

# Points in Polygon Analysis

QGIS Tutorials and Tips



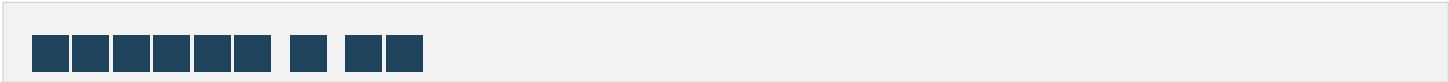
Author

Ujaval Gandhi

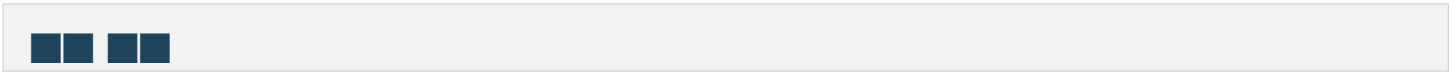
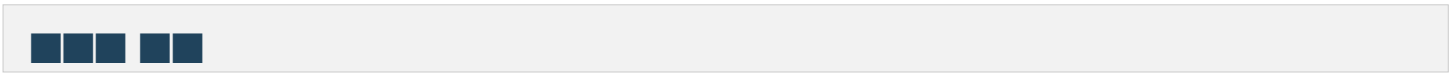
<http://google.com/+UjavalGandhi>

Translations by

SongHyun Choi



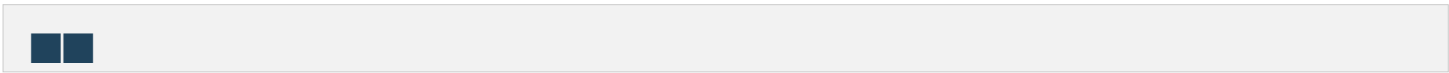
**GIS** ■■■ ■■ ■■ ■■■ ■■■ ■■■■ ■■ ■■■■■ ■■■■. ■■ ■■■■ ■■ ■■■ ■■ ■■■■ ■■ ■■  
■■■ ■■■■ ■■■■■ ■■ ■■■ ■ ■■■ ■■■■. ■■■ ■■■ ■■■ **\*\*Points-in-Polygon\*\*** ■■■■. ■■■  
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■■■■■■ ■■■ ■ ■■■■.

[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`█ █ █ █ █ █ .
```



**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 |       |     |      |        |        |             |           |        |

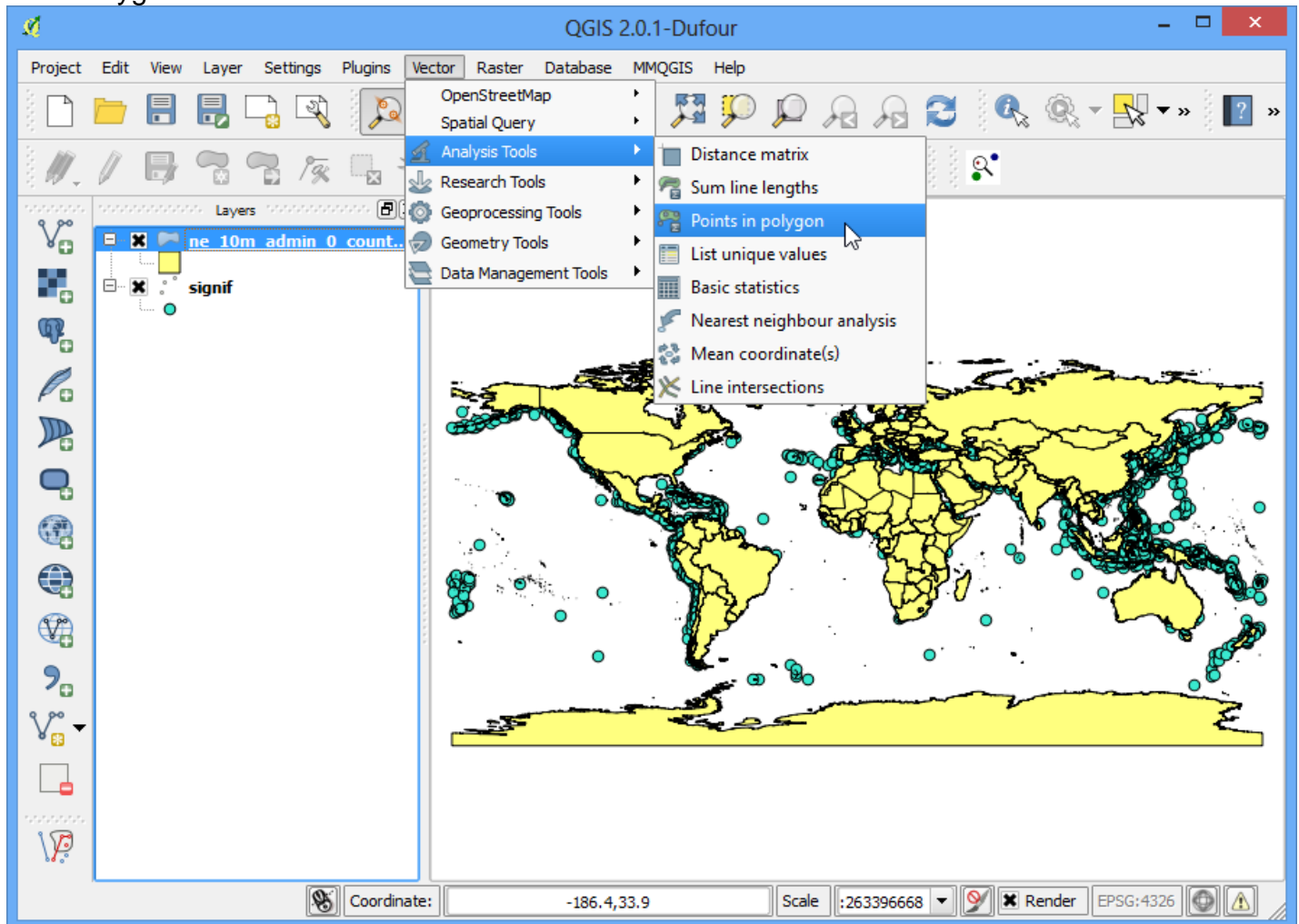
3.    Coordinate Reference System Selector  
   :guilabel:`WGS 84 EPSG:436`   .



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``.

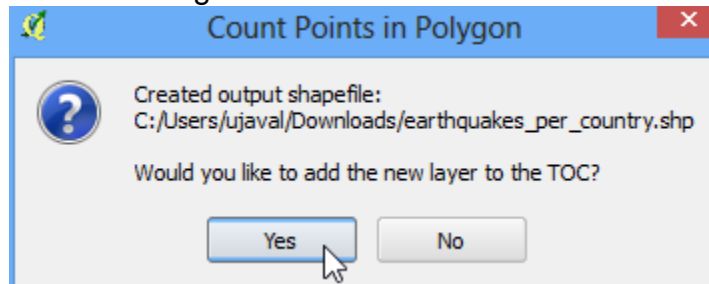


6. `earthquake_per_coutry.shp``. `:guilabel:OK``.

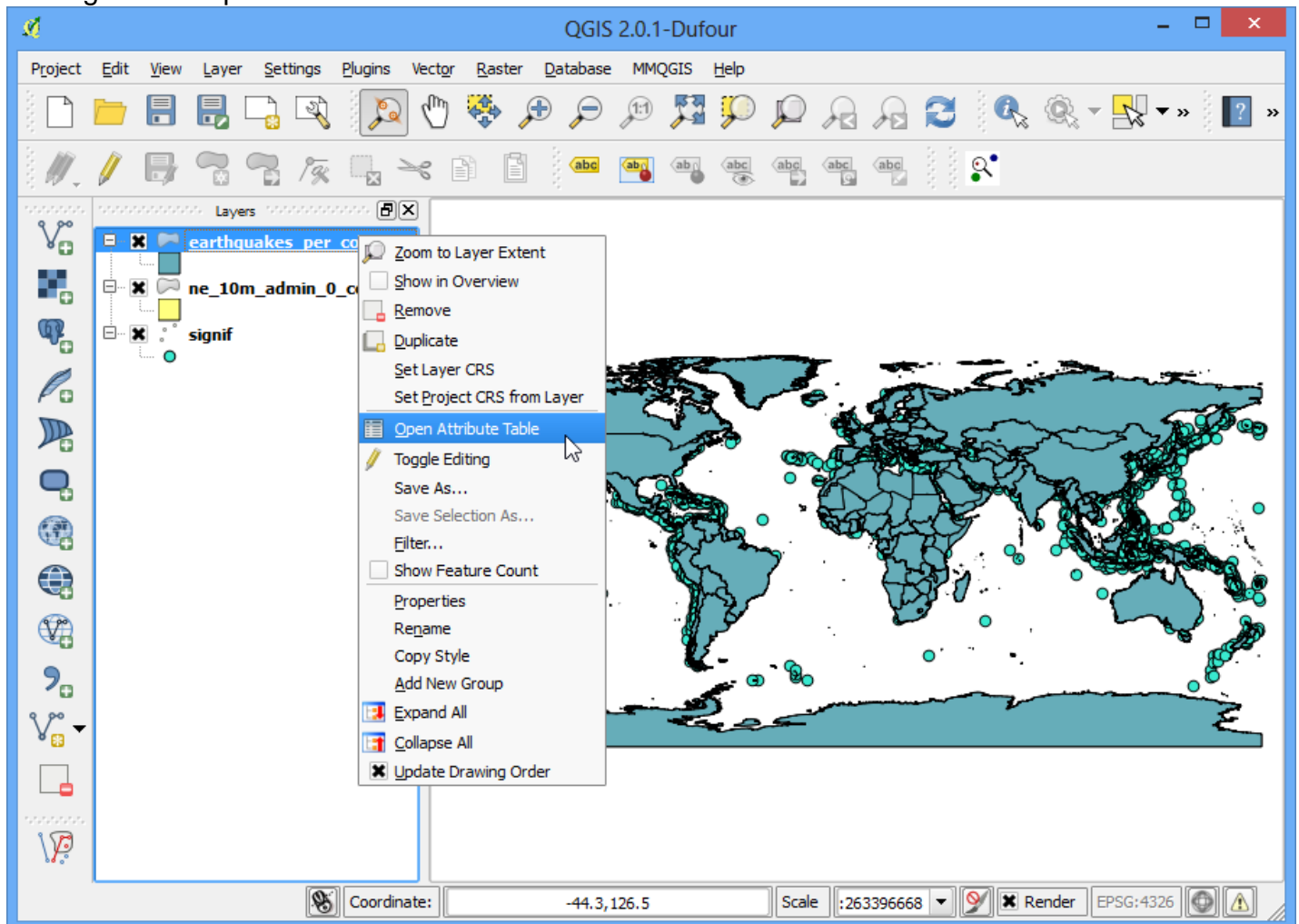
## Note

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.







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