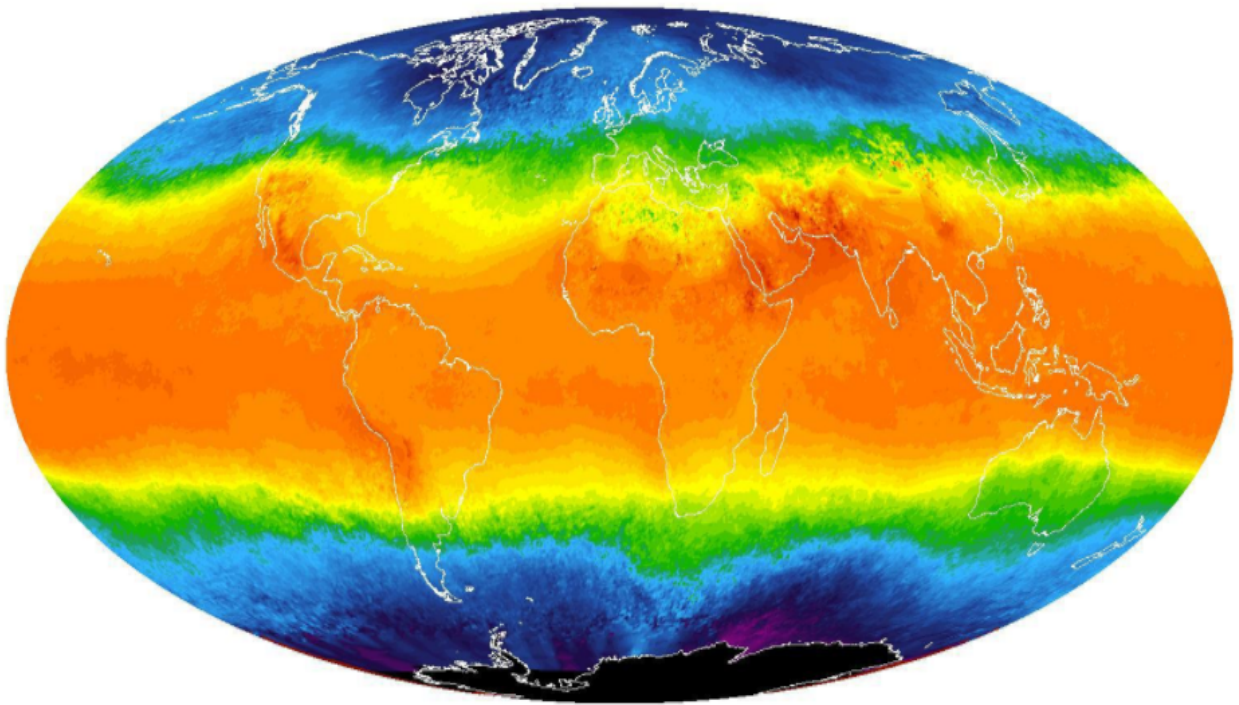


Explore Weather Data



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Project Summary:

In this project, we will analyze local and global temperature data and compare the temperature trends in the closest big city to where you live to overall global temperature trends.

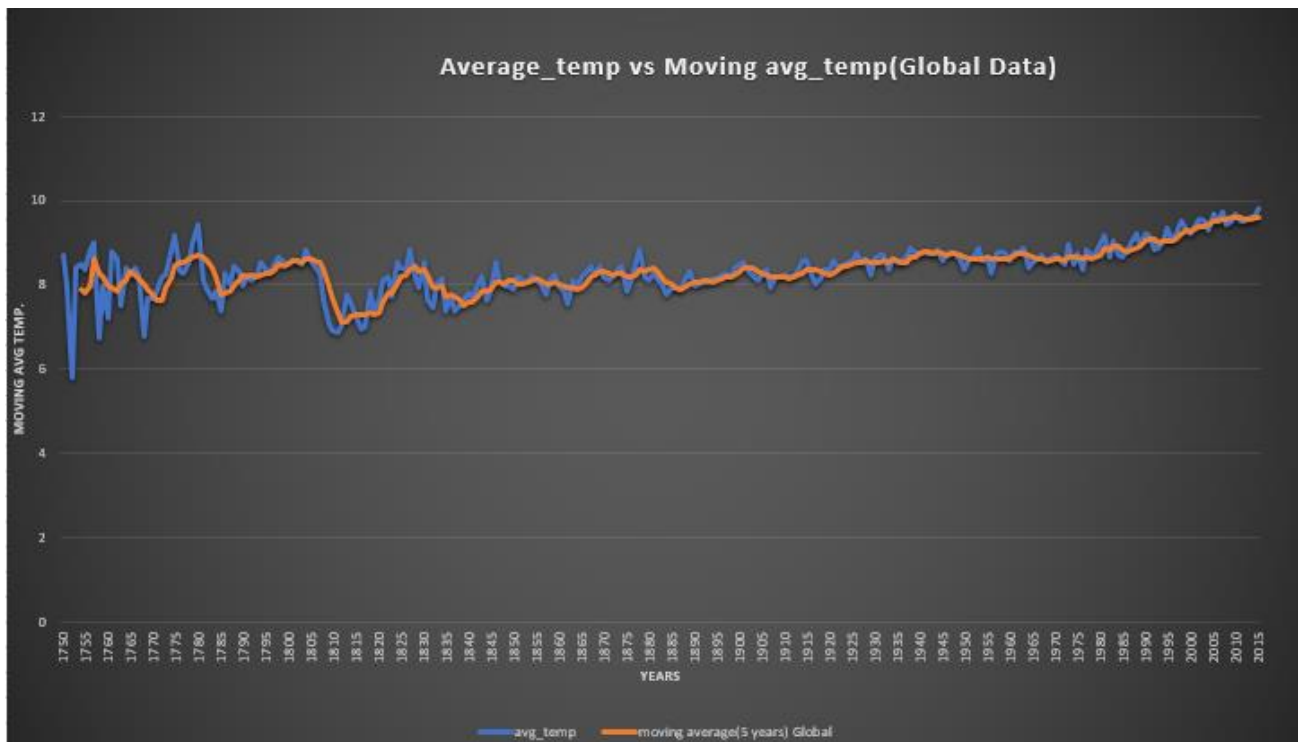
SQL Query to extract data from database:

1. SELECT * //to select all the cities from India
 FROM city_list
 WHERE country='India'
2. SELECT * //to extract data from Patna
 FROM city_data
 WHERE city='Patna';

STEPS:

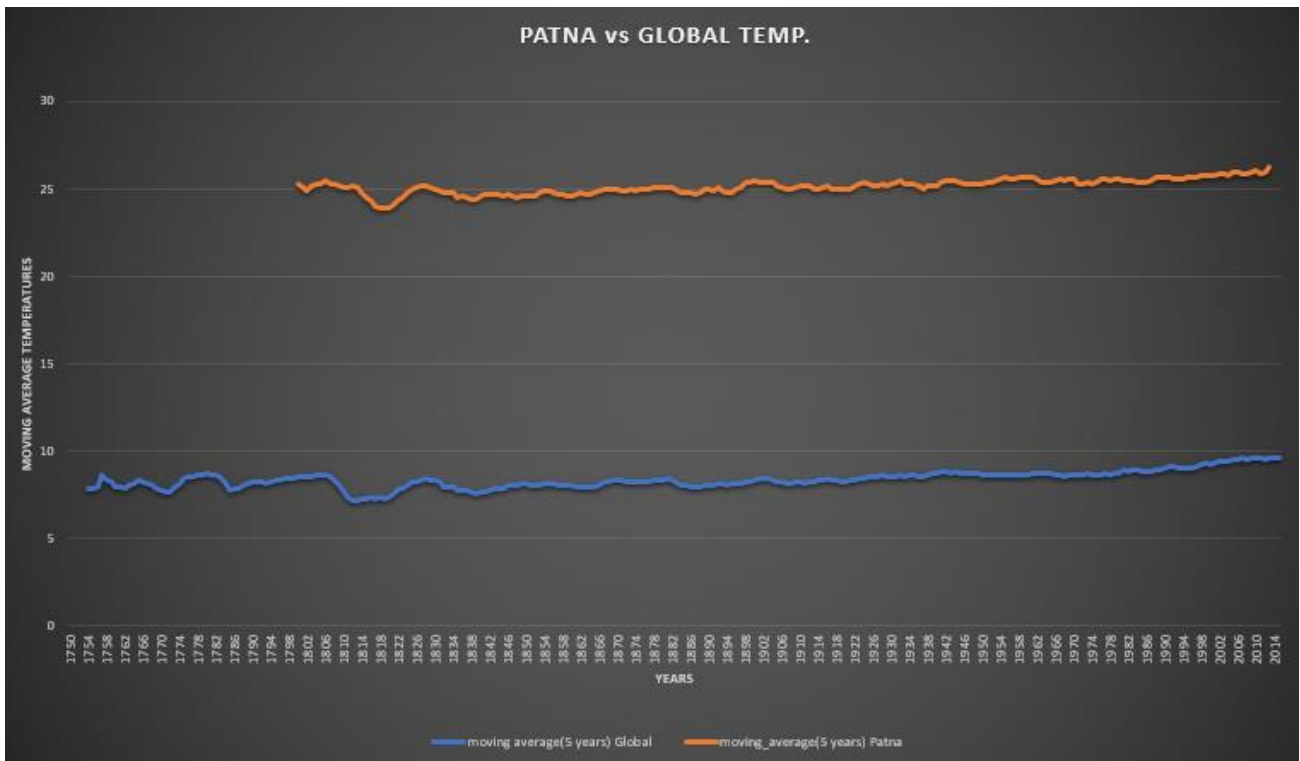
1. Opened up the csv dataset in Microsoft Excel.
2. My city of choice(Patna, India) had quite a few missing values, which I filled up with the average temperature of last 5 years.
3. Calculated the moving average (last 5 years) using the average tool in Excel.
4. The global data temperature was available from 1750, while for Patna the data was available from 1796. So, I plotted the temperatures from 1750 only, while the line chart contains data for Patna from 1796.
5. Plotted the following line charts using Excel's inbuilt plotting features:
 - Average temp. vs moving average temp. (Global)
 - Patna vs Global moving average temp.

LINE CHARTS:



Inference:

- This line chart illustrates the advantage of using moving average temperature data vs average temperature. The fluctuations of average temperature are smoothened out, while still capturing the general trend of the data.
- While the temperatures are in the 7-8.2 °C around the 1800s, the avg. temp. after the 1990s is above 9°C, and closing towards 10°C. This is a rather alarming trend which can be attributed to global warming, and such a steep rise in avg. temperatures has not been seen in a long time.



Inference:

- It is clearly visible that Patna is a rather hot place to live in, with avg. temperatures being about 25°C, compared to the 8°C-avg. global temperature.
- Generally, we can see that the gradual rise in global temperatures around the 1990s is replicated in Patna. Average temperature rises from 25°C to 26+°C.
- The dip in temperatures around the 1815, and the subsequent rise can be seen in both the global data, and the data from Patna.
- The difference in the global temperatures and Patna temperatures is pretty much constant(17.2 °C).