# Project 1

Exploring Weather Trends By Murodilla Khabibullaev

To complete the project I have taken several steps and try to think about what is going on. So, let's see the each step that I have taken and decide if I'm on the right way to meet the project requirements or no. So, let's start!

At First, I wrote a query to extract data from work space according to city and global based data records for each year. There is the code…

```sql
SELECT c.city city_name, c.avg_temp local_avg, g.avg_temp global_avg, g.year

FROM city_data c

JOIN global_data g

ON c.year = g.year

WHERE city = 'Tashkent'

GROUP BY 1, 2, 3, 4

ORDER BY 4
```

And the next, I downloaded the result .csv and opened it via Excel. My next job was to create a line-graph according to annual records. The line-graph below shows annual average temperature for Tashkent and The World. From the graph you can see Tashkent's temperature has always been higher than the global average temperature. But Its temperature isn't steady because of yearly separate records. Although Tashkent's temperature graph fluctuating every year, Its temperature in 1830s was lower than in 2000s. So, we can say the temperature has been rising gradually but how fast? We can't say anything looking through the graph as the temperature trends aren't steady. To answer the question above, **we must find moving averages** for the table and create an another line-graph using them.
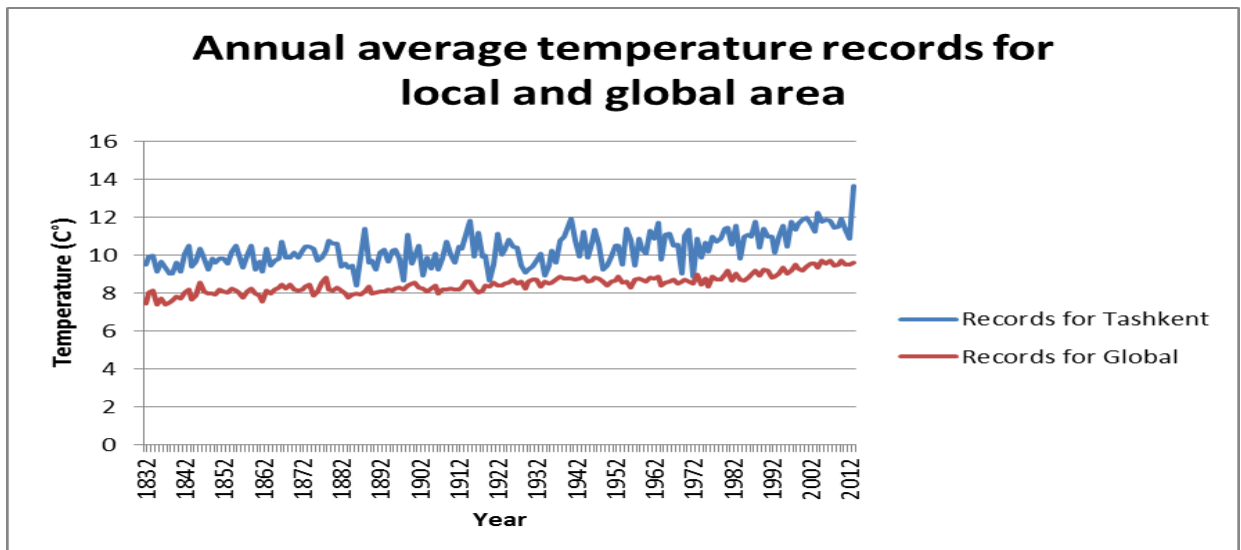
At first, I decided to use five-year moving averages. I calculated them using AVERAGE function in Excel. It helped to find out some observations but not to much. Look at the chart below. Both local and global temperature trends move upward relatively slow before 1900s. But the next hundred years, its movement accelerated nearly double times. (The average difference between 1840s and 1900s was 0.154 while the difference between 1900s and 2000s was 1.59)
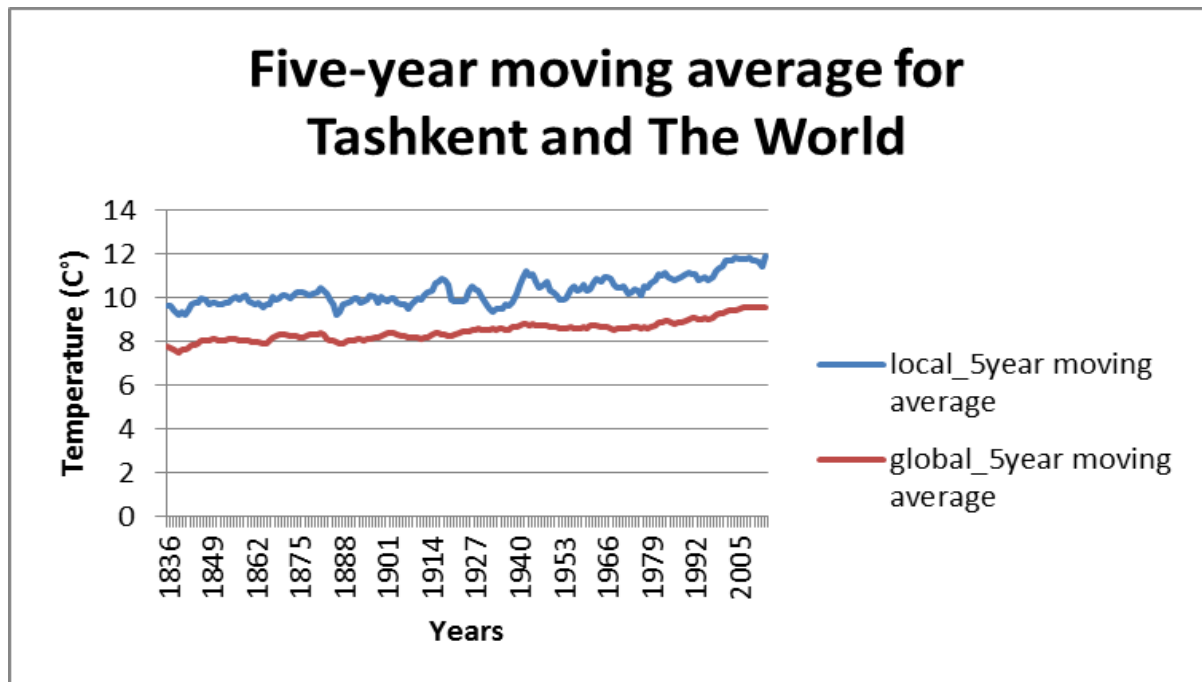
As the graph above didn't help much. I find twenty-year moving averages. And they are more steady. You can see the difference more clearly from twenty-year moving average graph.
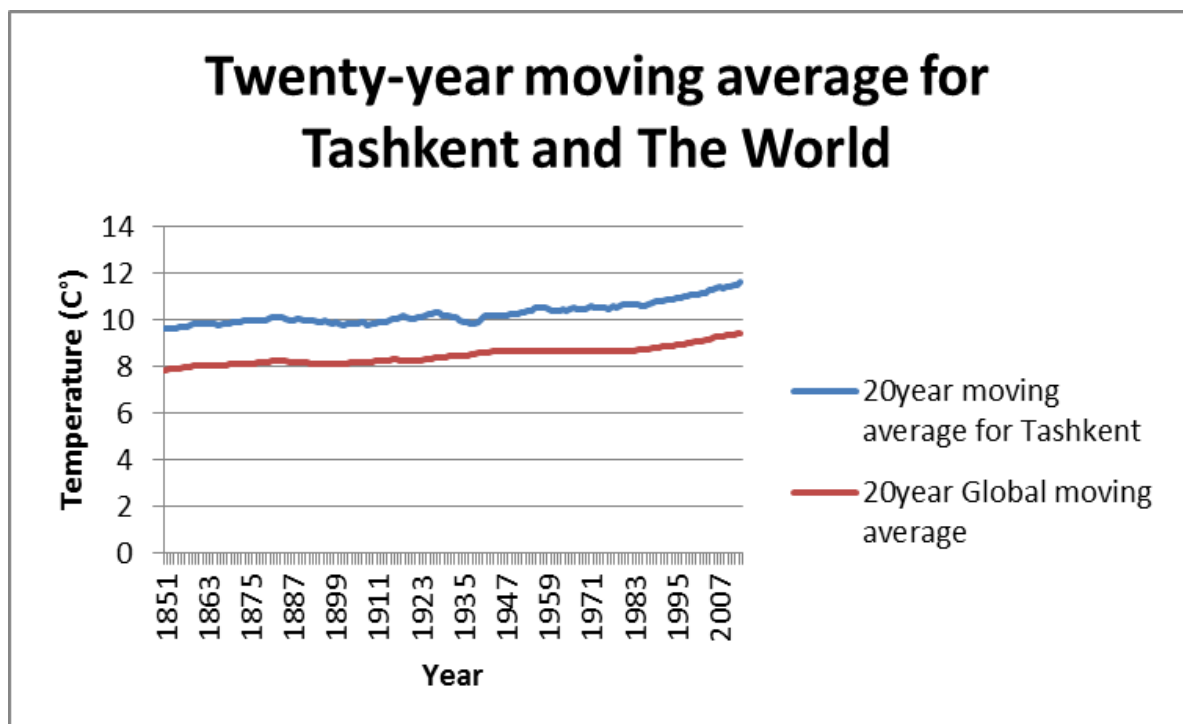
According to the given data the world is getting hotter and hotter. And the worst thing to say is my city has always been hotter than the global average. Consequently my city will be much hotter than before.