

Basic Raster Styling and Analysis

QGIS Tutorials and Tips



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QGIS is a free and open source geospatial software package. It provides a graphical user interface to a wide range of geospatial data formats and tools. QGIS is a powerful tool for working with spatial data. It can be used to create maps, analyze data, and manage spatial databases. QGIS is a great choice for anyone who needs a free and open source geospatial software package.



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1. Go to the [Population Density Grid, v3 download page](#). Select the *Data Attributes* as *.ascii format*, *1° resolution* and *1990 year*. Click *Download*. At this point, you may create a free account and login, or use the *Guest Download* button at the bottom to immediately download the data. Repeat the process for *2000 year* data.

[Set Overview](#) [Data Download](#) [Maps](#) [Map Services](#) [Metadata](#)

Downloads

Recommended Citation:

Center for International Earth Science Information Network - CIESIN - Columbia University, and Centro Internacional de Agricultura Tropical - CIAT. 2005. Gridded Population of the World, Version 3 (GPWv3): Population Density Grid. NY: NASA Socioeconomic Data and Applications Center (SEDAC). <http://sedac.ciesin.columbia.edu/data/set/gpw-density>. Accessed DAY MONTH YEAR.

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ENW

 Use this format for EndNote and RefWorks software.

RIS

 Use this format for ProCite, Reference Manager and Zotero software.

Data:

Geography:

Region » Global

Data Set:

Population Density Grid

Data Attributes:

.ascii

1°

1990

Download

feedback and support

■■■■ ■■ [GPW3]

The screenshot shows the QGIS 2.0.1-Dufour application window. The 'Layer' menu is open, displaying various options for adding and managing layers. The 'Add Raster Layer...' option is highlighted with a mouse cursor. The menu includes options for adding vector, PostGIS, Spatialite, MSSQL Spatial, Oracle Spatial, WMS/WMTS, WCS, WFS, and delimited text layers. It also includes options for copying and pasting styles, opening attribute tables, toggling editing, saving layer edits, and removing or duplicating layers. The status bar at the bottom shows the current coordinates as -1.415, 1.117, a scale of 1:1994977, and the EPSG:4326 coordinate system.

QGIS 2.0.1-Dufour

Project Edit View Layer Settings Plugins Vector Raster Database Help

New

Embed Layers and Groups...

Add Vector Layer... Ctrl+Shift+V

Add Raster Layer... Ctrl+Shift+R

Add PostGIS Layers... Ctrl+Shift+D

Add Spatialite Layer... Ctrl+Shift+L

Add MSSQL Spatial Layer... Ctrl+Shift+M

Add Oracle Spatial Layer... Ctrl+Shift+O

Add WMS/WMTS Layer... Ctrl+Shift+W

Add WCS Layer...

Add WFS Layer...

Add Delimited Text Layer...

Copy style

Paste style

Open Attribute Table

Toggle Editing

Save Layer Edits

Current Edits

Save As...

Save Selection as Vector File...

Remove Layer(s) Ctrl+D

Duplicate Layer(s)

Set CRS of Layer(s) Ctrl+Shift+C

Set Project CRS from Layer

Properties...

Query...

Labeling

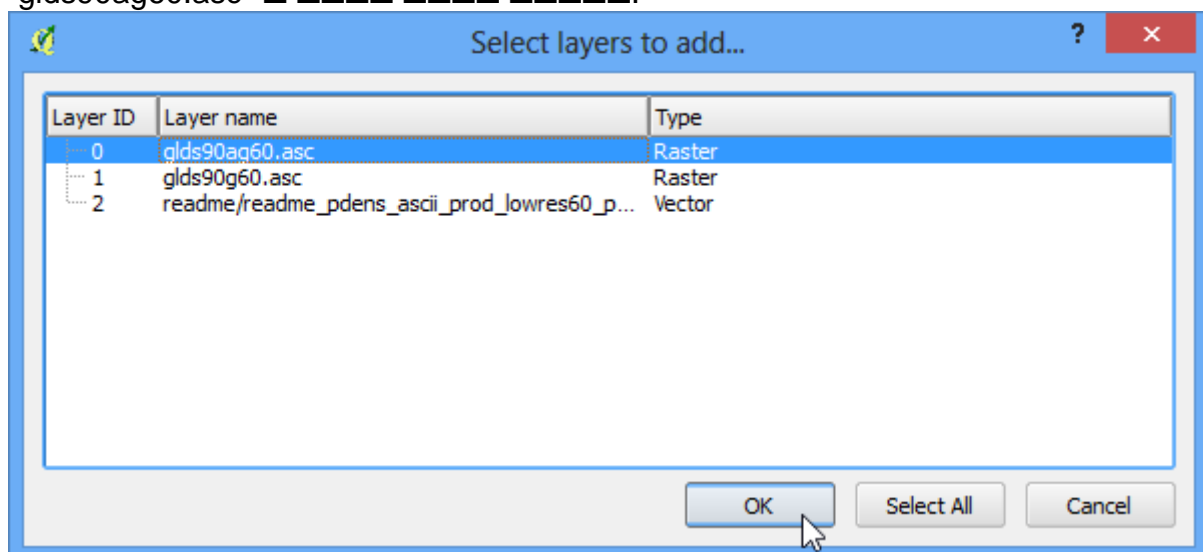
Add to Overview

-1.415, 1.117 Scale 1:1994977 Render EPSG:4326

3. ■■■■■■ ■■■■■■ ■■■■■■. ■■■■■■ :kbd:`Ctrl` ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■. ■ ■■■■■■ ■
■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■. ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■.



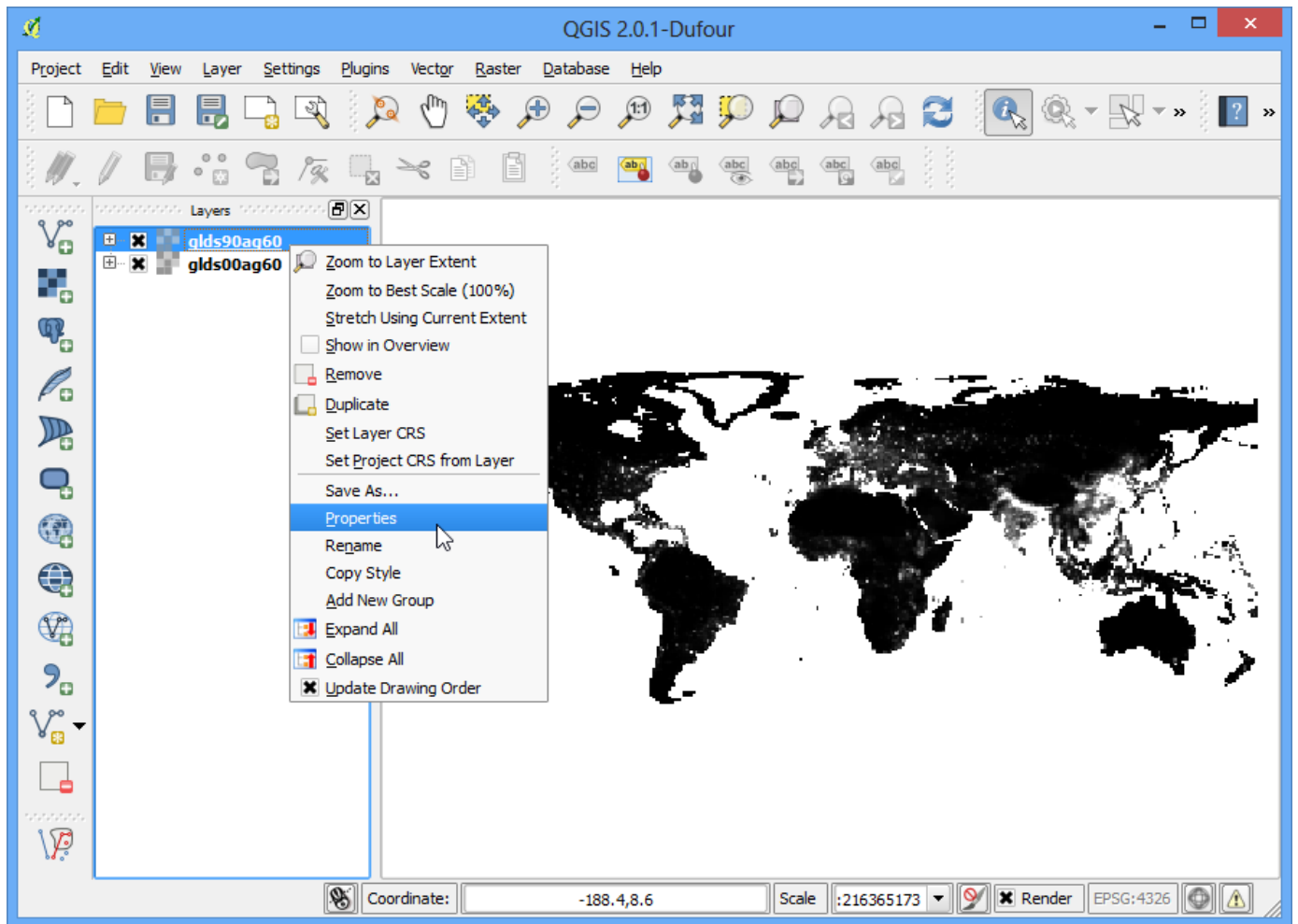
6. `glds90ag60.asc`



7. CRS `EPSG:4326`



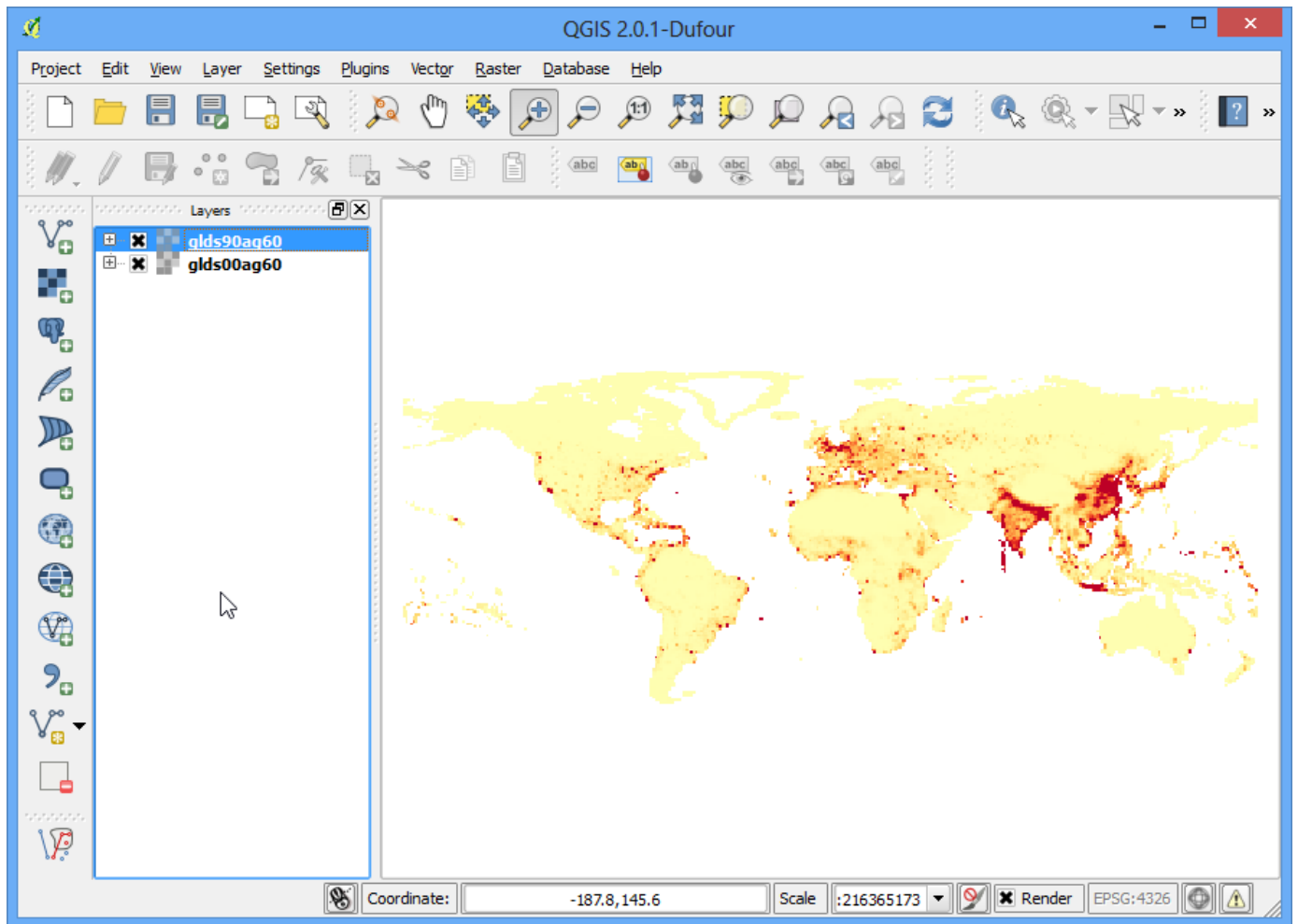
8. ■■■ QGIS ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■. ■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■. ■■■■■ ■■■■■ ■■■■■ ■■■■■ ■■■■■, ■■■ ■■■ ■■■■■ ■■■ ■■■ ■■■■■■■■■■.



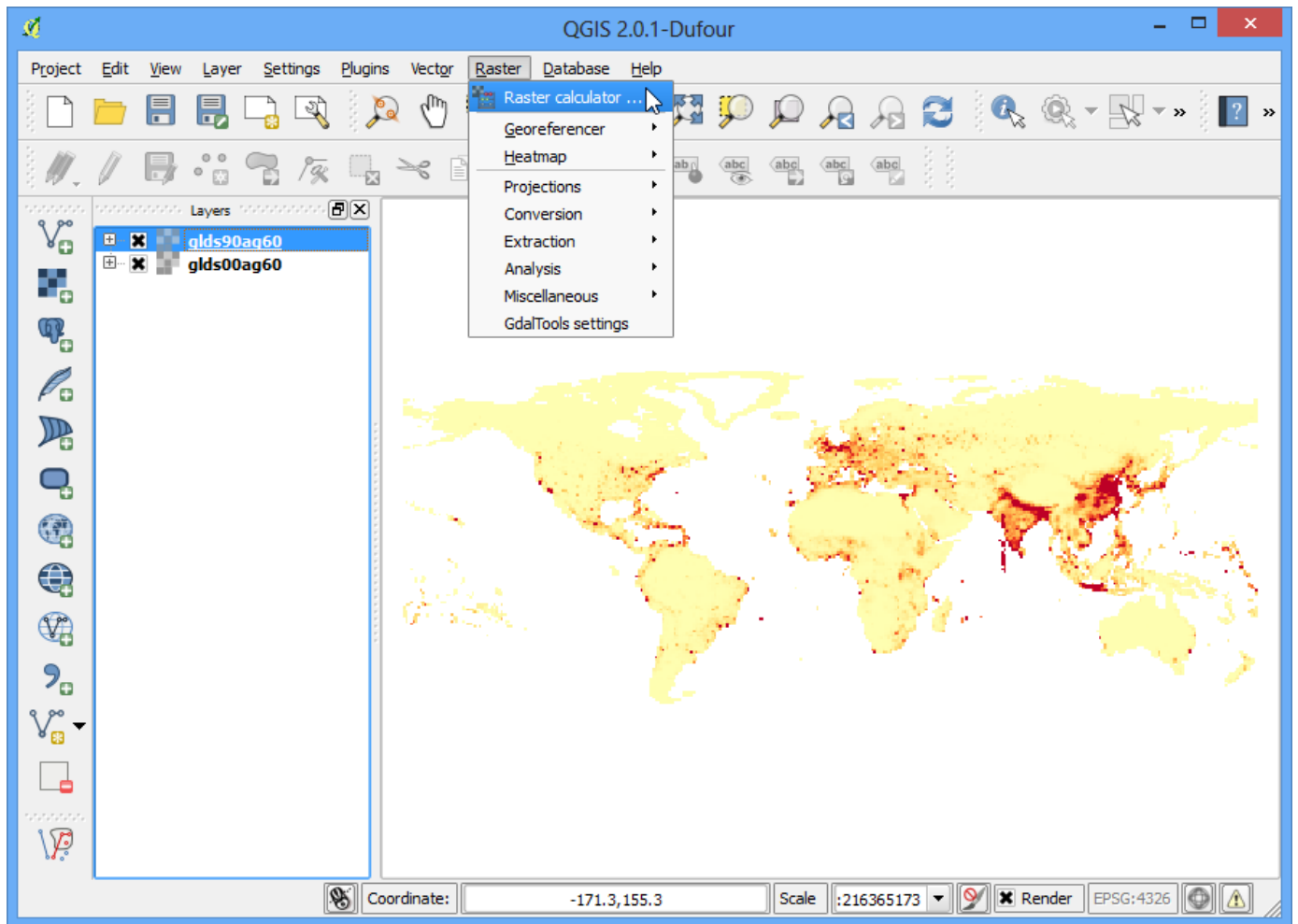
11. **Style** **Render type** **Singleband pseudocolor**
:guilabel: 'Generate a new color map' **:guilabel: 'Classify'**
5 **:guilabel: 'OK'**



12. QGIS ■■■■ ■■■■ ■■■■. ■■■■ ■■■■ ■■ ■■■■ ■■ ■ ■■■■. ■■ ■■■■ ■■ ■■■■ ■■ ■■■■.



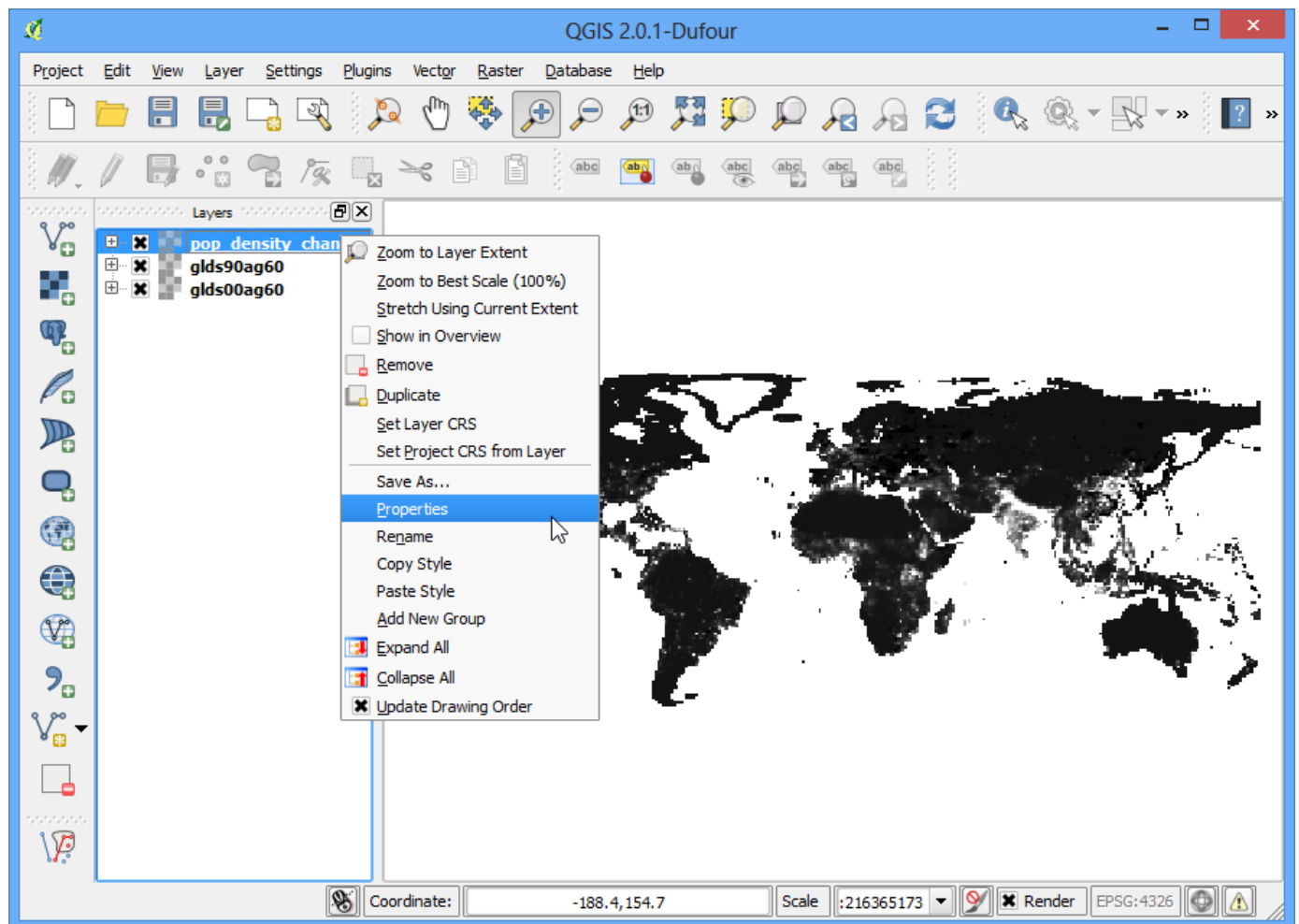
13. ■■■■■■ 1990■■■ 2000■ ■■■■ ■■ ■■■■■■ ■ ■■ ■■ ■■■■■■. ■■■■ ■■■■ ■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■. ■■■> ■■■■ --> ■■■■ ■■■■ :menuselection: Raster --> Raster calculator`■ ■■■■■■.



14. **Raster bands** **glds00ag60** and **glds90ag60** are selected in the Layers panel. The **Raster calculator** dialog box is open, and the expression **glds00ag60@1 - glds90ag60@1** is entered in the Expression field. The **OK** button is clicked to add the result to the project.



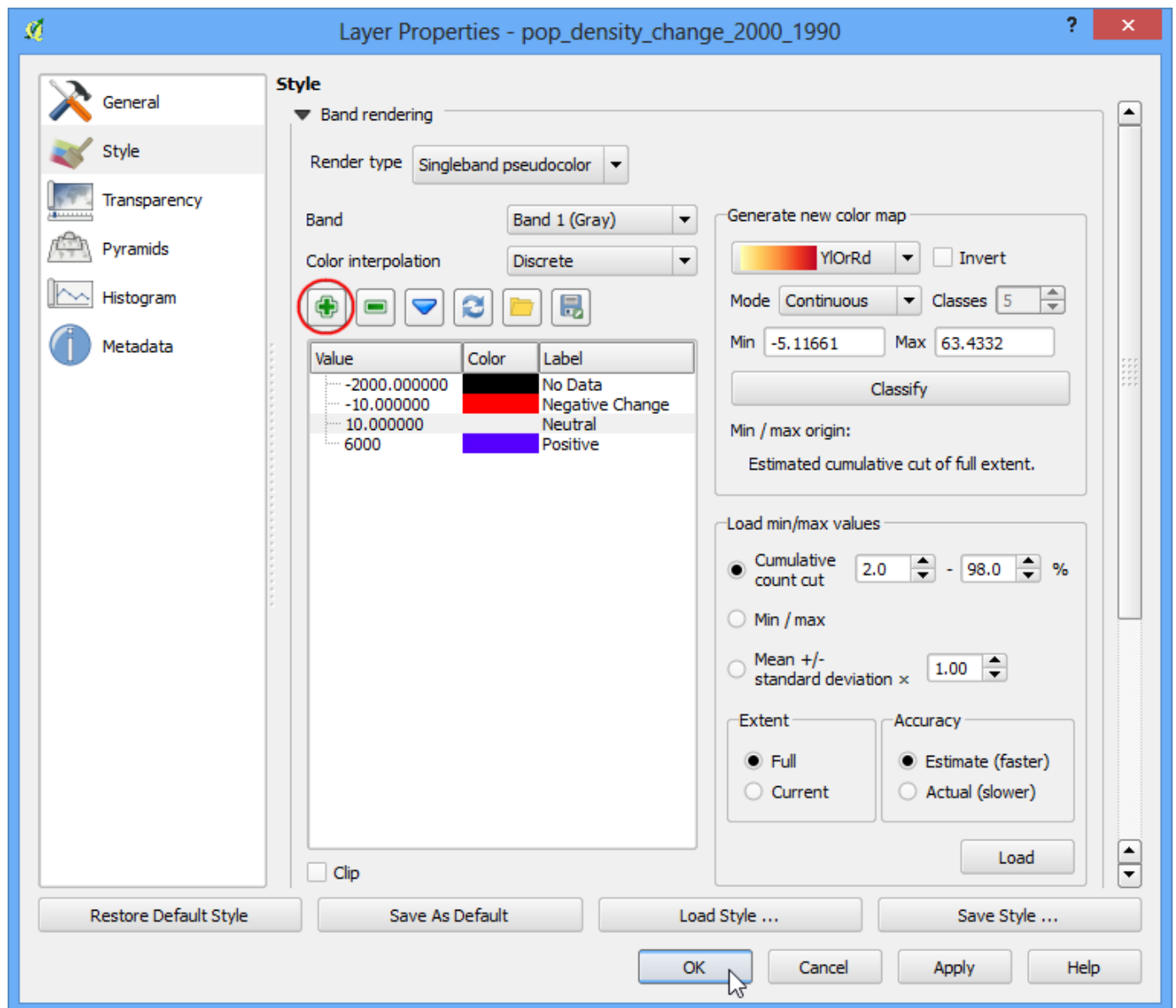
16. `pop_density_change_2000_1990``
 :guilabel: Properties



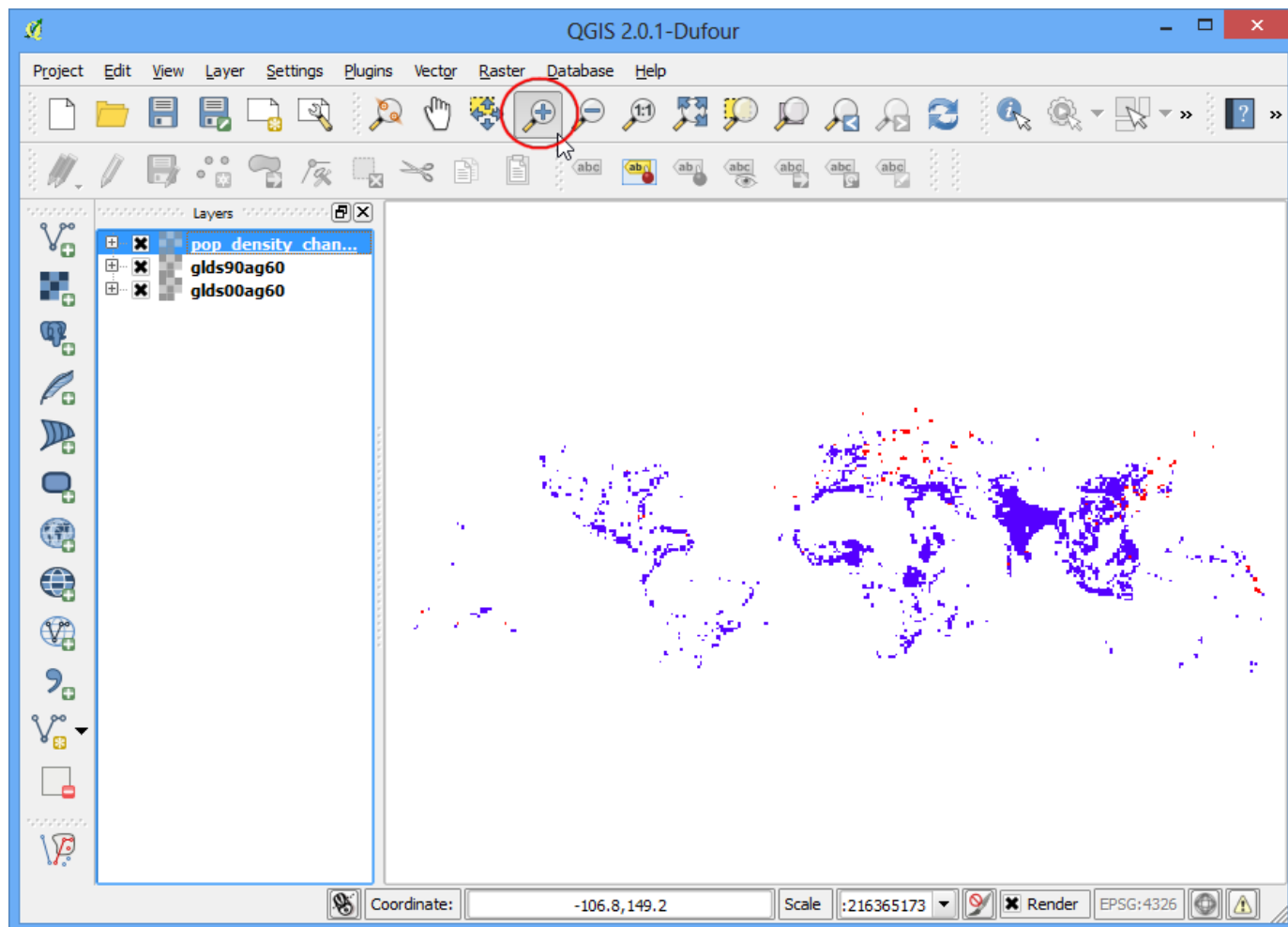
17. `guiabel:Metadata`



18. **Style** **Band Rendering** **Render type** **Singleband pseudocolor** **Color interpolation** **Discrete** **Add entry** **4** **-2000** **-2000** **No Data** **OK**



19. `self.zoom_in_button.setText('Zoom In')`



20. ■■■ ■■■ :guilabel: 'Identify' ■■■ ■■■■■, ■■■ ■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■
 ■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■■■.



21. ■■■ ■ ■ ■ ■■■■ ■■■■■■ '■■■' ■■■■ ■■■■■■. ■■ ■■■ ■■■ ■■■ --> ■■■ ■■■
 :menuselection:`Raster --> Raster calculator` ■■■■.



22. `pop_density_change_2000_1990@1 < -10`. `negative_pop_change_2000_1990`.
 1 0. `negative_pop_change_2000_1990`.
 0. `negative_pop_change_2000_1990`.
 :guilabel: Add result to project. OK.



23. ■■■ ■■■■ ■■■■ ■■■■■■■■■■. ■■■■ ■■■■ ■■■■ ■ ■■■ ■■■ :guilabel: `Properties` ■■■■■■■■. ■■■■ :guilabel: `Transparency` ■■■■ ■■■■ no data value :guilabel: `Additional no data value` ■ 0 ■■■■■■■■. ■■■■ ■■■■ 0 ■■ ■■ ■■ ■■■■ ■■■■. :guilabel: `OK` ■■■■■■■■.

