Udacity Data analysis degree Project : Weather Trends

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Abstract

SQL (structured query language) was the programming language used here ,after coding in SQL The requied data was obtained .Comma Separated Value files(CSV) containing the yearly average temperatures of Bangalore and the global average temperatures ,it was analyzed using Excel. On seeing the data we can see that the local temperature has aways been high average around 24-25° and the global average has been roughly around 7-8°.The reason for the higher local temperature is the location .

1. INTRODUCTION

Global warming has been a big challenge for our humankind ,its due to the pollution and other aspects ,it has been a debate in politics in recent years and is the most concerning factor in our society as of 2018. In this report we global weather data and local weather data and analyze to determine whether or not temperatures are climbing over time .we also see the way we observe changes using chats in excel.

2. METHODS

The data used here to analysis was taken from the database using SQL(Structured Query Language after getting the data I downloaded the CSV (Comma Separated Value) ,using Excel I used to analysis the data .Taking a Moving Average of 10 years . Using these Data, visualization was created by a line graph .there are two graphs one which show global vs local temperature and other which shows the 10 year average global and local temperature (local temperature being Bangalore,India)

3. Code used

A.for extracting the data using SQL:

```
SELECT *
FROM city_list
WHERE country like 'India';
SELECT global_data.year, global_data.global_avg_temp, city_avg_temp
FROM global_data INNER JOIN city_data
ON global_data.year=city_data.year
WHERE city like 'Bangalore';
```

Sometimes the Column name in global_data and local_data used to be just avg_temp

So to change that column name I used the code:

```
ALTER TABLE global_data RENAME COLUMN avg_temp to global_avg_temp;
ALTER TABLE city_data RENAME COLUMN avg_temp to city_avg_temp;
```

(after the line WHERE country like ‘india”;)

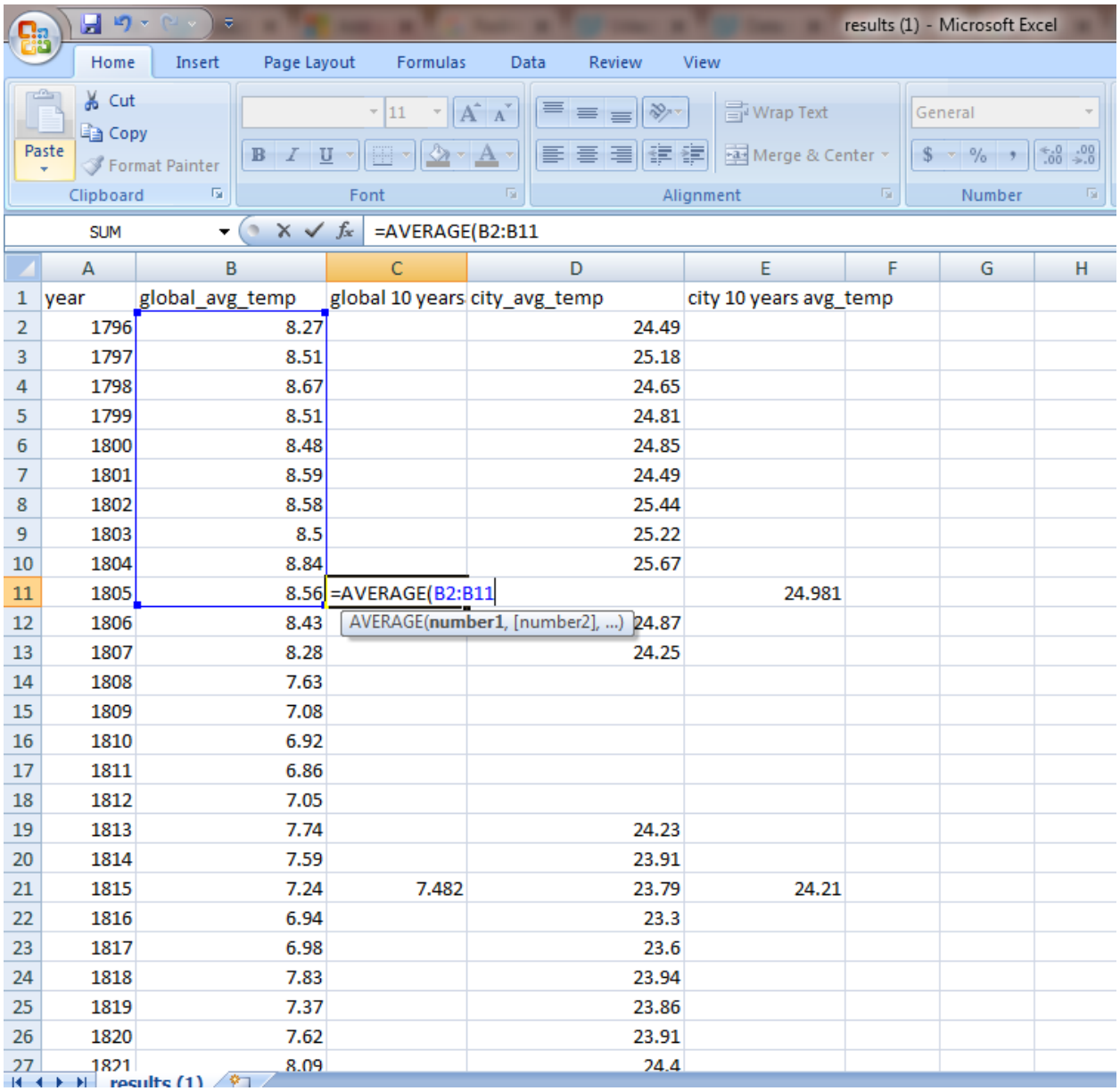
To change the name of the column to differentiate between global and local average temperature

After obtaining the data using SQL i downloaded the CSV and started analysis the data in excel . The CSV data had 3 column Year, Local average temp, Global average Temp, I took 10 years as the moving average value and made two more column

In the figure Below you can see how I calculated the Moving average

I created another row next to the Global_avg_temp called the Global 10 year and at C11

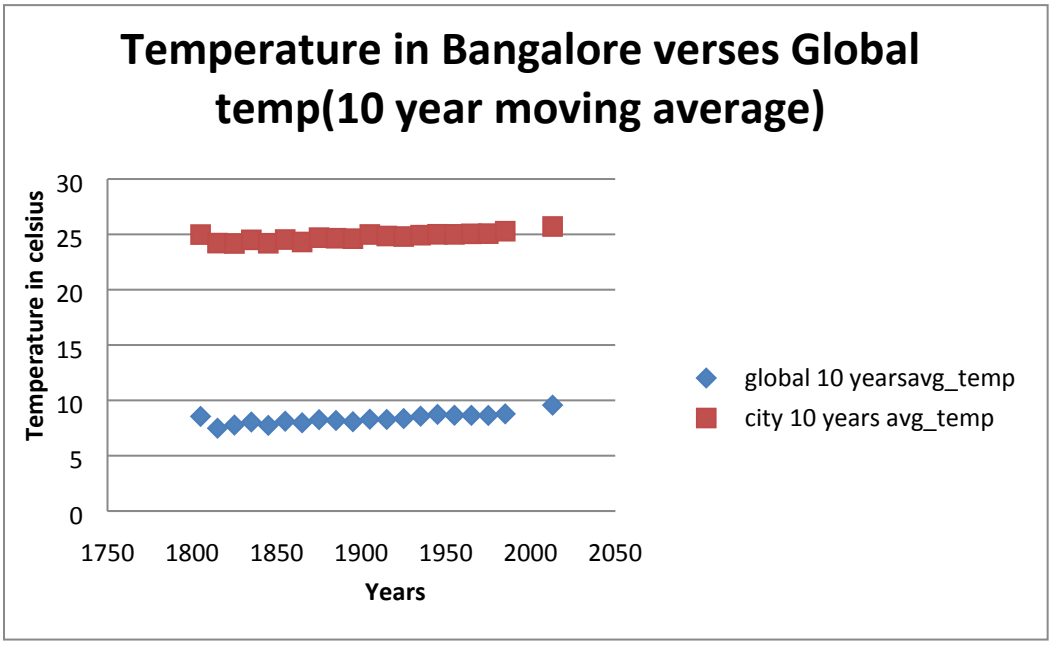
I used the Formula =AVERAGE( )and dragged the mouse to select the values I needed to calculate the average temperature from 1796 to 1805 and I got the average temperature from 1796 to 1805 as 8.551 celsius ,this is how I calculated for the entire data



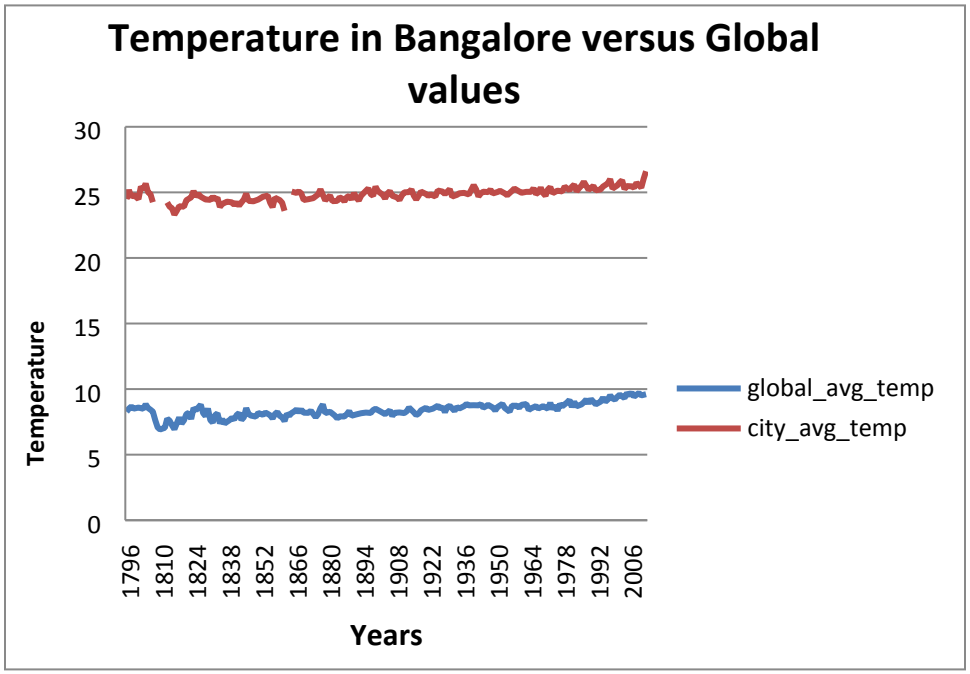
	A	B	C	D	E	F	G	H
1	year	global_avg_temp	global 10 years	city_avg_temp	city 10 years avg_temp			
2	1796	8.27		24.49				
3	1797	8.51		25.18				
4	1798	8.67		24.65				
5	1799	8.51		24.81				
6	1800	8.48		24.85				
7	1801	8.59		24.49				
8	1802	8.58		25.44				
9	1803	8.5		25.22				
10	1804	8.84		25.67				
11	1805	8.56	=AVERAGE(B2:B11		24.981			
12	1806	8.43		24.87				
13	1807	8.28		24.25				
14	1808	7.63						
15	1809	7.08						
16	1810	6.92						
17	1811	6.86						
18	1812	7.05						
19	1813	7.74		24.23				
20	1814	7.59		23.91				
21	1815	7.24	7.482	23.79	24.21			
22	1816	6.94		23.3				
23	1817	6.98		23.6				
24	1818	7.83		23.94				
25	1819	7.37		23.86				
26	1820	7.62		23.91				
27	1821	8.09		24.4				

4.Observation : Using the data I made two graphs using line graph

1.Temperature in Bangalore verses global temperature(10 year moving average



Bangalore is know as the IT capital of India ,which has a tropical savanna climate meaning temperatures above 18 °C (64 °F) in every month of the year which explain our average temperature more than 23°C on the graph above .



2.Temperature in Bangalore verses global temperature

Looking at the graph we see a huge difference ,the average global temp is around 6°C-10°C. where as the average temperature of Bangalore is around 25°C-28°C.

When you compare both Bangalore and global temperature ,Bangalore is **MORE HOTTER,**

And since 1950's we see a increase in temperature in global and Bangalore ,and it keeps increasing year by year this might be the results of us starting to pollute the world with of lifestyle like using fuel cars which pollutes the environment and making global temperature higher each year

5. RESULTS AND CONCLUSION

Result:

Seeing the graphs it seems that the local temperature is higher then the global temperature ,it is the reason because bangalore is located in india a south-asian country which receives more sun light then most of the countries in the world ,seeing the rise of the temperatures in both local and global is the affect of global warming ,which is a major concern to our society

Conclusion :

The data shows the increase in temperature both in global and local temperature and we all know that global warming is the main cause which is our faults for not taking pollution seriously and due to our negligence we have such a huge problem and we has a society have to turn this around fix our mistake. We can fix this by planting trees and by using recycled stuff like paper which will help in prevention of deforestation , we can also use less of our personal vehicle and use more of public vehicle.

These are few of the ways we can make a difference ,There are many ways to make a difference

BUT THE MAIN WAY TO CHANGE IS EFFORT, SO LETS START PUTTING EFFORT INTO MAKING EARTH POLLUTION FREE!!