

Exploring Weather Trend Between Bangkok and Global

Outline

What tools did you use for each step? (Python, SQL, Excel, etc.)

- SQL query for extract data from a database to CSV file.
 - o Extract global data from the database to CSV file.

The screenshot shows a SQL query interface. The 'Input' section on the left lists a schema with tables: city_data, city_list, and global_data. The SQL query in the main area is: `1 SELECT *` and `2 FROM global_data`. Below the query, a green bar indicates 'Success!' and a blue 'EVALUATE' button is present. The 'Output' section shows '266 results' and a 'Download CSV' link. The resulting data table has two columns: 'year' and 'avg_temp'. The first five rows of data are as follows:

year	avg_temp
1750	8.72
1751	7.98
1752	5.78
1753	8.39

- o Query my local city.

The screenshot shows a SQL query interface. The 'Input' section on the left lists a schema with tables: city_data, city_list, and global_data. The SQL query in the main area is: `1 SELECT *`, `2 FROM city_list`, and `3 WHERE city = 'Bangkok'`. Below the query, a green bar indicates 'Success!' and a blue 'EVALUATE' button is present. The 'Output' section shows '1 results' and a 'Download CSV' link. The resulting data table has two columns: 'city' and 'country'. The single row of data is as follows:

city	country
Bangkok	Thailand

- Extract my local city data from the database to CSV file.

Input

SCHEMA

city_data

city_list

global_data

1 SELECT *
2 FROM city_data
3 WHERE city = 'Bangkok'

Success!

EVALUATE

Output 198 results

Download CSV

year	city	country	avg_temp
1816	Bangkok	Thailand	25.96
1817	Bangkok	Thailand	25.83
1818	Bangkok	Thailand	26.48

- Manipulate data and data visualization in Excel.

How did you calculate the moving average?

- Use AVERAGE formula in Excel to calculate 7 year moving average like the picture below then copy the formula by drag it down to next cell.

SUM		X ✓ fx		=AVERAGE(B2:B8)	
A	B	C	D	E	
year	avg_temp	7-Year MA BKK			
1833	26.83				
1834	26.82				
1835	25.89				
1836	26.36				
1837	25.84				
1838	27.08				
1839	26.59	=AVERAGE(B2:B8)			
1840	26.83	26.48714286			
1841	27.58	26.59571429			
1842	26.83	26.59571429			

What were your key considerations when deciding how to visualize the trends?

- To compare 7 year moving average temperature of my local city to 7 year moving average temperature of global.

Line chart with local and global temperature trends

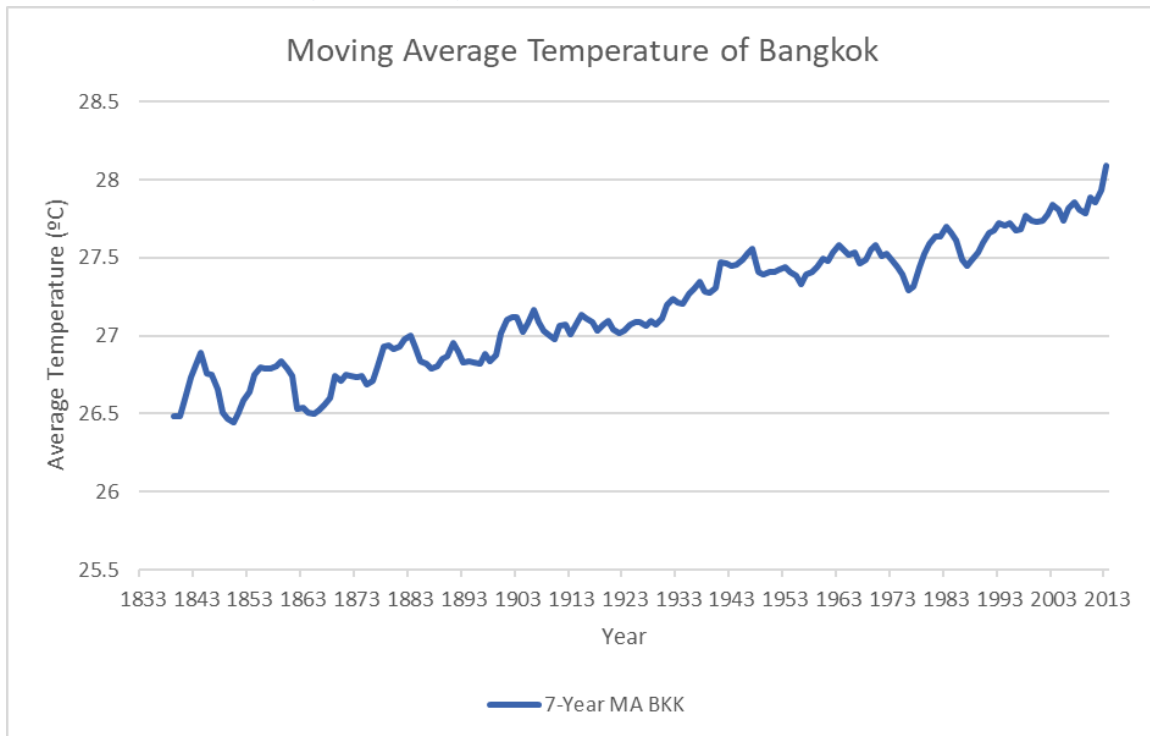


Figure 1: Moving Average Temperature of Bangkok

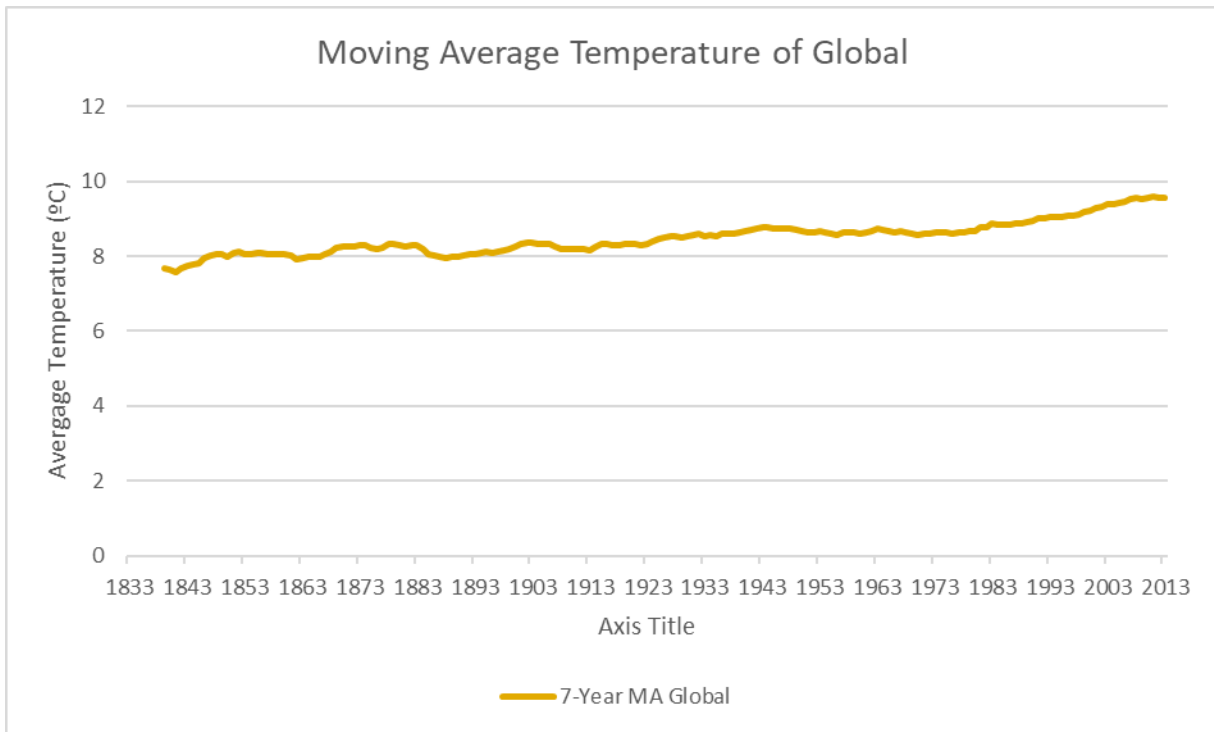


Figure 2: Moving Average Temperature of Global

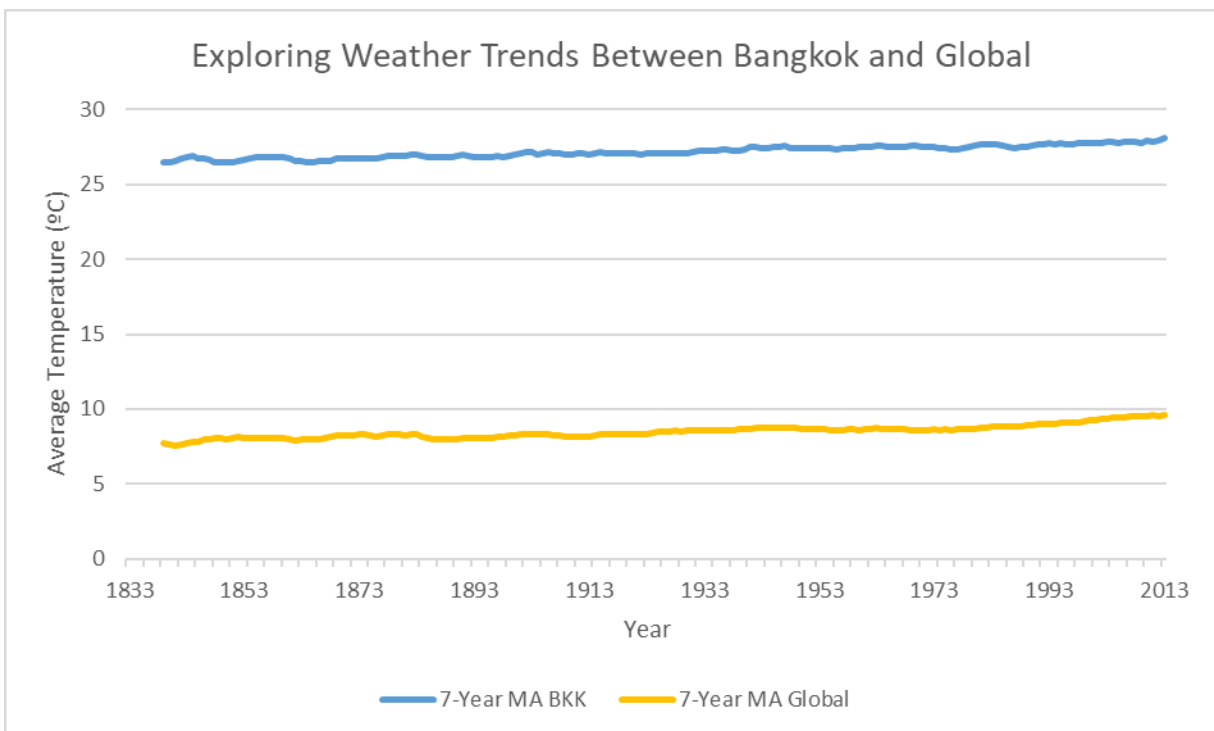


Figure 3: Exploring Weather Trends Between Bangkok and Global

Make observations

Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?

- Bangkok where is my city is hotter than global average consistently over time.

“How do the changes in your city’s temperatures over time compare to the changes in the global average?”

- Bangkok average temperature changes from 26.83 in year 1833 to 28.98 in year 2013 or 2.15 increase while global average temperature changes from 8.01 in year 1833 to 9.61 in year 2013 or 1.60 increase.

What does the overall trend look like? Is the world getting hotter or cooler? Has the trend been consistent over the last few hundred years?

- The world is getting hotter base on data on the past hundred years.

Is your city temperature more fluctuate than global average?

- Yes, Bangkok average temperature is more fluctuate than global average base on the fluctuation of moving average line in Figure 1 chart.