■ ■■■■ ■■■■ ■■■ :guilabel:`Select features using an expression`■■■ ■■■■ ■■■■ ■■■■.

Attribute table - ne_10m_populated_places_simple :: Features total: 7322, filtered: 7322, selecte...



	longitude	Select features using an expression	diffnote	pop_max	pop_min	pop_other
7312	139.75140742900	0.000000000000	0 NULL	35676000	8336599	12945252
7297	-73.98001692880	0.000000000000	0 NULL	19040000	8008278	9292603
7303	-99.13098820170	0.000000000000	0 NULL	19028000	10811002	10018444
7313	72.85698929740	0.000000000000	0 NULL	18978000	12691836	12426085
7318	-46.62501998040	0.000000000000	0 NULL	18845000	10021295	11522944
7221	77.23000402720	4.000000000000	0 Changed featur...	15926000	7633213	6747384
7311	121.43650467800	0.000000000000	0 NULL	14987000	14608512	16803572
7316	88.32467565810	4.000000000000	1 Name changed...	14787000	4631392	7783716
7248	90.40857946670	5.000000000000	0 Changed scale ...	12797394	7000940	14995538
7290	-58.39753137370	0.000000000000	0 NULL	12795000	10929146	10271457
7295	-118.17998051100	0.000000000000	0 NULL	12500000	3694820	142265
7168	66.99000891000	5.000000000000	0 Changed scale ...	12130000	11624219	11570278
7310	31.24996821970	0.000000000000	0 NULL	11893000	7734614	13720557
7317	-43.22502079420	0.000000000000	0 NULL	11748000	2010175	1821489
7280	135.46014481500	4.000000000000	0 Changed featur...	11294000	2592413	9630783
7306	116.38828568400	0.000000000000	0 NULL	11106000	7480601	9033231
7274	120.98221716200	0.000000000000	0 NULL	11100000	3077575	2381280
7302	37.61552282590	0.000000000000	0 NULL	10452000	10452000	10585385
7299	29.01000158560	0.000000000000	0 NULL	10061000	9945610	9651488
7314	2.33333532574	0.000000000000	0 NULL	9904000	11177	7142744
7273	126.99973099700	0.000000000000	0 NULL	9796000	9796000	12018058
7304	3.39153107121	4.000000000000	0 Location adjust...	9466000	1536	6567892

Show All Features

10. *Select By Expression* **Fields and Values** ``pop_max``. **Load all unique values** ``pop_max`` `:guiabel:'Load all unique values'` `1,000,000` `"pop_max" > 1000000`` `:guiabel:'Select'`.



11. :guilabel:`Close` ■ ■■■■ QGIS ■■■■ ■■■■. ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■. ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ 1,000,000 ■■■■ ■■■■ ■■■■ `pop_max` ■■■■ ■■■■. ■■■■.



12. ■ ■■■■ ■■■■ ■ ■■■■ ■■■■ ■■ ■■■■. ■ ■■■■■■■■ ■ ■■■■ ■■■■ ■■ ■■■■ ■■■■ ■■■■■■. ■■■■■■■■ *Select feature using an expression* ■■■■ ■■■■■■.

Attribute table - ne_10m_populated_places_simple :: Features total: 7322, filtered: 7322, selecte...



	scalerank	natscale	labelrank	featurecla	name	namepar	namealt
7295	0	600	1	Populated place	Los Angeles	NULL	Los Angeles-Lo...
7296	0	600	1	Admin-0 capital	Washington, D.C.	NULL	Washington D.C.
7297	0	600	1	Populated place	New York	NULL	New York-New...
7298	0	600	5	Admin-0 capital	London	NULL	NULL
7299	0	600	5	Admin-1 capital	Istanbul	NULL	NULL
7300	0	600	5	Admin-0 capital	Riyadh	NULL	Ar-Riyadh
7301	0	600	3	Admin-0 capital	Cape Town	NULL	NULL
7302	0	600	2	Admin-0 capital	Moscow	Moskva	NULL
7303	0	600	2	Admin-0 capital	Mexico City	NULL	Ciudad de Méxi...
7304	0	600	2	Admin-0 capita...	Lagos	NULL	NULL
7305	0	600	3	Admin-0 capital	Rome	NULL	NULL
7306	0	600	1	Admin-0 capital	Beijing	NULL	NULL
7307	0	600	5	Admin-0 capital	Nairobi	NULL	NULL
7308	0	600	1	Admin-0 capital	Jakarta	NULL	NULL
7309	0	600	5	Admin-0 capital	Bogota	NULL	Bogotá
7310	0	600	3	Admin-0 capital	Cairo	NULL	Al-Qahirah
7311	0	600	1	Admin-1 capital	Shanghai	NULL	NULL
7312	0	600	2	Admin-0 capital	Tokyo	NULL	NULL
7313	0	600	1	Admin-1 capital	Mumbai	Bombay	NULL
7314	0	600	3	Admin-0 capital	Paris	NULL	NULL
7315	0	600	3	Admin-0 capital	Santiago	NULL	NULL
7316	0	600	1	Admin-1 capital	Kolkata	Calcutta	NULL

Show All Features

13. `adm0cap`` `'1'` `"adm0cap" = 1`` `:guilabel: 'Select within selection'`



14. :guilabel:`Close` ■ ■■■■ QGIS ■■■■ ■■■■■■■■. ■■■■ ■■ ■ ■■■■■■ ■■■■ ■■ ■ ■■■■. ■■■■ ■■■■ ■■ ■■■■ ■■■■■■■■ ■■■■ 1,000,000 ■■■■ ■■■■ ■ ■■■■ ■■■■. ■■■■■■.



15. `Save Selection As` :guilabel:



16. `ESRI` `ESRI Shapefile` `large_capital_cities.shp`
 :guilabel:`Add saved file to map` :guilabel:`OK`.



17. ■■■■ ■■■■ ■■■■■■ ■■■■■■ QGIS ■■■■■■. ne_10m_populated_places_simple
 ■■■■ ■■■■■■. ■■■■ ■■ 1,000,000 ■■ ■■■■ ■■ ■■ ■■ ■■ ■■ ■■ ■■
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