

Outline

- First, we extract the data from the Udacity Database for my city; I simply used a SQL query with a join to get the data I needed.

Input

HISTORY ▾MENU ▾

SCHEMA ↻

city_data ▾

city_list ▾

global_data ▾

1 SELECT c.year AS year, c.city city, c.avg_temp city_avg_temp, g.avg_temp global_avg_temp

2 FROM city_data c

3 JOIN global_data g

4 ON c.year = g.year

5 AND city = 'Philadelphia';

Success!

EVALUATE

Output 264 results

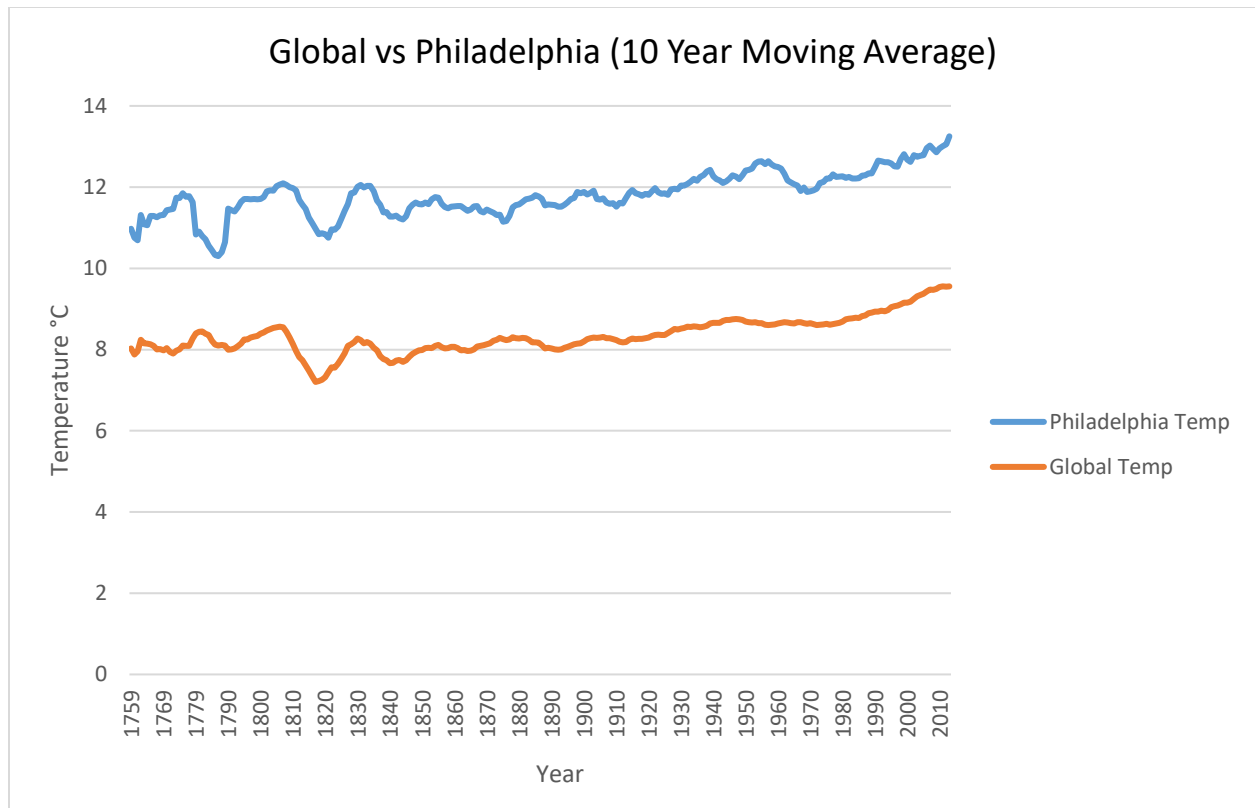
Download CSV

year	city	city_avg_temp	global_avg_temp
1750	Philadelphia	12.36	8.72
1751	Philadelphia	13.05	7.98
1752	Philadelphia	5.64	5.78
1753	Philadelphia	11.85	8.39
1754	Philadelphia	12.29	8.47
1755	Philadelphia	9.12	8.36
1756	Philadelphia	12.41	8.85
1757	Philadelphia	11.26	9.02

- Then I calculated the 10-year moving averages for both Philadelphia and Global temperatures. Using Excel we can easily do this through the Data Analysis tools > Moving Average.

	A	B	C	D	E	F
1	year	city	city_avg_temp	global_avg_temp	10-Year MA City	10-Year MA Global
2	1750	Philadelphia	12.36	8.72	#N/A	#N/A
3	1751	Philadelphia	13.05	7.98	#N/A	#N/A
4	1752	Philadelphia	5.64	5.78	#N/A	#N/A
5	1753	Philadelphia	11.85	8.39	#N/A	#N/A
6	1754	Philadelphia	12.29	8.47	#N/A	#N/A
7	1755	Philadelphia	9.12	8.36	#N/A	#N/A
8	1756	Philadelphia	12.41	8.85	#N/A	#N/A
9	1757	Philadelphia	11.26	9.02	#N/A	#N/A
10	1758	Philadelphia	10.43	6.74	#N/A	#N/A
11	1759	Philadelphia	11.35	7.99	10.976	8.03
12	1760	Philadelphia	10.12	7.19	10.752	7.877
13	1761	Philadelphia	12.47	8.77	10.694	7.956
14	1762	Philadelphia	11.8	8.61	11.31	8.239
15	1763	Philadelphia	9.63	7.5	11.088	8.15
16	1764	Philadelphia	12.02	8.4	11.061	8.143
17	1765	Philadelphia	11.39	8.25	11.288	8.132
18	1766	Philadelphia	12.4	8.41	11.287	8.088
19	1767	Philadelphia	10.96	8.22	11.257	8.008
20	1768	Philadelphia	10.89	6.78	11.303	8.012
21	1769	Philadelphia	11.43	7.69	11.311	7.982
22	1770	Philadelphia	11.32	7.69	11.431	8.032
23	1771	Philadelphia	12.62	7.85	11.446	7.94
24	1772	Philadelphia	11.99	8.19	11.465	7.898
25	1773	Philadelphia	12.37	8.22	11.739	7.97
26	1774	Philadelphia	11.92	8.77	11.729	8.007
27	1775	Philadelphia	12.56	9.18	11.846	8.1
28	1776	Philadelphia	11.6	8.3	11.766	8.089
29	1777	Philadelphia	11.11	8.26	11.781	8.093
30	1778	Philadelphia	9.36	8.54	11.628	8.269
31	1779	Philadelphia	3.45	8.98	10.83	8.398
32	1781	Philadelphia	12.09	8.1	10.907	8.439
33	1782	Philadelphia	11.49	7.9	10.794	8.444
34	1783	Philadelphia	11.16	7.68	10.711	8.393
35	1784	Philadelphia	10.81	7.86	10.555	8.357
36	1785	Philadelphia	10.85	7.36	10.448	8.216
37	1786	Philadelphia	11.35	8.26	10.327	8.124

- Next, we were tasked with making a line chart plotting Global Data vs the Philadelphia data across a 10-year moving average. I omitted the year 1780 since I had a NaN value for city_avg_temp.



- A major consideration I took when deciding to visualize the trends was the fact that prior to looking at the data I knew Global Warming would have an effect on how the data is presented.

Observations

- Philadelphia average temperature is higher than global average temperature over time
- Philadelphia temperature and Global temperature seem to be changing at the same rate with significant dips in temp between the years of 1781 to 1785, and we clearly see another dip between 1816 to 1830.
- Based off the moving averages of Global temperature and Philadelphia temperature the world seems to be getting hotter
- From 1844 to our present time according to the chart the upward trend seems to be consistent