

PROJECT- EXPLORING WEATHER TRENDS

OUTLINE

1. Tools and Method
2. Considerations
3. Chart
4. Observations

1. TOOLS

The tools used for this project are SQL and excel. The dataset was queried to return a table containing the city average temperature for Berlin and the global average temperature. The year, city, country and the average temperature was returned and downloaded as a CSV document.

SQL query

```
SELECT city_data.year,city_data.country, city_data.city, city_data.avg_temp  
FROM city_data  
JOIN global_data  
ON city_data.year = global_data.year  
WHERE city_data.city = 'Berlin'  
ORDER BY city_data.year;
```

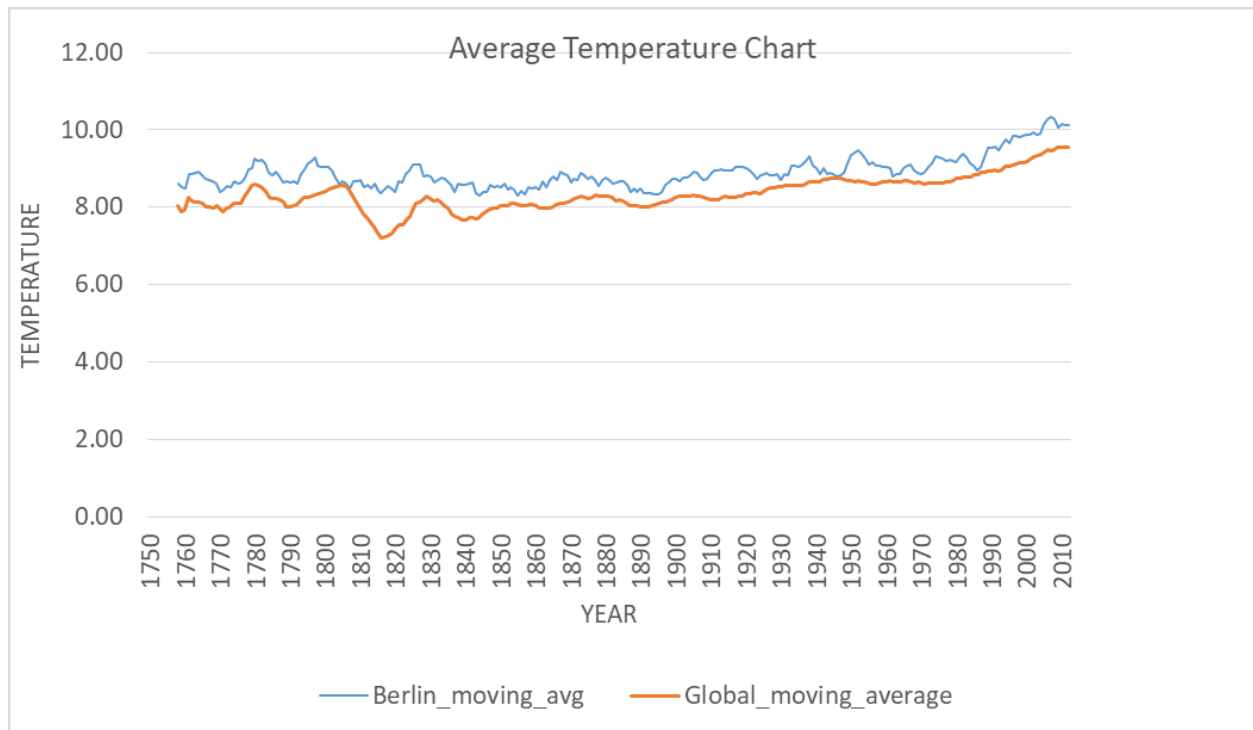
```
SELECT city_data.year,city_data.country, city_data.city, global_data.avg_temp  
FROM city_data  
JOIN global_data  
ON city_data.year = global_data.year  
WHERE city_data.city = 'Berlin'  
ORDER BY city_data.year;
```

From the data returned, we had to calculate the moving average so as to understand the trend in data. The moving average was calculated by getting the mean of the first ten years and auto filling the other years. This was done for the city's average temperature and the global average temperature and the moving average values were stored in separate columns.

2. CONSIDERATIONS

The values of the moving average for the city average temperature and the global average temperature were plotted on a line graph.
A line graph was used as it is most suitable for visualizing trends in time series data..

3. LINE CHART



4. OBSERVATIONS

1. There has been significant increase in temperature between 1750 and 2010
2. The highest Global temperature was 9.56 and it was recorded in 2012, while the lowest was 7.25 and it was recorded in 1818.
3. From the chart above, there had been temperature fluctuations between 1750 and 1840 and after that, there has been a steady rise in the global average temperature and the city temperature.
4. Berlin recorded the highest temperature as 10.29 in 2008.
5. Between 1979 and 2013, there has been no decrease in the global temperature.
6. Both trends show significant increase in temperature between 1990 and 2013.

5. CONCLUSIONS

From the trends above, there has been a significant increase in temperature Globally and in Berlin between 1990 and 2013. This increase is the highest increase recorded in almost three centuries.