# Explore Weather Trends – Project 1

**Queries used to extract Data:**

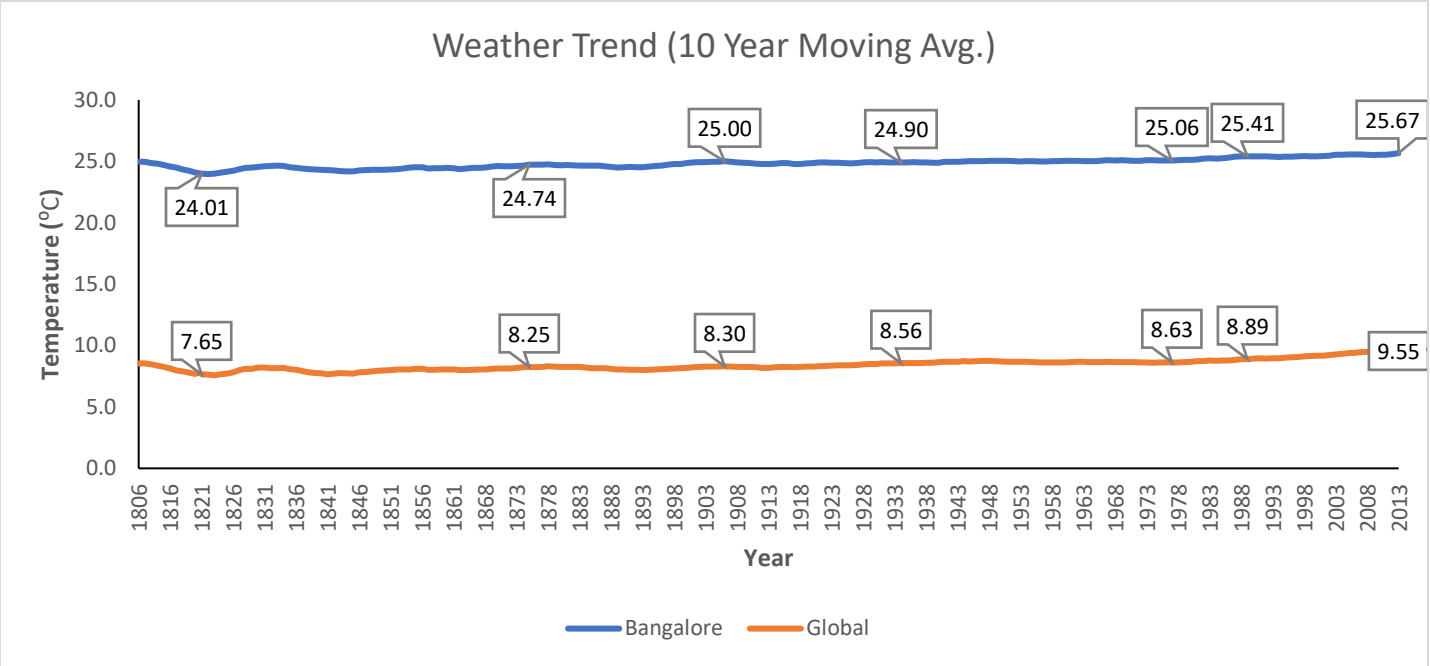
```
#To get data of my city, Bangalore and Global Average

    SELECT cd.year, cd.city, cd.avg_temp as city_avg, gd.avg_temp as global_avg

    FROM city_data cd

    LEFT JOIN global_data gd

    ON cd.year=gd.year

    WHERE city = 'Bangalore'

    AND cd.avg_temp IS NOT NULL ;
```

**Steps used to prepare the data:**

- Used the VM on Udacity to extract the data using the above queries and download as CSV
- Used MS Excel to import the CSV data into a workbook
- Added moving avg. columns to calculate the moving avg of city data and moving average of global data. Used an interval of 10 years to calculate the moving avg.

| year | city | city_avg | global_avg | My City MA 10 years | Global MA 10 years |
|---|---|---|---|---|---|
| 1796 | Bangalore | 24.49 | 8.27 | | |
| 1797 | Bangalore | 25.18 | 8.51 | | |
| 1798 | Bangalore | 24.65 | 8.67 | | |
| 1799 | Bangalore | 24.81 | 8.51 | | |
| 1800 | Bangalore | 24.85 | 8.48 | | |
| 1801 | Bangalore | 24.49 | 8.59 | | |
| 1802 | Bangalore | 25.44 | 8.58 | | |
| 1803 | Bangalore | 25.22 | 8.5 | | |
| 1804 | Bangalore | 25.67 | 8.84 | | |
| 1805 | Bangalore | 25.01 | 8.56 | | |
| 1806 | Bangalore | 24.87 | 8.43 | =AVERAGE(C2:C12) | 8.54 |
| 1807 | Bangalore | 24.25 | 8.28 | 24.95 | 8.54 |
| 1813 | Bangalore | 24.23 | 7.74 | 24.86 | 8.47 |
| 1814 | Bangalore | 23.91 | 7.59 | 24.80 | 8.37 |
| 1815 | Bangalore | 23.79 | 7.24 | 24.70 | 8.26 |
| 1816 | Bangalore | 23.3 | 6.94 | 24.56 | 8.12 |
| 1817 | Bangalore | 23.6 | 6.98 | 24.48 | 7.97 |
| 1818 | Bangalore | 23.94 | 7.83 | 24.34 | 7.90 |
| 1819 | Bangalore | 23.86 | 7.37 | 24.22 | 7.80 |
| 1820 | Bangalore | 23.91 | 7.62 | 24.06 | 7.69 |
| 1821 | Bangalore | 24.4 | 8.09 | 24.01 | 7.65 |
| 1822 | Bangalore | 24.33 | 8.19 | 23.96 | 7.62 |
| 1823 | Bangalore | 24.62 | 7.72 | 23.99 | 7.57 |
| 1824 | Bangalore | 25.1 | 8.55 | 24.07 | 7.65 |
| 1825 | Bangalore | 24.69 | 8.39 | 24.14 | 7.72 |
| 1826 | Bangalore | 24.88 | 8.36 | 24.24 | 7.82 |
| 1827 | Bangalore | 24.67 | 8.81 | 24.36 | 7.99 |
| 1828 | Bangalore | 24.61 | 8.17 | 24.46 | 8.10 |

**Line Chart Comparing City (Bangalore) vs. Global 10 year Moving Avg. Temperature**




**Observations:**

- Global temperatures are much lower to that of Bangalore. As Bangalore is between the Equator and the Tropic of Cancer, it has tropical climate and this means it is mostly warm/ hot throughout the year.
- The difference in temperature over time between Bangalore and the Global Avg. is approximately 15$^{o}$C (Bangalore being on the higher side) and this difference appears to be nearly consistent over time.
- The lowest avg. temperature for Bangalore is 23.96$^{o}$C and the lowest global avg. is 7.57$^{o}$C.
- There is a slight dip in temperature in the 1920's and 30's for Bangalore, however global temperature around that period was increasing marginally and saw no decline.
- Temperatures across both the categories have increased marginally over the years by approximately 2$^{o}$C reflecting warmer weather over time indicating that the world is getting warmer.