

Weather Trends Project

Getting Data from DB:

- SQL Query used to find the cities listed in my country "Egypt"
 - `SELECT city FROM city_list WHERE country='Egypt';`
 - Result only Cairo & Alex are the listed 2 cities in Egypt

The screenshot shows the Udacity Data Analyst interface. On the left, a sidebar contains a 'Project: Explore Weather Trends' section with a list of steps: 1. Your First Project, 2. Project Instructions, 3. Accessing Data With SQL (highlighted), 4. Moving Averages, and 5. Project: Explore Weather Trends. Below this is a 'Knowledge' section with 'Search project Q&A' and a 'Student Hub' with 'Chat with peers and mentors'. The main area is titled 'Accessing Data With SQL' and features a 'SEND FEEDBACK' button. It displays an 'Input' section with a schema table and a SQL query. The 'Output' section shows 2 results: Alexandria and Cairo.

SCHEMA	
city_data	
city_list	
global_data	

```
1 SELECT city FROM city_list WHERE country='Egypt';
```

Success!

city
Alexandria
Cairo

- SQL Query used to get temperature for Cairo, Egypt
 - `select * from city_data where country = 'Egypt' and city = 'Cairo' order by year asc;`
 - Total of 206 temp. record in DB (from 1808 till 2013)

The screenshot shows the Udacity Data Analyst interface with the same sidebar as the previous image. The main area displays a second SQL query. The 'Output' section shows 206 results, displaying a table with columns: year, city, country, and avg_temp. The table lists data for Cairo, Egypt from 1808 to 2013.

year	city	country	avg_temp
1808	Cairo	Egypt	17.11
1809	Cairo	Egypt	19.87
1810	Cairo	Egypt	19.93
1811	Cairo	Egypt	20.00
1812	Cairo	Egypt	19.93
1813	Cairo	Egypt	20.51

- SQL Query used to get global temperature in same period of time
 - `select * from global_data where year >= 1808 and year <= 2013;`

Project: Explore Weather Trends

SEARCH

RESOURCES

CONCEPTS

- 1. Your First Project
- 2. Project Instructions
- 3. Accessing Data With SQL
- 4. Moving Averages
- 5. Project: Explore Weather Trends

Knowledge
Search project Q&A

Student Hub
Chat with peers and mentors

Accessing Data With SQL

Input

SCHEMA

- city_data
- city_list
- global_data

1 SELECT city FROM city_list WHERE country='Egypt';
2 select * from city_data where country = 'Egypt' and city = 'Cairo' order by year asc;
3 select * from global_data where year >= 1808 and year <= 2013;

Success!

EVALUATE

Output 206 results

Download CSV

year	avg_temp
1808	7.63
1809	7.08
1810	6.92
1811	6.86
1812	7.05
1813	7.74

Data Processing Using Excel:

- Cairo Temperature data was saved to excel file and moving average was calculated over 10 years
- Vlookup excel function used to get the global temperature record for the same year and moving average was calculated over 10 years.

Weather Trends_output.xlsx - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Add-Ins

Clipboard Font Alignment Number Styles Cells Editing

Formula Bar: =VLOOKUP(A11,D:\Business\Udacity Data Analytics ND\Global_data.csv!Global_data!\$A:\$B,2,0)

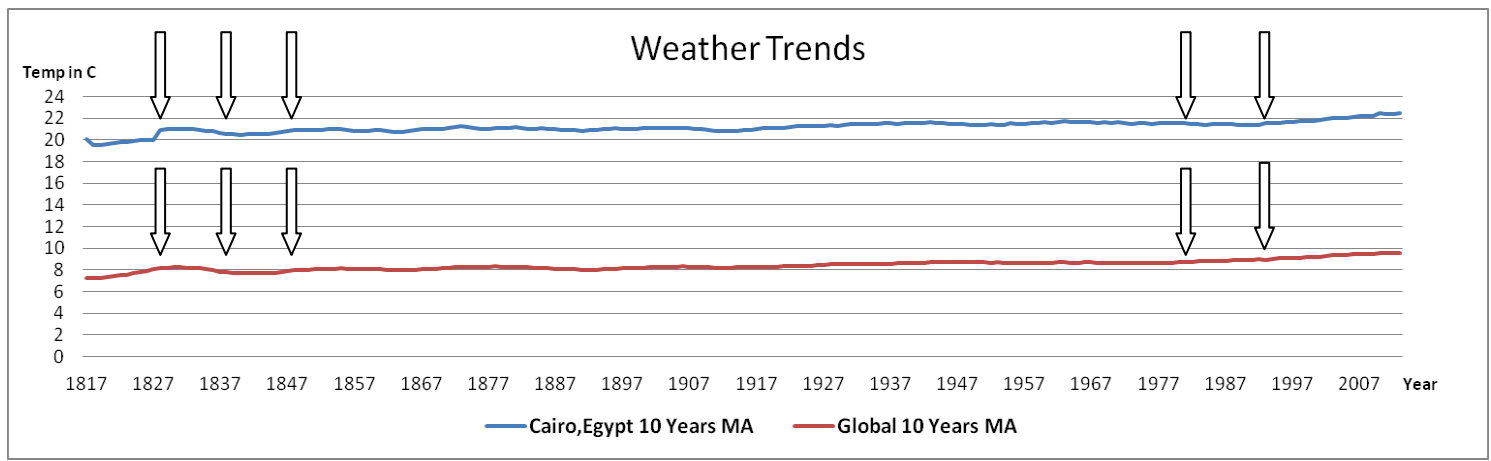
year	city	country	avg_temp	Cairo 10 Years MA	Global avg_temp	Global 10 years MA
1808	Cairo	Egypt	17.11		7.63	
1809	Cairo	Egypt	19.87		7.08	
1810	Cairo	Egypt	19.93		6.92	
1811	Cairo	Egypt	20		6.86	
1812	Cairo	Egypt	19.93		7.05	
1813	Cairo	Egypt	20.51		7.74	
1814	Cairo	Egypt	20.43		7.59	
1815	Cairo	Egypt	20.3		7.24	
1816	Cairo	Egypt	20.51		6.94	
1817	Cairo	Egypt	21.88	20.047	6.98	7.203
1818	Cairo	Egypt	11.6	19.496	7.83	7.223
1819	Cairo	Egypt	20.31	19.54	7.37	7.252
1820	Cairo	Egypt	20.58	19.605	7.62	7.322
1821	Cairo	Egypt	20.63	19.668	8.09	7.445
1822	Cairo	Egypt	20.72	19.747	8.19	7.559
1823	Cairo	Egypt	20.71	19.767	7.72	7.557
1824	Cairo	Egypt	21.44	19.868	8.55	7.653
1825	Cairo	Egypt	21	19.938	8.39	7.768
1826	Cairo	Egypt	20.94	19.981	8.36	7.91

- The calculated 10 years moving average for both Cairo & global are then used copied transposed to other sheet to be able to generate line Chart

Weather Trends_output.xlsx - Microsoft Excel

	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
1	year	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840
2	Cairo,Egypt 10 Years MA	20.047	19.496	19.54	19.605	19.668	19.747	19.767	19.868	19.938	19.981	19.956	20.895	20.955	21.022	21.011	20.959	20.969	20.894	20.811	20.776	20.64	20.562	20.514	20.445
3	Global 10 Years MA	7.203	7.223	7.252	7.322	7.445	7.559	7.557	7.653	7.768	7.91	8.093	8.127	8.184	8.274	8.229	8.155	8.184	8.144	8.044	7.978	7.835	7.769	7.738	7.666
4																									
5																									

Line Chart:



Observations:

1. Cairo Temperature vary around 21C while global vary around 8.5C
2. Both of Global and Cairo records have around 2C difference between Max and Min Temperature Recorded (Cairo 20-22 & Global 7.9-9.9)
3. Both witness Temp. Increase around year 1827 & started to decrease again around year 1837 then another increase on 1847
4. Between year 1980 & 1995 Cairo trend was decreasing however the global trend was increasing, then both of them started increasing around year 1997
5. The overall trends tend to be increasing in temperature comparing year 2013 record to year 1817 record