

PROJECT 1 : EXPLORE WEATHER TRENDS

ACTION: To analyse local and global temperature data and compare the temperature trends where you live to overall global trends

Section One: Data Extraction

SQL CODE TO SEE THE TABLES

TABLE A:

```
SELECT *  
FROM city_data;
```

TABLE B

```
SELECT *  
FROM global_data;
```

SQL CODE TO EXTRACT THE DATA

```
SELECT g.avg_temp global_temp, c.year, c.city, c.country, c.avg_temp  
FROM global_data g  
JOIN city_data c  
ON g.year =c.year  
WHERE country = 'United Kingdom' AND city = 'Birmingham';
```

Section Two: Data Exploration

In this section, Excel was used to calculate the seven years moving average and powerBI tool was used to visualise the data using line chart.

Table 1: Showing the data from the excel sheet

	A	B	C	D	E	F	G	H
1	global_tem	year	city	country	avg_temp	global_7y_MA	Birmingham_7y_MA	%of Increase MA
2	8.72	1750	Birmingham	United Kingdom	9.73			
3	7.98	1751	Birmingham	United Kingdom	9.51			
4	5.78	1752	Birmingham	United Kingdom	6.26			
5	8.39	1753	Birmingham	United Kingdom	8.97			
6	8.47	1754	Birmingham	United Kingdom	8.82			
7	8.36	1755	Birmingham	United Kingdom	8.54			
8	8.85	1756	Birmingham	United Kingdom	8.98	8.08	8.69	7.55%
9	9.02	1757	Birmingham	United Kingdom	8.92	8.12	8.57	5.54%
10	6.74	1758	Birmingham	United Kingdom	8.29	7.94	8.4	5.79%
11	7.99	1759	Birmingham	United Kingdom	9.26	8.26	8.83	6.90%
12	7.19	1760	Birmingham	United Kingdom	8.69	8.09	8.79	8.65%
13	8.77	1761	Birmingham	United Kingdom	9.23	8.13	8.84	8.73%
14	8.61	1762	Birmingham	United Kingdom	8.6	8.17	8.85	8.32%
15	7.5	1763	Birmingham	United Kingdom	8.29	7.97	8.75	9.79%
16	8.4	1764	Birmingham	United Kingdom	8.64	7.89	8.71	10.39%
17	8.25	1765	Birmingham	United Kingdom	8.47	8.1	8.74	7.90%
18	8.41	1766	Birmingham	United Kingdom	8.58	8.16	8.64	5.88%
19	8.22	1767	Birmingham	United Kingdom	8.62	8.31	8.63	3.85%
20	6.78	1768	Birmingham	United Kingdom	8.66	8.02	8.55	6.61%
21	7.69	1769	Birmingham	United Kingdom	8.6	7.89	8.55	8.37%

Moving average of seven years was used to for the calculation

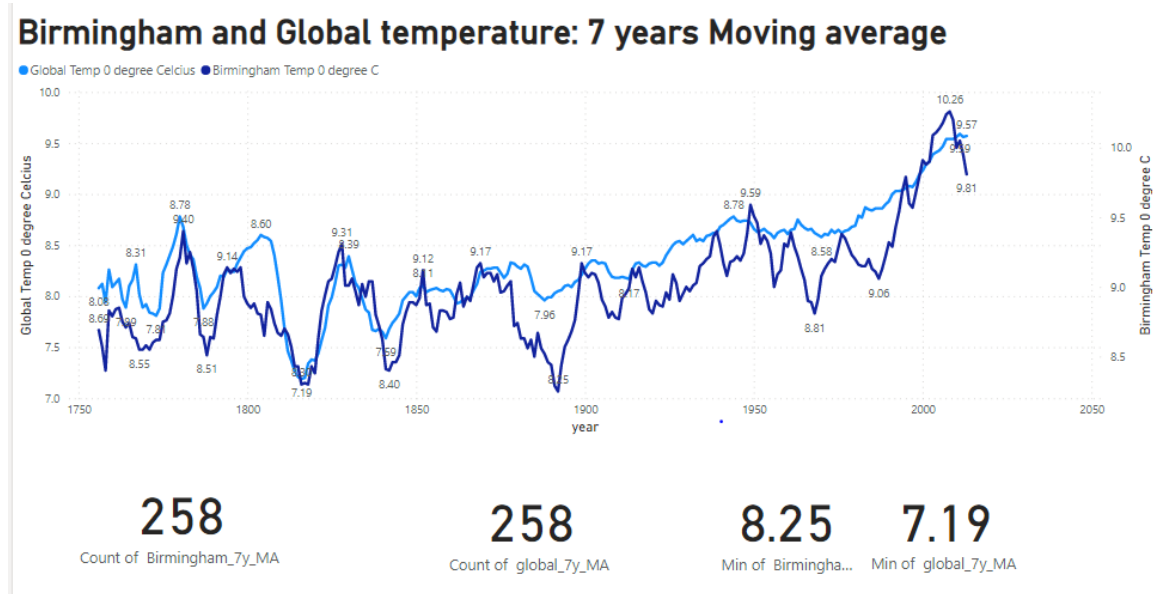


Figure 1: Showing line chart of Seven(7) years Moving average of Birmingham and global Temperature.

PowerBI tool is used for the visualisation.

Section Three: Conclusion

1. The global temperature is increasing
2. The seven(7) years moving average of global temperature and Birmingham temperature grew by 7.55%.
3. The highest percentage increase of temperature in Birmingham was 10.26 in year 2008
4. The Min. global temperature for those years is 7.19

Reference:

1. <https://learn.udacity.com/nanodegrees/nd002/parts/8567e327-2b0e-4f2e-92bc-c15e2b1598b9/lessons/d80f6934-3736-40b7-b38e-463b83304477/concepts/c7fb363e-b008-4ec3-bd3a-dd3058724031>