Elaine Chow, 5/1/2021, elainechow@gmail.com

Udacity Project #1: Exploring Weather Trends.

First, I ran the following SQL search on the database city_list for San Francisco:

```
SELECT city FROM city_list
WHERE city like 'San F%';
```

The result from this search confirmed that San Francisco data was in the database city_data.

Then, I ran the following SQL search on city_data and global_data:

```
SELECT c.year, c.avg_temp AS avg_temp_sf, g.avg_temp AS avg_temp_global
FROM city_data c JOIN global_data g
ON c.year = g.year
WHERE c.city = 'San Francisco';
```

The results from this search were downloaded into results.csv.

I imported results.csv into Excel.

In Excel, to create a column containing the five-year moving average of San Francisco average temperatures from 1849-2013, I selected the year and avg_temp_sf columns and ran Data> Data Analysis > Moving Average with the interval set to 5 years. The column of five-year moving average of average San Francisco temperatures was labeled moving_avg_temp_sf.

To create a column containing the five-year moving average of global average temperatures from 1849-2013, I selected the year and avg_temp_global columns and ran Data> Data Analysis > Moving Average with the interval set to 5 years. The column of five-year moving average of average global temperatures was labeled moving_avg_temp_global.

I deleted the first four rows of because moving_avg_temp_sf and moving_avg_temp_global were missing this data (because a five-year moving average had been applied).

I then created a line chart with year, moving_avg_temp_sf and moving_avg_temp_global. To compare the moving average temperatures, so I made the line chart show both San Francisco and global temperature data over time.

To make the legends more clear, I renamed moving_avg_temp_sf San Francisco and renamed moving_avg_temp_global Global.

The line chart is attached.

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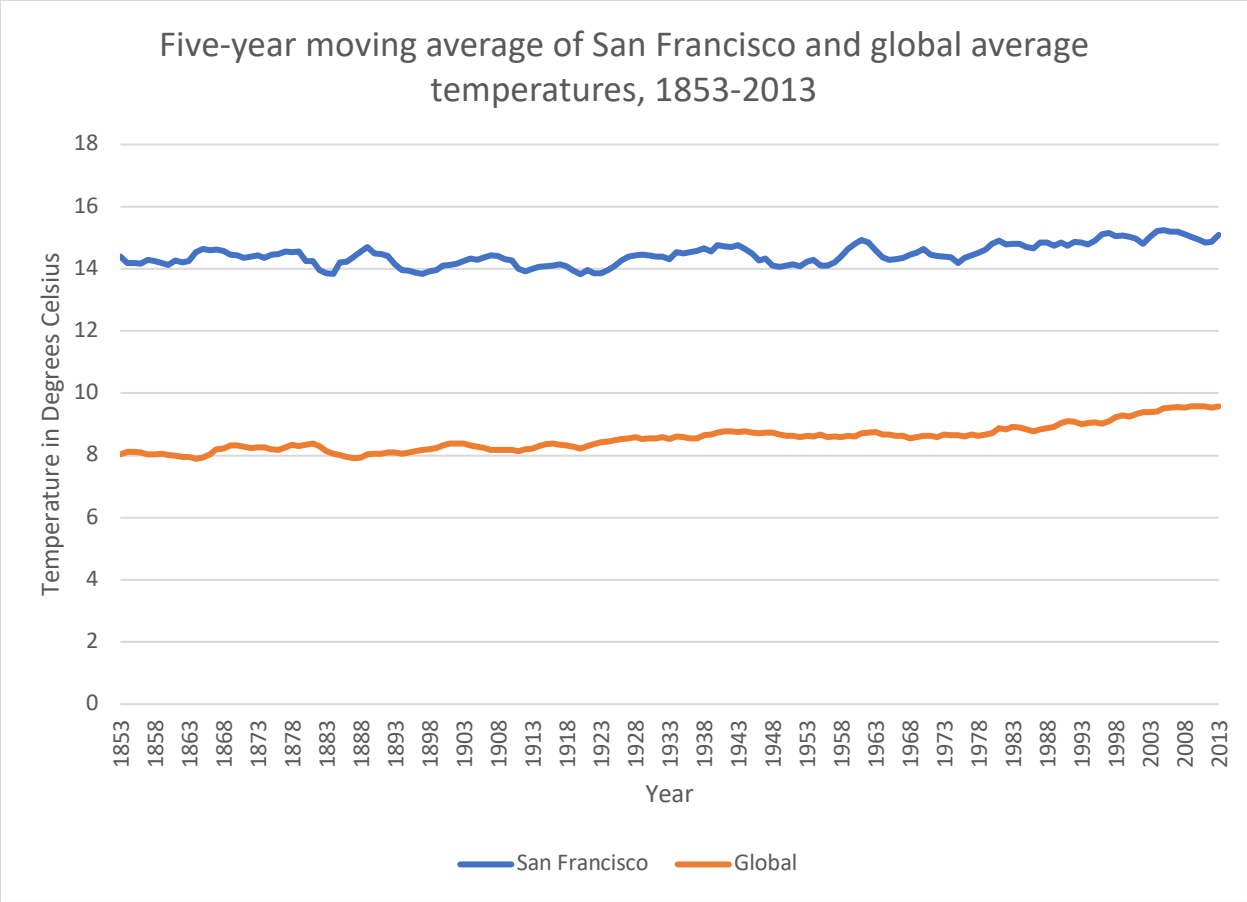

Four observations from the data:

1. From 1853-2013, San Francisco's average temperature has been higher than the global average; San Francisco is warmer. The difference between San Francisco's average temperature and the global average temperature appears to be consistent over time, roughly 5-6 degrees.
2. Over time, San Francisco's temperatures have slowly increased. However, this increase appears to be slightly less consistent than the increase in the global average temperature.
3. Nonetheless, the overall trend is an increase in both San Francisco and the global average temperature; it is getting warmer. The increase in average temperature appears to be accelerating over the last 40 years both in San Francisco and globally.
4. The trend for average temperatures both globally and in San Francisco appears relatively flat until approximately the 1920s, when the global average temperature begins to increase. San Francisco's average temperature begins to increase in the late 1950s.