

Project 1: Explore Weather Trends

Extracting the Data

There are three tables in the database:

- city_list - This contains a list of cities and countries in the database. Look through them in order to find the city nearest to you.
- city_data - This contains the average temperatures for each city by year (°C).
- global_data - This contains the average global temperatures by year (°C).

1) To find the nearest city to me

```
SELECT *  
  
FROM city_list  
  
WHERE COUNTRY LIKE 'I%' AND city LIKE 'N%';
```

2) To extract the average temperature of my city by year

```
SELECT *  
  
FROM city_data  
  
WHERE country LIKE 'I%' AND city LIKE 'Na%';
```

3) To extract the average global temperature by year.

```
SELECT *  
  
FROM global_data;
```

CREATING A VISUALIZATION USING MOVING AVERAGES

For creating a visualization , using the extracted data , I have calculated the moving averages of both the global and city temperature throughout dividing them in 10-Year MA from 1796 to 1819.

Moving Averages:

Series 1 = Global 10-Year MA

For Years 1796 -1805 =AVERAGE(B2:B11)

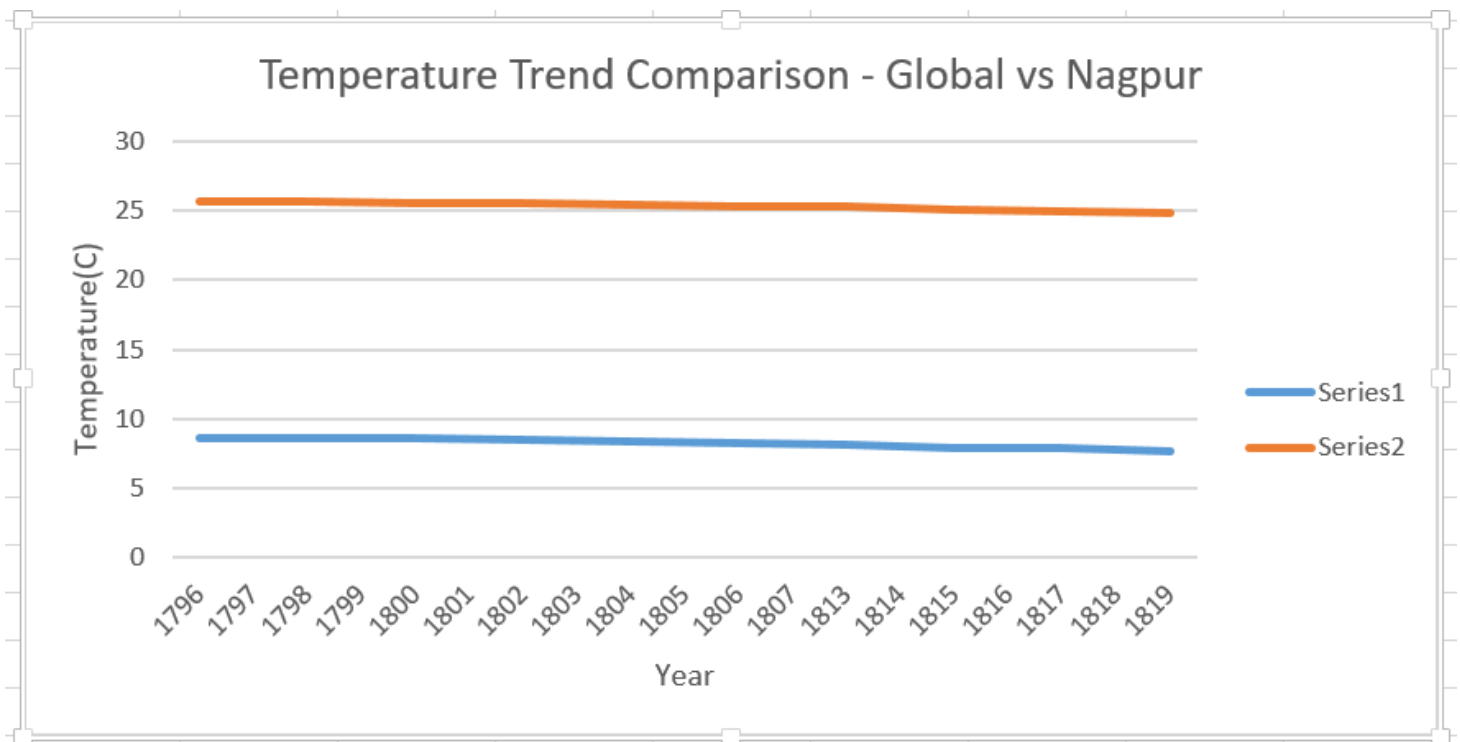
From 1797-1806 =AVERAGE(B3:B12) and more.

Series 2 = City 10-Year MA

FROM 1796-1805 = AVERAGE(F2:F11)

FROM 1797-1806 =AVERAGE(F3:F12) and more.

Years	Series 1	Series 2
1796	8.551	25.683
1797		
1798	8.567	25.71
1799		
1800	8.544	25.552
1801		
1802	8.451	25.594
1803		
1804	8.359	25.446
1805		
1806	8.235	25.336
1807		
1813	8.07	25.306
1814		
1815	7.91	25.126
1816		
1817	7.843	24.997
1818		
1819	7.696	24.81



Here , Series 1 is Global 10-Year Ma and Series 2 is City 10-Year MA

1)Is your city hotter or cooler on average compared to the global average?

Ans: My city is way more hotter than average compared to global average , as you can see the city's temperature have been consistently above 25 degree celsius and above while global temperature is ranging between 7 to 9 degree celsius.

2)Has the difference been consistent over time?

Ans: The difference have been consistent over time as we can clearly see in the line chart .As shown in the graph, global 10-Year Moving Average has been consistent ranging from 7 degree celsius to 9 degree celsius while for city 10- Year Moving Average ,it is ranging from 24 degree celsius to 26 degree celsius.

3) What does the overall trend look like?

Ans: Looking at the above graph , the overall trend for global looks cooler and better while for city much more higher and hot in weather.

4)How do the changes in your city's temperatures over time compare to the changes in the global average?

Ans: The changes in my city's temperature are minimal compared to the changes in the global average , as we observe that the temperature graph has a rise and low from 24 degree celsius till 26 degree celsius and vise versa.