

Creating Heatmaps

QGIS Tutorials and Tips



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클러스터 분석은 데이터의 유사성을 기반으로 그룹을 형성하는 방법이다. 클러스터 분석은 핫스팟 분석과 밀접한 관련이 있다. 클러스터 분석은 핫스팟 분석을 위한 기초를 제공한다.



□ □□□□ 2011 □ □□ Surrey □ □□□□□ □□□□□□ □□□ □ □□□ □□□ □□ □□□
□□□ □□ □□□□.

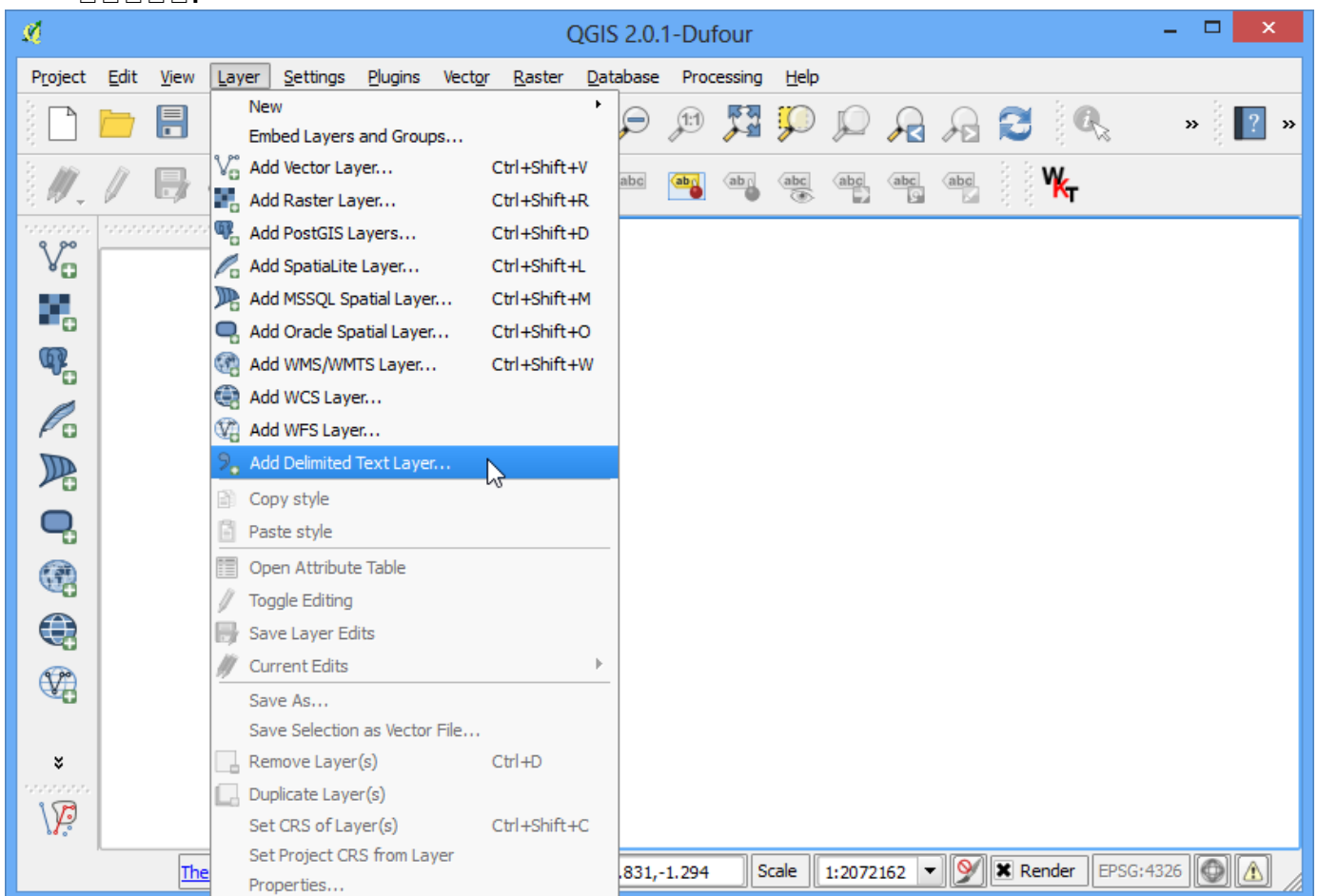


raw data from the Police.uk crime mapping website
<<http://data.london.gov.uk/datastore/package/policeuk-crime-data>>_

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. `Coordinate Reference System (CRS)`
British National Grid
1936 / British National Grid
`OSGB`
`OK`

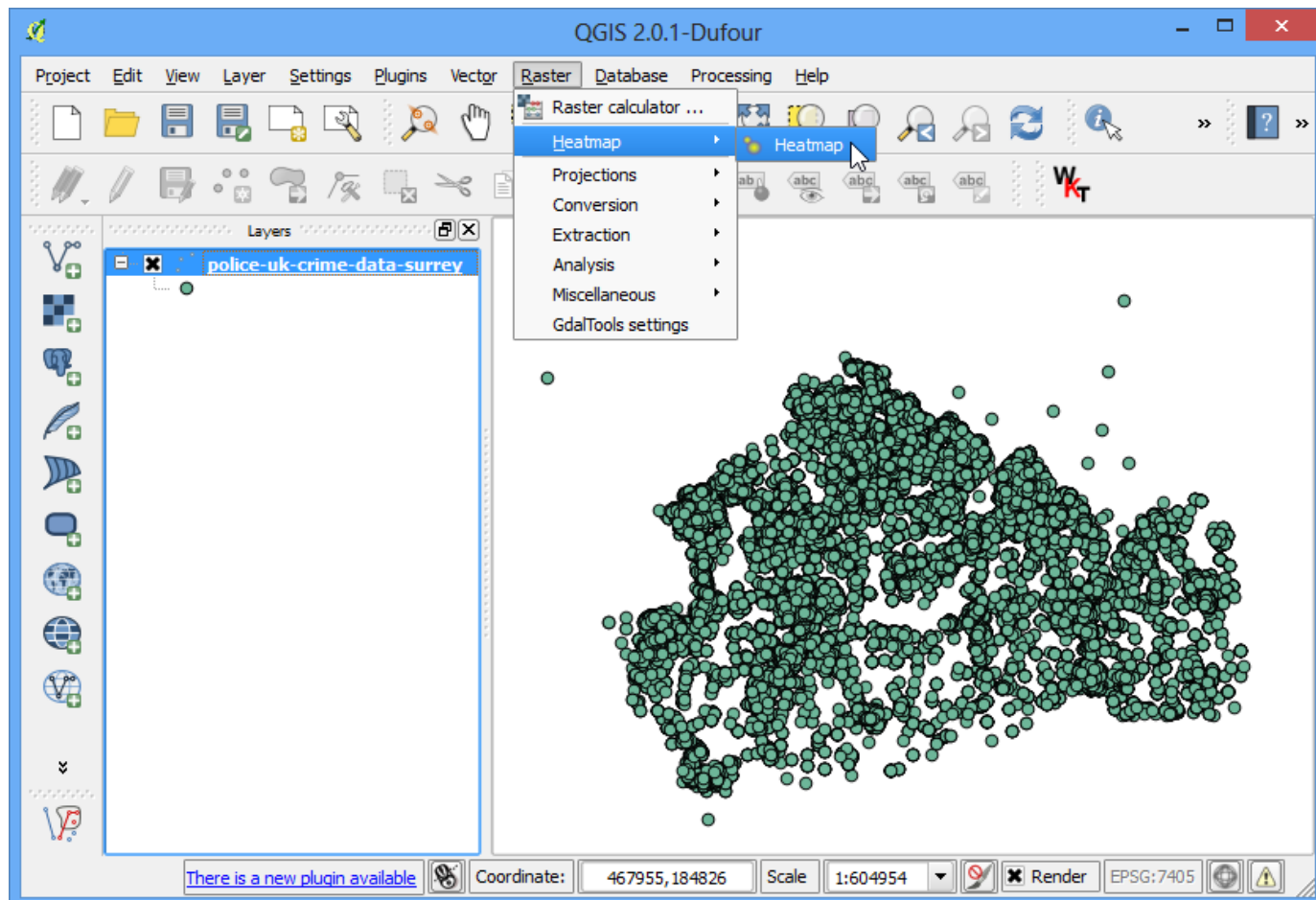


5. □□ QGIS □ □□□ □□□□□ □ □ □□□.

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

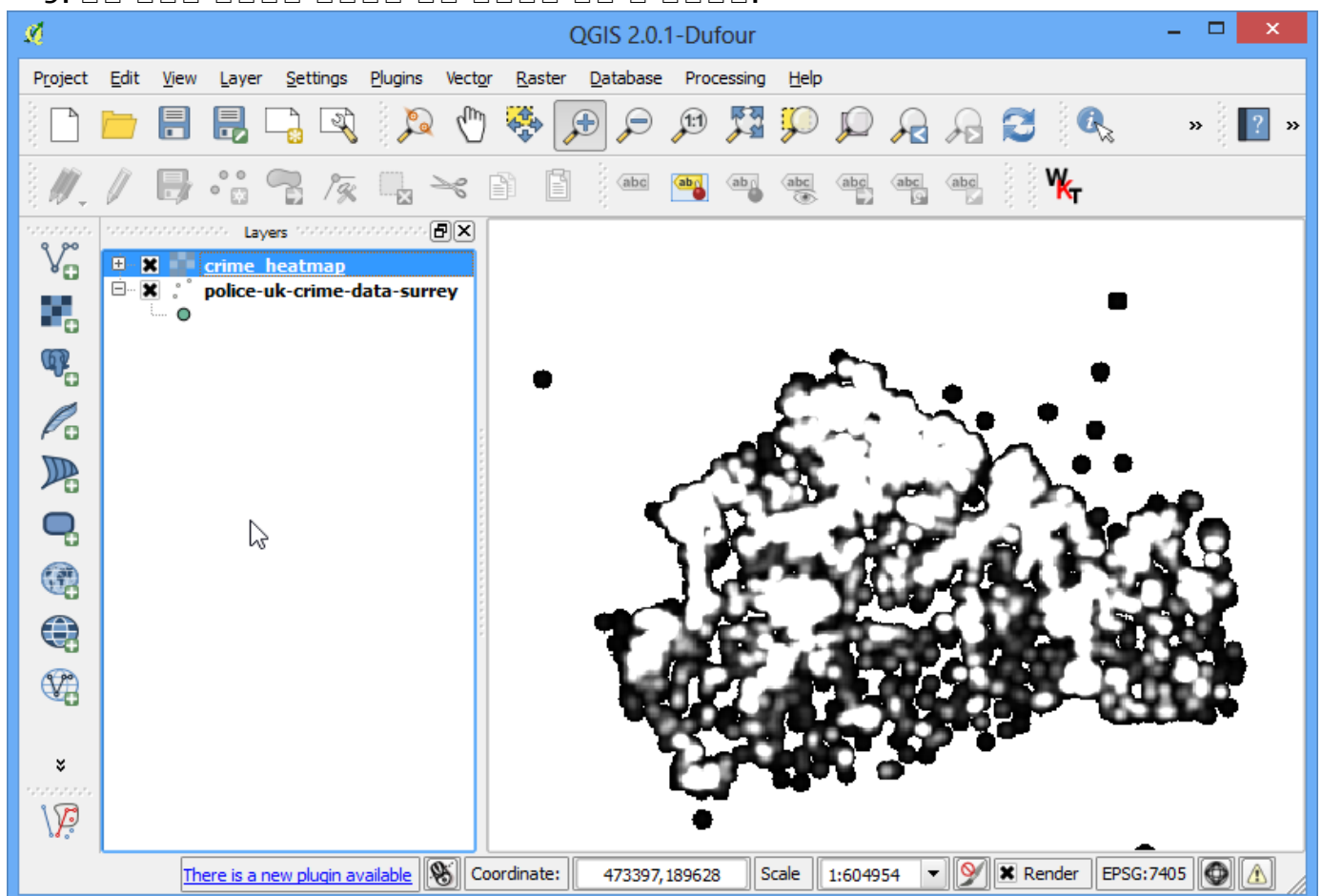
The Heatmap plugin has a bug in QGIS 2.8.1. See [this post](#) for workarounds.



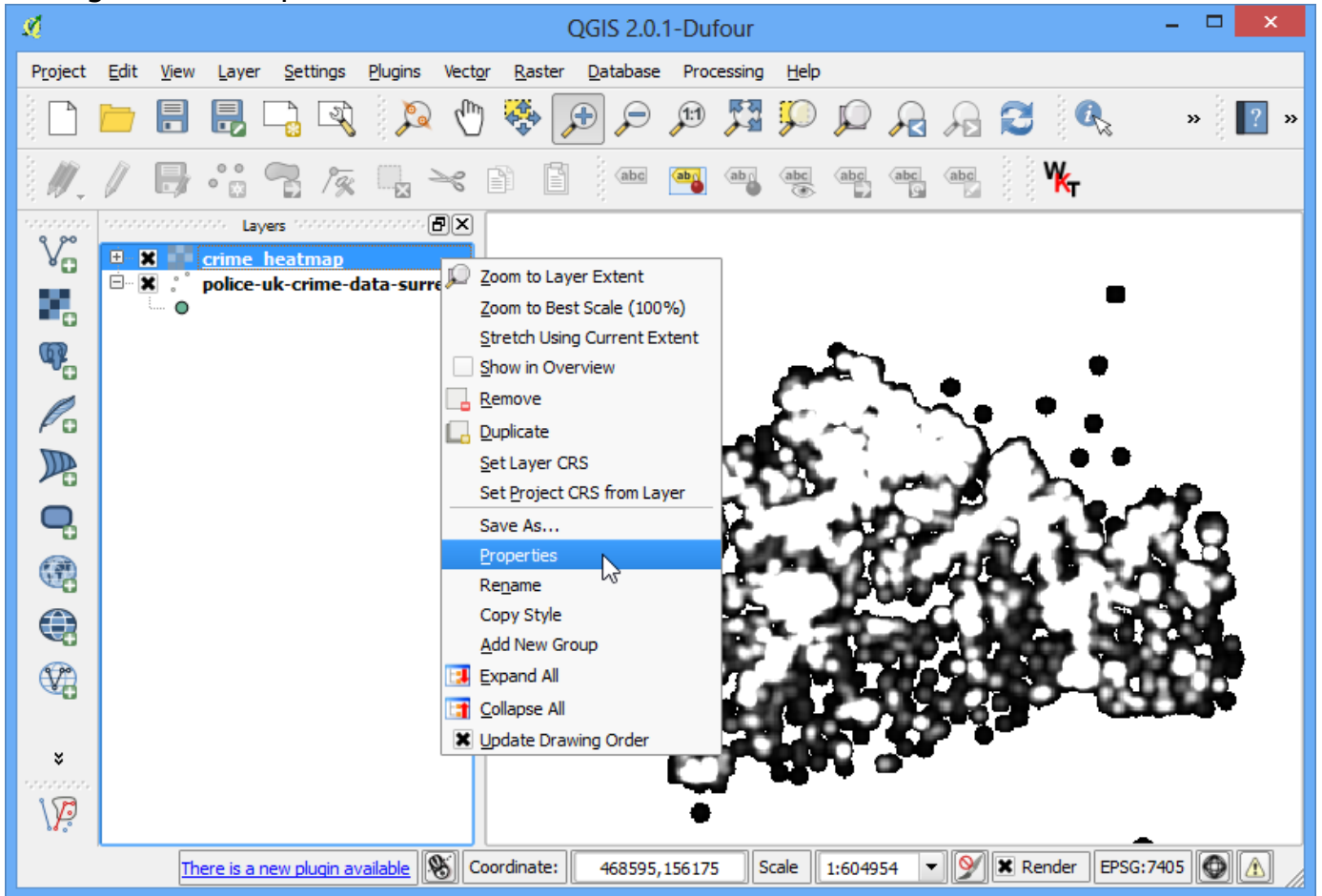
8. `guiabel: `Heatmap Plugin`` `guiabel: `Output raster`` `crime_heatmap`` `guiabel: `Radius`` `1000`` `heat`` `guiabel: `Advanced`` `guiabel: `Cell Size X`` `100`` `guiabel: `Cell Size Y`` `100`` `guiabel: `OK``



9. □□ □□□ □□□□ □□□□ □□ □□□□ □□ □ □□□□.



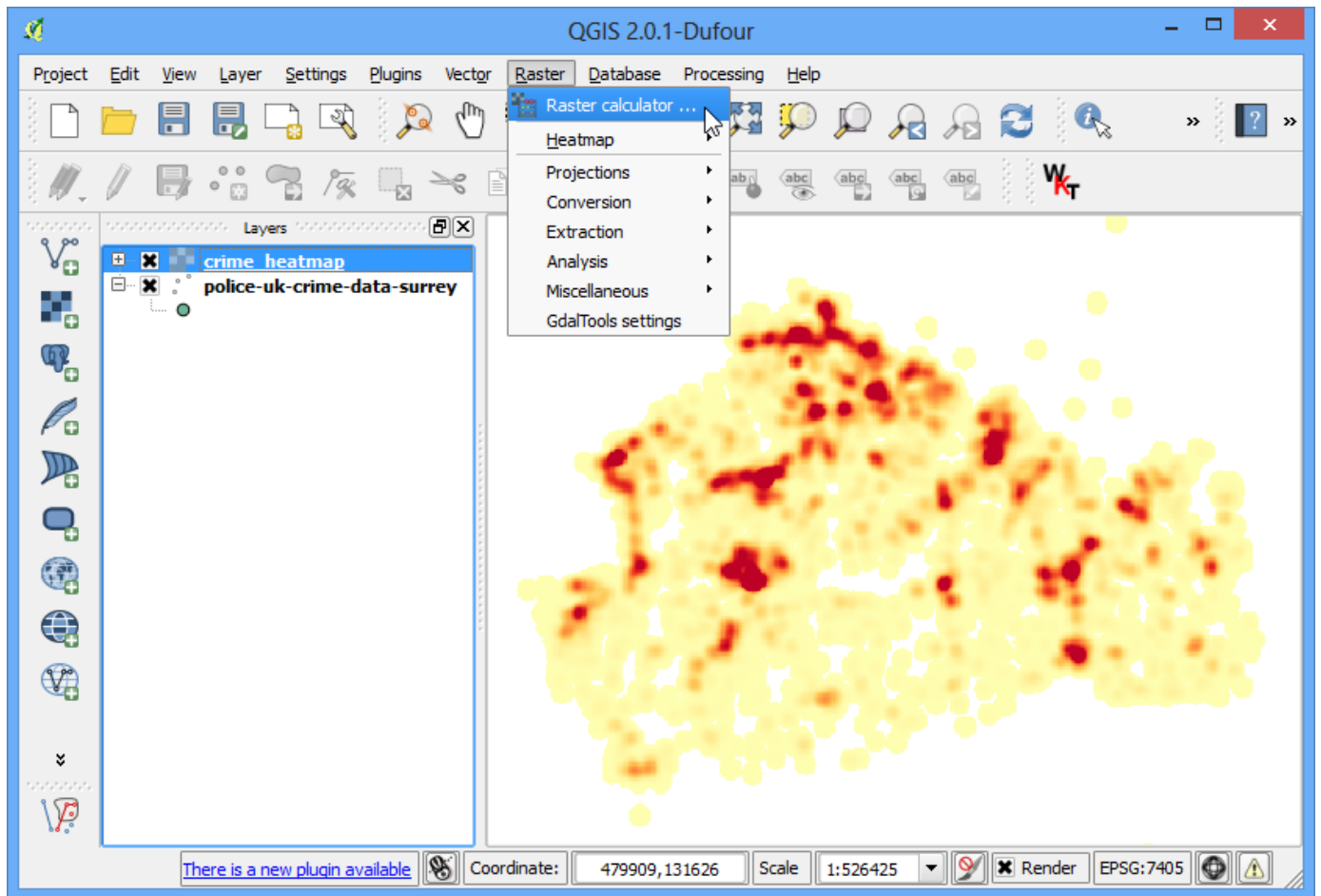
10. Click on the 'Properties' button in the Layer Properties dialog box.



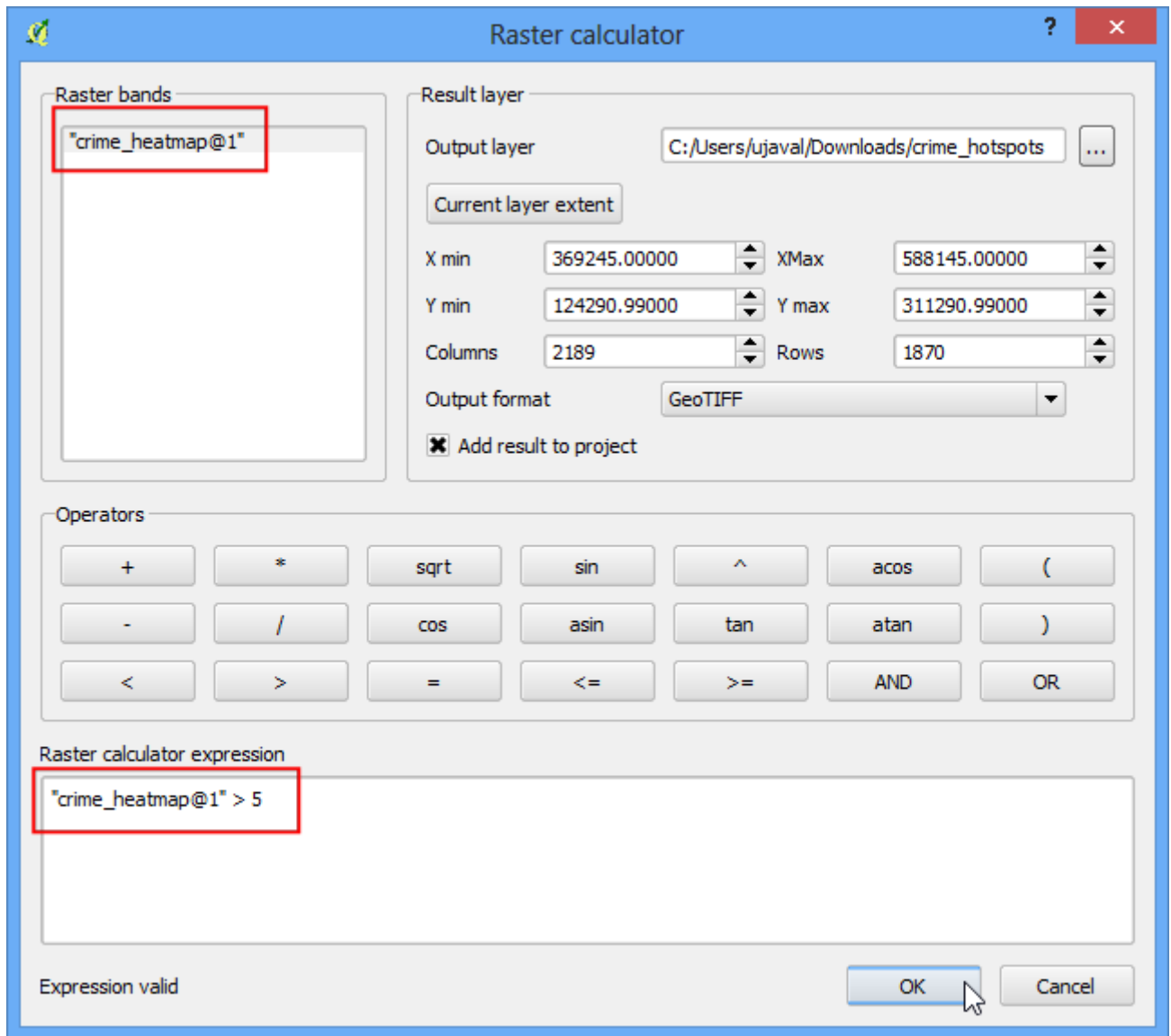
11. Click on the 'Render' button in the Layer Properties dialog box.



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`



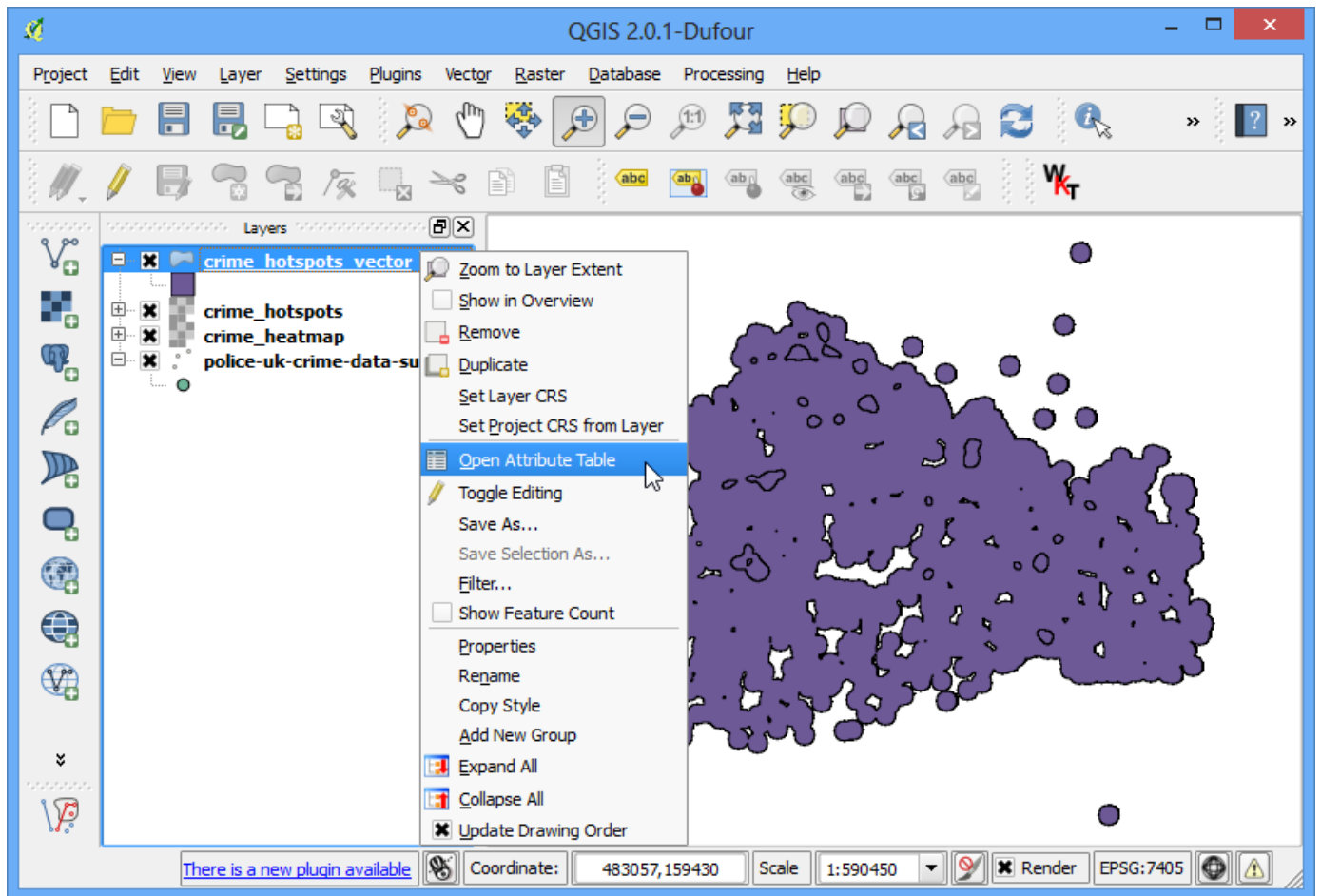
15. QGIS में दिए गए डाटा से crime_hotspots नाम का वेक्टर लेयर बनाने के लिए निम्नलिखित स्टेप्स फॉलो करें:
1. Raster calculator में जाएें।
 2. Raster bands में '"crime_heatmap@1"' सेलेक्ट करें।
 3. Result layer में Output layer को 'C:/Users/ujaval/Downloads/crime_hotspots' सेट करें।
 4. Current layer extent में X min, XMax, Y min, Y max, Columns, Rows के मानों को सेट करें।
 5. Output format में 'GeoTIFF' सेलेक्ट करें।
 6. 'Add result to project' चेकबॉक्स को चेक करें।
 7. Operators में '>' सेलेक्ट करें।
 8. Raster calculator expression में '"crime_heatmap@1" > 5' टाइप करें।
 9. OK बटन पर क्लिक करें।



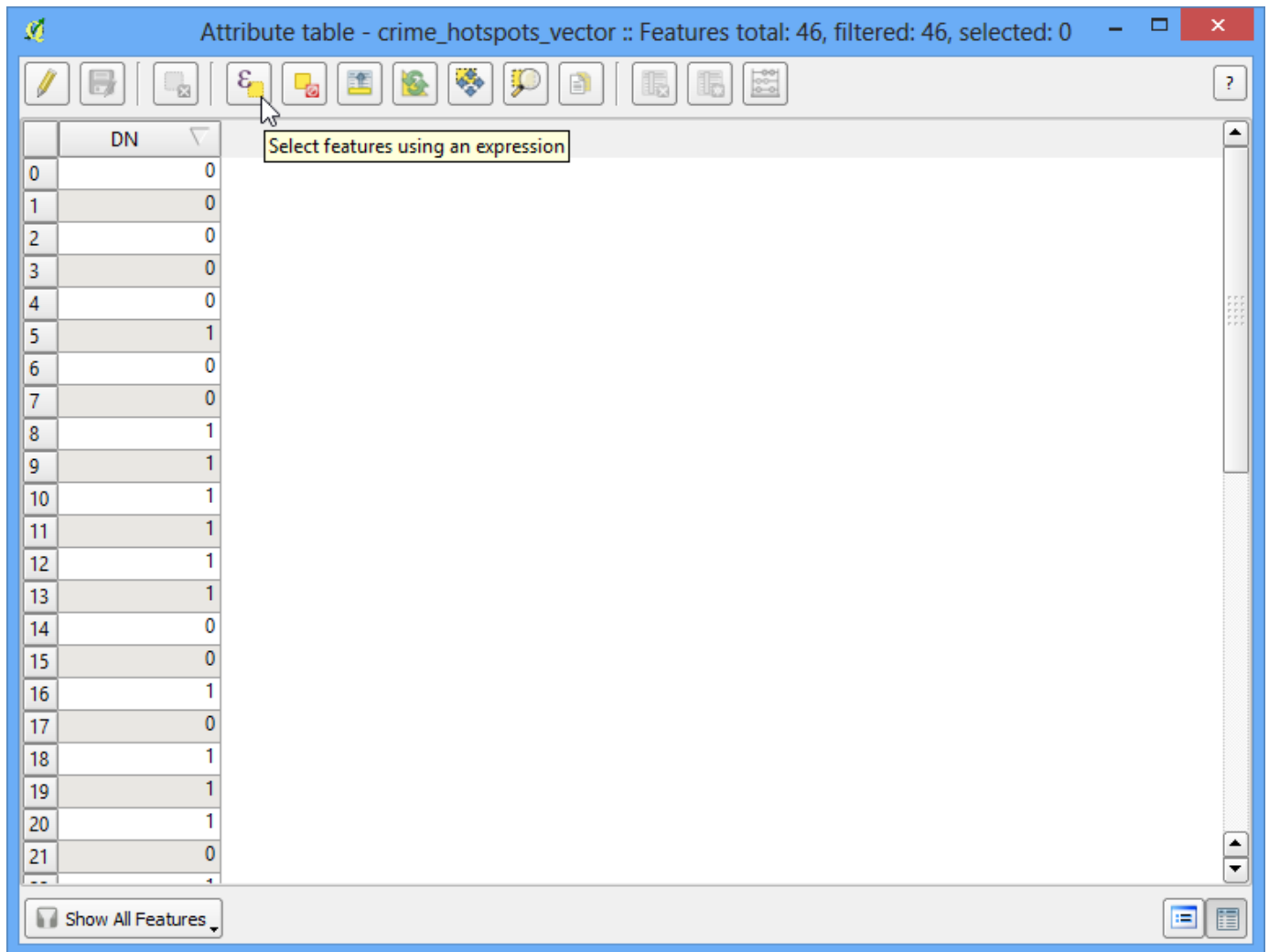
16. Click on crime_hotspots_vector` in the Layers panel. Click on :guilabel:`Field name` in the Polygonize dialog. Click on :guilabel:`Load into canvas when finished` in the Polygonize dialog. Click on :guilabel:`OK` in the Polygonize dialog.



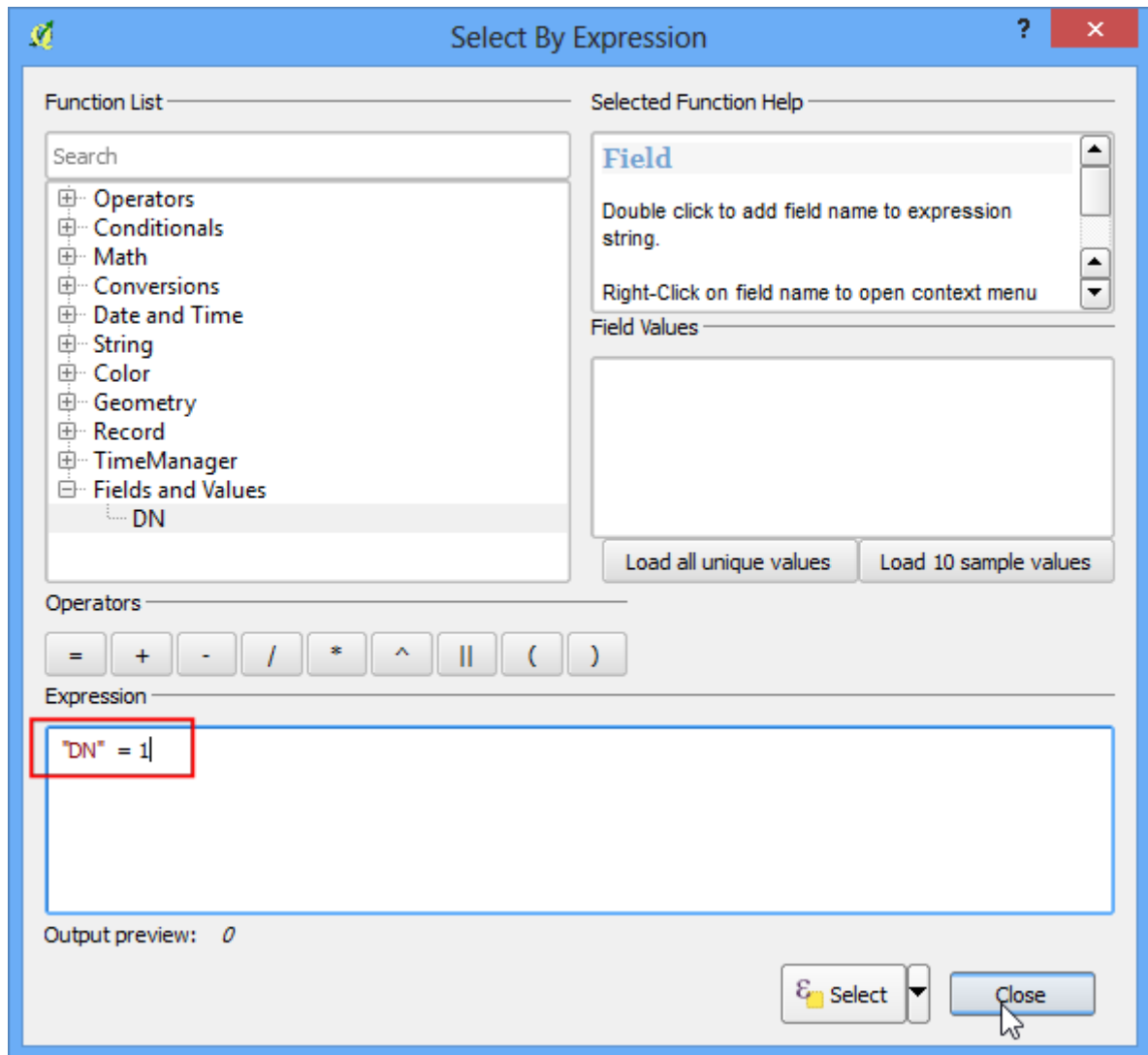
17. Click on the 'crime_hotspots_vector' layer in the Layers panel. Click on the 'Open Attribute Table' button in the Layer Properties dialog. Click on the '0' button in the 'Open Attribute Table' dialog. Click on the '1' button in the 'Open Attribute Table' dialog. Click on the '0' button in the 'Open Attribute Table' dialog. Click on the 'Open Attribute Table' button in the Layer Properties dialog.



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



19. `int DN = 1; // 1: Select, 0: Close`



20. QGIS 的 选择 对话框 中 的 表达式 输入 框 中 输入 表达式。 单击 选择 按钮 后， 对话框 中 的 输出 预览 区域 将 显示 选择 的 记录 数。 单击 选择 按钮 后， 对话框 中 的 输出 预览 区域 将 显示 选择 的 记录 数。 :guilabel: `Save Selection As...` 对话框 中 的 输出 预览 区域 将 显示 选择 的 记录 数。



21. `crime_clusters` `:guilabel: 'Add saved file to map'` `:guilabel: 'OK'`



22. 0000000. 00 0000 000000 000 `hotspots` 0 0000 0000. 0 00000
 000000 000 *intelligence* 00 000 000 000 00 000 00 00000000
 000 0 0000.

