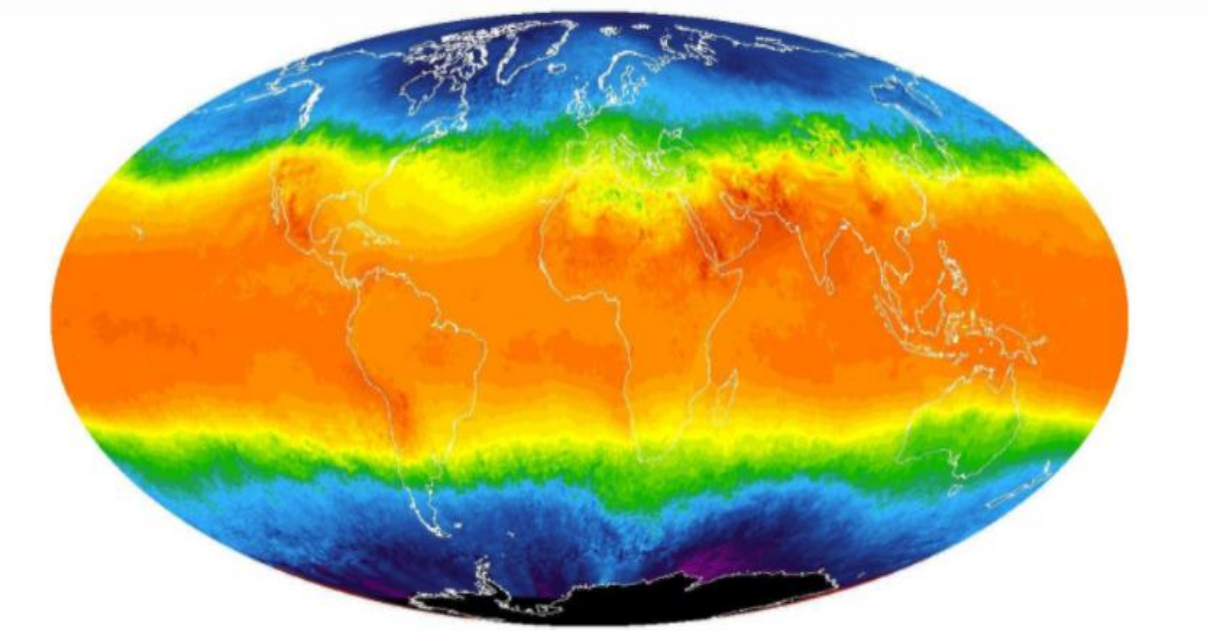
UDACITY



Exploring weather trends

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Data analyst nanodegree

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Hyderabad, India

Overview

In this project, will analyze local (Hyderabad) and global temperature data and compare the temperature trends where you live to overall global temperature trends.

As instructed, we are going to access the data using SQL in the workspace provided at portal. Temperature around has to be analyzed with the global and the nearby city temperature by extracting the data from the database.

Goals

- **Extract the data**
- **Open up the CSV**
- **Create a line char**
- **Make observation**

Extraction (SQL)

Checking the availability

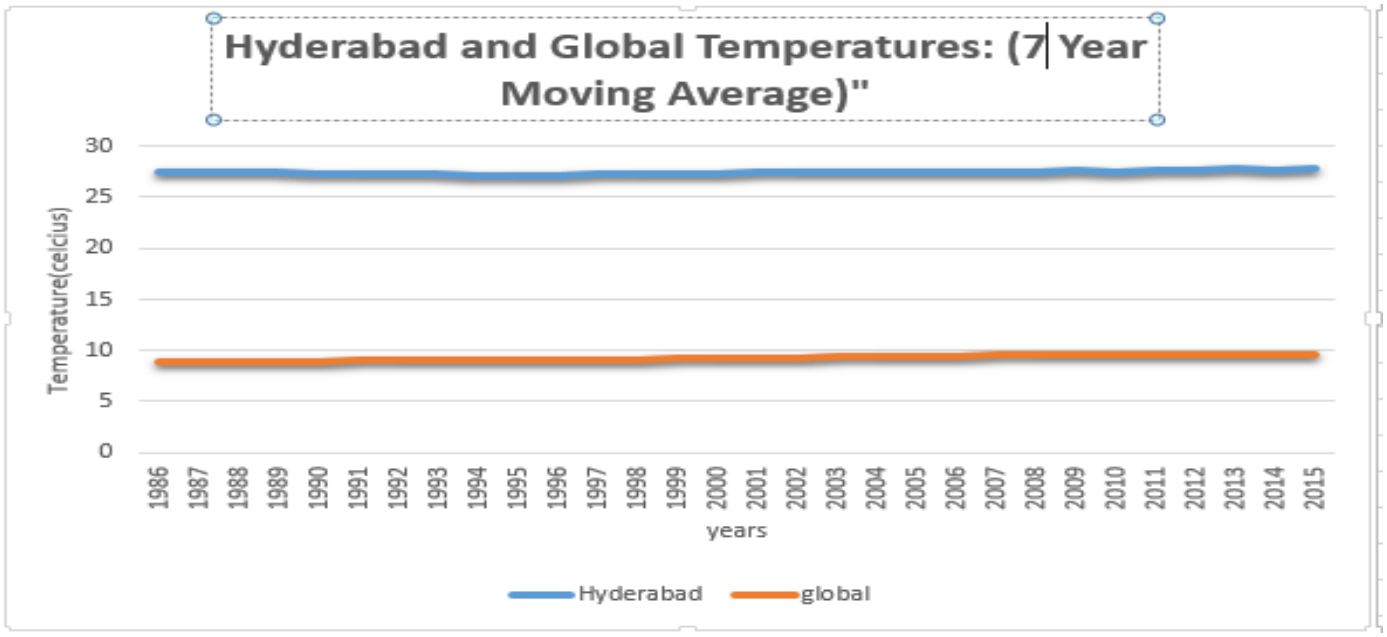
```
→ Select year,avg_temp
        From global_data
```

Joined the tables and downloaded the dataset

```
→ Select year,avg_temp,city
        From city_data
        Where city = 'Hyderabad' and country='india'
```

Moving Average

We chose to use moving averages to compare the city temperature with the global temperature, average function is used to calculate the results



- **I have taken the data of recent decades as it has no missing years in data available**
- **Using excel tool I have taken an average of those data(1980-2012) and taken the line graph from it**

Observations

1. **We can see the big difference between global temperature and Hyderabad's temperature**
2. **Hyderabad city observed to have grater temperature than the global average temperature**

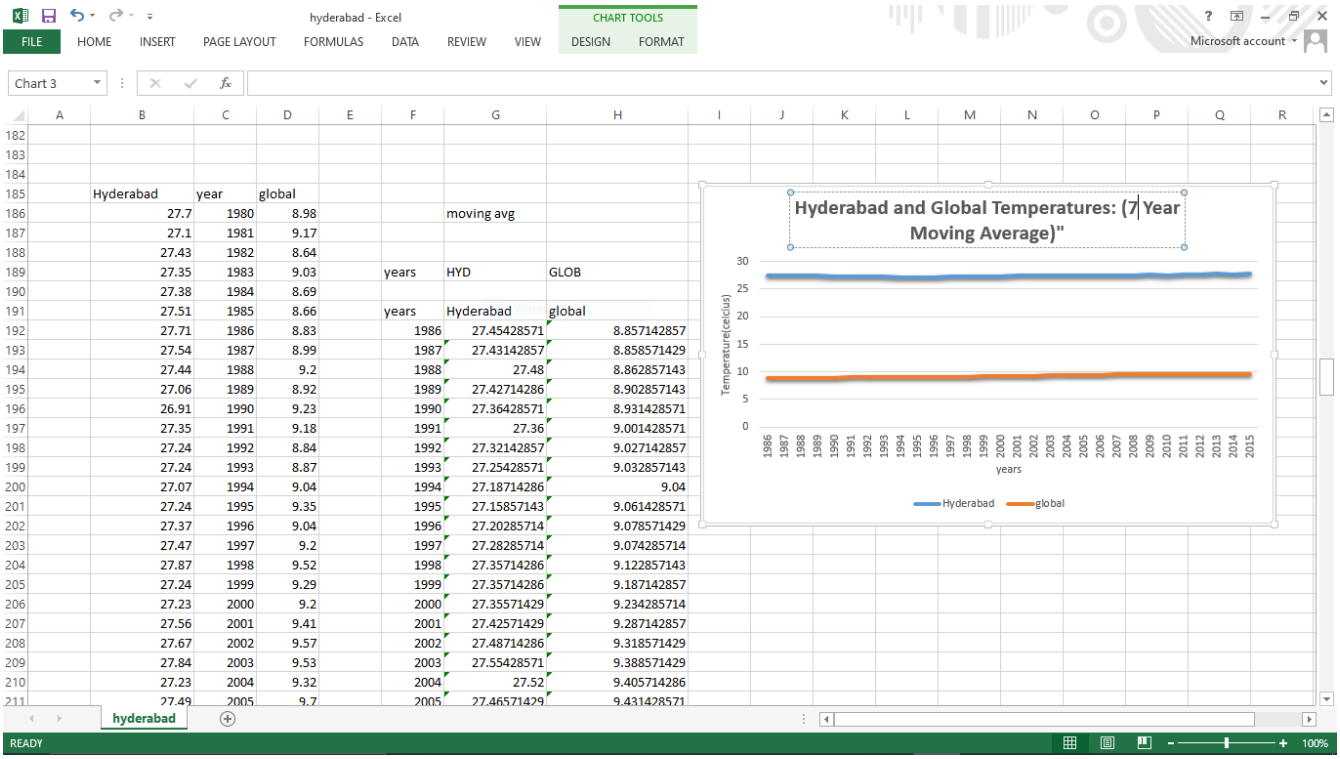
3. **Changes in Hyderabad temperatures in comparison with global temperature look consistently.**
4. **In year-by-year comparison, the rise is steadily and the data points appear to be moved in similar pattern**
5. **Global temp and hyderabad temp shows an upward trend.**
6. **Ups and downs are clearly visible**
7. **The current time climate in unpredictable because of climatic changes in Hyderabad**
8. **Oct -11-2020(Google search): Rainfall reached over 110 millimeters (4.3 in) in parts of Hyderabad, with heavier rainfall amounts outside of the city. With over 80 people having lost their lives and about 40,000 families being displaced, post rain gathering up-to 20,000 tons of waste.**
9. **The world is getting hotter and the trend has been consistent over the decades**

Resubmission notes

1. **Sql : the review says there are so many results (436) and it is because there are 2 Hyderabad's, one in india and another in Pakistan.**

For this I have added country to the query, as a result it is reduced to 218 and this action corrected another issue as I am asked to mention country in query

2. I have taken data from 1980 to 2012 to excel and taken 7 year moving average as I got still better smoothness



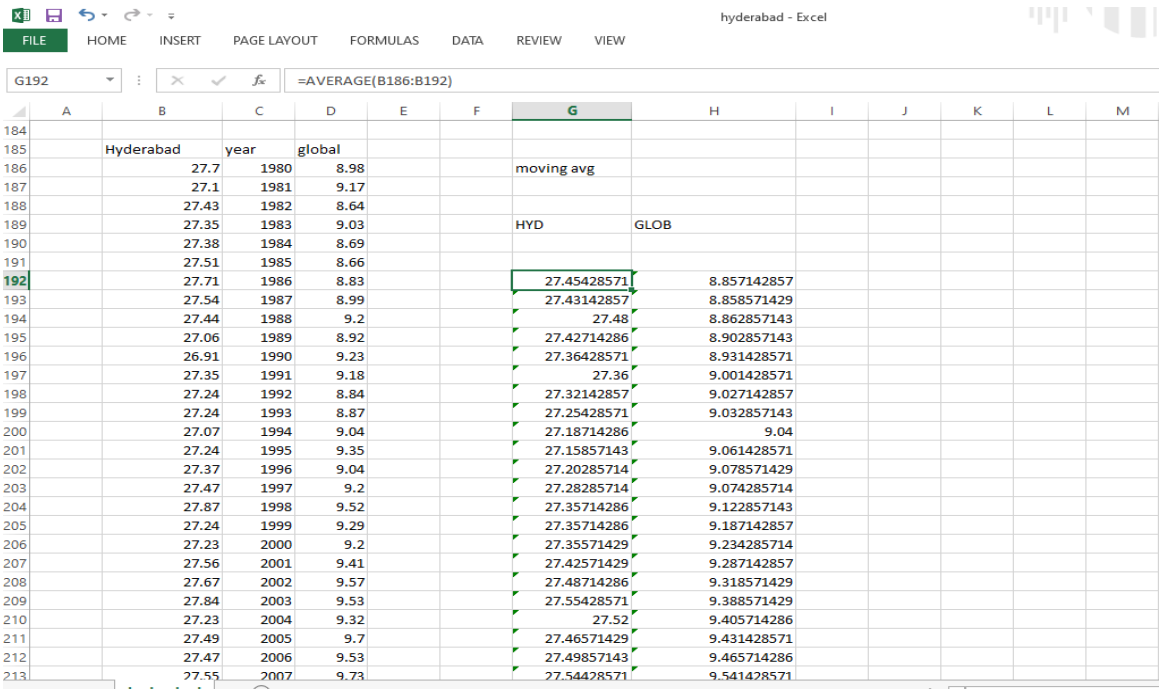
	Hyderabad	year	global				
186	27.7	1980	8.98		moving avg		
187	27.1	1981	9.17				
188	27.43	1982	8.64				
189	27.35	1983	9.03	years	HYD	GLOB	
190	27.38	1984	8.69				
191	27.51	1985	8.66	years	Hyderabad	global	
192	27.71	1986	8.83	1986	27.45428571	8.857142857	
193	27.54	1987	8.99	1987	27.43142857	8.858571429	
194	27.44	1988	9.2	1988	27.48	8.862857143	
195	27.06	1989	8.92	1989	27.42714286	8.902857143	
196	26.91	1990	9.23	1990	27.36428571	8.931428571	
197	27.35	1991	9.18	1991	27.36	9.001428571	
198	27.24	1992	8.84	1992	27.32142857	9.027142857	
199	27.24	1993	8.87	1993	27.25428571	9.032857143	
200	27.07	1994	9.04	1994	27.18714286	9.04	
201	27.24	1995	9.35	1995	27.15857143	9.061428571	
202	27.37	1996	9.04	1996	27.20285714	9.078571429	
203	27.47	1997	9.2	1997	27.28285714	9.074285714	
204	27.87	1998	9.52	1998	27.35714286	9.122857143	
205	27.24	1999	9.29	1999	27.35714286	9.187142857	
206	27.23	2000	9.2	2000	27.35571429	9.234285714	
207	27.56	2001	9.41	2001	27.42571429	9.287142857	
208	27.67	2002	9.57	2002	27.48714286	9.318571429	
209	27.84	2003	9.53	2003	27.55428571	9.388571429	
210	27.23	2004	9.32	2004	27.52	9.405714286	
211	27.49	2005	9.7	2005	27.46571429	9.431428571	

All the remarks related to graph has been addressed

Resubmission 2

moving average

- **The data I taken from global and Hyderabad data is only from 1980 –2012**
- **There are missing data in the given data but there are no missing values when it comes after 1980**
- **So chose from that year**
- **I have taken base 7 years of average**
- **For:=Average (B186:B192)**



	A	B	C	D	E	F	G	H	I	J	K	L	M
184													
185		Hyderabad	year	global									
186		27.7	1980	8.98			moving avg						
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196		26.91	1990	9.23			27.36428571	8.931428571					
197		27.35	1991	9.18			27.36	9.001428571					
198		27.24	1992	8.84			27.32142857	9.027142857					
199		27.24	1993	8.87			27.25428571	9.032857143					
200		27.07	1994	9.04			27.18714286	9.04					
201		27.24	1995	9.35			27.15857143	9.061428571					
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210		27.23	2004	9.32			27.52	9.405714286					
211		27.49	2005	9.7			27.46571429	9.431428571					
212		27.47	2006	9.53			27.49857143	9.465714286					
213		27.55	2007	9.73			27.54428571	9.541428571					

- **And finally updated the units celcius at temperature axis**