

Explore Weather Trends

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Get the data

Get cities in my country

```
SELECT *
```

```
FROM city_list
```

```
WHERE country = 'Sweden'
```

Input

HISTORY ▼

MENU ▼

SCHEMA

city_data

city_list

global_data

1

2

3

4

SELECT *

FROM city_list

WHERE country = 'Sweden'

Success!

EVALUATE

Output

1 results

Download CSV

city

country

Stockholm

Sweden

Only one city available, so used that

Get all global data for download to csv

```
SELECT *
```

```
FROM global_data
```

Get data for Stockholm

```
SELECT *
```

```
FROM city_data
```

```
WHERE city = 'Stockholm'
```

Also get data for options extra city, Sydney

```
SELECT *  
FROM city_data  
WHERE city = 'Sydney'
```

Preread FAQ

<https://knowledge.udacity.com/questions/86515>

Should we remove rows with no value

Visualization

Import CSV

I imported all csv's into a Google Spreadsheet and added a new sheet where I combined Global, Stockholm and Sydney.

Added column to calculate moving average per decennium for Global (global_ma_dec), Stockholm (stockholm_ma_dec) and Sydney (sydney_ma_dec). I used the formula. =AVERAGE(B9:B18)

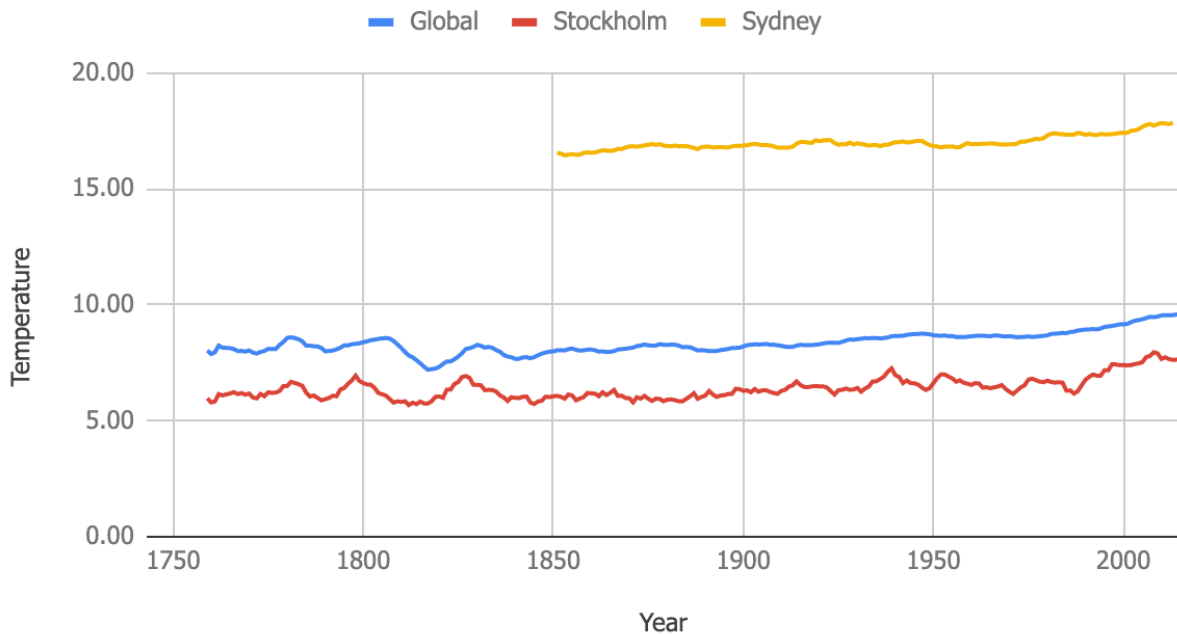
I chose to ignore the first years up to 1750 because global dont have any recorded measurement before this.

Though quite interesting Stockholm showed an average temperature of -2 in 1745 which makes me wonder if it was really cold or something is wrong with the data. I will never know.

I than selected the columns Year, Global_ma, Stockholm_ma and then hit the insert chart

Chose line chart and needed to adjust so that the chart showed the right axis and got some descriptive labels:





Moving Average Temperatures



Observations

- Stockholm is a bit colder than the rest of the world as expected. It fluctuated a bit more during 1900. Difficult to say why. Maybe I need to look at other data to understand why. Perhaps how monsoon where these years, our industrial establishments, or tjernobyl maybe also affected temperature
- In The Last 20 years Stockholm has closed the gap to the rest of the world. Which might be a result of heavy growth in urbanization.
- 1820 was the coldest decennium
- Three distinct heat peaks 1780, 1800, 1820, but after that not so many peaks but a steady trend towards a warmer planet.
- I chose to look at Sydney as well, which is much more even in temperatures than Stockholm. Significantly higher temperature cross over.
- Sydney is following global measurements more than Stockholm. This might be because the northern hemisphere has more distinct seasonal changes throughout the year so the temperature naturally goes up and down annualy.
- First thought was that something might be wrong with the first numbers for Stockholm, -2 is very different from the years before, yet there is no measurement of the years to follow. I thought, maybe something actually happened or is the data wrong? When going back to the database for city data I found that there is a significant difference between 1743, 1744 and 1745 - then no measuring at all until 1750. So I would say something happened globally that made the temperature drop everywhere

for some time - so cold that they even stopped measuring? Or what happened? I don't know, a quick search on Google lead me to this article , that can give more insight
https://www.researchgate.net/publication/226043410_Unusual_Climate_in_Northwest_Europe_During_the_Period_1730_to_1745_Based_on_Instrumental_and_Documentary_Data

SCHEMA		1 SELECT year, ROUND(AVG(avg_temp), 2) avg_temp
city_data		2 FROM city_data
year		3 GROUP BY year
city		4 HAVING year BETWEEN 1743 AND 1750
country		5 ORDER BY year
avg_temp		6
Success!		
Output 8 results		
year	avg_temp	
1743	4.73	
1744	11.23	
1745	1.68	
1746		
1747		
1748		
1749		
1750	10.42	

Extras

Correlation coefficient shows how one dataset relates to another dataset. I calculated it by using the formula CORREL in Google Sheets.

Moving average columns giving a result of 0.82 (starting 1759)

Avg temperature columns giving a result of 0.5 (starting 1750)

This is in order as when the moving average smooths out the trends a bit to easier read trends. So the correlation is stronger this way.

If we know the correlation and in what direction - colder or hotter, than we can use it to calculate