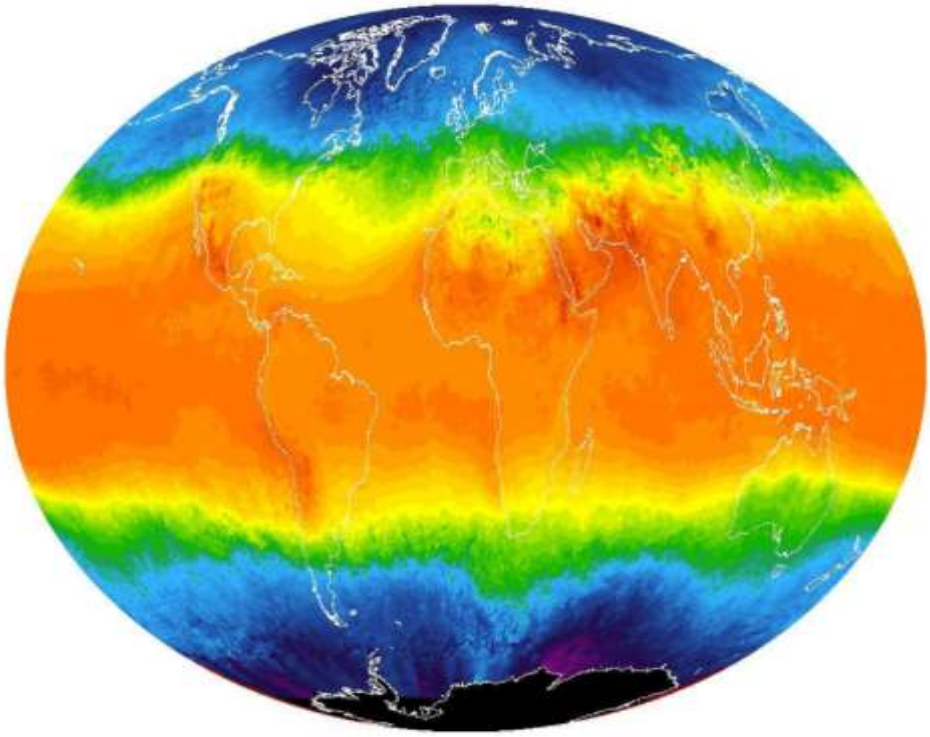
Exploring Weather Trends



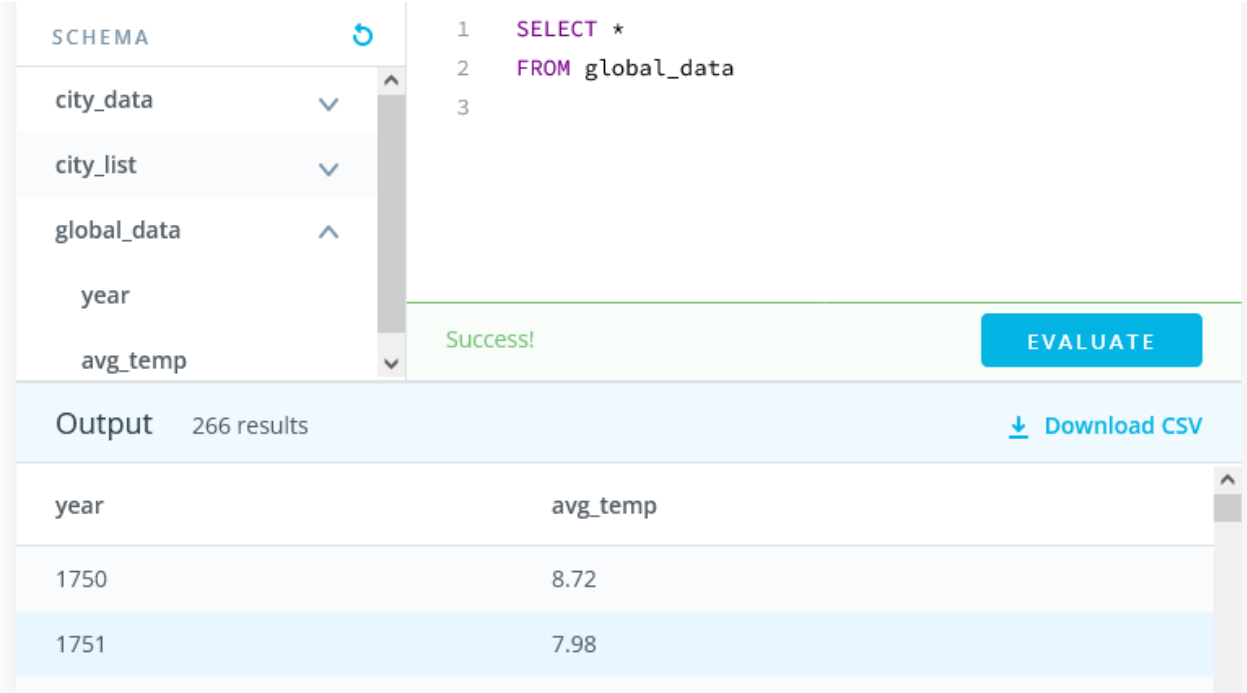
Introduction

It is said that climate change is a serious threat to most nations and scientists around the world have been trying hard to avoid the worst consequences of global warming. Thus the purpose of this project was to explore the temperature trends around the world.

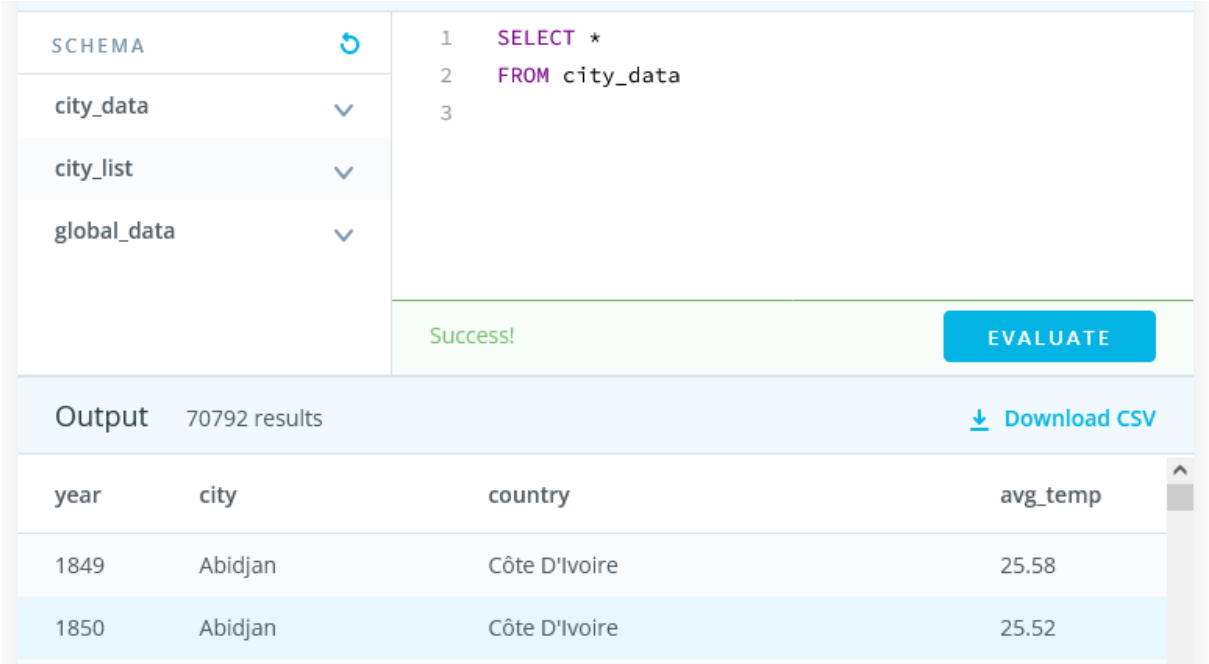
Data extraction and exploration

Using SQL command, I have queried and extracted data from the database which I have saved as a CSV file. Upon saving the data, I have used the Excel to explore the data and calculated the moving average base on 5 years average.

Following is global temperature query results from the database.



City data results



Local/Windhoek Temperature

Below is the demonstration in Jupyter notebook reading the CSV files and the results are displayed.

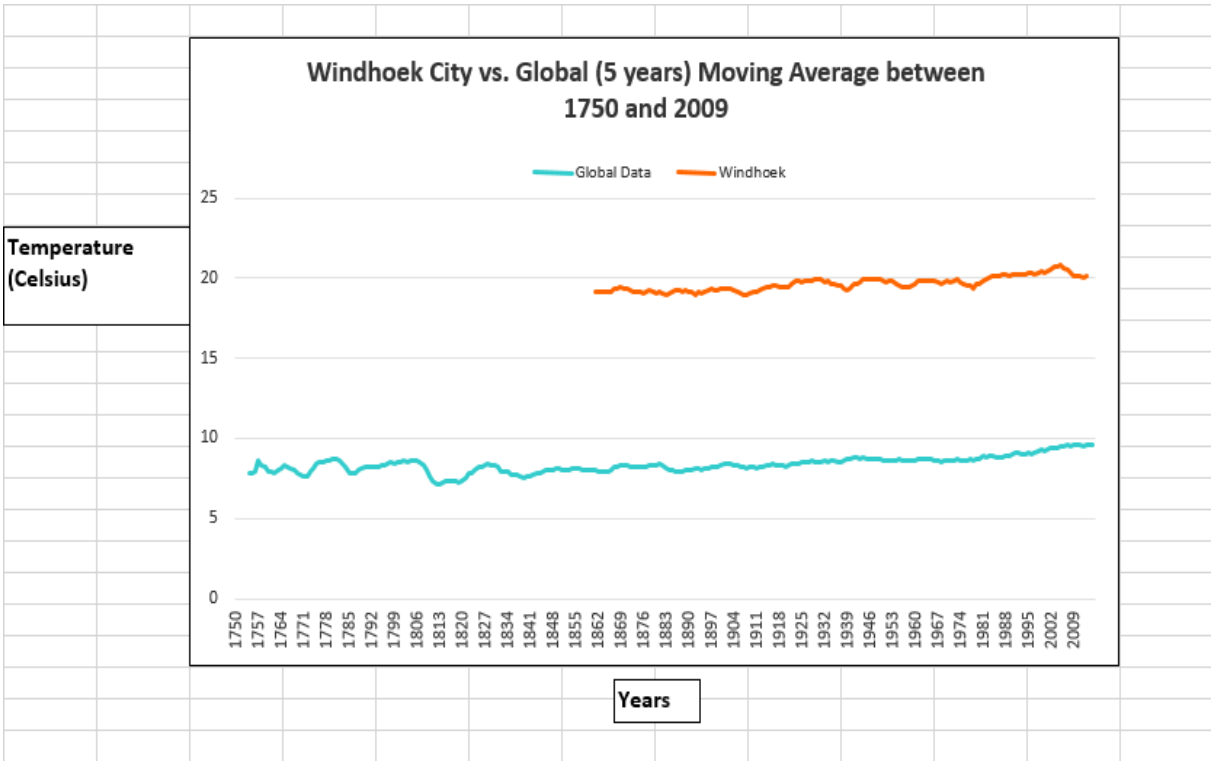
```
[42]: city=pd.read_csv("city_data.csv")

[44]: my_city=city[city["city"]=="Windhoek"]
      my_city
```

[44]:

	year	city	country	avg_temp
69076	1857	Windhoek	Namibia	18.82
69077	1858	Windhoek	Namibia	19.12
69078	1859	Windhoek	Namibia	19.18
69079	1860	Windhoek	Namibia	19.39
69080	1861	Windhoek	Namibia	19.14

Moving Average



Observations

The analysis found that my local city started collecting data in the mid-18th century whereas the global one started in the 17th century. It was found that the global temperature was very low since the 17th century with a slight increase in temperature observed in the 2000s. On the other hand, my local temperature has been high since the 8th century with a slight increase in temperature and that is to say, Windhoek remained hotter since the 18th century compared to global cities. In addition, a slight increase in temperature in my city was observed between 1970 and the early 2000s. Overall, the world is getting warmer which could be a big concern to the world and this is in agreement with the NASA report which says that 2022 was the fifth warming year on record since the 1880s.

Reference

NASA