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Project 1 - Global Temperature Increases
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Data Collection and Process

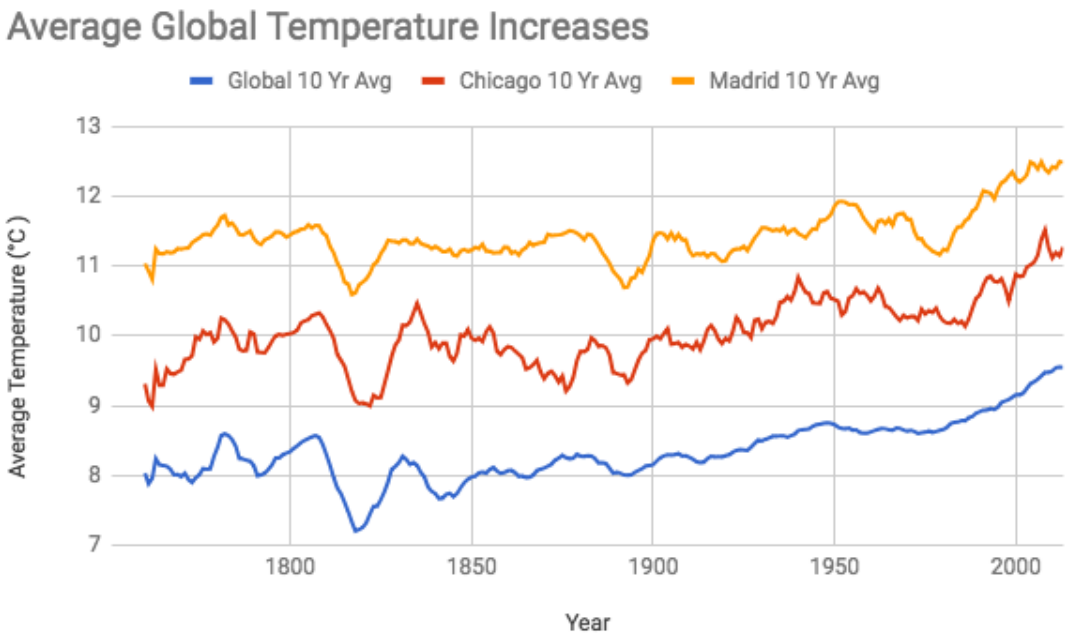
- Data was collected from a database that included average temperatures from various cities worldwide and global average temperatures. The cities Chicago and Madrid were chosen for analysis to compare to global temperatures between years 1750 and 2013. A SQL query was used to extract the data and Google Sheets was used to analyze and visualize the data.
- Here are the SQL queries used to obtain the data from cities:

```
SELECT year, avg_temp
FROM city_data
 WHERE city = 'Chicago' AND year > 1900 OR city = 'Madrid' AND year > 1900
 ORDER BY city;
```

```
SELECT *
FROM global_data
 ORDER BY year;
```

- The moving average was calculated using the average function for average temperature data over a 10 year period. This was the formula used for the global temperatures “=AVERAGE(B2:B11)”
- The key consideration for visualizing the data was the comparison of the average temperatures over time. Another consideration was the contrast of data between Chicago, Madrid and the global average. Data was cleaned to include a 10 year moving average line chart for easier readability.

Line Chart



Observations

1. The average temperatures in Chicago, Madrid and the global average all increased by over one degree Celsius from 1750 to 2013 with Chicago having the most significant increase.
2. The average temperatures in all locations decreased significantly in 1815.
3. Although they have similar latitudes, Madrid has higher average temperatures compared to Chicago.
4. The most significant increase in temperatures in all locations took place between 1975 and 2013.

Expanding

The data from this dataset alone does not supply us with an explanation for why temperatures are increasing, but when combined with other datasets such as oil consumption and CO_2, it can be reasonably inferred that human activity has contributed to the rise of temperatures.