Project name: Explore weather trends

Compare pairs: Abu Dhabi – Global

Project description:

In order to analyze the data and to extract useful insights I used excel program

First step: I used the below SQL code to extract the data and save it as CSV

```
SELECT *
FROM global_data
```

```
SELECT *
FROM city_data
```

```
SELECT *
FROM city_list
```

I used the above codes separately to extract the data , I was thinking of combine global data with city data using joins but the website kept hanging as per the below code

```
SELECT global_data.year, global_data.avg_temp AS global_avg_temp, city_data.avg_temp AS
city.avg_temp
FROM global_data
JOIN city_data
ON global_data.year = city_data.year
```

Second step : I had to wrangle the data since there a lot of missing data also the period wasn't consistent foe both tables the city and the global table so I chose the period from 1900 till 2010 to do the comparison on it.

Third step: I calculated the moving average for 7year periodically by taking the average for the first 7dyears and for next calculation removing the first entry and add new one on the bottom for the next data the calculation was done for the whole data.

forth step: I have done the filtering for the data in order to gain more accuracy and to work efficiently for the global data the filter was on the year column but for city it was for year and city name

Fifth step: I used the line charts to draw the relationship for 7 year moving average versus the selected period meanwhile drawing the trend line in order to extract insights
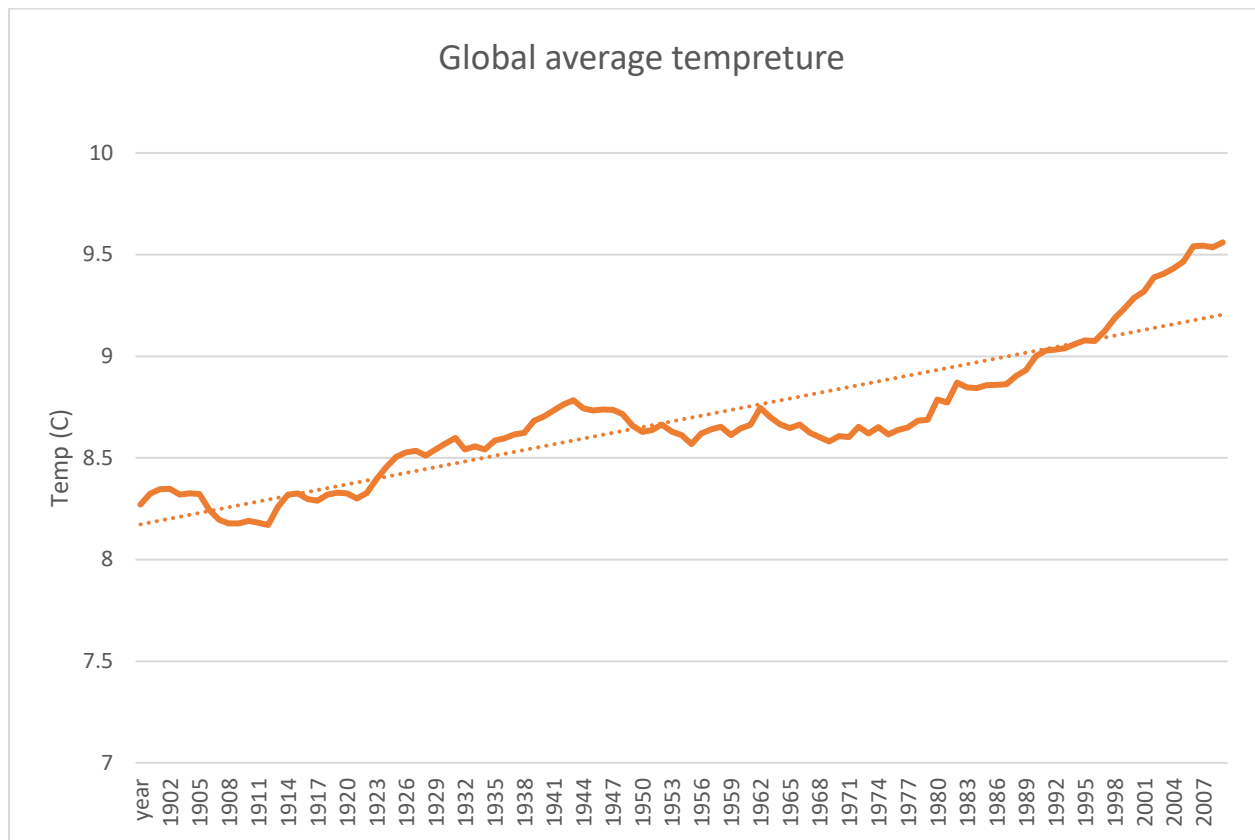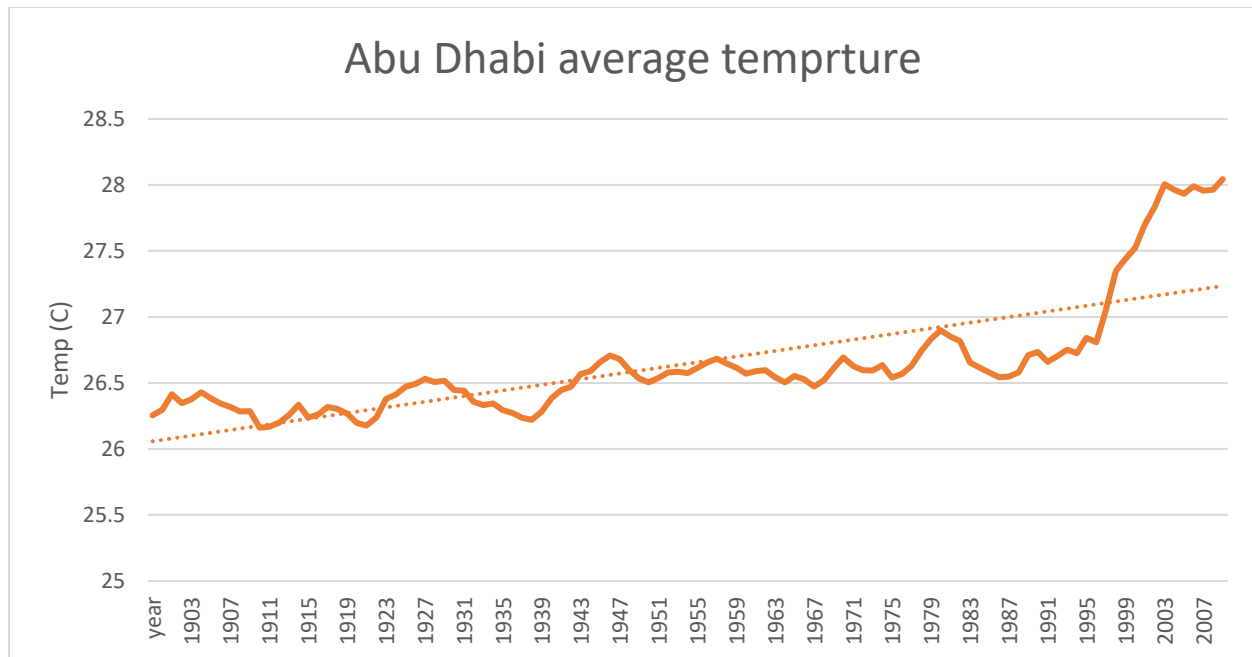

Figure 1 Global temperature data

Figure 2 Abu Dhabi temperature data

Conclusions and outings:

1-Abu Dhabi has higher average temperature over the selected period as we can see from the above figures.

2-We can see from the trend line (dotted line) that Abu Dhabi and globally the temperature average arises by time which we expect to have higher temperatures in the future.

3-As we can see from the trend line for the whole period the variation was almost near the trend line (no outliers) but starting from 1998 we noticed that there is huge variation on the average temperature which alert us that we have to take some consideration to decrease this average this insight is applicable for both globally and Abu Dhabi city.

 4-from the trend line we notice that in Abu Dhabi the variation is almost above the trend line meanwhile globally the variation mostly equally for above and below the trend line.