

Creating Heatmaps

QGIS Tutorials and Tips



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클러스터 분석은 데이터를 그룹화하는 방법이다. 클러스터 분석은 데이터의 유사성을 기반으로 데이터를 그룹화한다. 클러스터 분석은 데이터의 구조를 이해하고, 패턴을 발견하고, 이상치를 탐지하는 데 사용된다. 클러스터 분석은 마케팅, 생물학, 사회과학 등 다양한 분야에서 활용된다.

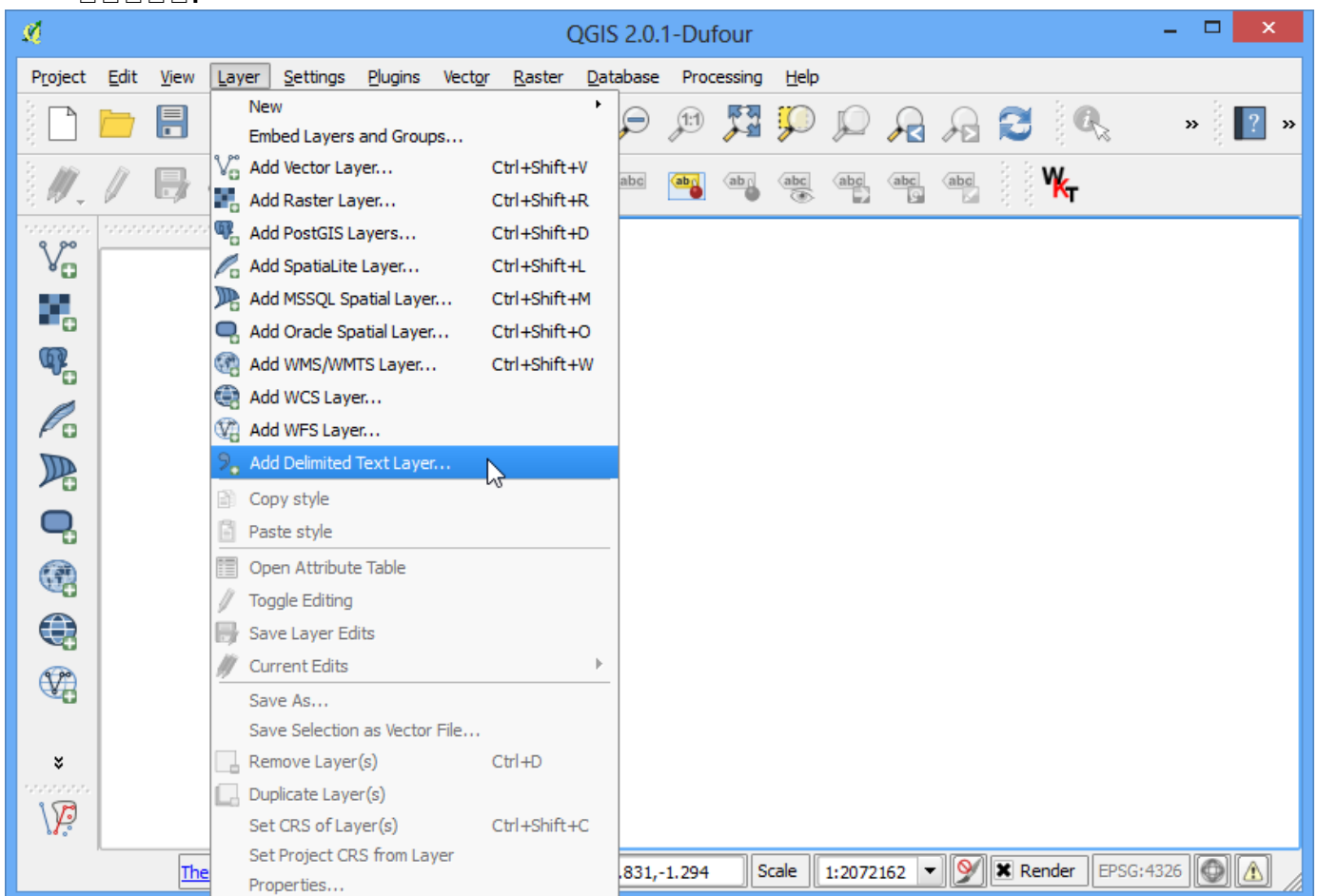
[illegible]

raw data from the Police.uk crime mapping website
<<http://data.london.gov.uk/datastore/package/policeuk-crime-data>>_

Download the [Surrey data](#).

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- ```
1. ##### ### ## #####. ##### CSV##### ## #####. QGIS# # #####
#####(##### :doc:`importing_spreadsheets_csv`# #####). ## ##### -->
:menuselection:`Layer --> Add Delimited Text Layer`#
#####.
```



2.  police-uk-crime-data-surrey.txt   :guilabel:`CSV  
(comma separated values)`  \*Easting\*  \*Northing\*  X  Y   
 :guilabel:`Use spatial index` ☐ ☐ ☐  
 :guilabel:`OK`

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

File Name:

Layer name:  Encoding:

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

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

|   | ID     | Month   | Reported by   | Falls within  | Easting   | Northing  | Location                  | Crime type | Conte |
|---|--------|---------|---------------|---------------|-----------|-----------|---------------------------|------------|-------|
| 1 | 480097 | 2010-12 | Surrey Police | Surrey Police | 532773.00 | 156680.00 | On or near Addison Road   | Burglary   |       |
| 2 | 480098 | 2010-12 | Surrey Police | Surrey Police | 498361.00 | 149806.00 | On or near The Oval       | Burglary   |       |
| 3 | 480099 | 2010-12 | Surrey Police | Surrey Police | 498205.00 | 165251.00 | On or near Albury Close   | Burglary   |       |
| 4 | 480100 | 2010-12 | Surrey Police | Surrey Police | 507437.00 | 174069.00 | On or near Sanctuary Road | Burglary   |       |
| 5 | 480101 | 2010-12 | Surrey Police | Surrey Police | 498205.00 | 165251.00 | On or near Albury Close   | Burglary   |       |

3. `guiLabel: `Close``

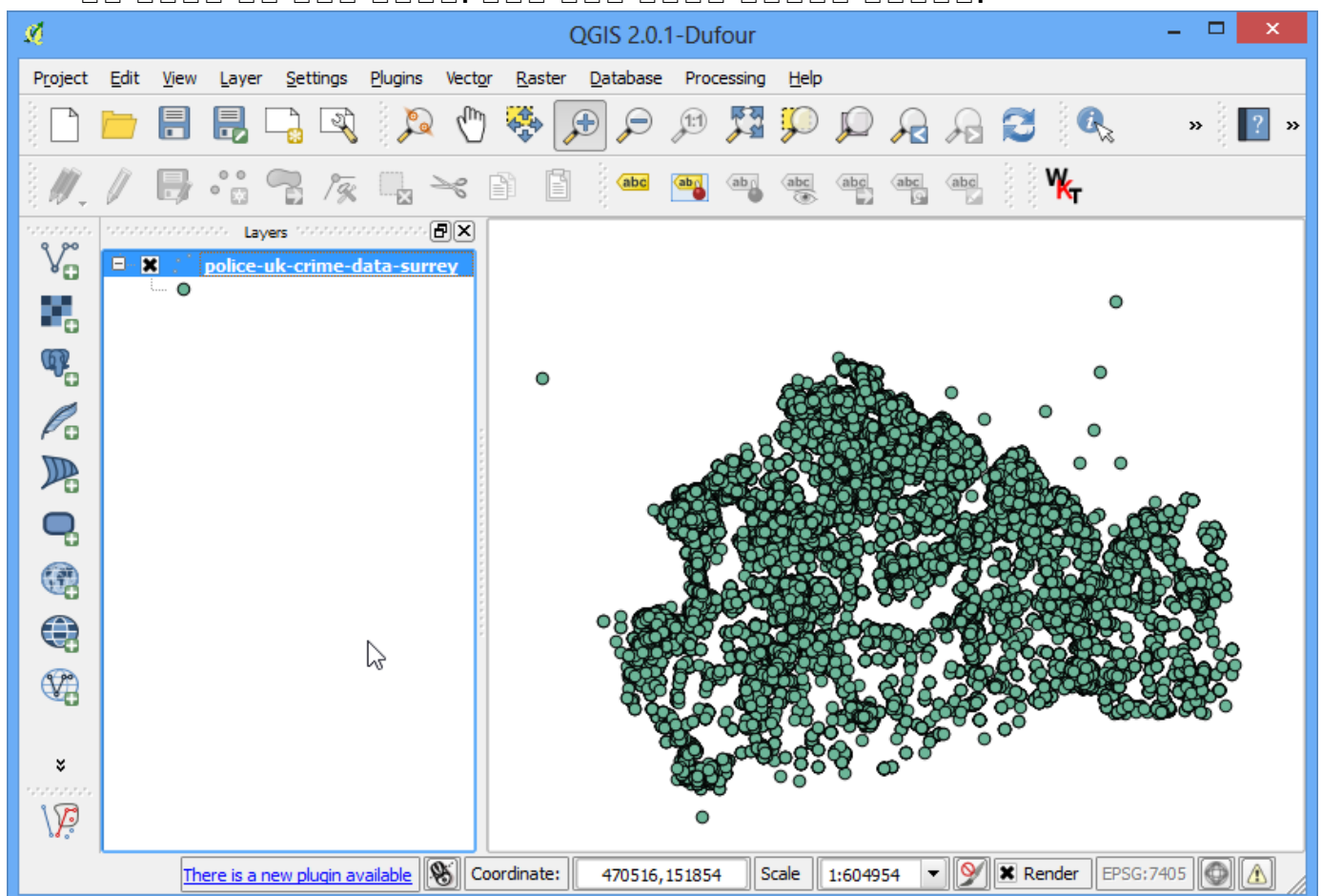
**Delimited text file errors**

Errors in file C:/Users/ujaval/Downloads/police-uk-crime-data-surrey/police-uk-crime-data-surrey.txt  
1969 records discarded due to missing geometry definitions

4. `guiLabel: `OSGB 1936 / British National Grid``  
`guiLabel: `OK``



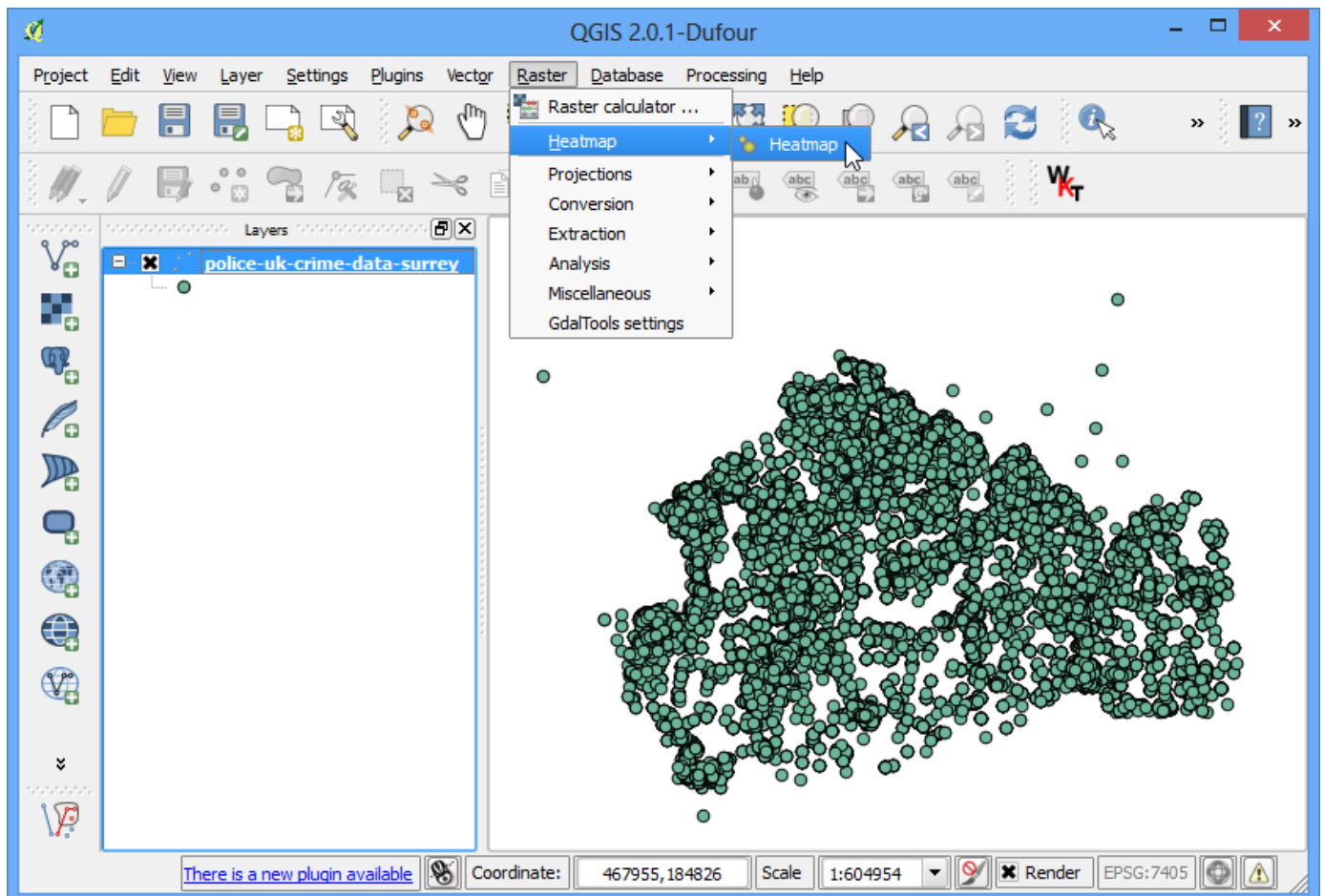
5. □□ QGIS □ □□□ □□□□□ □ □ □□□.

[illegible]

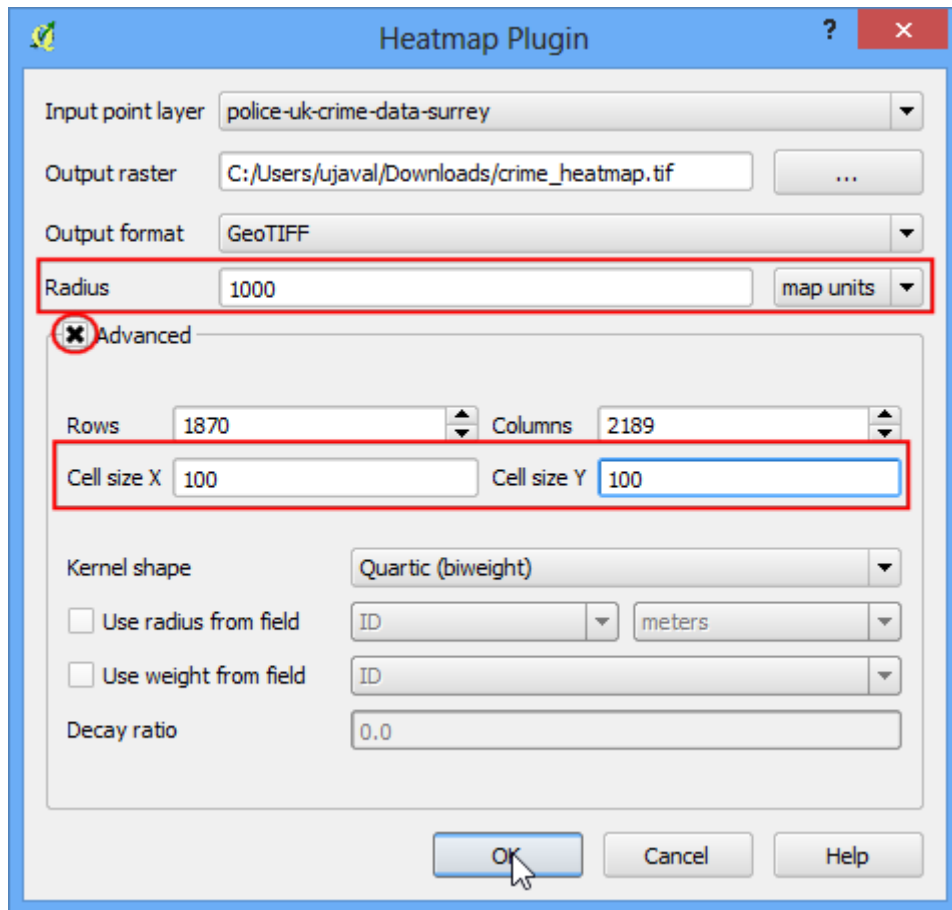
7. To create the heatmap, you need to enable a core plugin named *Heatmap*. See [this post](#) to know how to enable built-in plugins. Once you have enabled the plugin, go to Raster › Heatmap › Heatmap.

## Warning

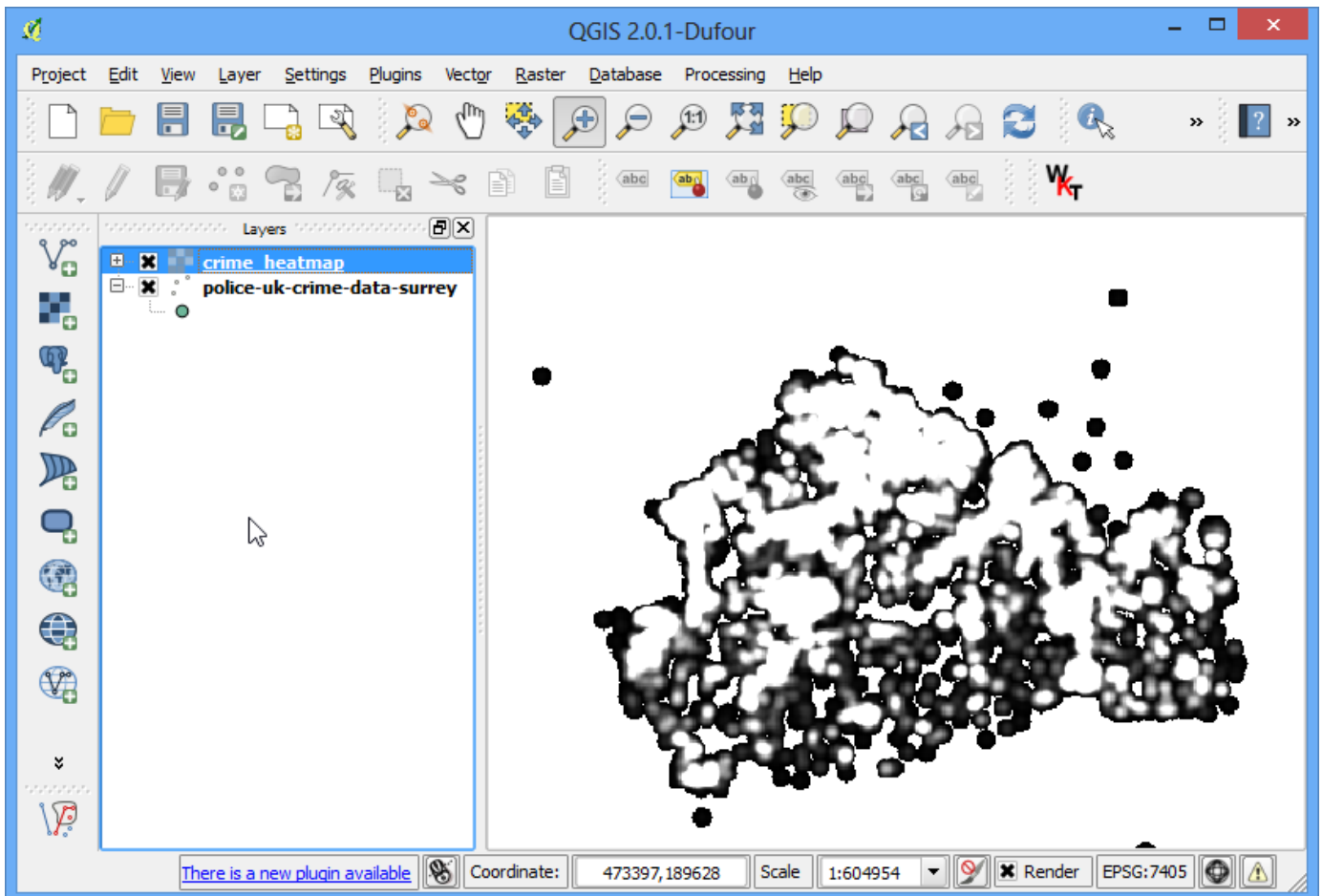
The Heatmap plugin has a bug in QGIS 2.8.1. See [this post](#) for workarounds.



8. `guiabel: Heatmap Plugin` `guiabel: Output raster` `crime_heatmap` `guiabel: Radius` `1000` `heat` `guiabel: Advanced` `guiabel: Cell Size X` `Cell Size Y` `100` `guiabel: OK`

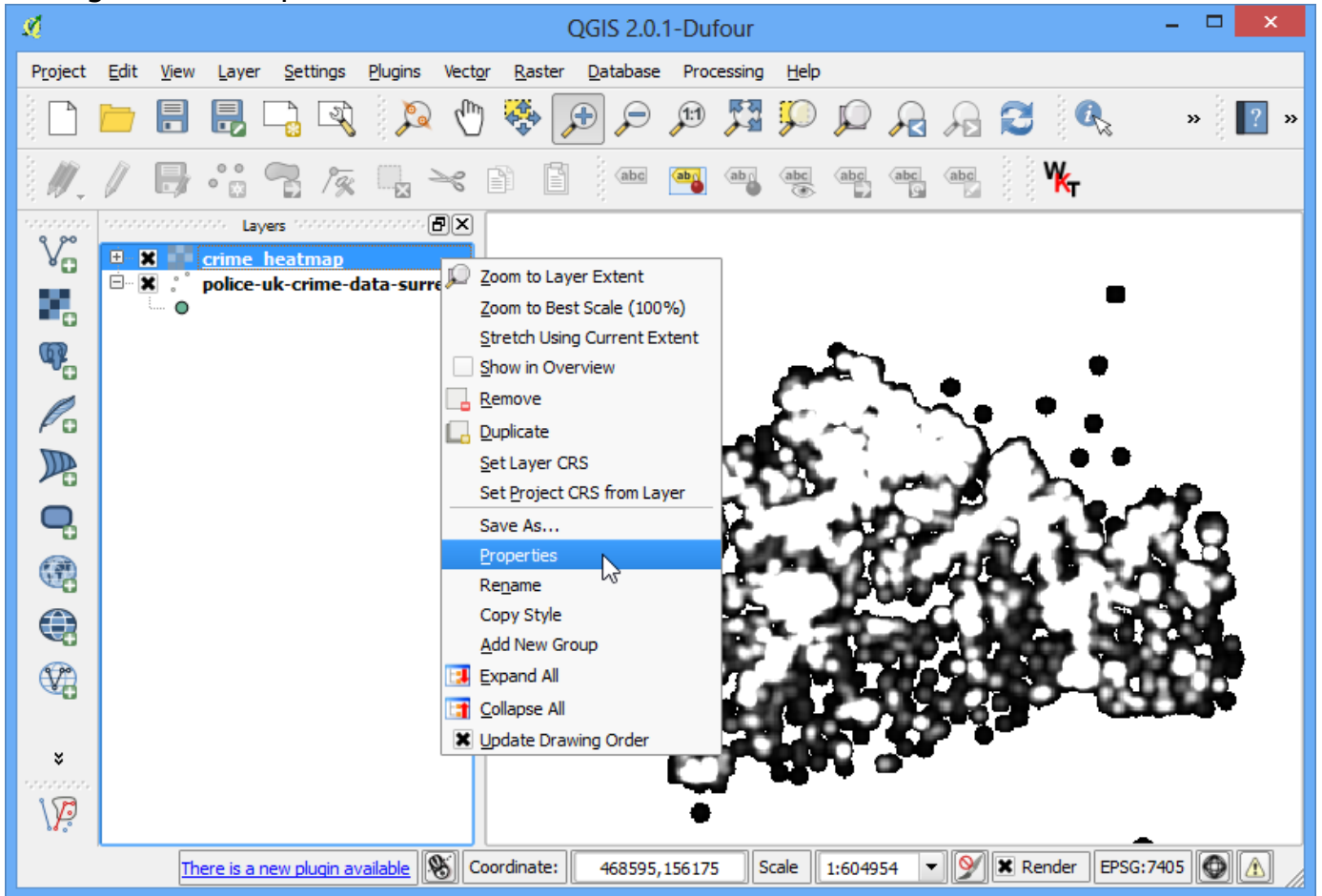


9. □□ □□□ □□□□ □□□□ □□ □□□□ □□ □□□□.





10. Click on the 'Properties' button in the Layer Properties dialog box.



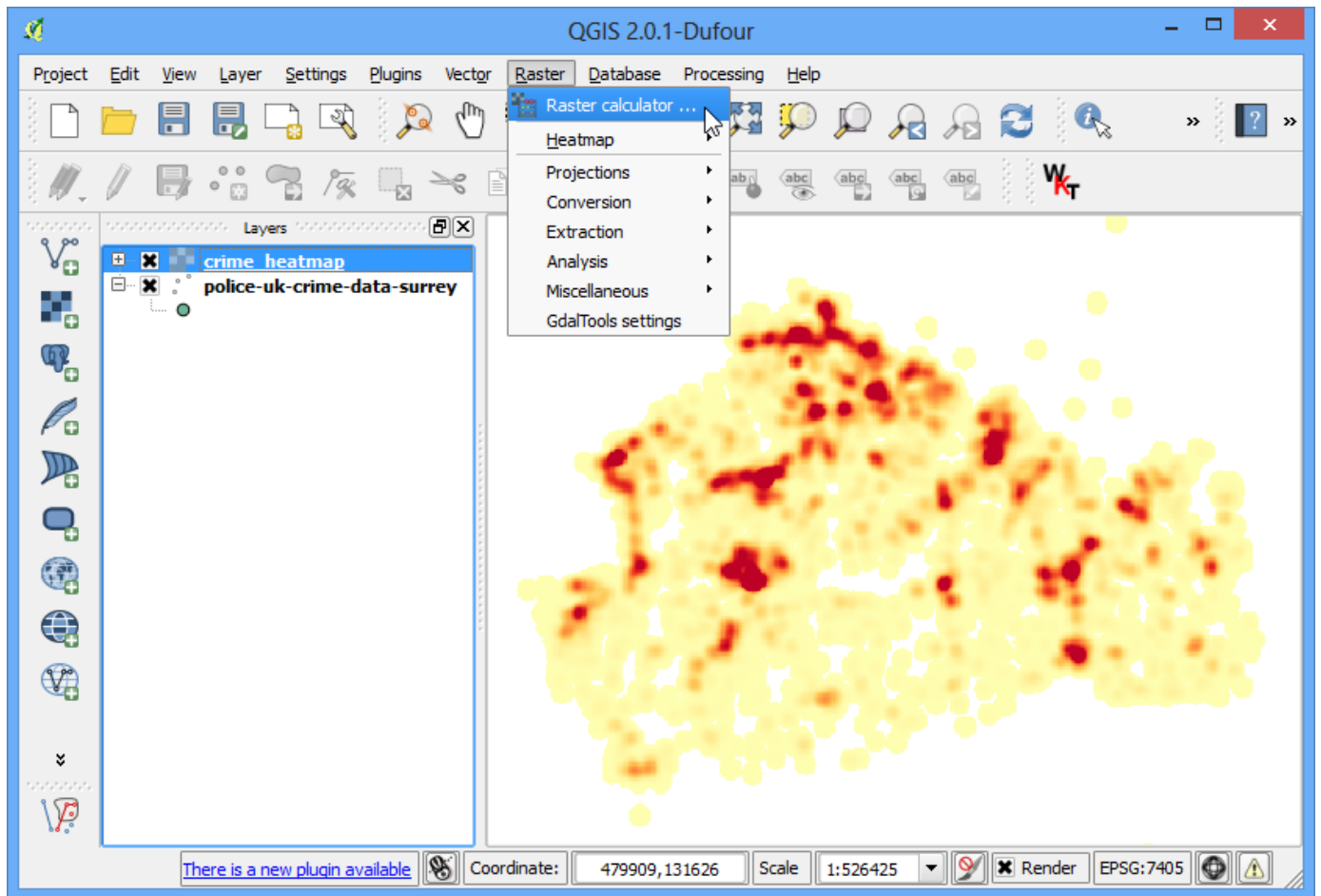
11. Click on the 'Render' button in the Layer Properties dialog box.



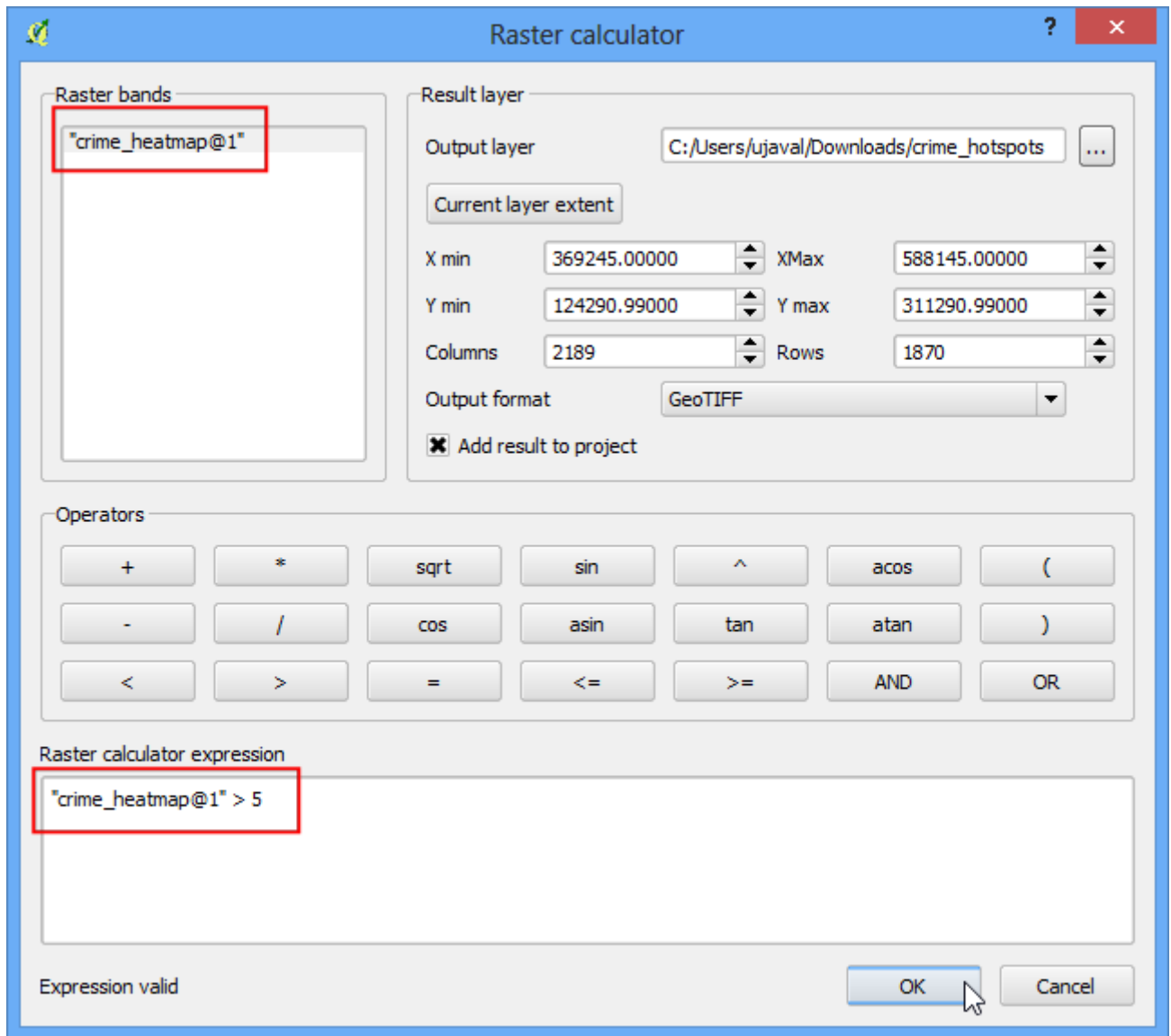




13. □□ □□□□ □□□□□□□□. □□□ □□□ □□□ □□□□□□. □□□ □□□ □ □□□ □□□□□□ □□□□ □□□□. □□□ □□ □□ □□□ □ □ **hotspots** □ □□□□□ □□□□□. □ □□□□ □□□ **hotspots** □ □□□□□ □□□□□□. □□ □□□ --> □□□ □□□ :menuselection: `Raster --> Raster Calculator` □ □□□□□.



14. `crime_hotspots` Raster calculator `crime_hotspots` `crime_heatmap@1` Raster calculator expression `"crime_heatmap@1" > 5` `Add result to project` `OK`



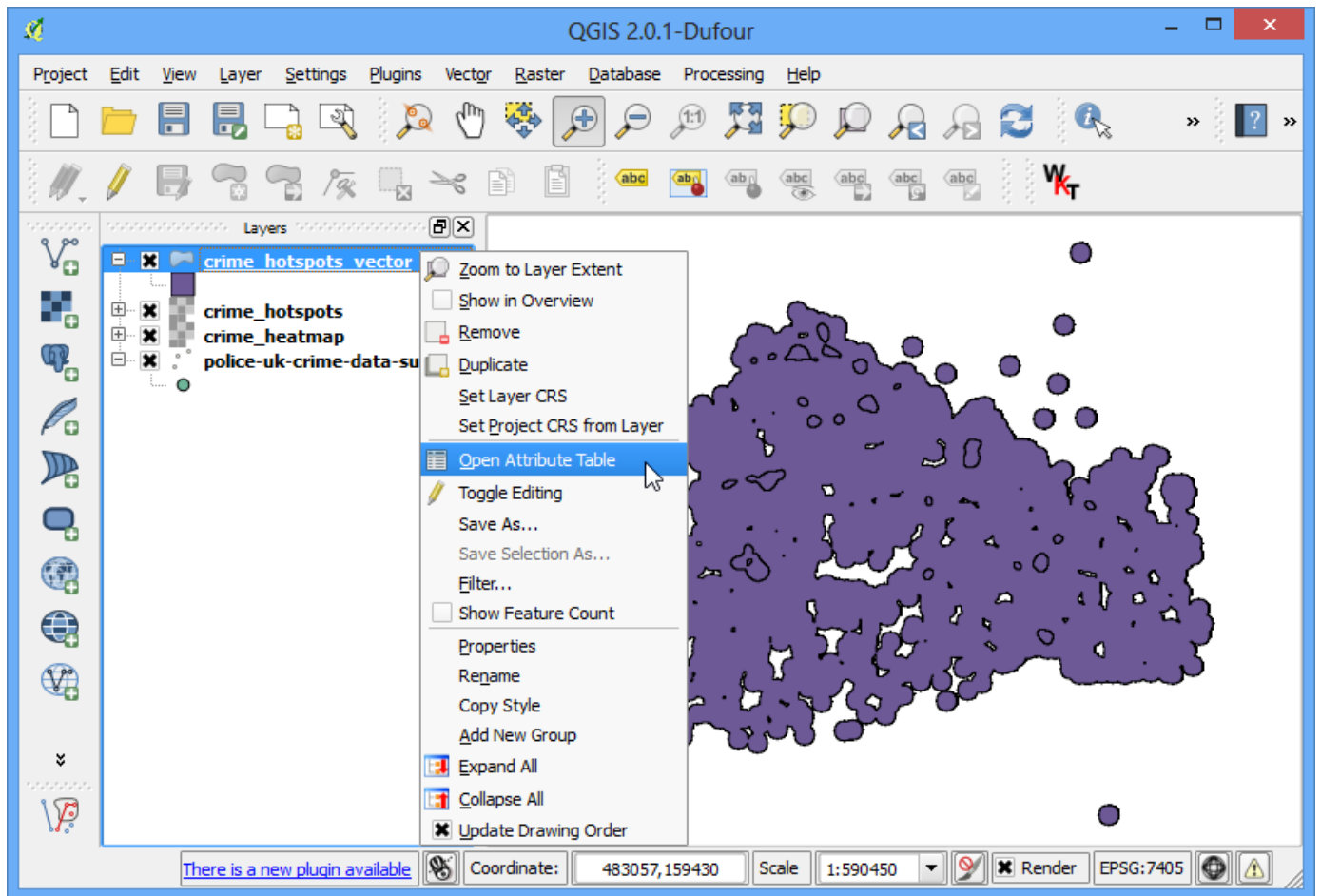
15. QGIS में दिए गए डाटा से crime\_hotspots नाम का वेक्टर लेयर बनाएं। इसके लिए Raster calculator में निम्नलिखित एक्सप्रेशन का उपयोग करें: `"crime_heatmap@1" > 5`।



16. Click on crime\_hotspots\_vector` in the Layers panel. Click on :guilabel:`Field name` in the Polygonize dialog. Click on :guilabel:`Load into canvas when finished` in the Polygonize dialog. Click on :guilabel:`OK` in the Polygonize dialog.



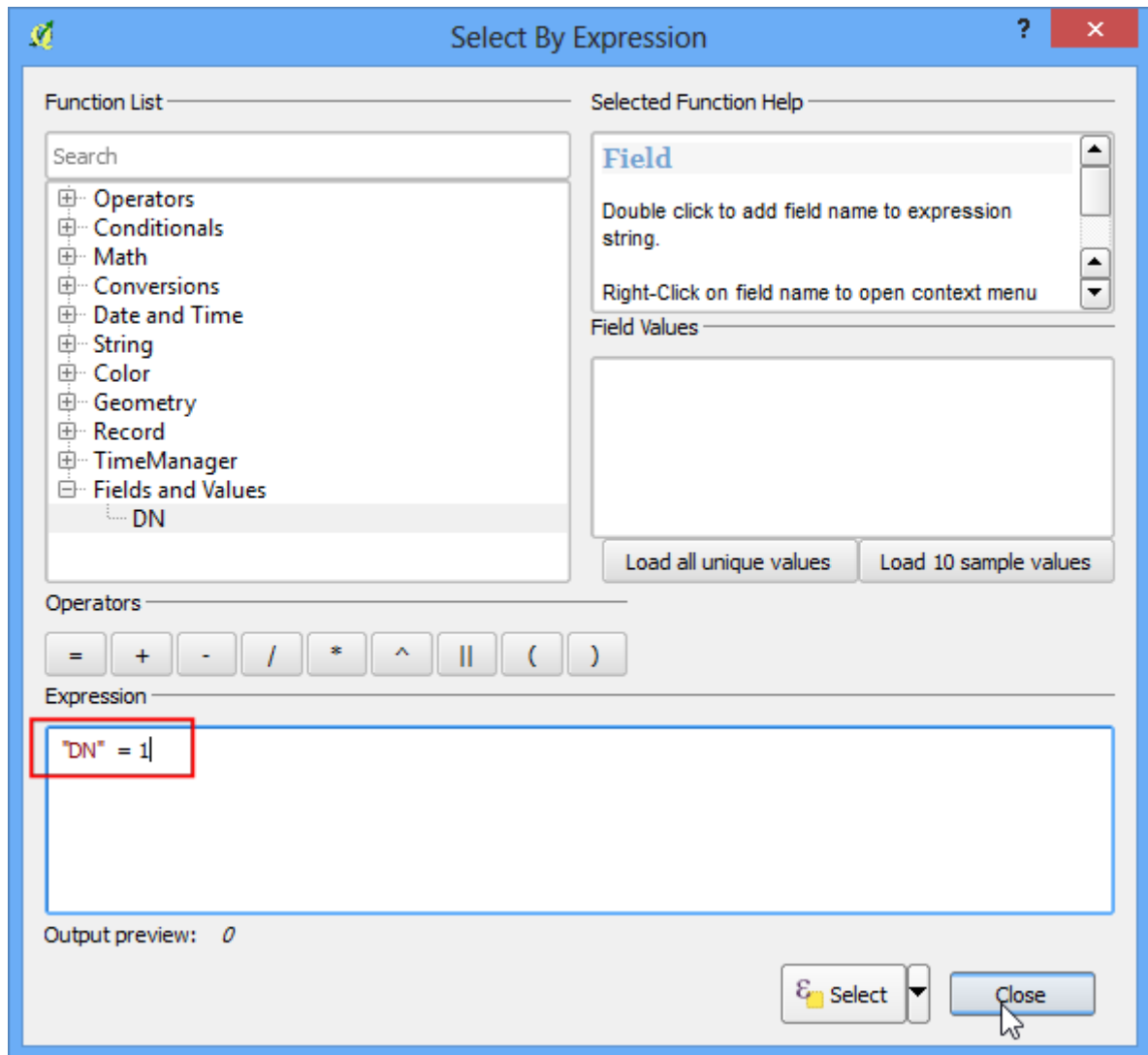
17. Click on the 'crime\_hotspots\_vector' layer in the Layers panel. Click on the 'Open Attribute Table' button in the Layer Properties dialog. Click on the '0' button in the Attribute Table. Click on the '1' button in the Attribute Table. Click on the '0' button in the Attribute Table. Click on the 'Open Attribute Table' button in the Layer Properties dialog.



18. `guiabel: `Attribute table`` `guiabel: `Select feature using an expression``







20. QGIS の「Select By Expression」ダイアログボックスのスクリーンショット。左側の「Function List」で「Fields and Values」が選択されており、その下に「DN」がリストアップされている。中央の「Expression」フィールドには「"DN" = 1」と入力されている。右側の「Selected Function Help」パネルには「Field」関数の説明が表示されている。下部には「Output preview」があり、0 と表示されている。右下には「Select」と「Close」のボタンがある。





