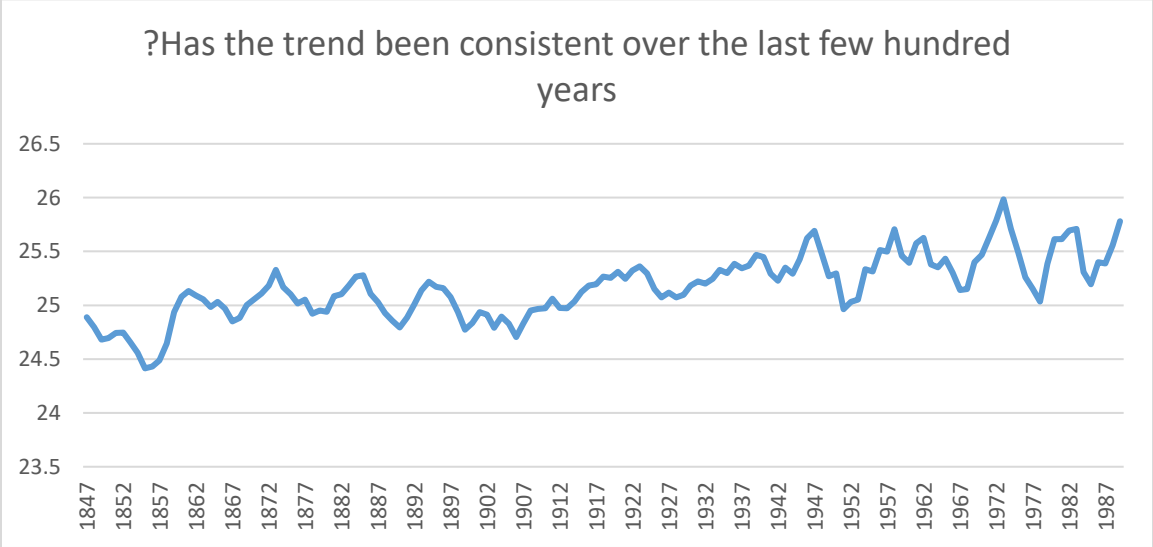
SQL Query :
A) Local
```
select *
from city_data
where city like 'Riyadh' and country like'Saudi Arabia';
```
B) Global
```
select *
from global_data;
```

- Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?

Yes , Riyadh is hotter than global average .
Yes,I think it little difference not huge .

- "How do the changes in your city's temperatures over time compare to the changes in the global average?"
  I think there are minor variations from year to year , local and global records show peaks and valleys almost in sync with each other.

- What does the overall trend look like? Is the world getting hotter or cooler? Has the trend been consistent over the last few hundred years?
  As data we have it appears trend of global is increased little bit against past year , Yes it going to be hotter , Yes as shown below.

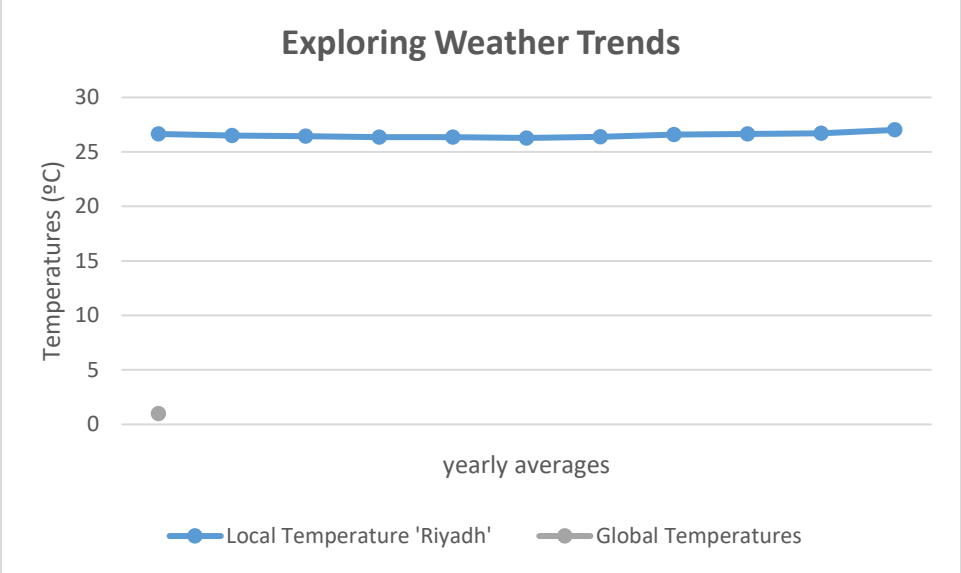


- **An outline** of steps taken to prepare the data to be visualized in the chart, such as: What tools did you use for each step?
  First I used SQL to extract data
  Then I used Excel to smooth data ' moving avrage' and visualize it .

- How did you calculate the moving average?
  By using data analysis tool in excel 2013.

- What were your key considerations when deciding how to visualize the trends?
  The most successful visualizations have a few things in common. They have a clear purpose; they include only relevant, focused content; and they present the content in a manner that reveals and highlights the interesting relationships in the data.
  To achieve greatness, there's a design process that must be followed. Much of the design effort happens long before the point of sketching possible layouts and picking fonts and colors. First, a purpose must be defined. Second, content that supports that purpose must be selected. Third, an appropriate layout or graph type must be chosen. After that, other choices regarding elements such as fonts, colors, and icons can be made.
  Here are the steps in the process:
  1. Purpose (why?)
  2. Content (what?)
  3. Structure (how?)
  4. Everything else
  5. Iterate (the first option is rarely the optimal solution)
  The first thing to focus on is purpose. Ask yourself the following questions: What is the reason for creating this visualization? Who will be using it? What do they need to learn from it, and what actions will that cause them to take? How will it be consumed: print, big screen, mobile? "1"

- **Line chart** with local and global temperature trends



- At least **four observations** about the similarities and/or differences in the trends

  1-In the chart of Riyadh and Global Temperature, it has difference between the average temperature of Riyadh and the word.

  2- Global Temperature increasing constantly each year by 0.1 degree as we see in the dataset at 2004 the Global Temperature is 9.4 and in 2005 is 9.5 degree.

3- Riyadh Temperature increasing constantly each year by 1 degree as we see in the dataset at 2004 the Global Temperature is 26 and in 2005 is 27 degree.

4-Both Global Temperature & Riyadh Temperature are increasing

Moving average which I used

	A	B	C	D	E	F	G
152	1993	Riyadh	Saudi Arabia	25.42			
153	1994	Riyadh	Saudi Arabia	26.08			
154	1995	Riyadh	Saudi Arabia	25.64			
155	1996	Riyadh	Saudi Arabia	26.28			
156	1997	Riyadh	Saudi Arabia	25.49			
157	1998	Riyadh	Saudi Arabia	26.73			
158	1999	Riyadh	Saudi Arabia	26.92			
159	2000	Riyadh	Saudi Arabia	26.55			
160	2001	Riyadh	Saudi Arabia	26.67			
161	2002	Riyadh	Saudi Arabia	26.44	Riyadh Moving avg	Global moving avg	
162	2003	Riyadh	Saudi Arabia	26.62	26.64	9.4	
163	2004	Riyadh	Saudi Arabia	26.2	26.496	9.406	
164	2005	Riyadh	Saudi Arabia	26.27	26.44	9.506	
165	2006	Riyadh	Saudi Arabia	26.24	26.354	9.53	
166	2007	Riyadh	Saudi Arabia	26.49	26.364	9.562	
167	2008	Riyadh	Saudi Arabia	26.21	26.282	9.542	
168	2009	Riyadh	Saudi Arabia	26.71	26.384	9.58	
169	2010	Riyadh	Saudi Arabia	27.37	26.604	9.58	
170	2011	Riyadh	Saudi Arabia	26.4	26.636	9.578	
171	2012	Riyadh	Saudi Arabia	26.83	26.704	9.534	
172	2013	Riyadh	Saudi Arabia	27.78	27.018	9.57	
173						9.582	
174						9.608	
175							
176							
177							

Reference :-

1) http://www.umsl.edu/~sauterv/DSS/TopConsiderationsforEffectiveVisualizations.pdf