

Creating Heatmaps

QGIS Tutorials and Tips



Author

Ujaval Gandhi

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

Translations by

SongHyun Choi

클러스터 분석은 데이터를 그룹화하는 방법이다. 데이터의 특성을 기반으로 유사한 데이터를 그룹화한다. 클러스터 분석은 **cluster analysis** 또는 'hotspot analysis'로도 알려져 있다.

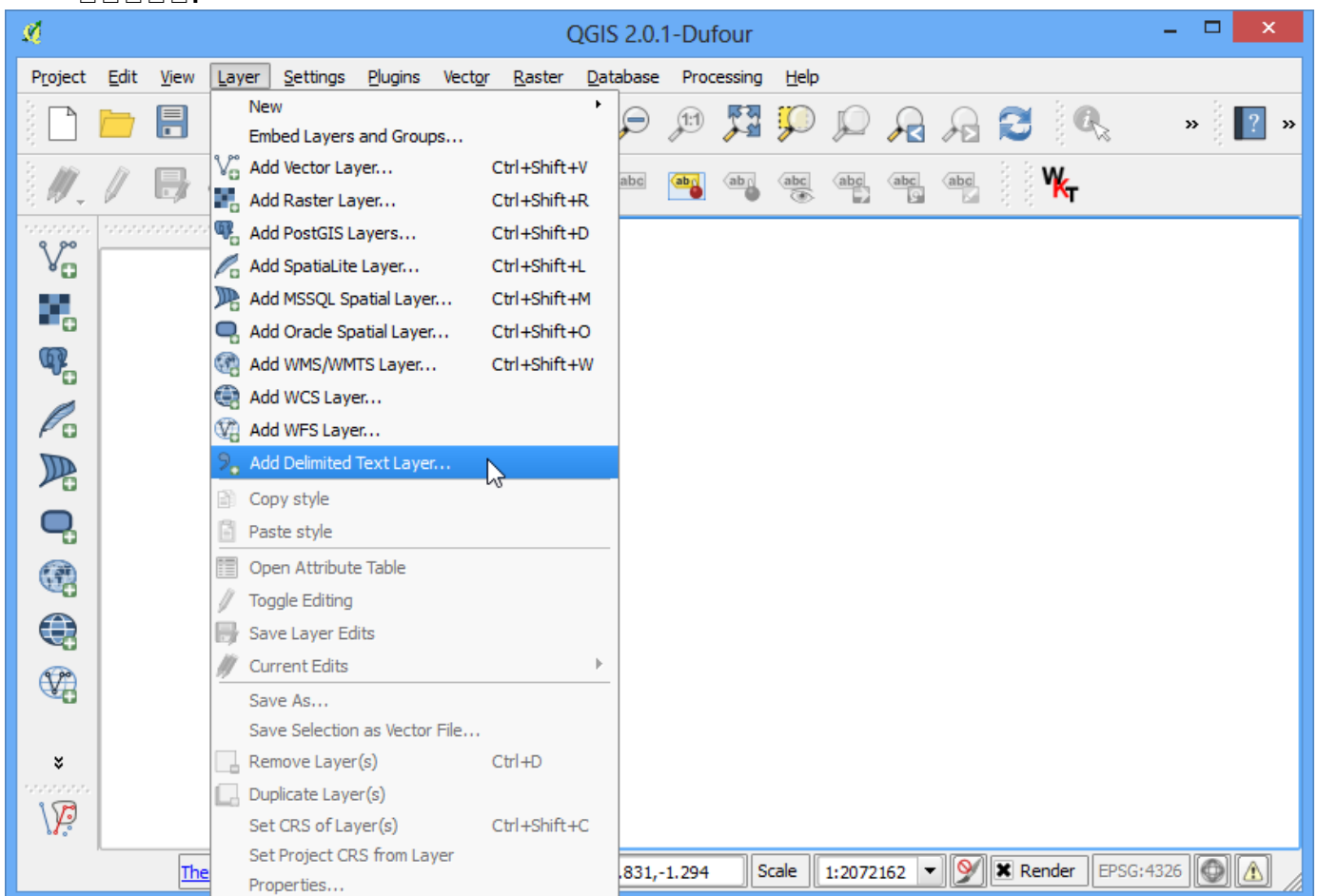
[illegible]

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. `import csv`. `QGIS` `CSV` `Layer` `Add Delimited Text Layer`.



2. `police-uk-crime-data-surrey.txt`
 (comma separated values) *Easting* *Northing* X Y
 :guiabel: Use spatial index
 :guiabel: 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'`

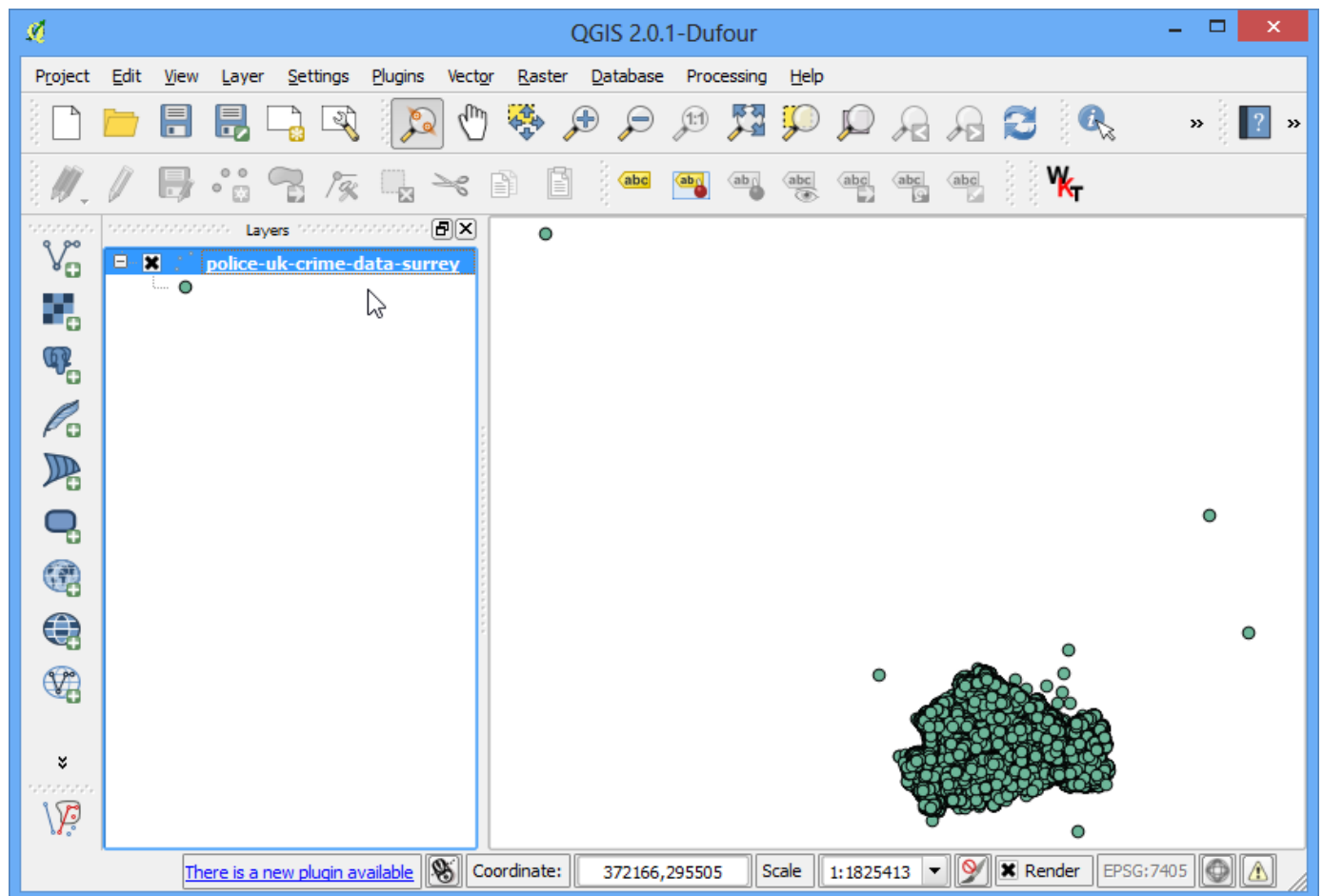
Delimited text file errors

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

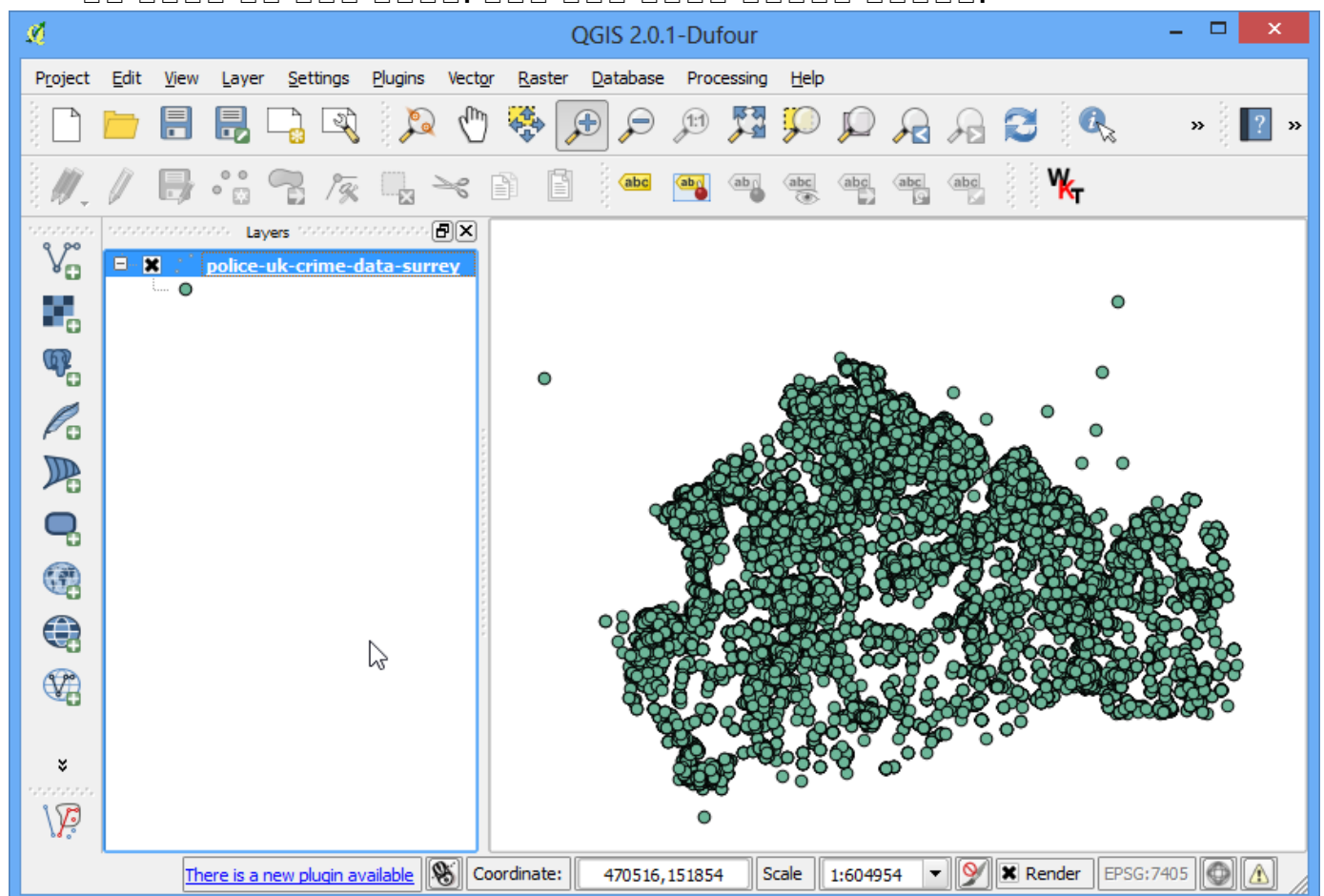
4. `guiLabel: 'OSGB 1936 / British National Grid'`



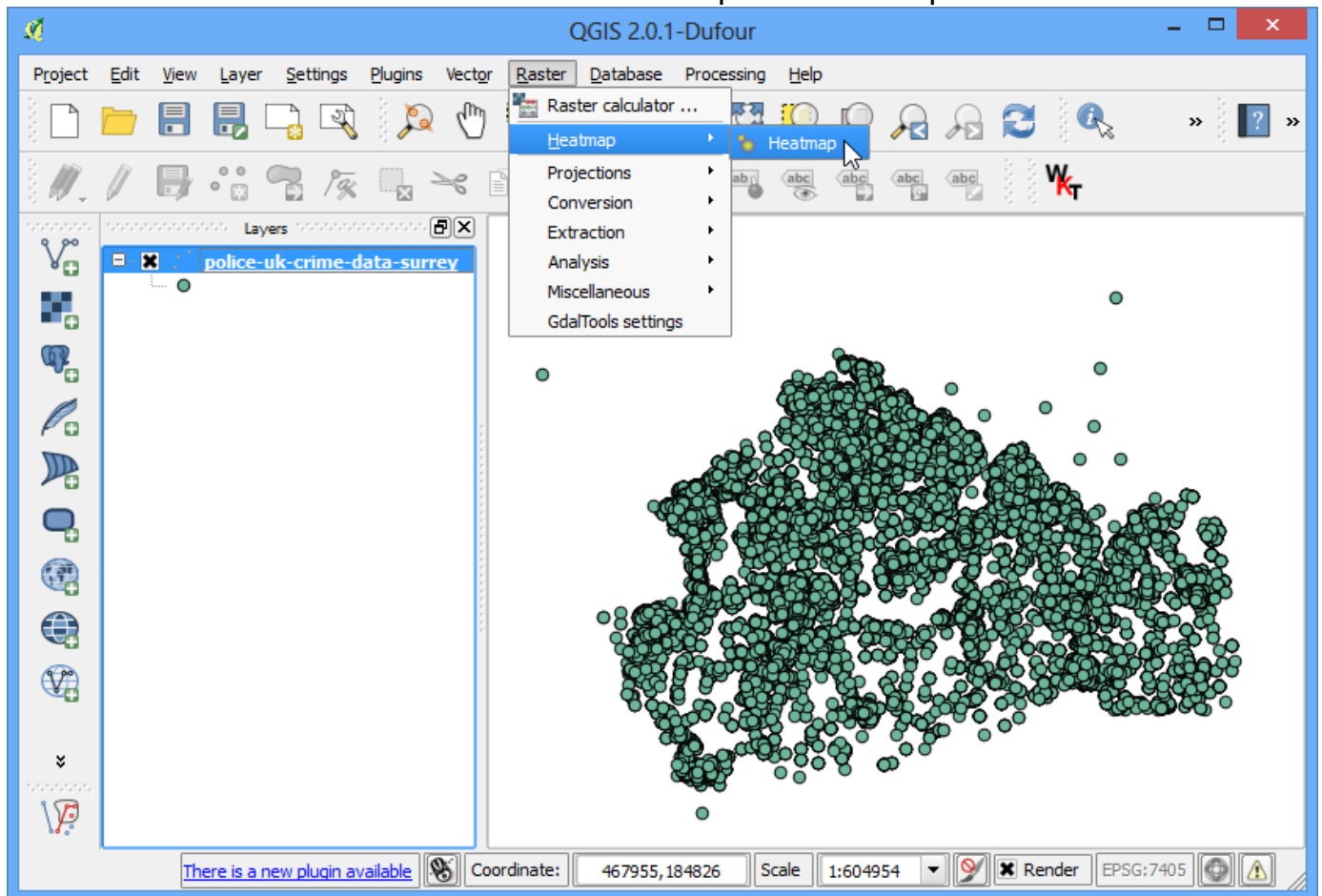
5. □□ QGIS □ □□□ □□□□□ □ □ □□□.



6. □□□□ □ □ □□ □□ □□ □□ □□. □□□□ □□ □□□□ □□ □□ □□ □□□□ □□
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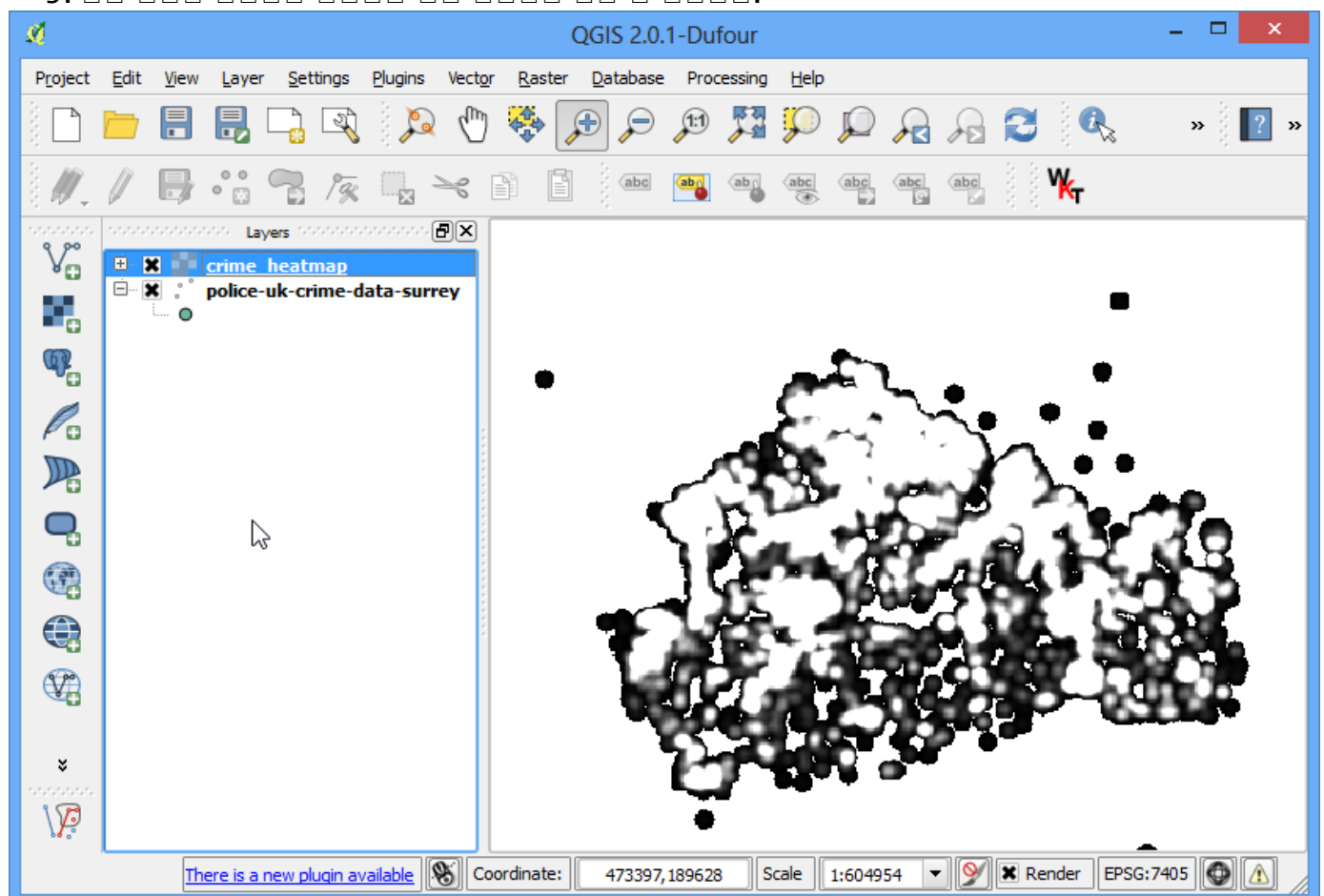
7. `Heatmap` plugin is used to create a heatmap from a point layer. The following steps are followed to create a heatmap:
- 1. Open the `Heatmap` plugin from the `Plugins` menu.
 - 2. Select the `crime-uk-crime-data-survey` layer from the `Layers` panel.
 - 3. Click on the `Heatmap` button in the `Heatmap` plugin toolbar.
 - 4. A dialog box will appear with the following options:



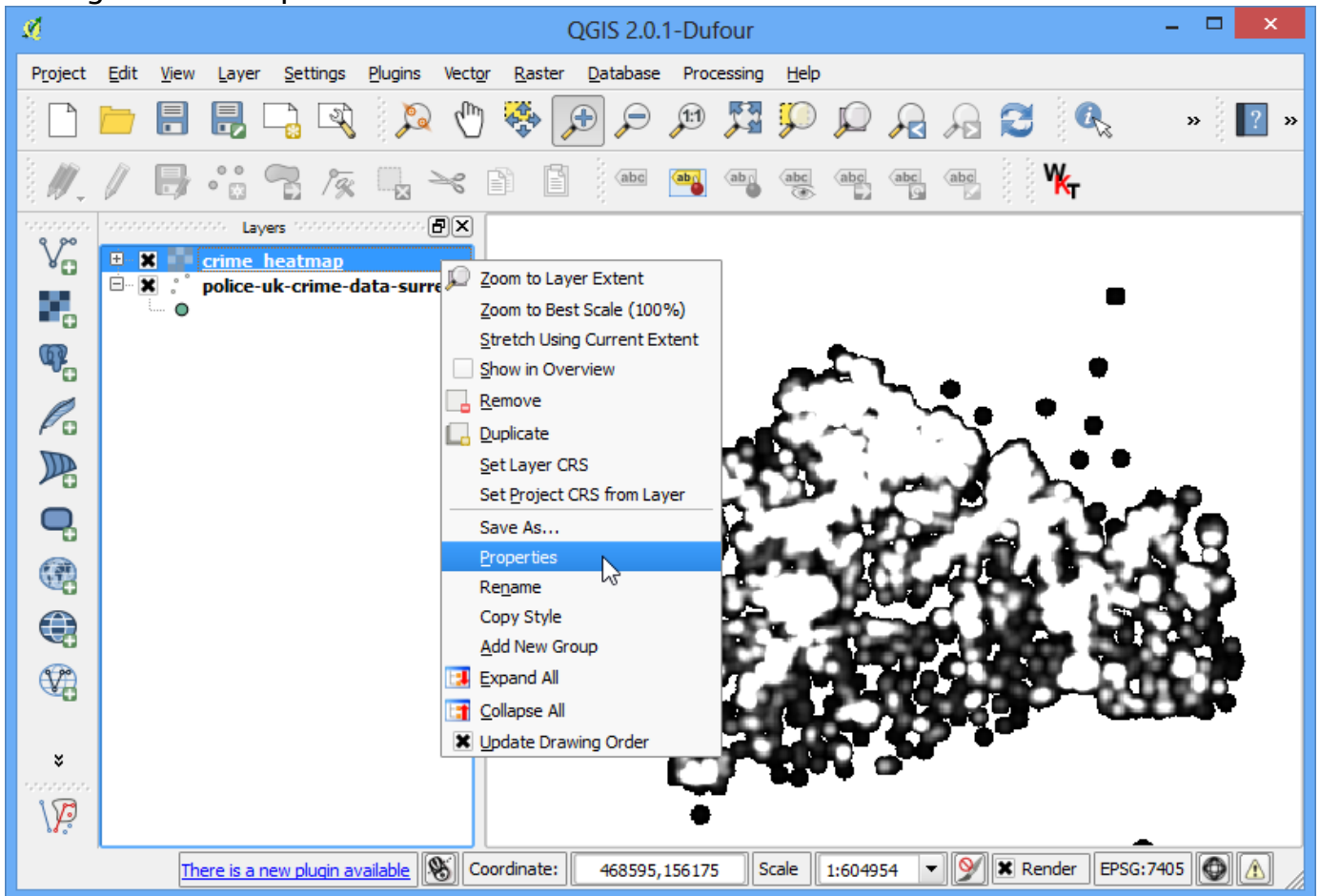
8. The `Heatmap` plugin is used to create a heatmap from a point layer. The following steps are followed to create a heatmap:
- 1. Open the `Heatmap` plugin from the `Plugins` menu.
 - 2. Select the `crime-uk-crime-data-survey` layer from the `Layers` panel.
 - 3. Click on the `Heatmap` button in the `Heatmap` plugin toolbar.
 - 4. A dialog box will appear with the following options:



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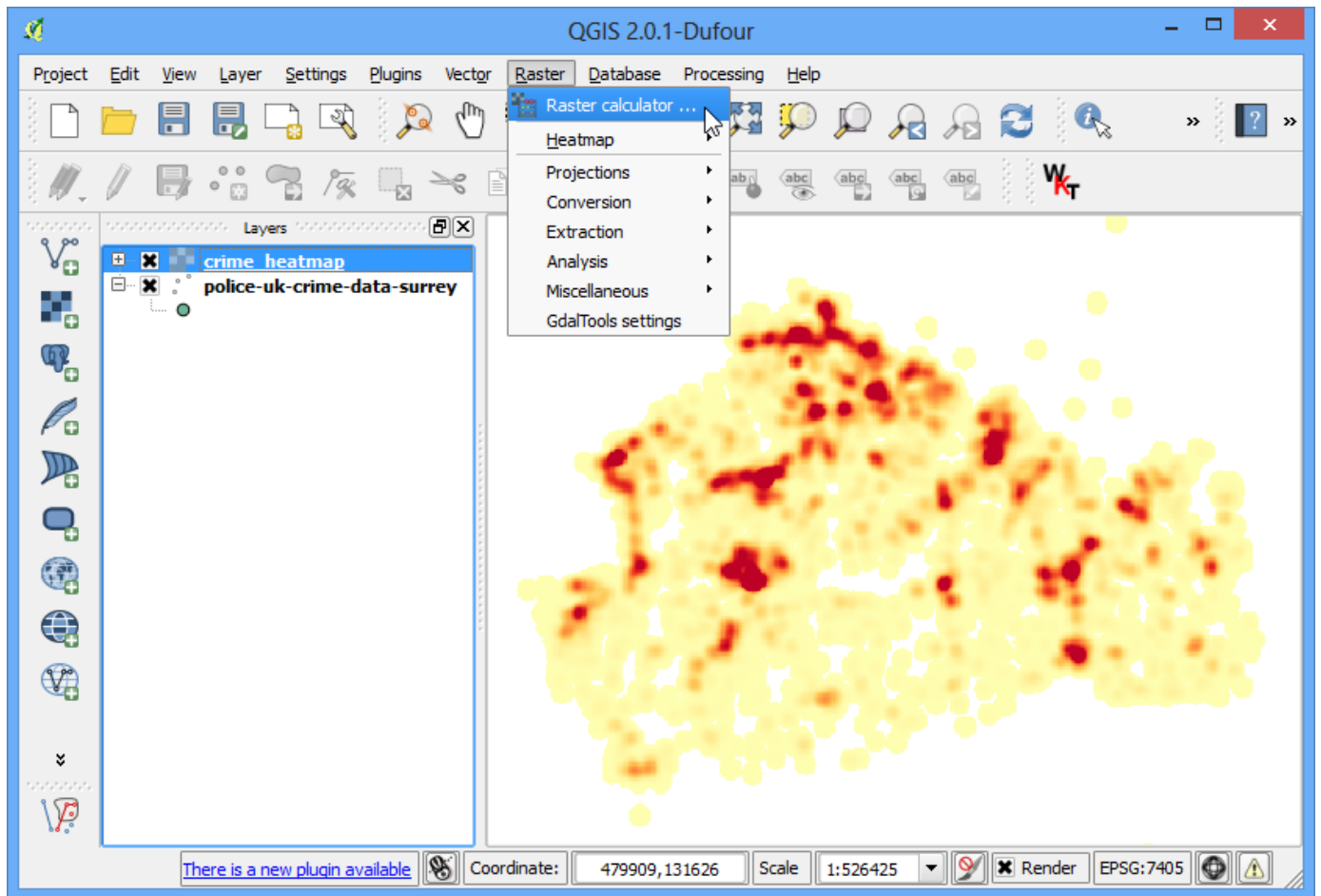
10. Click on the 'Properties' button in the context menu.



11. Click on the 'Render' button in the 'Style' dialog. The 'Render' button is located at the bottom right of the 'Style' dialog. The 'Style' dialog is titled 'crime_heatmap' and contains various options for rendering the heatmap. The 'Render' button is highlighted in the screenshot.



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



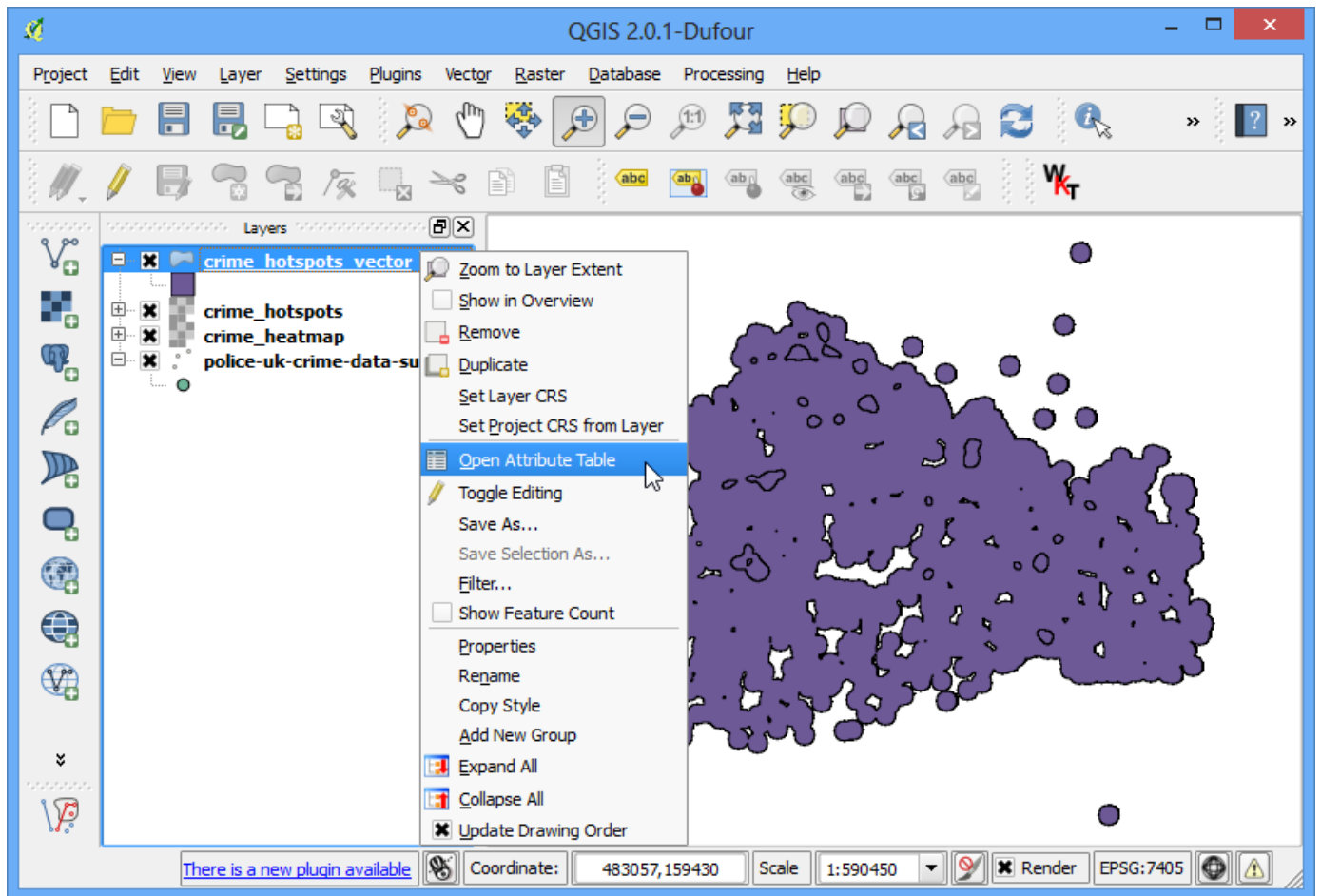
14. `crime_hotspots` Raster calculator expression `"crime_heatmap@1" > 5` Add result to project OK



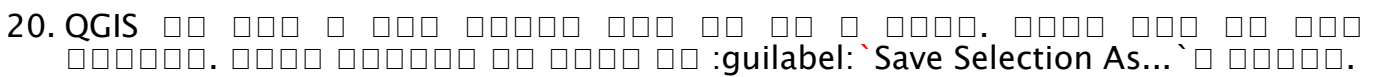
16. Click on crime_hotspots_vector` in the Layers panel. Click on :guilabel:`Field name` in the Polygonize dialog. Click on :guilabel:`Load into canvas when finished` in the Polygonize dialog. Click on :guilabel:`OK` in the Polygonize dialog.

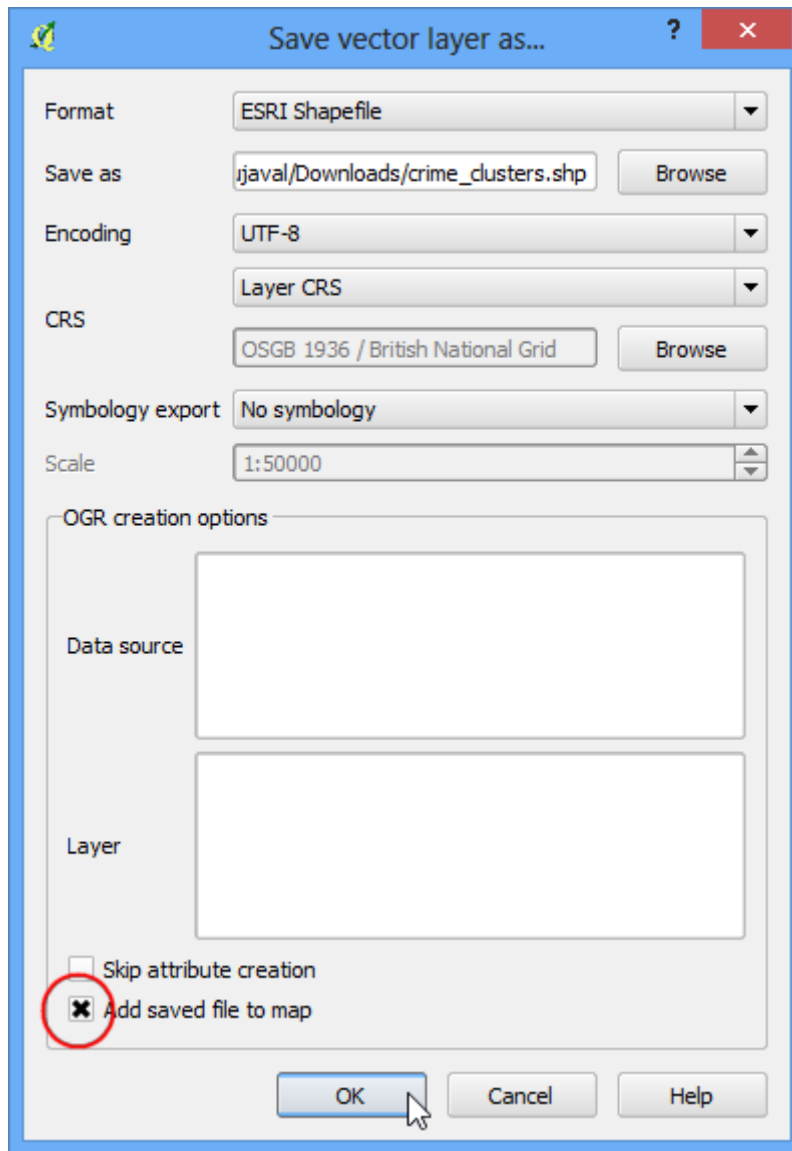


17. Click on the 'crime_hotspots_vector' layer in the Layers panel. Click on 'Open Attribute Table' in the context menu. Click on '0' in the attribute table. Click on '1' in the attribute table. Click on '0' in the attribute table. Click on 'Open Attribute Table' in the context menu. Click on 'Open Attribute Table' in the context menu.



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





22. □□□□□□□□. □□ □□□□ □□□□□□ □□□ `hotspots` □ □□□□ □□□□. □ □□□□□
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