UDACITY

Project : Explore Weather Trend

Basmah Alsulami

Outline

In this report, I will analyze Manama city and global temperature data and I compare Manama city temperature trend with global temperature trends.

Extract data from the database use SQL:

- Select * from city_data;
- Select * from global_data;

Open the CSV files:

- Use excl sheets (data then click get data from choose CVS files) Then click Transform
- Power query editor (use filter then select **Manama city**)

Calculate the moving averages

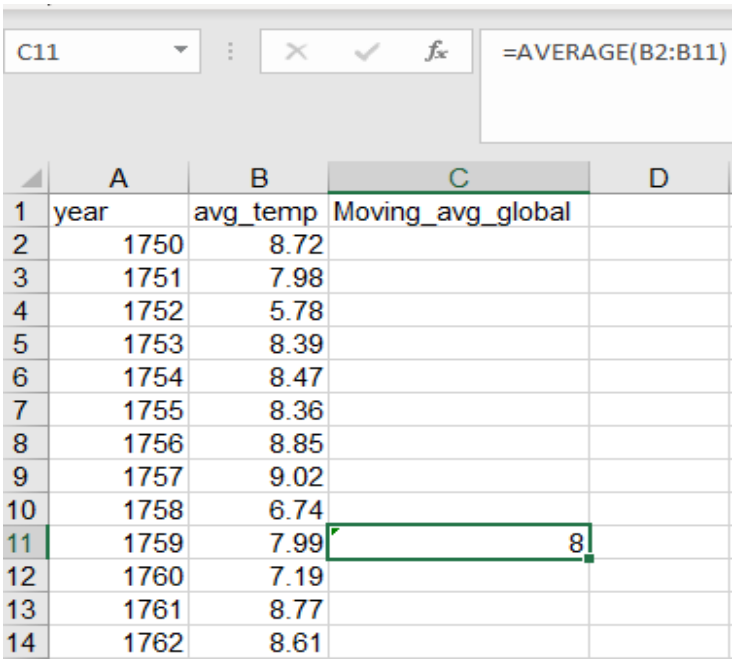
Moving average is very useful its smooth out data and it help to observe trends. key considerations are comparison between two variables over time and find relationship between them. I calculated the Moving average 10 years of each temperatures by my city and global.

How did you calculate the moving average?

- First, open the file by excel sheet.

	A	B
1	year	avg_temp
2	1750	8.72
3	1751	7.98
4	1752	5.78
5	1753	8.39
6	1754	8.47
7	1755	8.36
8	1756	8.85
9	1757	9.02
10	1758	6.74
11	1759	7.99
12	1760	7.19
13	1761	8.77
14	1762	8.61

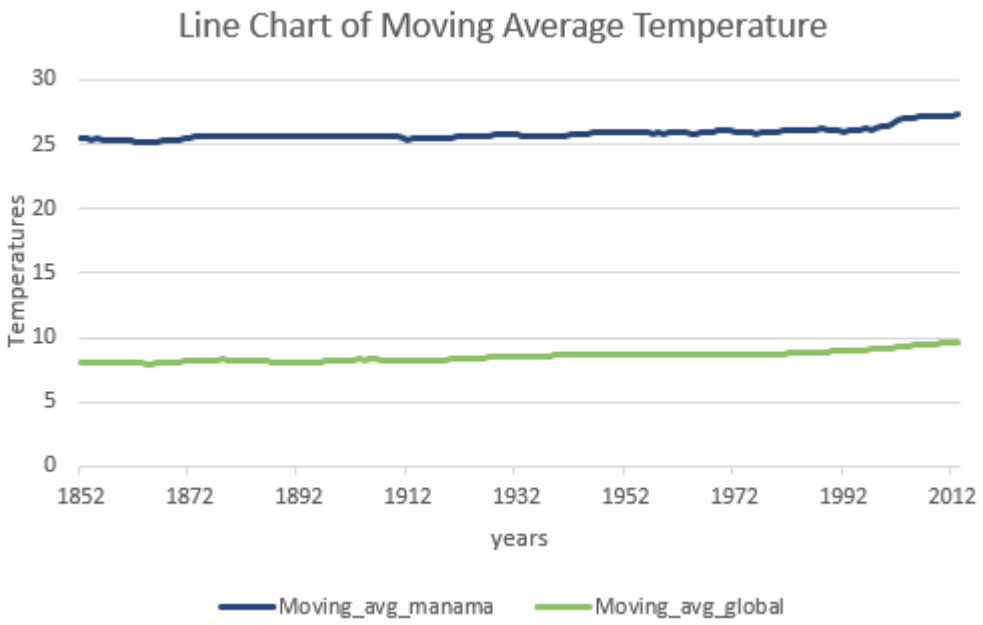
- Second, create a new column (Moving_avg_global) and taking a 10-years moving average. I use this the Function =AVERAGE(B2:B11). Then, round to the nearest number.



	A	B	C	D
1	year	avg_temp	Moving_avg_global	
2	1750	8.72		
3	1751	7.98		
4	1752	5.78		
5	1753	8.39		
6	1754	8.47		
7	1755	8.36		
8	1756	8.85		
9	1757	9.02		
10	1758	6.74		
11	1759	7.99	8	
12	1760	7.19		
13	1761	8.77		
14	1762	8.61		

- Finally, just right click on first cell of moving average then it is directly applied all of the cells.

	A	B	C
1	year	avg_temp	Moving_avg_global
2	1750	8.72	
3	1751	7.98	
4	1752	5.78	
5	1753	8.39	
6	1754	8.47	
7	1755	8.36	
8	1756	8.85	
9	1757	9.02	
10	1758	6.74	
11	1759	7.99	8
12	1760	7.19	8
13	1761	8.77	8
14	1762	8.61	8
15	1763	7.5	8
16	1764	8.4	8
17	1765	8.25	8
18	1766	8.41	8



Observation

1. Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?
   Yes, my city is hotter than global temperature. Yes, It's the difference been consistent over time.

2. How do the changes in your city's temperatures over time compare to the changes in the global average?
   My city is increasing hot over time compare to the global average by difference very large. And the last ten years were constant degree 27.

3. 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 overall trend looks like an upward. The world is getting hotter. Yes, the trend been consistent.

4. The correlation coefficient is (0.93). It's very strong positive relationship between the global and my city temperatures.