

Calculating Line Lengths and Statistics

QGIS Tutorials and Tips



Author

Ujaval Gandhi

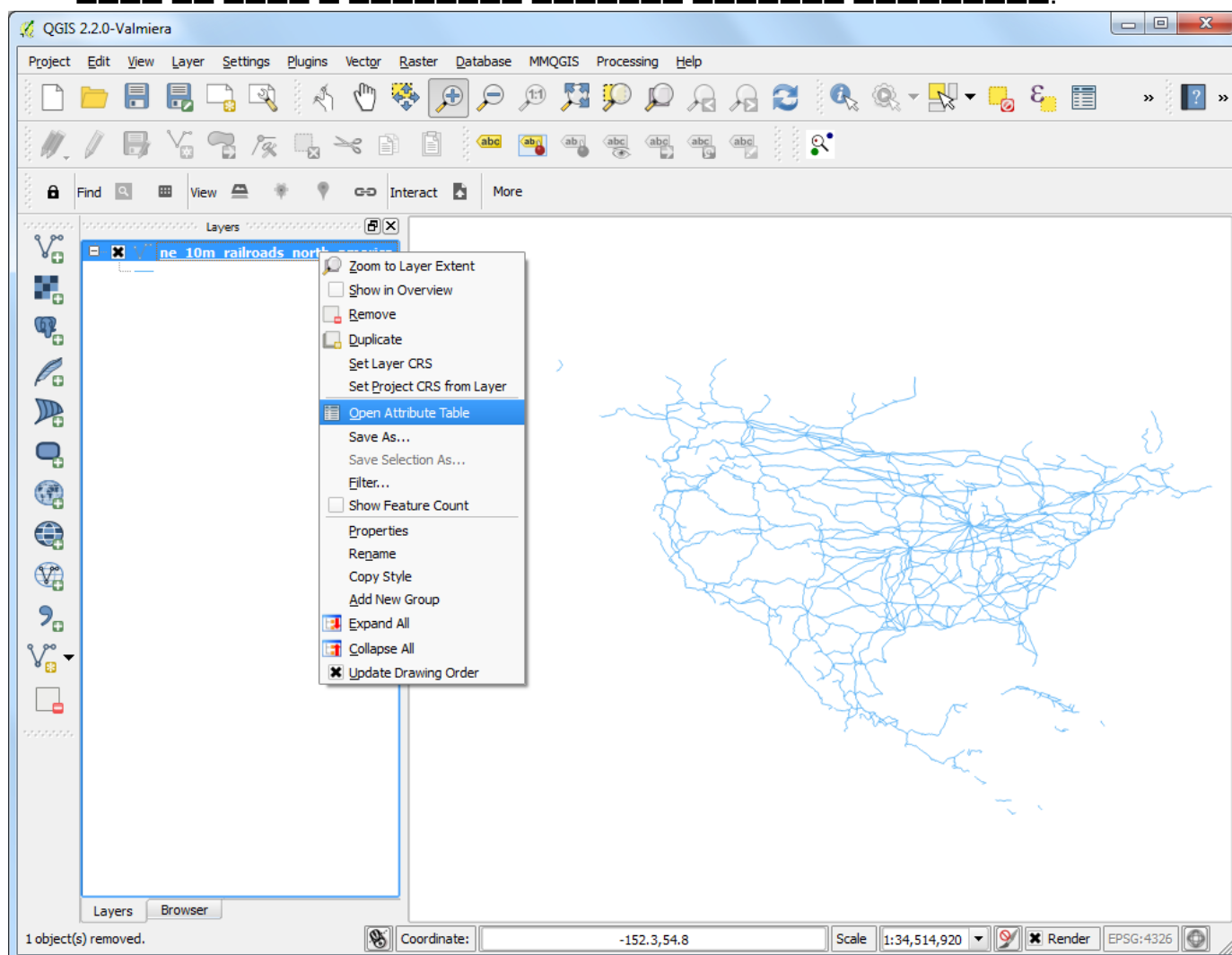
<http://google.com/+UjavalGandhi>

Translations by

Marina Pavlova Ilya Trofimov Fayçal Fatihi



4. [REDACTED], [REDACTED], [REDACTED]
 [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
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5. ■ ■■■■■■ ■■■■ ■■■■ ■■■■■■■■ sov_a3. ■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■, ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■. ■■■■ ■■■■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■, ■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■, ■■■■■■■■■■■■■■ ■■■■.

Attribute table - ne_10m_railroads_north_america :: Features total: 1127, filtered: 1127, selected: 0

	scalerank	featurecla	sov_a3	uident	add	natrlscale	continent
0	8	Railroad	USA	1506	0	0	North America
1	9	Railroad	USA	1606	1	5	North America
2	8	Railroad	USA	1706	0	0	North America
3	8	Railroad	USA	1806	0	0	North America
4	8	Railroad	USA	1906	0	0	North America
5	8	Railroad	USA	2006	0	0	North America
6	8	Railroad	USA	2106	0	0	North America
7	9	Railroad	USA	2206	1	5	North America
8	8	Railroad	USA	2306	0	0	North America
9	8	Railroad	USA	2406	0	0	North America
10	8	Railroad	USA	2506	0	0	North America
11	8	Railroad	USA	2606	0	0	North America
12	8	Railroad	USA	2706	0	0	North America
13	8	Railroad	USA	2806	0	0	North America
14	9	Railroad	USA	2906	1	5	North America
15	9	Railroad	USA	3006	1	5	North America
16	8	Railroad	USA	3106	0	0	North America
17	8	Railroad	USA	3206	0	0	North America
18	8	Railroad	USA	3306	0	0	North America
19	8	Railroad	USA	3506	0	0	North America
20	8	Railroad	USA	3606	0	0	North America
21	8	Railroad	USA	3706	0	0	North America
22	8	Railroad	USA	3806	0	0	North America
23	9	Railroad	USA	3906	1	5	North America

Show All Features

6. ■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■.

Attribute table - ne_10m_railroads_north_america :: Features total: 1127, filtered: 1127, selected: 0



	scalerank		uident	add	natrscale	continent
0	8	Railroad	1506	0	0	North America
1	9	Railroad	1606	1	5	North America
2	8	Railroad	1706	0	0	North America
3	8	Railroad	1806	0	0	North America
4	8	Railroad	1906	0	0	North America
5	8	Railroad	2006	0	0	North America
6	8	Railroad	2106	0	0	North America
7	9	Railroad	2206	1	5	North America
8	8	Railroad	2306	0	0	North America
9	8	Railroad	2406	0	0	North America
10	8	Railroad	2506	0	0	North America
11	8	Railroad	2606	0	0	North America
12	8	Railroad	2706	0	0	North America
13	8	Railroad	2806	0	0	North America
14	9	Railroad	2906	1	5	North America
15	9	Railroad	3006	1	5	North America
16	8	Railroad	3106	0	0	North America
17	8	Railroad	3206	0	0	North America
18	8	Railroad	3306	0	0	North America
19	8	Railroad	3506	0	0	North America
20	8	Railroad	3606	0	0	North America
21	8	Railroad	3706	0	0	North America
22	8	Railroad	3806	0	0	North America
23	9	Railroad	3906	1	5	North America

Show All Features

7. **sov_a3** is a field in the attribute table that contains the ISO 3166-1 alpha-3 country codes. We want to select all features where the country is the United States. The expression for this is:
- ```
"sov_a3" = 'USA'
```

Select By Expression

Function list

Search

- String
- Color
- Geometry
- Record
- Fields and Values
  - scalerank
  - featurecla
  - sov\_a3
  - uident
  - add
  - natrscale
  - continent
- Recent (Selection)

Selected function help

**Field**

Double click to add field name to expression string.

Right-Click on field name to open context menu sample value loading options.

Field values

Load values all unique 10 samples

Operators

= + - / \* ^ || ( )

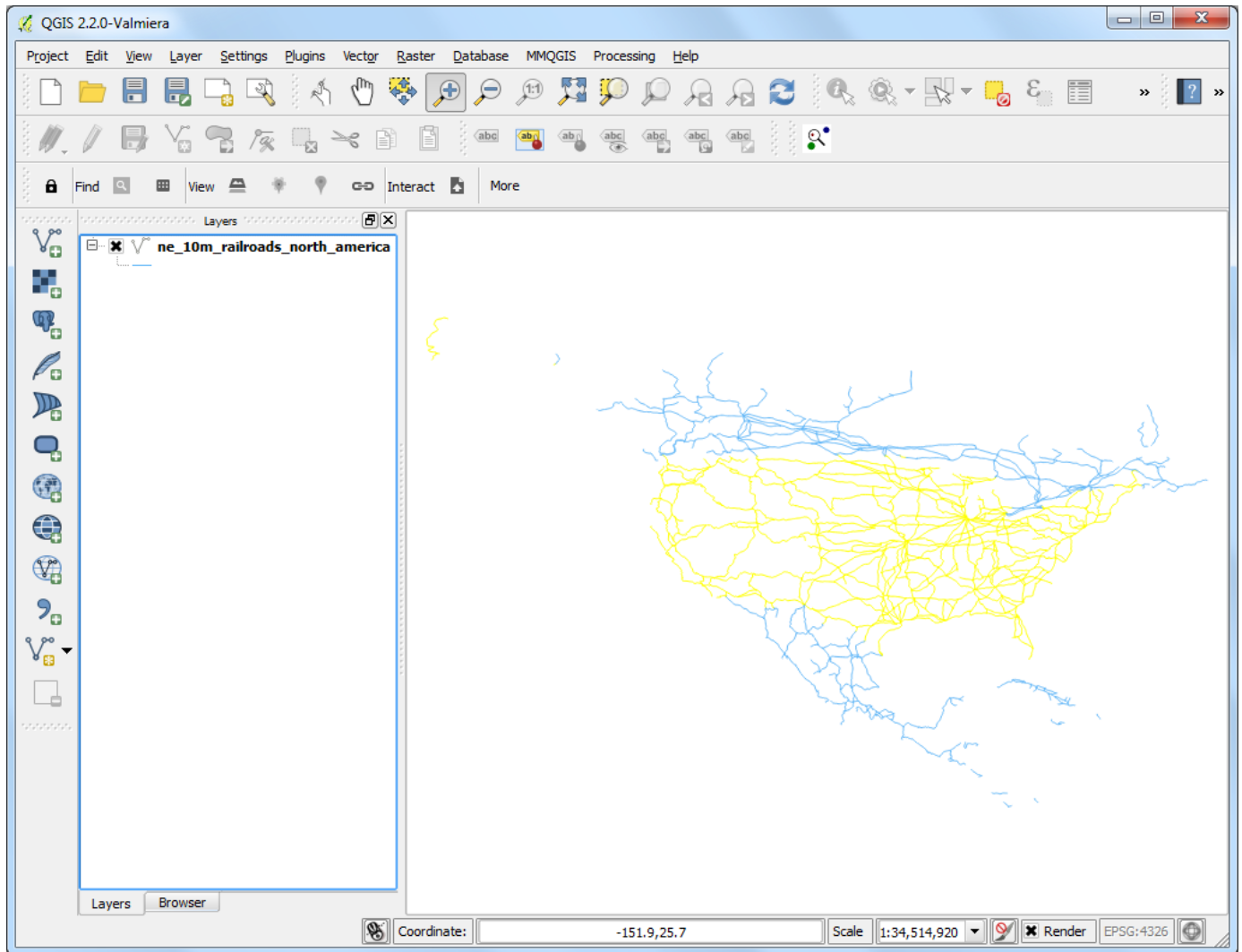
Expression

```
"sov_a3" = 'USA'
```

Output preview: 1

Select Close

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



```
9. ne_10m_railroads_north_america
```







11. ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■, ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■. ■■■■ ■■■■. ■■■■ ■■■■ *north america equ* ■ ■■■■ ■■■■. ■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■ ■■■■. ■■■■ ■■■■ *North\_America\_Equidistant\_Conic EPSG:102010* ■ ■■■■ ■■■■ ■■■■. ■■■■ ■■■■ ■■■■.



12. ■ Save ■■■■■■■■■■ ■■■■, ■■■■... ■■■■■■■■■■, ■■■■■■■■■■ Add ■■■■■■■■■■ ■■■■, ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■ ■■■■■■■■■■ OK.



13. The following steps will be followed to save the vector layer as a shapefile, and then add it to the map. The first step is to click on the 'Save vector layer as...' button in the 'Layer' menu. The second step is to select the 'ESRI Shapefile' format. The third step is to click on the 'Browse' button to select the file path. The fourth step is to click on the 'OK' button to save the file. The fifth step is to click on the 'Add saved file to map' checkbox. The sixth step is to click on the 'More Options >>' button. The seventh step is to click on the 'OK' button to add the file to the map. The eighth step is to click on the 'Cancel' button to close the dialog box. The ninth step is to click on the 'Help' button to get more information about the dialog box.



14. ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■ usa\_railroads ■ ■■■■■■■■ Open  
■■■■■■■■■ ■■■■■■■■.







17. **Attribute**, **Toggle**, **length\_km**







19. **Input** `usa_railroads`. **Target** `length_km` is **OK**. **Sum** - **Basic statistics**.

### Note

The **Sum** tool is used to calculate the sum of the values of the selected field. In this case, the **length\_km** field is selected. The result is a new layer with the same geometry as the input layer, but with the **length\_km** field replaced by the sum of its values.

Basics statistics

Input Vector Layer  
usa\_railroads

☐ Use only selected features

Target field  
length\_km

Statistics output

| Parameter               | Value          |
|-------------------------|----------------|
| Mean                    | 127.751569149  |
| StdDev                  | 125.80562595   |
| Sum                     | 96069.18       |
| Min                     | 0.01           |
| Max                     | 936.6          |
| N                       | 752.0          |
| CV                      | 0.984767755... |
| Number of unique values | 743            |

Press Ctrl+C to copy results to the clipboard

0% OK Close