

# Points in Polygon Analysis

QGIS Tutorials and Tips



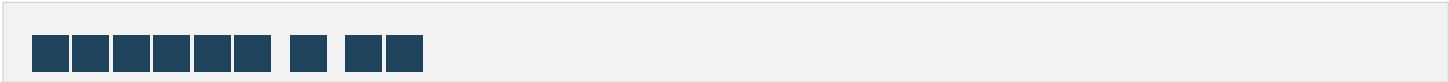
Author

Ujaval Gandhi

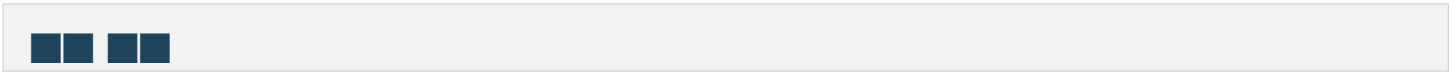
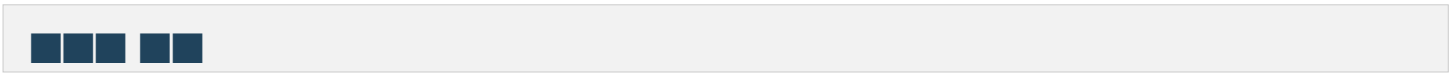
<http://google.com/+UjavalGandhi>

Translations by

SongHyun Choi



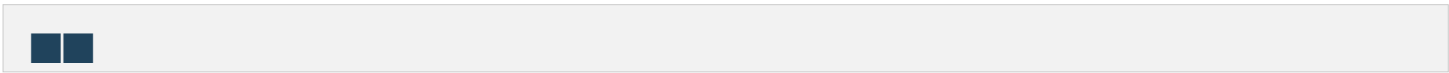
GIS is a tool that can be used to analyze spatial data. It can be used to create maps, perform spatial analysis, and manage spatial data. One of the most common applications of GIS is in the field of urban planning. GIS can be used to analyze the spatial distribution of land use, population, and other factors. This information can be used to make decisions about how to develop and manage urban areas. Another common application of GIS is in the field of environmental management. GIS can be used to analyze the spatial distribution of natural resources, such as forests, water, and wildlife. This information can be used to make decisions about how to manage and protect these resources. GIS is a powerful tool that can be used in a wide variety of applications. It is a tool that can help us understand the world around us and make better decisions about how to manage it.

[illegible]

■ ■ ■ ■ ■ ■ ■ ■ ■ ■ NOAA's National Geophysical Data Center ■ `Significant Earthquake Database <<http://www.ngdc.noaa.gov/nndc/struts/form?t=101650&s=1&d=1>>`\_ ■ ■ ■ ■ ■ . `tab-delimited earthquake data <[http://www.ngdc.noaa.gov/nndc/struts/results?type\\_0=Eact&query\\_0=\\$ID&t=101650&s=13&d=189&dfn=signif.txt](http://www.ngdc.noaa.gov/nndc/struts/results?type_0=Eact&query_0=$ID&t=101650&s=13&d=189&dfn=signif.txt)>`\_ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ .

Natural Earth ■ Admin 0 - Countries ■■■■■■ ■■■■ ■■■■■. `countries <[http://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne\\_10m\\_admin\\_0\\_countries.zip](http://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne_10m_admin_0_countries.zip)>`\_■ ■

■■■ ■■: [NGDC] [NATURALEARTH]



1. `## ## --> #### ## ## ## :menuselection:`Layer --> Add Delimited Text  
Layer` ## ##### `signif.txt`####.`



2. `*** ** *tab-delimited file*** ** :guiabel:`File format``  
`:guiabel:`Tab`` `X` `:guiabel:`X field`` `Y` `:guiabel:`Y field``  
`:guiabel:`OK``

## Note

QGIS is a free and open source GIS. It is a powerful tool for spatial data analysis and visualization. It can handle a wide range of data formats and is highly customizable.

**Create a Layer from a Delimited Text File**

File Name:

Layer name:  Encoding:

File format: ☐ CSV (comma separated values) ☒ Custom delimiters ☐ Regular expression delimiter

☐ Comma 
 ☒ Tab 
 ☐ Space 
 ☐ Colon 
 ☐ Semicolon

Other delimiters:  Quote:  Escape:

Record options: Number of header lines to discard:  ☒ First record has field names

Field options: ☐ Trim fields ☐ Discard empty fields ☐ Decimal separator is comma

Geometry definition: ☒ Point coordinates ☐ Well known text (WKT) ☐ No geometry (attribute only table)

☒ X field:  Y field: 
☐ DMS coordinates

Layer settings: ☒ Use spatial index ☐ Use subset index ☐ Watch file

	I_D	FLAG_TSUNAMI	YEAR	MONTH	DAY	HOUR	MINUTE	SECOND	FOCAL_DEPTH	EQ_MAG_MW	EQ_MAG
1	1		-2150								
2	2	Tsu	-2000								
3	3		-2000						18		7.1
4	8		-1566								
5	11		-1450								

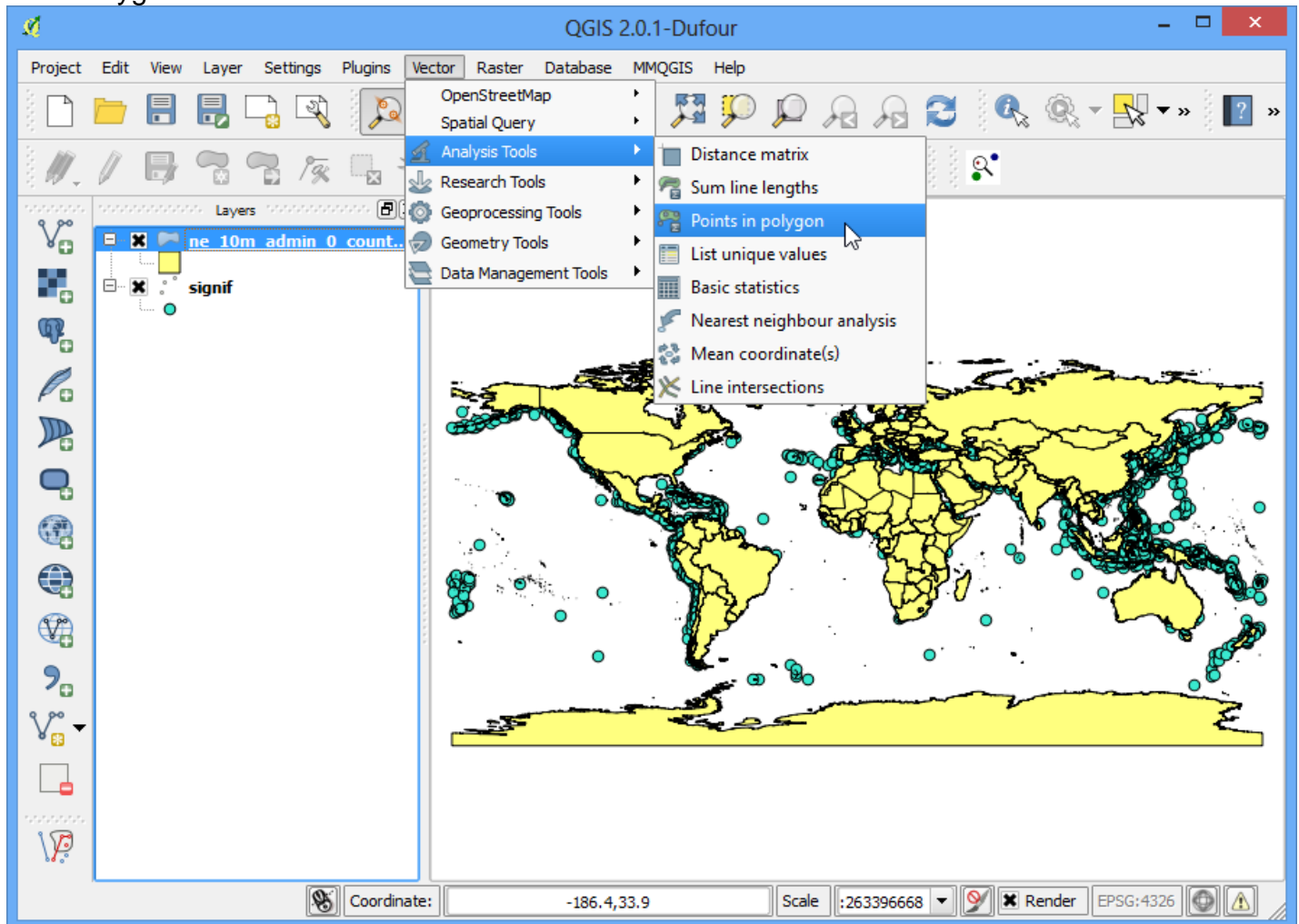
3.       *Coordinate Reference System Selector*  
   :guilabel:`WGS 84 EPSG:436`   .



4. **QGIS** **Layer** **Add Vector Layer** **ne\_10m\_admin\_0\_countries.zip** **Open** **Select layers to add...** **ne\_10m\_admin\_0\_countries.shp**



5. `menuselection:Vector --> Analysis Tools --> Point in Polygon``.

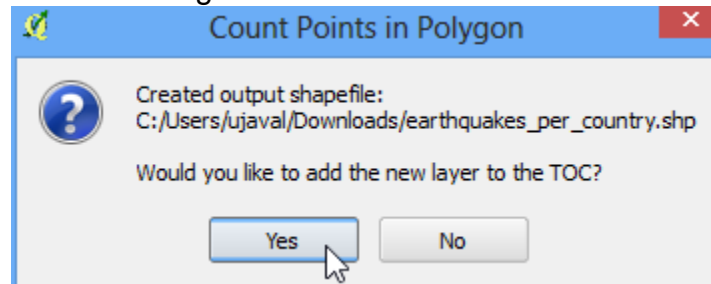


6. `earthquake_per_coutry.shp``. `:guilabel:OK``.

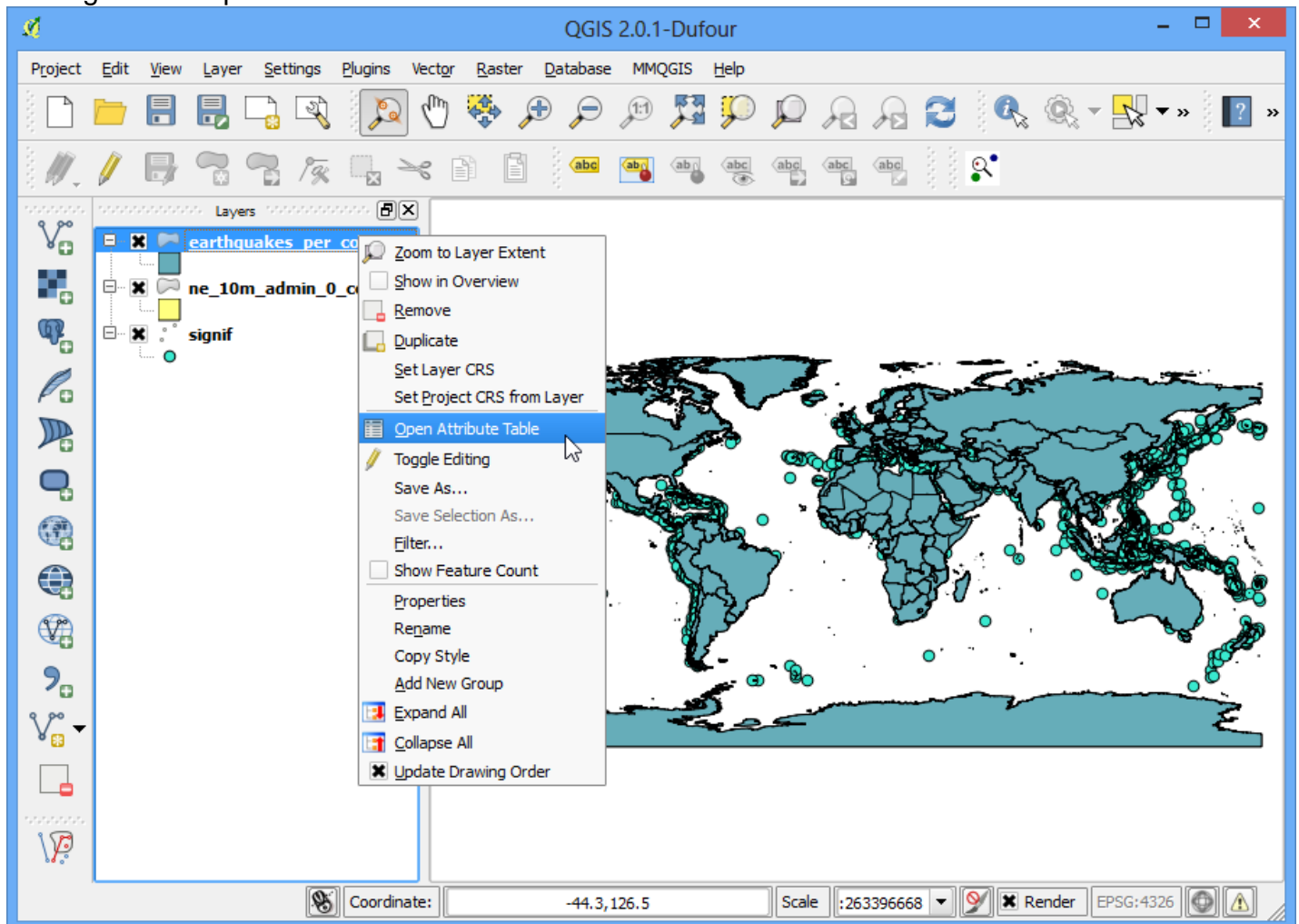
## Note

OK. QGIS 10.

7. TOC :guilabel: `Yes`.



8. TOC :guilabel: `Open Attribute Table`.



9. ``PNTCNT``.

Attribute table - earthquakes\_per\_country :: Features total: 255, filtered: 255, selected: 0

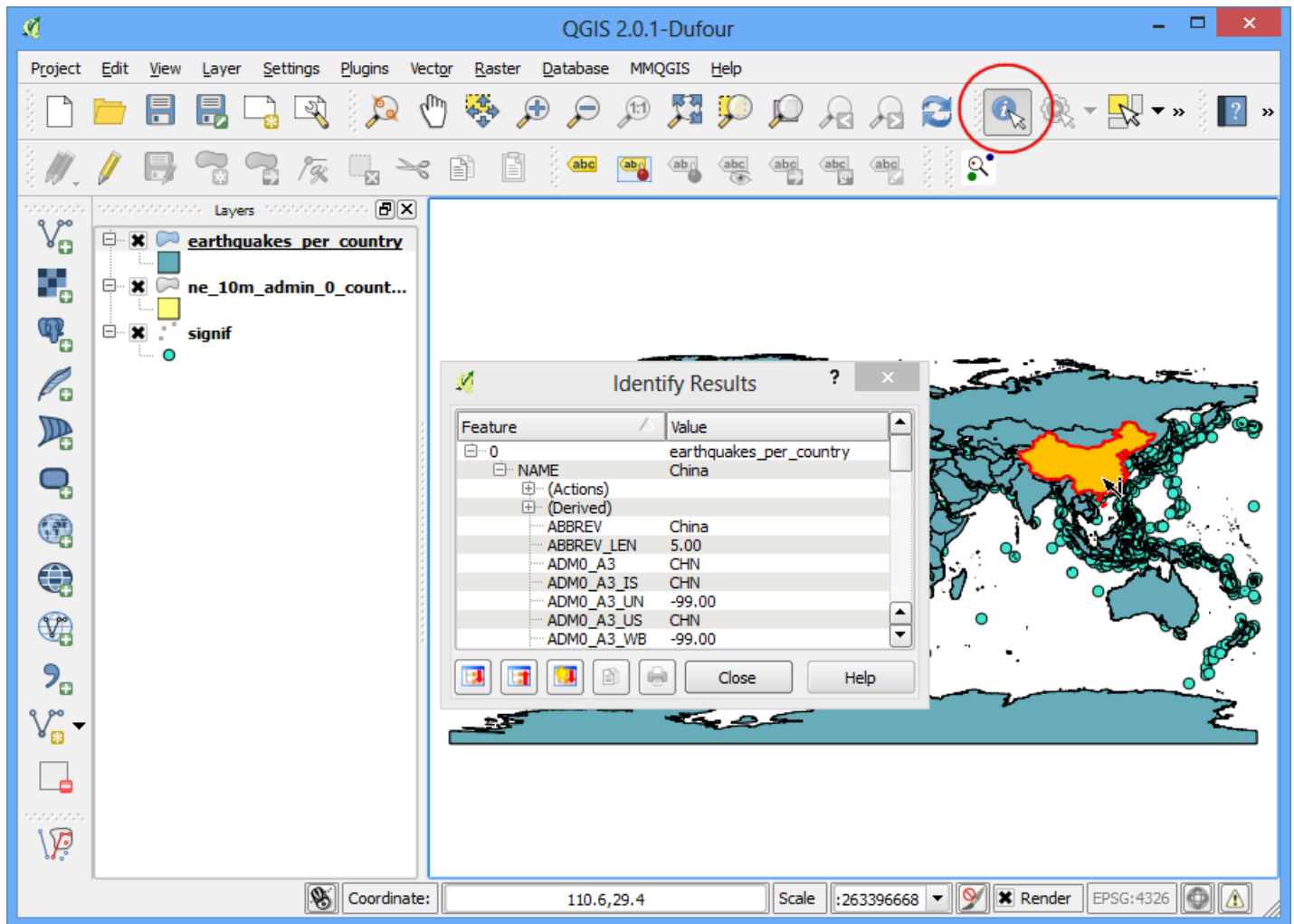
	REGION_WB	NAME_LEN	LONG_LEN	ABBREV_LEN	TINY	HOMEPART	PNTCNT
0	Latin America ...	5.00	5.00	5.00	4.00	-99.00	0.000000000000...
1	South Asia	11.00	11.00	4.00	-99.00	1.00	57.000000000000...
2	Sub-Saharan Af...	6.00	6.00	4.00	-99.00	1.00	0.000000000000...
3	Latin America ...	8.00	8.00	4.00	-99.00	-99.00	0.000000000000...
4	Europe & Centr...	7.00	7.00	4.00	-99.00	1.00	44.000000000000...
5	Europe & Centr...	5.00	13.00	5.00	5.00	-99.00	0.000000000000...
6	Europe & Centr...	7.00	7.00	4.00	5.00	1.00	0.000000000000...
7	Middle East & ...	20.00	20.00	6.00	-99.00	1.00	0.000000000000...
8	Latin America ...	9.00	9.00	4.00	-99.00	1.00	20.000000000000...
9	Europe & Centr...	7.00	7.00	4.00	-99.00	1.00	14.000000000000...
10	East Asia & Pac...	14.00	14.00	9.00	3.00	-99.00	0.000000000000...
11	Antarctica	10.00	10.00	4.00	-99.00	1.00	0.000000000000...
12	East Asia & Pac...	23.00	27.00	7.00	-99.00	-99.00	0.000000000000...
13	Sub-Saharan Af...	22.00	35.00	10.00	2.00	-99.00	0.000000000000...
14	Latin America ...	17.00	19.00	6.00	4.00	1.00	0.000000000000...
15	East Asia & Pac...	9.00	9.00	4.00	-99.00	1.00	9.000000000000...
16	Europe & Centr...	7.00	7.00	5.00	-99.00	1.00	4.000000000000...
17	Europe & Centr...	10.00	10.00	4.00	-99.00	1.00	15.000000000000...
18	Sub-Saharan Af...	7.00	7.00	4.00	-99.00	1.00	1.000000000000...
19	Europe & Centr...	7.00	7.00	5.00	-99.00	1.00	2.000000000000...
20	Sub-Saharan Af...	5.00	5.00	5.00	-99.00	1.00	1.000000000000...
21	Sub-Saharan Af...	12.00	12.00	4.00	-99.00	1.00	0.000000000000...

Show All Features

10. **Field Name:** PNTCNT **Field Type:** Double **Field Alias:** PNTCNT **Field Description:** Number of points per country. **Field Units:** **Field Precision:** 2 **Field Scale:** 0.000000000000.







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