Exploring Weather Trends

Data is extracted using SQL from Udacity workspace database. The query made to extracted the local data is in figure 1 and query made to extracted the global query data is in figure 2.

```
select *
from city_data
where city = 'Jakarta';
```

Figure 1 Local query

```
select *
from global_data
```

Figure 2 Global query

The data analyzed using Microsoft Excel. Excel is used to import the csv data downloaded from Udacity workspace. Then, temperature data is predicted using 7-year moving average for global temperature and linear regression for local temperature. Visualization for global and local temperature is in figure 3. Moving average and real temperature of global plot is in figure 4. Local temperature visualization is in figure 5.

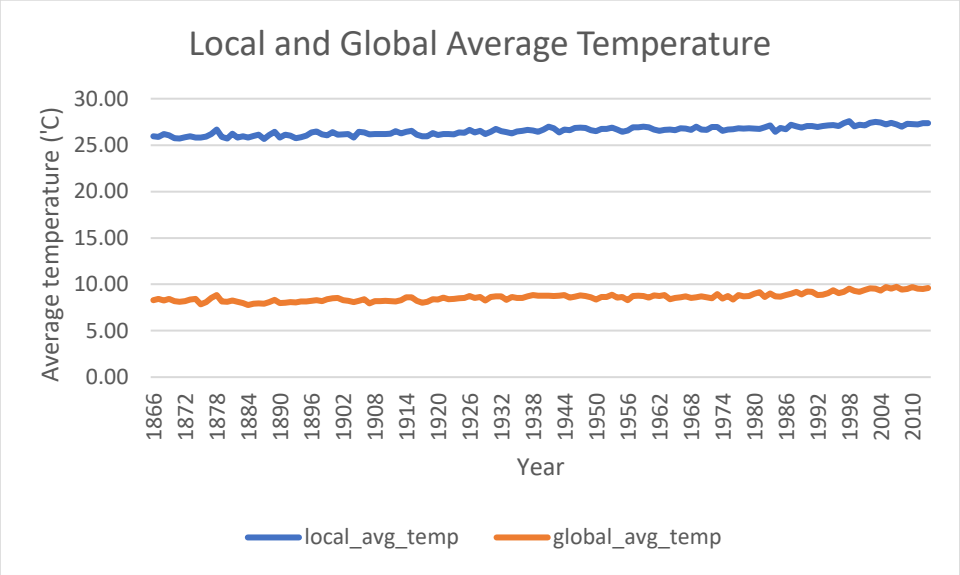

Figure 3 Local and global plot

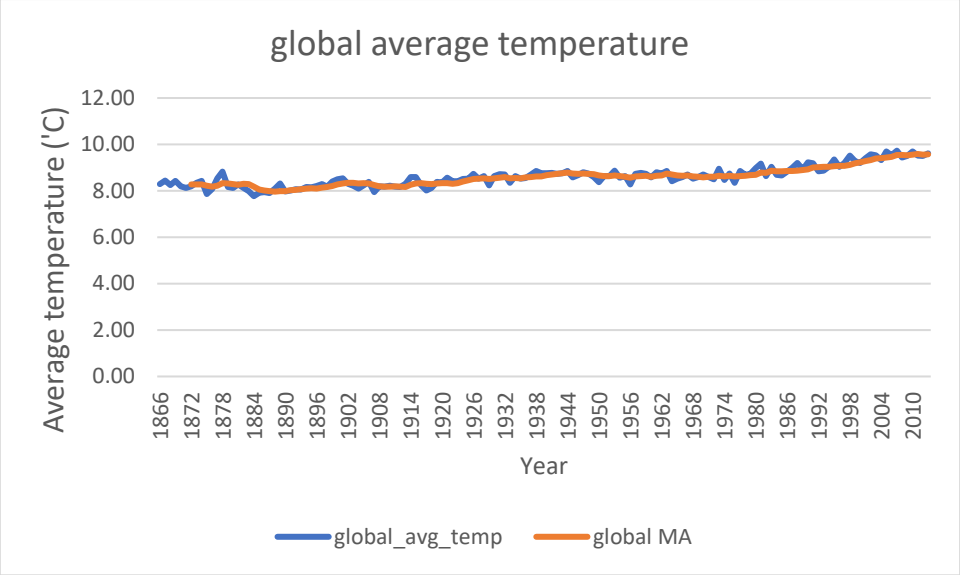

Figure 4 Global temperature

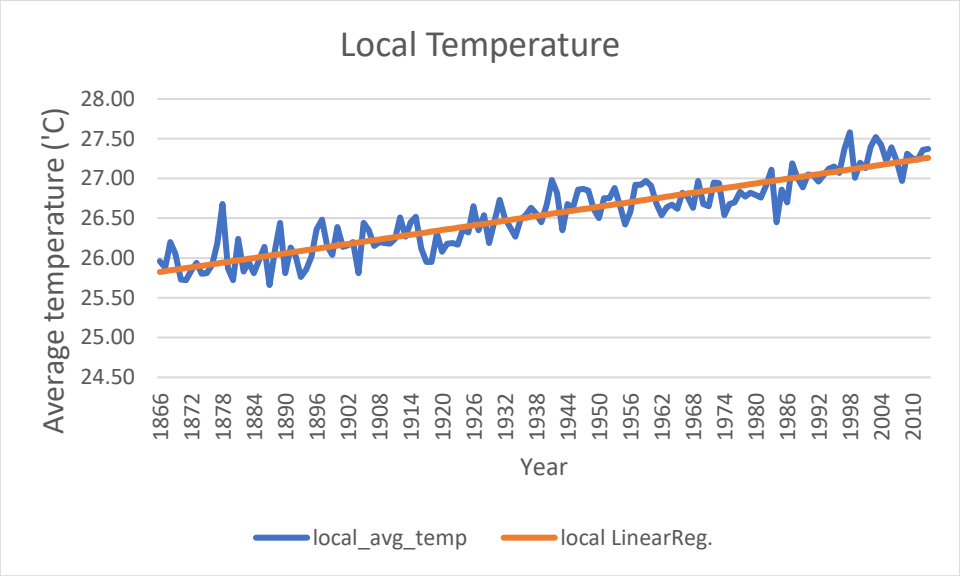

Figure 5 Local temperature

From the plot, there are some observation regarding my local city average temperature and global average temperature. The observation is:

1. Average temperature between the city i am in and gobal is differ significantly. The difference is 17.93’C on average. That means local temperature is hotter by 17.93’c on average.
2. Global temperature is increasing from the 20th century or from year 1900.
3. Local temperature is steadly increasing since the year of 1866.
4. Local temperature is more fluctuative than global temperature
5. Global temperature can be modelled using Moving average because the data fluctuate at around 8.2’C. But, at the later year, the data hinted a linear trend in temperature.
6. Local temperature can be modelled using Linear Regression because the data showed some linear trend across the year.

7. The data hinted that there is a linear trend in local and global temperature. This evidenced that average global temperature affected local temperature. Global warning is real.