Project 1 Exploring Weather Trends

1. Extracting city and global data sql query:

First go to the city_list to search for cities in Canada by writing the query:

select * from city_list where country= 'Canada'

then use the following query to access the city data in the city of Victoria Canada and export data:

select * from city_data where city= 'Victoria' and country= 'Canada'

Then use the following query to access the global data and export data:

select * from global_data

2. Moving average calculation and Line graph

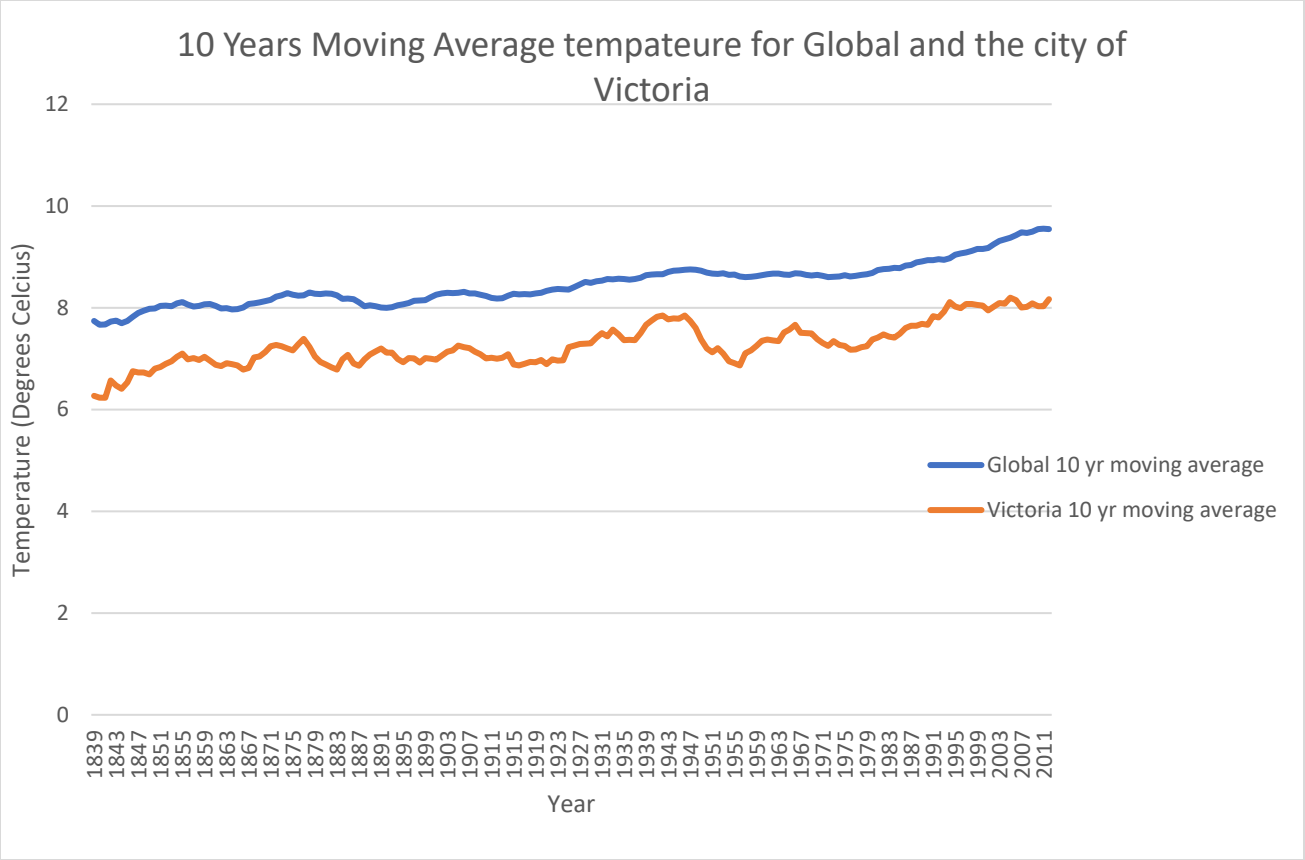
Calculate 10 year moving average by using the average function in Excel, apply the formula in row 11 column E: =AVERAGE(D2:D11)

D2 is the cell for temperature year 1 and D11 is cell for temperature year 10

For example:

	A	B	C	D	E
1	year	city	country	avg_tempa	10 yr moving avg
2	1828	Victoria	Canada	6.83	
3	1829	Victoria	Canada	6.58	
4	1832	Victoria	Canada	3.25	
5	1833	Victoria	Canada	7.27	
6	1834	Victoria	Canada	6.81	
7	1835	Victoria	Canada	5.35	
8	1836	Victoria	Canada	6.52	
9	1837	Victoria	Canada	6.61	
10	1838	Victoria	Canada	6.37	
11	1839	Victoria	Canada	7.12	6.271
12	1840	Victoria	Canada	6.45	6.095
13	1841	Victoria	Canada	6.59	6.1625

3. Line graph and observations from the line graph



Some considerations when plotting the line graph: For ease of comparison, both the local and the global data are displayed in the same year range of 1839 – 2012

<u>Observations made from line graph:</u>

- The moving average temperature in the city of Victoria is generally colder compared to the global moving average temperature.
- The temperature difference between the city of Victoria and the world is fairly consistent, Victoria is approximately 1 to 1.5 degrees lower than the world temperature in a given year
- The there is an upward overall trend for both global and the city of Victoria, indicating that the world and the city is getting warmer.
- The local temperature change is more visible on the line graph during the year interval 1947-1971 whereas the global temperature line is smoother during the same year interval
- There is no evident point of divergence between local and global temperature. When the global temperature is showing an upward trend, the same upward trend is also present for the local temperature plot, the same goes for downward trends.