EXPLORE WEATHER TREANDS

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Overview

In this the analyses the temperature of Agra city in India as compare to the global temperature. As I am from Ratlam Madhya Pradesh, my city is not in data set so I choose Agar.

Goals

1. Extract data from udacity data set and download as csv file.
2. Make a chart visualization base on extracted data set.
3. Observation based on the chart.

Tool used

1. SOL:- To extract data from data set.
2. Python:- To calculate moving avg and plotting of chart.
3. Anaconda:- Jupyter notebook for writing the python code.

STEP1:- To extract the data from data set. I user the following SQL query to extract the data.

```
/*
        This file has the commands that i  used to download the CSV files
        from an online database using SQL.
        PS : because my city was not in the city_list, I have downloaded the information for
        "Agra" instead.
        */
            1.  SELECT * FROM global_data;

    2.  SELECT * FROM city_data
        WHERE city = 'Agra' AND country = 'India';
```

STEP2:-

I used jupyter notebook to analyse the data by using python code.

In [14]:

```
import pandas as pd # for dealing with data!
import matplotlib.pyplot as plt # for visualizing the data!
import numpy as np# for calculating the moving average!
```

In [15]:

```
globaltemp = pd.read_csv('global data.csv') # importing 'global tempreature data'
citytemp = pd.read_csv('city1 data.csv') # importing 'city tempreature data' which is a data for one city over
 multiple year.
```

In [16]:

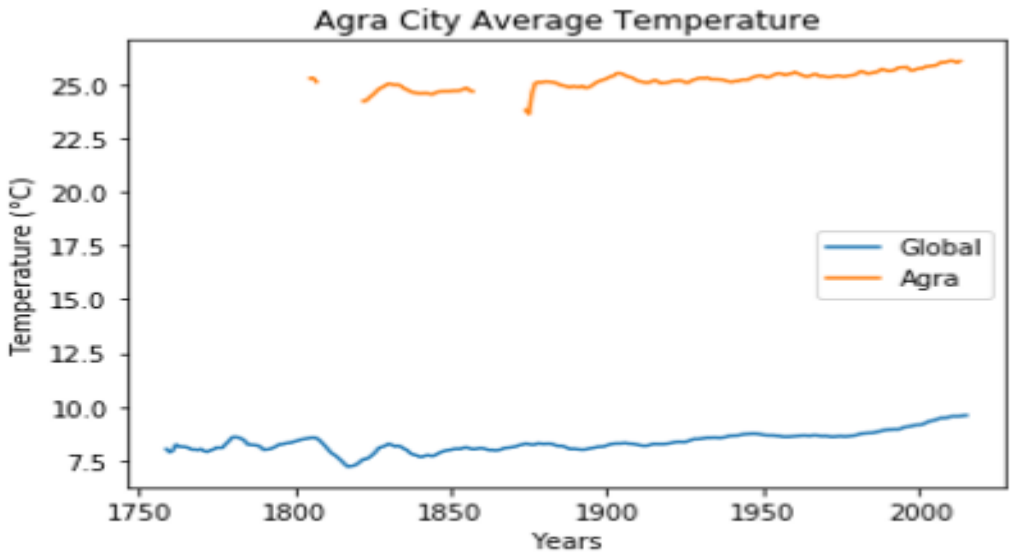
```
glb_mv_avg = globaltemp['avg_temp'].rolling(10).mean()
local_mv_avg = citytemp['avg_temp'].rolling(10).mean()
```

In [17]:

```
glb_mv_avg = globaltemp['avg_temp'].rolling(10).mean()
local_mv_avg = citytemp['avg_temp'].rolling(10).mean()
```

In [18]:

```
#Local Data is as same as Cairo
plt.plot(globaltemp['year'],glb_mv_avg,label='Global')
plt.plot(citytemp['year'],local_mv_avg,label='Agra')
plt.legend()
plt.xlabel("Years")
plt.ylabel("Temperature (°C)")
plt.title("Agra City Average Temperature")
plt.show()
```



Observations:

• By noticing the chart it shows that the temperature is raising over the years due to climate change.

• The Global temperature started to raise 'exponentially' since the middle of 1800 which happened to be the same data as oil mining.

• Agra city is getting hotter over time.

• The change of the climate between the globe and Agra city is slightly small, and both of them are raising.