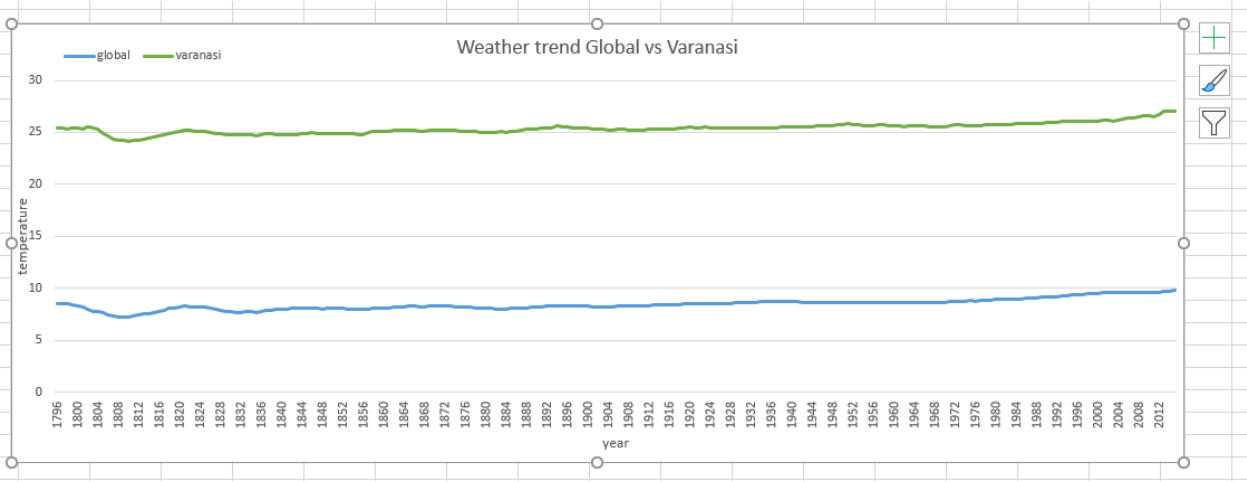
WEATHER ANALYSIS

Tools Used: Sql, Excel

1. Check for my city Varanasi
   select city from city_list where country='India' and city='Varanasi'
   The city's data exist
2. Get city data and export to excel
   Select * from city_data where country='India' and city='Varanasi'
3. Get global data and export to excel
   Select * from global_data
4. Get the global_data in same excel file and create a new sheet results. Get the global and Varanasi temperature data in this sheet.
   Use Excel Formula = Sheet_name!cell_name and drag to populate data in rest of the rows
5. Use VLookup to get corresponding year's data from varanasi_data sheet to results sheet e.g =VLOOKUP(A48,varanasi_data!$A$1:$E$400,4)
6. Check for inconsistent data. Since the data is not very huge, we can look for missing data over excel. Found that the global data is from 1750 and city's data is available from 1796 so removing the rows in global data before 1796.
7. Get rolling average for both global and city data for 7 and 10 years. Sample formula: =AVERAGE(B2:B8) for seven days rolling average
8. Created a line chart and compared the Rolling Average chart for 7 and 10 years for city. Observed-The 7 and 10 year rolling average hardly had much difference so sticked to 10 years rolling average.
9. Selected the data, clicked on analyse and created the chart for the trend.



Observations:

1. There were not much overall significant variations in temperature till around 1920s after which it started rising steadily both in Varanasi and Globally.After 1920, the rate of temperature increase is steadily getting higher.

2. There is a sudden dip in temperature both for Varanasi and Globally around 1816.On searching google, found that 1816 is also called as a year without summer.It was due to eruption of a volcano.

3. In Varanasi, over the years the temperature is rising more rapidly than the global temperature rise over the years.

4. Varanasi observes much higher temperatures/longer summers than most of the places in the world.