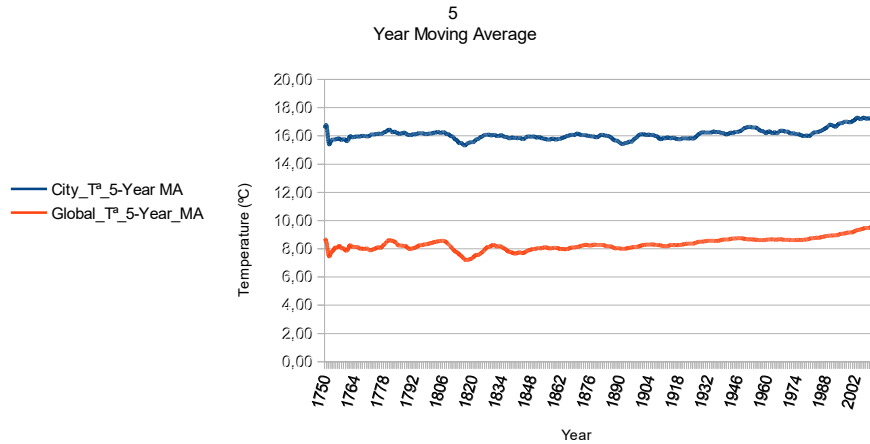


## PROJECT: EXPLORE WEATHER TRENDS

## CITY'S TEMPERATURE vs GLOBAL TEMPERATURE



## How did you extract data?

I use SQL query's below for extract the data form city\_data and global\_data databases

```
SELECT * from city_data WHERE city = 'Barcelona' and country = 'Spain'
```

```
SELECT * from global_data
```

## How did you calculate the moving average?

I use SQL for getting the data and OpenOffice Calc (similar to Excel) for the rest of the steps..

## How did you calculate the moving average?

I tried a 5 yers moving average for doing this project. I first used the AVERAGE function on the Q6997 to Q7001 cells (AVERAGE(Q6997:Q7001))

## What were your key considerations when deciding how visualize the trends?

I have considered what interval was the most efficient for smooth out the yearly temperature in the line chart.

## Observations:

- 1) My city is twice more hotter on average compared to the global average. The difference has been very consistent over time
- 2) The changes in my city's temperatures over time has been very similar compare to the changes in the global average.
- 3) The world is getting hotter and the trend has been very consistent over de last few hundred years, but not so much for previous years.
- 4) The difference between city's temperature and global temperature has decreased somewhat throughout the years.

Year,City,Country,T°	Year	City	Country	T°	Year,AvgT°	Year	T°	City_T°_5-Year_MA	Global_T°_5-Year_MA	Year
1743,Barcelona,Spain,13.81	1743	Barcelona	Spain	13,81	0	0				
1744,Barcelona,Spain,16.98	1744	Barcelona	Spain	16,98	0	0				
1745,Barcelona,Spain,10.78	1745	Barcelona	Spain	10,78	0	0				
1746,Barcelona,Spain,	1746	Barcelona	Spain		0	0				
1747,Barcelona,Spain,	1747	Barcelona	Spain		0	0				
1748,Barcelona,Spain,	1748	Barcelona	Spain		0	0				
1749,Barcelona,Spain,	1749	Barcelona	Spain		0	0				
1750,Barcelona,Spain,16.52	1750	Barcelona	Spain	16,52	1750,8.72	1750	8,72	16,52	8,72	1750
1751,Barcelona,Spain,16.78	1751	Barcelona	Spain	16,78	1751,7.98	1751	7,98	16,65	8,35	1751
1752,Barcelona,Spain,13.09	1752	Barcelona	Spain	13,09	1752,5.78	1752	5,78	15,46	7,49	1752
1753,Barcelona,Spain,16.17	1753	Barcelona	Spain	16,17	1753,8.39	1753	8,39	15,64	7,72	1753
1754,Barcelona,Spain,16.09	1754	Barcelona	Spain	16,09	1754,8.47	1754	8,47	15,73	7,87	1754
1755,Barcelona,Spain,15.80	1755	Barcelona	Spain	15,8	1755,8.36	1755	8,36	15,74	8,08	1755
1756,Barcelona,Spain,16.11	1756	Barcelona	Spain	16,11	1756,8.85	1756	8,85	15,79	8,08	1756
1757,Barcelona,Spain,15.88	1757	Barcelona	Spain	15,88	1757,9.02	1757	9,02	15,81	8,20	1757
1758,Barcelona,Spain,15.04	1758	Barcelona	Spain	15,04	1758,6.74	1758	6,74	15,72	8,03	1758
1759,Barcelona,Spain,16.19	1759	Barcelona	Spain	16,19	1759,7.99	1759	7,99	15,77	8,03	1759
1760,Barcelona,Spain,15.91	1760	Barcelona	Spain	15,91	1760,7.19	1760	7,19	15,71	7,88	1760
1761,Barcelona,Spain,16.25	1761	Barcelona	Spain	16,25	1761,8.77	1761	8,77	15,65	7,96	1761
1762,Barcelona,Spain,16.13	1762	Barcelona	Spain	16,13	1762,8.61	1762	8,61	15,96	8,24	1762
1763,Barcelona,Spain,15.65	1763	Barcelona	Spain	15,65	1763,7.50	1763	7,5	15,91	8,15	1763
1764,Barcelona,Spain,16.21	1764	Barcelona	Spain	16,21	1764,8.40	1764	8,4	15,92	8,14	1764
1765,Barcelona,Spain,16.19	1765	Barcelona	Spain	16,19	1765,8.25	1765	8,25	15,96	8,13	1765
1766,Barcelona,Spain,16.06	1766	Barcelona	Spain	16,06	1766,8.41	1766	8,41	15,95	8,09	1766
1767,Barcelona,Spain,15.97	1767	Barcelona	Spain	15,97	1767,8.22	1767	8,22	15,96	8,01	1767
1768,Barcelona,Spain,15.49	1768	Barcelona	Spain	15,49	1768,6.78	1768	6,78	16,01	8,01	1768
1769,Barcelona,Spain,15.94	1769	Barcelona	Spain	15,94	1769,7.69	1769	7,69	15,98	7,98	1769
1770,Barcelona,Spain,15.80	1770	Barcelona	Spain	15,8	1770,7.69	1770	7,69	15,97	8,03	1770
1771,Barcelona,Spain,16.30	1771	Barcelona	Spain	16,3	1771,7.85	1771	7,85	15,97	7,94	1771
1772,Barcelona,Spain,17.21	1772	Barcelona	Spain	17,21	1772,8.19	1772	8,19	16,08	7,90	1772
1773,Barcelona,Spain,15.84	1773	Barcelona	Spain	15,84	1773,8.22	1773	8,22	16,10	7,97	1773
1774,Barcelona,Spain,16.33	1774	Barcelona	Spain	16,33	1774,8.77	1774	8,77	16,11	8,01	1774
1775,Barcelona,Spain,16.55	1775	Barcelona	Spain	16,55	1775,9.18	1775	9,18	16,15	8,10	1775

1776,Barcelona,Spain,16.10	1776	Barcelona	Spain	16,1	1776,8.30	1776	8,3	16,15	8,09	1776
1777,Barcelona,Spain,15.87	1777	Barcelona	Spain	15,87	1777,8.26	1777	8,26	16,14	8,09	1777
1778,Barcelona,Spain,16.38	1778	Barcelona	Spain	16,38	1778,8.54	1778	8,54	16,23	8,27	1778
1779,Barcelona,Spain,16.55	1779	Barcelona	Spain	16,55	1779,8.98	1779	8,98	16,29	8,40	1779
1780,Barcelona,Spain,16.78	1780	Barcelona	Spain	16,78	1780,9.43	1780	9,43	16,39	8,57	1780
1781,Barcelona,Spain,16.65	1781	Barcelona	Spain	16,65	1781,8.10	1781	8,1	16,43	8,60	1781
1782,Barcelona,Spain,15.55	1782	Barcelona	Spain	15,55	1782,7.90	1782	7,9	16,26	8,57	1782
1783,Barcelona,Spain,16.26	1783	Barcelona	Spain	16,26	1783,7.68	1783	7,68	16,30	8,51	1783
1784,Barcelona,Spain,15.83	1784	Barcelona	Spain	15,83	1784,7.86	1784	7,86	16,25	8,42	1784
1785,Barcelona,Spain,15.68	1785	Barcelona	Spain	15,68	1785,7.36	1785	7,36	16,17	8,24	1785
1786,Barcelona,Spain,16.03	1786	Barcelona	Spain	16,03	1786,8.26	1786	8,26	16,16	8,24	1786
1787,Barcelona,Spain,16.25	1787	Barcelona	Spain	16,25	1787,8.03	1787	8,03	16,20	8,21	1787
1788,Barcelona,Spain,16.67	1788	Barcelona	Spain	16,67	1788,8.45	1788	8,45	16,23	8,21	1788
1789,Barcelona,Spain,15.46	1789	Barcelona	Spain	15,46	1789,8.33	1789	8,33	16,12	8,14	1789
1790,Barcelona,Spain,16.36	1790	Barcelona	Spain	16,36	1790,7.98	1790	7,98	16,07	8,00	1790
1791,Barcelona,Spain,16.41	1791	Barcelona	Spain	16,41	1791,8.23	1791	8,23	16,05	8,01	1791
1792,Barcelona,Spain,16.22	1792	Barcelona	Spain	16,22	1792,8.09	1792	8,09	16,12	8,03	1792
1793,Barcelona,Spain,16.15	1793	Barcelona	Spain	16,15	1793,8.23	1793	8,23	16,11	8,08	1793
1794,Barcelona,Spain,16.28	1794	Barcelona	Spain	16,28	1794,8.53	1794	8,53	16,15	8,15	1794
1795,Barcelona,Spain,16.10	1795	Barcelona	Spain	16,1	1795,8.35	1795	8,35	16,19	8,25	1795
1796,Barcelona,Spain,16.07	1796	Barcelona	Spain	16,07	1796,8.27	1796	8,27	16,20	8,25	1796
1797,Barcelona,Spain,16.02	1797	Barcelona	Spain	16,02	1797,8.51	1797	8,51	16,17	8,30	1797
1798,Barcelona,Spain,16.19	1798	Barcelona	Spain	16,19	1798,8.67	1798	8,67	16,13	8,32	1798
1799,Barcelona,Spain,15.63	1799	Barcelona	Spain	15,63	1799,8.51	1799	8,51	16,14	8,34	1799
1800,Barcelona,Spain,16.63	1800	Barcelona	Spain	16,63	1800,8.48	1800	8,48	16,17	8,39	1800
1801,Barcelona,Spain,16.49	1801	Barcelona	Spain	16,49	1801,8.59	1801	8,59	16,18	8,42	1801
1802,Barcelona,Spain,16.72	1802	Barcelona	Spain	16,72	1802,8.58	1802	8,58	16,23	8,47	1802
1803,Barcelona,Spain,16.26	1803	Barcelona	Spain	16,26	1803,8.50	1803	8,5	16,24	8,50	1803
1804,Barcelona,Spain,16.71	1804	Barcelona	Spain	16,71	1804,8.84	1804	8,84	16,28	8,53	1804
1805,Barcelona,Spain,15.44	1805	Barcelona	Spain	15,44	1805,8.56	1805	8,56	16,22	8,55	1805
1806,Barcelona,Spain,16.40	1806	Barcelona	Spain	16,4	1806,8.43	1806	8,43	16,25	8,57	1806
1807,Barcelona,Spain,16.01	1807	Barcelona	Spain	16,01	1807,8.28	1807	8,28	16,25	8,54	1807
1808,Barcelona,Spain,14.96	1808	Barcelona	Spain	14,96	1808,7.63	1808	7,63	16,13	8,44	1808
1809,Barcelona,Spain,15.41	1809	Barcelona	Spain	15,41	1809,7.08	1809	7,08	16,10	8,30	1809
1810,Barcelona,Spain,15.40	1810	Barcelona	Spain	15,4	1810,6.92	1810	6,92	15,98	8,14	1810
1811,Barcelona,Spain,16.02	1811	Barcelona	Spain	16,02	1811,6.86	1811	6,86	15,93	7,97	1811
1812,Barcelona,Spain,15.00	1812	Barcelona	Spain	15	1812,7.05	1812	7,05	15,76	7,82	1812
1813,Barcelona,Spain,15.39	1813	Barcelona	Spain	15,39	1813,7.74	1813	7,74	15,67	7,74	1813
1814,Barcelona,Spain,14.86	1814	Barcelona	Spain	14,86	1814,7.59	1814	7,59	15,49	7,61	1814
1815,Barcelona,Spain,15.64	1815	Barcelona	Spain	15,64	1815,7.24	1815	7,24	15,51	7,48	1815
1816,Barcelona,Spain,14.81	1816	Barcelona	Spain	14,81	1816,6.94	1816	6,94	15,35	7,33	1816
1817,Barcelona,Spain,15.96	1817	Barcelona	Spain	15,96	1817,6.98	1817	6,98	15,35	7,20	1817
1818,Barcelona,Spain,16.29	1818	Barcelona	Spain	16,29	1818,7.83	1818	7,83	15,48	7,22	1818
1819,Barcelona,Spain,15.89	1819	Barcelona	Spain	15,89	1819,7.37	1819	7,37	15,53	7,25	1819
1820,Barcelona,Spain,15.73	1820	Barcelona	Spain	15,73	1820,7.62	1820	7,62	15,56	7,32	1820
1821,Barcelona,Spain,16.17	1821	Barcelona	Spain	16,17	1821,8.09	1821	8,09	15,57	7,45	1821
1822,Barcelona,Spain,16.70	1822	Barcelona	Spain	16,7	1822,8.19	1822	8,19	15,74	7,56	1822
1823,Barcelona,Spain,15.71	1823	Barcelona	Spain	15,71	1823,7.72	1823	7,72	15,78	7,56	1823
1824,Barcelona,Spain,16.05	1824	Barcelona	Spain	16,05	1824,8.55	1824	8,55	15,90	7,65	1824
1825,Barcelona,Spain,16.33	1825	Barcelona	Spain	16,33	1825,8.39	1825	8,39	15,96	7,77	1825
1826,Barcelona,Spain,15.95	1826	Barcelona	Spain	15,95	1826,8.36	1826	8,36	16,08	7,91	1826
1827,Barcelona,Spain,15.86	1827	Barcelona	Spain	15,86	1827,8.81	1827	8,81	16,07	8,09	1827
1828,Barcelona,Spain,16.53	1828	Barcelona	Spain	16,53	1828,8.17	1828	8,17	16,09	8,13	1828
1829,Barcelona,Spain,15.30	1829	Barcelona	Spain	15,3	1829,7.94	1829	7,94	16,03	8,18	1829
1830,Barcelona,Spain,15.97	1830	Barcelona	Spain	15,97	1830,8.52	1830	8,52	16,06	8,27	1830
1831,Barcelona,Spain,16.23	1831	Barcelona	Spain	16,23	1831,7.64	1831	7,64	16,06	8,23	1831
1832,Barcelona,Spain,15.92	1832	Barcelona	Spain	15,92	1832,7.45	1832	7,45	15,99	8,16	1832
1833,Barcelona,Spain,15.83	1833	Barcelona	Spain	15,83	1833,8.01	1833	8,01	16,00	8,18	1833
1834,Barcelona,Spain,16.68	1834	Barcelona	Spain	16,68	1834,8.15	1834	8,15	16,06	8,14	1834
1835,Barcelona,Spain,15.43	1835	Barcelona	Spain	15,43	1835,7.39	1835	7,39	15,97	8,04	1835
1836,Barcelona,Spain,15.50	1836	Barcelona	Spain	15,5	1836,7.70	1836	7,7	15,93	7,98	1836
1837,Barcelona,Spain,15.45	1837	Barcelona	Spain	15,45	1837,7.38	1837	7,38	15,88	7,84	1837
1838,Barcelona,Spain,15.86	1838	Barcelona	Spain	15,86	1838,7.51	1838	7,51	15,82	7,77	1838
1839,Barcelona,Spain,15.93	1839	Barcelona	Spain	15,93	1839,7.63	1839	7,63	15,88	7,74	1839
1840,Barcelona,Spain,15.77	1840	Barcelona	Spain	15,77	1840,7.80	1840	7,8	15,86	7,67	1840
1841,Barcelona,Spain,16.07	1841	Barcelona	Spain	16,07	1841,7.69	1841	7,69	15,84	7,67	1841
1842,Barcelona,Spain,15.88	1842	Barcelona	Spain	15,88	1842,8.02	1842	8,02	15,84	7,73	1842
1843,Barcelona,Spain,15.98	1843	Barcelona	Spain	15,98	1843,8.17	1843	8,17	15,86	7,74	1843
1844,Barcelona,Spain,15.95	1844	Barcelona	Spain	15,95	1844,7.65	1844	7,65	15,78	7,69	1844
1845,Barcelona,Spain,15.70	1845	Barcelona	Spain	15,7	1845,7.85	1845	7,85	15,81	7,74	1845
1846,Barcelona,Spain,16.64	1846	Barcelona	Spain	16,64	1846,8.55	1846	8,55	15,92	7,83	1846
1847,Barcelona,Spain,15.84	1847	Barcelona	Spain	15,84	1847,8.09	1847	8,09	15,96	7,90	1847
1848,Barcelona,Spain,15.66	1848	Barcelona	Spain	15,66	1848,7.98	1848	7,98	15,94	7,94	1848
1849,Barcelona,Spain,16.04	1849	Barcelona	Spain	16,04	1849,7.98	1849	7,98	15,95	7,98	1849
1850,Barcelona,Spain,15.65	1850	Barcelona	Spain	15,65	1850,7.90	1850	7,9	15,94	7,99	1850
1851,Barcelona,Spain,15.37	1851	Barcelona	Spain	15,37	1851,8.18	1851	8,18	15,87	8,04	1851
1852,Barcelona,Spain,16.39	1852	Barcelona	Spain	16,39	1852,8.10	1852	8,1	15,92	8,05	1852
1853,Barcelona,Spain,15.23	1853	Barcelona	Spain	15,23	1853,8.04	1853	8,04	15,85	8,03	1853
1854,Barcelona,Spain,15.62	1854	Barcelona	Spain	15,62	1854,8.21	1854	8,21	15,81	8,09	1854
1855,Barcelona,Spain,15.35	1855	Barcelona	Spain	15,35	1855,8.11	1855	8,11	15,78	8,11	1855
1856,Barcelona,Spain,16.21	1856	Barcelona	Spain	16,21	1856,8.00	1856	8	15,74	8,06	1856
1857,Barcelona,Spain,15.82	1857	Barcelona	Spain	15,82	1857,7.76	1857	7,76	15,73	8,03	1857
1858,Barcelona,Spain,16.20	1858	Barcelona	Spain	16,2	1858,8.10	1858	8,1	15,79	8,04	1858
1859,Barcelona,Spain,16.08	1859	Barcelona	Spain	16,08	1859,8.25	1859	8,25	15,79	8,07	1859
1860,Barcelona,Spain,15.01	1860	Barcelona	Spain	15,01	1860,7.96	1860	7,96	15,73	8,07	1860
1861,Barcelona,Spain,15.91	1861	Barcelona	Spain	15,91	1861,7.85	1861	7,85	15,78	8,04	1861
1862,Barcelona,Spain,16.41	1862	Barcelona	Spain	16,41	1862,7.56	1862	7,56	15,78	7,98	1862
1863,Barcelona,Spain,16.02	1863	Barcelona	Spain	16,02	1863,8.11	1863	8,11	15,86	7,99	1863
1864,Barcelona,Spain,15.97	1864	Barcelona	Spain	15,97	1864,7.98	1864	7,98	15,90	7,97	1864
1865,Barcelona,Spain,16.20	1865	Barcelona	Spain	16,2	1865,8.18	1865	8,18	15,98	7,98	1865
1866,Barcelona,Spain,16.53	1866	Barcelona	Spain	16,53	1866,8.29	1866	8,29	16,02	8,00	1866

1867,Barcelona,Spain,16.38	1867	Barcelona	Spain	16,38	1867,8.44	1867	8,44	16,07	8,07	1867
1868,Barcelona,Spain,16.30	1868	Barcelona	Spain	16,3	1868,8.25	1868	8,25	16,08	8,09	1868
1869,Barcelona,Spain,16.00	1869	Barcelona	Spain	16	1869,8.43	1869	8,43	16,07	8,11	1869
1870,Barcelona,Spain,15.90	1870	Barcelona	Spain	15,9	1870,8.20	1870	8,2	16,16	8,13	1870
1871,Barcelona,Spain,15.46	1871	Barcelona	Spain	15,46	1871,8.12	1871	8,12	16,12	8,16	1871
1872,Barcelona,Spain,15.93	1872	Barcelona	Spain	15,93	1872,8.19	1872	8,19	16,07	8,22	1872
1873,Barcelona,Spain,15.87	1873	Barcelona	Spain	15,87	1873,8.35	1873	8,35	16,05	8,24	1873
1874,Barcelona,Spain,15.87	1874	Barcelona	Spain	15,87	1874,8.43	1874	8,43	16,04	8,29	1874
1875,Barcelona,Spain,15.92	1875	Barcelona	Spain	15,92	1875,7.86	1875	7,86	16,02	8,26	1875
1876,Barcelona,Spain,16.19	1876	Barcelona	Spain	16,19	1876,8.08	1876	8,08	15,98	8,24	1876
1877,Barcelona,Spain,16.22	1877	Barcelona	Spain	16,22	1877,8.54	1877	8,54	15,97	8,25	1877
1878,Barcelona,Spain,16.22	1878	Barcelona	Spain	16,22	1878,8.83	1878	8,83	15,96	8,30	1878
1879,Barcelona,Spain,15.46	1879	Barcelona	Spain	15,46	1879,8.17	1879	8,17	15,90	8,28	1879
1880,Barcelona,Spain,16.25	1880	Barcelona	Spain	16,25	1880,8.12	1880	8,12	15,94	8,27	1880
1881,Barcelona,Spain,16.47	1881	Barcelona	Spain	16,47	1881,8.27	1881	8,27	16,04	8,28	1881
1882,Barcelona,Spain,16.29	1882	Barcelona	Spain	16,29	1882,8.13	1882	8,13	16,08	8,28	1882
1883,Barcelona,Spain,15.47	1883	Barcelona	Spain	15,47	1883,7.98	1883	7,98	16,04	8,24	1883
1884,Barcelona,Spain,15.65	1884	Barcelona	Spain	15,65	1884,7.77	1884	7,77	16,01	8,18	1884
1885,Barcelona,Spain,15.54	1885	Barcelona	Spain	15,54	1885,7.92	1885	7,92	15,98	8,18	1885
1886,Barcelona,Spain,15.51	1886	Barcelona	Spain	15,51	1886,7.95	1886	7,95	15,91	8,17	1886
1887,Barcelona,Spain,14.90	1887	Barcelona	Spain	14,9	1887,7.91	1887	7,91	15,78	8,11	1887
1888,Barcelona,Spain,15.24	1888	Barcelona	Spain	15,24	1888,8.09	1888	8,09	15,68	8,03	1888
1889,Barcelona,Spain,15.28	1889	Barcelona	Spain	15,28	1889,8.32	1889	8,32	15,66	8,05	1889
1890,Barcelona,Spain,15.14	1890	Barcelona	Spain	15,14	1890,7.97	1890	7,97	15,55	8,03	1890
1891,Barcelona,Spain,15.52	1891	Barcelona	Spain	15,52	1891,8.02	1891	8,02	15,45	8,01	1891
1892,Barcelona,Spain,15.97	1892	Barcelona	Spain	15,97	1892,8.07	1892	8,07	15,42	8,00	1892
1893,Barcelona,Spain,16.27	1893	Barcelona	Spain	16,27	1893,8.06	1893	8,06	15,50	8,01	1893
1894,Barcelona,Spain,15.83	1894	Barcelona	Spain	15,83	1894,8.16	1894	8,16	15,52	8,05	1894
1895,Barcelona,Spain,16.31	1895	Barcelona	Spain	16,31	1895,8.15	1895	8,15	15,60	8,07	1895
1896,Barcelona,Spain,15.42	1896	Barcelona	Spain	15,42	1896,8.21	1896	8,21	15,59	8,10	1896
1897,Barcelona,Spain,16.64	1897	Barcelona	Spain	16,64	1897,8.29	1897	8,29	15,76	8,13	1897
1898,Barcelona,Spain,16.16	1898	Barcelona	Spain	16,16	1898,8.18	1898	8,18	15,85	8,14	1898
1899,Barcelona,Spain,16.73	1899	Barcelona	Spain	16,73	1899,8.40	1899	8,4	16,00	8,15	1899
1900,Barcelona,Spain,16.24	1900	Barcelona	Spain	16,24	1900,8.50	1900	8,5	16,11	8,20	1900
1901,Barcelona,Spain,15.51	1901	Barcelona	Spain	15,51	1901,8.54	1901	8,54	16,11	8,26	1901
1902,Barcelona,Spain,15.99	1902	Barcelona	Spain	15,99	1902,8.30	1902	8,3	16,11	8,28	1902
1903,Barcelona,Spain,15.65	1903	Barcelona	Spain	15,65	1903,8.22	1903	8,22	16,05	8,30	1903
1904,Barcelona,Spain,16.40	1904	Barcelona	Spain	16,4	1904,8.09	1904	8,09	16,11	8,29	1904
1905,Barcelona,Spain,15.75	1905	Barcelona	Spain	15,75	1905,8.23	1905	8,23	16,05	8,30	1905
1906,Barcelona,Spain,15.76	1906	Barcelona	Spain	15,76	1906,8.38	1906	8,38	16,08	8,31	1906
1907,Barcelona,Spain,15.83	1907	Barcelona	Spain	15,83	1907,7.95	1907	7,95	16,00	8,28	1907
1908,Barcelona,Spain,16.05	1908	Barcelona	Spain	15,83	1908,8.19	1908	8,19	15,97	8,28	1908
1909,Barcelona,Spain,15.32	1909	Barcelona	Spain	15,32	1909,8.18	1909	8,18	15,83	8,26	1909
1910,Barcelona,Spain,15.62	1910	Barcelona	Spain	15,62	1910,8.22	1910	8,22	15,77	8,23	1910
1911,Barcelona,Spain,16.30	1911	Barcelona	Spain	16,3	1911,8.18	1911	8,18	15,85	8,19	1911
1912,Barcelona,Spain,15.80	1912	Barcelona	Spain	15,8	1912,8.17	1912	8,17	15,83	8,18	1912
1913,Barcelona,Spain,16.32	1913	Barcelona	Spain	16,32	1913,8.30	1913	8,3	15,89	8,19	1913
1914,Barcelona,Spain,15.81	1914	Barcelona	Spain	15,81	1914,8.59	1914	8,59	15,83	8,24	1914
1915,Barcelona,Spain,15.83	1915	Barcelona	Spain	15,83	1915,8.59	1915	8,59	15,84	8,28	1915
1916,Barcelona,Spain,15.97	1916	Barcelona	Spain	15,97	1916,8.23	1916	8,23	15,86	8,26	1916
1917,Barcelona,Spain,15.22	1917	Barcelona	Spain	15,22	1917,8.02	1917	8,02	15,80	8,27	1917
1918,Barcelona,Spain,15.41	1918	Barcelona	Spain	15,41	1918,8.13	1918	8,13	15,76	8,26	1918
1919,Barcelona,Spain,15.30	1919	Barcelona	Spain	15,3	1919,8.38	1919	8,38	15,76	8,28	1919
1920,Barcelona,Spain,16.28	1920	Barcelona	Spain	16,28	1920,8.36	1920	8,36	15,82	8,30	1920
1921,Barcelona,Spain,16.28	1921	Barcelona	Spain	16,28	1921,8.57	1921	8,57	15,82	8,33	1921
1922,Barcelona,Spain,15.94	1922	Barcelona	Spain	15,94	1922,8.41	1922	8,41	15,84	8,36	1922
1923,Barcelona,Spain,16.03	1923	Barcelona	Spain	16,03	1923,8.42	1923	8,42	15,81	8,37	1923
1924,Barcelona,Spain,16.15	1924	Barcelona	Spain	16,15	1924,8.51	1924	8,51	15,84	8,36	1924
1925,Barcelona,Spain,15.49	1925	Barcelona	Spain	15,49	1925,8.53	1925	8,53	15,81	8,36	1925
1926,Barcelona,Spain,16.61	1926	Barcelona	Spain	16,61	1926,8.73	1926	8,73	15,87	8,41	1926
1927,Barcelona,Spain,16.57	1927	Barcelona	Spain	16,57	1927,8.52	1927	8,52	16,01	8,46	1927
1928,Barcelona,Spain,16.74	1928	Barcelona	Spain	16,74	1928,8.63	1928	8,63	16,14	8,51	1928
1929,Barcelona,Spain,16.18	1929	Barcelona	Spain	16,18	1929,8.24	1929	8,24	16,23	8,49	1929
1930,Barcelona,Spain,16.50	1930	Barcelona	Spain	16,5	1930,8.63	1930	8,63	16,25	8,52	1930
1931,Barcelona,Spain,16.15	1931	Barcelona	Spain	16,15	1931,8.72	1931	8,72	16,24	8,53	1931
1932,Barcelona,Spain,15.84	1932	Barcelona	Spain	15,84	1932,8.71	1932	8,71	16,23	8,56	1932
1933,Barcelona,Spain,16.09	1933	Barcelona	Spain	16,09	1933,8.34	1933	8,34	16,23	8,56	1933
1934,Barcelona,Spain,16.37	1934	Barcelona	Spain	16,37	1934,8.63	1934	8,63	16,25	8,57	1934
1935,Barcelona,Spain,16.10	1935	Barcelona	Spain	16,1	1935,8.52	1935	8,52	16,32	8,57	1935
1936,Barcelona,Spain,16.03	1936	Barcelona	Spain	16,03	1936,8.55	1936	8,55	16,26	8,55	1936
1937,Barcelona,Spain,16.91	1937	Barcelona	Spain	16,91	1937,8.70	1937	8,7	16,29	8,57	1937
1938,Barcelona,Spain,16.17	1938	Barcelona	Spain	16,17	1938,8.86	1938	8,86	16,23	8,59	1938
1939,Barcelona,Spain,16.01	1939	Barcelona	Spain	16,01	1939,8.76	1939	8,76	16,22	8,64	1939
1940,Barcelona,Spain,16.01	1940	Barcelona	Spain	16,01	1940,8.76	1940	8,76	16,17	8,66	1940
1941,Barcelona,Spain,15.57	1941	Barcelona	Spain	15,57	1941,8.77	1941	8,77	16,11	8,66	1941
1942,Barcelona,Spain,16.26	1942	Barcelona	Spain	16,26	1942,8.73	1942	8,73	16,15	8,66	1942
1943,Barcelona,Spain,16.88	1943	Barcelona	Spain	16,88	1943,8.76	1943	8,76	16,23	8,70	1943
1944,Barcelona,Spain,16.05	1944	Barcelona	Spain	16,05	1944,8.85	1944	8,85	16,20	8,73	1944
1945,Barcelona,Spain,16.84	1945	Barcelona	Spain	16,84	1945,8.58	1945	8,58	16,27	8,73	1945
1946,Barcelona,Spain,16.19	1946	Barcelona	Spain	16,19	1946,8.68	1946	8,68	16,29	8,75	1946
1947,Barcelona,Spain,17.08	1947	Barcelona	Spain	17,08	1947,8.80	1947	8,8	16,31	8,76	1947
1948,Barcelona,Spain,16.90	1948	Barcelona	Spain	16,9	1948,8.75	1948	8,75	16,38	8,74	1948
1949,Barcelona,Spain,17.18	1949	Barcelona	Spain	17,18	1949,8.59	1949	8,59	16,50	8,73	1949
1950,Barcelona,Spain,16.86	1950	Barcelona	Spain	16,86	1950,8.37	1950	8,37	16,58	8,69	1950
1951,Barcelona,Spain,15.88	1951	Barcelona	Spain	15,88	1951,8.63	1951	8,63	16,61	8,67	1951
1952,Barcelona,Spain,16.66	1952	Barcelona	Spain	16,66	1952,8.64	1952	8,64	16,65	8,67	1952
1953,Barcelona,Spain,16.41	1953	Barcelona	Spain	16,41	1953,8.87	1953	8,87	16,61	8,68	1953
1954,Barcelona,Spain,15.99	1954	Barcelona	Spain	15,99	1954,8.56	1954	8,56	16,60	8,65	1954
1955,Barcelona,Spain,16.72	1955	Barcelona	Spain	16,72	1955,8.63	1955	8,63	16,59	8,65	1955
1956,Barcelona,Spain,15.34	1956	Barcelona	Spain	15,34	1956,8.28	1956	8,28	16,50	8,61	1956
1957,Barcelona,Spain,15.89	1957	Barcelona	Spain	15,89	1957,8.73	1957	8,73	16,38	8,61	1957

1958,Barcelona,Spain,16.50	1958	Barcelona	Spain	16,5	1958,8.77	1958	8,77	16,34	8,61	1958
1959,Barcelona,Spain,16.46	1959	Barcelona	Spain	16,46	1959,8.73	1959	8,73	16,27	8,62	1959
1960,Barcelona,Spain,16.16	1960	Barcelona	Spain	16,16	1960,8.58	1960	8,58	16,20	8,64	1960
1961,Barcelona,Spain,17.04	1961	Barcelona	Spain	17,04	1961,8.80	1961	8,8	16,32	8,66	1961
1962,Barcelona,Spain,16.09	1962	Barcelona	Spain	16,09	1962,8.75	1962	8,75	16,26	8,67	1962
1963,Barcelona,Spain,15.77	1963	Barcelona	Spain	15,77	1963,8.86	1963	8,86	16,20	8,67	1963
1964,Barcelona,Spain,16.54	1964	Barcelona	Spain	16,54	1964,8.41	1964	8,41	16,25	8,65	1964
1965,Barcelona,Spain,16.02	1965	Barcelona	Spain	16,02	1965,8.53	1965	8,53	16,18	8,64	1965
1966,Barcelona,Spain,16.52	1966	Barcelona	Spain	16,52	1966,8.60	1966	8,6	16,30	8,68	1966
1967,Barcelona,Spain,16.54	1967	Barcelona	Spain	16,54	1967,8.70	1967	8,7	16,36	8,67	1967
1968,Barcelona,Spain,16.47	1968	Barcelona	Spain	16,47	1968,8.52	1968	8,52	16,36	8,65	1968
1969,Barcelona,Spain,15.78	1969	Barcelona	Spain	15,78	1969,8.60	1969	8,6	16,29	8,64	1969
1970,Barcelona,Spain,16.35	1970	Barcelona	Spain	16,35	1970,8.70	1970	8,7	16,31	8,65	1970
1971,Barcelona,Spain,16.07	1971	Barcelona	Spain	16,07	1971,8.60	1971	8,6	16,22	8,63	1971
1972,Barcelona,Spain,15.54	1972	Barcelona	Spain	15,54	1972,8.50	1972	8,5	16,16	8,60	1972
1973,Barcelona,Spain,16.10	1973	Barcelona	Spain	16,1	1973,8.95	1973	8,95	16,19	8,61	1973
1974,Barcelona,Spain,15.89	1974	Barcelona	Spain	15,89	1974,8.47	1974	8,47	16,13	8,62	1974
1975,Barcelona,Spain,16.02	1975	Barcelona	Spain	16,02	1975,8.74	1975	8,74	16,13	8,64	1975
1976,Barcelona,Spain,15.98	1976	Barcelona	Spain	15,98	1976,8.35	1976	8,35	16,07	8,61	1976
1977,Barcelona,Spain,16.07	1977	Barcelona	Spain	16,07	1977,8.85	1977	8,85	16,03	8,63	1977
1978,Barcelona,Spain,16.05	1978	Barcelona	Spain	16,05	1978,8.69	1978	8,69	15,99	8,65	1978
1979,Barcelona,Spain,16.36	1979	Barcelona	Spain	16,36	1979,8.73	1979	8,73	16,04	8,66	1979
1980,Barcelona,Spain,15.86	1980	Barcelona	Spain	15,86	1980,8.98	1980	8,98	15,99	8,69	1980
1981,Barcelona,Spain,16.56	1981	Barcelona	Spain	16,56	1981,9.17	1981	9,17	16,04	8,74	1981
1982,Barcelona,Spain,16.95	1982	Barcelona	Spain	16,95	1982,8.64	1982	8,64	16,18	8,76	1982
1983,Barcelona,Spain,16.83	1983	Barcelona	Spain	16,83	1983,9.03	1983	9,03	16,26	8,77	1983
1984,Barcelona,Spain,15.90	1984	Barcelona	Spain	15,9	1984,8.69	1984	8,69	16,26	8,79	1984
1985,Barcelona,Spain,16.45	1985	Barcelona	Spain	16,45	1985,8.66	1985	8,66	16,30	8,78	1985
1986,Barcelona,Spain,16.61	1986	Barcelona	Spain	16,61	1986,8.83	1986	8,83	16,36	8,83	1986
1987,Barcelona,Spain,16.80	1987	Barcelona	Spain	16,8	1987,8.99	1987	8,99	16,44	8,84	1987
1988,Barcelona,Spain,17.00	1988	Barcelona	Spain	17	1988,9.20	1988	9,2	16,53	8,89	1988
1989,Barcelona,Spain,17.43	1989	Barcelona	Spain	17,43	1989,8.92	1989	8,92	16,64	8,91	1989
1990,Barcelona,Spain,17.30	1990	Barcelona	Spain	17,3	1990,9.23	1990	9,23	16,78	8,94	1990
1991,Barcelona,Spain,16.37	1991	Barcelona	Spain	16,37	1991,9.18	1991	9,18	16,76	8,94	1991
1992,Barcelona,Spain,16.35	1992	Barcelona	Spain	16,35	1992,8.84	1992	8,84	16,70	8,96	1992
1993,Barcelona,Spain,16.28	1993	Barcelona	Spain	16,28	1993,8.87	1993	8,87	16,65	8,94	1993
1994,Barcelona,Spain,17.51	1994	Barcelona	Spain	17,51	1994,9.04	1994	9,04	16,81	8,98	1994
1995,Barcelona,Spain,17.33	1995	Barcelona	Spain	17,33	1995,9.35	1995	9,35	16,90	9,05	1995
1996,Barcelona,Spain,16.72	1996	Barcelona	Spain	16,72	1996,9.04	1996	9,04	16,91	9,07	1996
1997,Barcelona,Spain,17.66	1997	Barcelona	Spain	17,66	1997,9.20	1997	9,2	17,00	9,09	1997
1998,Barcelona,Spain,17.15	1998	Barcelona	Spain	17,15	1998,9.52	1998	9,52	17,01	9,12	1998
1999,Barcelona,Spain,17.14	1999	Barcelona	Spain	17,14	1999,9.29	1999	9,29	16,98	9,16	1999
2000,Barcelona,Spain,17.15	2000	Barcelona	Spain	17,15	2000,9.20	2000	9,2	16,97	9,15	2000
2001,Barcelona,Spain,17.27	2001	Barcelona	Spain	17,27	2001,9.41	2001	9,41	17,06	9,18	2001
2002,Barcelona,Spain,17.16	2002	Barcelona	Spain	17,16	2002,9.57	2002	9,57	17,14	9,25	2002
2003,Barcelona,Spain,17.73	2003	Barcelona	Spain	17,73	2003,9.53	2003	9,53	17,28	9,32	2003
2004,Barcelona,Spain,17.12	2004	Barcelona	Spain	17,12	2004,9.32	2004	9,32	17,24	9,34	2004
2005,Barcelona,Spain,16.69	2005	Barcelona	Spain	16,69	2005,9.70	2005	9,7	17,18	9,38	2005
2006,Barcelona,Spain,17.81	2006	Barcelona	Spain	17,81	2006,9.53	2006	9,53	17,29	9,43	2006
2007,Barcelona,Spain,17.24	2007	Barcelona	Spain	17,24	2007,9.73	2007	9,73	17,25	9,48	2007
2008,Barcelona,Spain,16.92	2008	Barcelona	Spain	16,92	2008,9.43	2008	9,43	17,22	9,47	2008
2009,Barcelona,Spain,17.45	2009	Barcelona	Spain	17,45	2009,9.51	2009	9,51	17,25	9,49	2009
2010,Barcelona,Spain,16.51	2010	Barcelona	Spain	16,51	2010,9.70	2010	9,7	17,19	9,54	2010
2011,Barcelona,Spain,17.90	2011	Barcelona	Spain	17,9	2011,9.52	2011	9,52	17,25	9,55	2011
2012,Barcelona,Spain,17.51	2012	Barcelona	Spain	17,51	2012,9.51	2012	9,51	17,29	9,55	2012
2013,Barcelona,Spain,17.00	2013	Barcelona	Spain	17	2013,9.61	2013	9,61	17,22	9,56	2013

**What tools you use for each step?**

I use SQL for getting the data and OpenOffice Calc (similar to Excel) for the rest of the steps..

**How did you calculate the moving average?**

I tried a 5 yers moving average for doing this project. I first used the AVERAGE function on the Q6997 to Q7001 cells (AVERAGE(Q6997:Q7001)) and also ont he R6997 to R7001 cell (AVERAGE(R6997:R7001)), and then dragged the formula down in both columns.

**What were your key considerations when deciding how visualize the trends?**

I have considered what interval was the most efficient for smooth out the yearly temperature in the line chart.

**Observations:**

- 1) My city is twice more hotter on average compared to the global average. The difference has been very consistent over time
- 2) The changes in my city's temperatures over time has been very similar compare to the changes in the global average.
- 3) The world is getting hotter and the trend has been very consistent over de last few hundred years, but not so much for previous years.