

# Calculating Line Lengths and Statistics

QGIS Tutorials and Tips



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[illegible]

● QGIS 是开源的地理信息系统软件，它提供了强大的地图制作和空间分析功能。QGIS 支持多种数据格式，包括矢量、栅格、数据库等。它还具有丰富的插件系统，可以扩展其功能。QGIS 的界面友好，易于学习和使用。QGIS 的官方网站是 <http://www.qgis.org>。QGIS 的社区非常活跃，提供了大量的教程和文档。QGIS 的许可证是 GNU GPL，这意味着它是免费的，并且可以自由分发和修改。

11 12 13 14 15 16 17 18 19 20 21

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- [illegible]

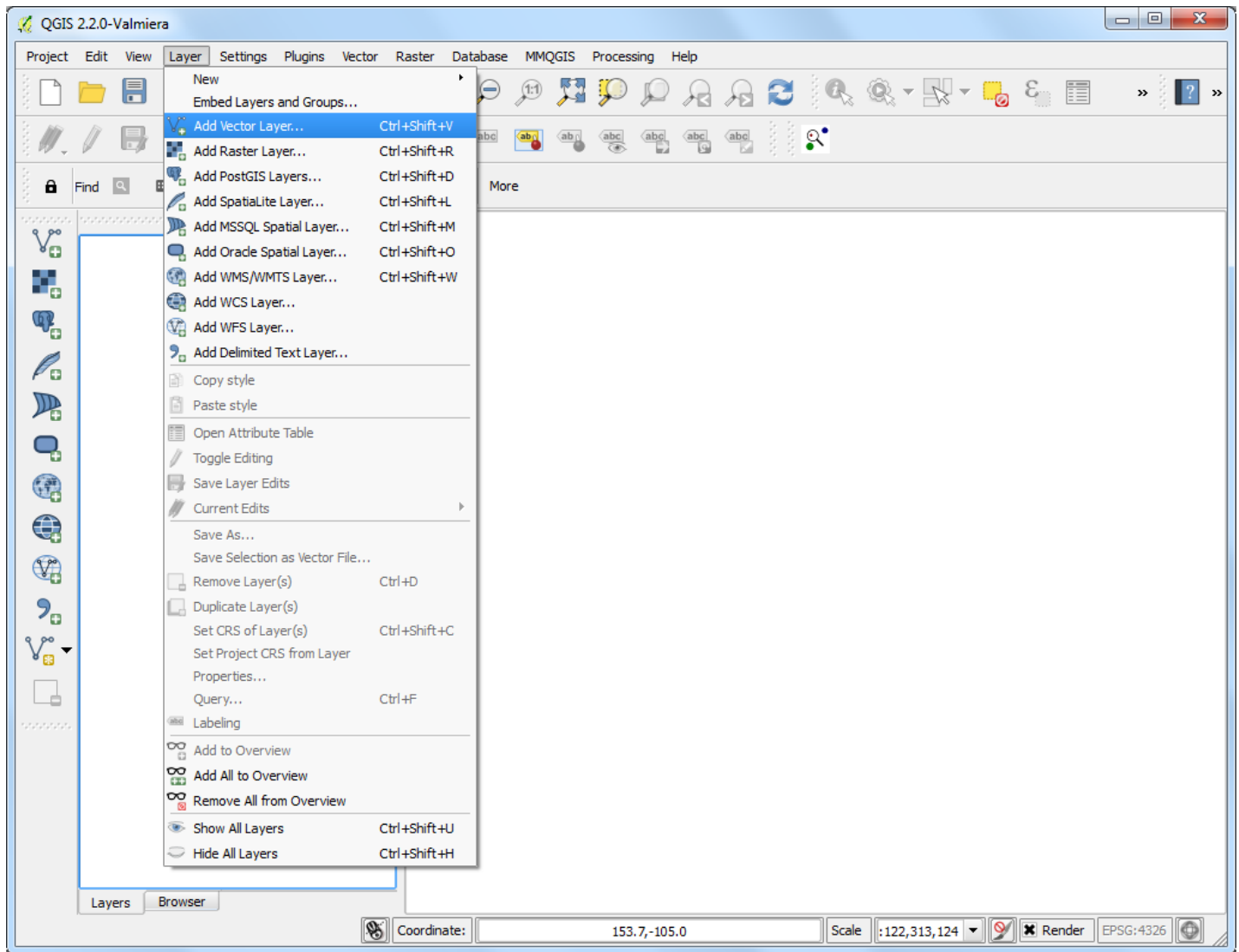
Response	Percentage
Yes	75%
No	25%

Natural Earth          

■■■■■■■■ ■■■■■■: [NATURALEARTH]

■■■■■■■■■■

- 1.**



2. ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ne\_10m\_railroads\_north\_america.zip ■  
 ■■■■■■■■ ■■■.



- ```
3. ne_10m_railroads_north_america.shp.
```



4. [REDACTED] [REDACTED] [REDACTED], [REDACTED] [REDACTED] [REDACTED], [REDACTED] [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]. [REDACTED] [REDACTED] [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED], [REDACTED] [REDACTED]  
[REDACTED] [REDACTED], [REDACTED] [REDACTED] [REDACTED]. [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED].



Attribute table - ne\_10m\_railroads\_north\_america :: Features total: 1127, filtered: 1127, selected: 0

|    | scalerank | featurcda | sov_a3 | uident | add | natrscale | 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

Select features using an expression

|    | scalerank |          | uid  | 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. **Task 7: Filtering features by country**
- sov\_a3** is a field in the attribute table that contains the three-letter ISO country code. For example, the value 'USA' is stored for the United States. We want to filter the table to only include features where the country is the United States. The expression to use is `"sov_a3" = 'USA'`.



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





9. `ne_10m_railroads_north_america`





11. **Save the layer as a shapefile, using the following settings:**  
 Format: ESRI Shapefile  
 Save as: C:/Users/Ujaval/Downloads/usa\_railroads.shp  
 Encoding: System  
 CRS: Layer CRS  
 Symbology export: No symbology  
 Scale: 1:50000  
 Skip attribute creation: ☐  
 Add saved file to map: ☐  
 More Options >>







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









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





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

## Note

The `Basic statistics` tool is used to calculate the sum of the values in the `length_km` field for the `usa_railroads` layer. The result is displayed in the `Basic statistics` dialog box.

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