Project 1: Exploring Weather Trends

Author: Tony Zhang
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Project Outline

Tools used: The data was extracted from the SQL databased using the following query for global and city weather data

Global data	Toronto CA
1 `SELECT year, avg_temp` 2 `FROM global_data`	1 `select year, avg_temp from city_data where city = 'Toronto' and country = 'Canada'`

Calculation: Calculation of the moving averages as well as plotting of the data was completed in Microsoft Excel.

Considerations: The moving average were calculated based on a 7-year average, this number was chosen as there were several missing temperature data for Toronto in the early years, so choosing a higher average may smooth out large fluctuations.

Data Plotting

The below figure is plotted in Excel using a line chart to represent the 7-year moving average temperatures between Toronto and the rest of the world. Additional steps were taken to remove horizontal lines on the graph, change the default line colors to something more appealing, adding a descriptive title and axis title, and changing the amount of x-axis labels to avoid over clustering.

Comparison of 7-year global moving average temperatures with Toronto Canada
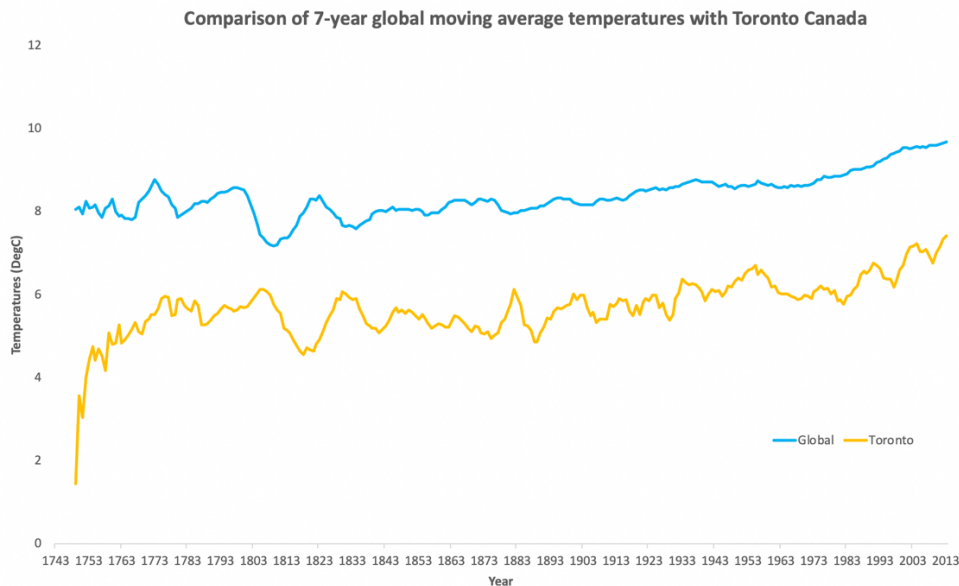
<u>Analysis of the data</u>

1. Toronto's average temperature is approximately 2 degrees lower than that of the global average, this different has remained more or less consistent throughout the entire dataset.
2. Toronto exhibits the similar upwards rise in temperature in accordance with the global average.
3. The temperature profile in Toronto appears to be more volatile than that of the global average, which may be indicative of the local climate patterns.
4. Toronto's temperature profile is very similar to that of the global temperature profile until ~1850, in which similar patterns in intensity and duration of peaks and drops are almost identical between the two datasets.