

## Project 1- Temperature trends

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### 1. Outline

Data on the name of the cities and their average temperature was extracted from Udacity database using Sql. Following codes were used:

To get the list of cities:

```
SELECT*  
FROM city_list;
```

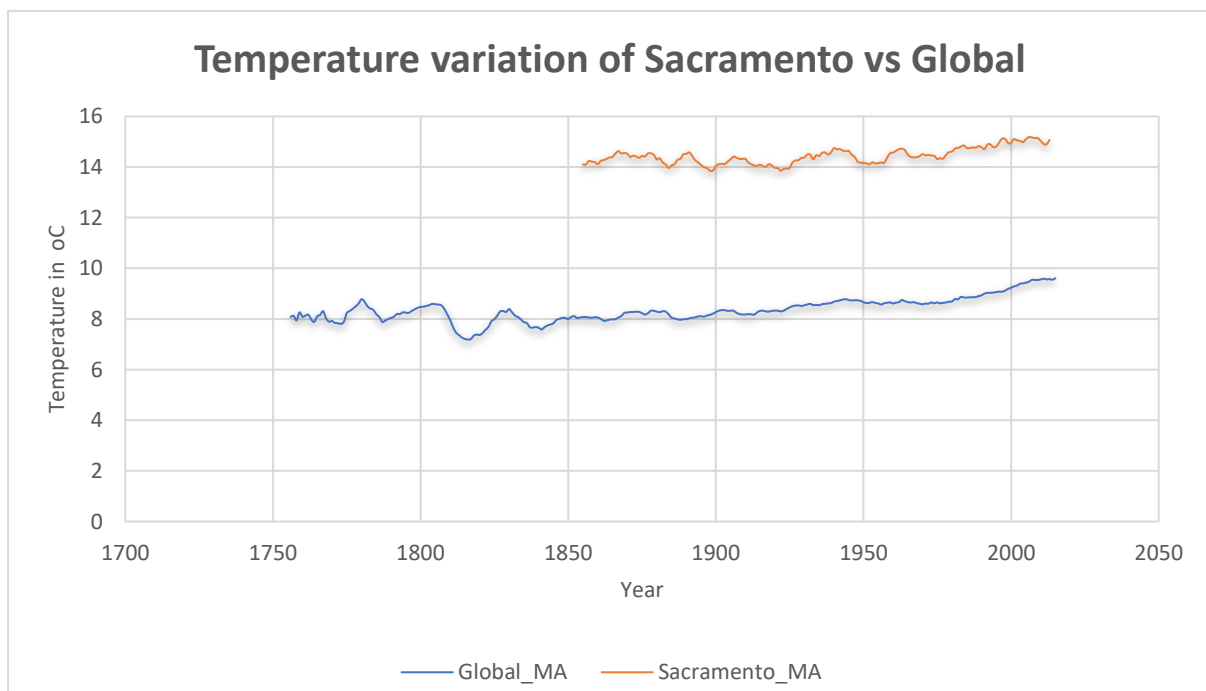
To get the global average temperature:

```
SELECT*  
FROM global_data;
```

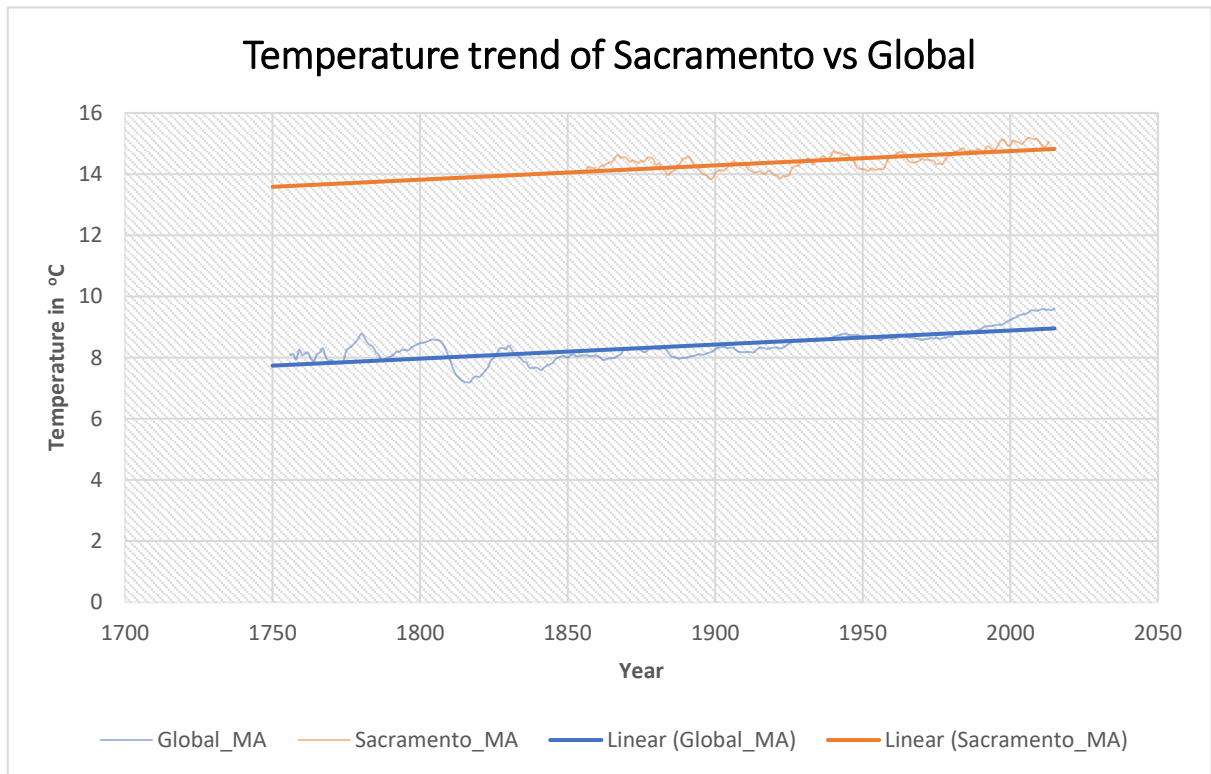
To get the city data:

```
SELECT *  
FROM city_data  
WHERE city = 'Sacramento';
```

CSV files of the queries were downloaded and the city and global temperature data were consolidated. Line graphs of my nearest city—Sacramento vs global temperature variation was drawn in Excel.



Trendlines of Sacramento vs global average temperatures were drawn as shown in the following chart. The correlation coefficient for the global and local city trendlines were 0.73 and 0.67 respectively.



## 2. Observations

- The trendlines are good fit to the data which is shown by the correlation coefficient. Therefore, we can conclude that both global and the local temperature is rising.
- It could also be concluded from the trendlines that Sacramento is closely following the increase in global temperatures. Both global and local temperatures have risen by 1 °C in the span of a little less than 3 centuries.
- Interesting thing to note in global trend is that a general trend in temperature has been missing till 1900. After 1900 the temperature has been on the increasing trend. This could be attributed to greater emission of green house gases from industries and transportation systems.
- The upward trend in temperature occurred much later in Sacramento from around 1975. This could be attributed to increase in population of the city and increase in number of cars being used by the public.
- The recent global average temperature is increasing much more rapidly when compared to Sacramento which could be interpreted as other cities are contributing more towards the increase in global average temperature than Sacramento.

