

UDACITY Data Analysis Nanodegree Project 01

Exploring Weather Trends

INTRODUCTION:

SQL Query was used to download (CSV) file that contains yearly average temperature of the City 'Austin' and the global temperature. Then the data has been analyzed using graphs on google sheets. Which these analyzed data has shown that the global temperature have been raising over the past years.

Progress outline:

I. SQL Query was used to download two CSV Files that contain :

1. Data about global temperature such as ("year", "Average) And has been imported by using the query underneath:

```
SELECT * FROM global_data;
```

2. The closest city to my country that has information about the same data plus the name of the country and the City.

And has been imported by using the query underneath:

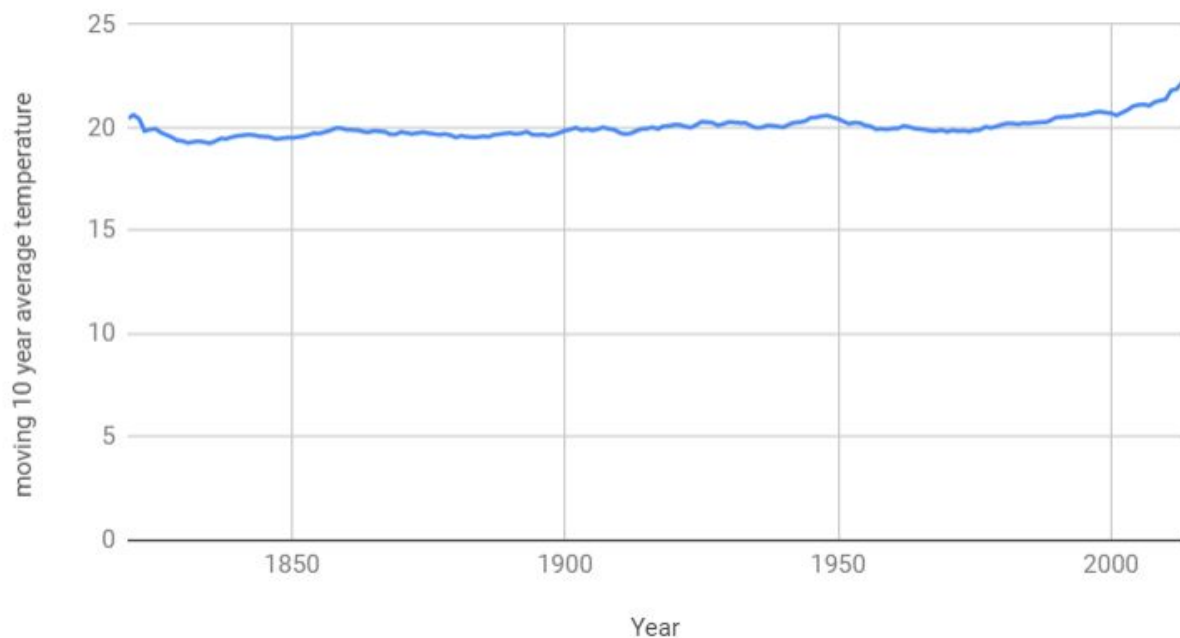
```
1  select year, avg_temp
2  from city_data
3  where city = 'Austin'|
4
```

Moving Averages:

- Rolling Average has been calculated to smooth out data and to make it easier to observe the trends when it be shown in Charts.
- The Rolling Average has been calculated for every 10 years to each single data but the first 10!
- Excel was used for calculating the Moving Average Using built-in Functions such as Average.(=Average(R1:R10))

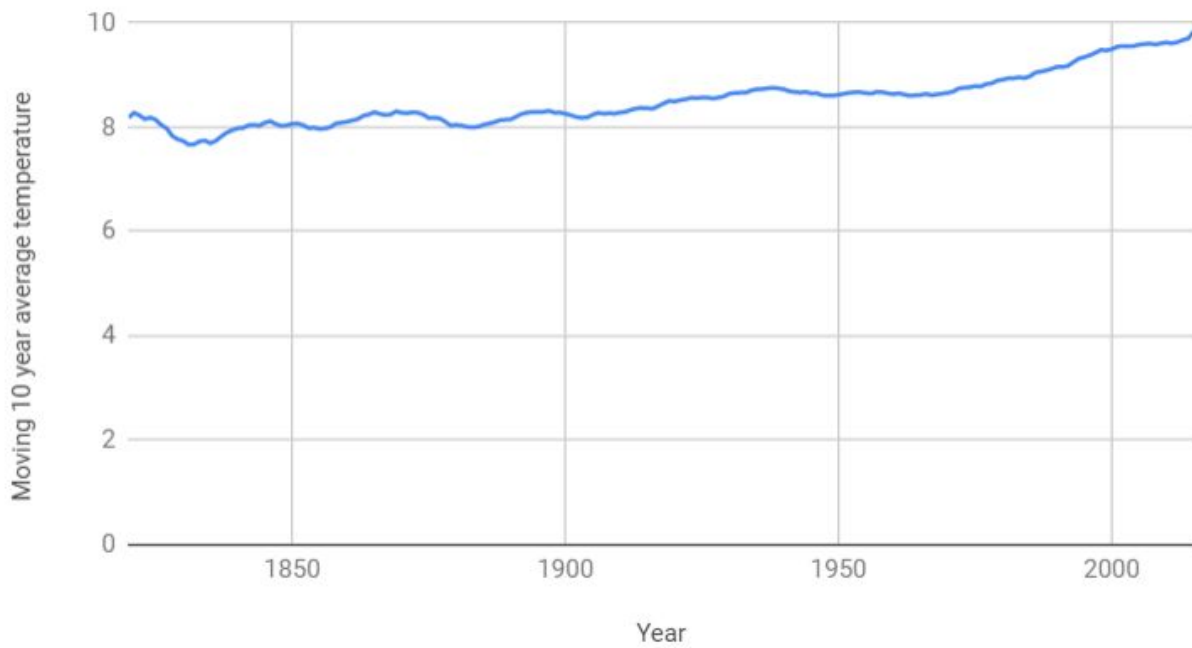
Line chart for city Austin :

Austin average temperature



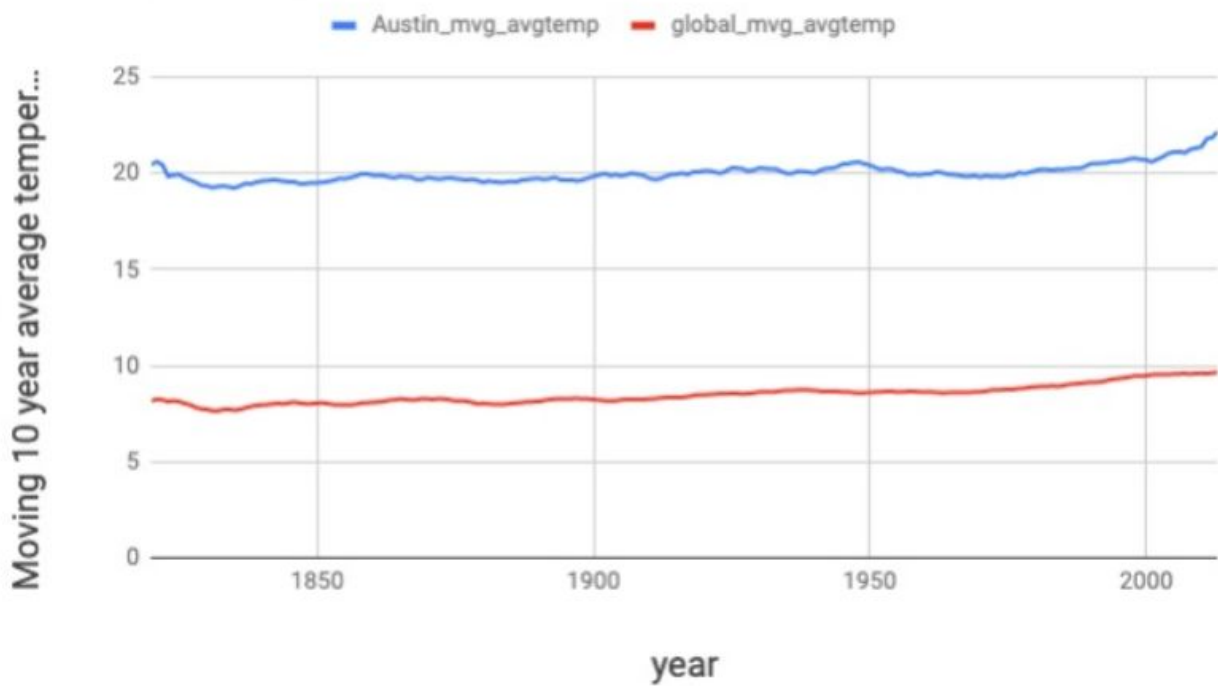
Line chart for the globe:

Average temperature of Globe



Comparison :

Moving average temperatures for Austin and Global



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 .
- Since 1900 the temperature is rising continuously.
- The difference between year 1820 and ~2010 in temperature is more than 2 degrees in the Global average chart (increasing).
- Austin city has maintained a temperature of 20 degrees from 1830s to around 1975, but post 1975 the temperature is seen to increase slightly due to inhabitation of humans.
- The change of the climate between the globe and Austin city is slightly more, with the globe's temperature rising whereas that of Austin remaining somewhat constant till 1975.