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Project 1 – Explore Weather Trends

1. Student is able to extract data from a database using SQL.
 - a. The SQL query used to extract the data is included.
 - b. The query runs without error and pulls the intended data.
2. Student is able to manipulate data in a spreadsheet or similar tool.
 - a. Moving averages are calculated to be used in the line chart.
3. Student is able to create a clear data visualization.
 - a. A line chart is included in the submission.
 - b. The chart and its axes have titles, and there's a clear legend (if applicable).
4. Student is able to interpret a data visualization.
 - a. The student includes four observations about their provided data visualization.
 - b. The four observations are accurate.

Outline of Steps Taken

SQL Queries

```
Select city_data.year, city_data.city, city_data.avg_temp chi_avg_temp, global_data.avg_temp  
global_avg_temp
```

```
FROM city_data
```

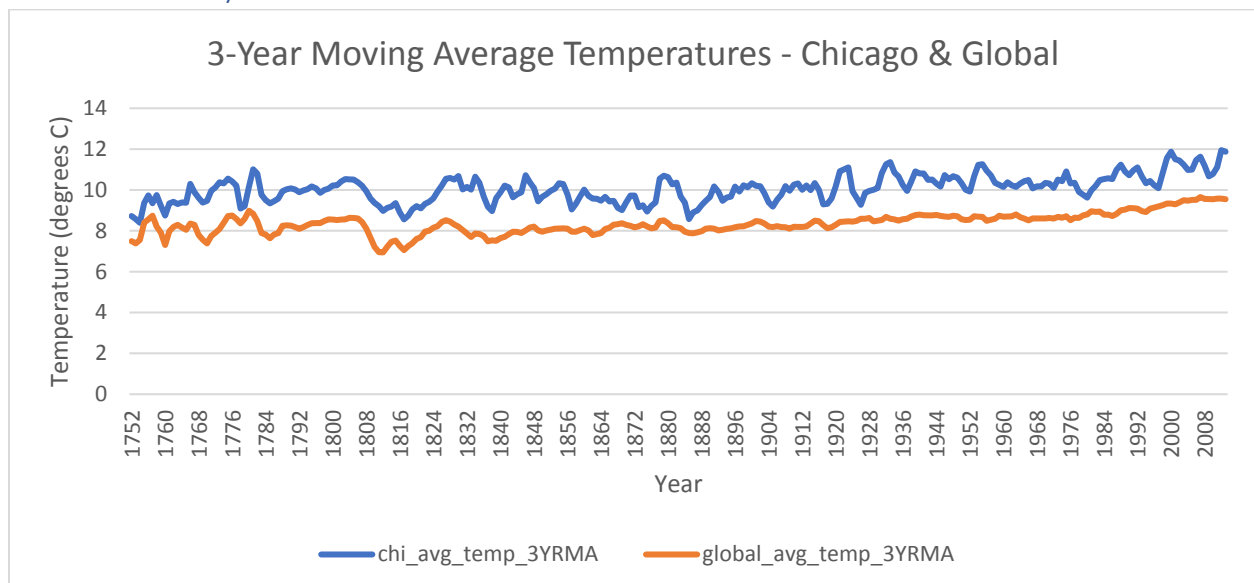
```
JOIN global_data
```

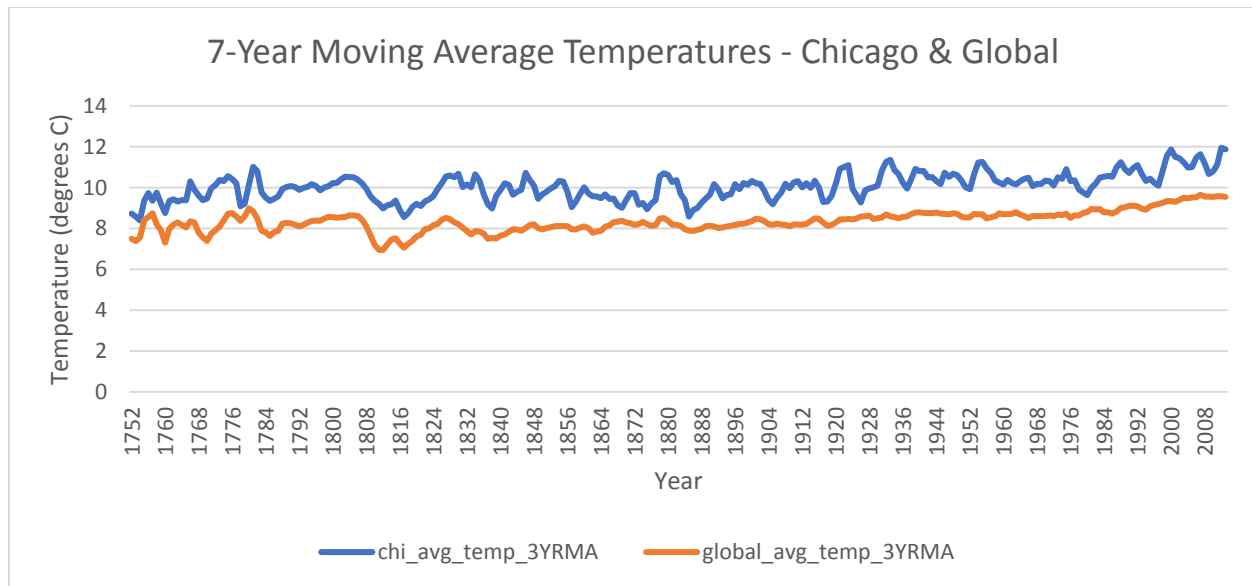
```
ON global_data.year = city_data.year
```

```
AND city_data.city = 'Chicago'
```

Results were exported to CSV, where they were opened with Excel

Excel Data Analysis





Observations

1. Chicago has a higher average temperature than the global average over the historical period.
2. Temperature fluctuations in Chicago have been more drastic on a year-over-year basis than that of the Global temperatures. This result is expected due to the aggregated nature of global temperatures versus a small geographic subset that contributes to the global data.
3. While temperature fluctuations have been more drastic in Chicago, they generally follow the Global trends. This phenomena is particularly apparent from 1752 through 1848.
4. Both Chicago and Global average temperatures have been rising steadily from approximately 1830 through 2013