Weather Trends Project Report

Data Gathering:

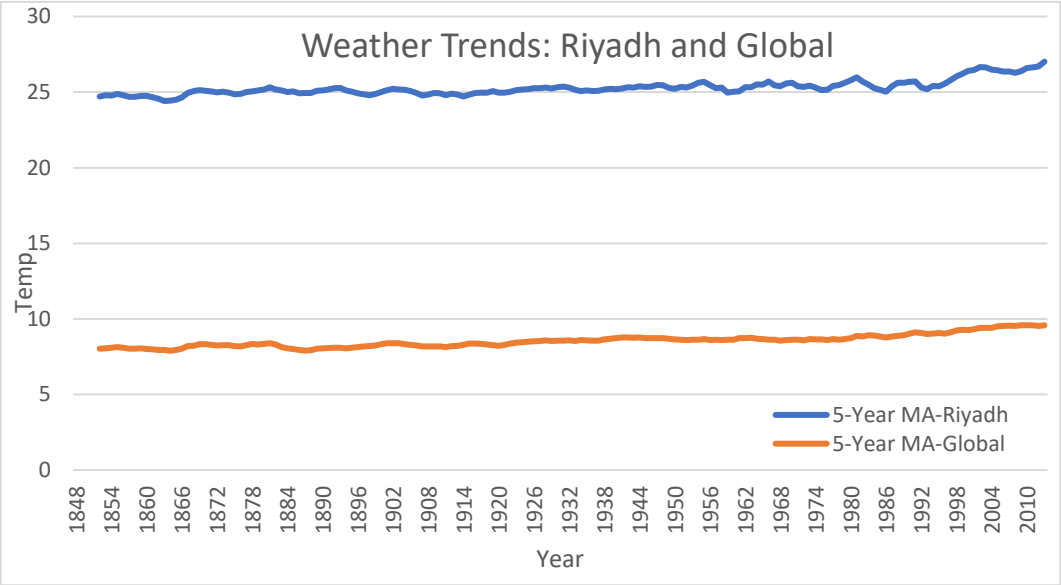
- Tool: SQL to query the data from the provided workspace
- Query:
  1. SELECT gd.year global_year, cd.year city_year,city,country, cd.avg_temp city_avg_temp , gd.avg_temp global_avg_temp
     FROM city_data cd
     JOIN global_data gd
     ON cd.year = gd.year
     AND cd.city='Riyadh'
  2. SELECT gd.year global_year, cd.year city_year,city,country, cd.avg_temp city_avg_temp , gd.avg_temp global_avg_temp
     FROM city_data cd
     JOIN global_data gd
     ON cd.year = gd.year
     WHERE cd.city='Riyadh'
     OR cd.city= 'Hiroshima'

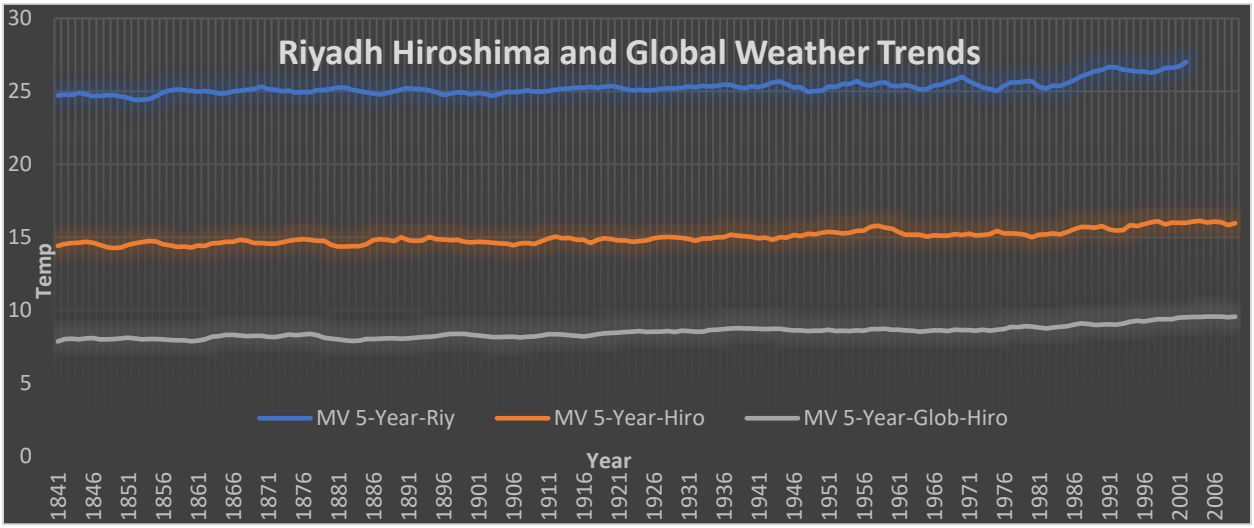
- Tool: Excel to work on the data and visualize it
- Manipulation: calculated 2 moving averages for global temperatures and city (Riyadh) temperatures. Then used a line graph to visualize the data.

Calculations:

Moving Averages based on 5 Years, Removed the first 5 records as the data from row 3 to 5 were null.

Charts:


Weather Trends: Riyadh and Global
30
25
20
15
10
5
0
Temp
1848
1854
1860
1866
1872
1878
1884
1890
1896
1902
1908
1914
1920
1926
1932
1938
1944
1950
1956
1962
1968
1974
1980
1986
1992
1998
2004
2010
Year
5-Year MA-Riyadh
5-Year MA-Global


Riyadh Hiroshima and Global Weather Trends
30
25
20
15
10
5
0
Temp
1841
1846
1851
1856
1861
1866
1871
1876
1881
1886
1891
1896
1901
1906
1911
1916
1921
1926
1931
1936
1941
1946
1951
1956
1961
1966
1971
1976
1981
1986
1991
1996
2001
2006
Year
MV 5-Year-Riy
MV 5-Year-Hiro
MV 5-Year-Glob-Hiro

Observations:

1. City and global temperatures are consistently rising.
2. The change range (Min-Max) for both City and Global is very close.
3. With almost each increase or decrease in the global temperatures, a change was reflected on Riyadh.
4. City (Riyadh) is way hotter than the global temperatures and getting hotter.
5. The difference between the city and global two is almost same between two point of time.
6. Correlation Coefficient is 0.899710709 between Riyadh and Global, so change is highly consistent.
7. I added another City (Hiroshima) and noticed that most of the increases on Riyadh is a decrease on Hiroshima and vice versa, also Riyadh change more is consistent with the global temperature.

Used Support Resources:

1. YouTube to understand how to use Line chart in Excel https://www.youtube.com/watch?v=3PwVWX28dEE
2. Searched for What's the correlation coefficient? On the internet to see how can I use it.

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