**Project 1: Explore Weather Trends**

In this project, I analyzed local and global temperature data to compare temperature trends between Los Angeles and the world from the years 1849 to 2013.

**Extracting the Data**

The following SQL commands were used to access the data from the database:

select global\_data.year, global\_data.avg\_temp as "Global", city\_data.avg\_temp as "LA"

from global\_data

inner join city\_data on global\_data.year = city\_data.year

where city\_data.city = 'Los Angeles' and city\_data.country = 'United States'

This produced a table with the year, global average temperature, and Los Angeles average temperature.

**Analyzing the Data**

To calculate the 10-year moving average and create the line chart, I used Excel to open the csv files. The 10-year moving average was calculated by taking the average of the past 10 years. Since the data beings in the year 1849, the first year with a value for 10-year moving average was 1858. The line chart was then created with two separate data series displaying the moving averages for global temperature and LA temperature separately.

**Results and Analysis**

Some key observations from this analysis are:

* **Higher average temperatures in Los Angeles as compared to global temperatures.** The average temperature over the years 1858-2013 was 15.88° in Los Angeles, as compared to 8.513° worldwide.
* **More fluctuations in temperatures globally vs. Los Angeles.** Whereas the curve is mostly smooth for Los Angeles, the global curve shows slightly more variability.
* **An upward trend in yearly average temperatures in Los Angeles** The average temperature for the first 10 years of the data (1849-1858) was 15.746° for Los Angeles; for the last 10 years of the data (2004-2013), it was 16.696°. This represents a 6.03% increase.
* **An upward trend in yearly average temperatures globally.** The average temperature for the first 10 years of the data (1849-1858) was 8.065°; for the last 10 years of the data (2004-2013), it was 9.556°. This represents a 20.3% increase, appearing to suggest that the global temperature is rising faster than the local temperature in Los Angeles.