Exploring Weather Trends

SQL Queries:

To select country and city:

SELECT * FROM city_list WHERE country LIKE 'India';

To retrieve city temperature data:

SELECT * FROM city_data WHERE city LIKE 'Bangalore';

To retrieve global temperature data:

SELECT * FROM global_data;

Tools Used:

MY SQL (built-in workspace in Udacity Classroom)- To extract all the global and city temperature data.

Microsoft Excel- To calculate the moving averages and making line charts.

Calculating Moving Average:

Formula Used: =AVAERAGE(B1:B31) where B1 and B31 are the limits for the averages to be taken.

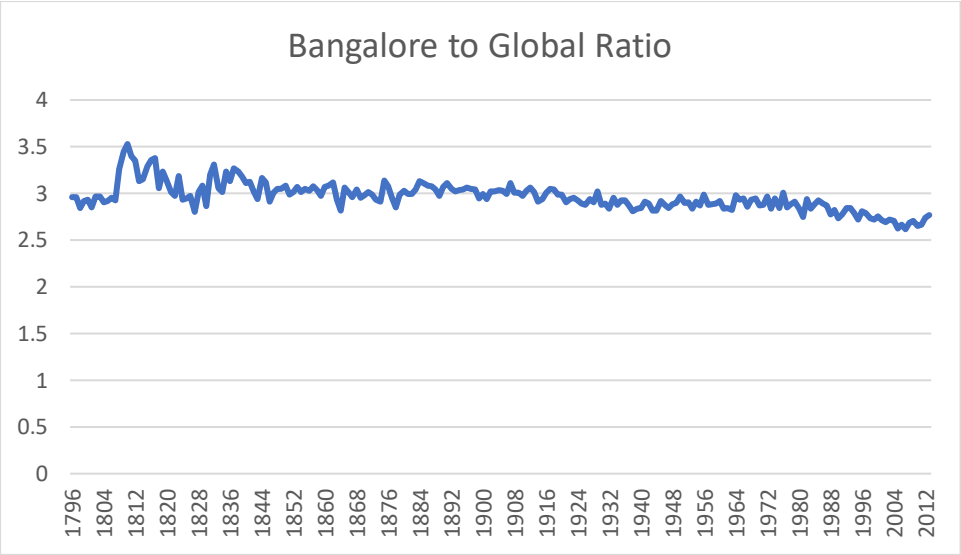
First, we calculated one moving average (30 year). Then we simply select and drag to the bottom to get all the moving averages.

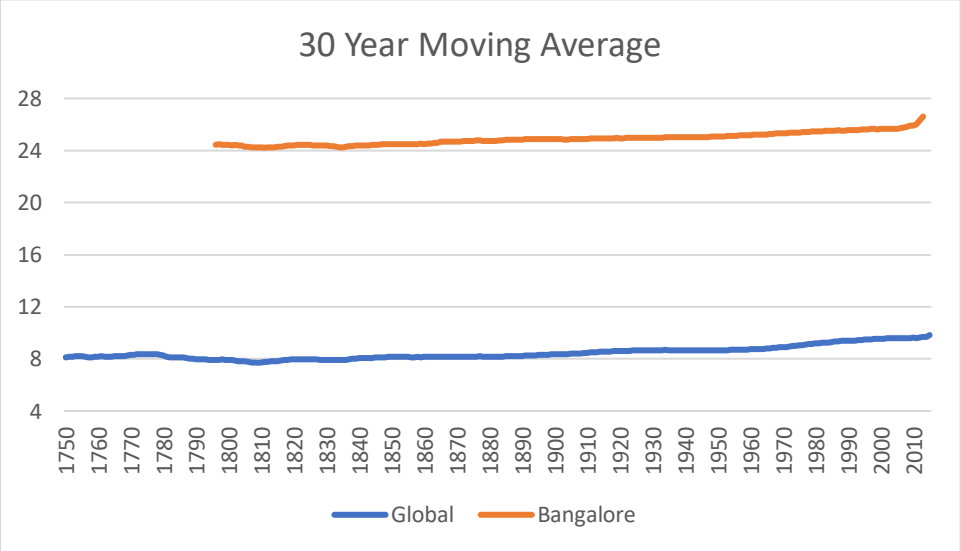
Key Considerations when deciding how to visualize the trend:

The key considerations were to compare the two trends in a graphical method by using a line graph and by also plotting their ratios to get an even clearer image.

Inferences Made:

- The selected city is hotter on average compared to the global average. The difference has been consistent. But overall in the last 5 years, the temperature has been seen to rise.
- Over time, the selected city's temperature has seen to rise higher as compared to the global average.
- The overall trend looks to be rising. The world is getting hotter every year. The trend has been consistent with the temperature rising by a degree every 100 years.


Bangalore to Global Ratio
4
3.5
3
2.5
2
1.5
1
0.5
0
1796
1804
1812
1820
1828
1836
1844
1852
1860
1868
1876
1884
1892
1900
1908
1916
1924
1932
1940
1948
1956
1964
1972
1980
1988
1996
2004
2012


30 Year Moving Average
28
24
20
16
12
8
4
1750
1760
1770
1780
1790
1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
Global
Bangalore