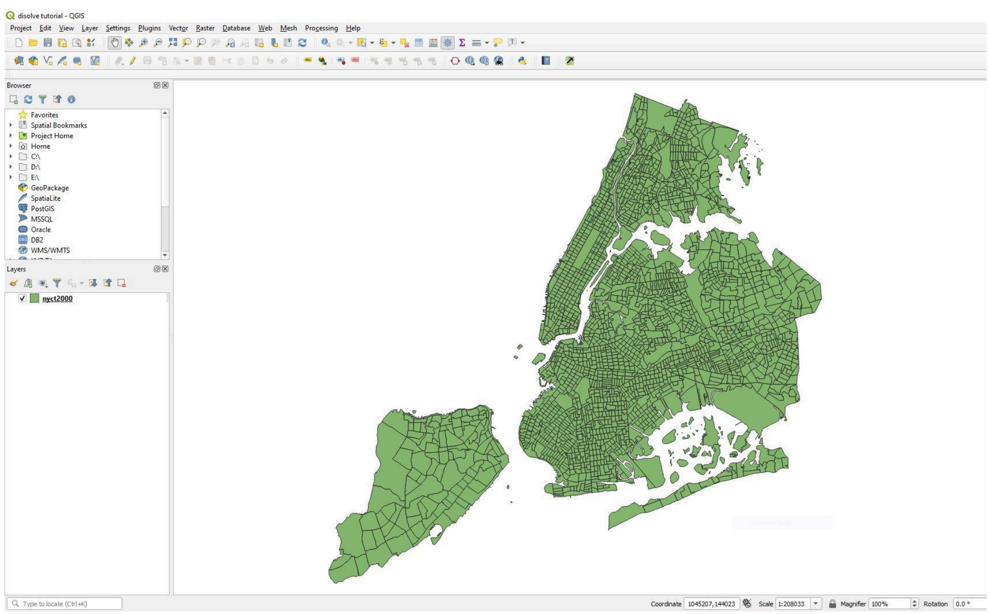
NYU DataServices

Data Management Tools: Dissolving Shapefiles In QGIS

Dissolving is an important tool that can be used to mass select features in order to combine different features and geometry together. Dissolving is useful as it combines separate features into a single feature; it can also be seen as a tool to convert multiple geometries into a singular one. It's an easy way to simplify or clarify different geographic features within a shapefile and can be used in order to simplify a map. An example of which we'll be doing in this tutorial, we'll be working with a map of New York City's Census Tracts. So once that layer is imported, we can see that there are many polygons throughout the city, each representing a census tract. Also something important to note is that within the attribute table, every census tract is associated with a neighborhood name.



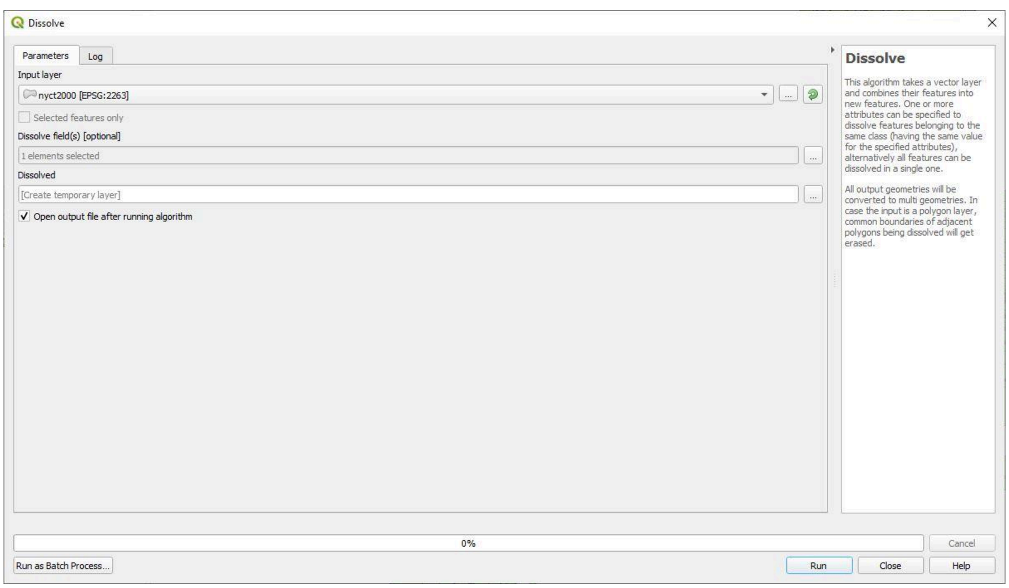
nyct2000 :: Features Total: 2216, Filtered: 2216, Selected: 0

	CTLabel	BoroCode	BoroName	CT2000	BoroCT2000	CDEligibil	NTACode	NTANAme	PUMA	Shape_Leng	Shape_Area
1	208	3	Brooklyn	020800	3020800	I	BK30	Dyker Heights	4013	945.30544894000	1542689.155070...
2	210	3	Brooklyn	021000	3021000	E	BK30	Dyker Heights	4013	710.82800332000	1614540.028889...
3	217	3	Brooklyn	021700	3021700	E	BK61	Crown Heights ...	4006	570.03947427000	1279622.356189...
4	219	3	Brooklyn	021900	3021900	E	BK61	Crown Heights ...	4006	031.28812594000	1582742.207239...
5	515	4	Queens	051500	4051500	I	QN30	Maspeth	4110	997.24858834000	2419820.777970...
6	535	4	Queens	053500	4053500	E	QN30	Maspeth	4110	12842.04574930...	5490953.416629...
7	6	5	Staten Island	000600	5000600	I	SI37	Stapleton-Rose...	3903	14463.73830290...	5052609.845019...
8	18	5	Staten Island	001800	5001800	E	SI14	Grasmere-Arro...	3902	18298.19560480...	11377900.93370...
9	505	4	Queens	050500	4050500	I	QN21	Middle Village	4110	274.14094670000	1018701.533139...
10	687	4	Queens	068700	4068700	I	QN18	Rego Park	4108	603.47062796000	3258320.025109...
11	493.01	4	Queens	049301	4049301	I	QN30	Maspeth	4110	434.20822857000	1775943.656299...
12	513	4	Queens	051300	4051300	E	QN30	Maspeth	4110	553.15644753000	2088222.183479...
13	421	3	Brooklyn	042100	3042100	E	BK78	Bushwick South	4002	252.77145269000	1651413.356279...
14	431	3	Brooklyn	043100	3043100	E	BK77	Bushwick North	4002	386.79932108000	1810786.790839...
15	159	4	Queens	015900	4015900	E	QN70	Astoria	4101	058.44690890000	1826098.302699...
16	161	4	Queens	016100	4016100	E	QN70	Astoria	4101	435.71385041000	1152166.931529...
17	261	3	Brooklyn	026100	3026100	E	BK75	Bedford	4003	880.89766211000	2146491.910159...
18	268	3	Brooklyn	026800	3026800	E	BK28	Bensonhurst W...	4017	339.14427745000	1926489.188000...
19	264	3	Brooklyn	026400	3026400	E	BK28	Bensonhurst W...	4017	095.08596513000	2038976.093420...
20	274	3	Brooklyn	027400	3027400	E	BK28	Bensonhurst W...	4017	175.27568508000	1758627.033650...
21	250	3	Brooklyn	025000	3025000	E	BK28	Bensonhurst W...	4017	938.20286290000	1867290.141280...

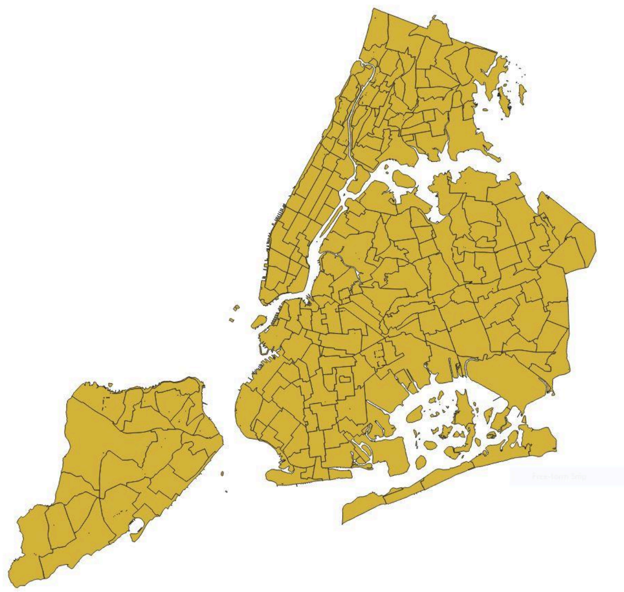
Show All Features

Use the Dissolve Tool (from the Processing Toolbox)

1. Once you have the shapefile you want to edit open, you need to look at it's attribute table and find a column to join features together, in the example we're using there's a few option, our NTACode, NTAName, or even PUMA, if you want to dissolve at a neighborhood level all of these work, but why? Because they house the same variable i.e. a way to describe the neighborhood / location, which allows the dissolve tool to join by that variable. Once you've decided on a column to use, navigate to your **Processing Toolbox** → **Vector Geometry** → **Dissolve** (you may also just want to search 'Dissolve' in the search bar for the processing toolbox as Vector Geometry is a large category).
2. For the Input Features, use the dropdown menu to select the shapefile which you wish to dissolve. Alternatively, if you have not added a shapefile to QGIS you can use the browse icon (the three … to the right of the input layer) to find the shapefile you'd like to dissolve. Next, you need to select the field (or fields) by which you want to dissolve, for the purposes of this tutorial we'll be selecting NTAName, and then click Run (you can save your new file directly from here if you'd like under dissolved, otherwise it'll become a temporary layer which you can just save from the layers menu).



QGIS will dissolve your shapefile, based on the attribute you chose, creating a new shapefile by aggregating the data across that particular attribute, as seen in the example below. Take note of the attribute table for this dissolved shapefile. There is only one feature for each attribute value in NTAName, NTACode & Puma (and thus resulting in a much shorter list). In this case, there is only one polygon for each sub-region.



Dissolved :: Features Total: 195, Filtered: 195, Selected: 0

	CTLabel	BoroCode	BoroName	CT2000	BoroCT2000	CDEligibil	NTACode	NTANAme	PUMA	Shape_Leng	Shape_Area
1	185	4	Queens	018500	4018500	E	QN31	Hunters Point-...	4109	5838.99420831000	2119459.051940...
2	867	4	Queens	086700	4086700	E	QN22	Flushing	4103	6675.51573220000	2056341.379140...
3	896	3	Brooklyn	089600	3089600	E	BK81	Brownsville	4007	5646.71646388000	1605933.834329...
4	496	4	Queens	049600	4049600	I	QN34	Queens Village	4105	6798.28229771000	2943686.954990...
5	492	4	Queens	049200	4049200	E	QN06	Jamaica Estates...	4106	10957.15085390...	5157270.934930...
6	342	3	Brooklyn	034200	3034200	E	BK21	Seagate-Coney ...	4018	7381.41736816000	2475181.656700...
7	630	4	Queens	063000	4063000	I	QN66	Laurelton	4105	7100.61876104000	1875288.022499...
8	716	4	Queens	071600	4071600	I	QN98	Airport	4105	104316.4474880...	194802334.3569...
9	329	3	Brooklyn	032900	3032900	E	BK60	Prospect Leffert...	4011	7138.85262619000	1683542.675229...
10	403	4	Queens	040300	4040300	E	QN26	North Corona	4102	6602.04531560000	2137395.012779...
11	217.02	2	Bronx	021702	2021702	E	BX63	West Concourse	3708	3185.25817266000	598722.7135309...
12	550	3	Brooklyn	055000	3055000	E	BK44	Madison	4016	5722.06067709000	1937232.664020...
13	302	2	Bronx	030200	2030200	I	BX13	Co-op City	3703	11063.80873310...	6092535.112119...
14	29.02	3	Brooklyn	002902	3002902	E	BK68	Fort Greene	4004	3407.64327781000	672063.3173060...
15	30.02	1	Manhattan	003002	1003002	E	MN22	East Village	3809	4045.16636401000	841097.7969629...
16	1291.02	4	Queens	129102	4129102	I	QN42	Oakland Gardens	4104	14224.22116720...	8179843.021409...
17	861	4	Queens	086100	4086100	E	QN52	East Flushing	4103	6463.37322492000	1603443.250699...
18	105	5	Staten Island	010500	5010500	I	SI35	New Brighton-...	3903	12556.27097240...	8794153.039820...
19	448	4	Queens	044800	4044800	E	QN35	Briarwood-Jam...	4106	7015.86705792000	2240965.795560...
20	47	5	Staten Island	004700	5004700	I	SI08	Grymes Hill-Cli...	3903	14587.60253030...	9229525.888639...
21	570	3	Brooklyn	057000	3057000	I	BK17	Sheepshead Ba...	4016	8653.41664162000	2824696.933730...

Show All Features

For more tips about dissolving shapefiles in QGIS, please click here.