Explore Weather Trend

--Zihan Wei

Extract the data with SQL

- First, write a SQL query to extract the data from city_list
- Extract to csv file

```
SELECT *
FROM city_list
WHERE Country LIKE 'United States' AND City Like 'Houston';
```

- Second, write a SQL query to extract the weather data from city_data
- Extract to csv file

```
SELECT *
FROM city_data
WHERE Country LIKE 'United States' AND City Like 'Houston'
ORDER BY year
```

Extract the data with SQL

- Finally, write a SQL query to extract global weather data from global_data
- Extract to csv file

```
SELECT *
FROM global_data
WHERE year between 1820 and 2013
ORDER BY year
```

- Because the weather data of Houston are from 1820 to 2013, the global weather data need have the same timeframe.

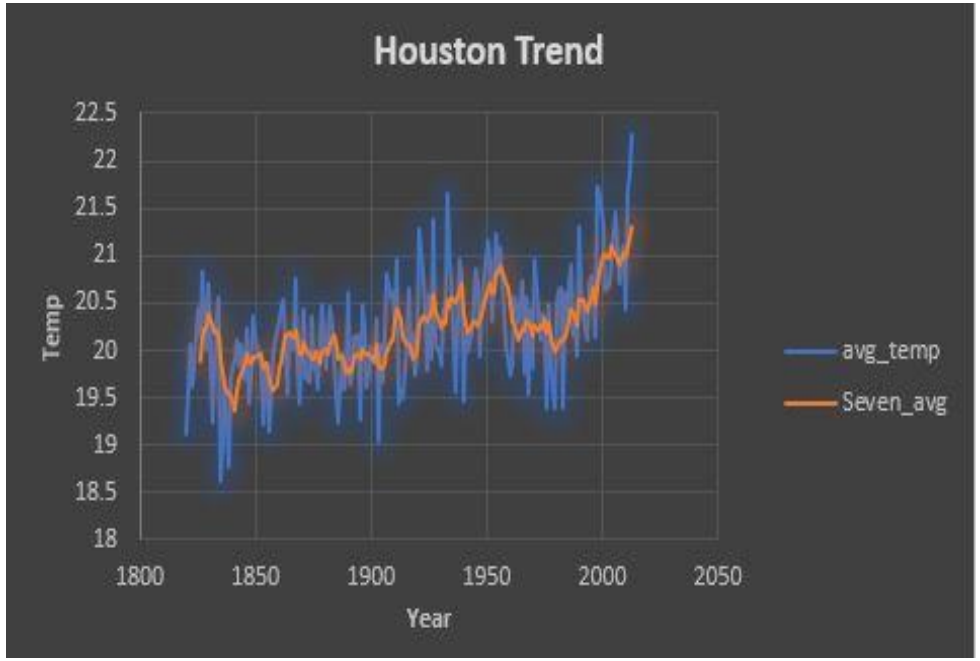
Calculate Moving Average with Excel

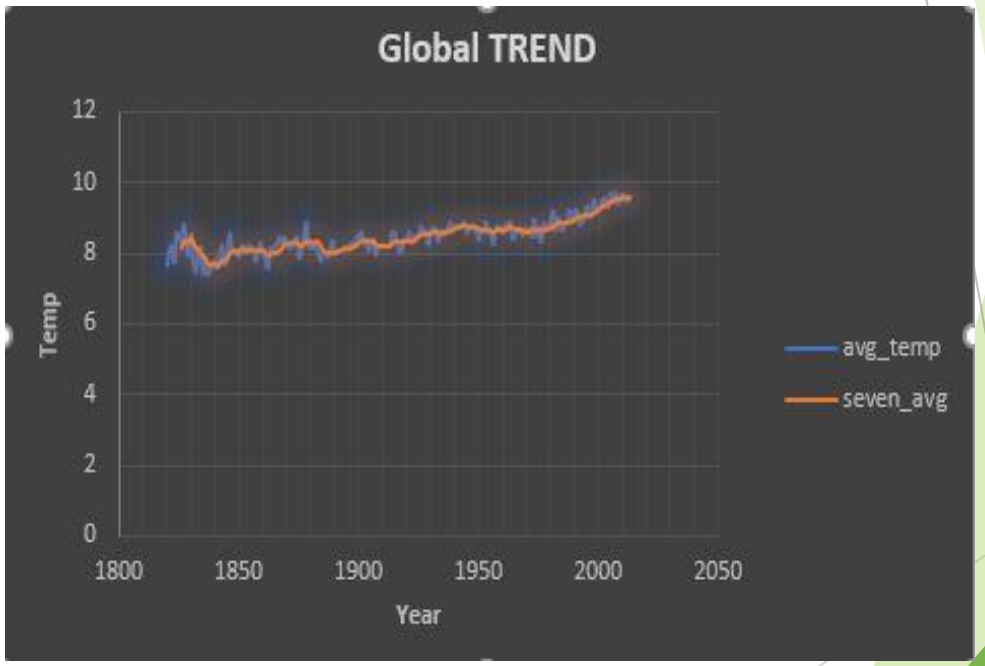
- Open csv files containing the Houston weather and the global data in Excel.
- Create a new column called seven_avg
- The value in the seven_avg is calculated by the formula **= AVERAGE(B2:B8)**
- NOTE: the temperature data in both files is stored in B columns

Data Visualization

- Use Excel to visualize both global data and Houston data
- Two line charts are created; both are Temp vs Year

Temperature Trend Comparison





Data Observation

- (1) Both global and Houston temperature increased as time went on.
- (2) Houston is much warmer than global average temp.
- (3) The temperature of Houston fluctuated wildly, compared with global temperature.
- (4) Both trend have a big drop from around 1830 to 1850.

Thank you!