

# Nearest Neighbor Analysis

QGIS Tutorials and Tips



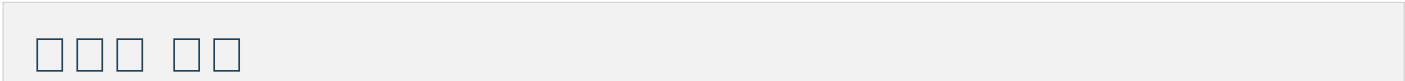
Author

Ujaval Gandhi

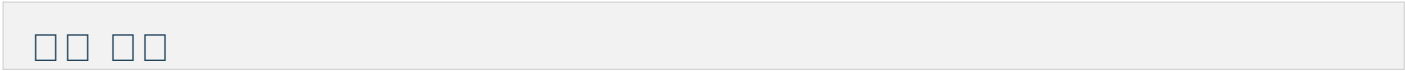
<http://google.com/+UjavalGandhi>

Translations by

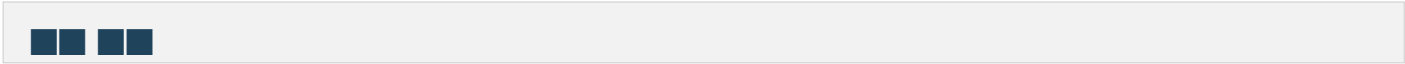
SongHyun Choi



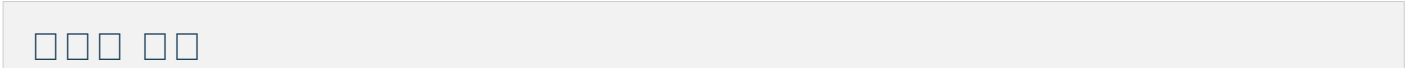
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- QGISのドキュメントを参照して、(「表を結合して表示」のドキュメントを参照してください。)



NOAA's National Geophysical Data Center  
Significant Earthquake Database  
tab-delimited earthquake data <[http://www.ngdc.noaa.gov/nndc/struts/results?type=0=Exact&query\\_0=\\$ID&t=101650&s=13&d=189&dfn=signif.txt](http://www.ngdc.noaa.gov/nndc/struts/results?type=0=Exact&query_0=$ID&t=101650&s=13&d=189&dfn=signif.txt)>

Natural Earth                   **Populated Places**   

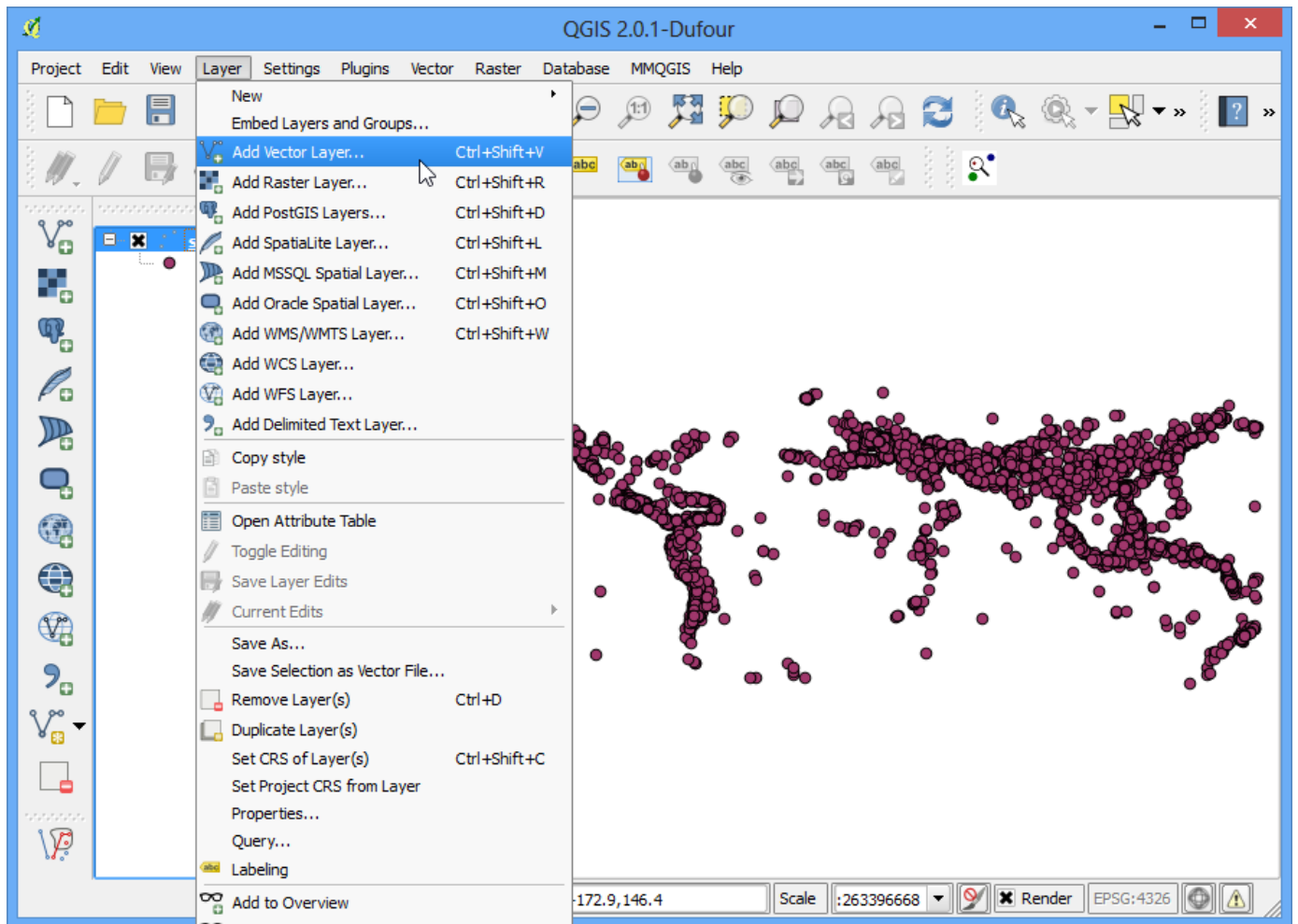
1. 00: 0000 --> 0000 000 000 0000 00...:menuselection: `Layer --> Add  
Delimited Text Layer` 0 00 000000 `signif.txt` `0000 0000`.



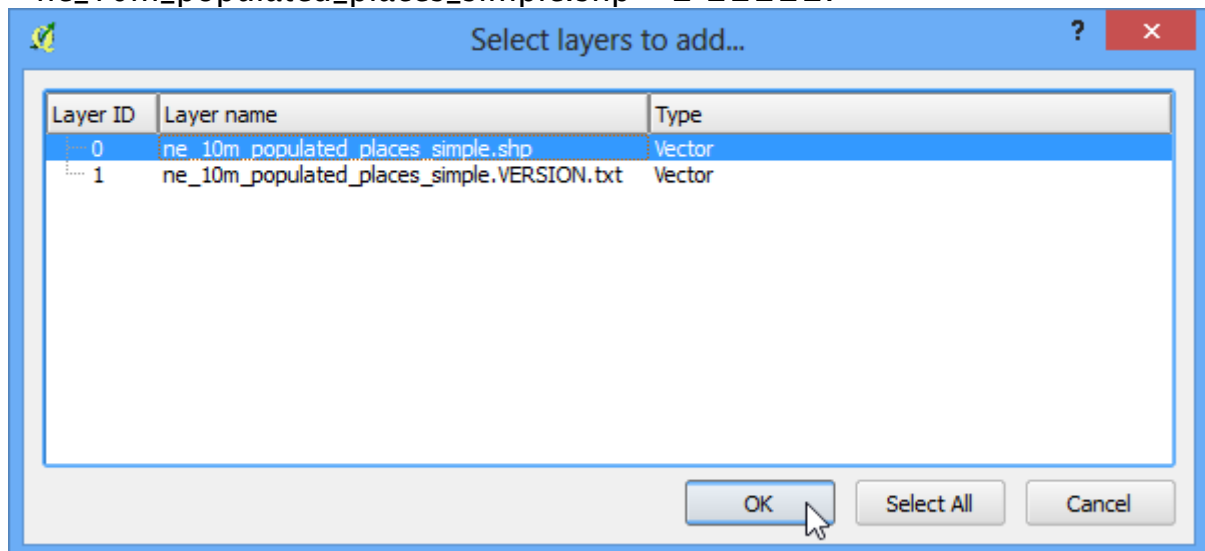




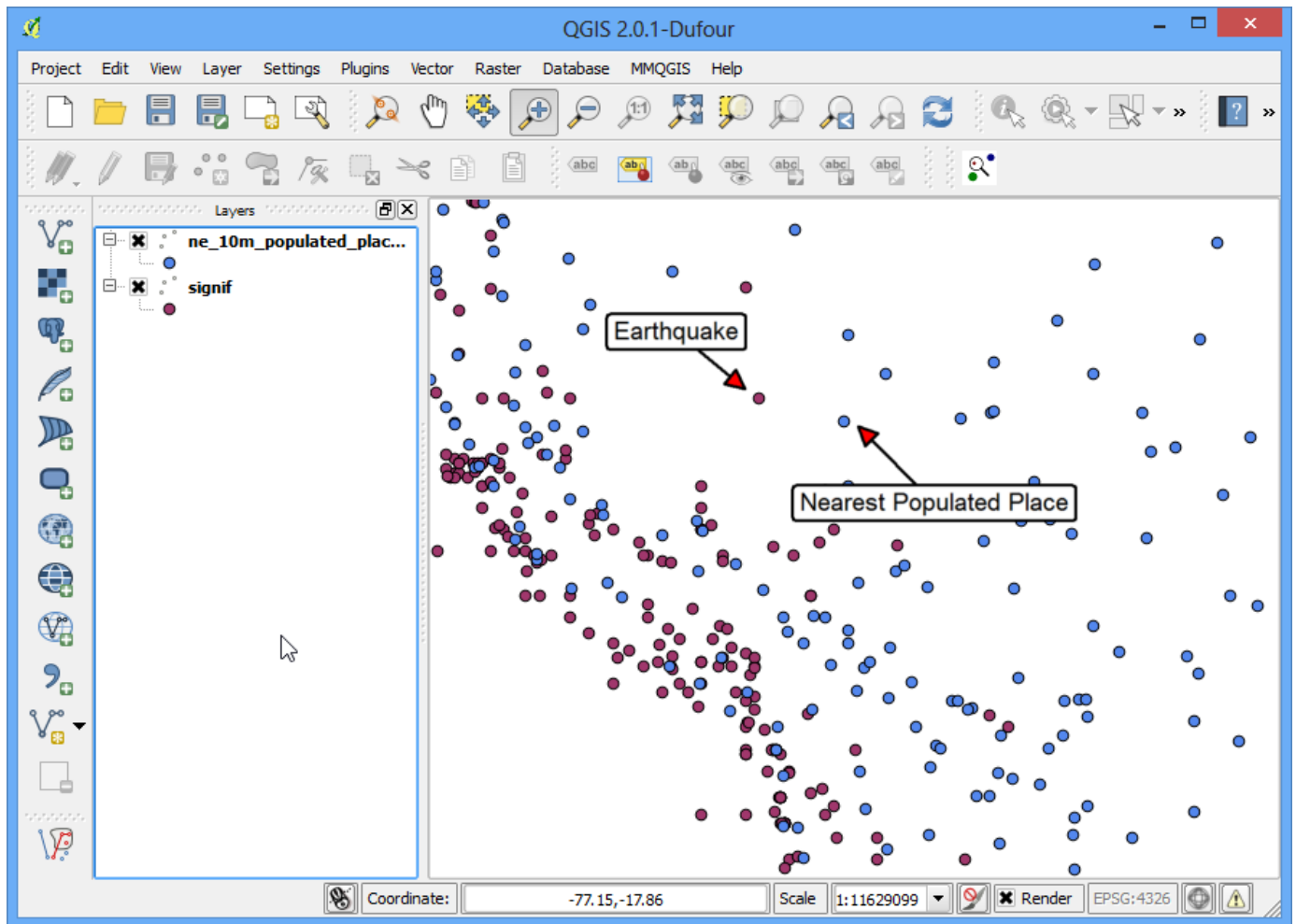
4. □□ □□□ QGIS □ □□□□□ □□□□. □□□□□ □□□ □□□□□□□□. □□ □□ -->  
 □□□ □□ --> □□□□□ □□ :menuselection: `Layer --> Add Vector Layer` □ □□□.



5. `ne_10m_populated_places_simple.zip` :guilabel: `Open`  
`ne_10m_populated_places_simple.shp` :guilabel: `Select layers to add...`



6. `ne_10m_populated_places_simple.shp` :guilabel: `Open`  
`ne_10m_populated_places_simple.VERSION.txt` :guilabel: `Select layers to add...`



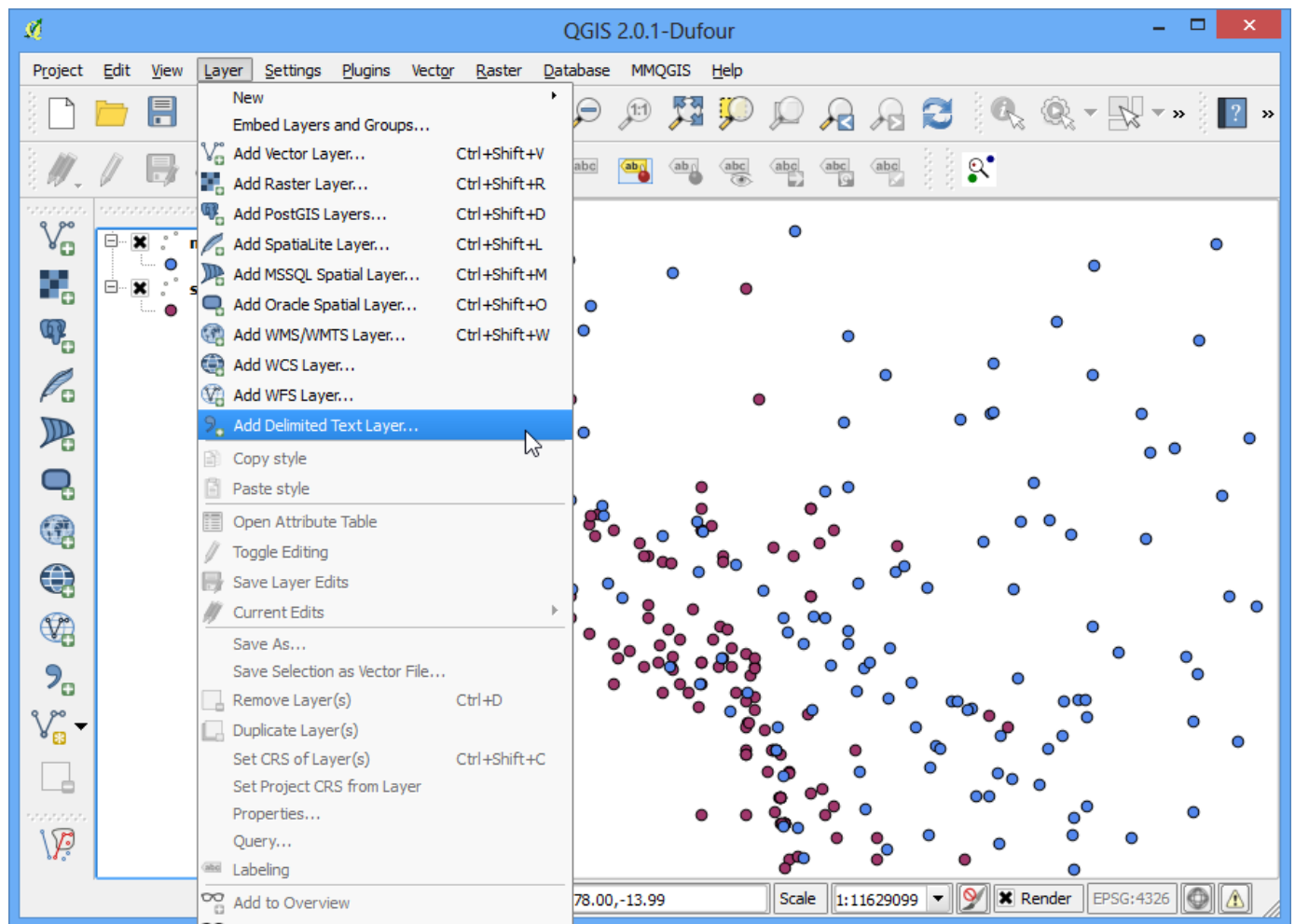
7. □□ □□ --> □□ □□ --> □□□□□□□□ :menuselection: `Vector --> Analysis Tools --> Distance Matrix` □ □□□.





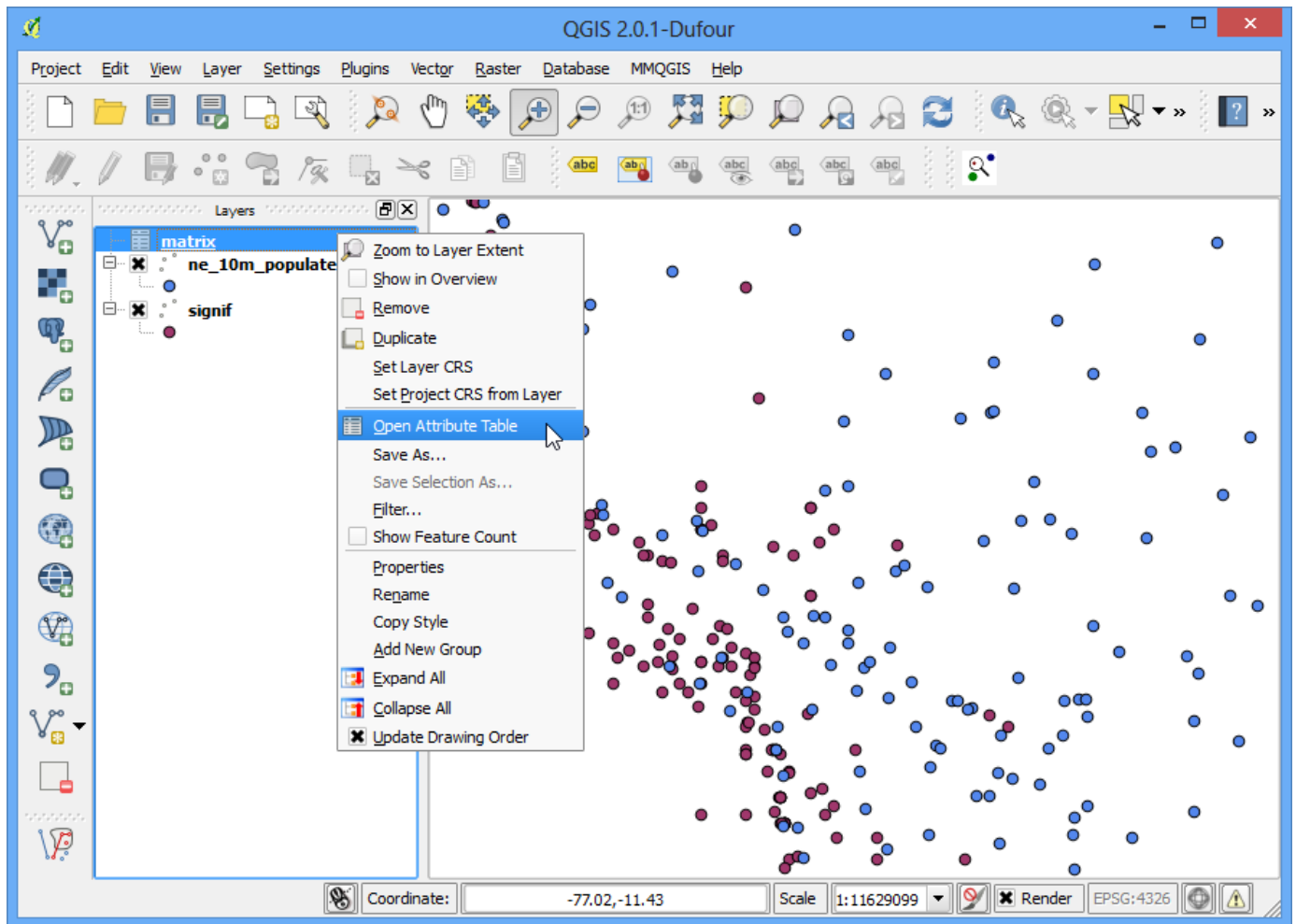


9. □□ □□□ □□□□, □□□□ □□ □□ □□ □□□□ □□□ □ □ □□□□. QGIS□ CSV□□□ □□□□ □ □□□□. □□□ □□□ QGIS□ □□□□ □□□ □□□. □□ □□□ --> □□□□ □□□ □□□ □□□ □□... :menuselection: `Layer --> Add Delimited Text Layer...` □ □□□.



10. `matrix.csv` `Geometry definition` `No geometry (attribute only table)` `OK`.





12. `Distance = sqrt((InputID - TargetID) * (InputID + TargetID))`.  
 :guilabel: `Distance` `Distance = sqrt((InputID - TargetID) * (InputID + TargetID))`.

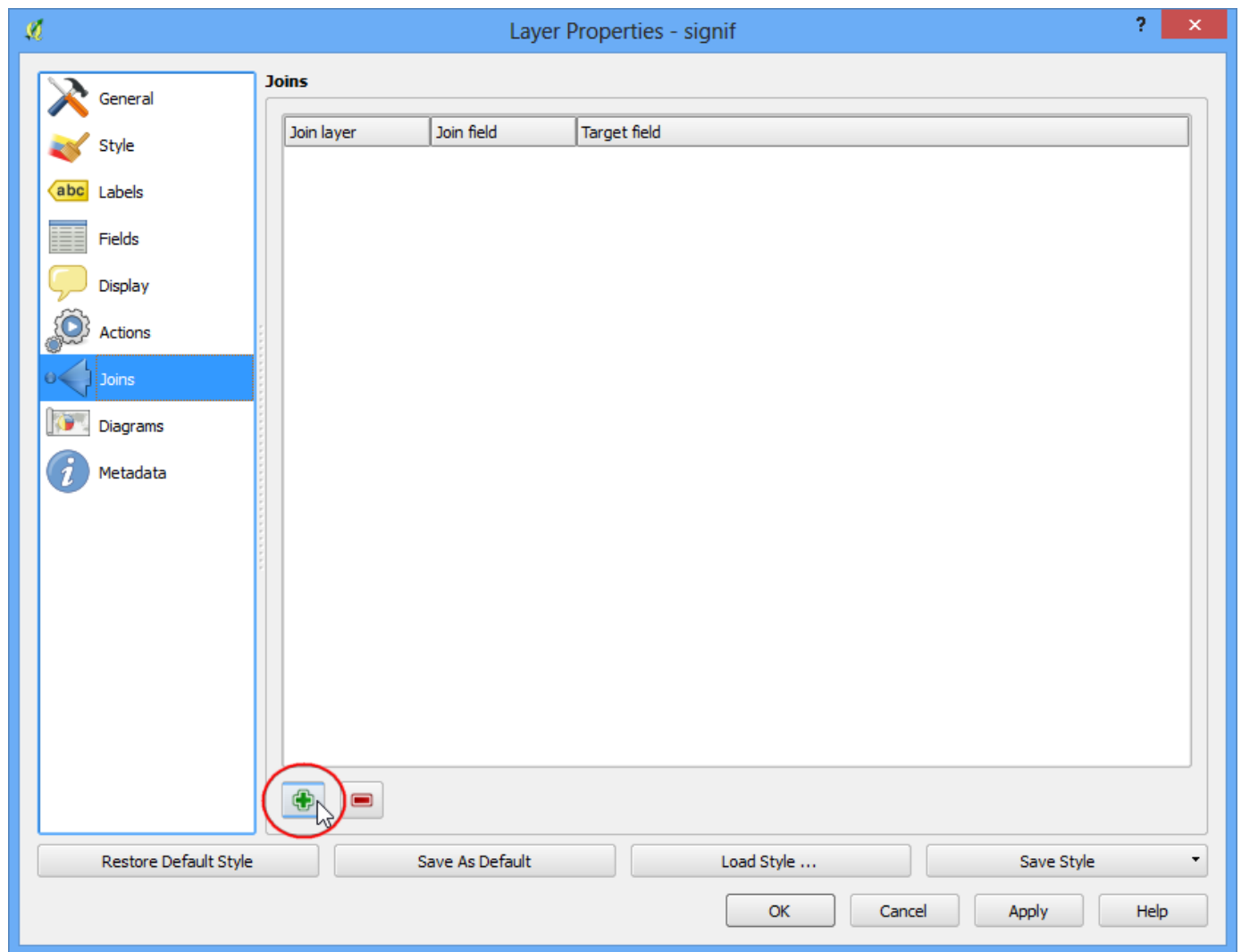
### Note

`Distance` is the distance between the input and target points in decimal degrees. The distance is calculated using the Haversine formula. The distance is calculated using the Haversine formula. The distance is calculated using the Haversine formula.

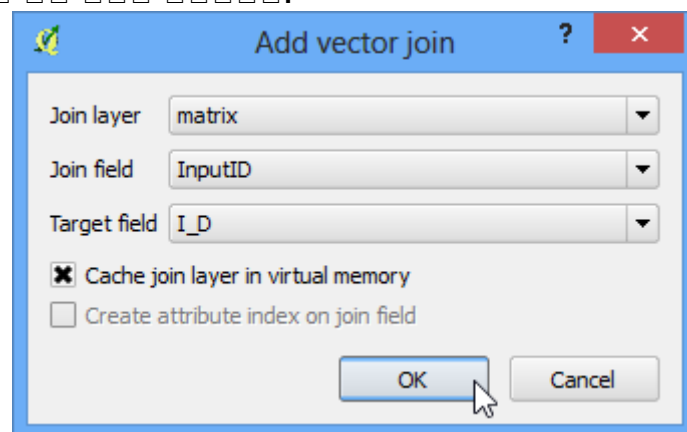




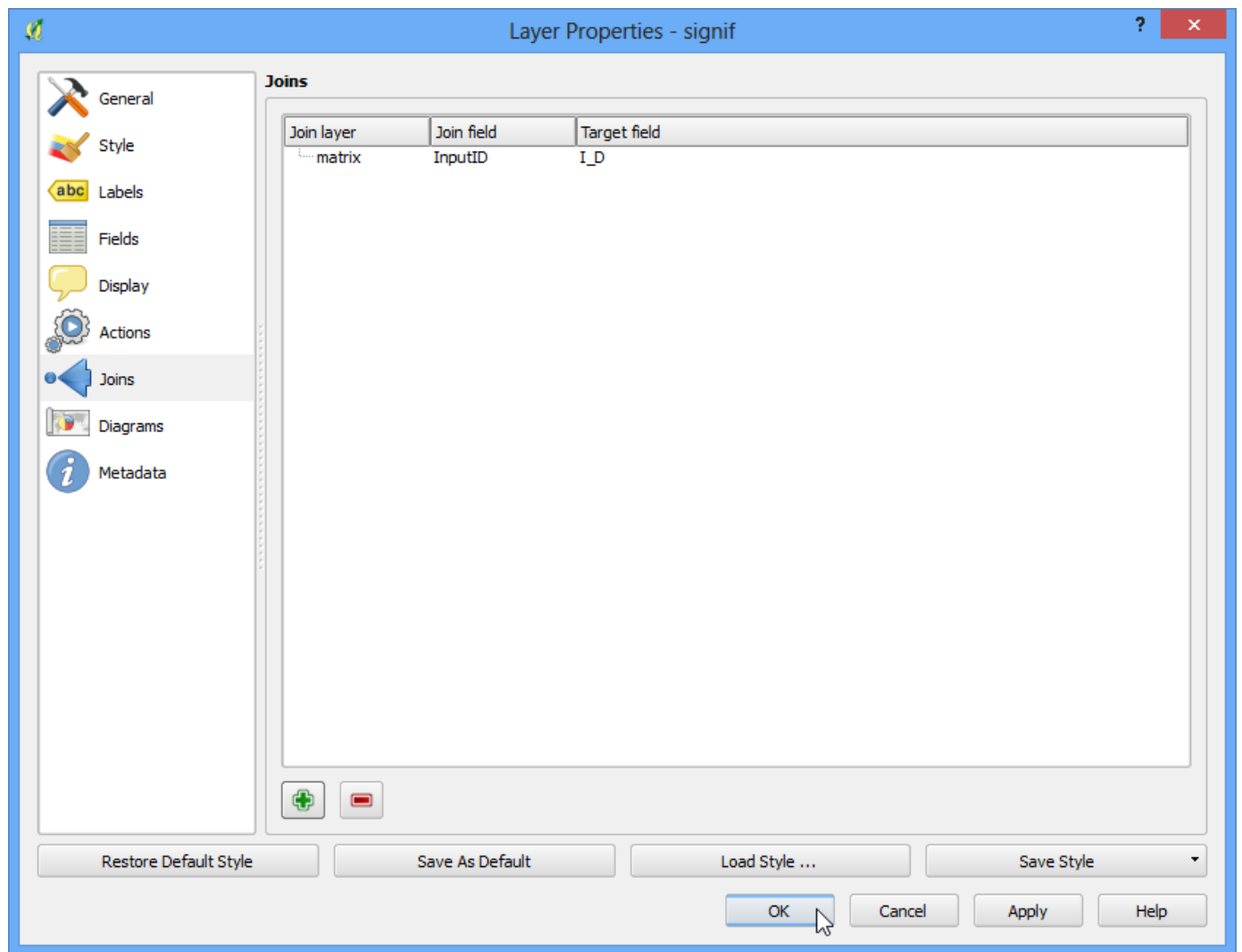
14. □□ Joins □□□ □□ + □□□ □□□□□□.



15. `matrix.csv` 파일을 불러와서 연결할 수 있는 방법을 찾아주세요. (힌트: 'Joins' 탭에서 'Add vector join' 버튼을 클릭하세요.)



16. 'Joins' 탭에서 'Add vector join' 버튼을 클릭하여 'matrix.csv' 파일을 연결하고, 'OK' 버튼을 클릭하여 설정을 저장하세요.



17. □□ □□□□ □□ □□ □□□□ □□□□□□ □□ □□□□ □□□ □□□□□.





| Attribute table - signif :: Features total: 5727, filtered: 5727, selected: 0 |              |                |                 |              |               |                   |                  |  |
|---|--------------|----------------|-----------------|--------------|---------------|-------------------|------------------|--|
|   | DAMAGE_DESCR | L_HOUSES_DESTR | SES_DESTROYED_I | L_HOUSES_DAM | SES_DAMAGED_D | matrix_TargetID   | matrix_Distance  |  |
| 0   | NULL         | NULL           | NULL            | NULL         | NULL          | Al Karak          | 0.221721171014   |  |
| 1   | NULL         | NULL           | NULL            | NULL         | NULL          | Al Ladhiqiyah     | 0.144408036939   |  |
| 2   | 1            | NULL           | 1               | NULL         | NULL          | Buzmeyin          | 0.0526324624814  |  |
| 3   | NULL         | NULL           | NULL            | NULL         | NULL          | Al Khalil         | 0.208418004566   |  |
| 4   | NULL         | NULL           | NULL            | NULL         | NULL          | Iraklio           | 0.408843567409   |  |
| 5   | 3            | NULL           | NULL            | NULL         | NULL          | Iraklio           | 1.1082549107     |  |
| 6   | 3            | NULL           | NULL            | NULL         | NULL          | Al Ladhiqiyah     | 0.144408036939   |  |
| 7   | NULL         | NULL           | NULL            | NULL         | NULL          | As Salt           | 0.230569794451   |  |
| 8   | NULL         | NULL           | NULL            | NULL         | NULL          | Al Aqabah         | 0.10661139997    |  |
| 9   | NULL         | NULL           | NULL            | NULL         | NULL          | Al Qunaytirah     | 0.34713470868    |  |
| 10  | NULL         | NULL           | NULL            | NULL         | NULL          | Nabatiye et Tahta | 0.256395311798   |  |
| 11  | NULL         | NULL           | NULL            | NULL         | NULL          | Sparti            | 0.101878534504   |  |
| 12  | NULL         | NULL           | NULL            | NULL         | NULL          | Saida             | 0.00326167893321 |  |
| 13  | NULL         | NULL           | NULL            | NULL         | NULL          | Piraiévs          | 0.206150410754   |  |
| 14  | NULL         | NULL           | NULL            | NULL         | NULL          | Volos             | 0.4810609473     |  |
| 15  | 1            | NULL           | 1               | NULL         | NULL          | Sparti            | 0.101878534504   |  |
| 16  | 3            | NULL           | 3               | NULL         | NULL          | Lamia             | 0.265998307404   |  |
| 17  | 3            | NULL           | NULL            | NULL         | NULL          | Varamin           | 0.239101501046   |  |
| 18  | 3            | NULL           | 3               | NULL         | NULL          | Patra             | 0.520403483984   |  |
| 19  | 1            | NULL           | NULL            | NULL         | NULL          | Iraklio           | 0.350232618378   |  |
| 20  | NULL         | NULL           | NULL            | NULL         | NULL          | Kavala            | 1.1152439462     |  |
| 21  | NULL         | NULL           | NULL            | NULL         | NULL          | Raikot            | 0.717056768568   |  |