Changes in Precipitation: Climatograms of Pittsburgh, Pennsylvania from 1886 – 2018

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The information collected here was obtained from The National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service (https://www.weather.gov/pbz/pit_records).

The climatographs were created using a template obtained from NASA's Precipitation Education Online Center: https://pmm.nasa.gov/education/lesson-plans/geographical-influences

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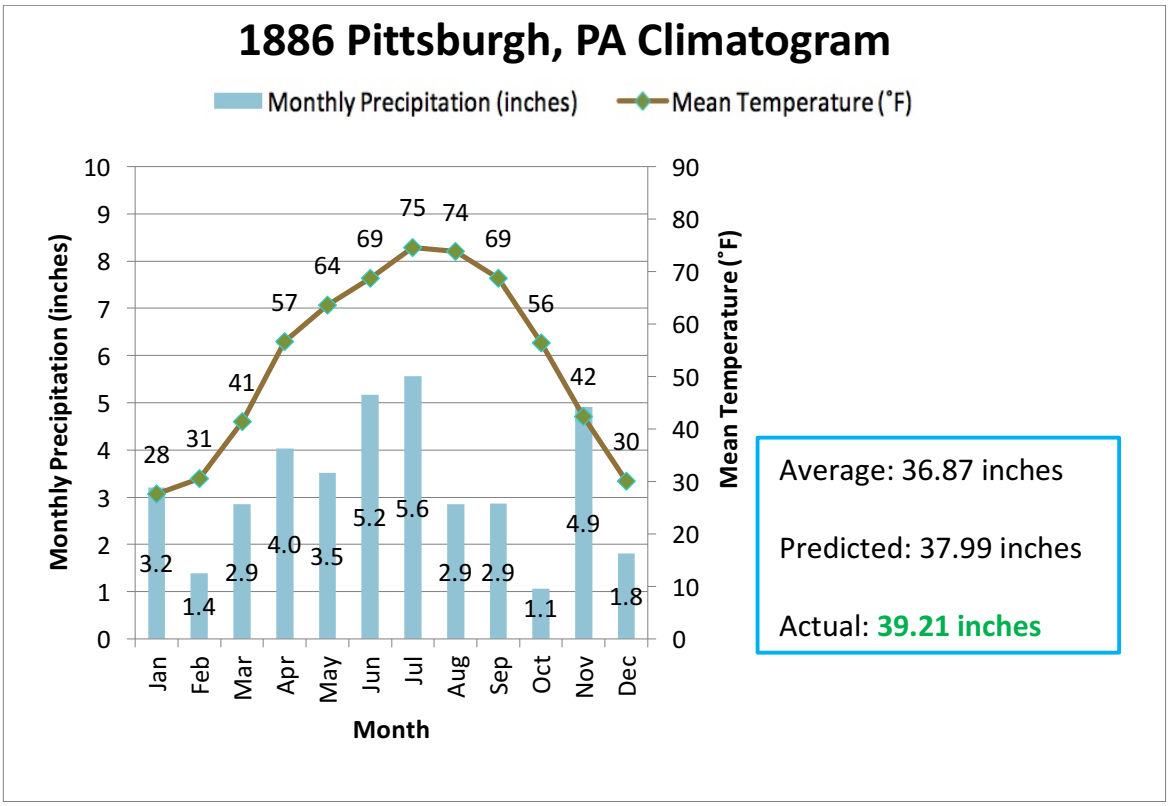
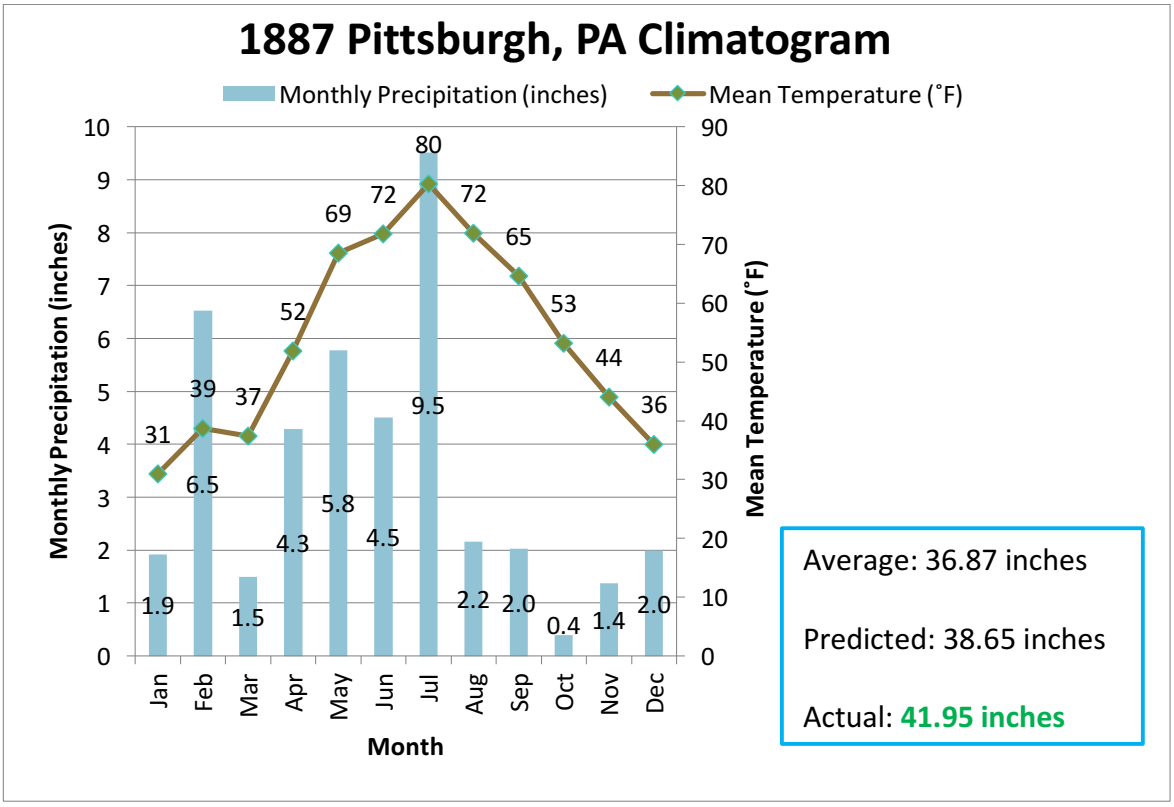
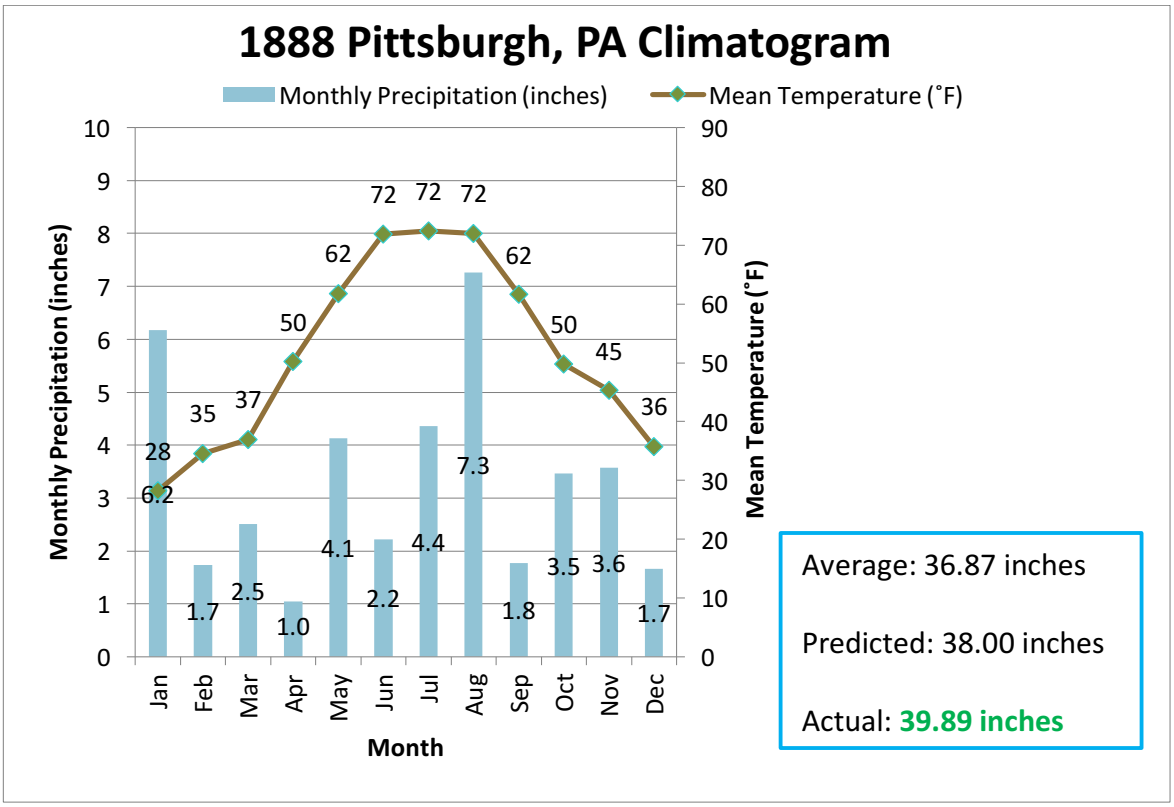
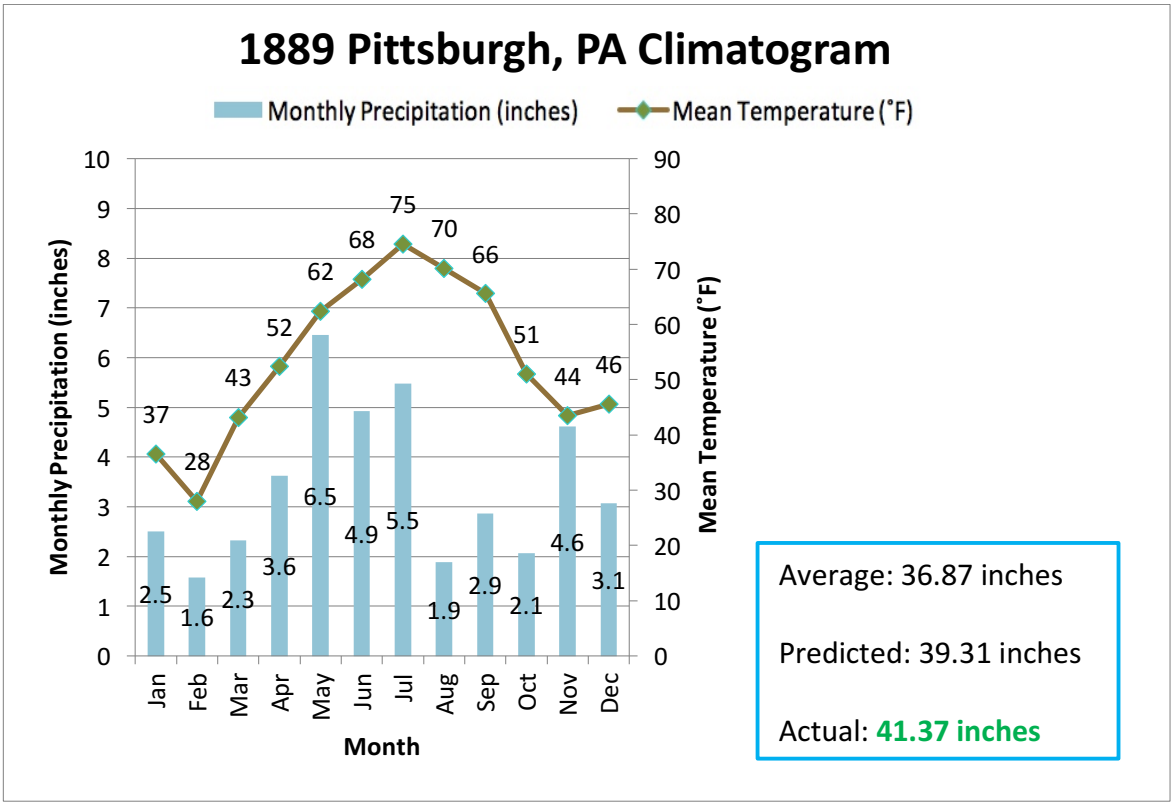
Purpose:

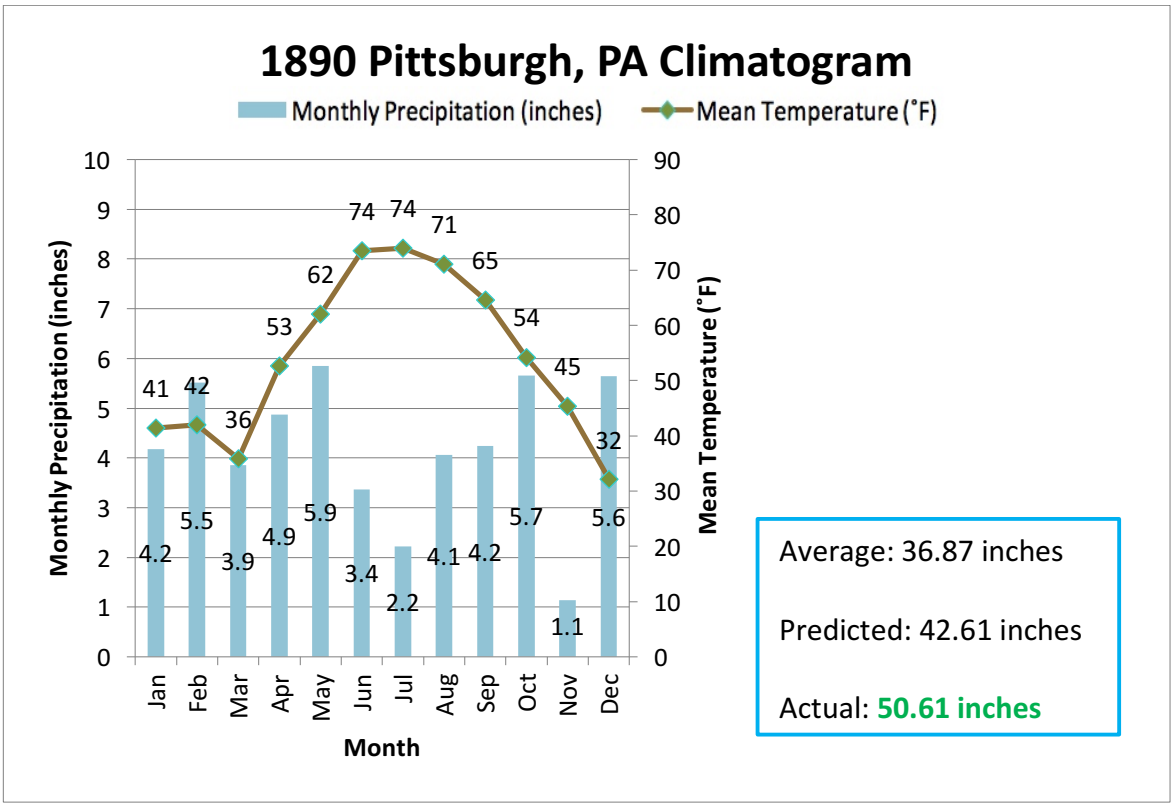
This book serves to provide a visual tool for observing changes in temperature and precipitation data overtime (climate). This is accomplished by taking the median temperature (°F) and precipitation (inches) for Pittsburgh, Pennsylvania from 1886 – 2018 and graphing it on the same graph, called a climatogram graph. All data was collected from NOAA (www.weather.gov). This allows the user to access any given year and visualize the relationship between temperature and precipitation. An additional precipitation box is present on each graph, which provides the average precipitation, the predicted precipitation, and the actual precipitation for that year. The average precipitation across the 132 years was determined to be 36.87 inches and remains constant for each box. The predicted precipitation was calculated based off the previous 5 years precipitation values using a moving average, this value changes for every year. The actual precipitation for the year is recorded in green, red, or black signifying that the precipitation was higher, lower, or the same as the predicted, respectively. The end of the booklet provides graphs of the precipitation and temperature over the 132 years, as well as a graph with the precipitation and temperature coupled with the moving averages, i.e. predicted values (pages 72-73).

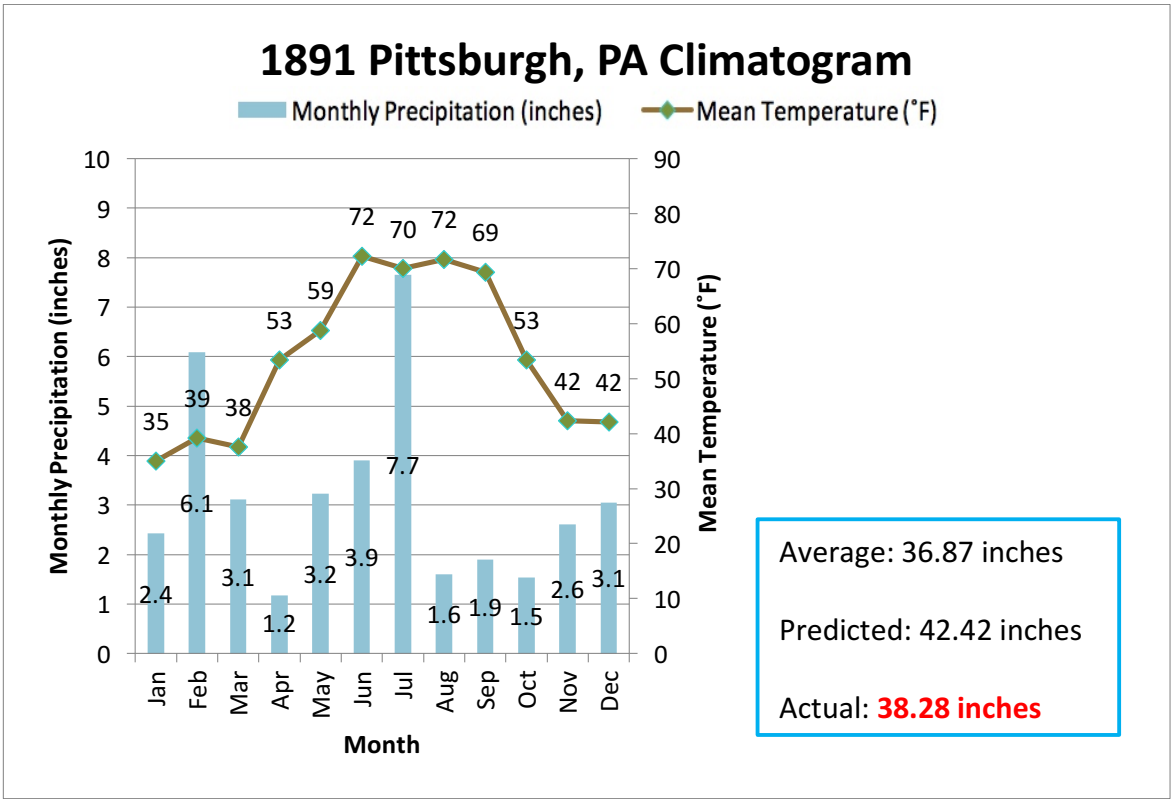

1886 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 31 41 57 64 69 75 74 69 56 42 30
3.2 1.4 2.9 4.0 3.5 5.2 5.6 2.9 2.9 1.1 4.9 1.8
Average: 36.87 inches
Predicted: 37.99 inches
Actual: 39.21 inches

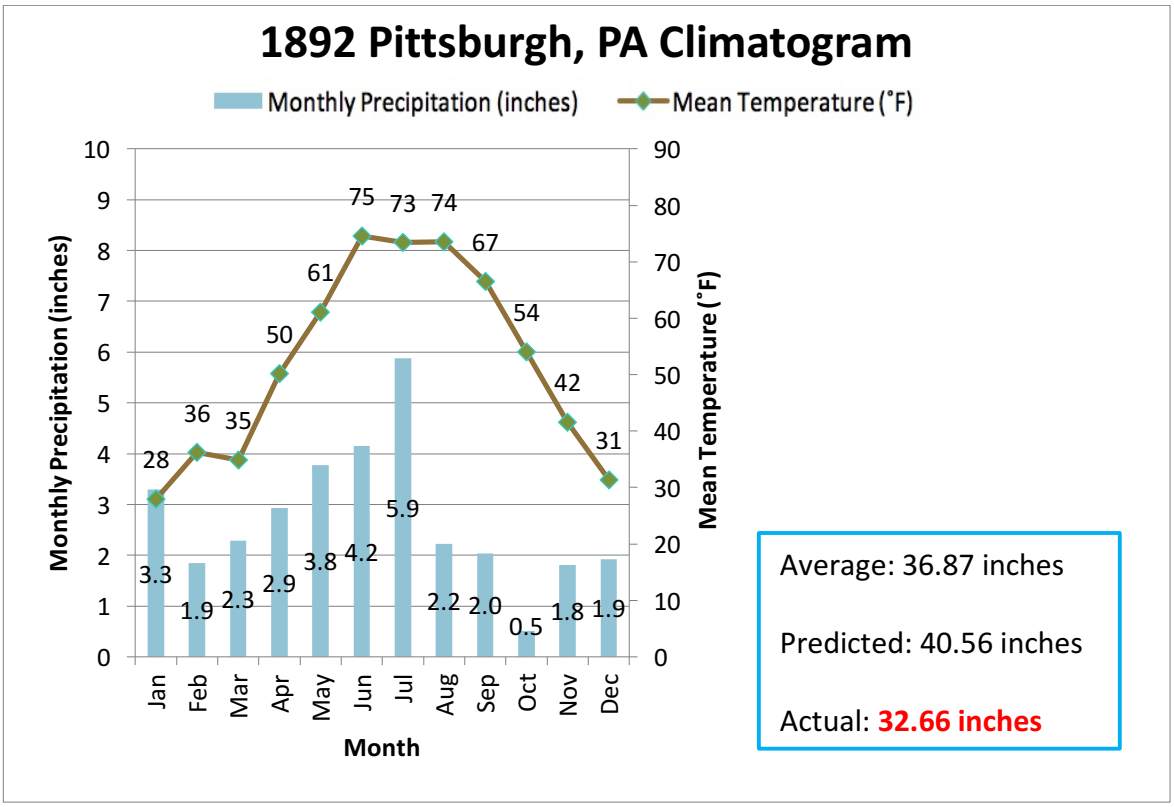

1887 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 39 37 52 69 72 80 72 65 53 44 36
1.9 6.5 1.5 4.3 5.8 4.5 9.5 2.2 2.0 0.4 1.4 2.0
Average: 36.87 inches
Predicted: 38.65 inches
Actual: 41.95 inches

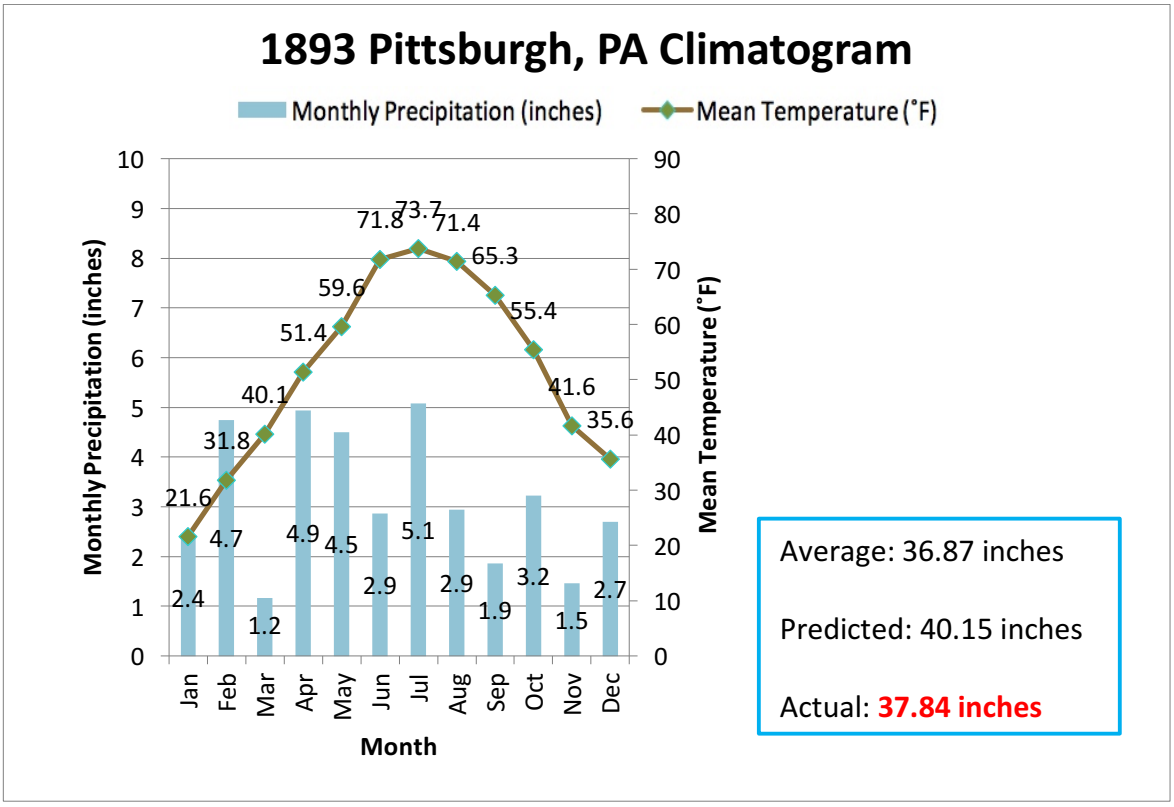

1888 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
6.2 1.7 2.5 1.0 4.1 2.2 4.4 7.3 1.8 3.5 3.6 1.7
28 35 37 50 62 72 72 72 62 50 45 36
Average: 36.87 inches
Predicted: 38.00 inches
Actual: 39.89 inches

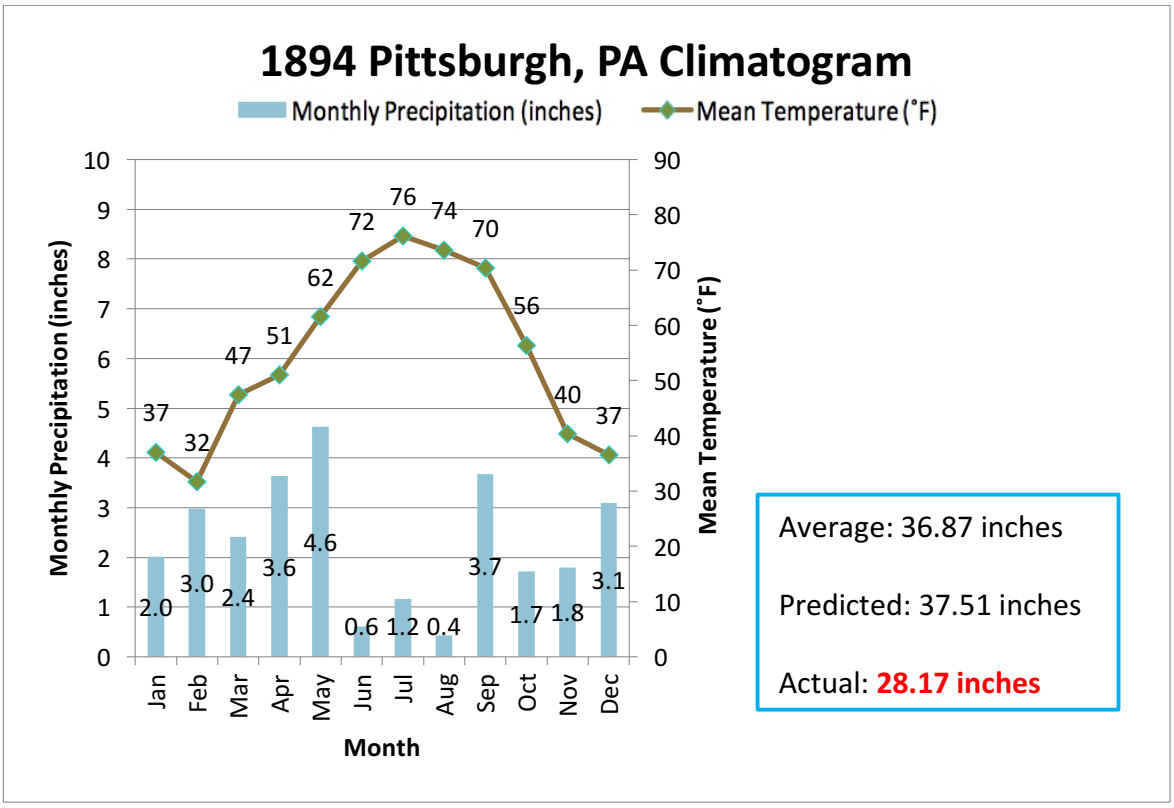

1889 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.5 1.6 2.3 3.6 6.5 4.9 5.5 1.9 2.9 2.1 4.6 3.1
37 28 43 52 62 68 75 70 66 51 44 46
Average: 36.87 inches
Predicted: 39.31 inches
Actual: 41.37 inches

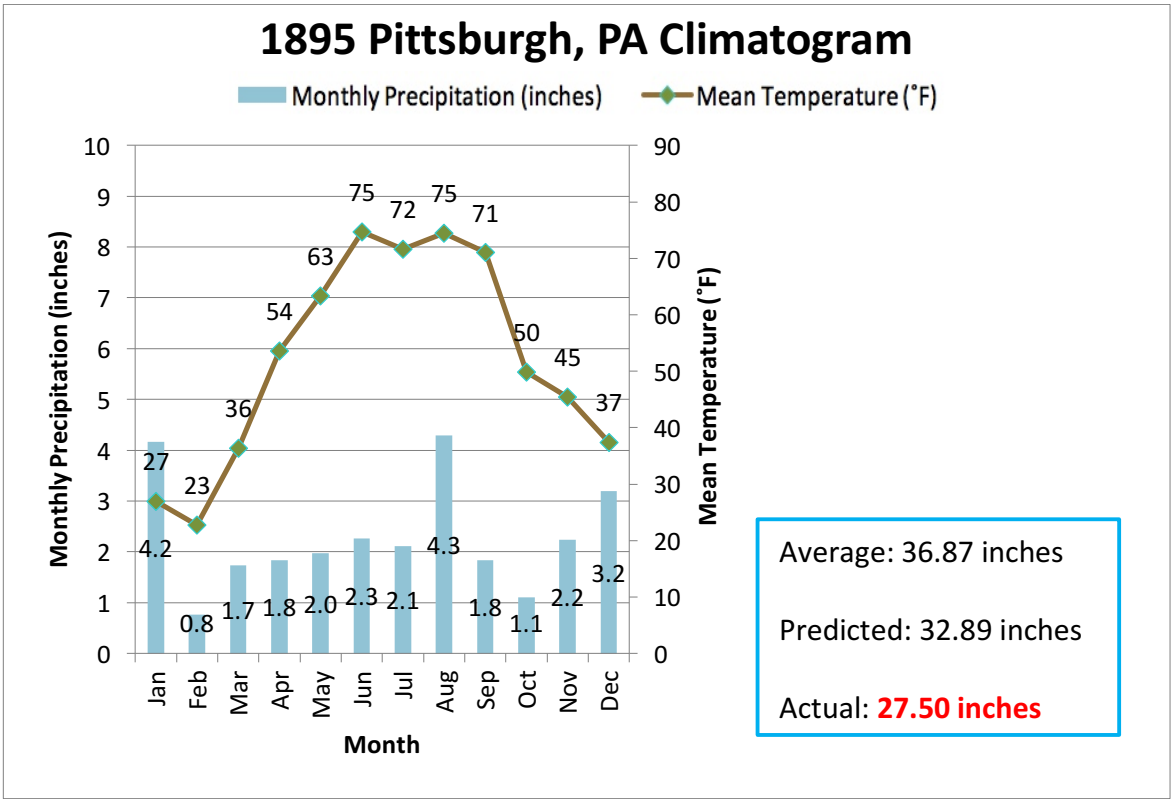

1890 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
41 42 36 53 62 74 74 71 65 54 45 32
4.2 5.5 3.9 4.9 5.9 3.4 2.2 4.1 4.2 5.7 1.1 5.6
Average: 36.87 inches
Predicted: 42.61 inches
Actual: 50.61 inches

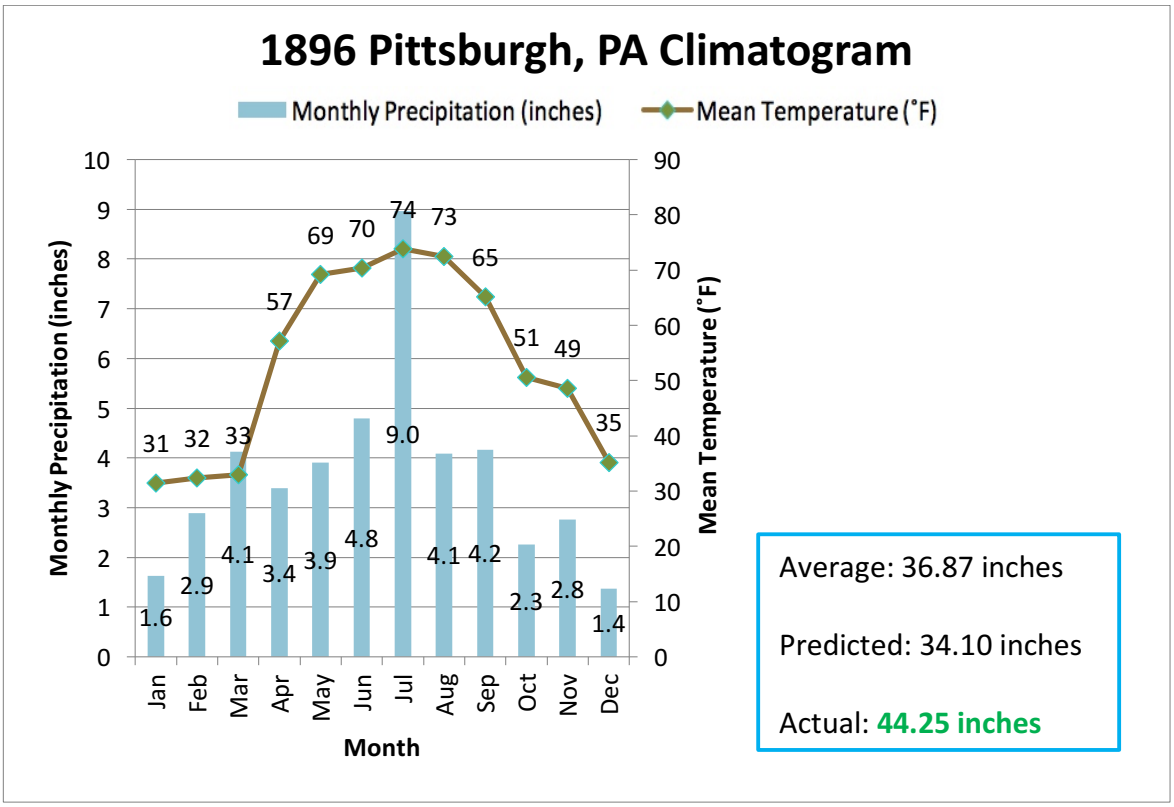

1891 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 39 38 53 59 72 70 72 69 53 42 42
2.4 6.1 3.1 1.2 3.2 3.9 7.7 1.6 1.9 1.5 2.6 3.1
Average: 36.87 inches
Predicted: 42.42 inches
Actual: 38.28 inches

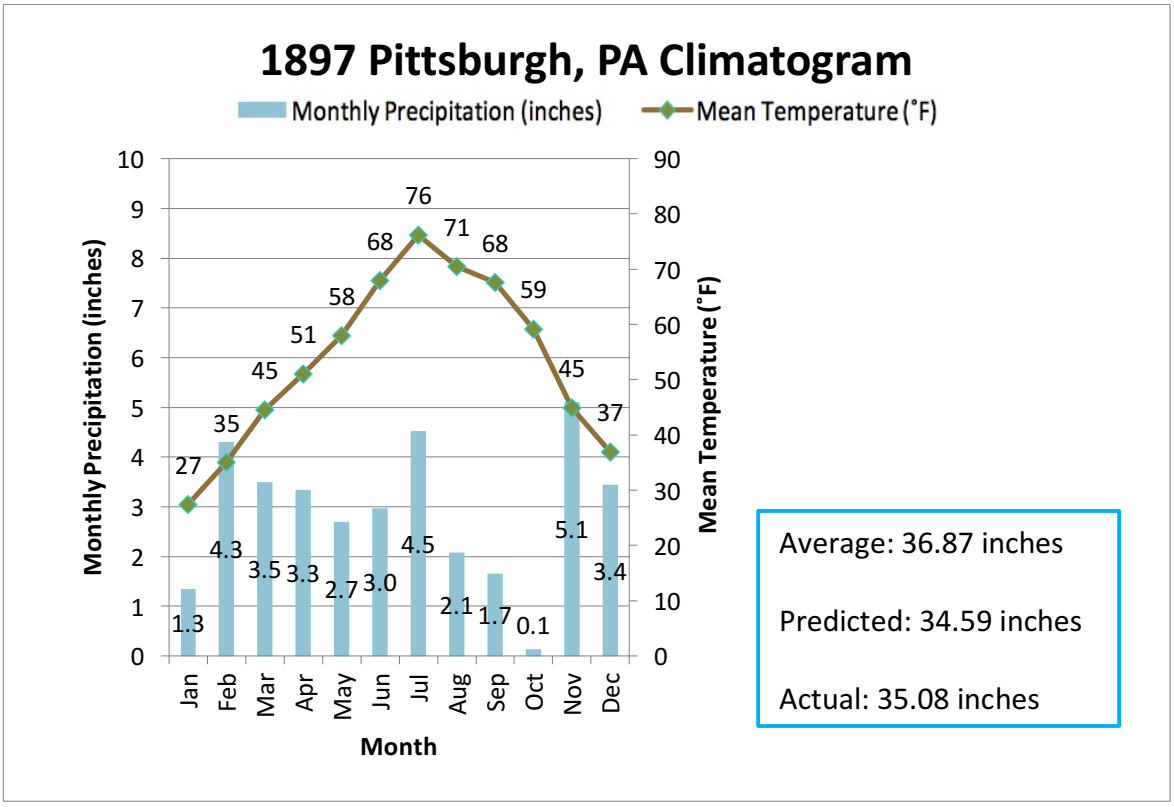

1892 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 36 35 50 61 75 73 74 67 54 42 31
3.3 1.9 2.3 2.9 3.8 4.2 5.9 2.2 2.0 0.5 1.8 1.9
Average: 36.87 inches
Predicted: 40.56 inches
Actual: 32.66 inches

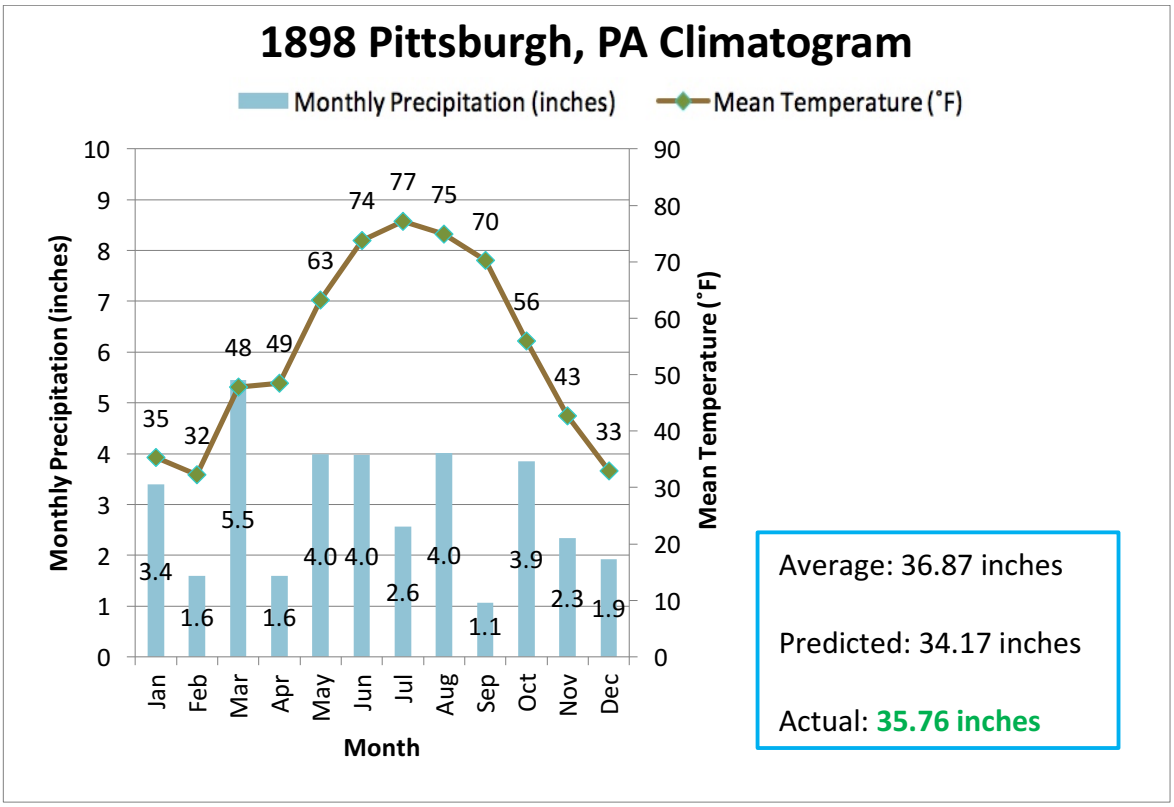

1893 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
21.6 31.8 40.1 51.4 59.6 71.8 73.7 71.4 65.3 55.4 41.6 35.6
2.4 4.7 1.2 4.9 4.5 2.9 5.1 2.9 1.9 3.2 1.5 2.7
Average: 36.87 inches
Predicted: 40.15 inches
Actual: 37.84 inches

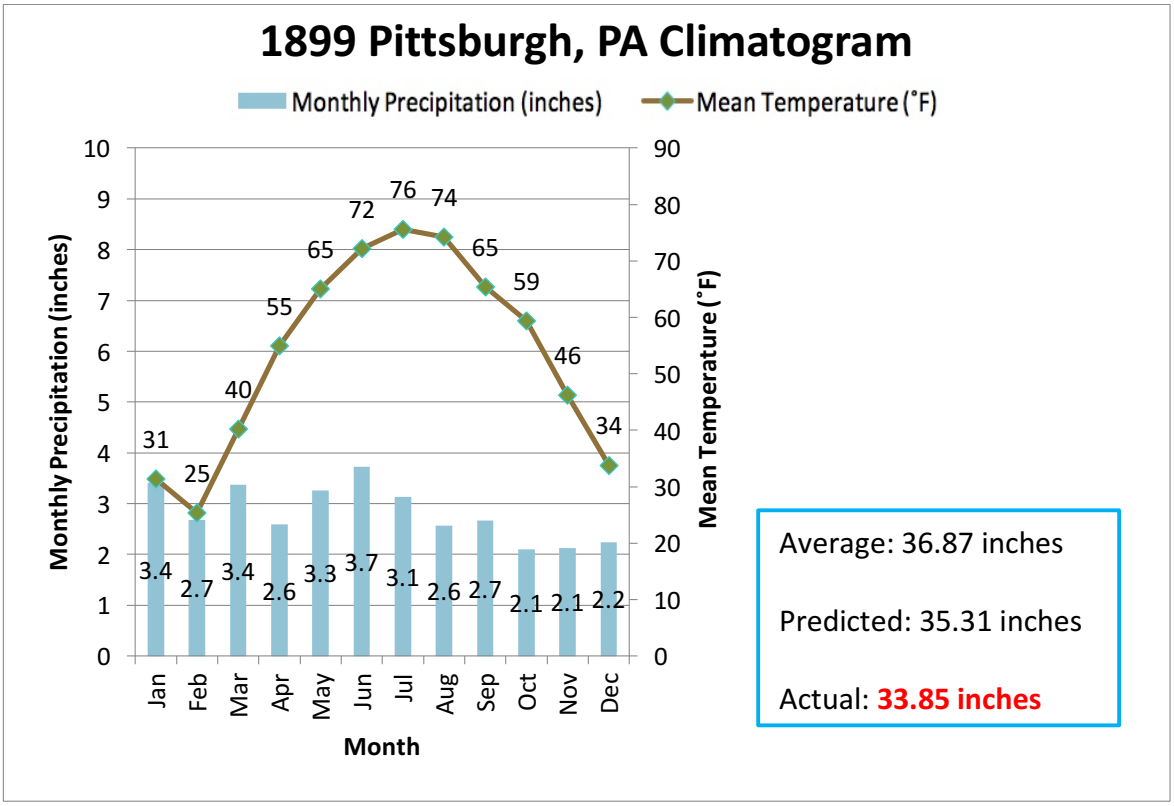

1894 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
37 32 47 51 62 72 76 74 70 56 40 37
2.0 3.0 2.4 3.6 4.6 0.6 1.2 0.4 3.7 1.7 1.8 3.1
Average: 36.87 inches
Predicted: 37.51 inches
Actual: 28.17 inches

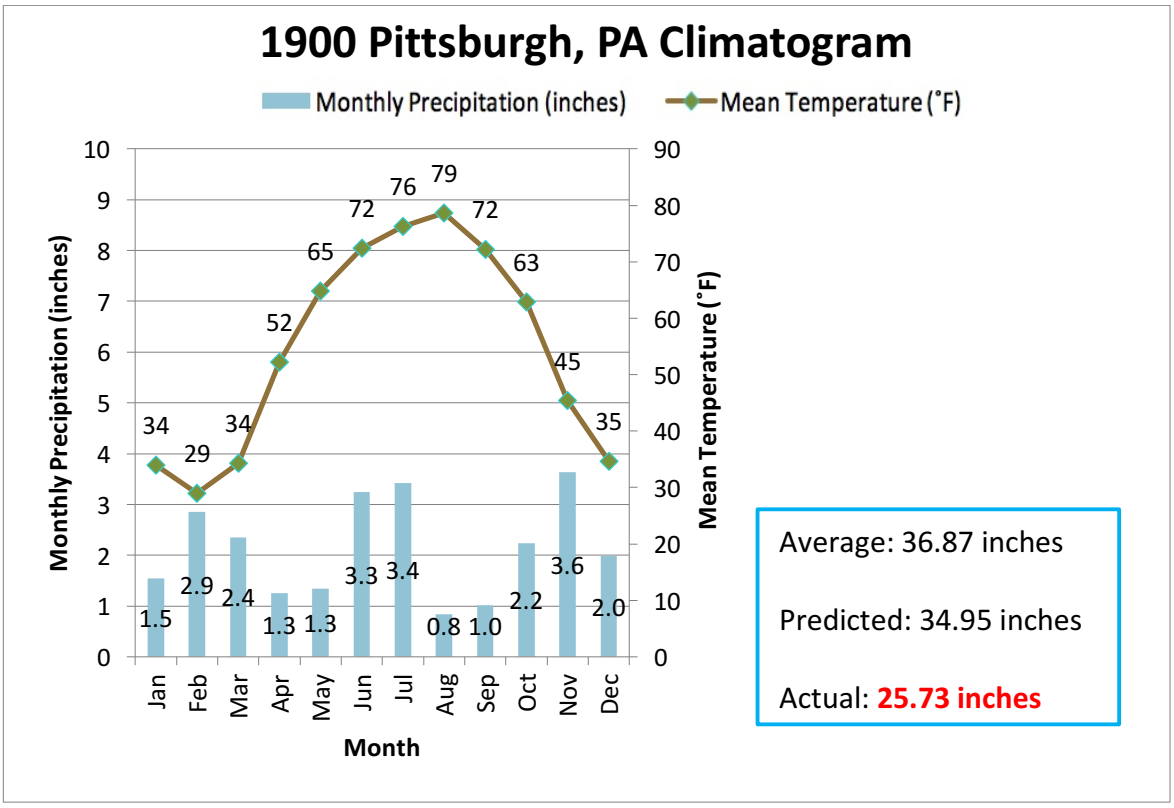

1895 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 23 36 54 63 75 72 75 71 50 45 37
4.2 0.8 1.7 1.8 2.0 2.3 2.1 4.3 1.8 1.1 2.2 3.2
Average: 36.87 inches
Predicted: 32.89 inches
Actual: 27.50 inches

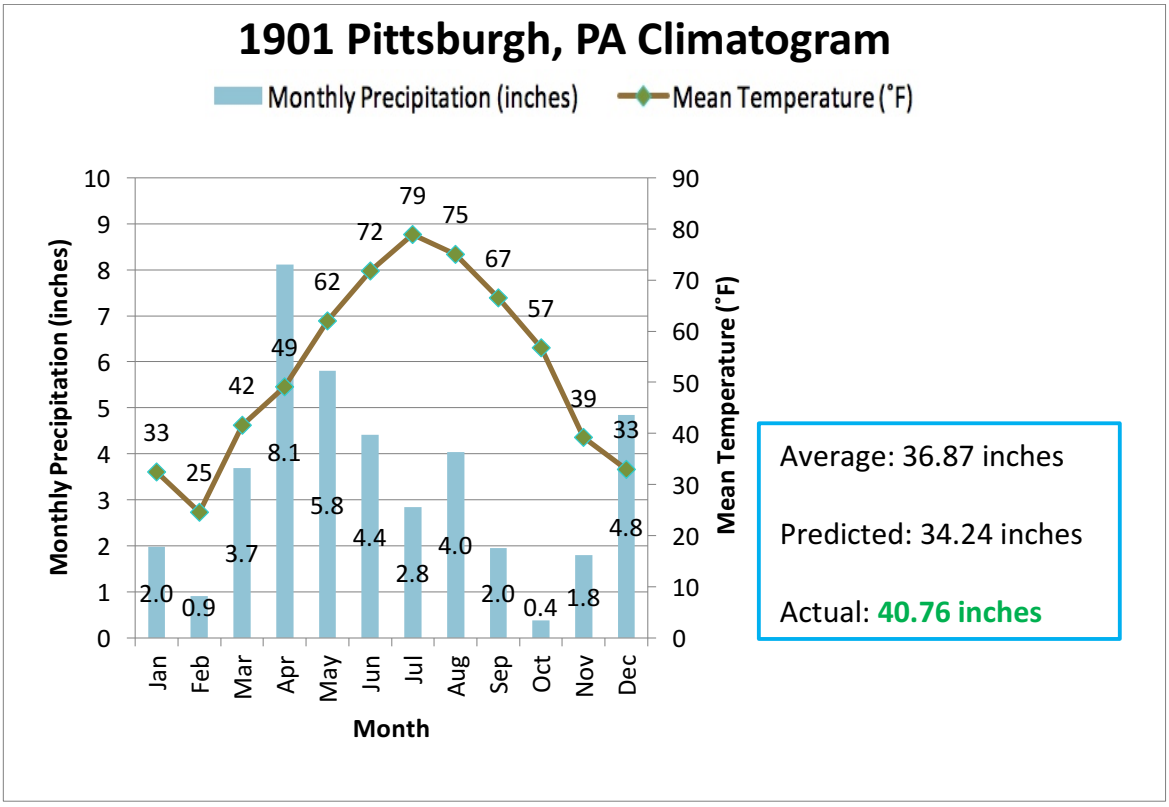

1896 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 32 33 57 69 70 74 73 65 51 49 35
1.6 2.9 4.1 3.4 3.9 4.8 9.0 4.1 4.2 2.3 2.8 1.4
Average: 36.87 inches
Predicted: 34.10 inches
Actual: 44.25 inches

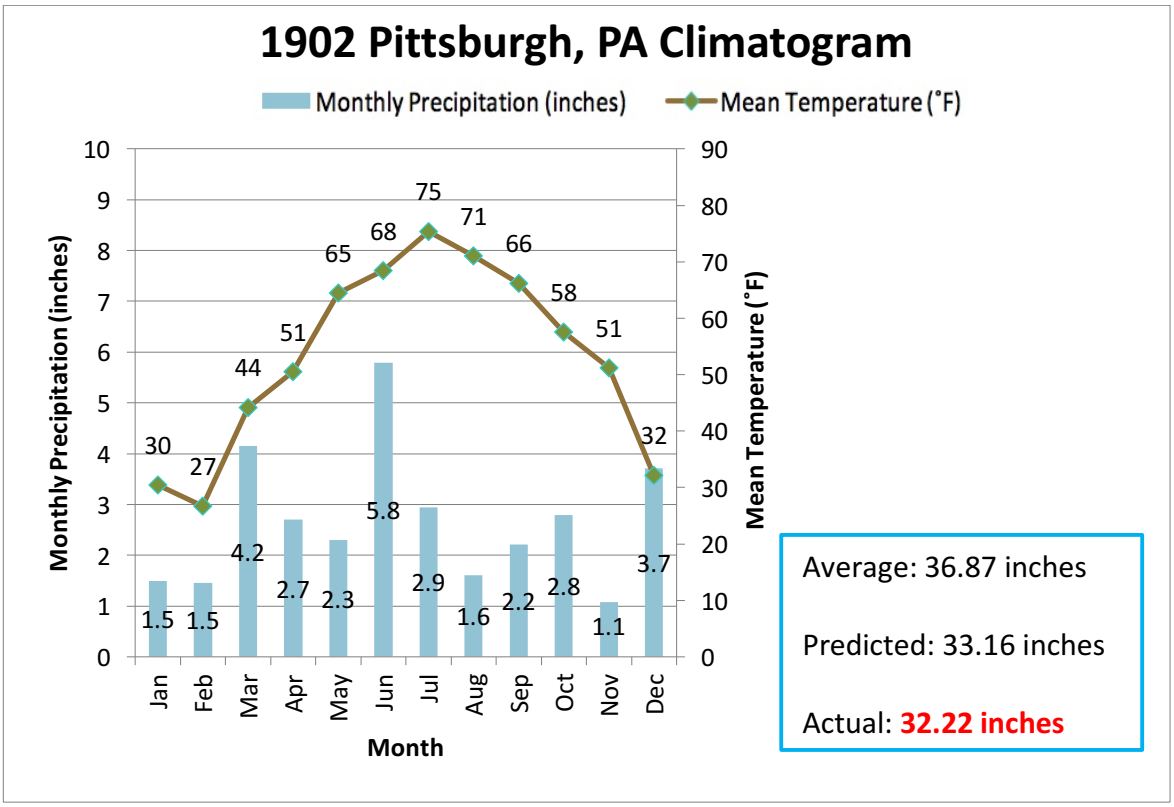

1897 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 35 45 51 58 68 76 71 68 59 45 37
1.3 4.3 3.5 3.3 2.7 3.0 4.5 2.1 1.7 0.1 5.1 3.4
Average: 36.87 inches
Predicted: 34.59 inches
Actual: 35.08 inches

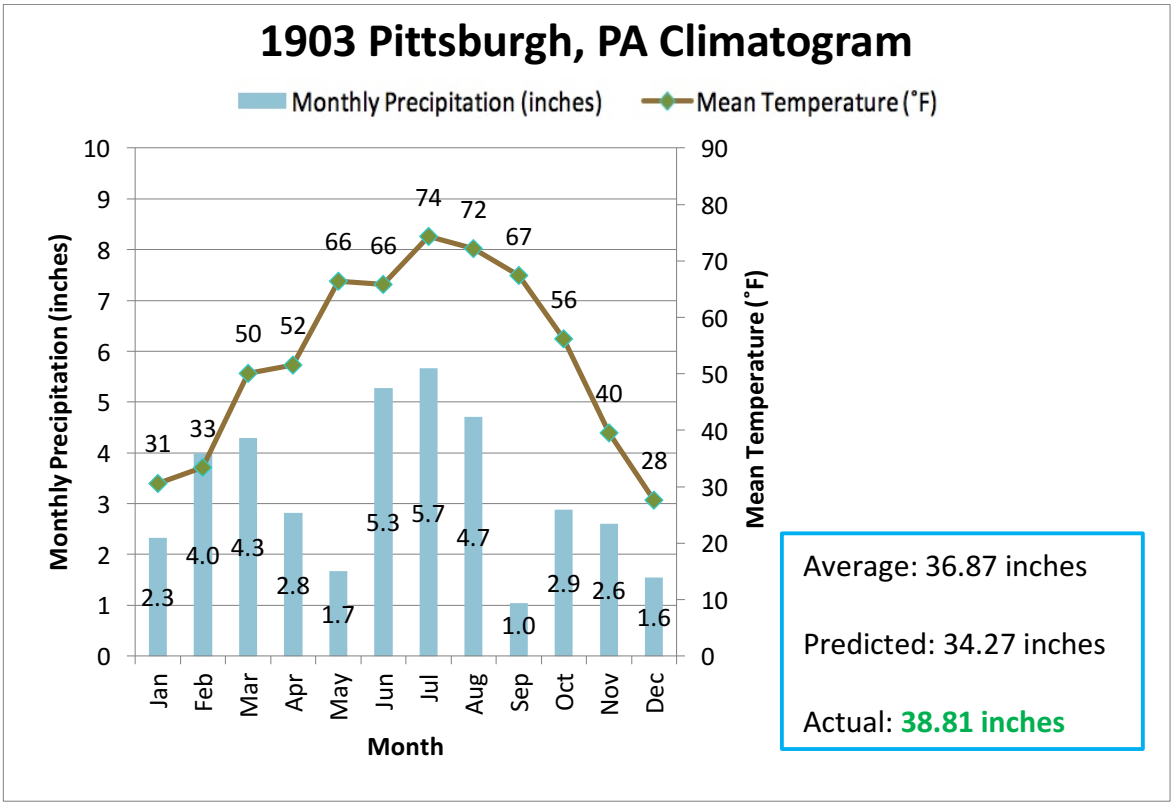

1898 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 32 48 49 63 74 77 75 70 56 43 33
3.4 1.6 5.5 1.6 4.0 4.0 2.6 4.0 1.1 3.9 2.3 1.9
Average: 36.87 inches
Predicted: 34.17 inches
Actual: 35.76 inches

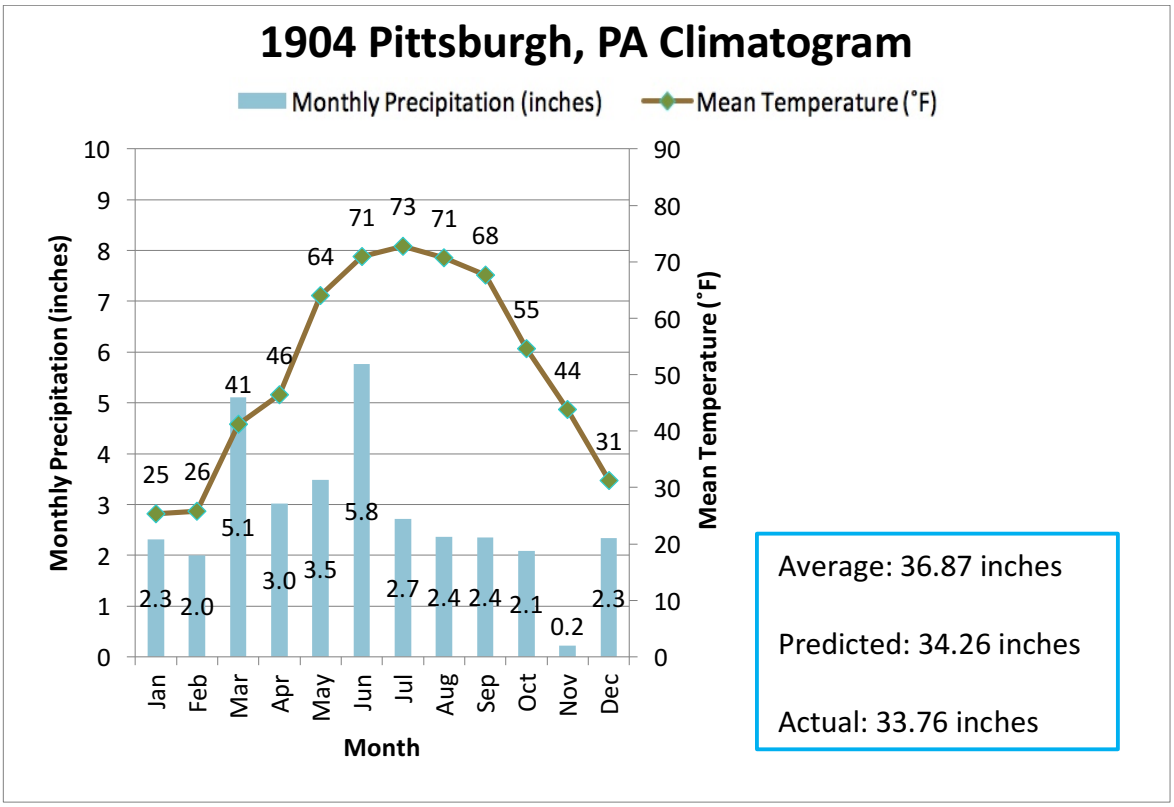

1899 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 25 40 55 65 72 76 74 65 59 46 34
3.4 2.7 3.4 2.6 3.3 3.7 3.1 2.6 2.7 2.1 2.1 2.2
Average: 36.87 inches
Predicted: 35.31 inches
Actual: 33.85 inches

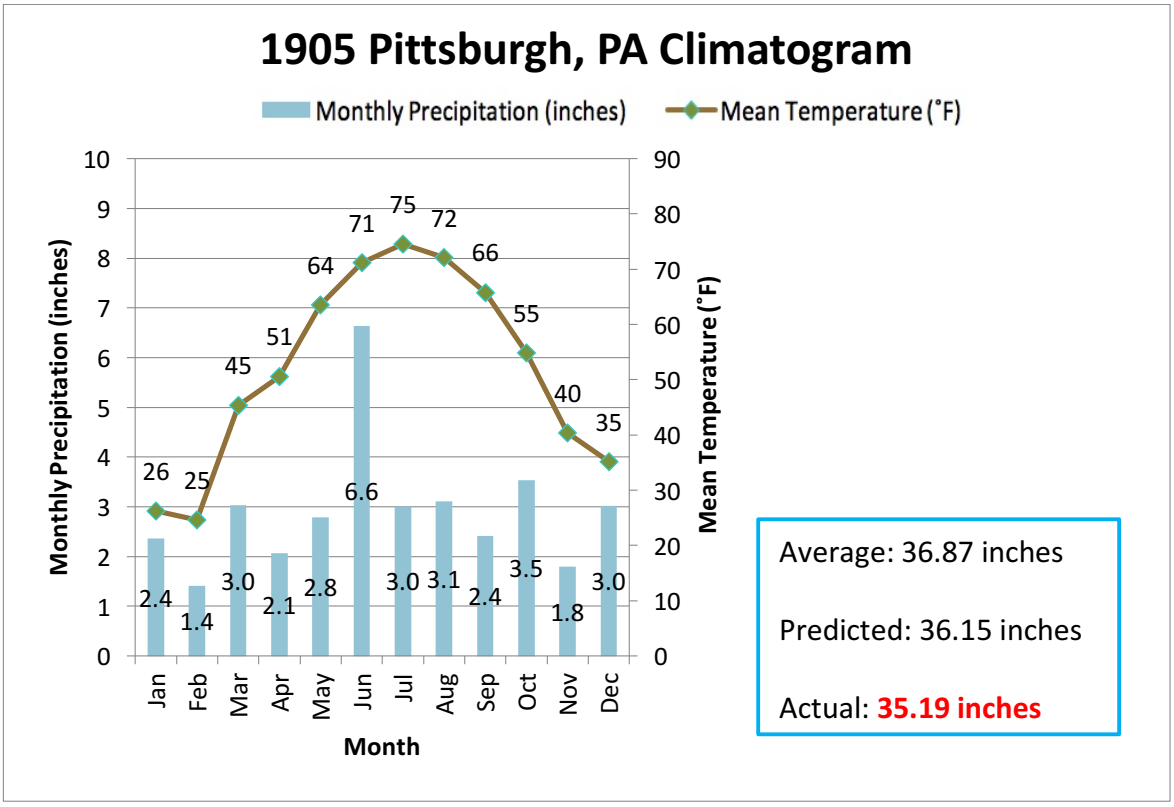

1900 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
34 29 34 52 65 72 76 79 72 63 45 35
1.5 2.9 2.4 1.3 1.3 3.3 3.4 0.8 1.0 2.2 3.6 2.0
Average: 36.87 inches
Predicted: 34.95 inches
Actual: 25.73 inches

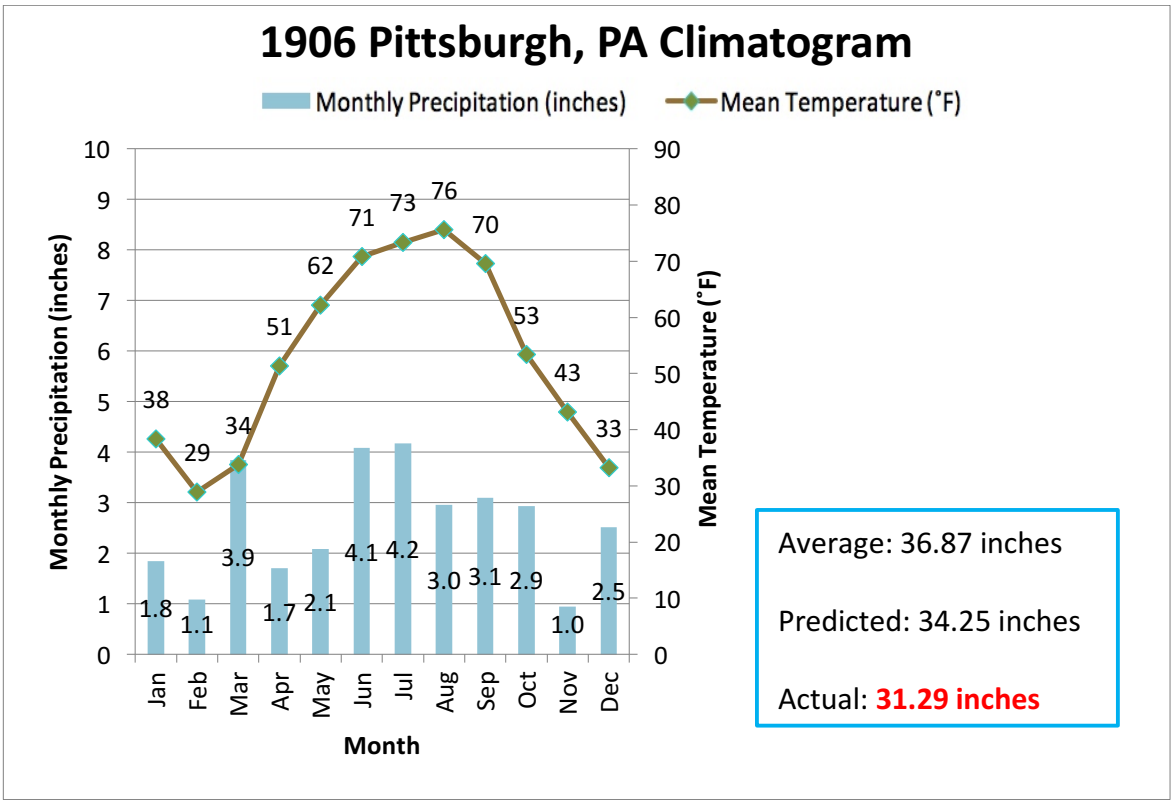

1901 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 25 42 49 62 72 79 75 67 57 39 33
2.0 0.9 3.7 8.1 5.8 4.4 2.8 4.0 2.0 0.4 1.8 4.8
Average: 36.87 inches
Predicted: 34.24 inches
Actual: 40.76 inches

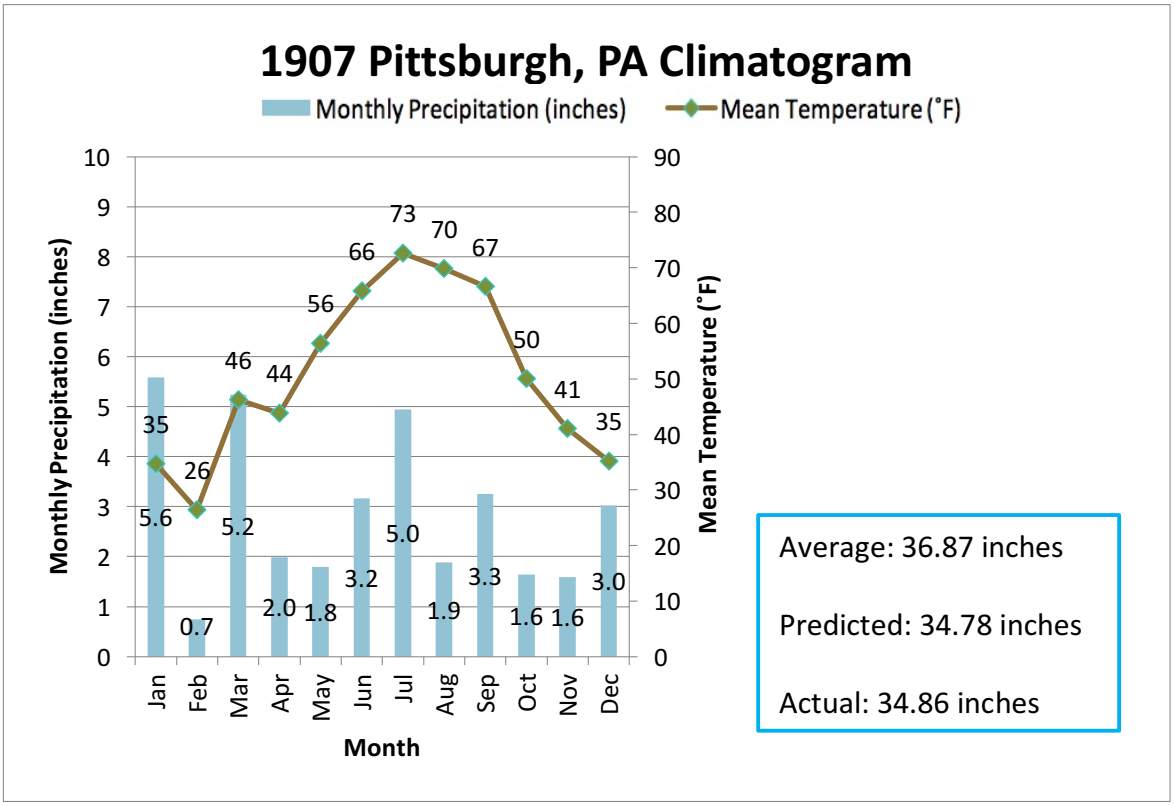

1902 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 27 44 51 65 68 75 71 66 58 51 32
1.5 1.5 4.2 2.7 2.3 5.8 2.9 1.6 2.2 2.8 1.1 3.7
Average: 36.87 inches
Predicted: 33.16 inches
Actual: 32.22 inches

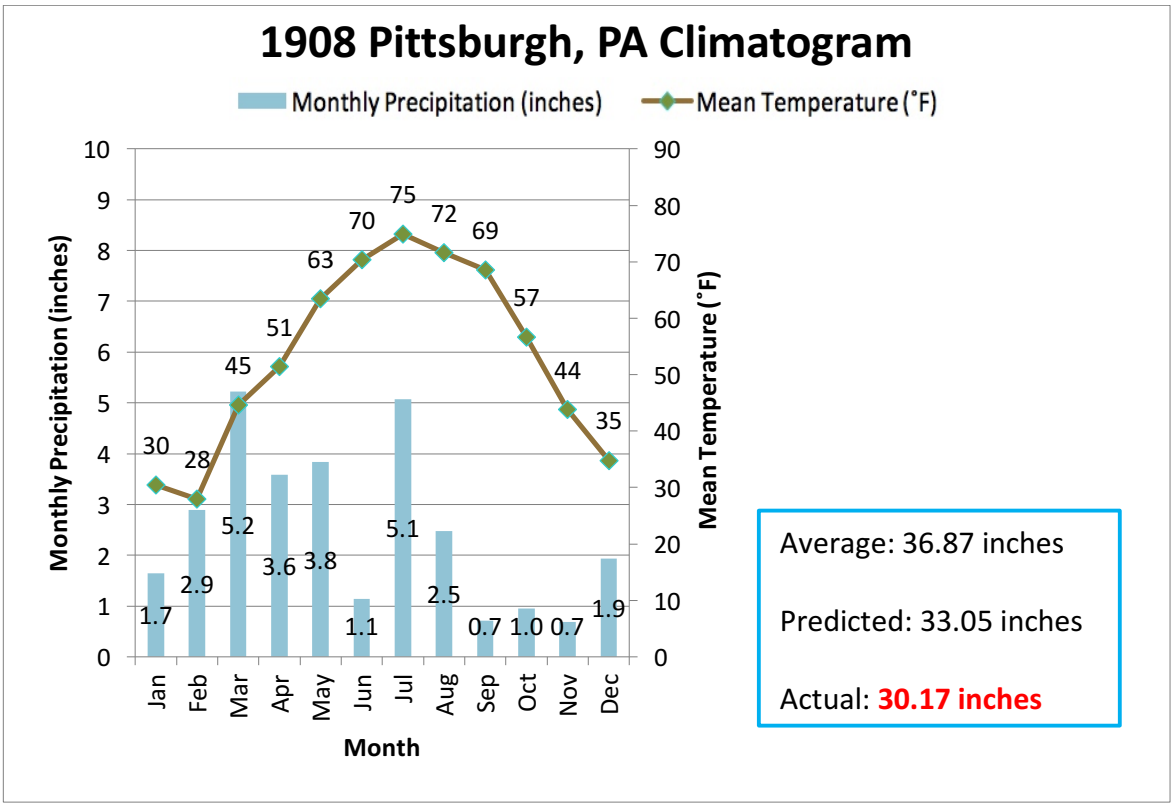

1903 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 33 50 52 66 66 74 72 67 56 40 28
2.3 4.0 4.3 2.8 1.7 5.3 5.7 4.7 1.0 2.9 2.6 1.6
Average: 36.87 inches
Predicted: 34.27 inches
Actual: 38.81 inches

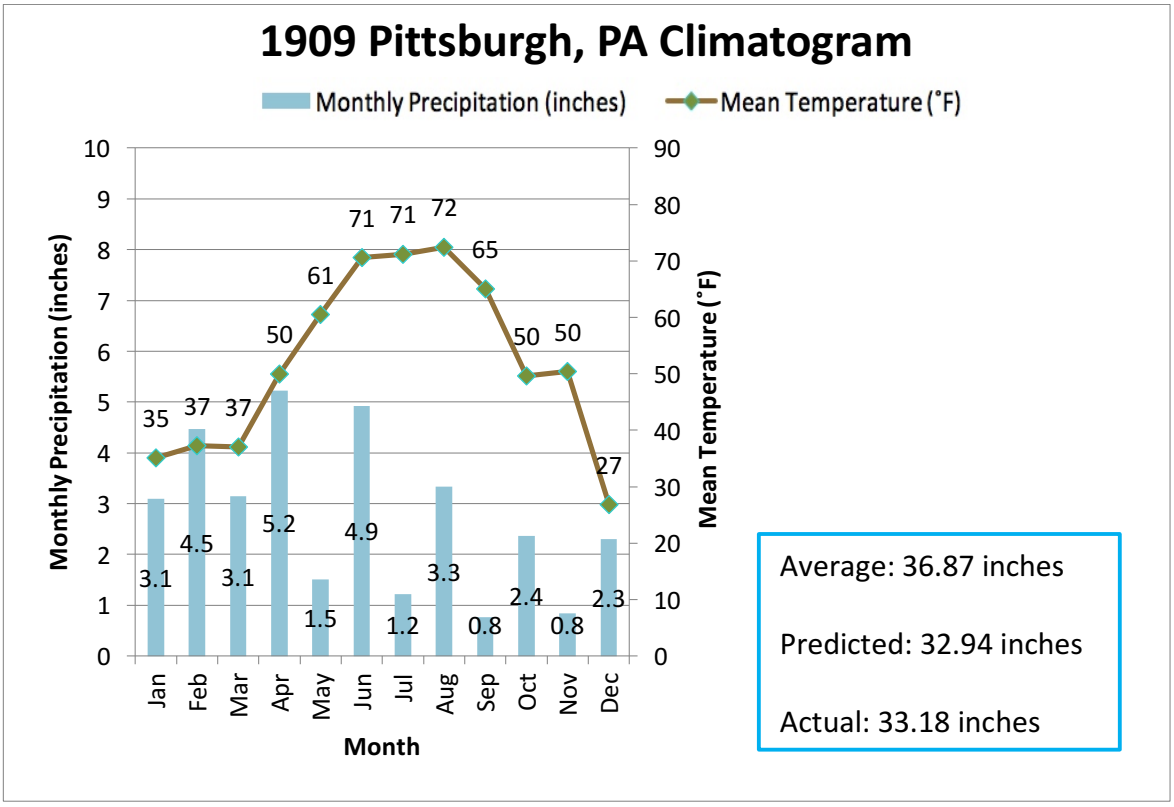

1904 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
25 26 41 46 64 71 73 71 68 55 44 31
2.3 2.0 5.1 3.0 3.5 5.8 2.7 2.4 2.4 2.1 0.2 2.3
Average: 36.87 inches
Predicted: 34.26 inches
Actual: 33.76 inches

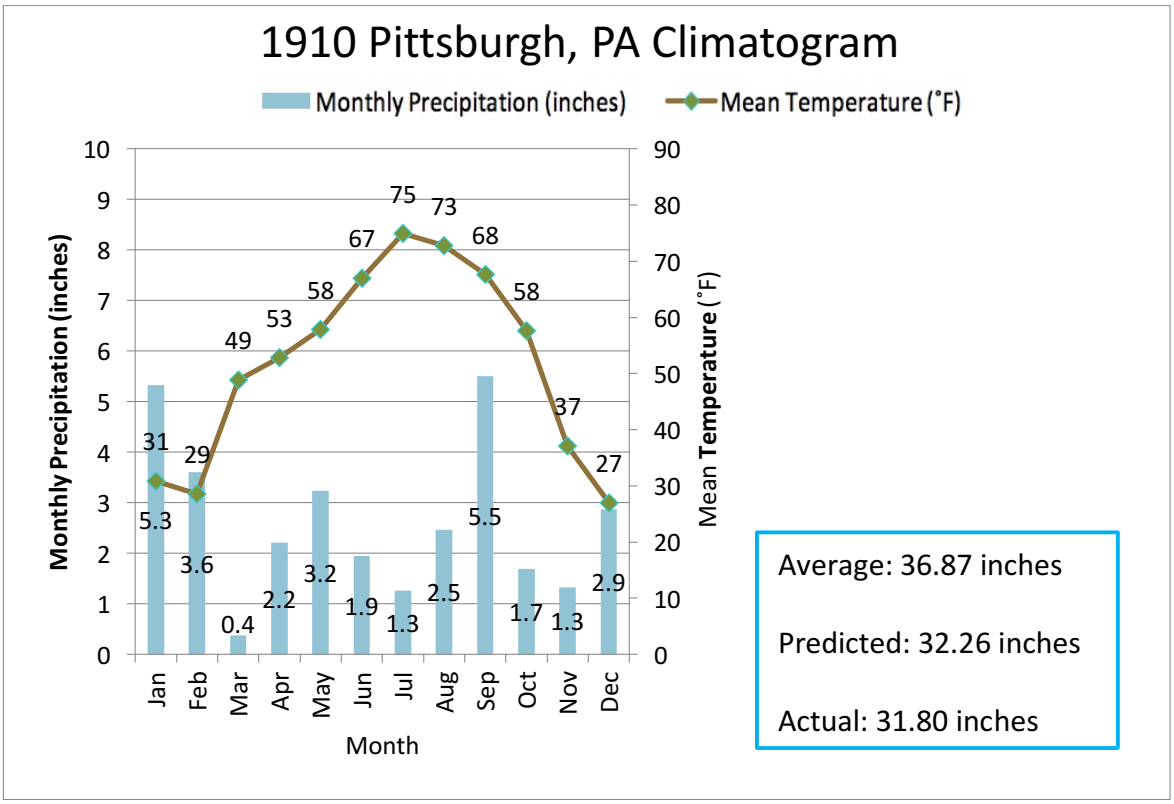

1905 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
26 25 45 51 64 71 75 72 66 55 40 35
2.4 1.4 3.0 2.1 2.8 6.6 3.0 3.1 2.4 3.5 1.8 3.0
Average: 36.87 inches
Predicted: 36.15 inches
Actual: 35.19 inches

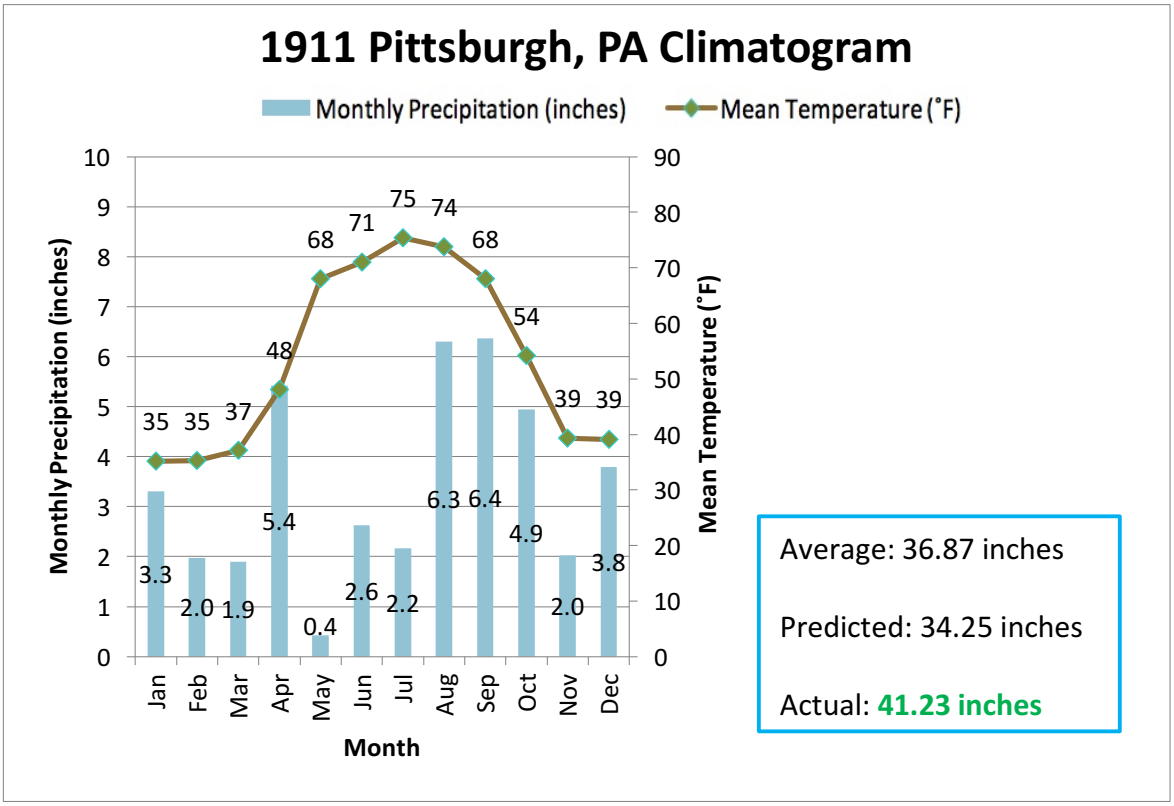

1906 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
38 29 34 51 62 71 73 76 70 53 43 33
1.8 1.1 3.9 1.7 2.1 4.1 4.2 3.0 3.1 2.9 1.0 2.5
Average: 36.87 inches
Predicted: 34.25 inches
Actual: 31.29 inches

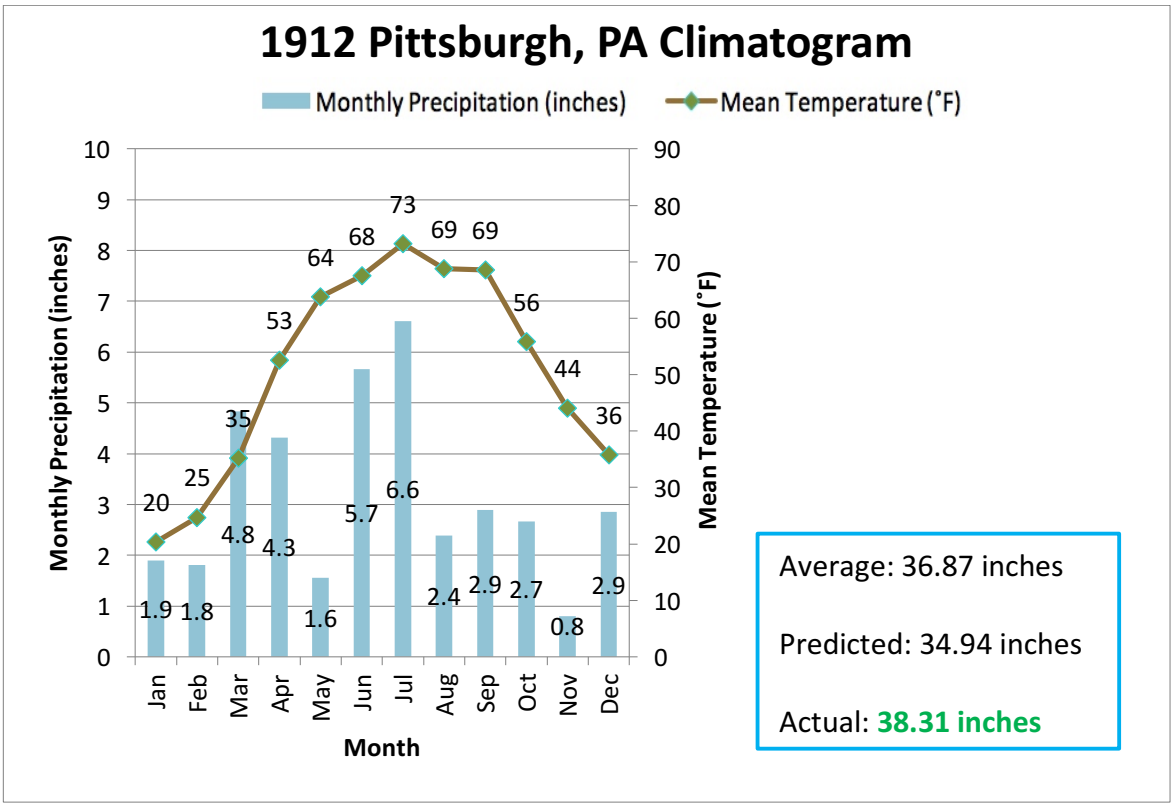

1907 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 26 46 44 56 66 73 70 67 50 41 35
5.6 0.7 5.2 2.0 1.8 3.2 5.0 1.9 3.3 1.6 1.6 3.0
Average: 36.87 inches
Predicted: 34.78 inches
Actual: 34.86 inches

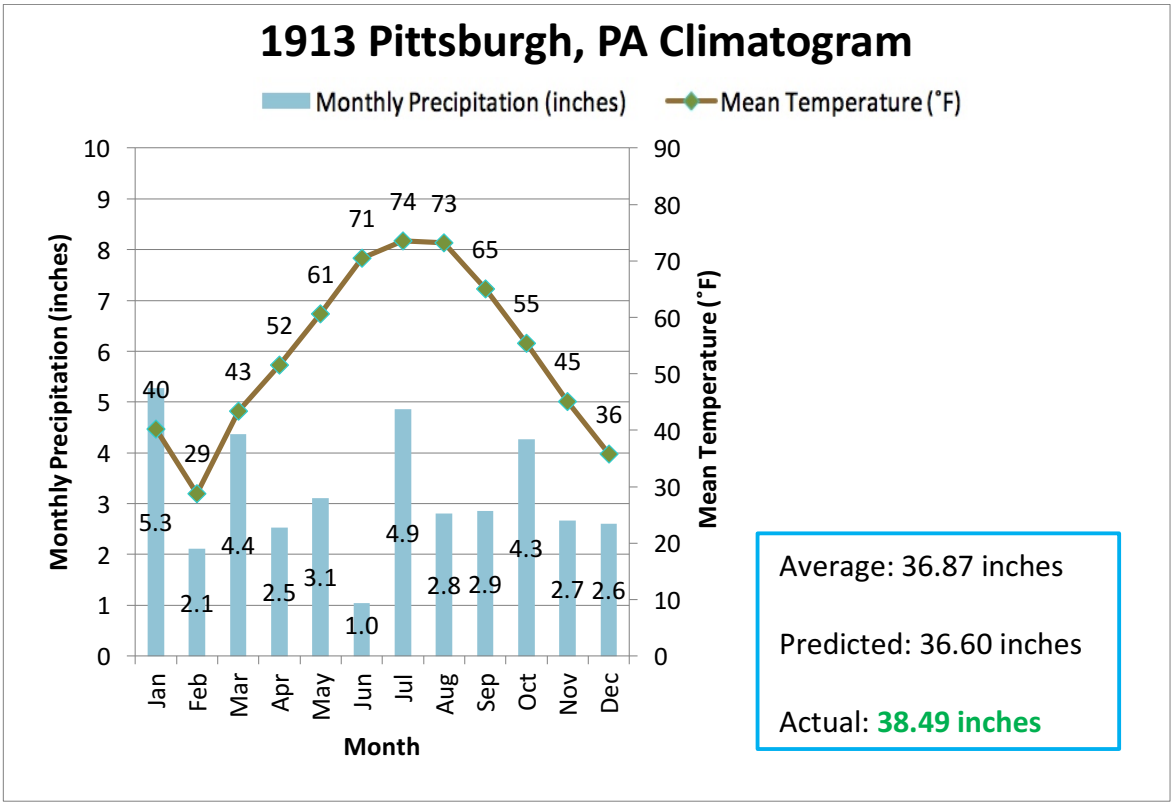

1908 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 28 45 51 63 70 75 72 69 57 44 35
1.7 2.9 5.2 3.6 3.8 1.1 5.1 2.5 0.7 1.0 0.7 1.9
Average: 36.87 inches
Predicted: 33.05 inches
Actual: 30.17 inches

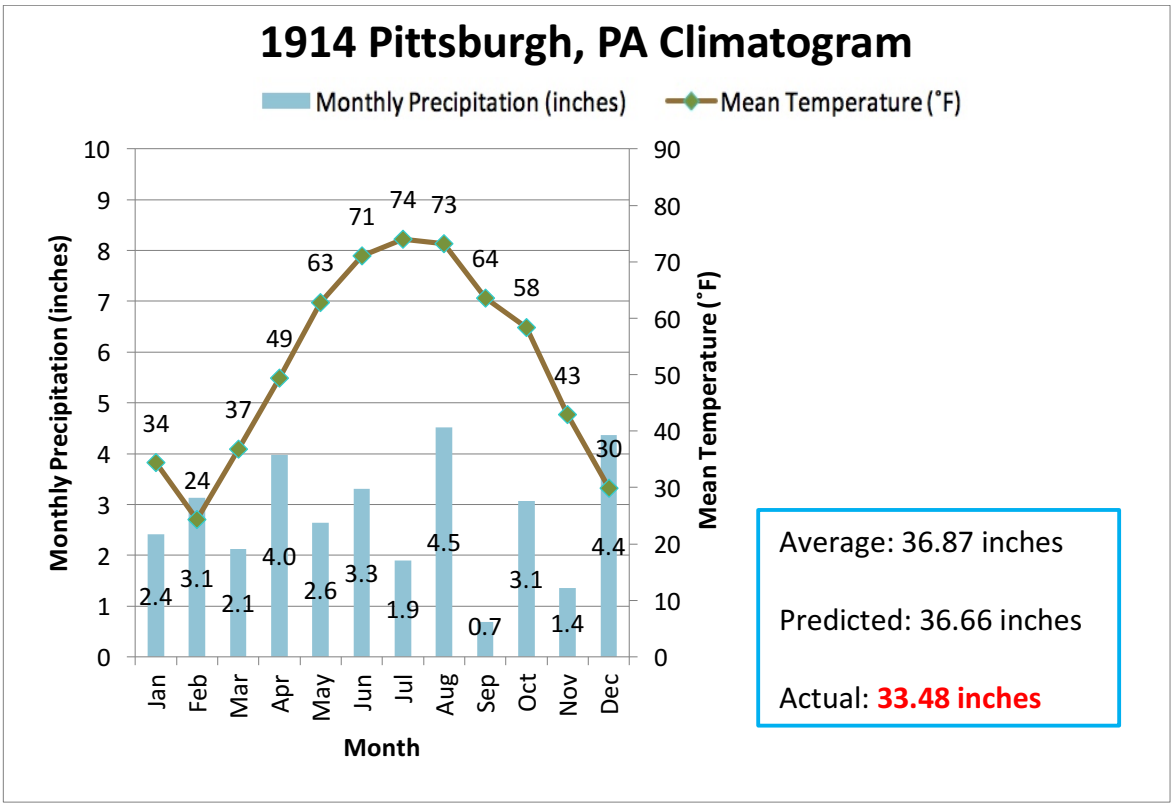

1909 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 37 37 50 61 71 71 72 65 50 50 27
3.1 4.5 3.1 5.2 1.5 4.9 1.2 3.3 0.8 2.4 0.8 2.3
Average: 36.87 inches
Predicted: 32.94 inches
Actual: 33.18 inches

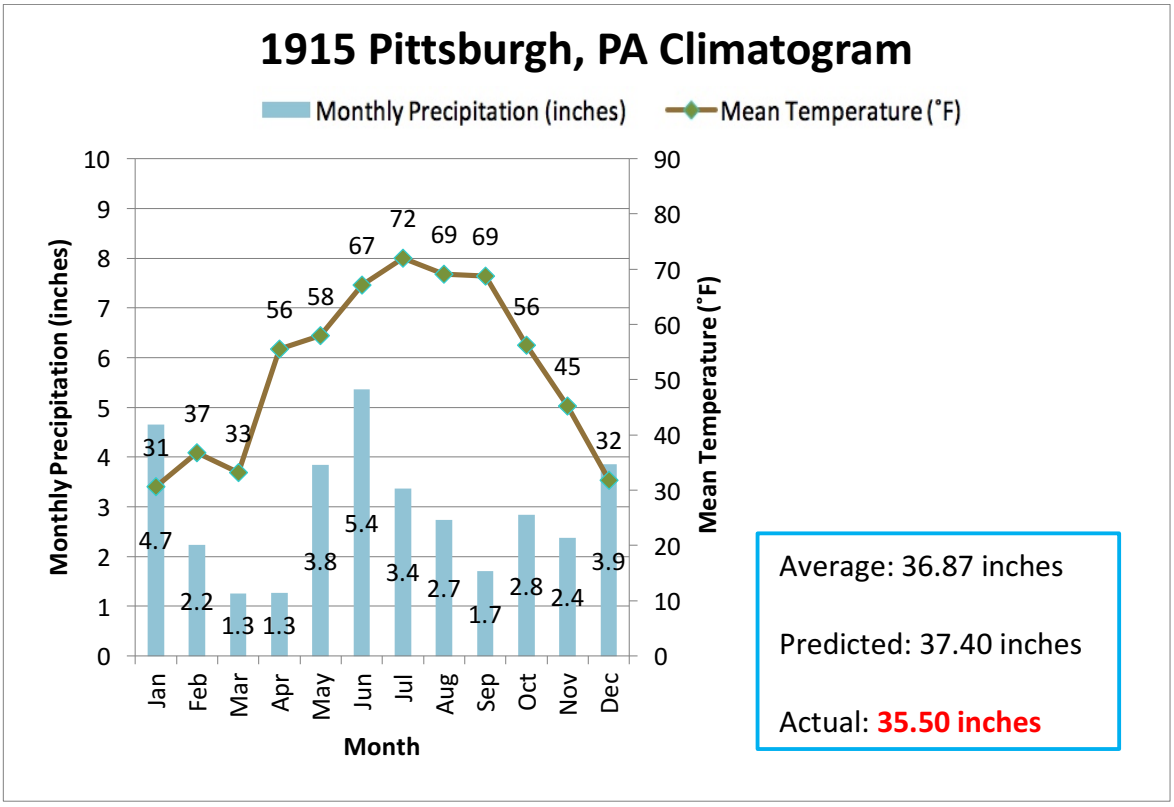

1910 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 29 49 53 58 67 75 73 68 58 37 27
5.3 3.6 0.4 2.2 3.2 1.9 1.3 2.5 5.5 1.7 1.3 2.9
Average: 36.87 inches
Predicted: 32.26 inches
Actual: 31.80 inches

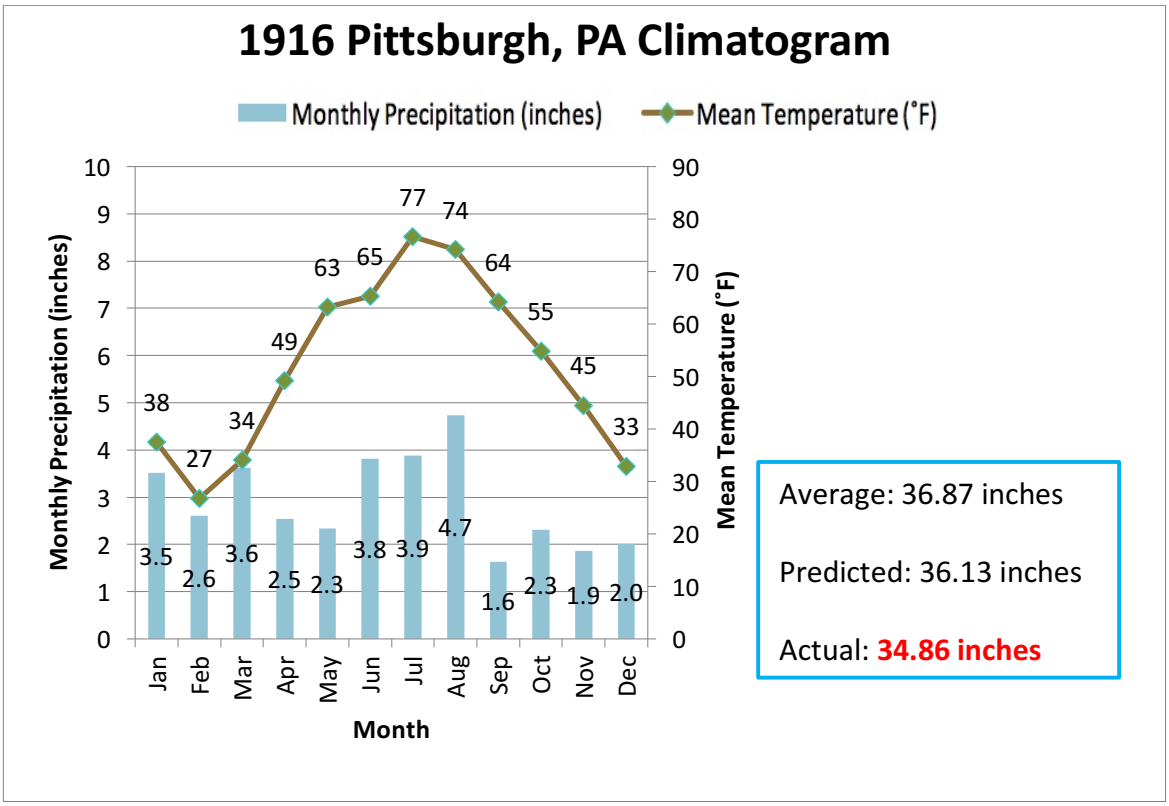

1911 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 35 37 48 68 71 75 74 68 54 39 39
3.3 2.0 1.9 5.4 0.4 2.6 2.2 6.3 6.4 4.9 2.0 3.8
Average: 36.87 inches
Predicted: 34.25 inches
Actual: 41.23 inches

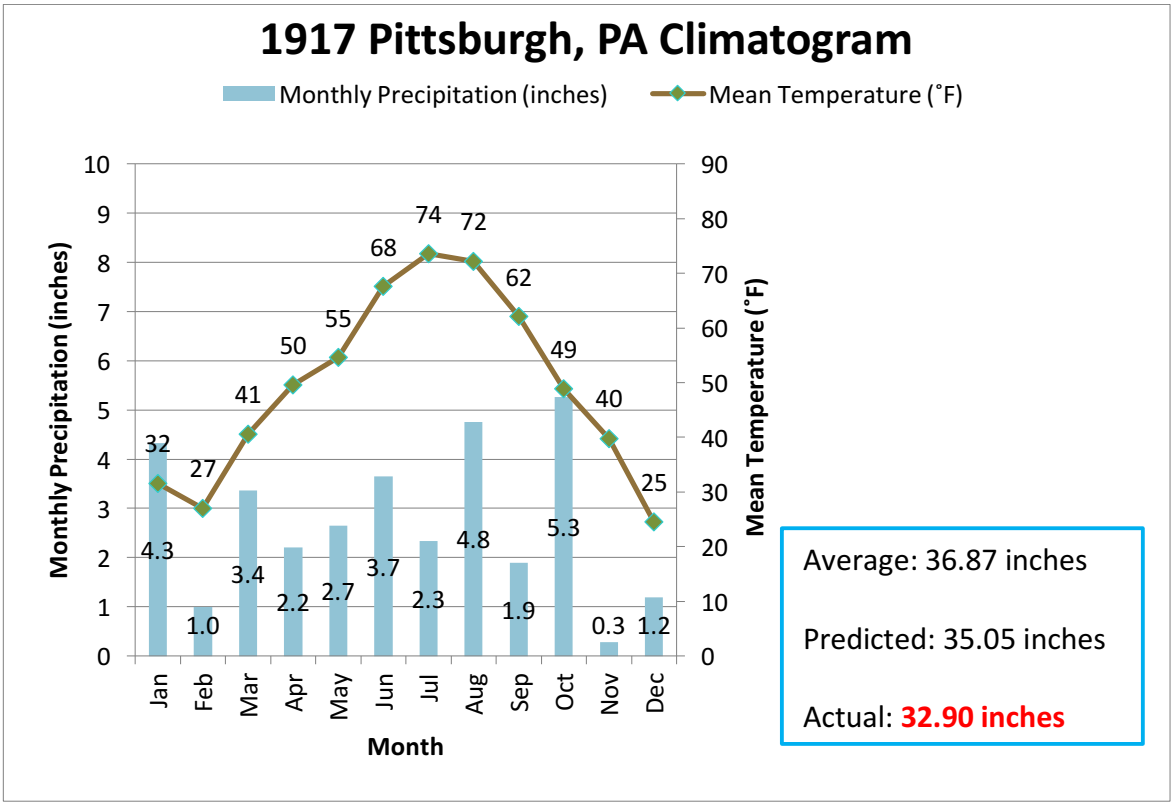

1912 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
20 25 35 53 64 68 73 69 69 56 44 36
1.9 1.8 4.8 4.3 1.6 5.7 6.6 2.4 2.9 2.7 0.8 2.9
Average: 36.87 inches
Predicted: 34.94 inches
Actual: 38.31 inches

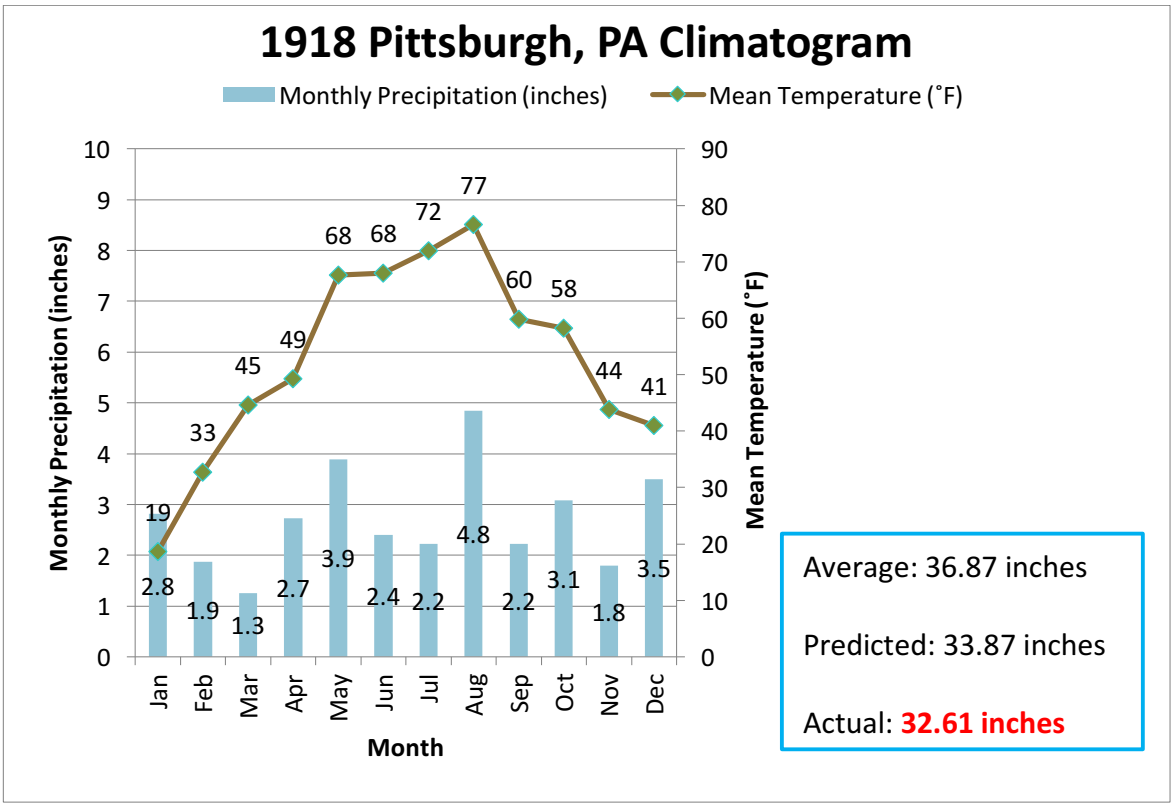

1913 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
40 29 43 52 61 71 74 73 65 55 45 36
5.3 2.1 4.4 2.5 3.1 1.0 4.9 2.8 2.9 4.3 2.7 2.6
Average: 36.87 inches
Predicted: 36.60 inches
Actual: 38.49 inches

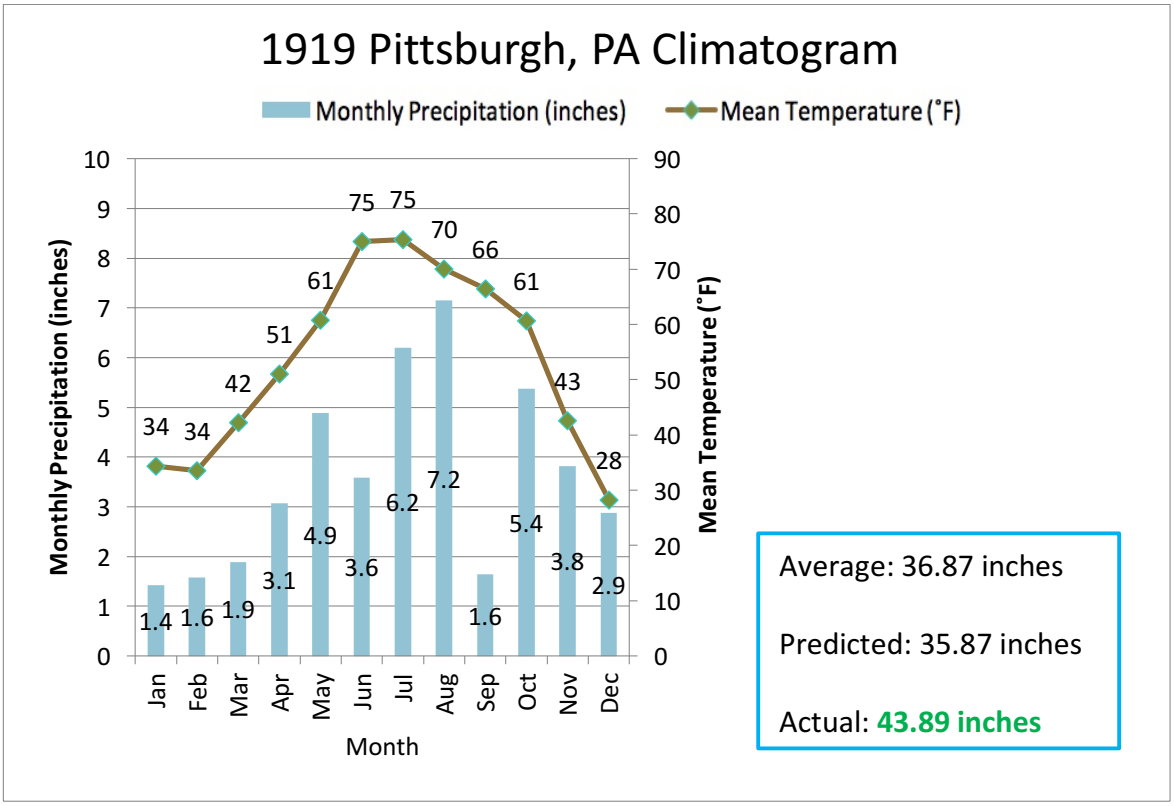

1914 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
34 24 37 49 63 71 74 73 64 58 43 30
2.4 3.1 2.1 4.0 2.6 3.3 1.9 4.5 0.7 3.1 1.4 4.4
Average: 36.87 inches
Predicted: 36.66 inches
Actual: 33.48 inches

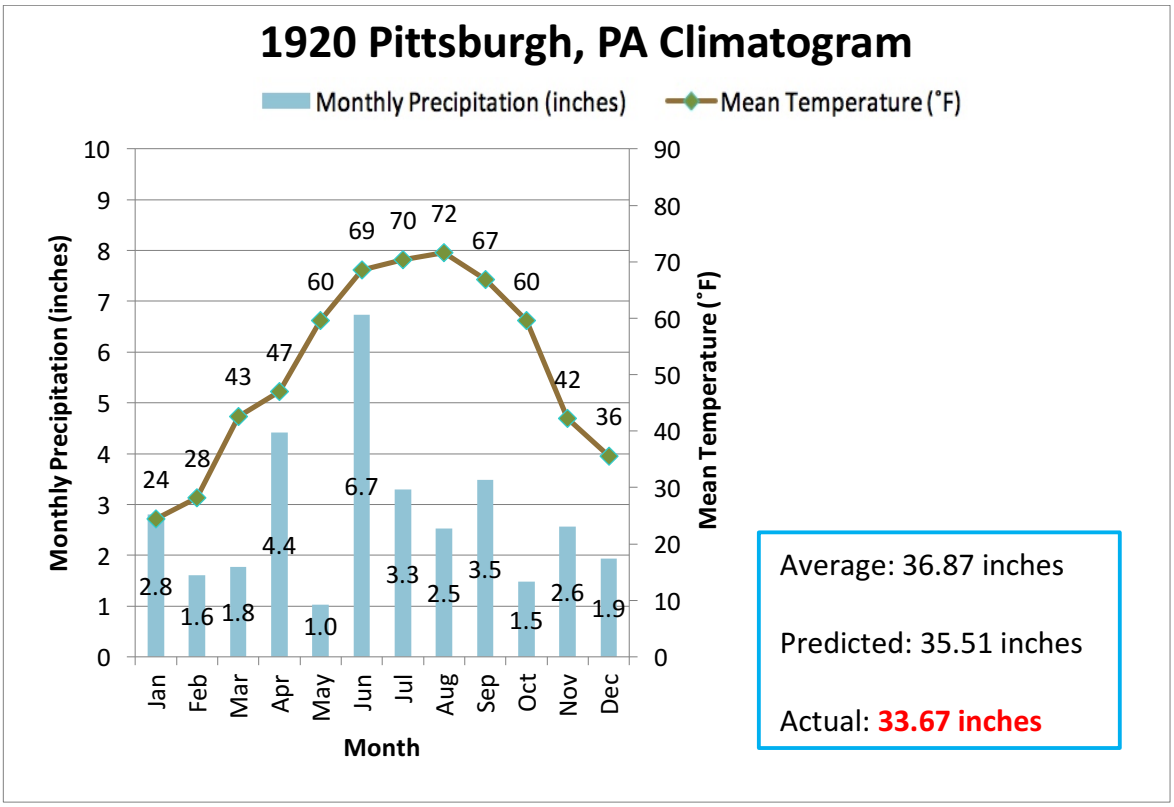

1915 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 37 33 56 58 67 72 69 69 56 45 32
4.7 2.2 1.3 1.3 3.8 5.4 3.4 2.7 1.7 2.8 2.4 3.9
Average: 36.87 inches
Predicted: 37.40 inches
Actual: 35.50 inches

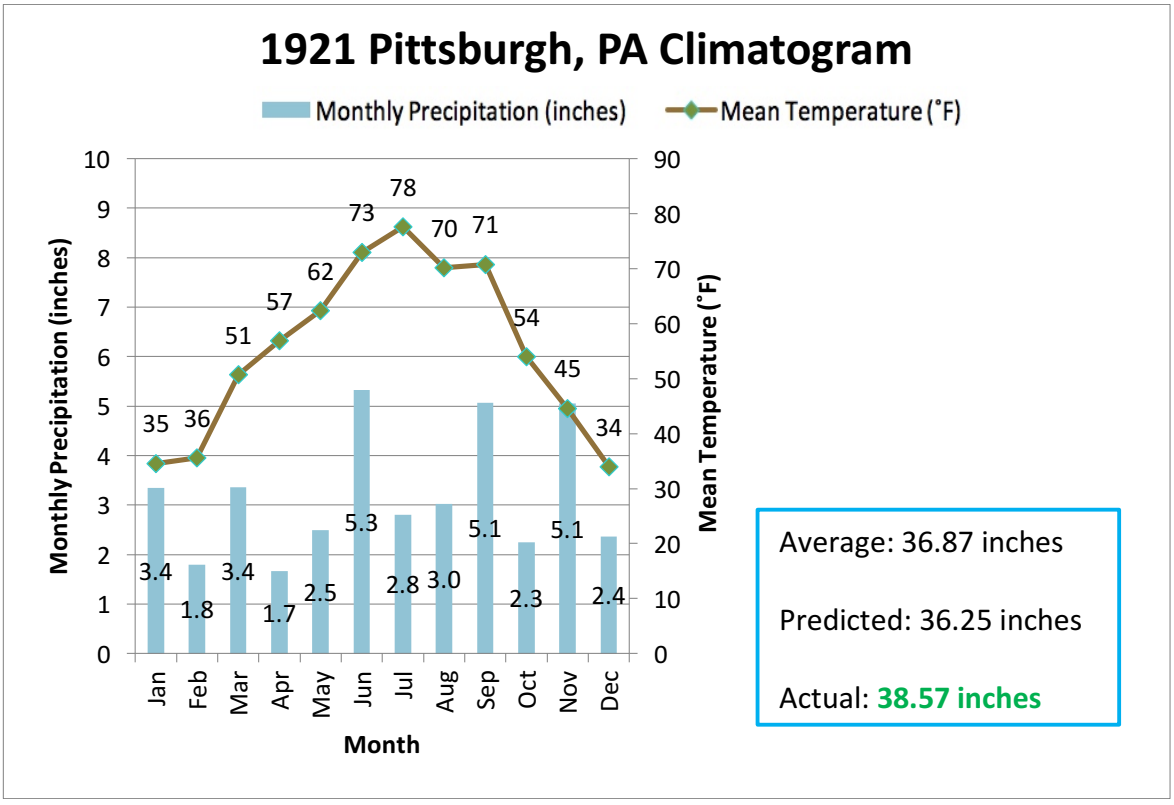

1916 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
38 27 34 49 63 65 77 74 64 55 45 33
3.5 2.6 3.6 2.5 2.3 3.8 3.9 4.7 1.6 2.3 1.9 2.0
Average: 36.87 inches
Predicted: 36.13 inches
Actual: 34.86 inches

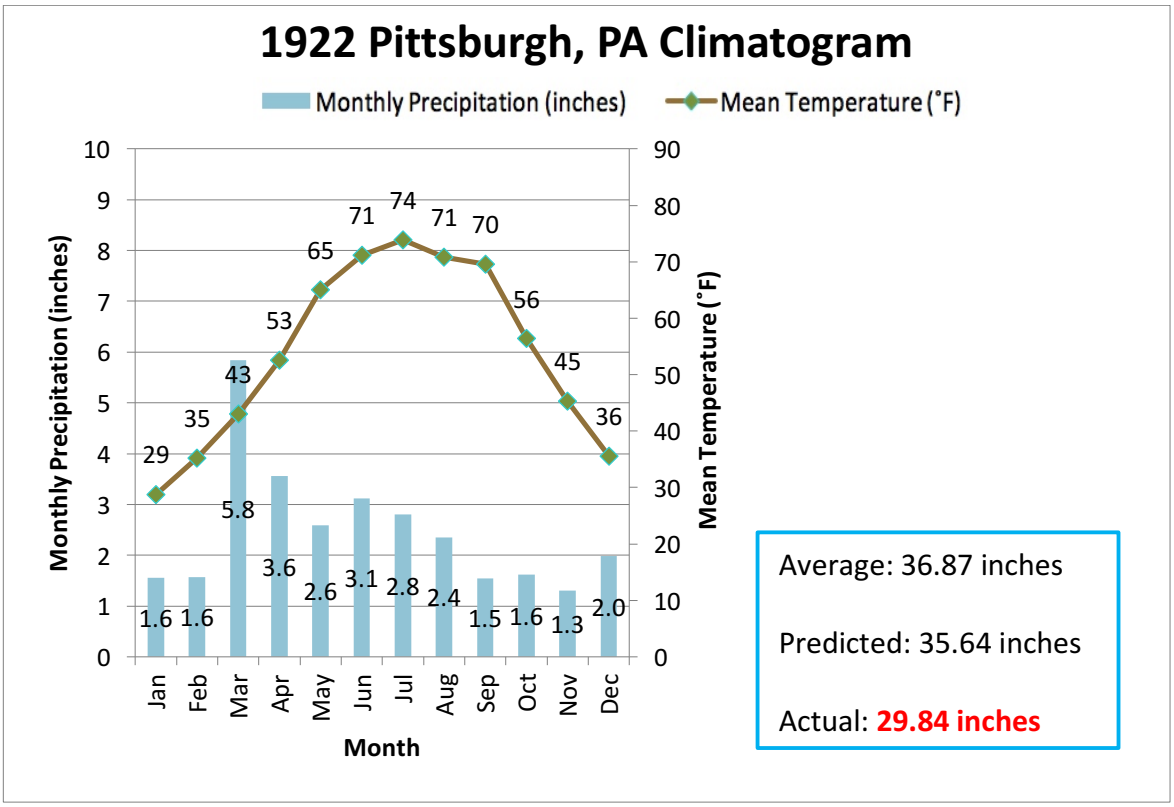

1917 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
32 27 41 50 55 68 74 72 62 49 40 25
4.3 1.0 3.4 2.2 2.7 3.7 2.3 4.8 1.9 5.3 0.3 1.2
Average: 36.87 inches
Predicted: 35.05 inches
Actual: 32.90 inches

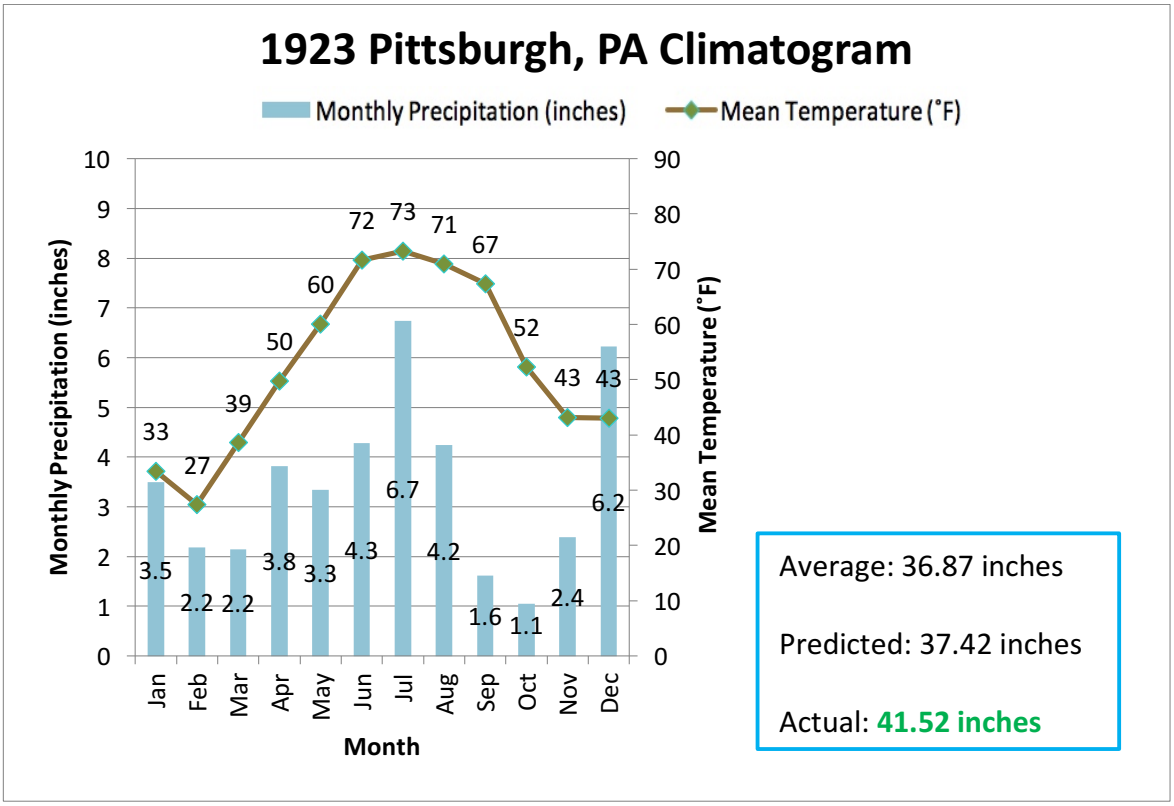

1918 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
19 33 45 49 68 68 72 77 60 58 44 41
2.8 1.9 1.3 2.7 3.9 2.4 2.2 4.8 2.2 3.1 1.8 3.5
Average: 36.87 inches
Predicted: 33.87 inches
Actual: 32.61 inches

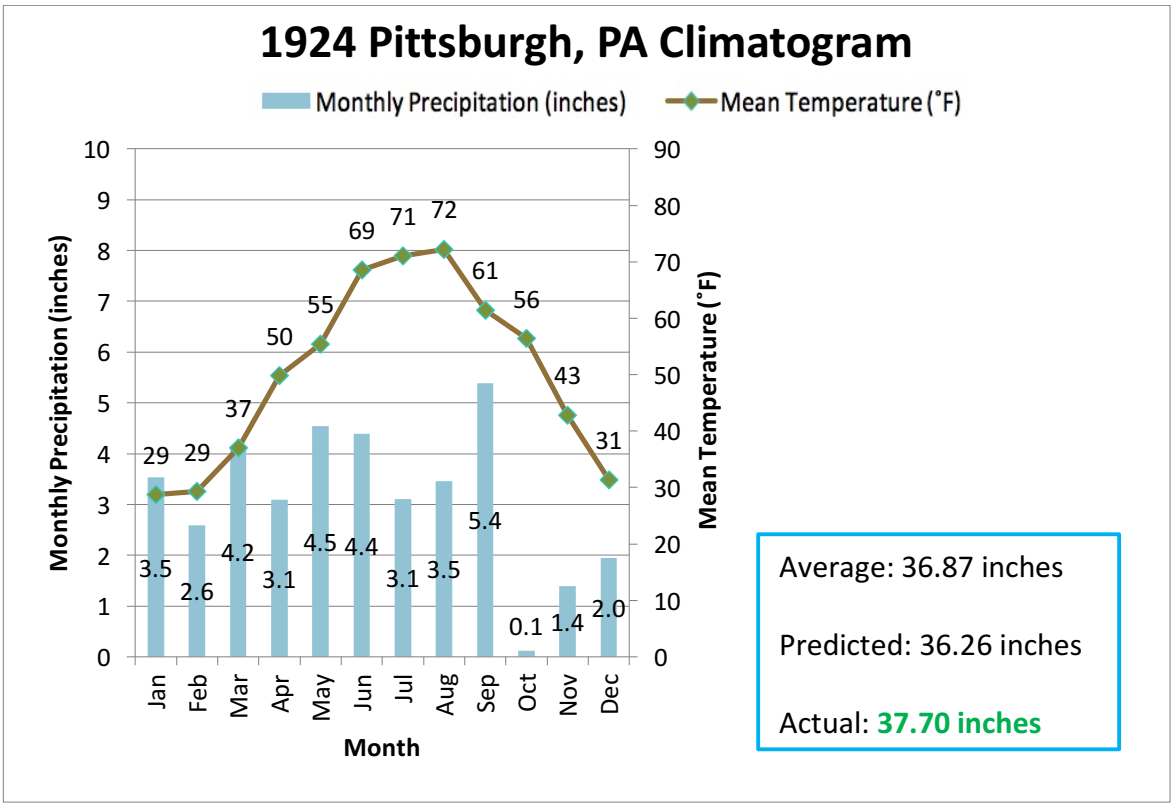

1919 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
34 34 42 51 61 75 75 70 66 61 43 28
1.4 1.6 1.9 3.1 4.9 3.6 6.2 7.2 1.6 5.4 3.8 2.9
Average: 36.87 inches
Predicted: 35.87 inches
Actual: 43.89 inches

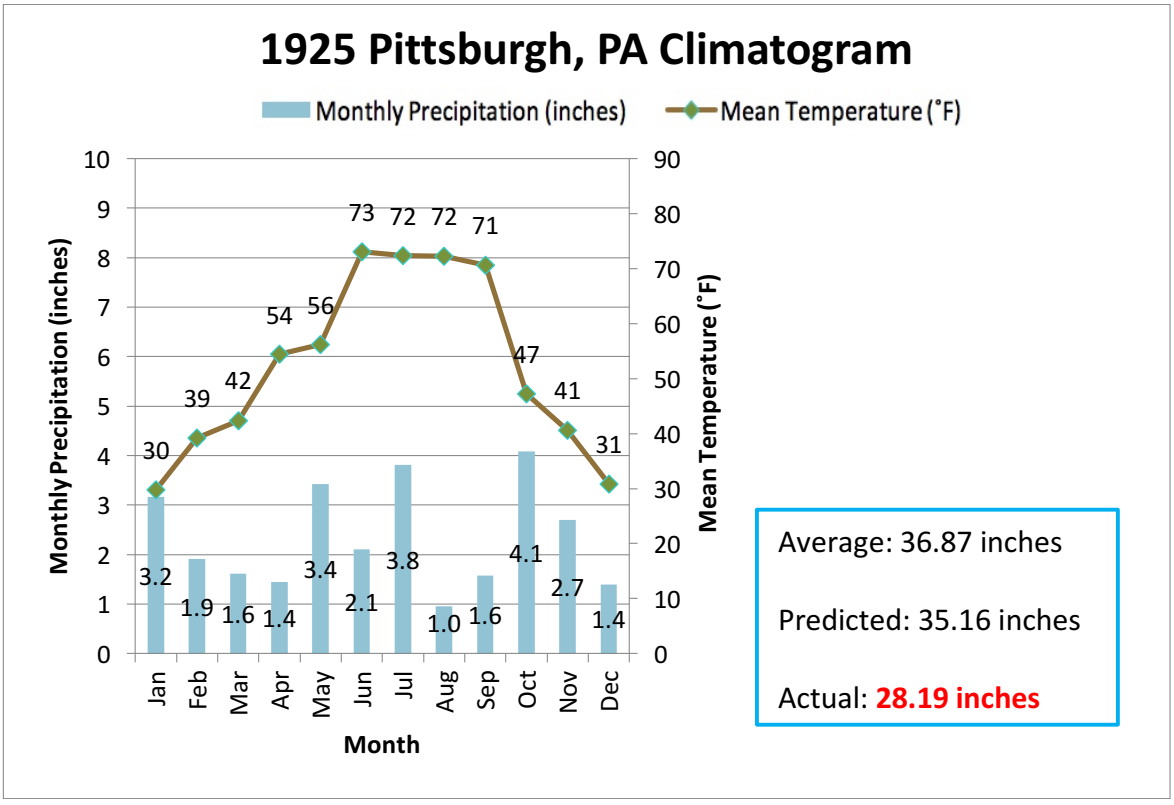

1920 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
24 28 43 47 60 69 70 72 67 60 42 36
2.8 1.6 1.8 4.4 1.0 6.7 3.3 2.5 3.5 1.5 2.6 1.9
Average: 36.87 inches
Predicted: 35.51 inches
Actual: 33.67 inches

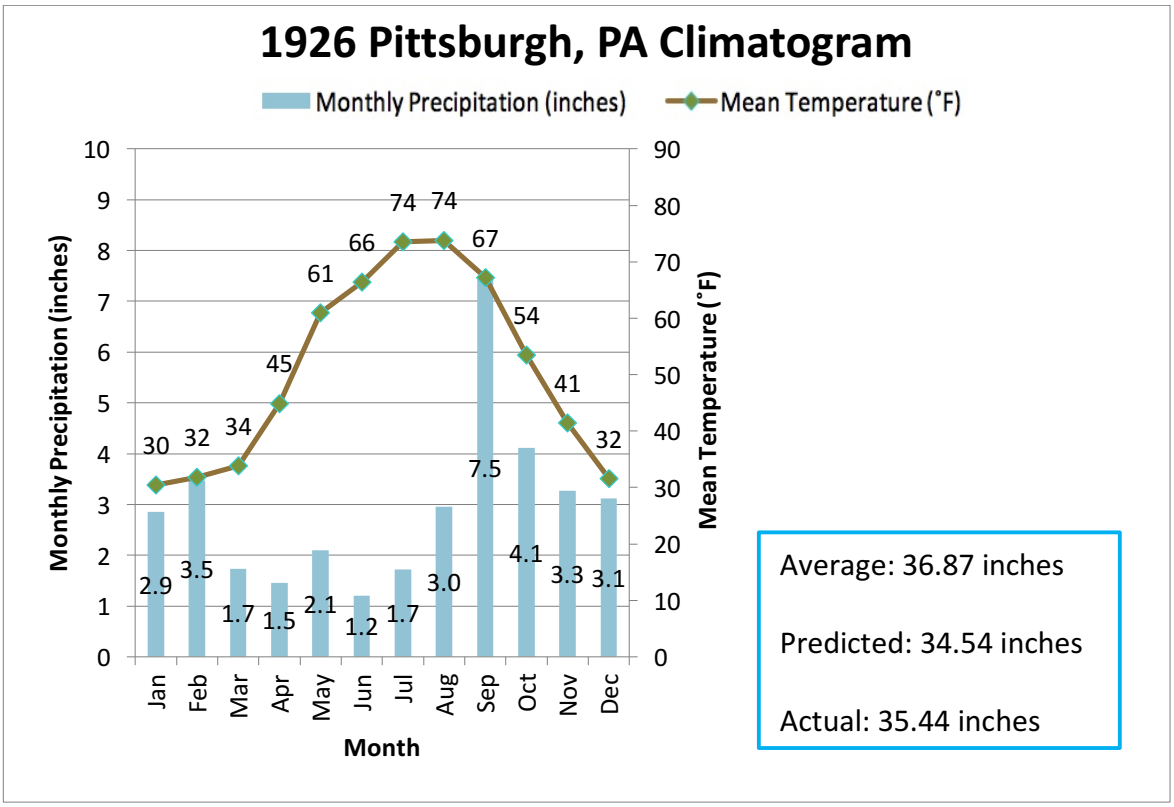

1921 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 36 51 57 62 73 78 70 71 54 45 34
3.4 1.8 3.4 1.7 2.5 5.3 2.8 3.0 5.1 2.3 5.1 2.4
Average: 36.87 inches
Predicted: 36.25 inches
Actual: 38.57 inches

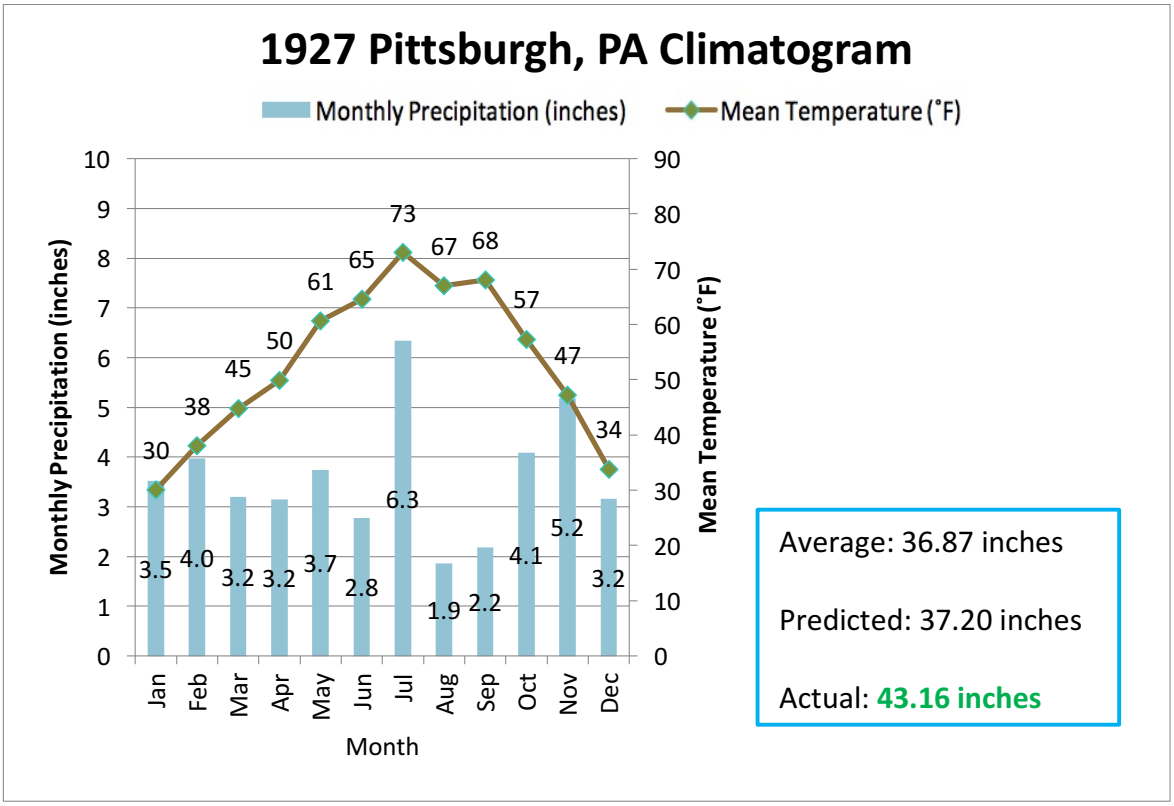

1922 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
29 35 43 53 65 71 74 71 70 56 45 36
1.6 1.6 5.8 3.6 2.6 3.1 2.8 2.4 1.5 1.6 1.3 2.0
Average: 36.87 inches
Predicted: 35.64 inches
Actual: 29.84 inches

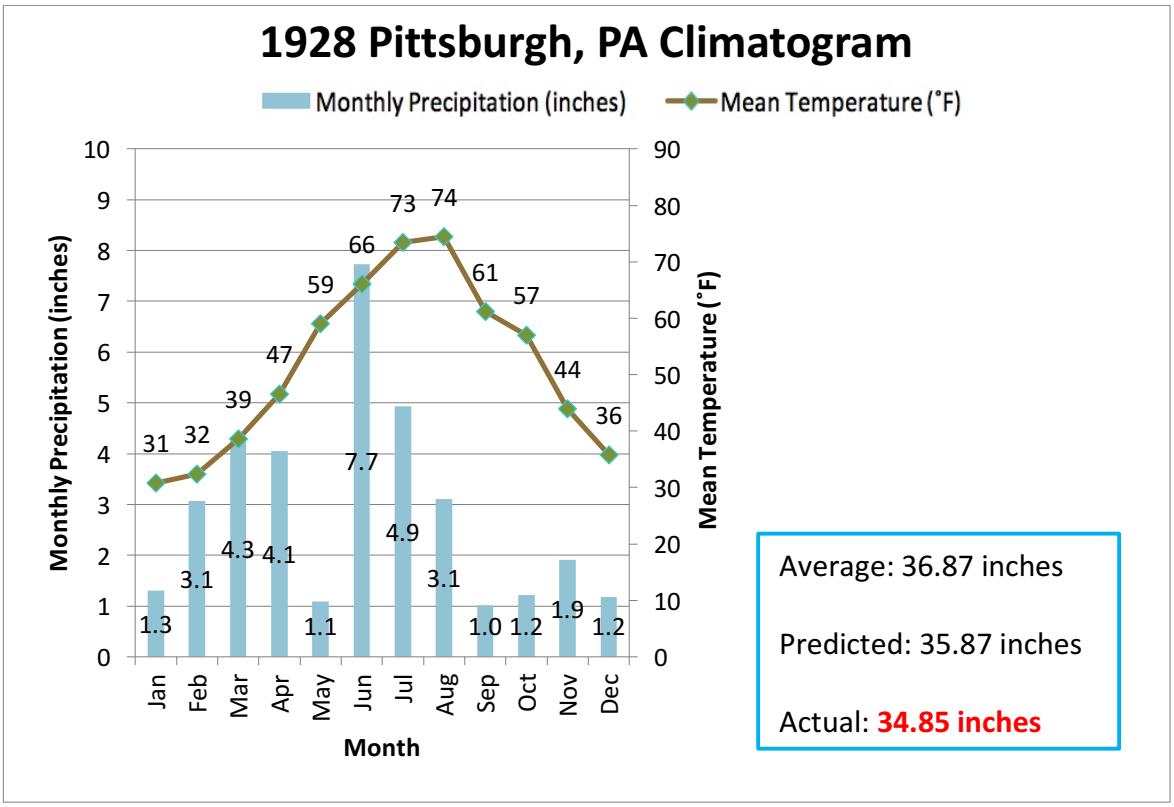

1923 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 27 39 50 60 72 73 71 67 52 43 43
3.5 2.2 2.2 3.8 3.3 4.3 6.7 4.2 1.6 1.1 2.4 6.2
Average: 36.87 inches
Predicted: 37.42 inches
Actual: 41.52 inches

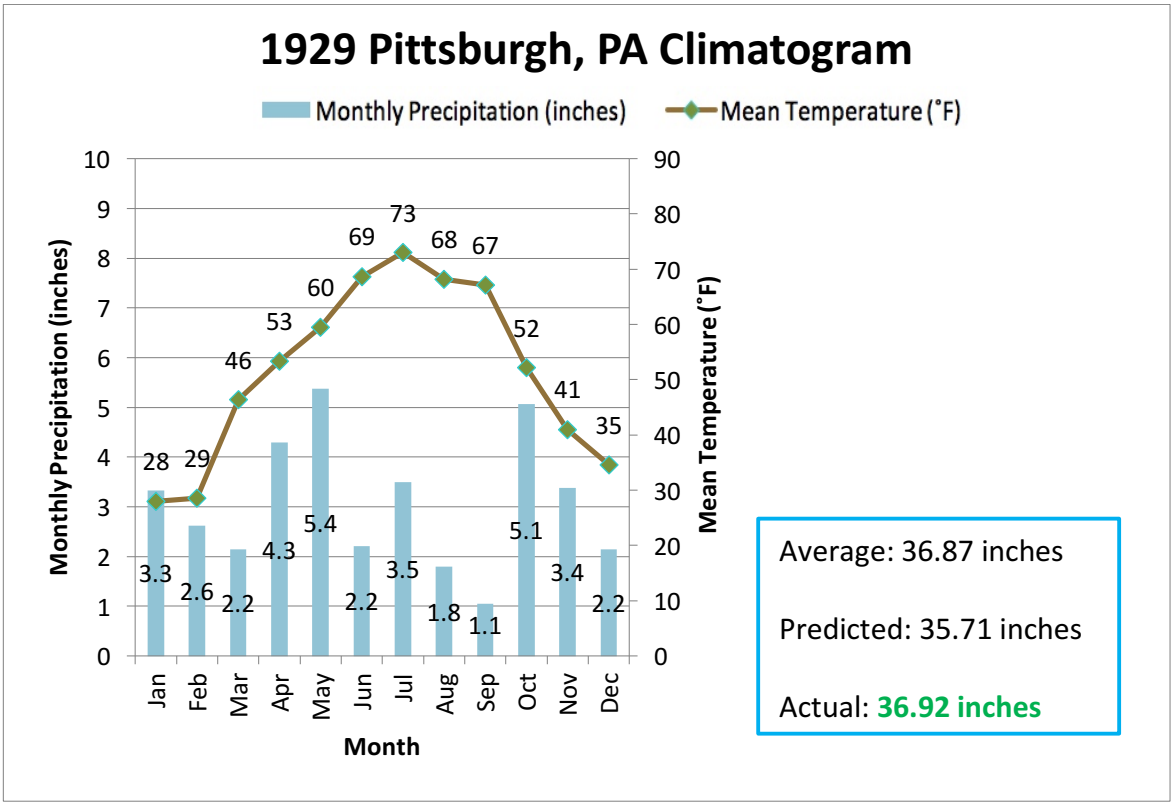

1924 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
29 29 37 50 55 69 71 72 61 56 43 31
3.5 2.6 4.2 3.1 4.5 4.4 3.1 3.5 5.4 0.1 1.4 2.0
Average: 36.87 inches
Predicted: 36.26 inches
Actual: 37.70 inches

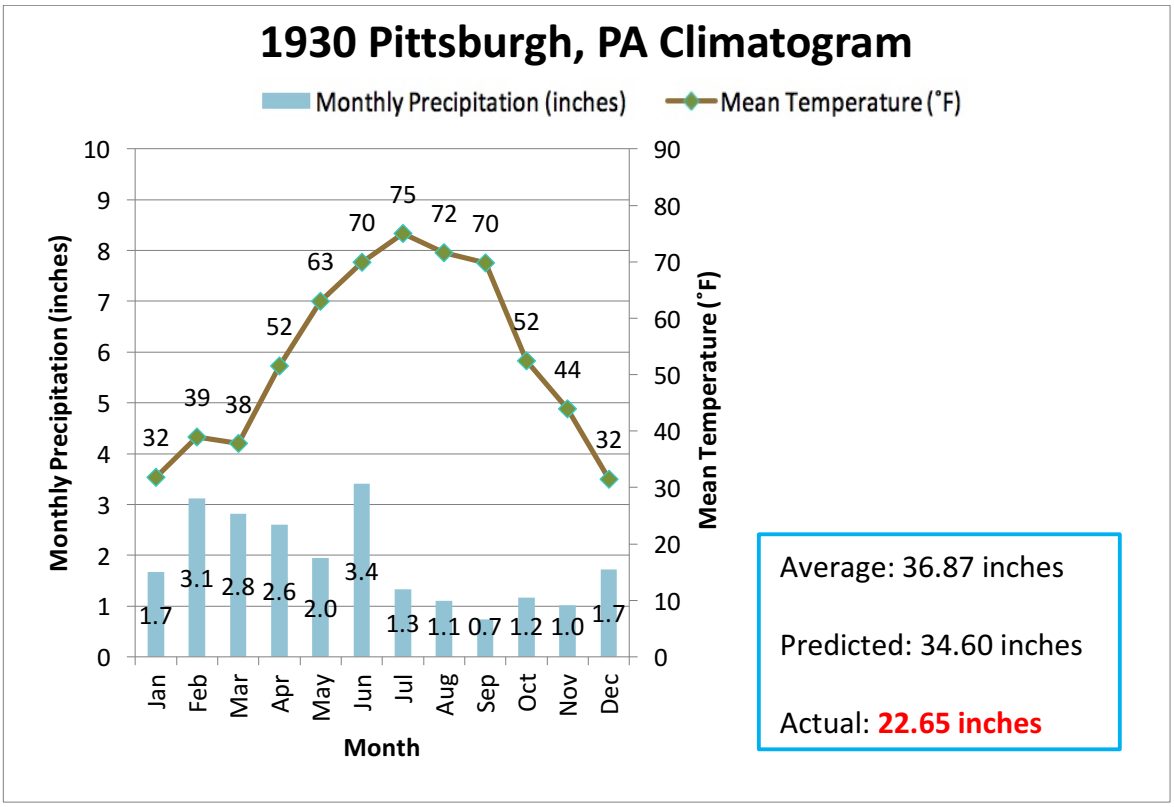

1925 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 39 42 54 56 73 72 72 71 47 41 31
3.2 1.9 1.6 1.4 3.4 2.1 3.8 1.0 1.6 4.1 2.7 1.4
Average: 36.87 inches
Predicted: 35.16 inches
Actual: 28.19 inches

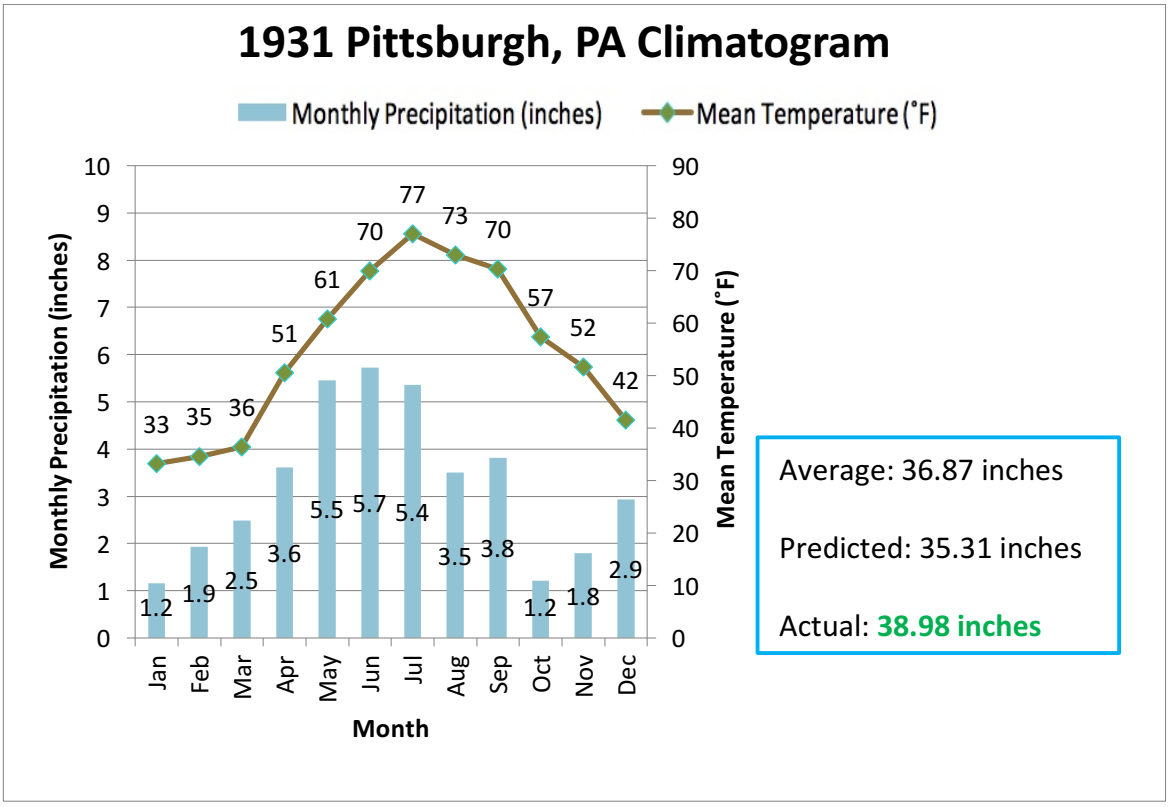

1926 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 32 34 45 61 66 74 74 67 54 41 32
2.9 3.5 1.7 1.5 2.1 1.2 1.7 3.0 7.5 4.1 3.3 3.1
Average: 36.87 inches
Predicted: 34.54 inches
Actual: 35.44 inches

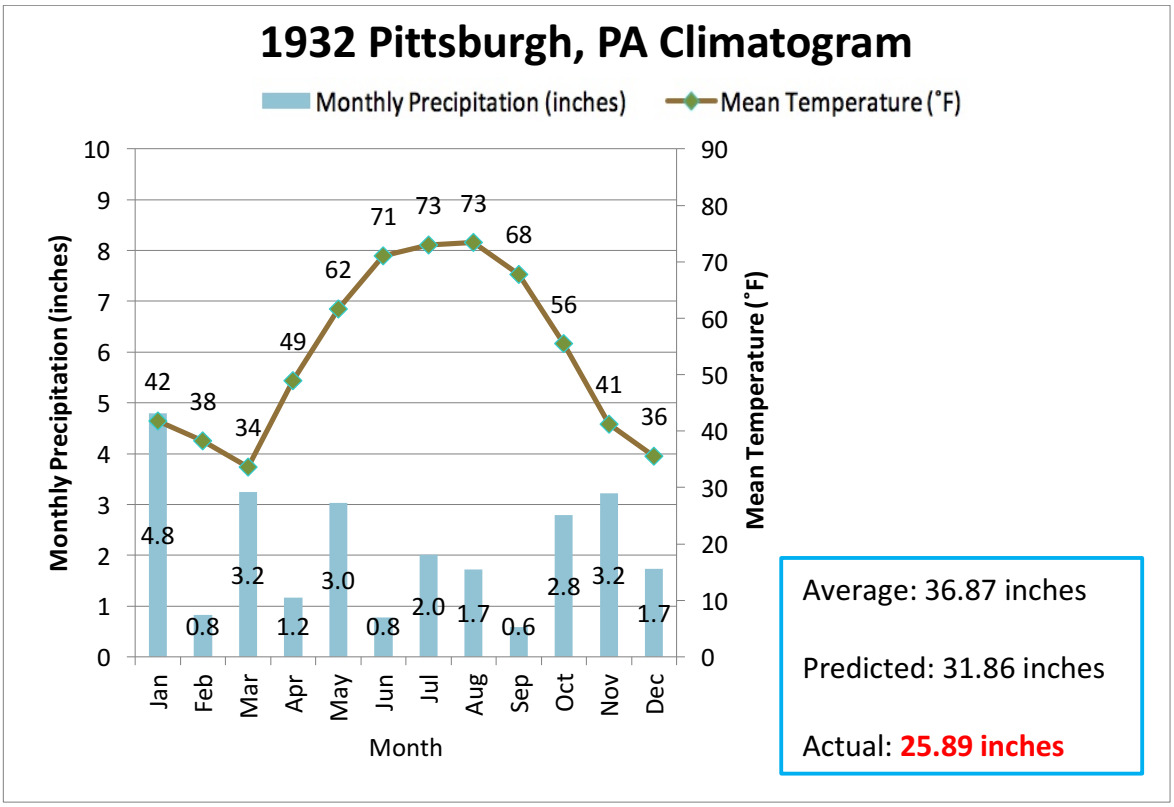

1927 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 38 45 50 61 65 73 67 68 57 47 34
3.5 4.0 3.2 3.2 3.7 2.8 6.3 1.9 2.2 4.1 5.2 3.2
Average: 36.87 inches
Predicted: 37.20 inches
Actual: 43.16 inches

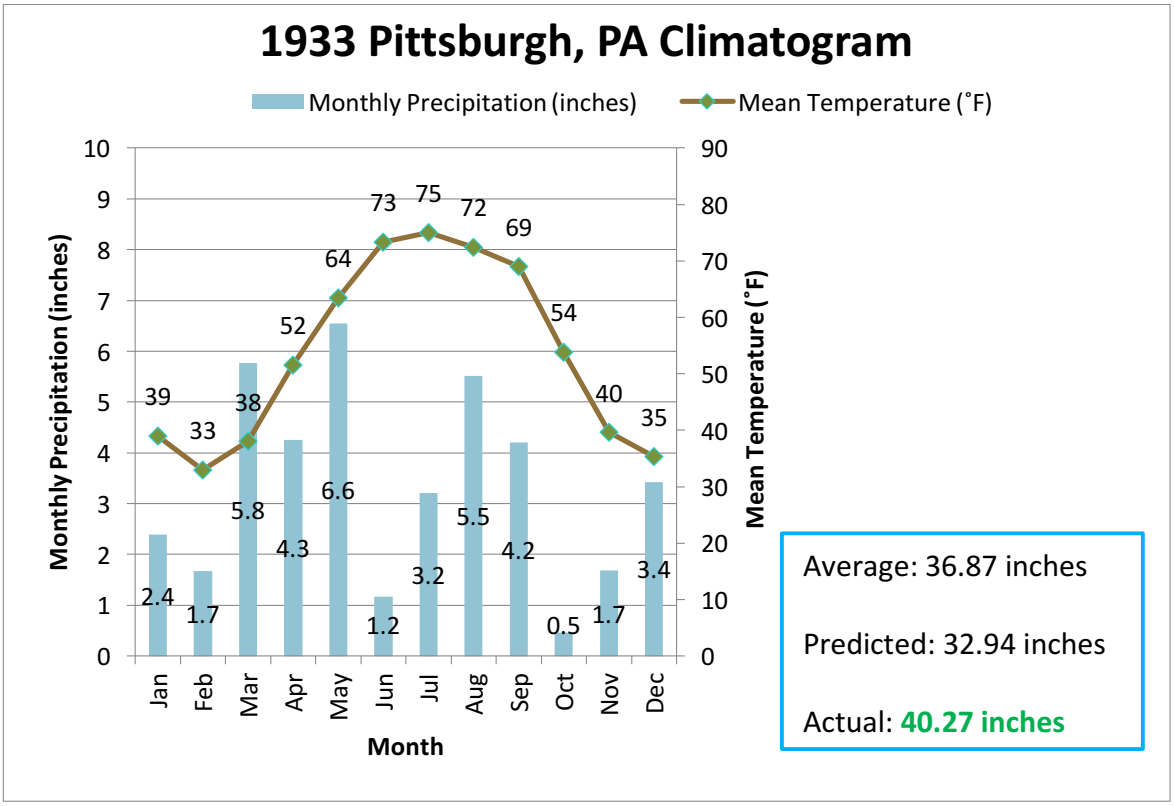

1928 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 32 39 47 59 66 73 74 61 57 44 36
1.3 3.1 4.3 4.1 1.1 7.7 4.9 3.1 1.0 1.2 1.9 1.2
Average: 36.87 inches
Predicted: 35.87 inches
Actual: 34.85 inches

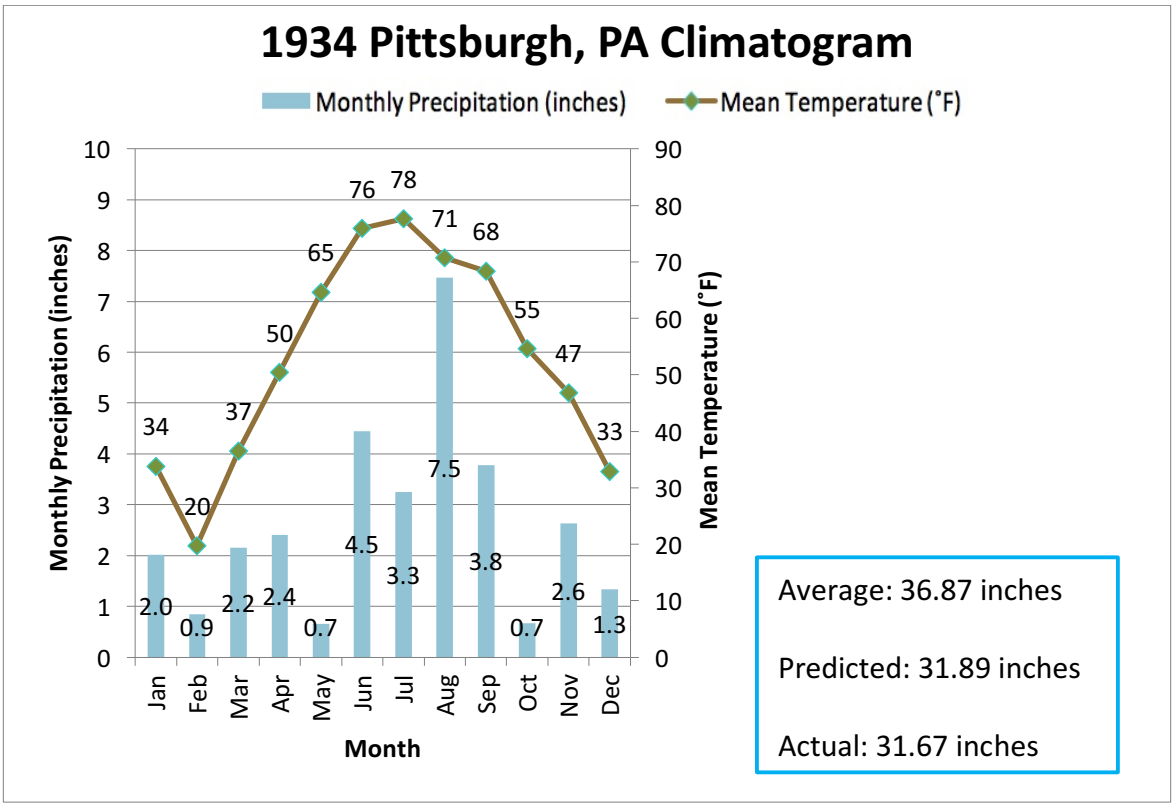

1929 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 29 46 53 60 69 73 68 67 52 41 35
3.3 2.6 2.2 4.3 5.4 2.2 3.5 1.8 1.1 5.1 3.4 2.2
Average: 36.87 inches
Predicted: 35.71 inches
Actual: 36.92 inches

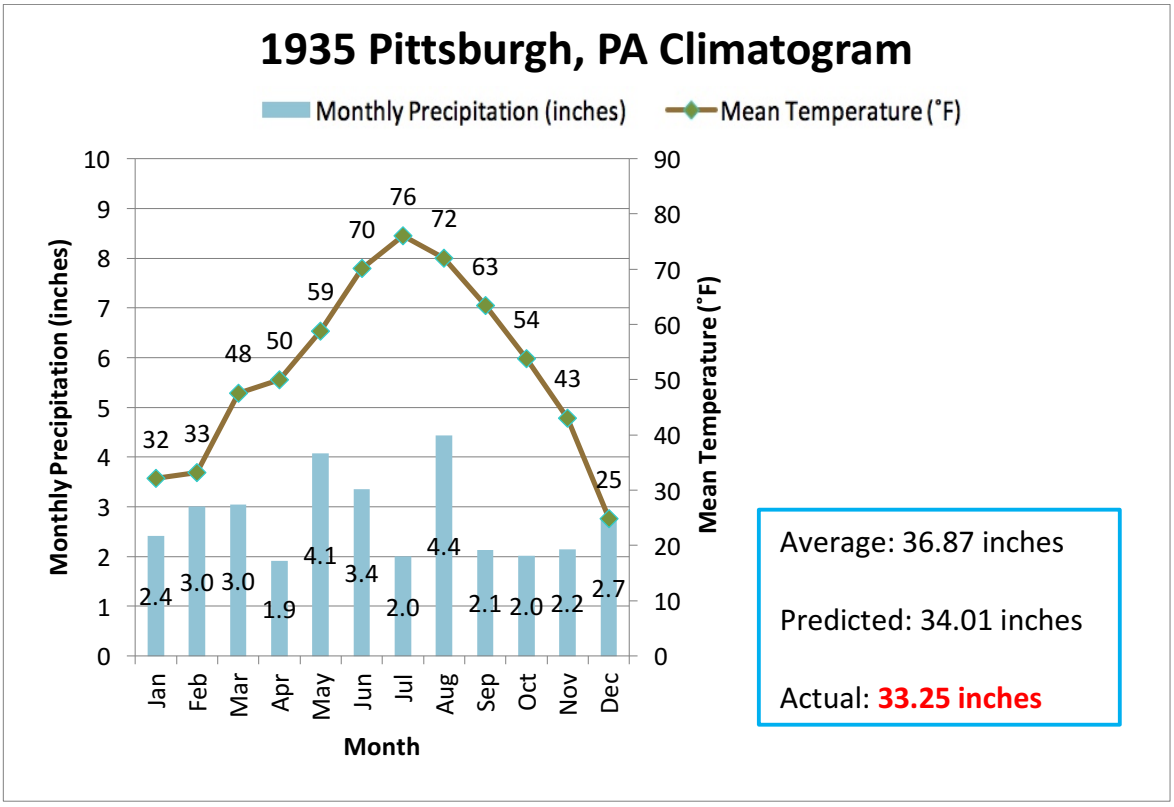

1930 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
32 39 38 52 63 70 75 72 70 52 44 32
1.7 3.1 2.8 2.6 2.0 3.4 1.3 1.1 0.7 1.2 1.0 1.7
Average: 36.87 inches
Predicted: 34.60 inches
Actual: 22.65 inches

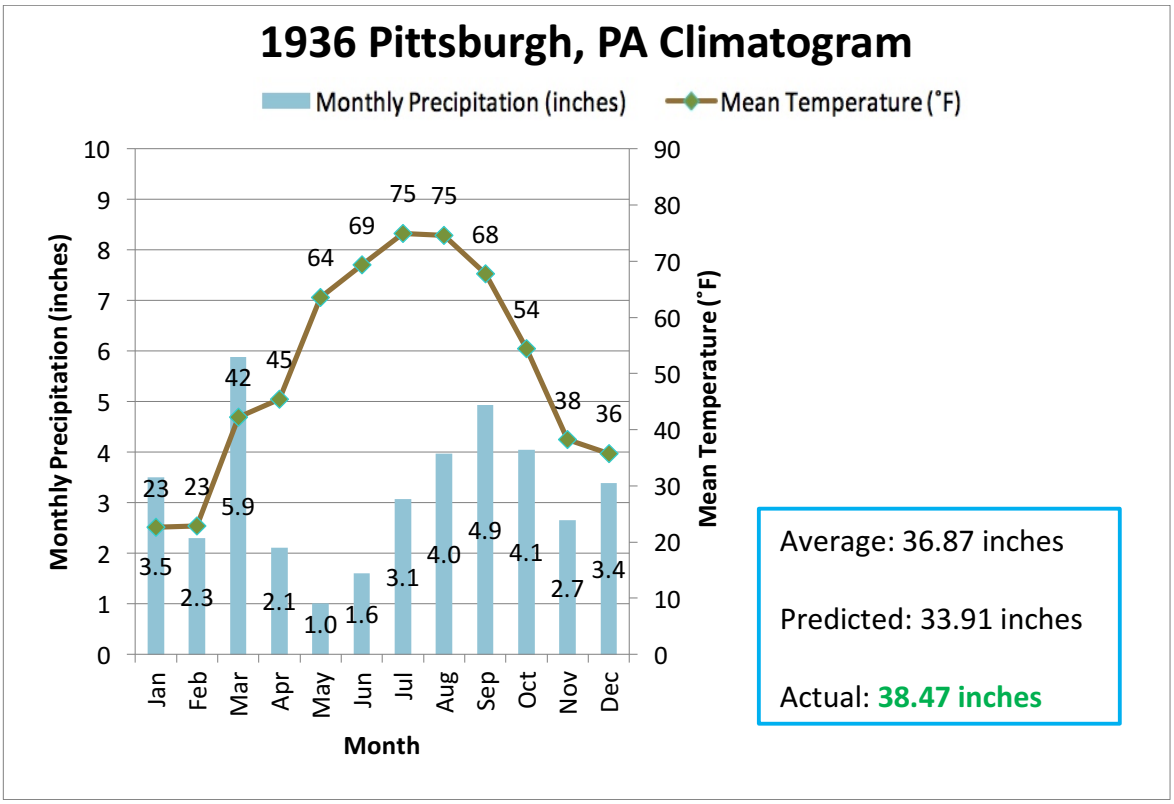

1931 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 35 36 51 61 70 77 73 70 57 52 42
1.2 1.9 2.5 3.6 5.5 5.7 5.4 3.5 3.8 1.2 1.8 2.9
Average: 36.87 inches
Predicted: 35.31 inches
Actual: 38.98 inches

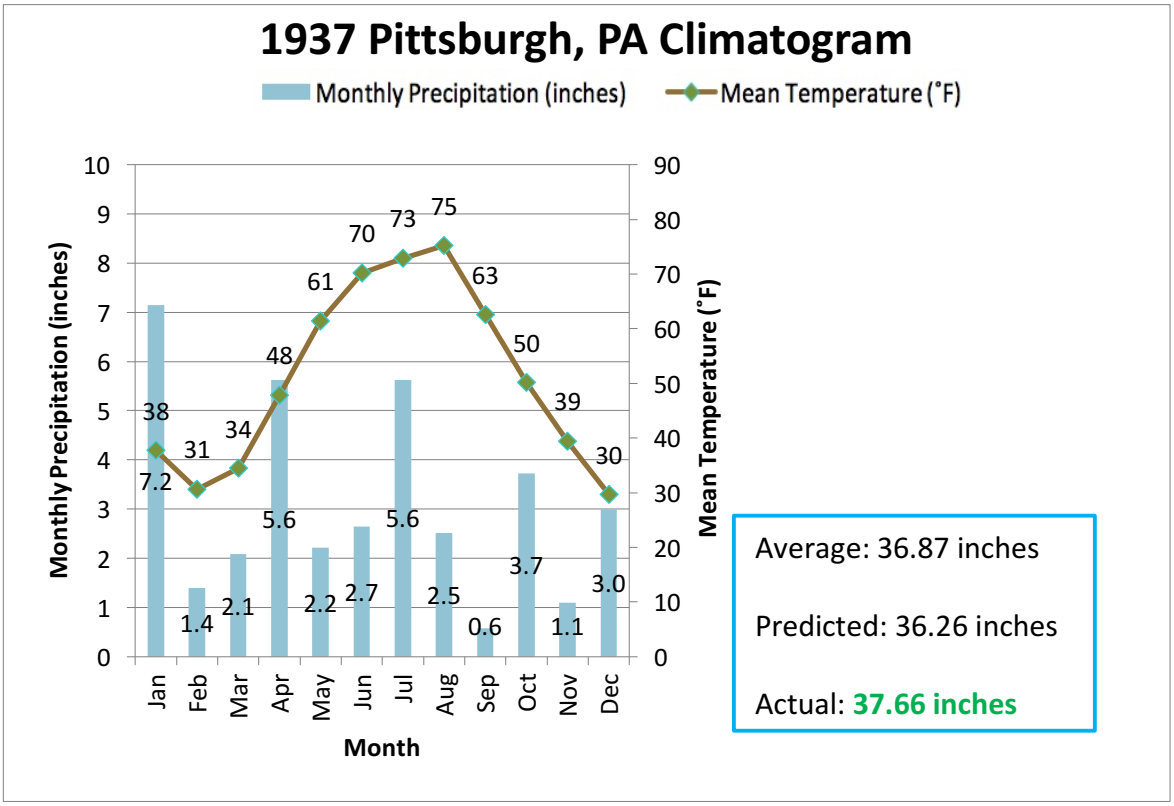

1932 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
42 38 34 49 62 71 73 73 68 56 41 36
4.8 0.8 3.2 1.2 3.0 0.8 2.0 1.7 0.6 2.8 3.2 1.7
Average: 36.87 inches
Predicted: 31.86 inches
Actual: 25.89 inches

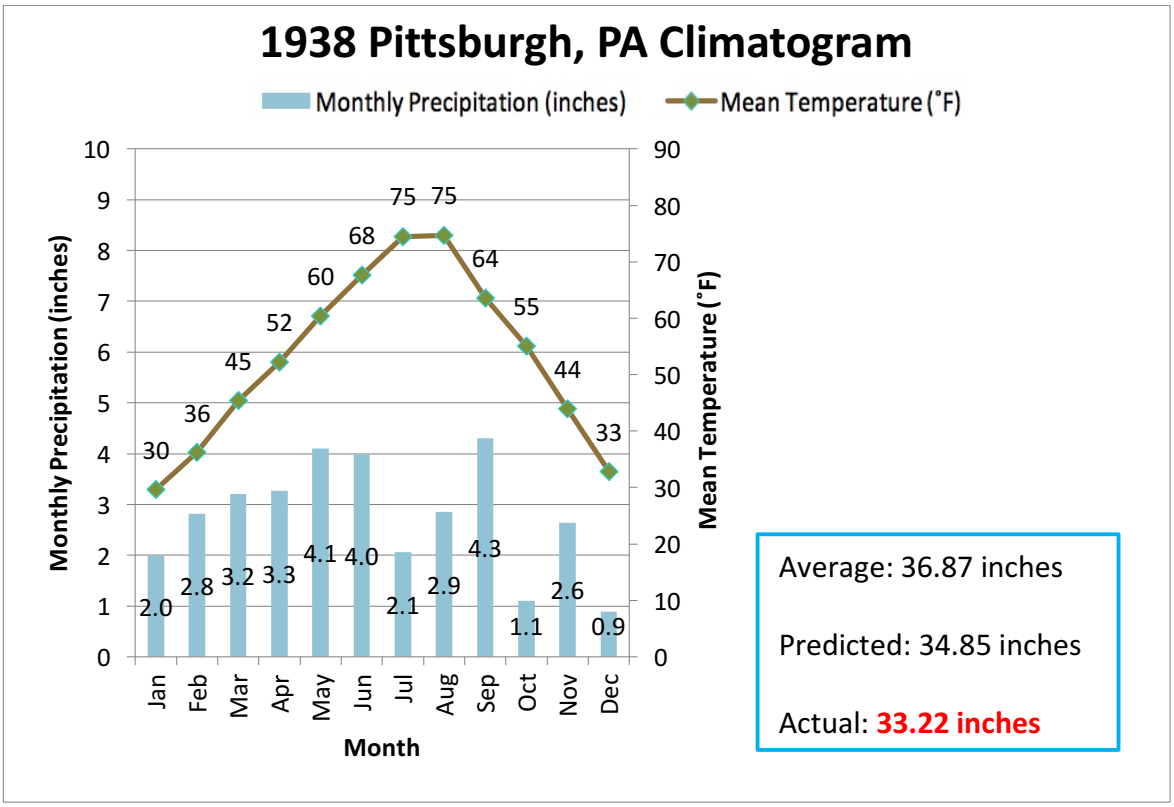

1933 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
39 33 38 52 64 73 75 72 69 54 40 35
2.4 1.7 5.8 4.3 6.6 1.2 3.2 5.5 4.2 0.5 1.7 3.4
Average: 36.87 inches
Predicted: 32.94 inches
Actual: 40.27 inches

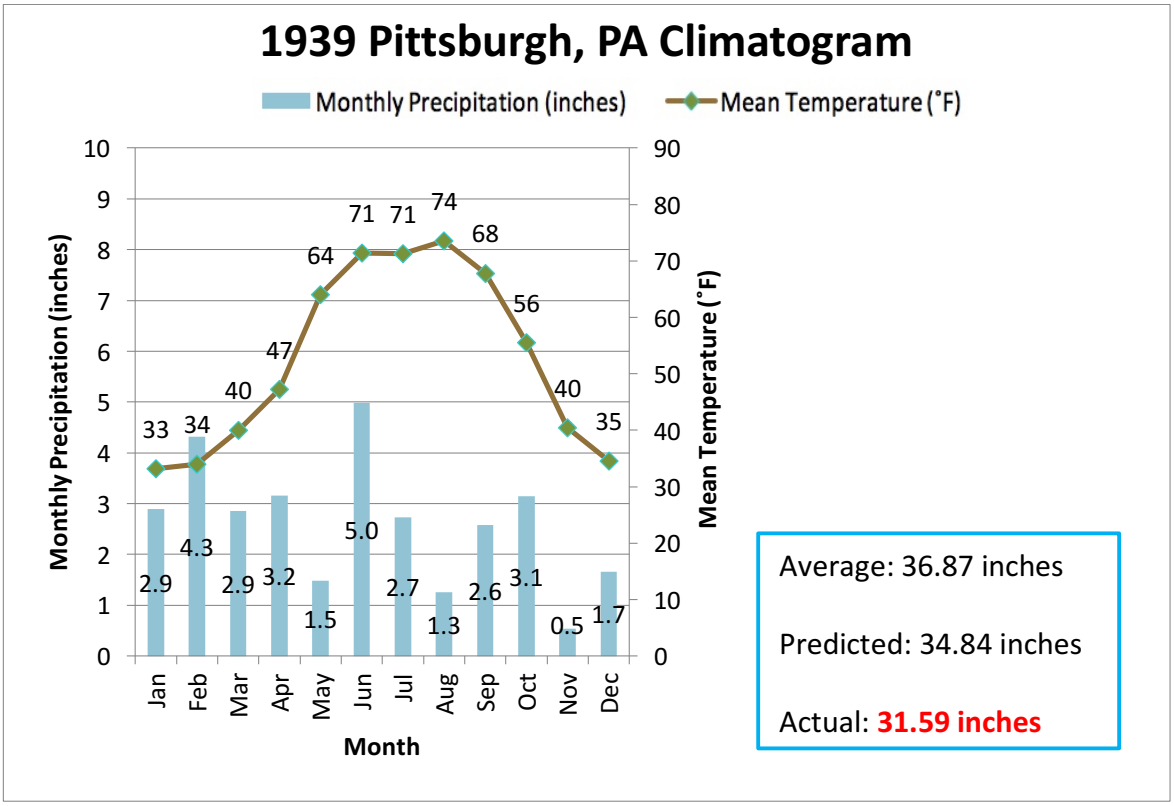

1934 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
34 20 37 50 65 76 78 71 68 55 47 33
2.0 0.9 2.2 2.4 0.7 4.5 3.3 7.5 3.8 0.7 2.6 1.3
Average: 36.87 inches
Predicted: 31.89 inches
Actual: 31.67 inches

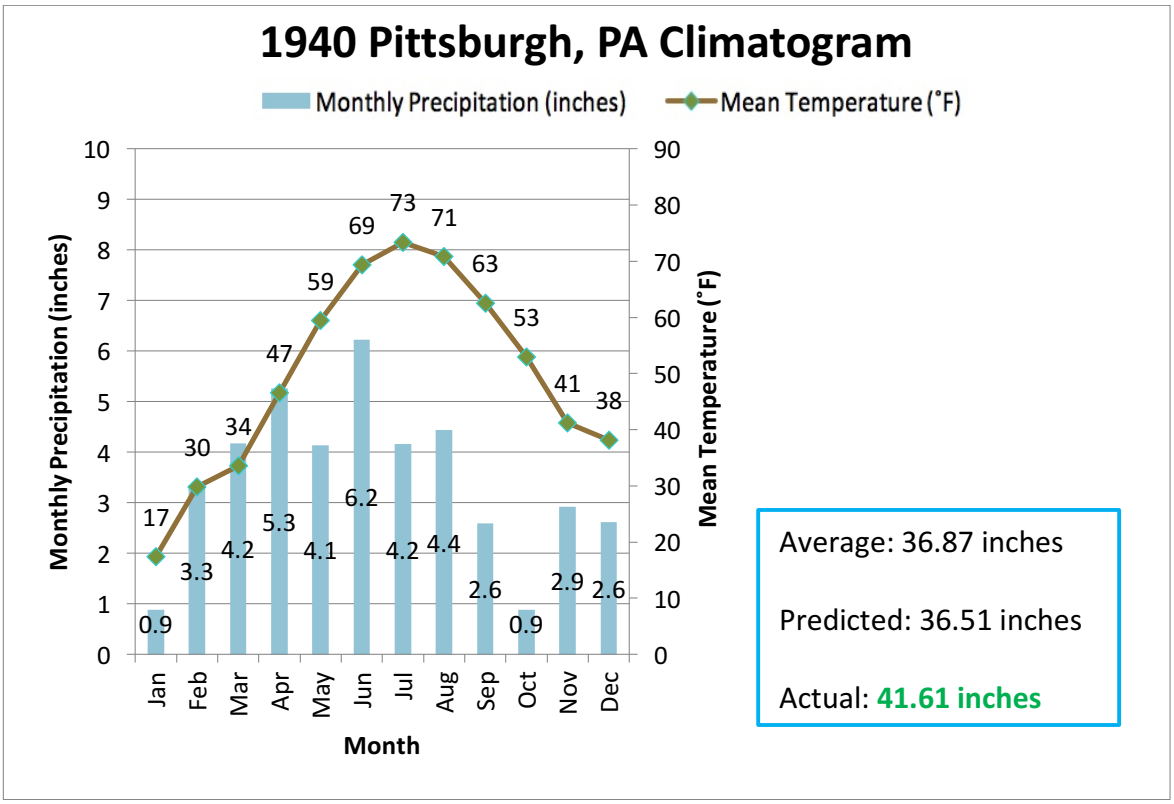

1935 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
32 33 48 50 59 70 76 72 63 54 43 25
2.4 3.0 3.0 1.9 4.1 3.4 2.0 4.4 2.1 2.0 2.2 2.7
Average: 36.87 inches
Predicted: 34.01 inches
Actual: 33.25 inches

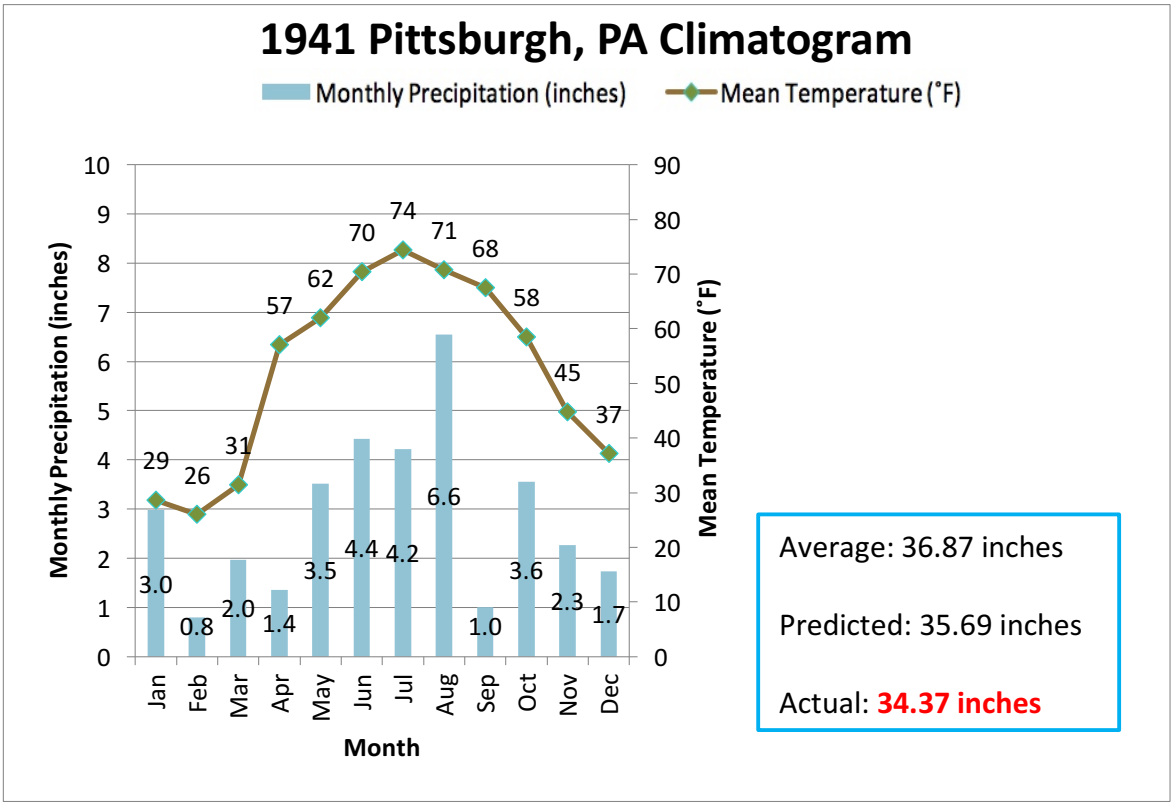

1936 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3.5 2.3 5.9 2.1 1.0 1.6 3.1 4.0 4.9 4.1 2.7 3.4
23 23 42 45 64 69 75 75 68 54 38 36
Average: 36.87 inches
Predicted: 33.91 inches
Actual: 38.47 inches

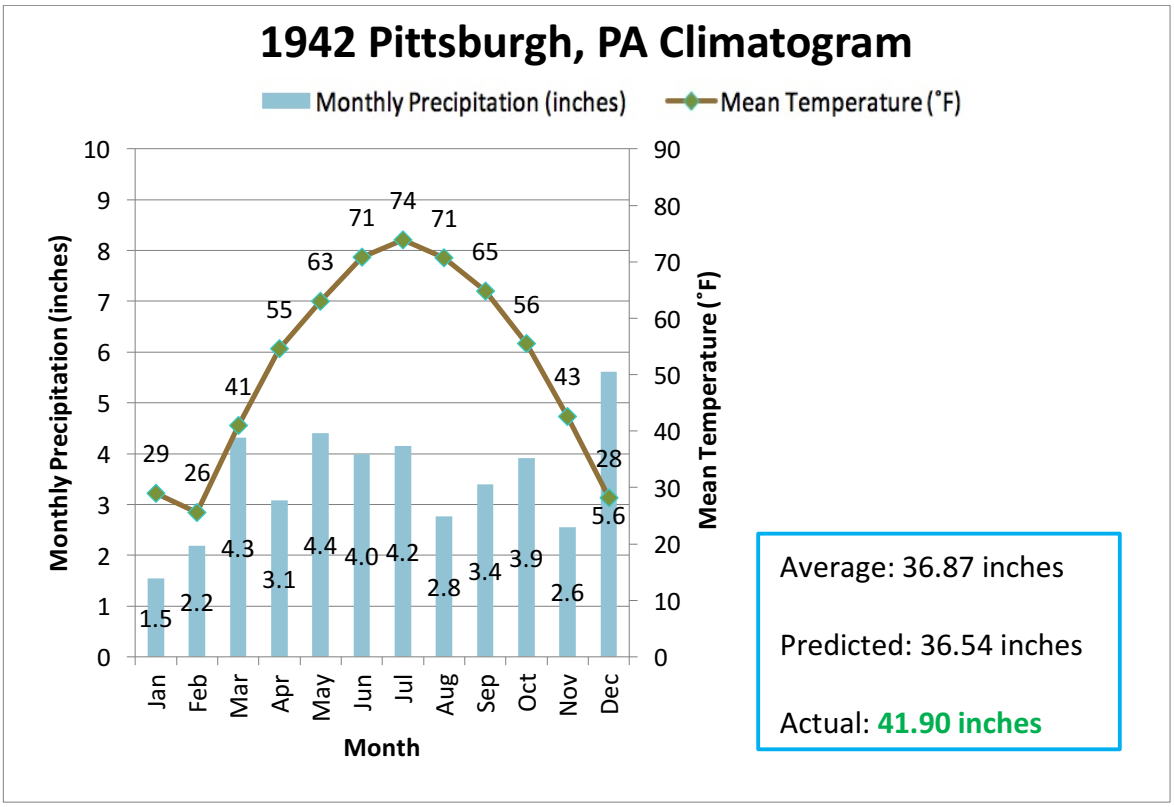

1937 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
7.2 1.4 2.1 5.6 2.2 2.7 5.6 2.5 0.6 3.7 1.1 3.0
38 31 34 48 61 70 73 75 63 50 39 30
Average: 36.87 inches
Predicted: 36.26 inches
Actual: 37.66 inches

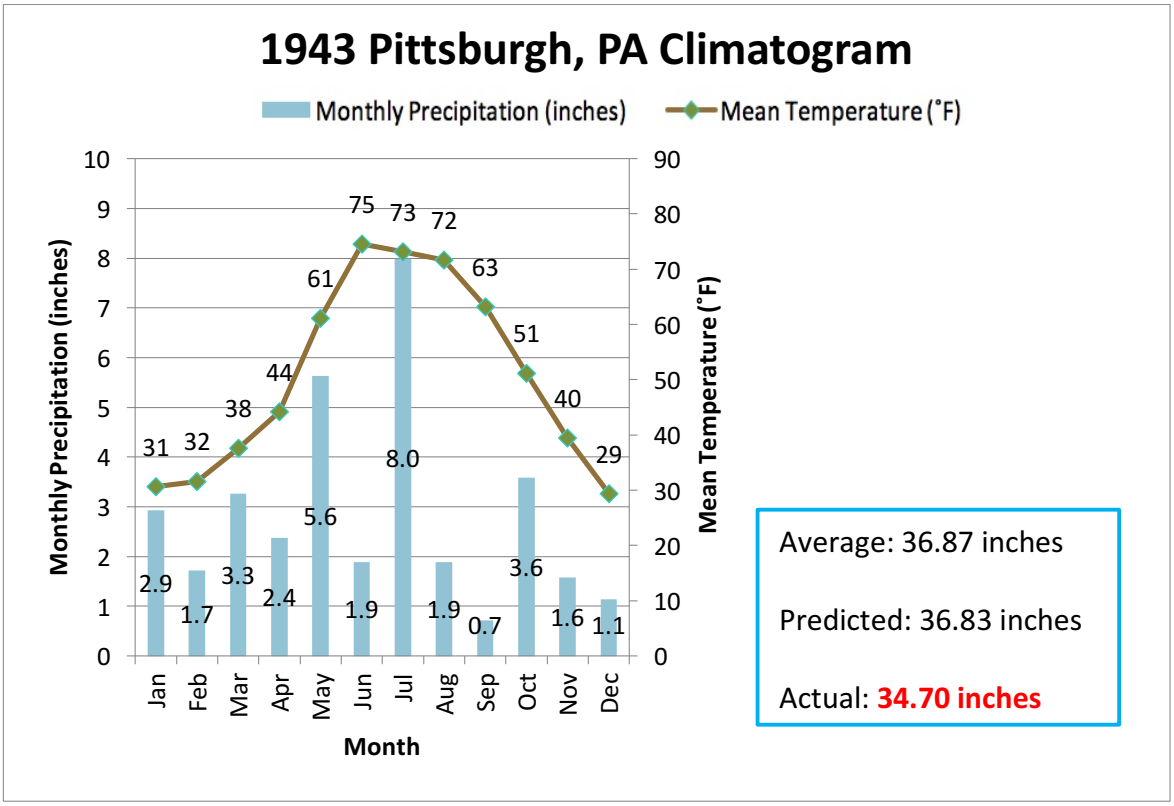

1938 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 36 45 52 60 68 75 75 64 55 44 33
2.0 2.8 3.2 3.3 4.1 4.0 2.1 2.9 4.3 1.1 2.6 0.9
Average: 36.87 inches
Predicted: 34.85 inches
Actual: 33.22 inches

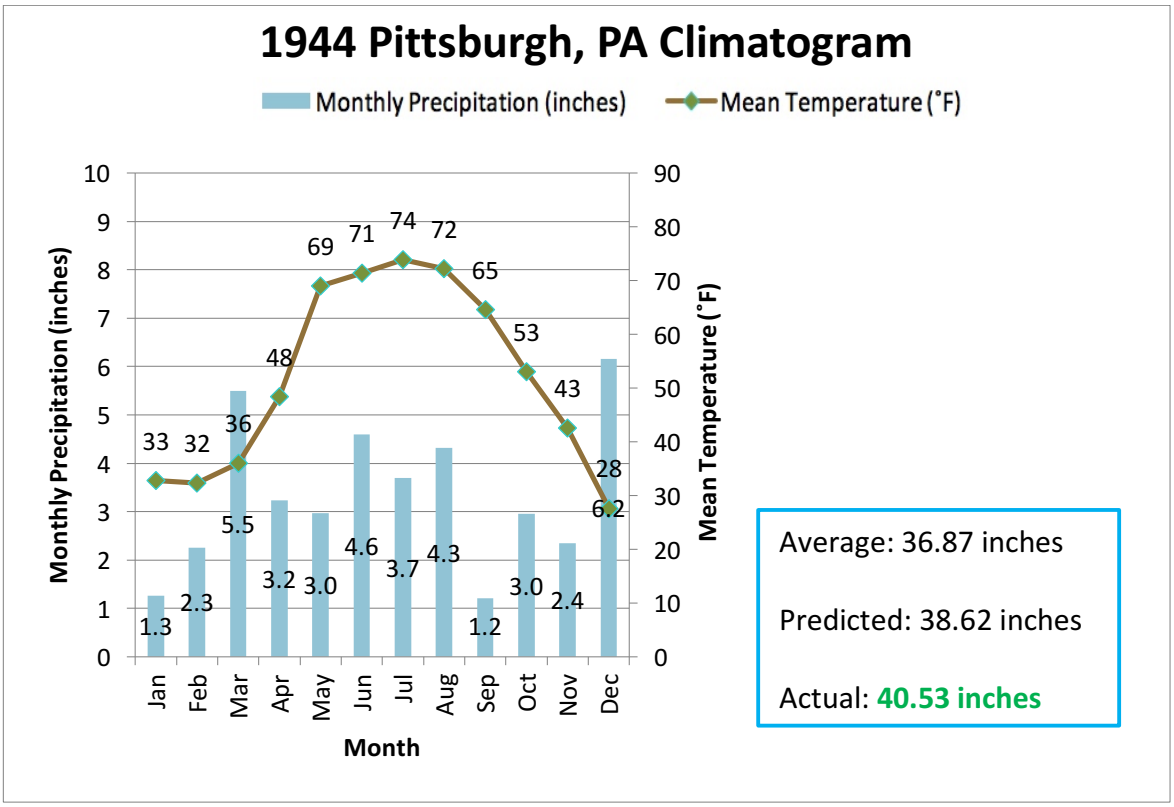

1939 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 34 40 47 64 71 71 74 68 56 40 35
2.9 4.3 2.9 3.2 1.5 5.0 2.7 1.3 2.6 3.1 0.5 1.7
Average: 36.87 inches
Predicted: 34.84 inches
Actual: 31.59 inches

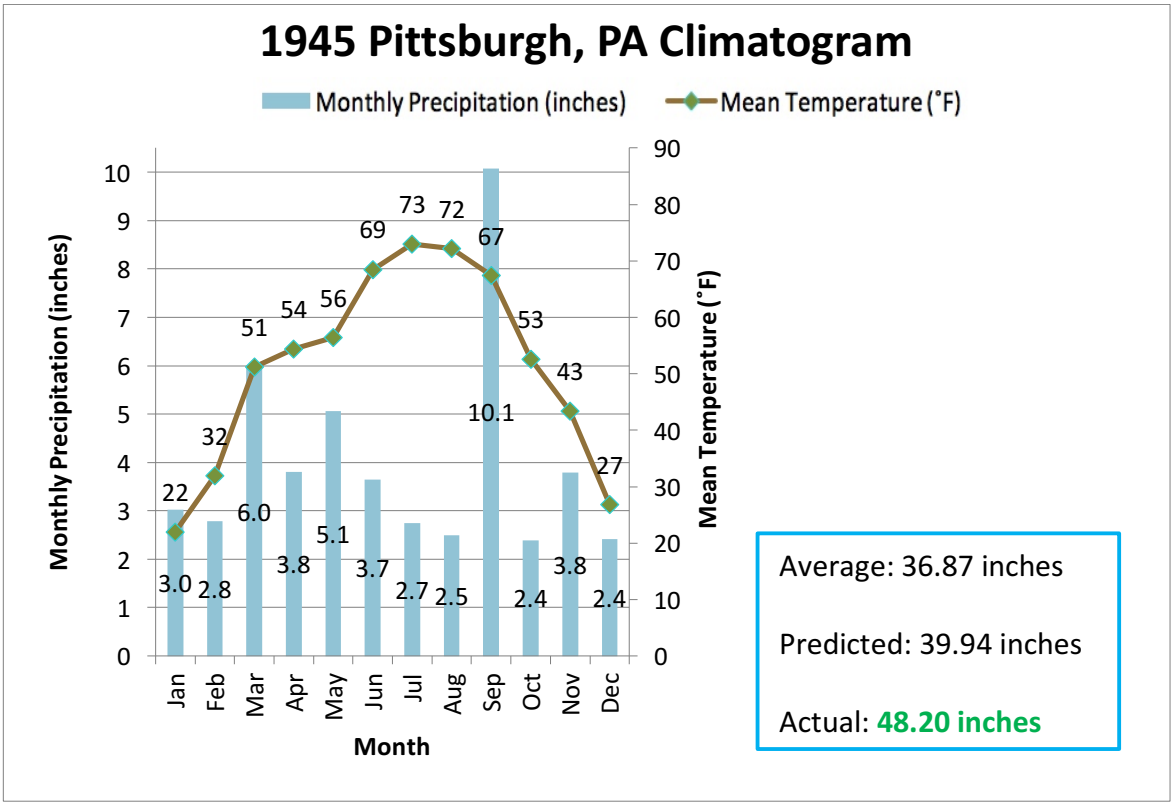

1940 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.9 3.3 4.2 5.3 4.1 6.2 4.2 4.4 2.6 0.9 2.9 2.6
17 30 34 47 59 69 73 71 63 53 41 38
Average: 36.87 inches
Predicted: 36.51 inches
Actual: 41.61 inches

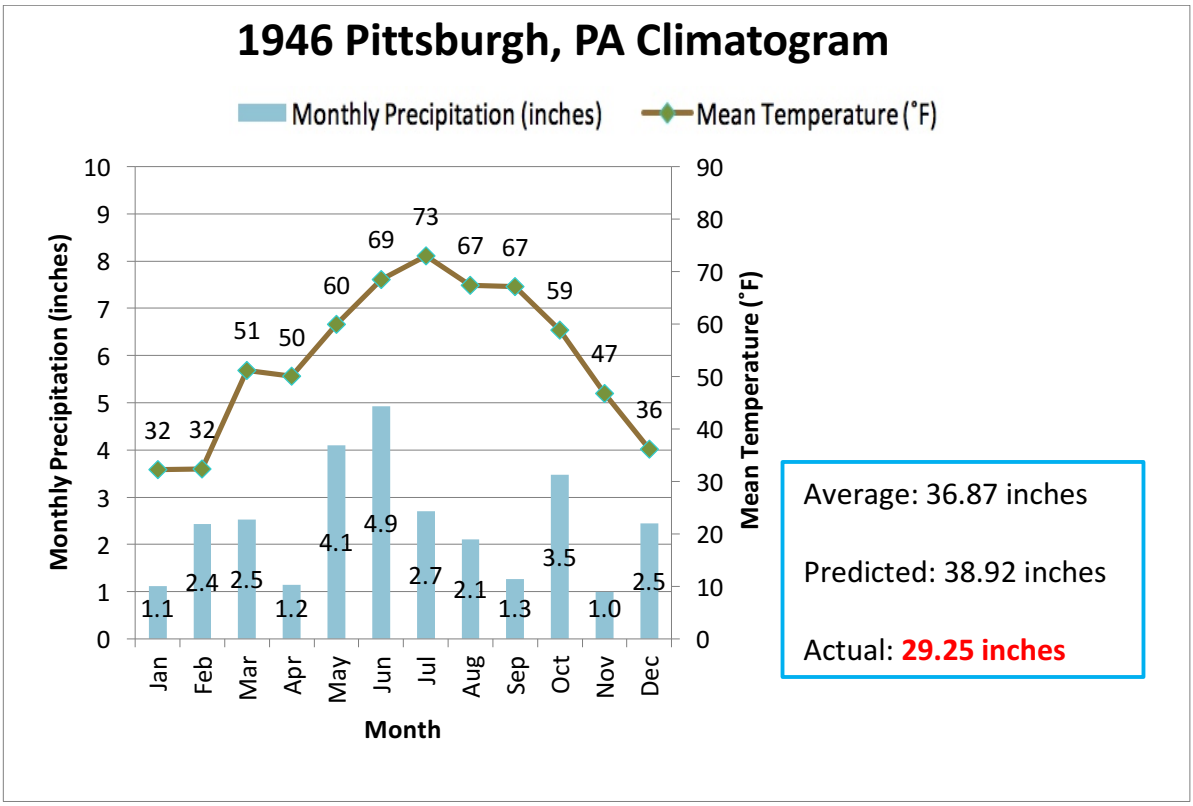

1941 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3.0 0.8 2.0 1.4 3.5 4.4 4.2 6.6 1.0 3.6 2.3 1.7
29 26 31 57 62 70 74 71 68 58 45 37
Average: 36.87 inches
Predicted: 35.69 inches
Actual: 34.37 inches

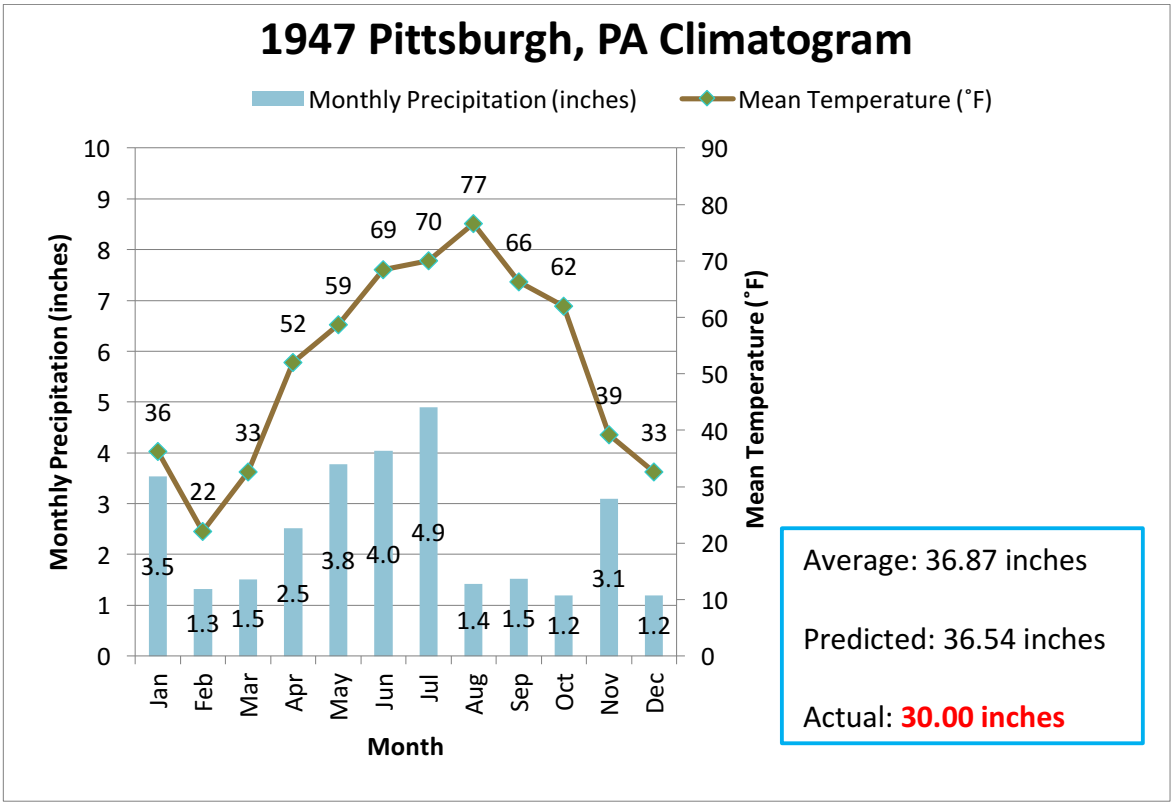

1942 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
29 26 41 55 63 71 74 71 65 56 43 28
1.5 2.2 4.3 3.1 4.4 4.0 4.2 2.8 3.4 3.9 2.6 5.6
Average: 36.87 inches
Predicted: 36.54 inches
Actual: 41.90 inches

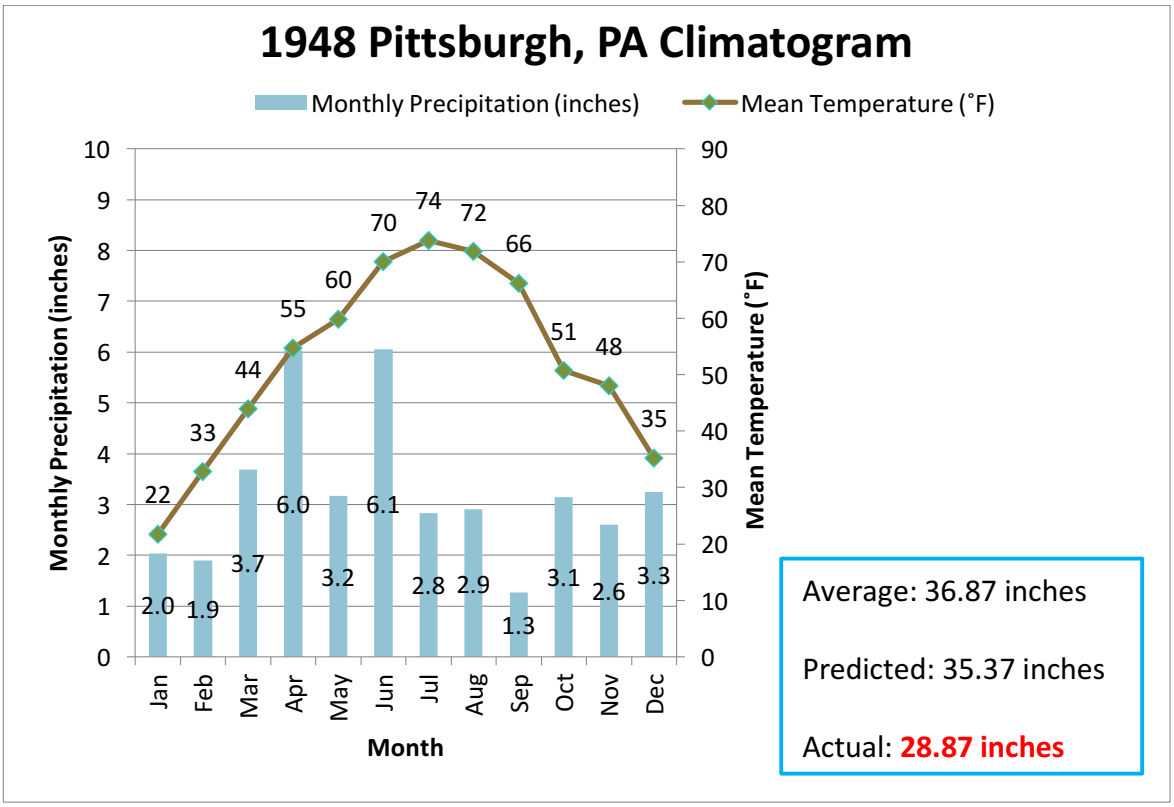

1943 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 32 38 44 61 75 73 72 63 51 40 29
2.9 1.7 3.3 2.4 5.6 1.9 8.0 1.9 0.7 3.6 1.6 1.1
Average: 36.87 inches
Predicted: 36.83 inches
Actual: 34.70 inches

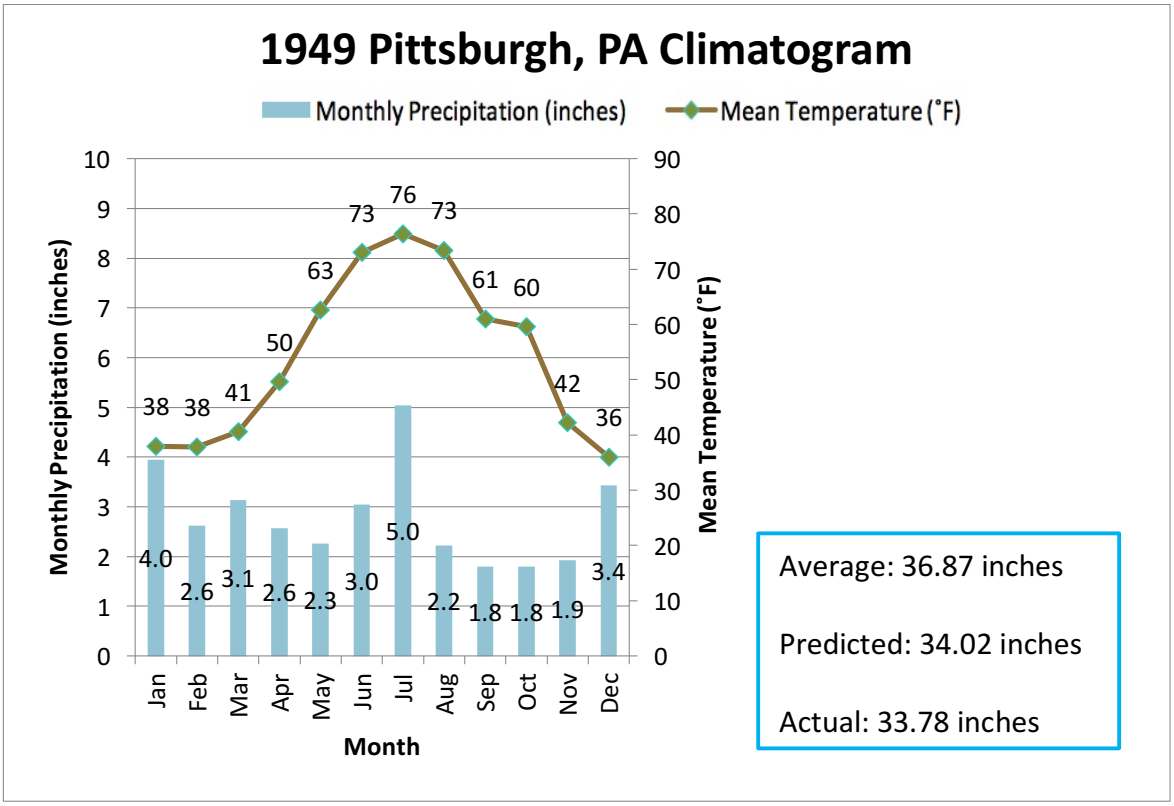

1944 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 32 36 48 69 71 74 72 65 53 43 28
1.3 2.3 5.5 3.2 3.0 4.6 3.7 4.3 1.2 3.0 2.4 6.2
Average: 36.87 inches
Predicted: 38.62 inches
Actual: 40.53 inches

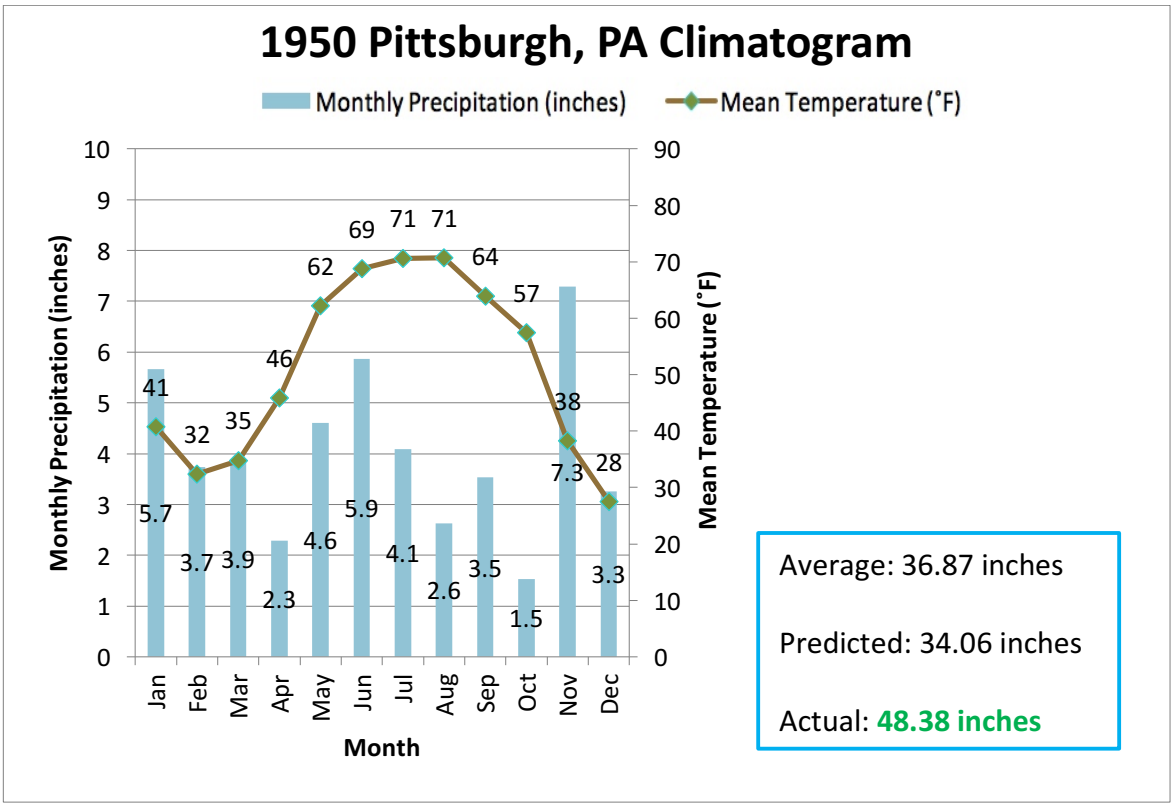

1945 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
22 32 51 54 56 69 73 72 67 53 43 27
3.0 2.8 6.0 3.8 5.1 3.7 2.7 2.5 10.1 2.4 3.8 2.4
Average: 36.87 inches
Predicted: 39.94 inches
Actual: 48.20 inches

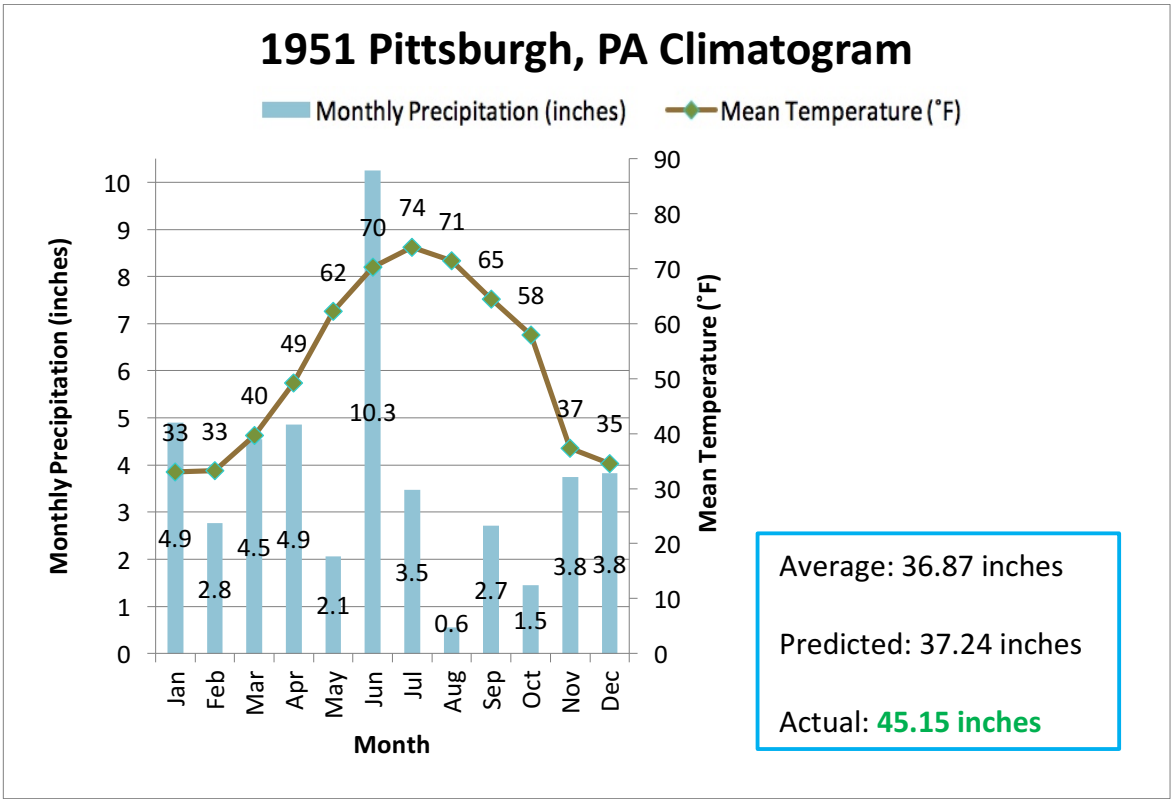

1946 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
32 32 51 50 60 69 73 67 67 59 47 36
1.1 2.4 2.5 1.2 4.1 4.9 2.7 2.1 1.3 3.5 1.0 2.5
Average: 36.87 inches
Predicted: 38.92 inches
Actual: 29.25 inches

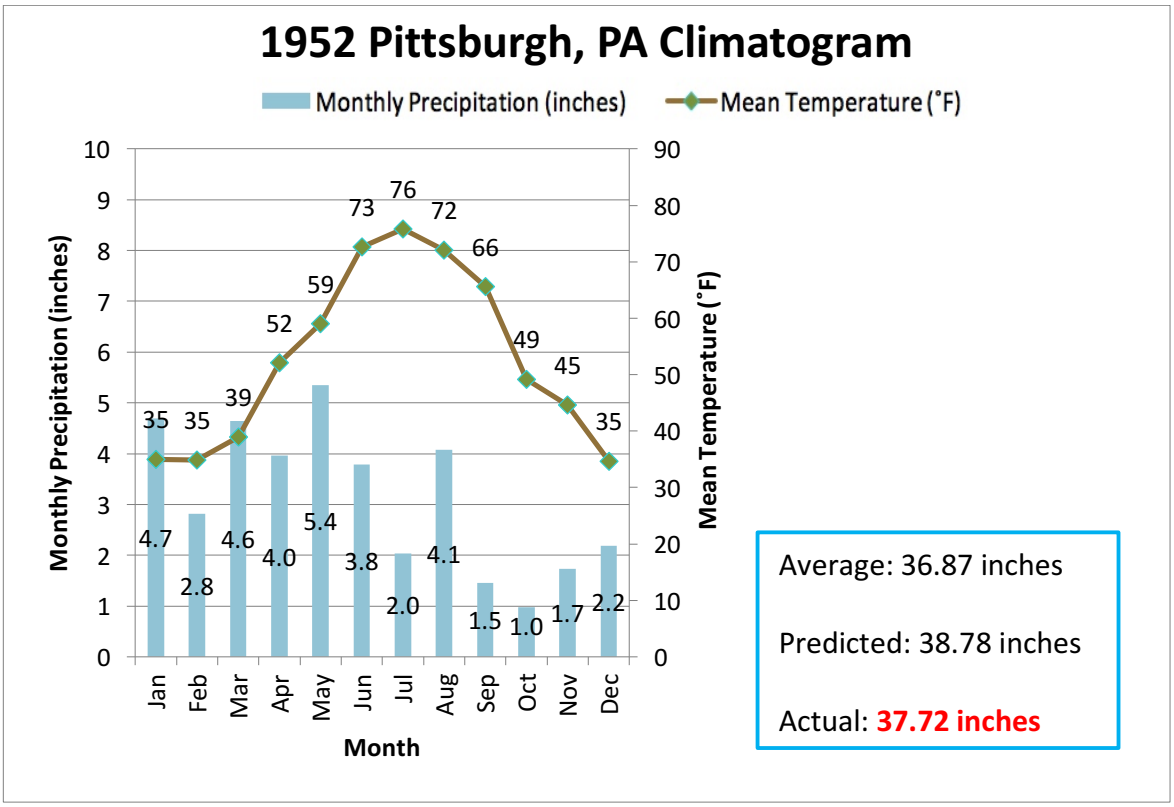

1947 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
36 22 33 52 59 69 70 77 66 62 39 33
3.5 1.3 1.5 2.5 3.8 4.0 4.9 1.4 1.5 1.2 3.1 1.2
Average: 36.87 inches
Predicted: 36.54 inches
Actual: 30.00 inches

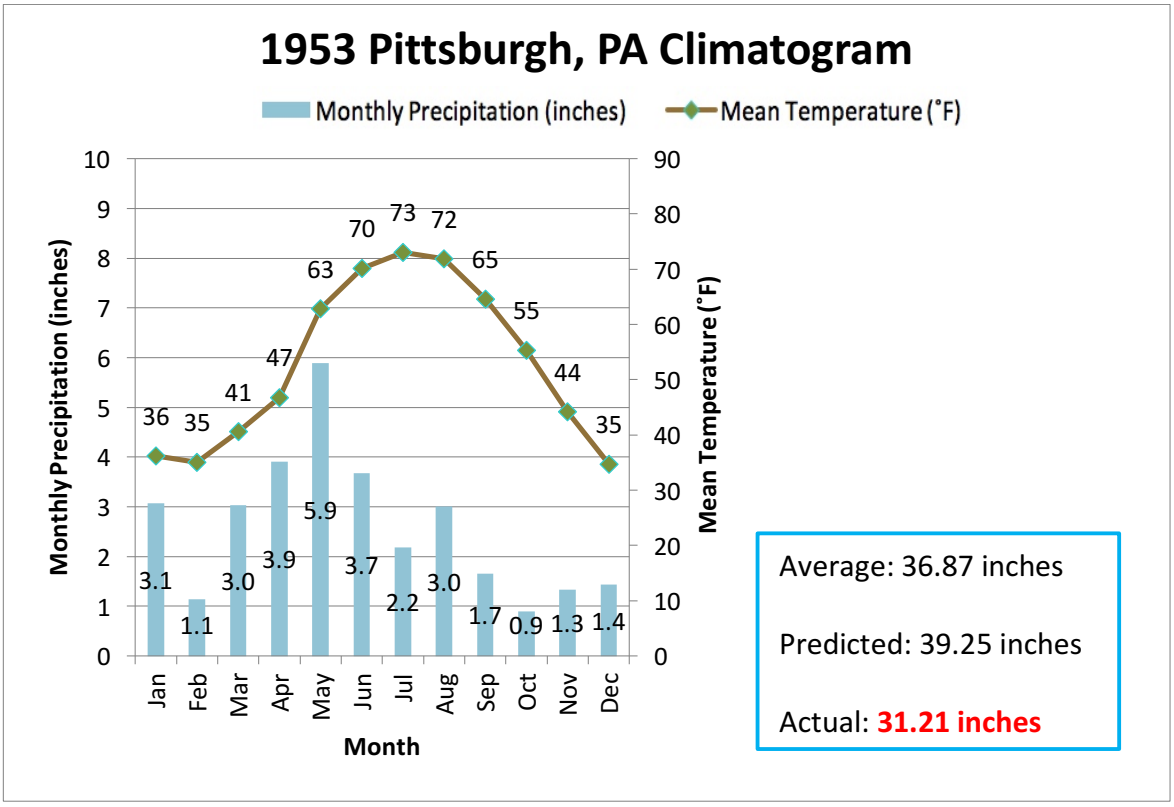

1948 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
22 33 44 55 60 70 74 72 66 51 48 35
2.0 1.9 3.7 6.0 3.2 6.1 2.8 2.9 1.3 3.1 2.6 3.3
Average: 36.87 inches
Predicted: 35.37 inches
Actual: 28.87 inches

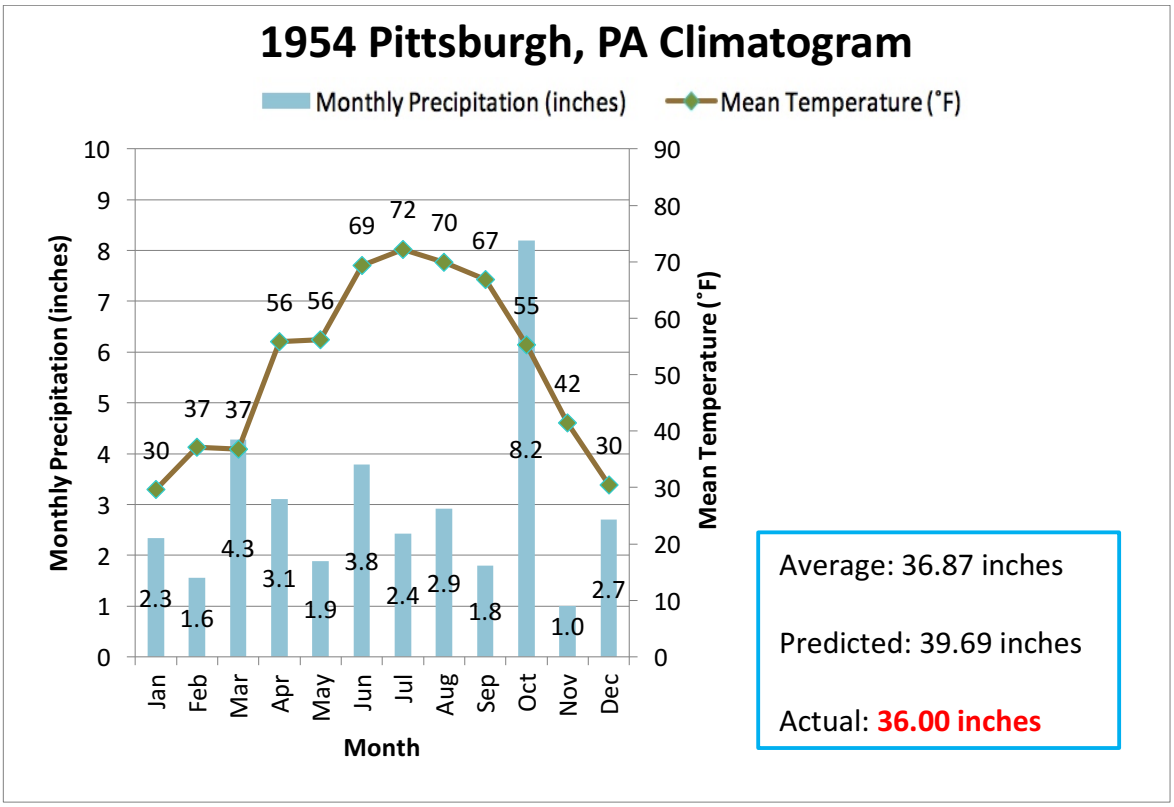

1949 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
38 38 41 50 63 73 76 73 61 60 42 36
4.0 2.6 3.1 2.6 2.3 3.0 5.0 2.2 1.8 1.8 1.9 3.4
Average: 36.87 inches
Predicted: 34.02 inches
Actual: 33.78 inches

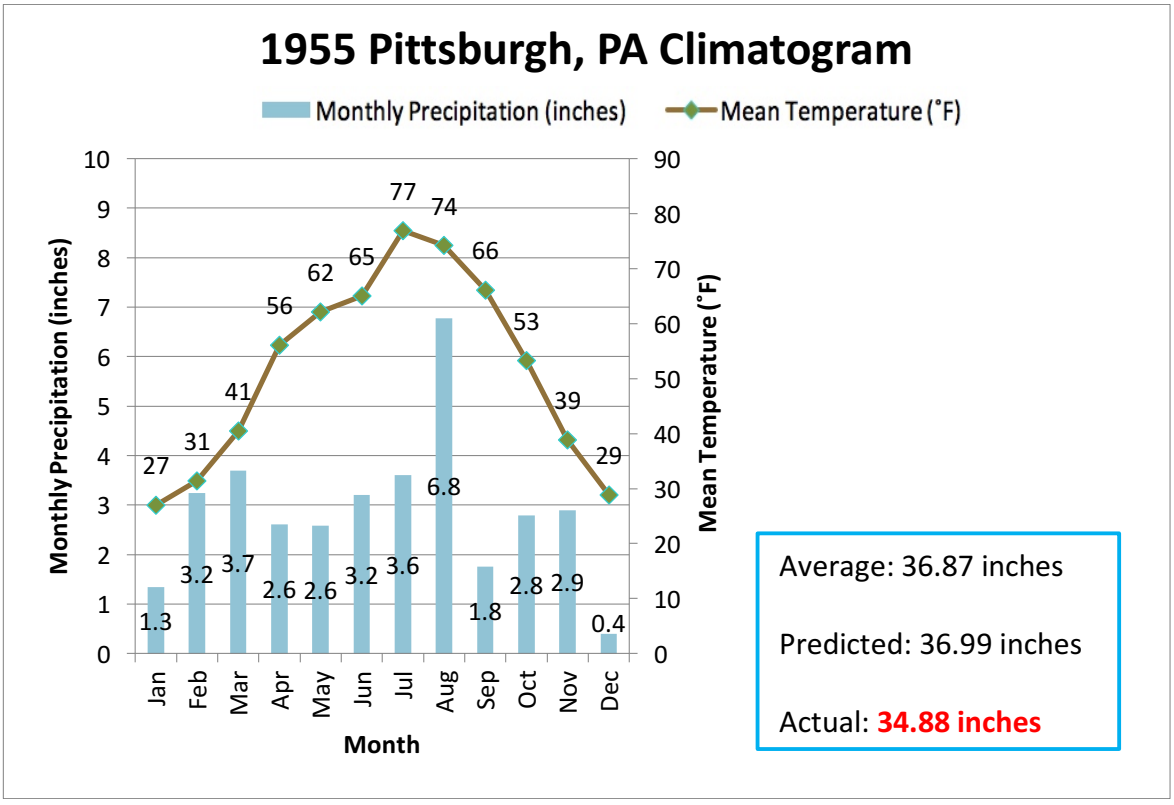

1950 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
41 32 35 46 62 69 71 71 64 57 38 28
5.7 3.7 3.9 2.3 4.6 5.9 4.1 2.6 3.5 1.5 7.3 3.3
Average: 36.87 inches
Predicted: 34.06 inches
Actual: 48.38 inches

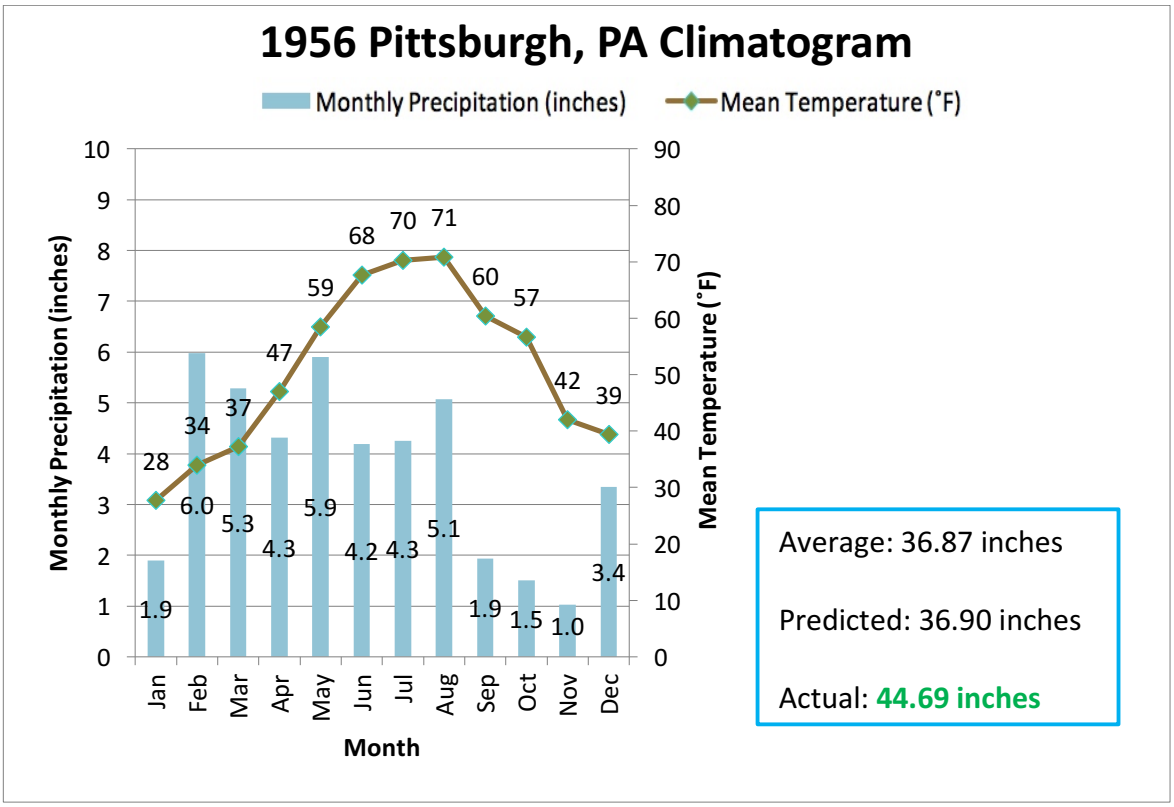

1951 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 33 40 49 62 70 74 71 65 58 37 35
4.9 2.8 4.5 4.9 2.1 10.3 3.5 0.6 2.7 1.5 3.8 3.8
Average: 36.87 inches
Predicted: 37.24 inches
Actual: 45.15 inches

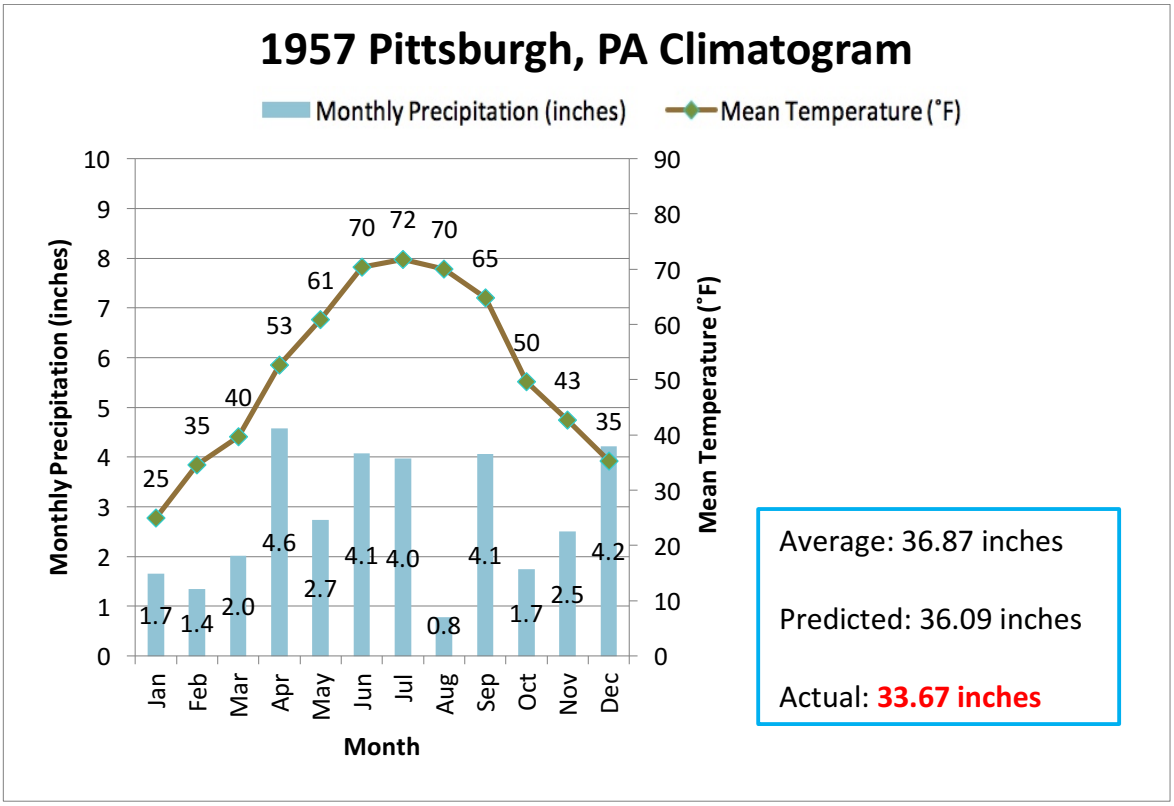

1952 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 35 39 52 59 73 76 72 66 49 45 35
4.7 2.8 4.6 4.0 5.4 3.8 2.0 4.1 1.5 1.0 1.7 2.2
Average: 36.87 inches
Predicted: 38.78 inches
Actual: 37.72 inches

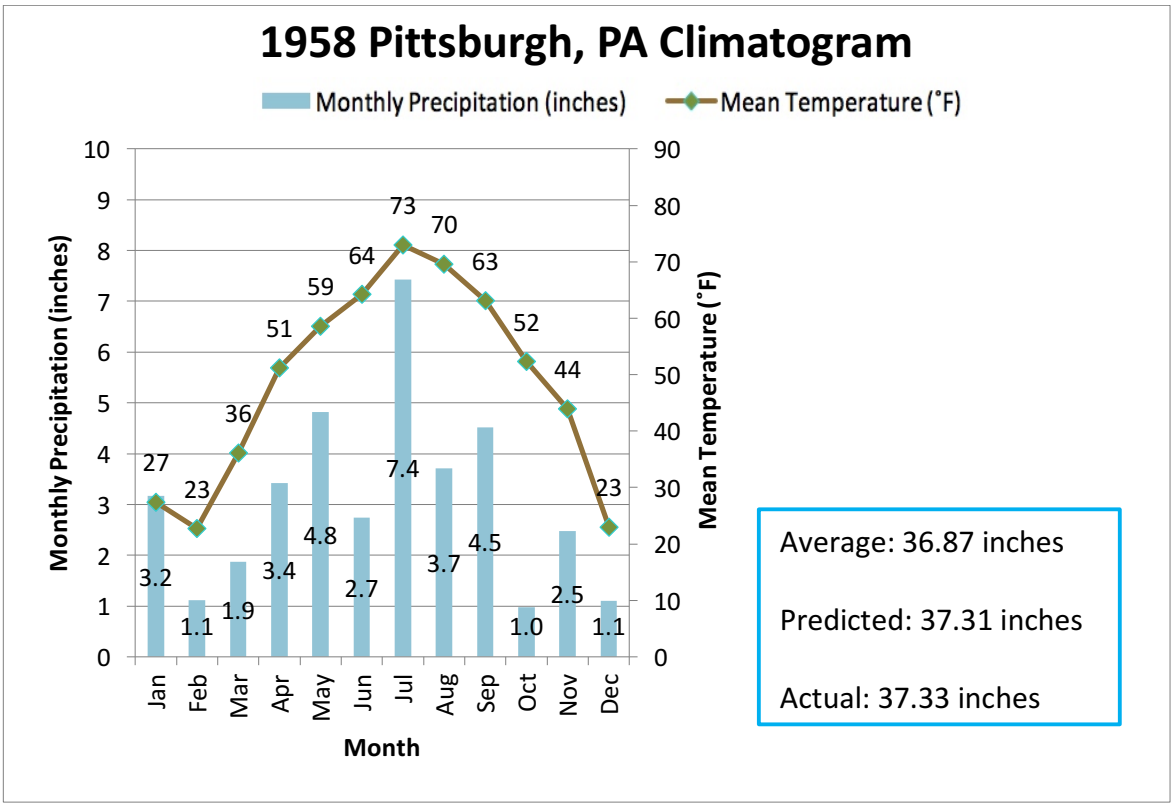

1953 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
36 35 41 47 63 70 73 72 65 55 44 35
3.1 1.1 3.0 3.9 5.9 3.7 2.2 3.0 1.7 0.9 1.3 1.4
Average: 36.87 inches
Predicted: 39.25 inches
Actual: 31.21 inches

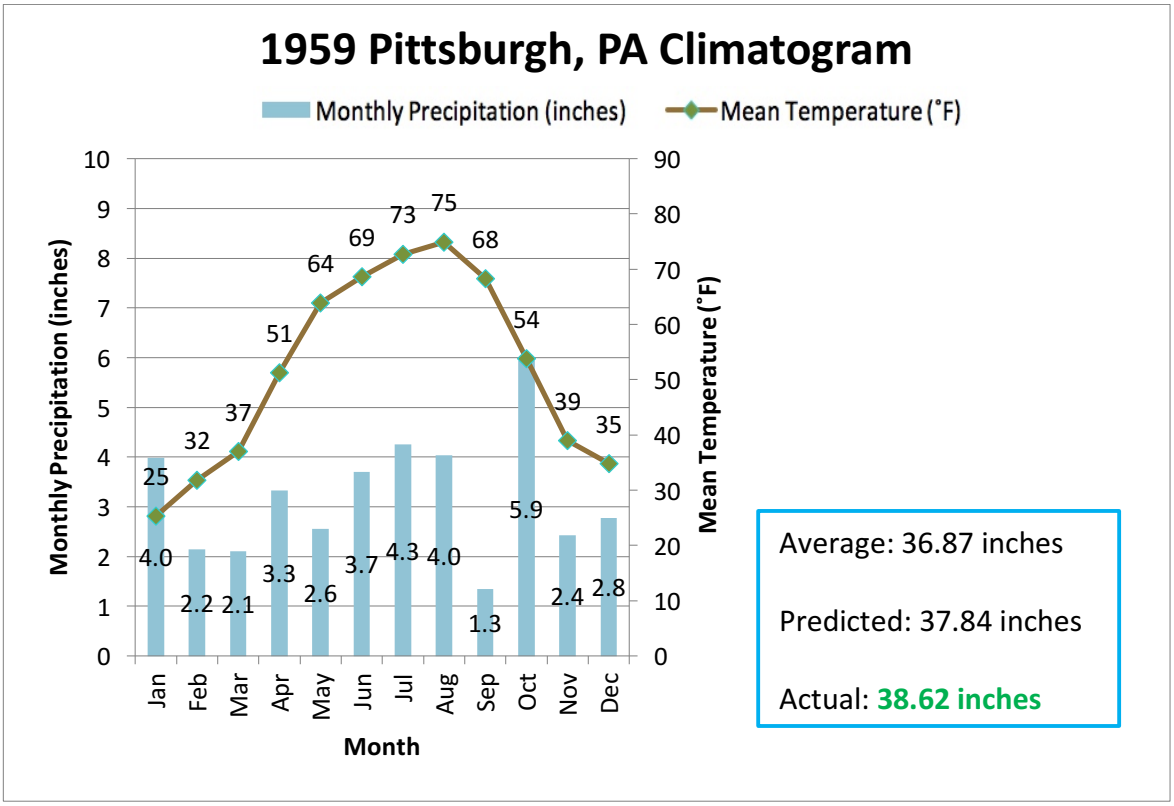

1954 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 37 37 56 56 69 72 70 67 55 42 30
2.3 1.6 4.3 3.1 1.9 3.8 2.4 2.9 1.8 8.2 1.0 2.7
Average: 36.87 inches
Predicted: 39.69 inches
Actual: 36.00 inches

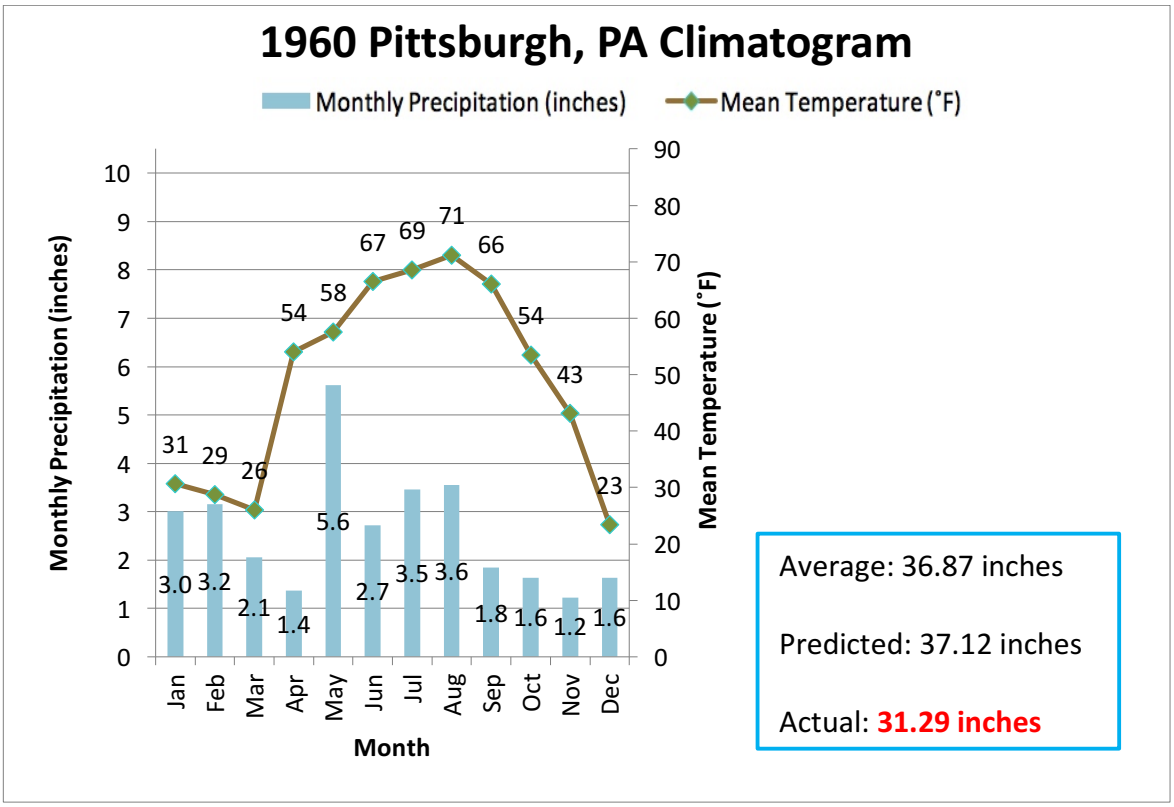

1955 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 31 41 56 62 65 77 74 66 53 39 29
1.3 3.2 3.7 2.6 2.6 3.2 3.6 6.8 1.8 2.8 2.9 0.4
Average: 36.87 inches
Predicted: 36.99 inches
Actual: 34.88 inches

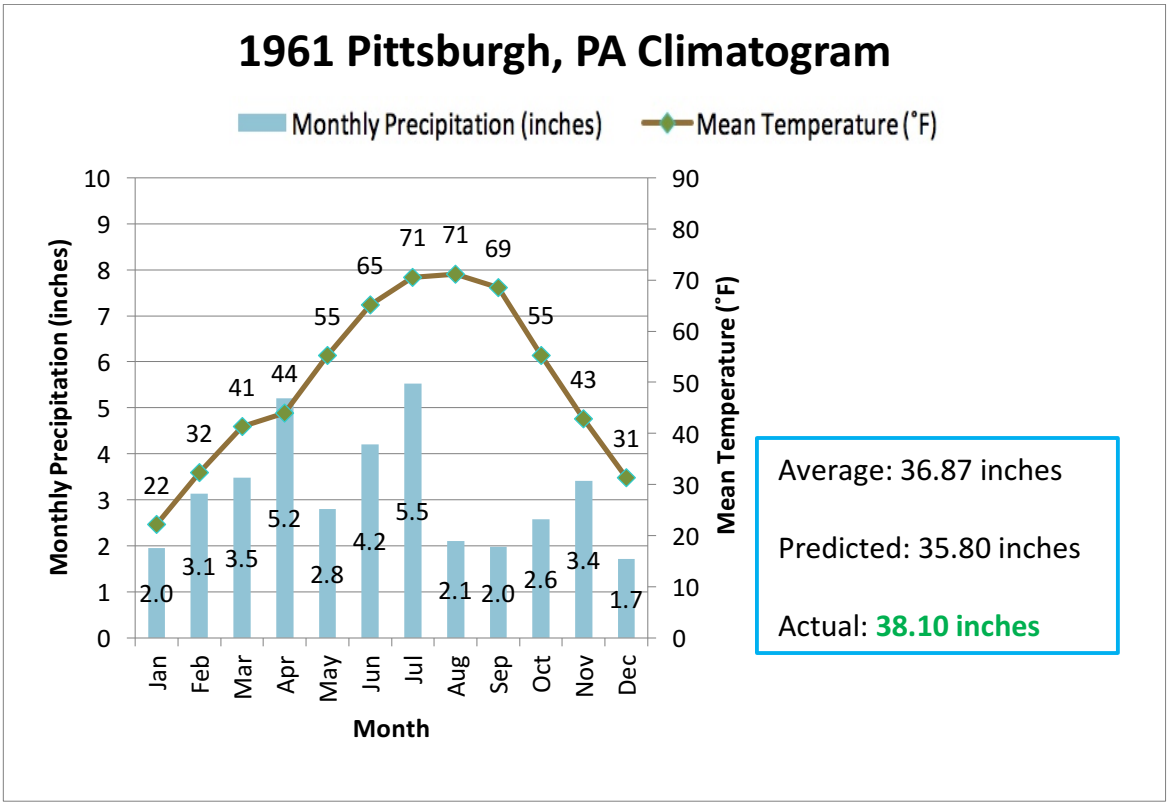

1956 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 34 37 47 59 68 70 71 60 57 42 39
1.9 6.0 5.3 4.3 5.9 4.2 4.3 5.1 1.9 1.5 1.0 3.4
Average: 36.87 inches
Predicted: 36.90 inches
Actual: 44.69 inches

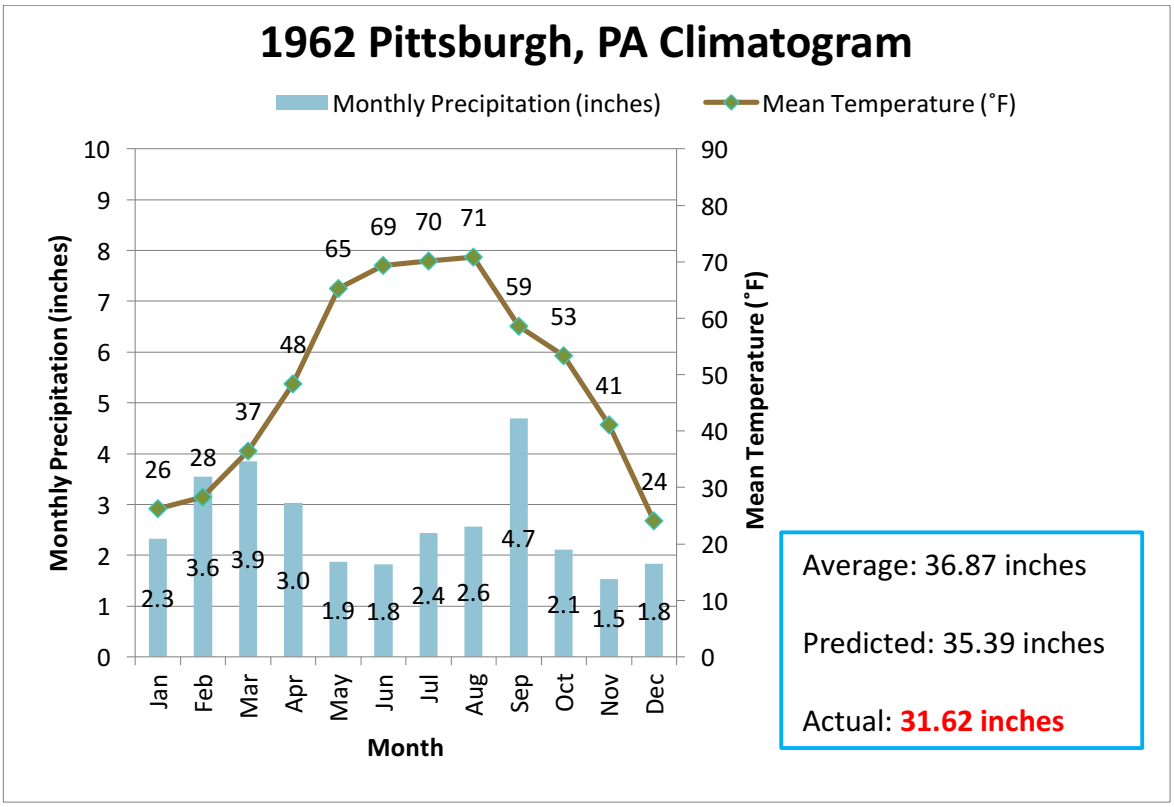

1957 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
25 35 40 53 61 70 72 70 65 50 43 35
1.7 1.4 2.0 4.6 2.7 4.1 4.0 0.8 4.1 1.7 2.5 4.2
Average: 36.87 inches
Predicted: 36.09 inches
Actual: 33.67 inches

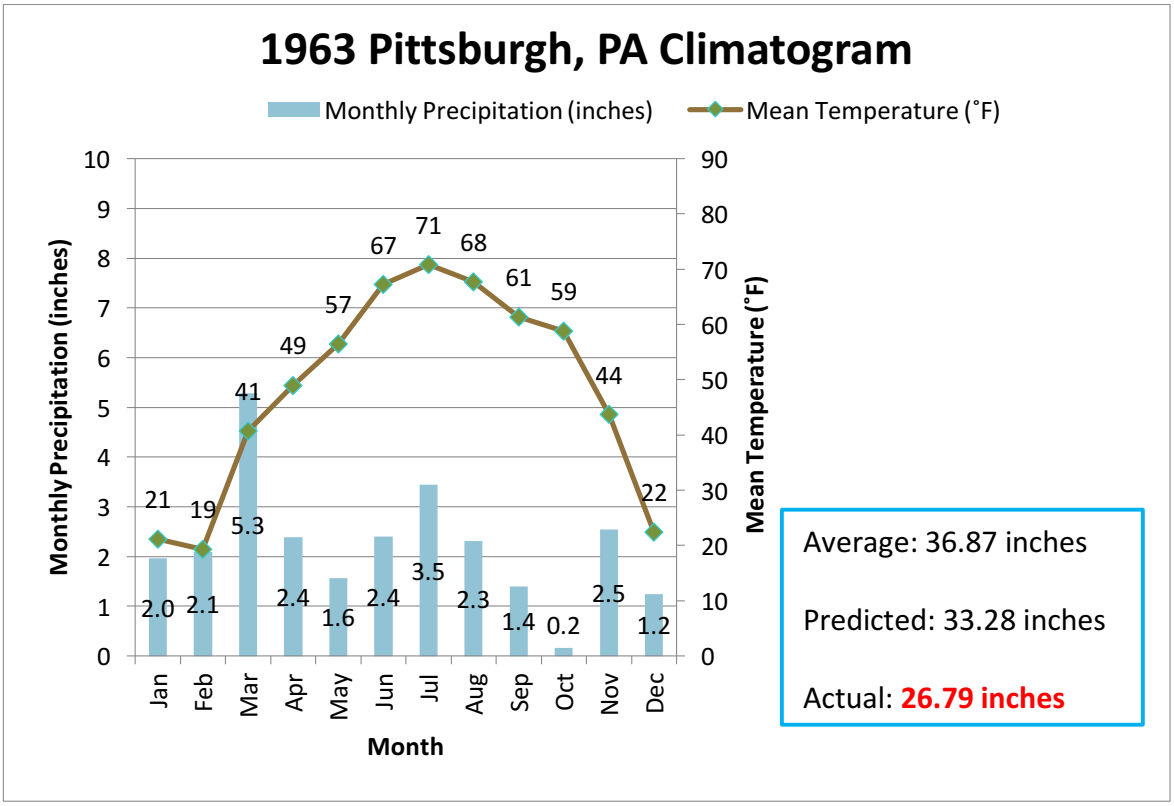

1958 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 23 36 51 59 64 73 70 63 52 44 23
3.2 1.1 1.9 3.4 4.8 2.7 7.4 3.7 4.5 1.0 2.5 1.1
Average: 36.87 inches
Predicted: 37.31 inches
Actual: 37.33 inches

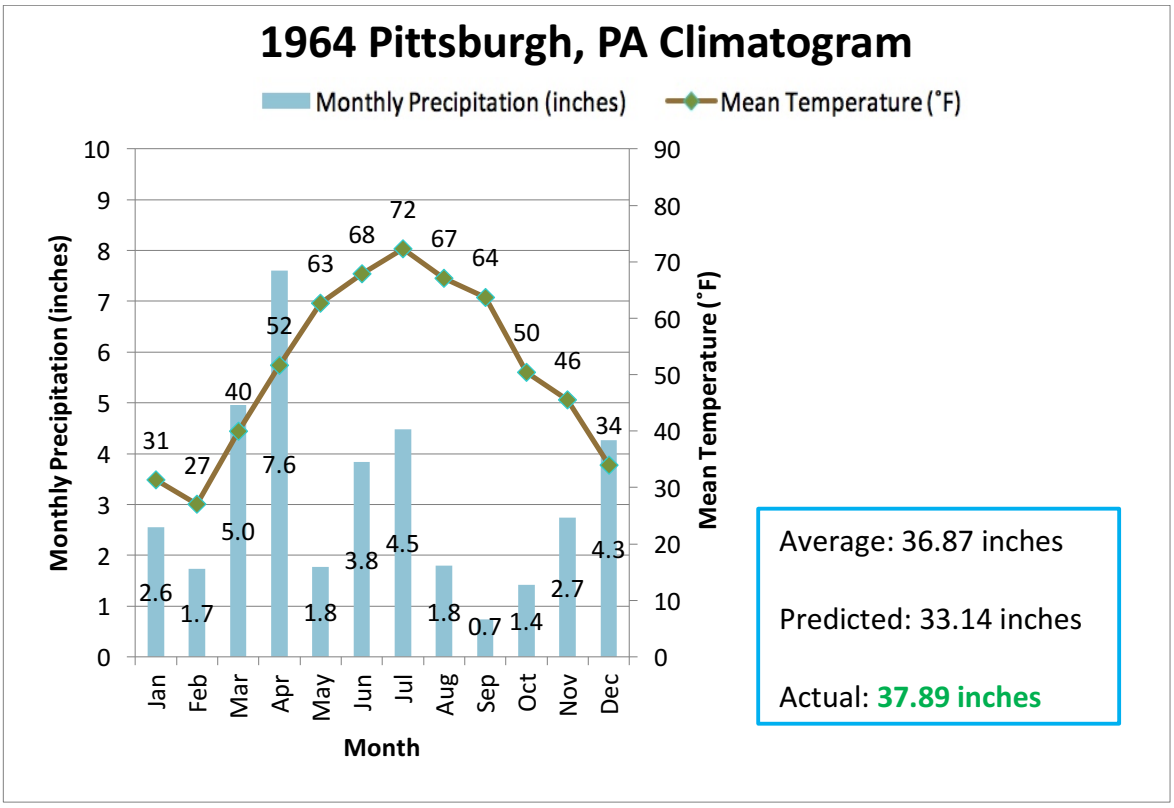

1959 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
25 32 37 51 64 69 73 75 68 54 39 35
4.0 2.2 2.1 3.3 2.6 3.7 4.3 4.0 1.3 5.9 2.4 2.8
Average: 36.87 inches
Predicted: 37.84 inches
Actual: 38.62 inches

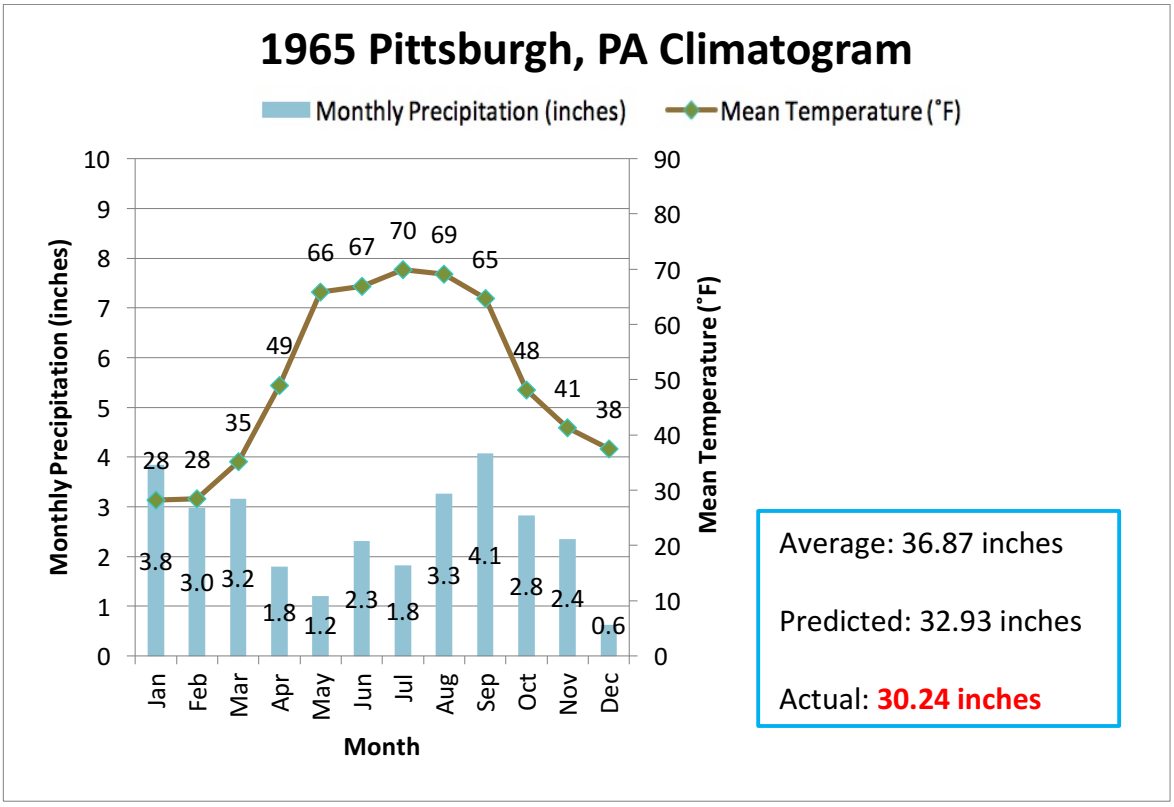

1960 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 29 26 54 58 67 69 71 66 54 43 23
3.0 3.2 2.1 1.4 5.6 2.7 3.5 3.6 1.8 1.6 1.2 1.6
Average: 36.87 inches
Predicted: 37.12 inches
Actual: 31.29 inches

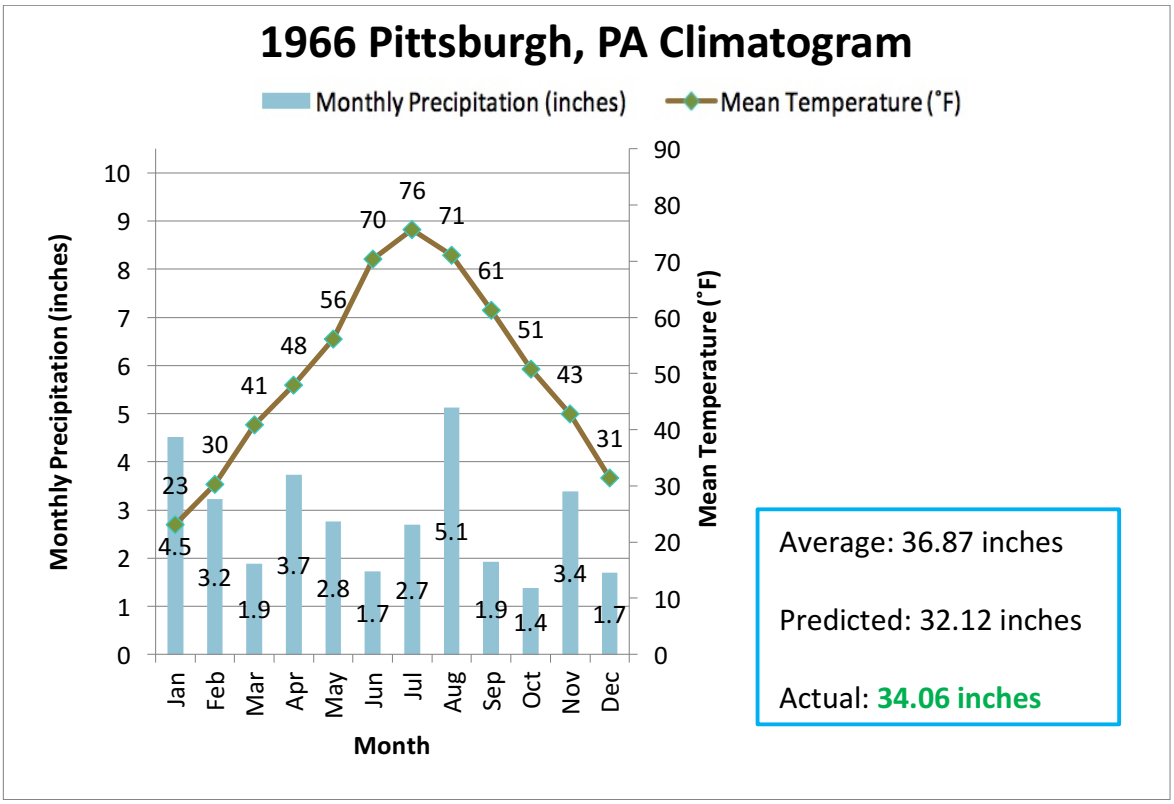

1961 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
22 32 41 44 55 65 71 71 69 55 43 31
2.0 3.1 3.5 5.2 2.8 4.2 5.5 2.1 2.0 2.6 3.4 1.7
Average: 36.87 inches
Predicted: 35.80 inches
Actual: 38.10 inches

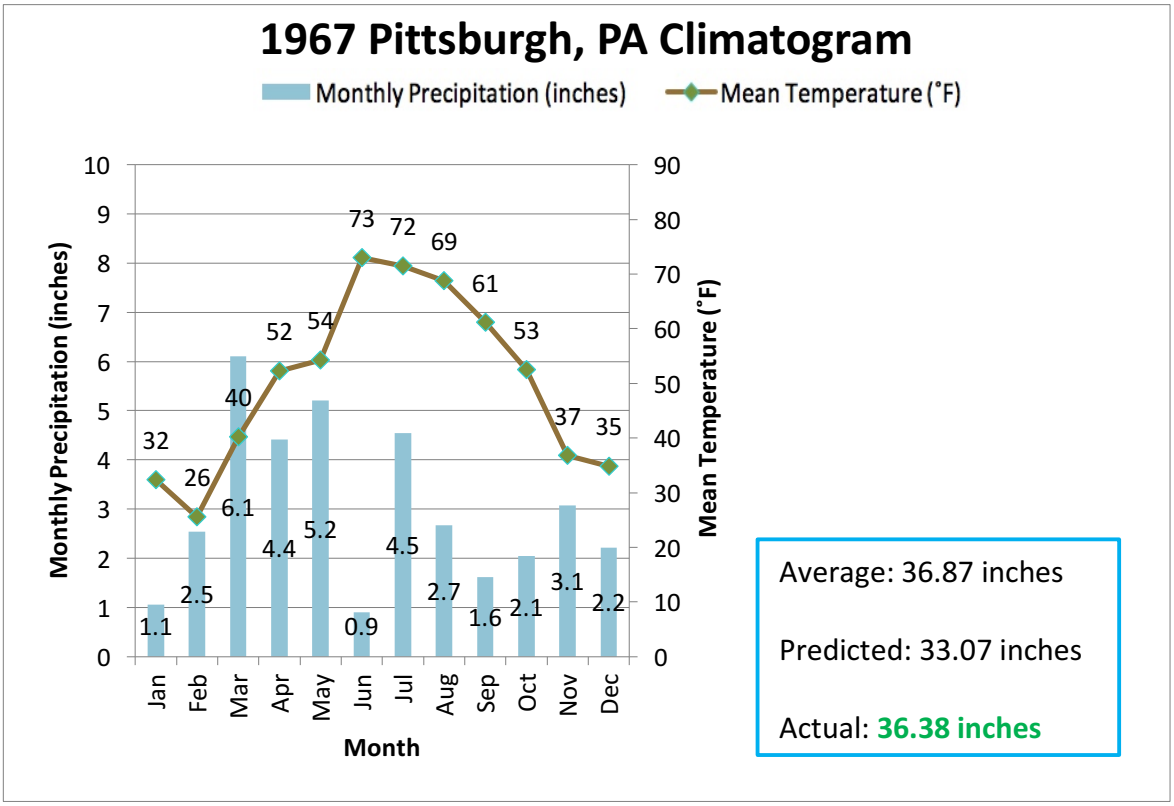

1962 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
26 28 37 48 65 69 70 71 59 53 41 24
2.3 3.6 3.9 3.0 1.9 1.8 2.4 2.6 4.7 2.1 1.5 1.8
Average: 36.87 inches
Predicted: 35.39 inches
Actual: 31.62 inches

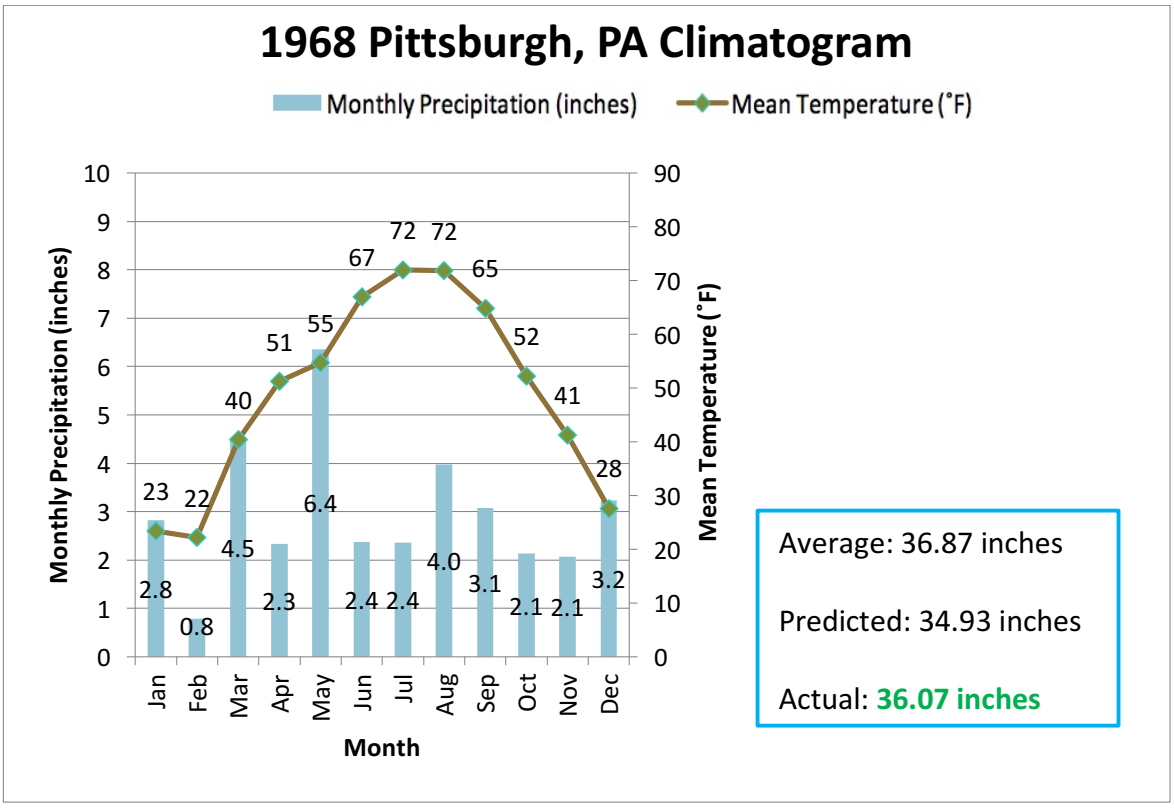

1963 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
21 19 41 49 57 67 71 68 61 59 44 22
2.0 2.1 5.3 2.4 1.6 2.4 3.5 2.3 1.4 0.2 2.5 1.2
Average: 36.87 inches
Predicted: 33.28 inches
Actual: 26.79 inches

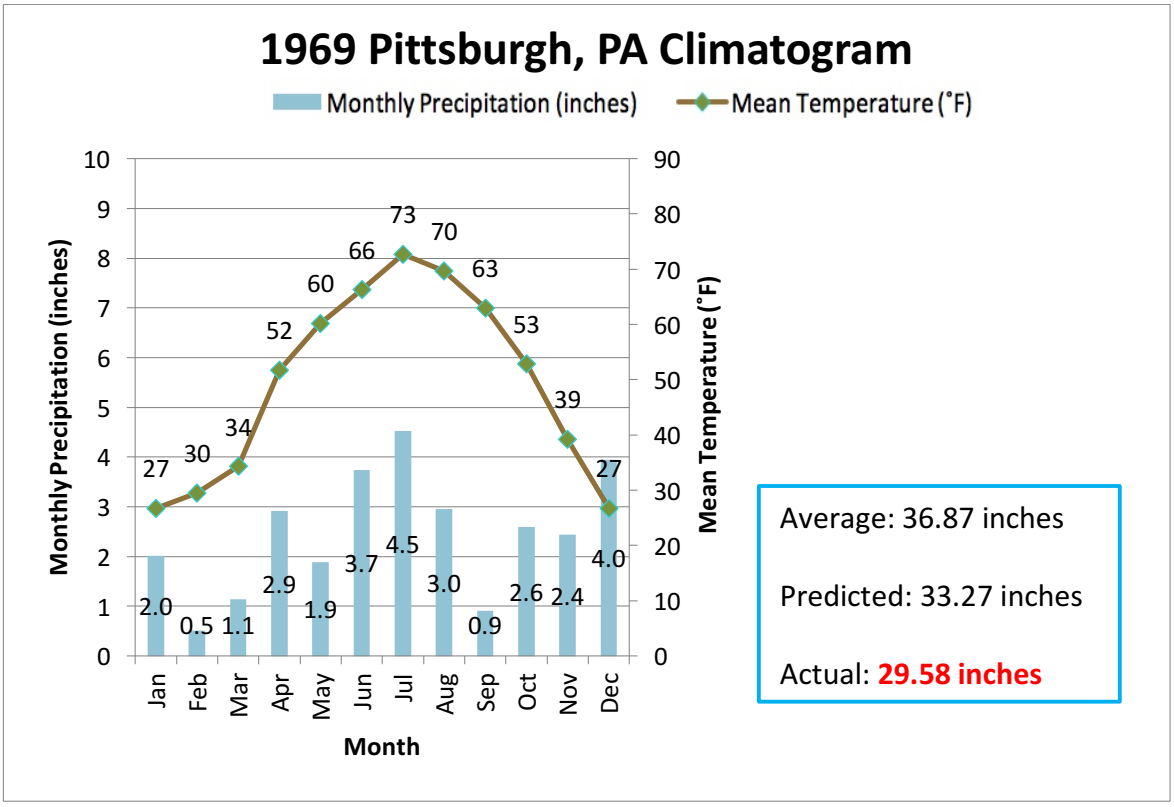

1964 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 27 40 52 63 68 72 67 64 50 46 34
2.6 1.7 5.0 7.6 1.8 3.8 4.5 1.8 0.7 1.4 2.7 4.3
Average: 36.87 inches
Predicted: 33.14 inches
Actual: 37.89 inches

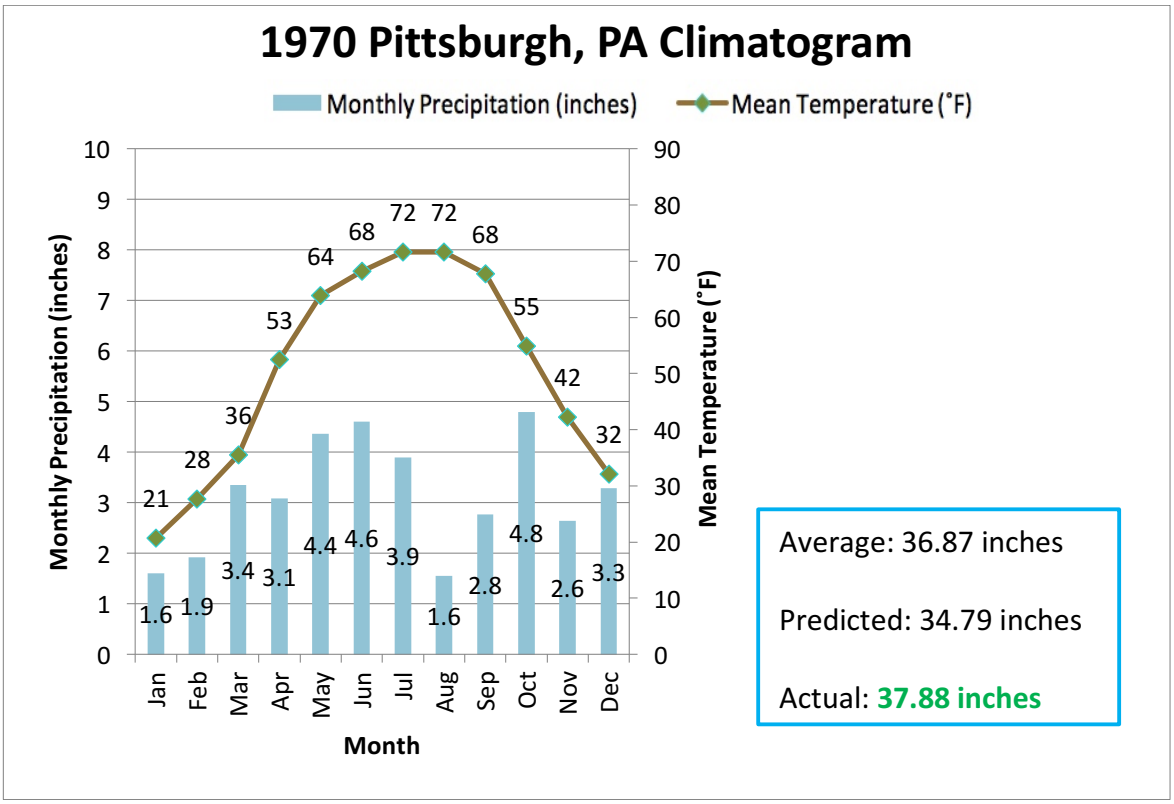

1965 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 28 35 49 66 67 70 69 65 48 41 38
3.8 3.0 3.2 1.8 1.2 2.3 1.8 3.3 4.1 2.8 2.4 0.6
Average: 36.87 inches
Predicted: 32.93 inches
Actual: 30.24 inches

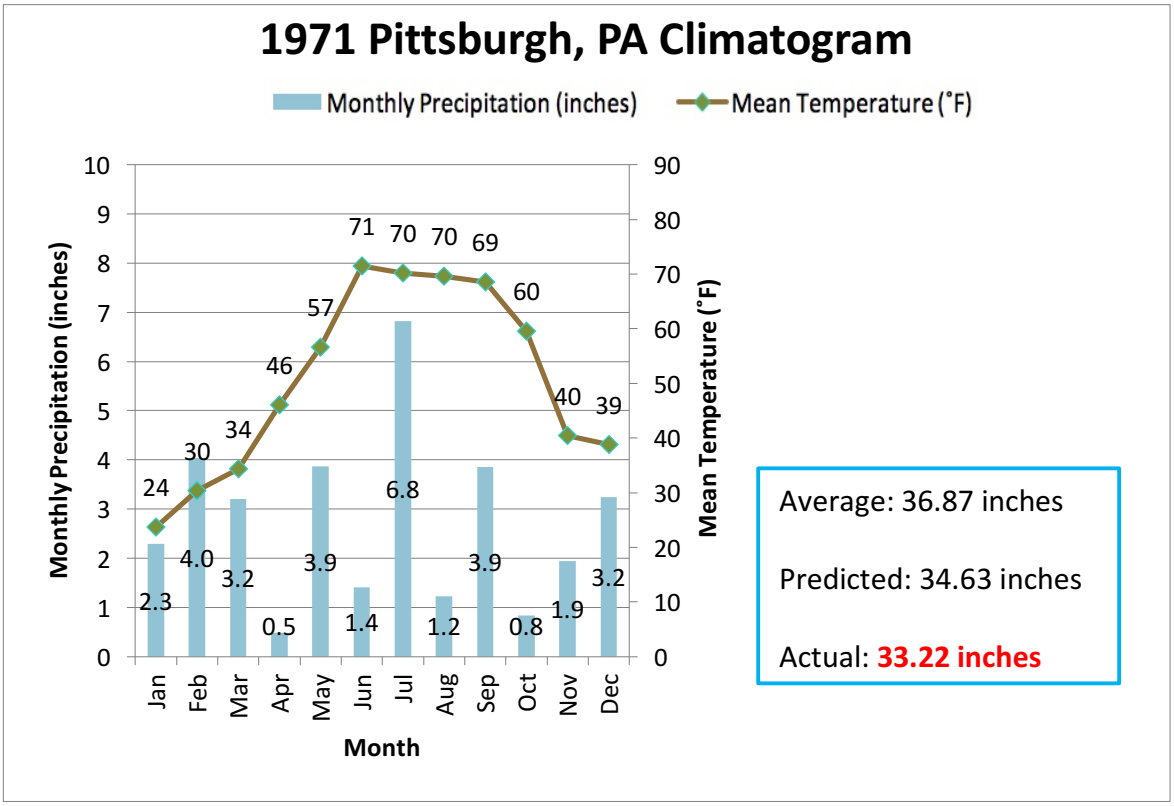

1966 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4.5 3.2 1.9 3.7 2.8 1.7 2.7 5.1 1.9 1.4 3.4 1.7
23 30 41 48 56 70 76 71 61 51 43 31
Average: 36.87 inches
Predicted: 32.12 inches
Actual: 34.06 inches

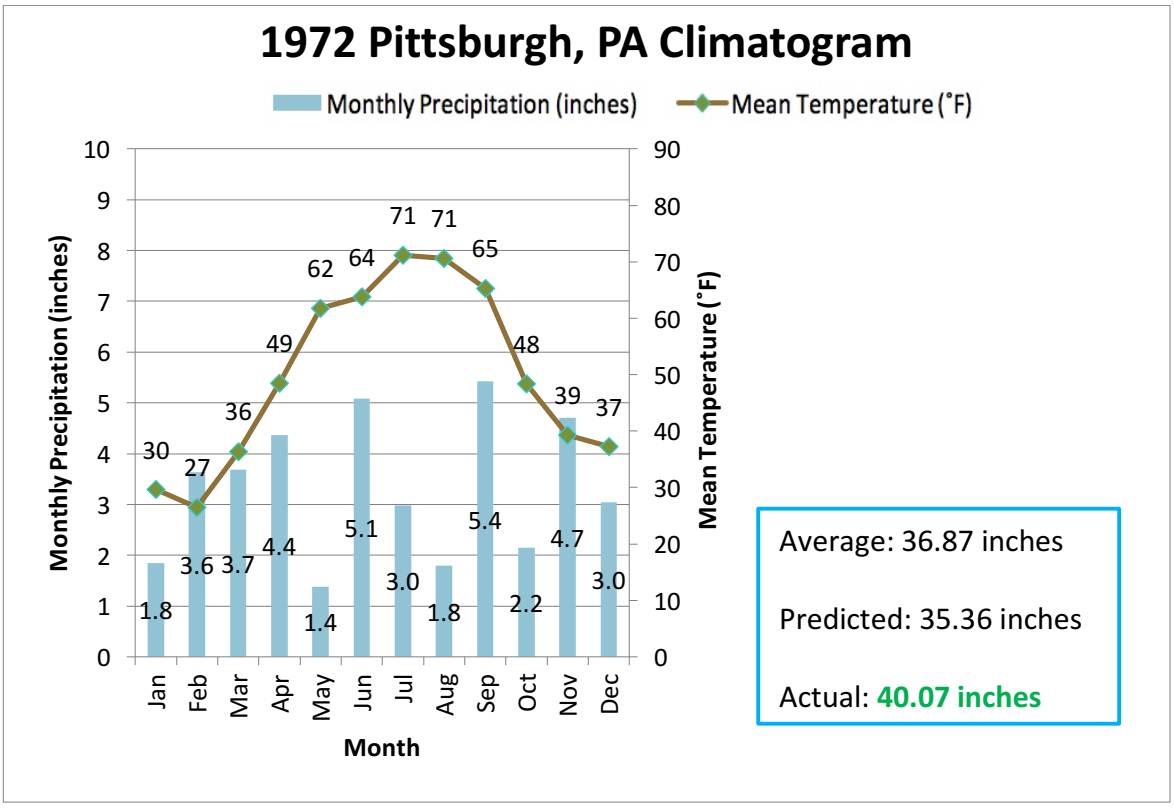

1967 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1.1 2.5 6.1 4.4 5.2 0.9 4.5 2.7 1.6 2.1 3.1 2.2
32 26 40 52 54 73 72 69 61 53 37 35
Average: 36.87 inches
Predicted: 33.07 inches
Actual: 36.38 inches

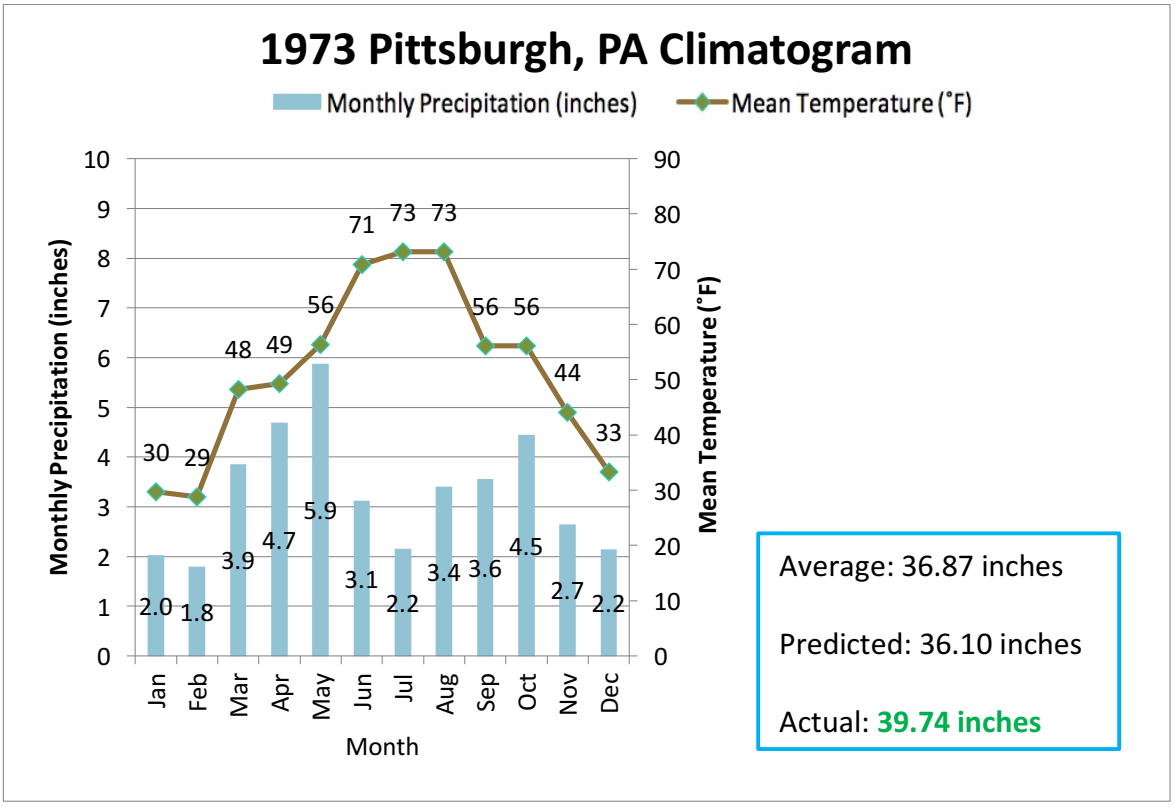

1968 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
23 22 40 51 55 67 72 72 65 52 41 28
2.8 0.8 4.5 2.3 6.4 2.4 2.4 4.0 3.1 2.1 2.1 3.2
Average: 36.87 inches
Predicted: 34.93 inches
Actual: 36.07 inches

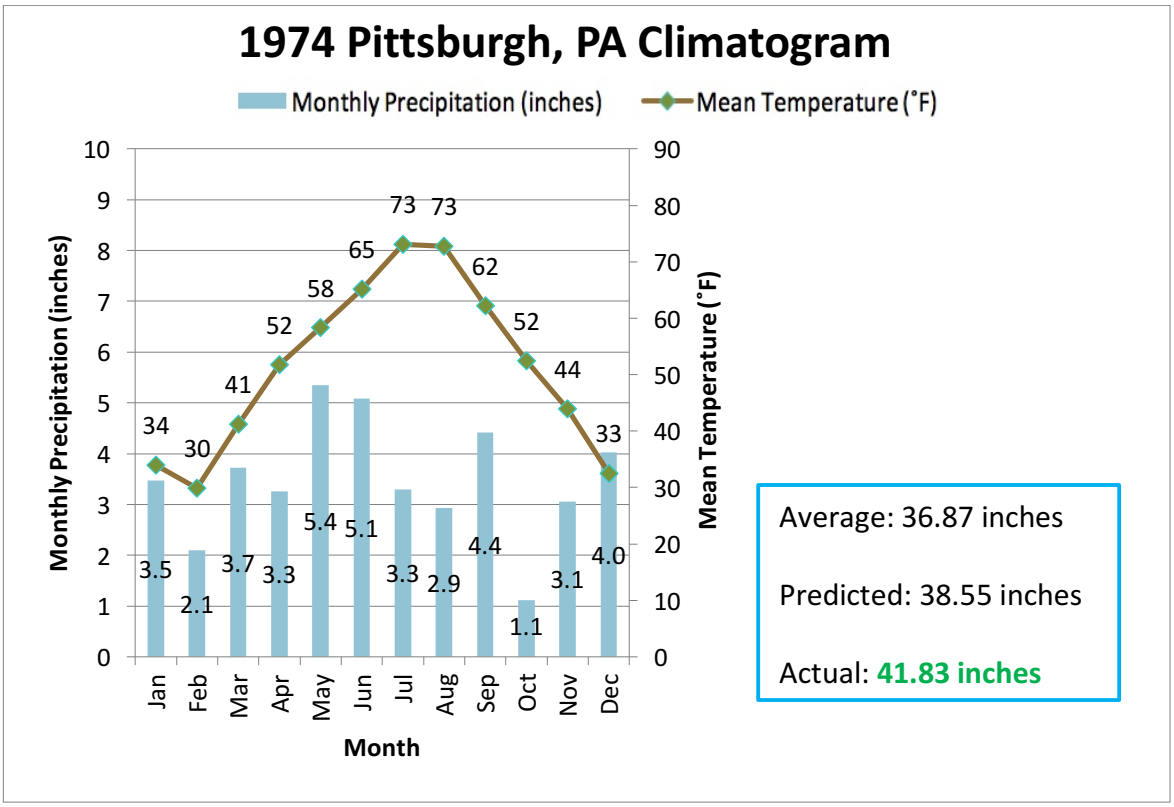

1969 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 30 34 52 60 66 73 70 63 53 39 27
2.0 0.5 1.1 2.9 1.9 3.7 4.5 3.0 0.9 2.6 2.4 4.0
Average: 36.87 inches
Predicted: 33.27 inches
Actual: 29.58 inches

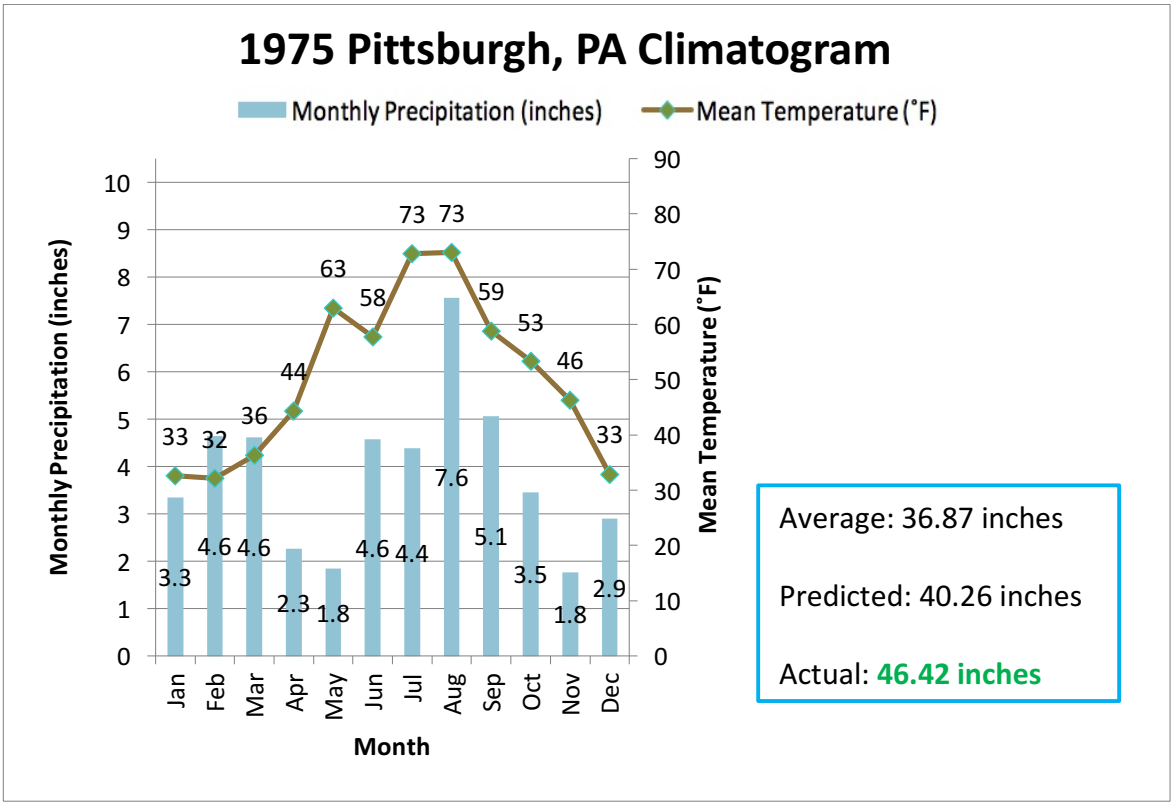

1970 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
21 28 36 53 64 68 72 72 68 55 42 32
1.6 1.9 3.4 3.1 4.4 4.6 3.9 1.6 2.8 4.8 2.6 3.3
Average: 36.87 inches
Predicted: 34.79 inches
Actual: 37.88 inches

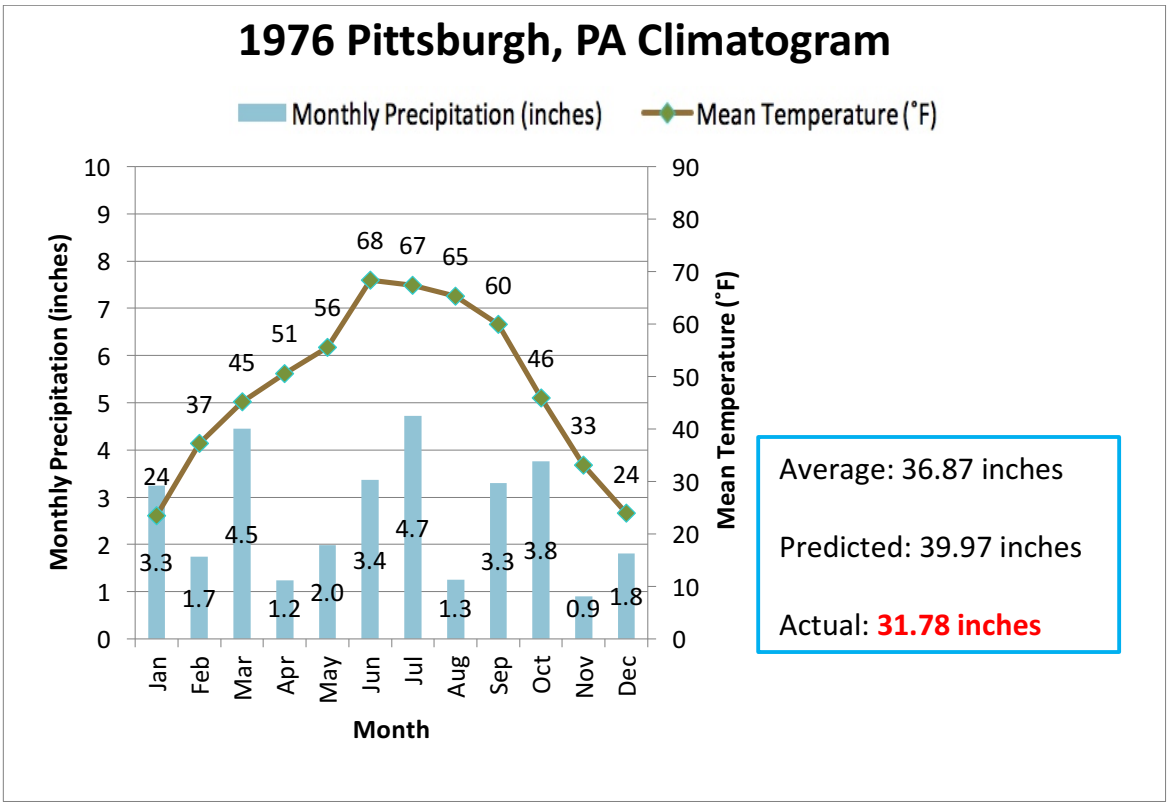

1971 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
24 30 34 46 57 71 70 70 69 60 40 39
2.3 4.0 3.2 0.5 3.9 1.4 6.8 1.2 3.9 0.8 1.9 3.2
Average: 36.87 inches
Predicted: 34.63 inches
Actual: 33.22 inches

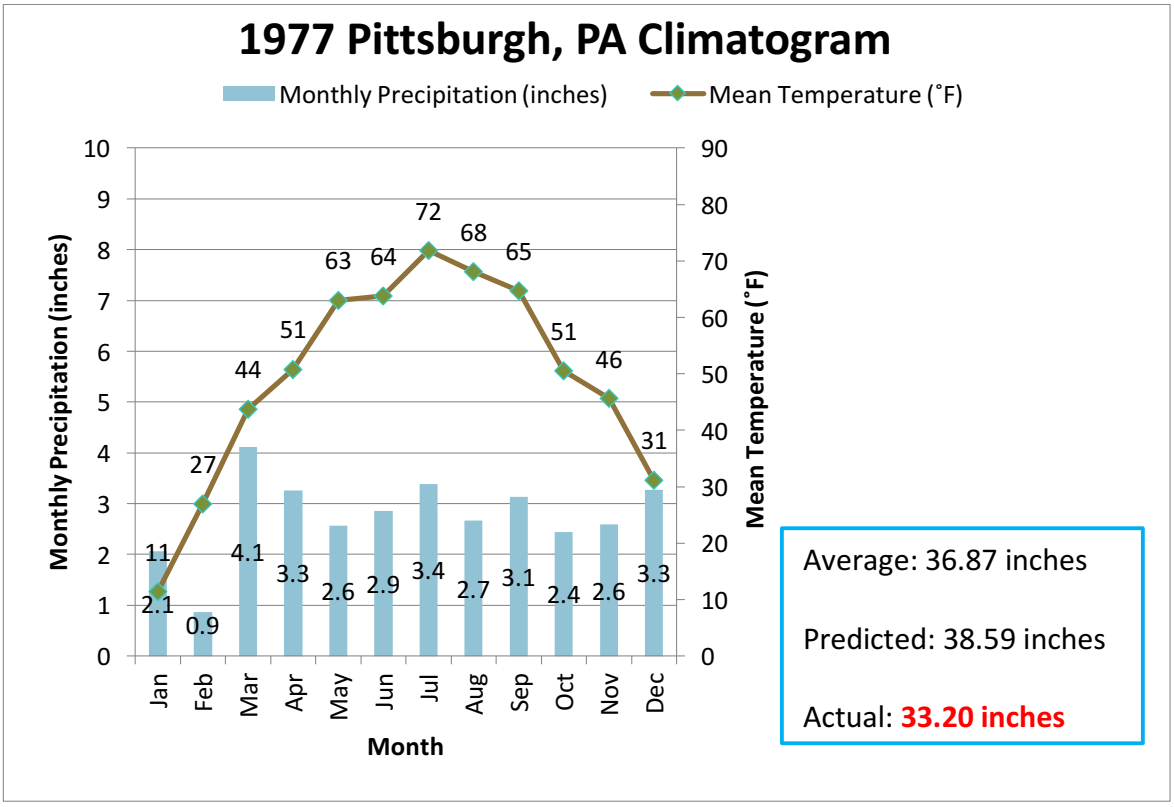

1972 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 27 36 49 62 64 71 71 65 48 39 37
1.8 3.6 3.7 4.4 1.4 5.1 3.0 1.8 5.4 2.2 4.7 3.0
Average: 36.87 inches
Predicted: 35.36 inches
Actual: 40.07 inches

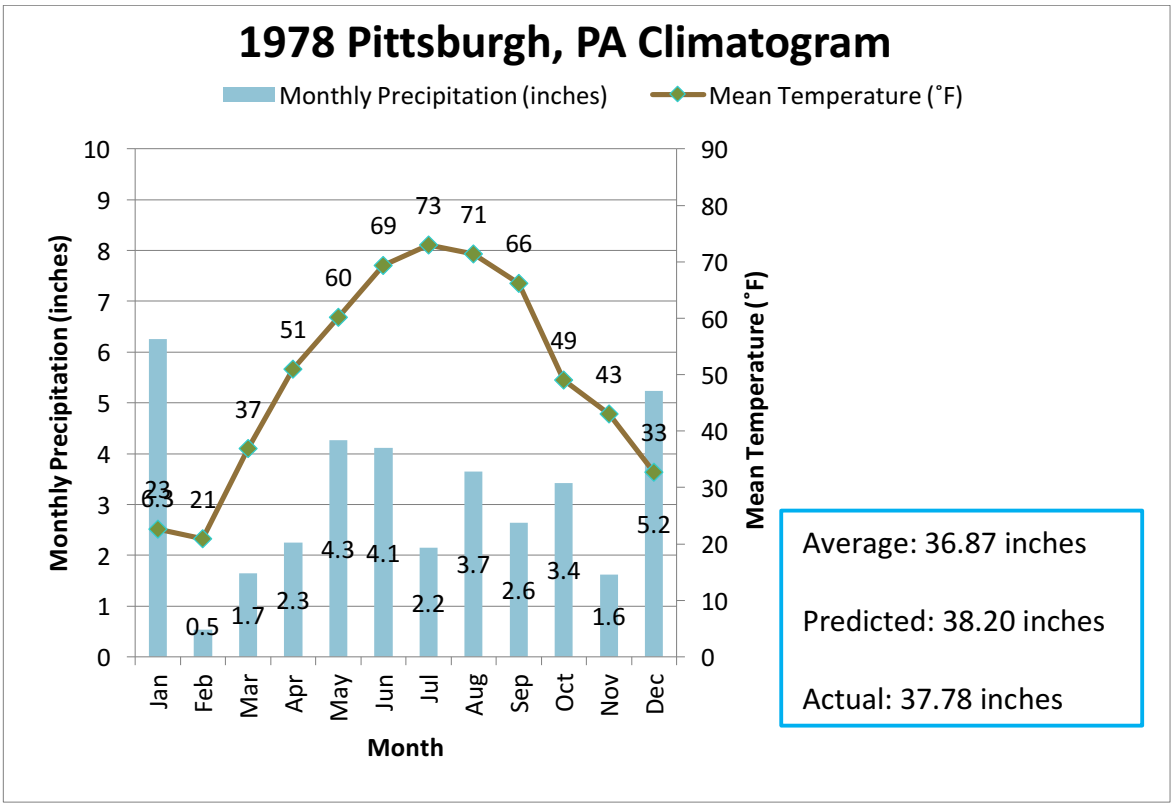

1973 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 29 48 49 56 71 73 73 56 56 44 33
2.0 1.8 3.9 4.7 5.9 3.1 2.2 3.4 3.6 4.5 2.7 2.2
Average: 36.87 inches
Predicted: 36.10 inches
Actual: 39.74 inches

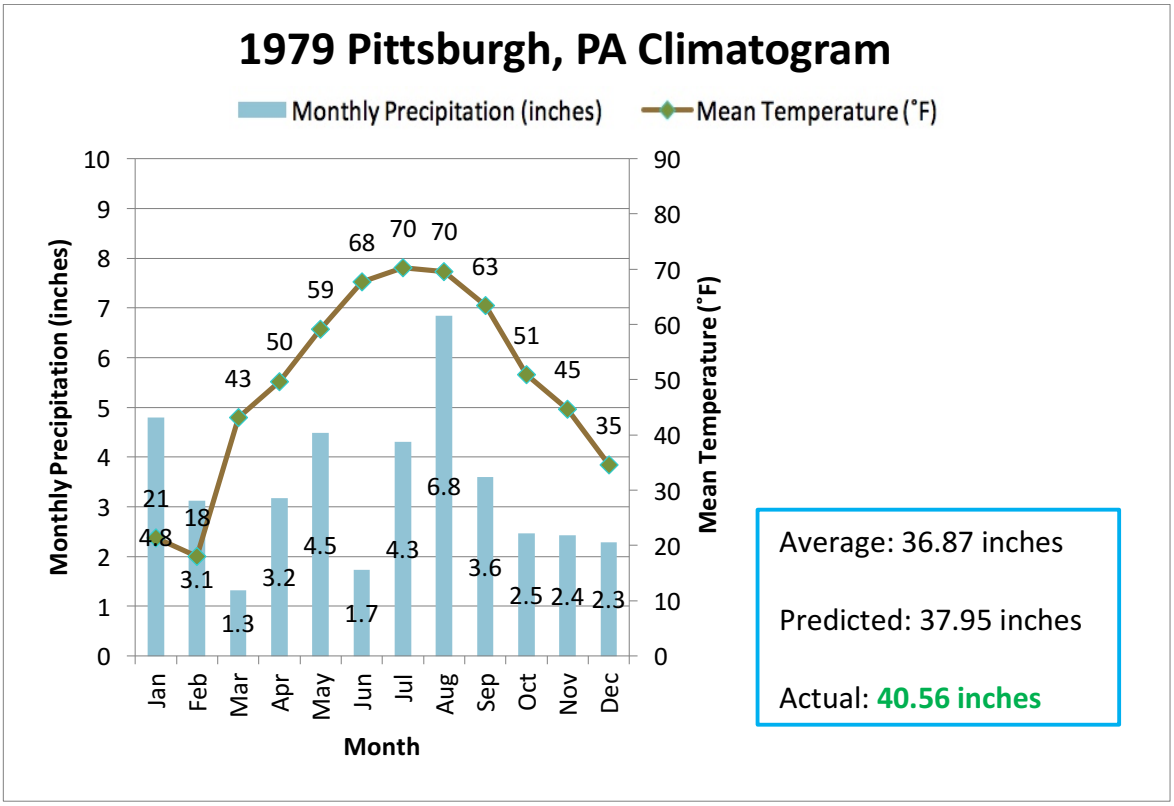

1974 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
34 30 41 52 58 65 73 73 62 52 44 33
3.5 2.1 3.7 3.3 5.4 5.1 3.3 2.9 4.4 1.1 3.1 4.0
Average: 36.87 inches
Predicted: 38.55 inches
Actual: 41.83 inches

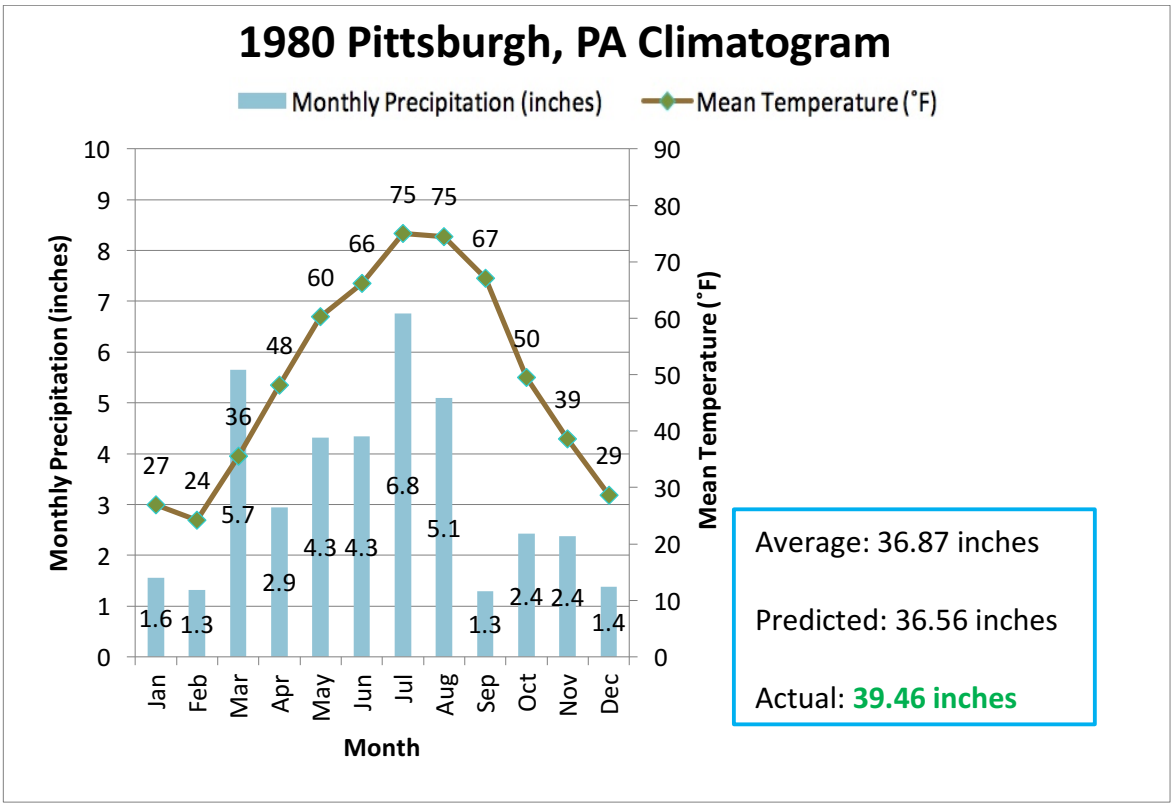

1975 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 32 36 44 63 58 73 73 59 53 46 33
3.3 4.6 4.6 2.3 1.8 4.6 4.4 7.6 5.1 3.5 1.8 2.9
Average: 36.87 inches
Predicted: 40.26 inches
Actual: 46.42 inches

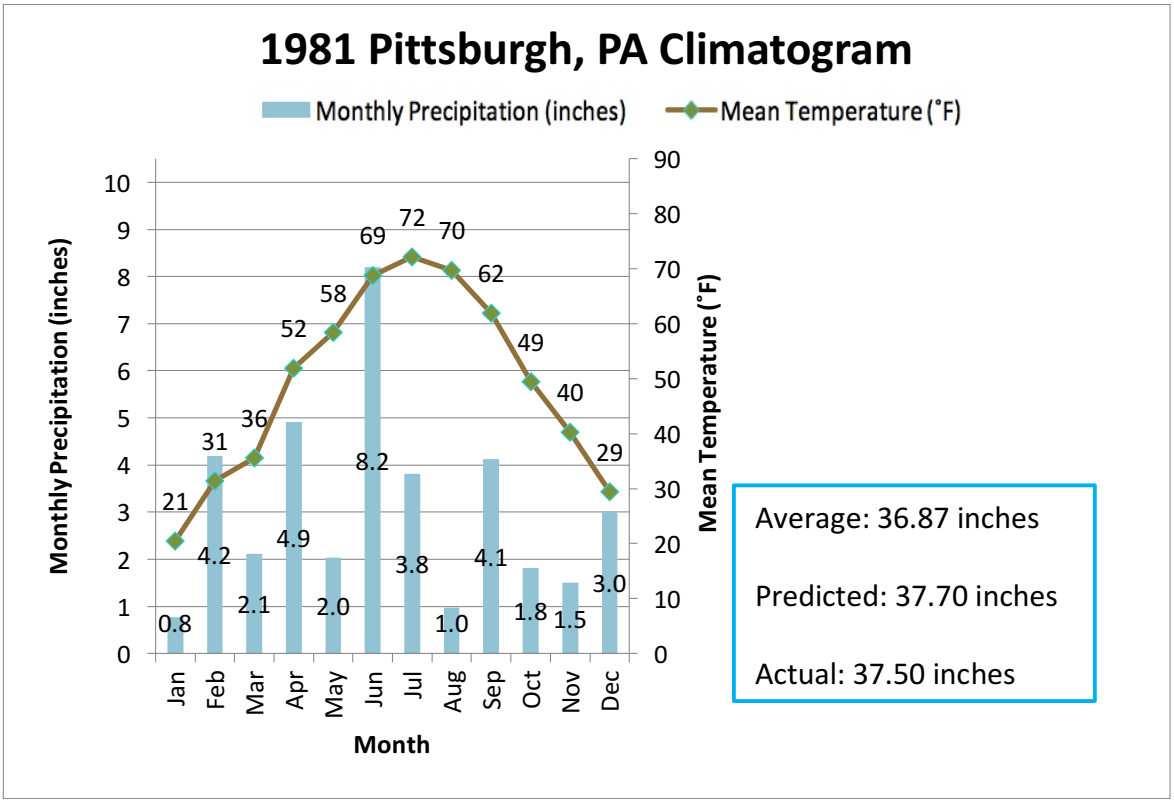

1976 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
24 37 45 51 56 68 67 65 60 46 33 24
3.3 1.7 4.5 1.2 2.0 3.4 4.7 1.3 3.3 3.8 0.9 1.8
Average: 36.87 inches
Predicted: 39.97 inches
Actual: 31.78 inches

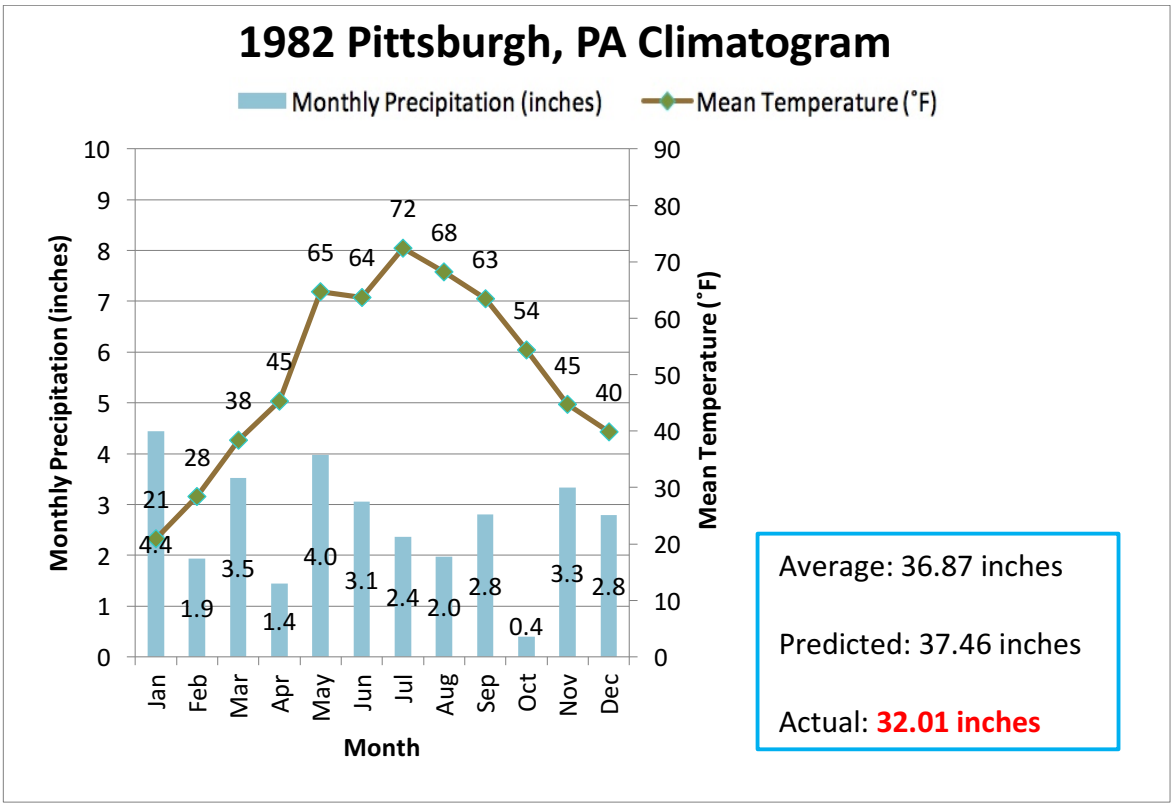

1977 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
11 27 44 51 63 64 72 68 65 51 46 31
2.1 0.9 4.1 3.3 2.6 2.9 3.4 2.7 3.1 2.4 2.6 3.3
Average: 36.87 inches
Predicted: 38.59 inches
Actual: 33.20 inches

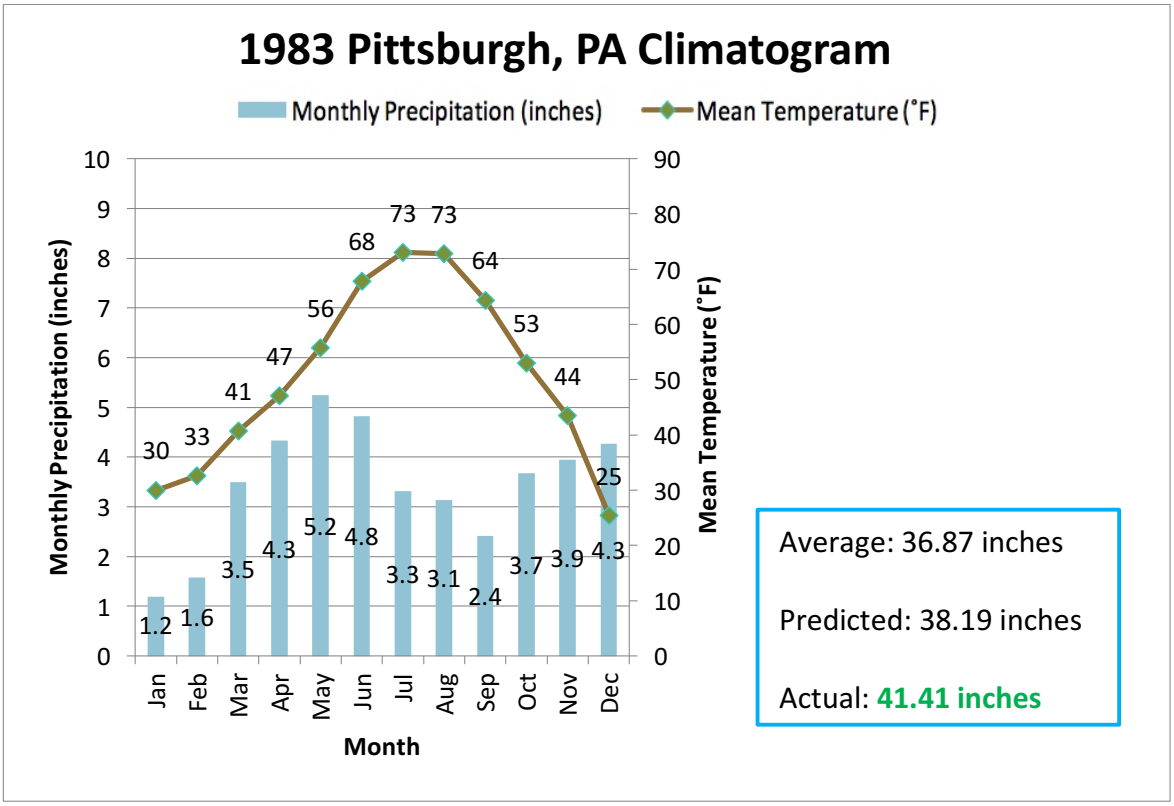

1978 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
6.3 0.5 1.7 2.3 4.3 4.1 2.2 3.7 2.6 3.4 1.6 5.2
23 21 37 51 60 69 73 71 66 49 43 33
Average: 36.87 inches
Predicted: 38.20 inches
Actual: 37.78 inches

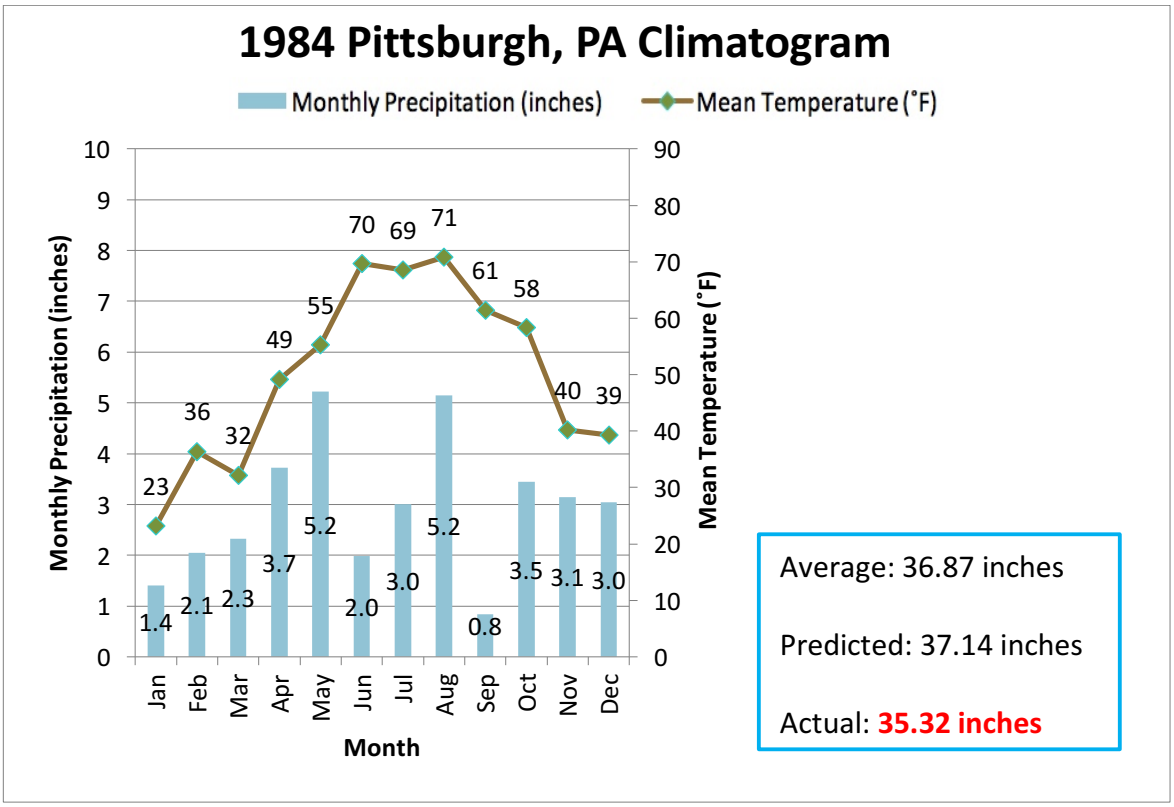

1979 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4.8 3.1 1.3 3.2 4.5 1.7 4.3 6.8 3.6 2.5 2.4 2.3
21 18 43 50 59 68 70 70 63 51 45 35
Average: 36.87 inches
Predicted: 37.95 inches
Actual: 40.56 inches

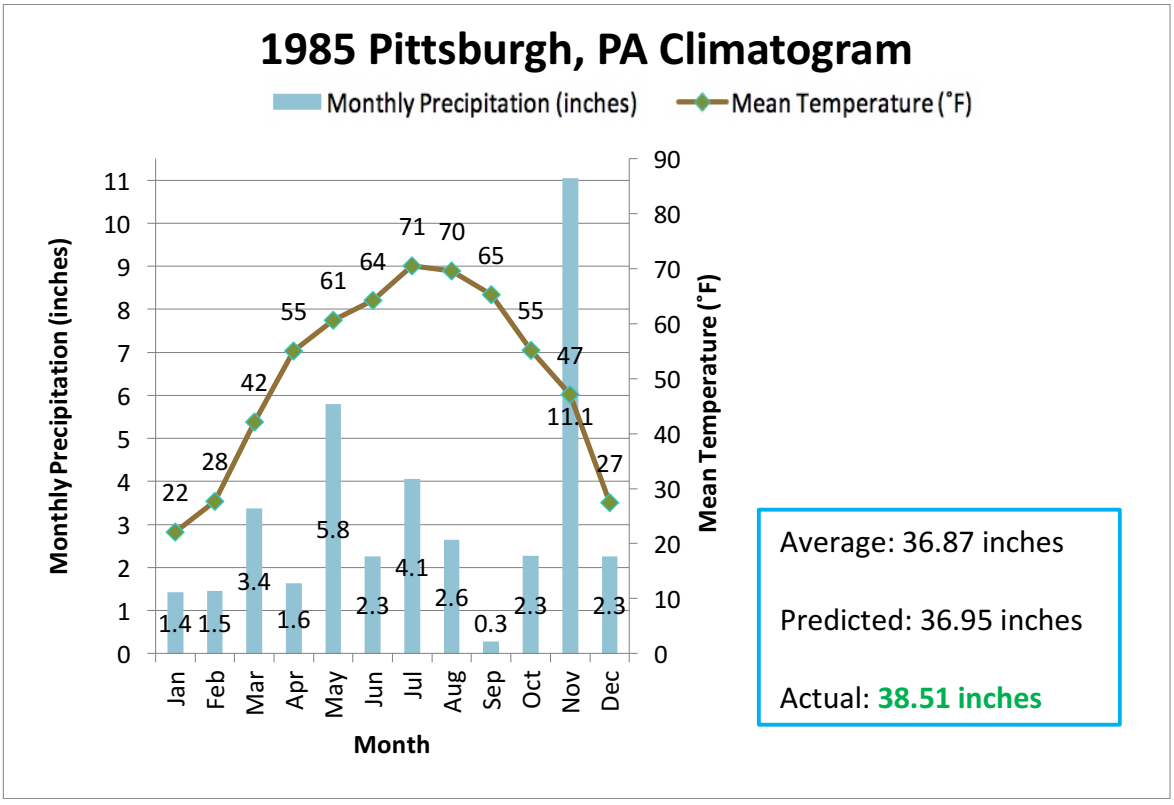

1980 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 24 36 48 60 66 75 75 67 50 39 29
1.6 1.3 5.7 2.9 4.3 4.3 6.8 5.1 1.3 2.4 2.4 1.4
Average: 36.87 inches
Predicted: 36.56 inches
Actual: 39.46 inches

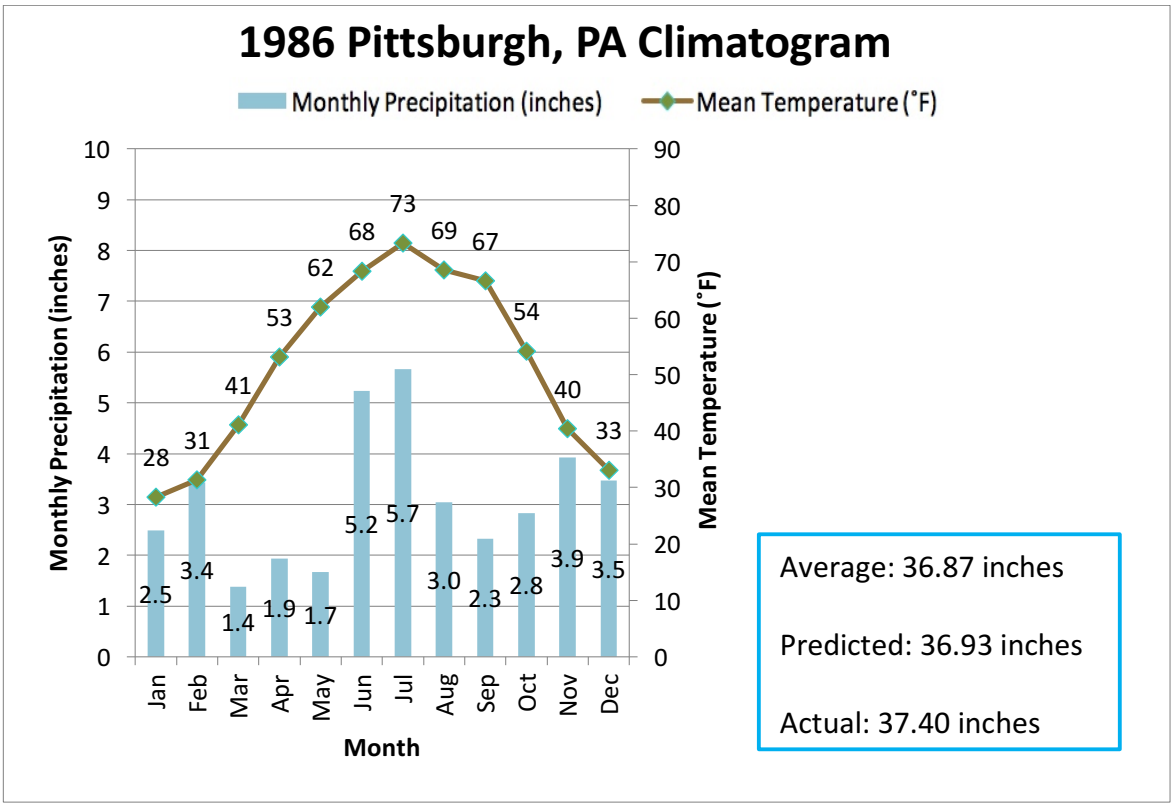

1981 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
21 31 36 52 58 69 72 70 62 49 40 29
0.8 4.2 2.1 4.9 2.0 8.2 3.8 1.0 4.1 1.8 1.5 3.0
Average: 36.87 inches
Predicted: 37.70 inches
Actual: 37.50 inches

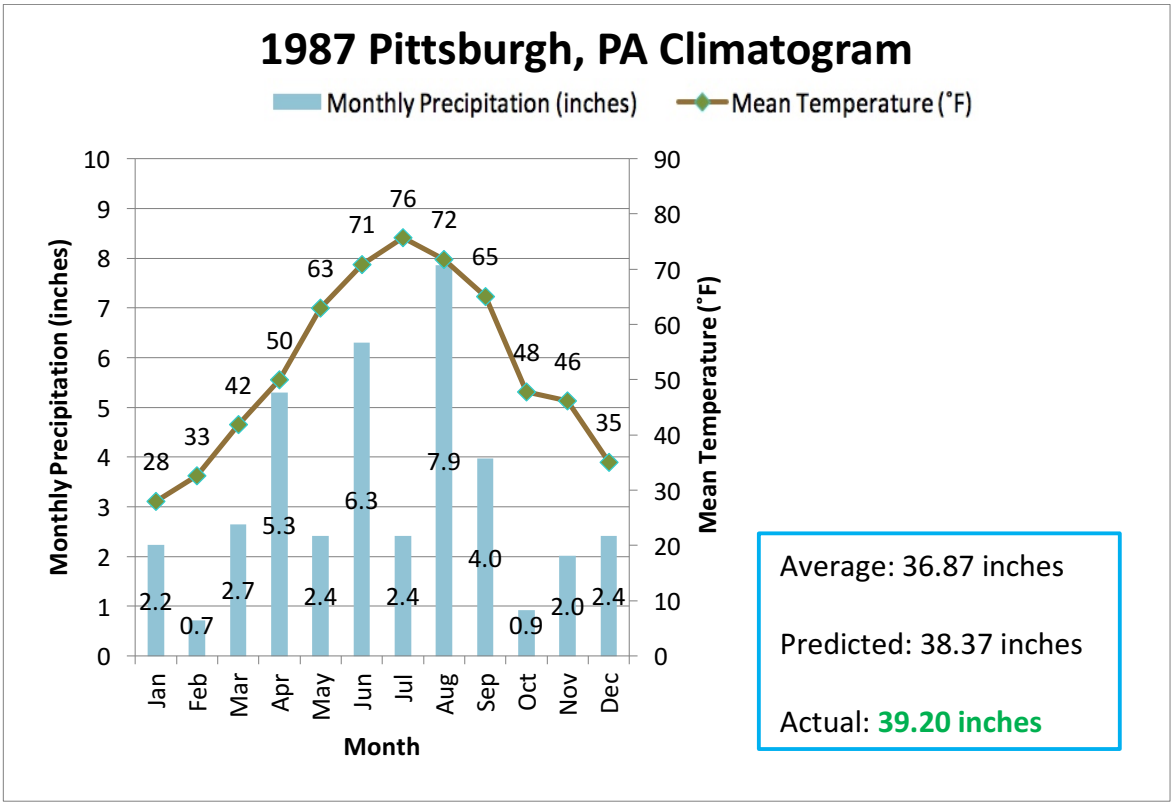

1982 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4.4 1.9 3.5 1.4 4.0 3.1 2.4 2.0 2.8 0.4 3.3 2.8
21 28 38 45 65 64 72 68 63 54 45 40
Average: 36.87 inches
Predicted: 37.46 inches
Actual: 32.01 inches

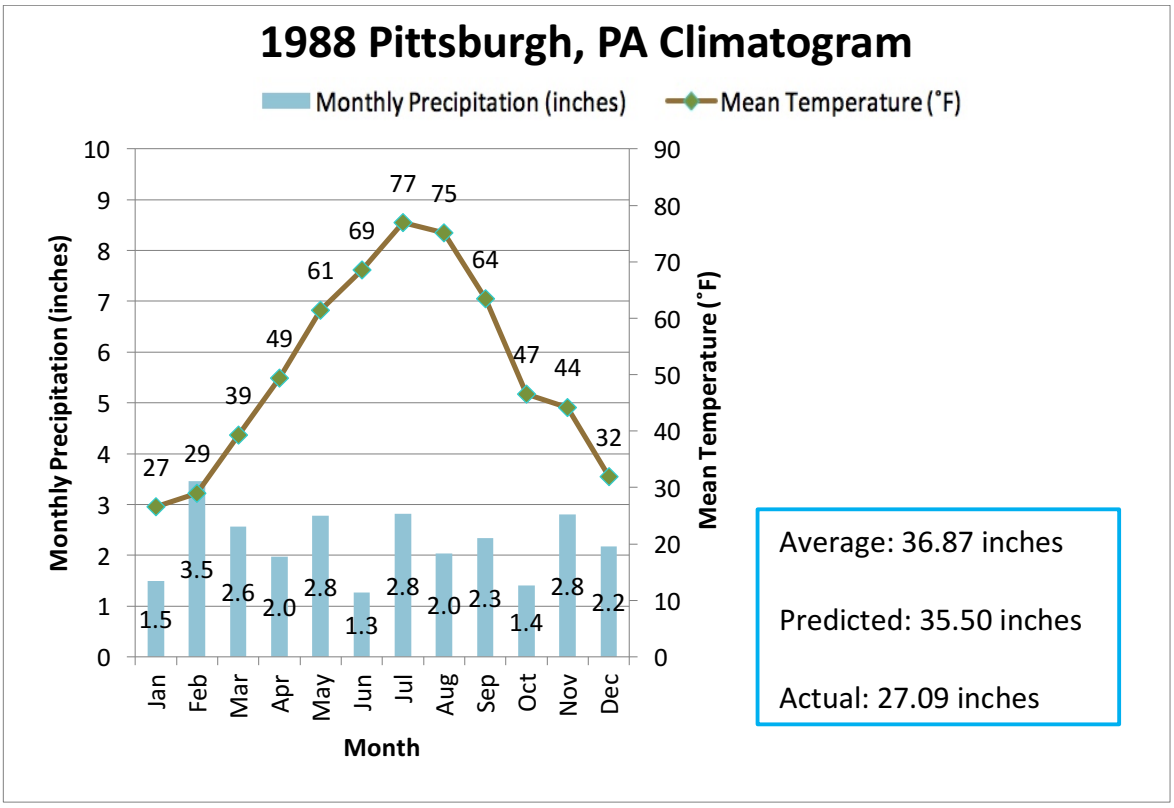

1983 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1.2 1.6 3.5 4.3 5.2 4.8 3.3 3.1 2.4 3.7 3.9 4.3
30 33 41 47 56 68 73 73 64 53 44 25
Average: 36.87 inches
Predicted: 38.19 inches
Actual: 41.41 inches

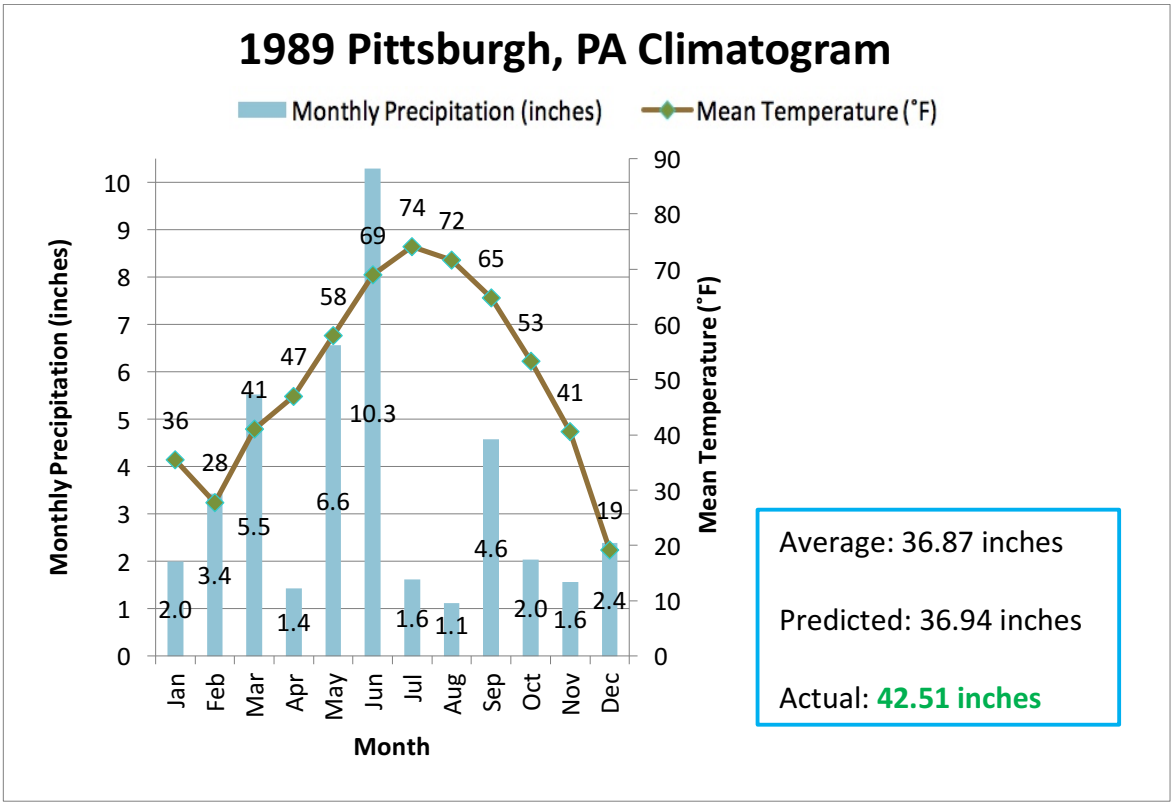

1984 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
23 36 32 49 55 70 69 71 61 58 40 39
1.4 2.1 2.3 3.7 5.2 2.0 3.0 5.2 0.8 3.5 3.1 3.0
Average: 36.87 inches
Predicted: 37.14 inches
Actual: 35.32 inches

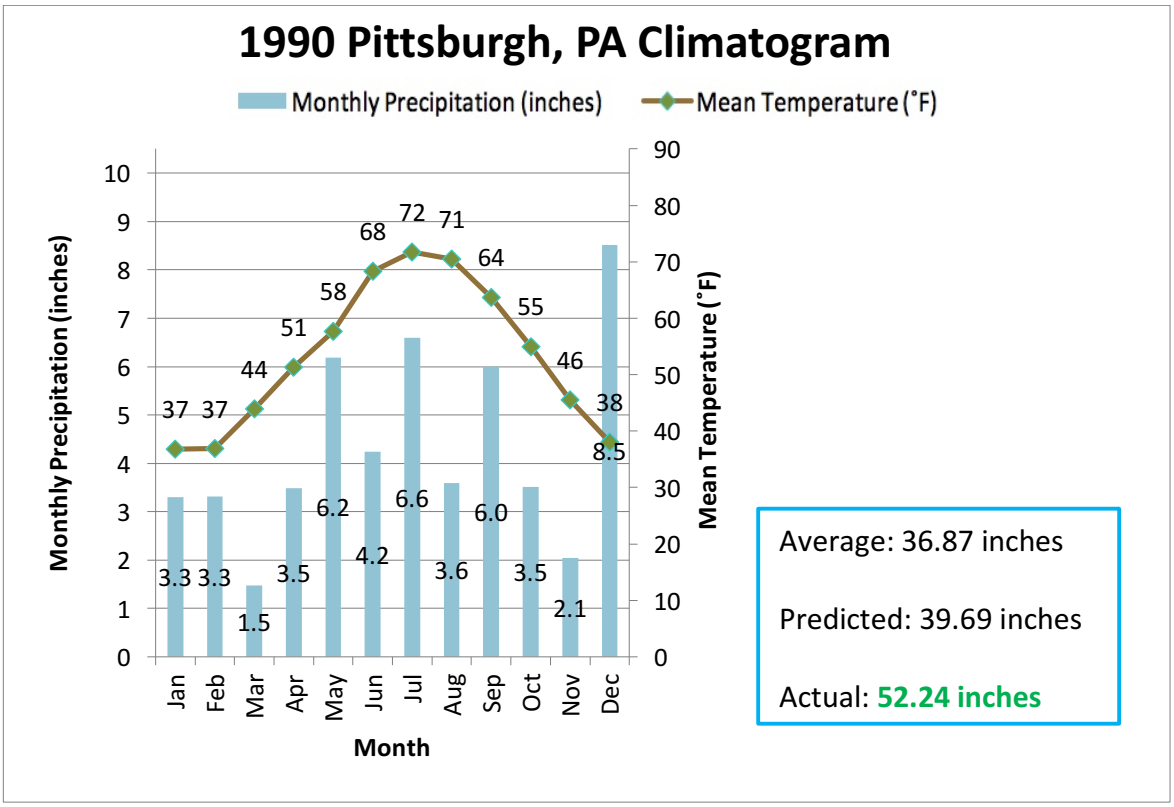

1985 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
22 28 42 55 61 64 71 70 65 55 47 27
1.4 1.5 3.4 1.6 5.8 2.3 4.1 2.6 0.3 2.3 11.1 2.3
Average: 36.87 inches
Predicted: 36.95 inches
Actual: 38.51 inches

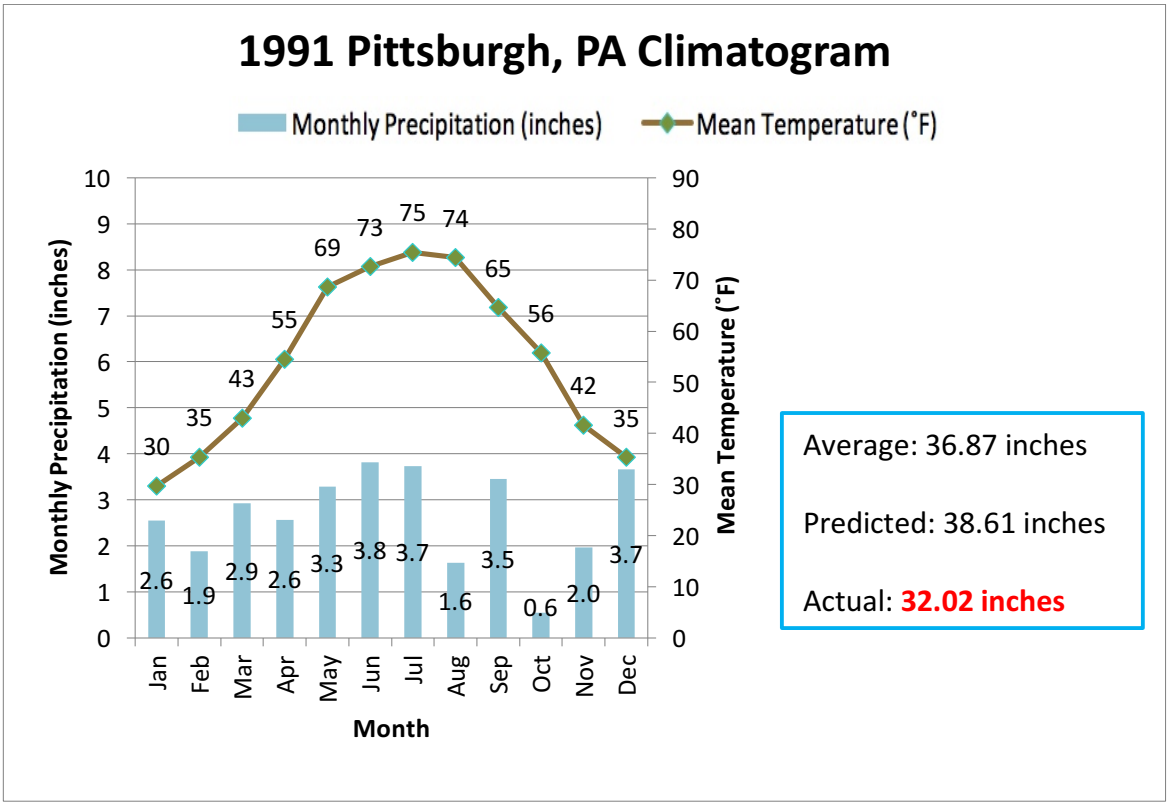

1986 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 31 41 53 62 68 73 69 67 54 40 33
2.5 3.4 1.4 1.9 1.7 5.2 5.7 3.0 2.3 2.8 3.9 3.5
Average: 36.87 inches
Predicted: 36.93 inches
Actual: 37.40 inches

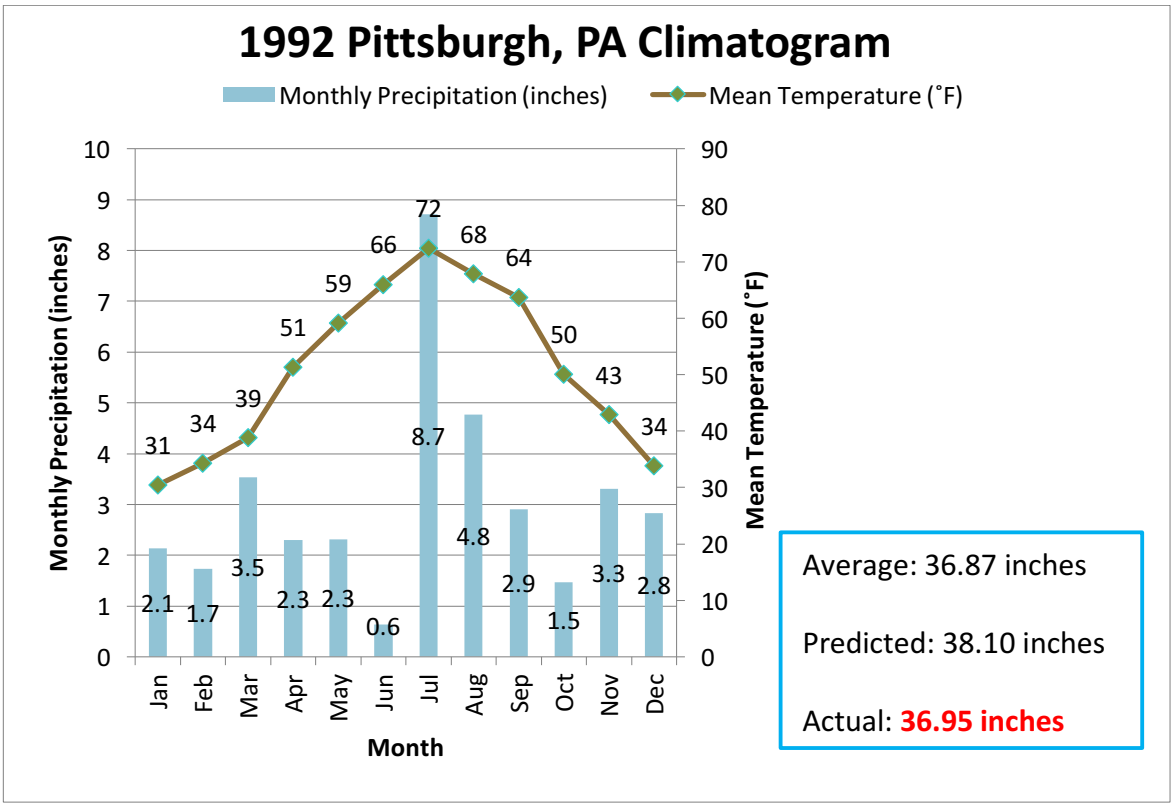

1987 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 33 42 50 63 71 76 72 65 48 46 35
2.2 0.7 2.7 5.3 2.4 6.3 2.4 7.9 4.0 0.9 2.0 2.4
Average: 36.87 inches
Predicted: 38.37 inches
Actual: 39.20 inches

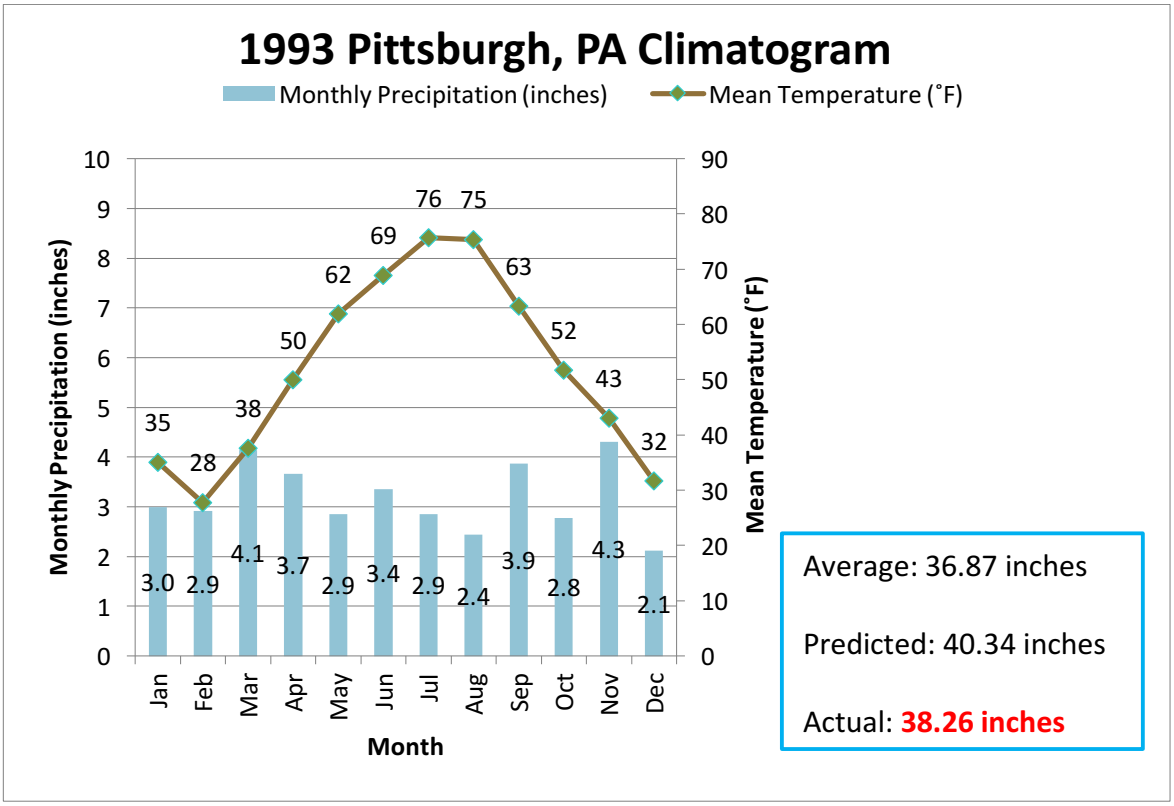

1988 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
27
29
39
49
61
69
77
75
64
47
44
32
1.5
3.5
2.6
2.0
2.8
1.3
2.8
2.0
2.3
1.4
2.8
2.2
Average: 36.87 inches
Predicted: 35.50 inches
Actual: 27.09 inches

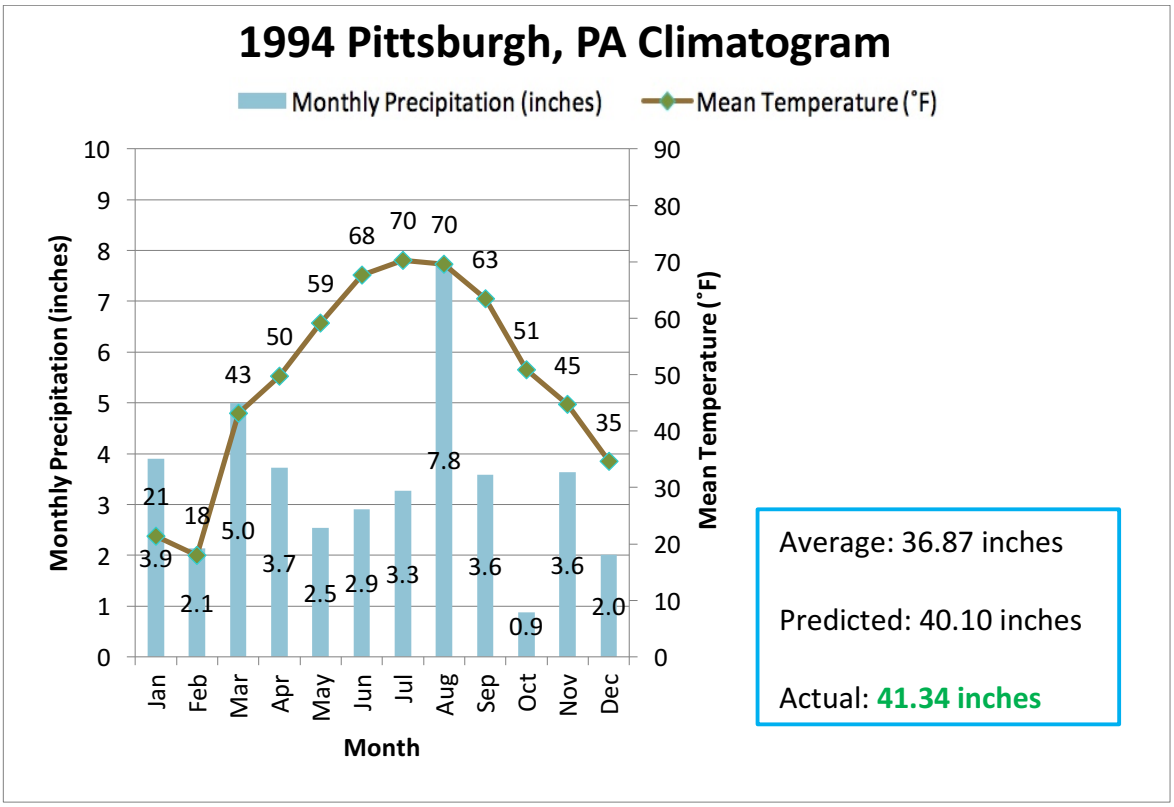

1989 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
36
28
41
47
58
69
74
72
65
53
41
19
2.0
3.4
5.5
1.4
6.6
10.3
1.6
1.1
4.6
2.0
1.6
2.4
Average: 36.87 inches
Predicted: 36.94 inches
Actual: 42.51 inches

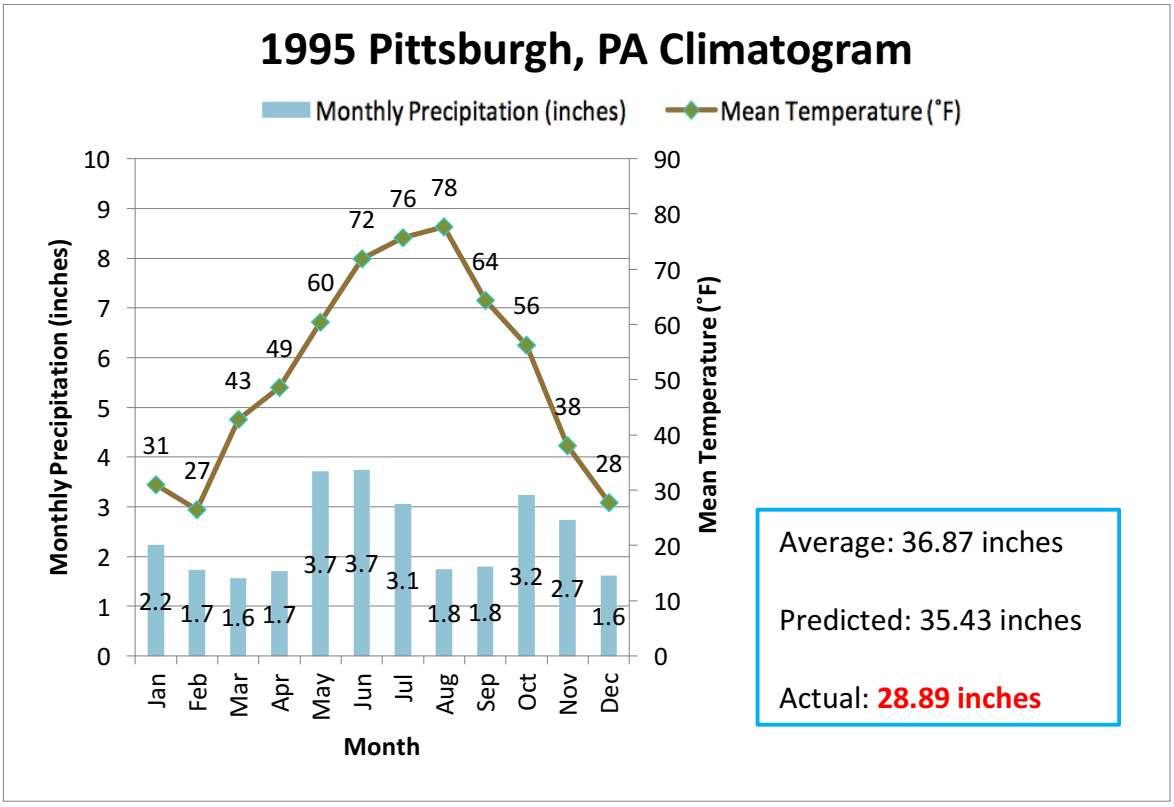

1990 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3.3 3.3 1.5 3.5 6.2 4.2 6.6 3.6 6.0 3.5 2.1 8.5
37 37 44 51 58 68 72 71 64 55 46 38
Average: 36.87 inches
Predicted: 39.69 inches
Actual: 52.24 inches

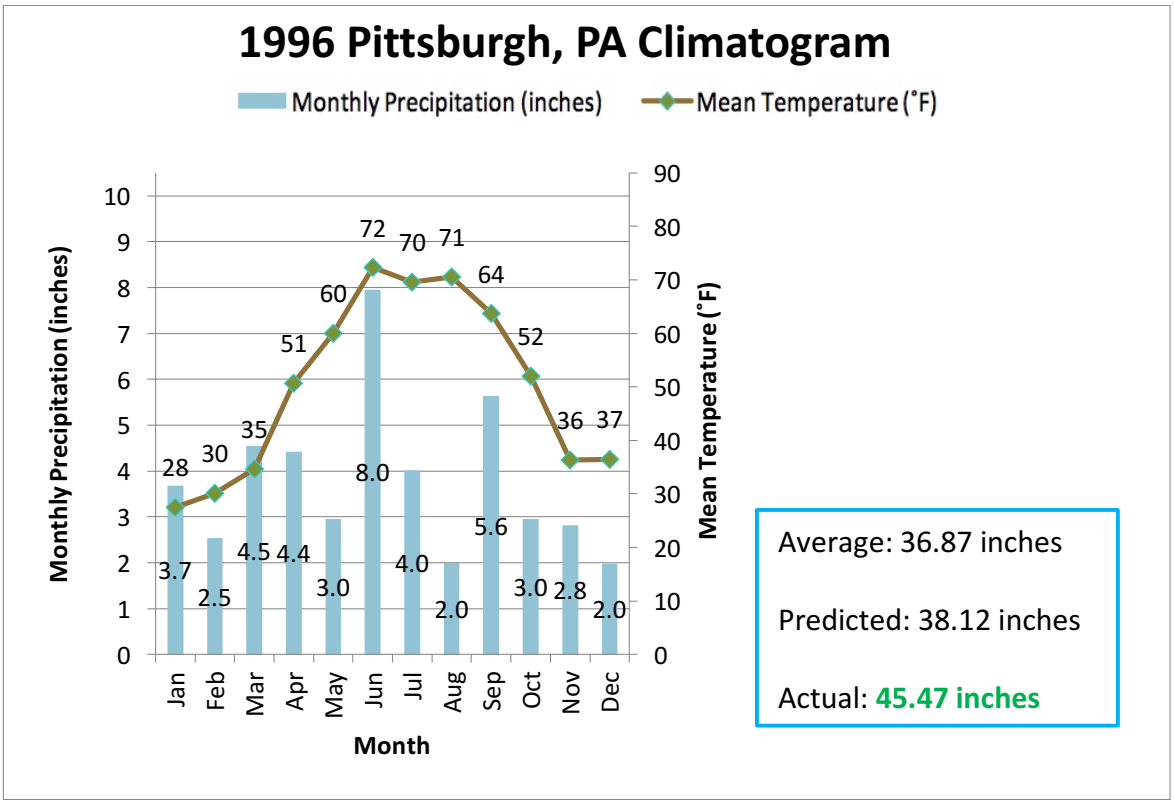

1991 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.6 1.9 2.9 2.6 3.3 3.8 3.7 1.6 3.5 0.6 2.0 3.7
30 35 43 55 69 73 75 74 65 56 42 35
Average: 36.87 inches
Predicted: 38.61 inches
Actual: 32.02 inches

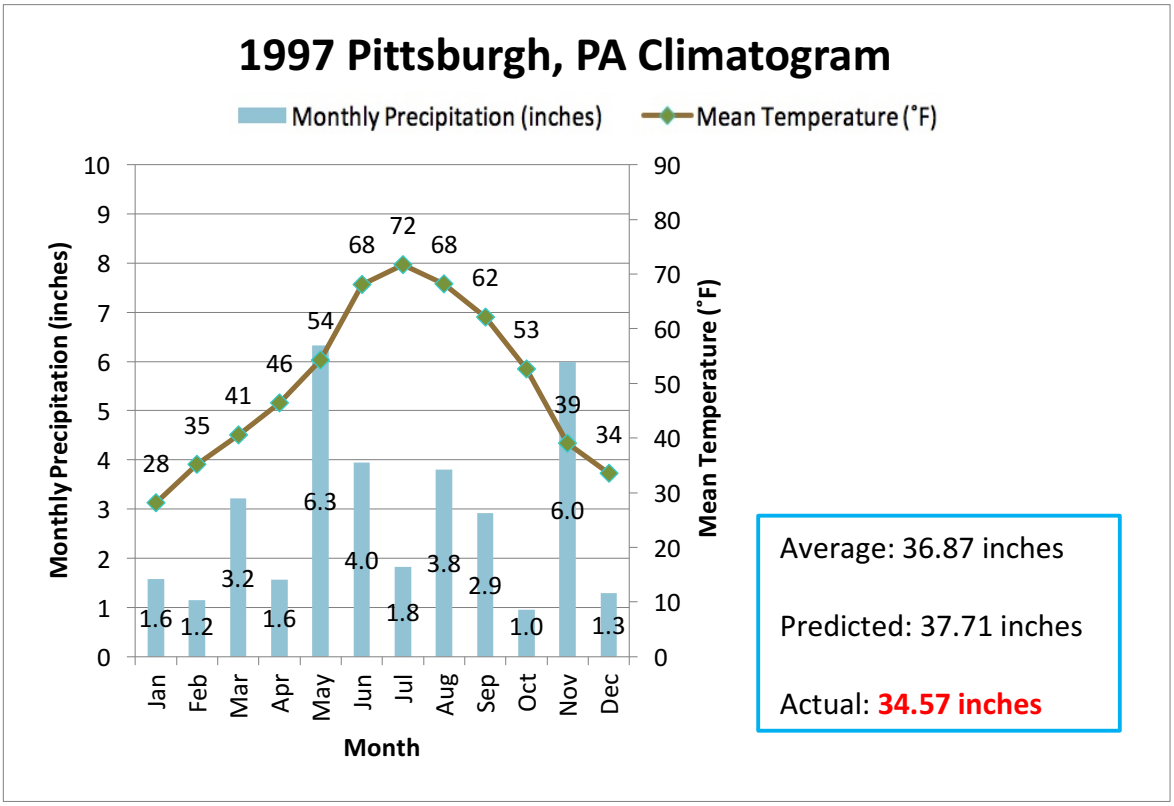

1992 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
31 34 39 51 59 66 72 68 64 50 43 34
2.1 1.7 3.5 2.3 2.3 0.6 8.7 4.8 2.9 1.5 3.3 2.8
Average: 36.87 inches
Predicted: 38.10 inches
Actual: 36.95 inches

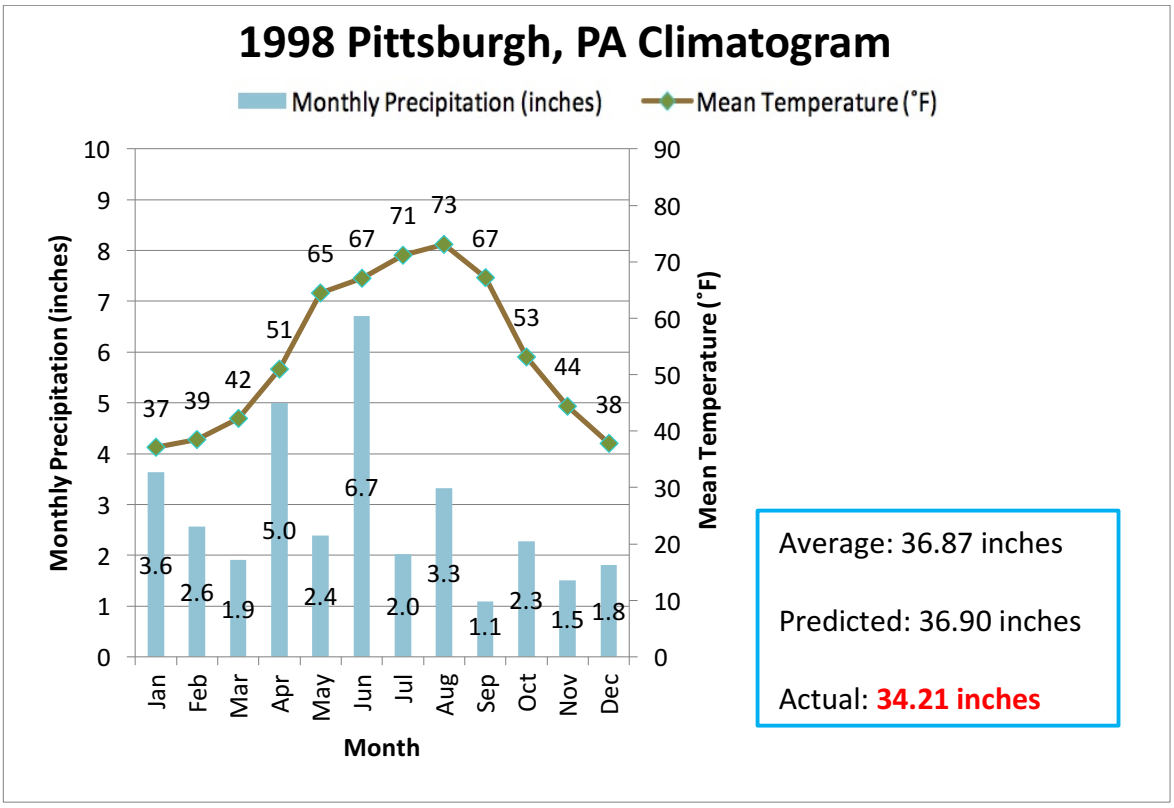

1993 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 28 38 50 62 69 76 75 63 52 43 32
3.0 2.9 4.1 3.7 2.9 3.4 2.9 2.4 3.9 2.8 4.3 2.1
Average: 36.87 inches
Predicted: 40.34 inches
Actual: 38.26 inches

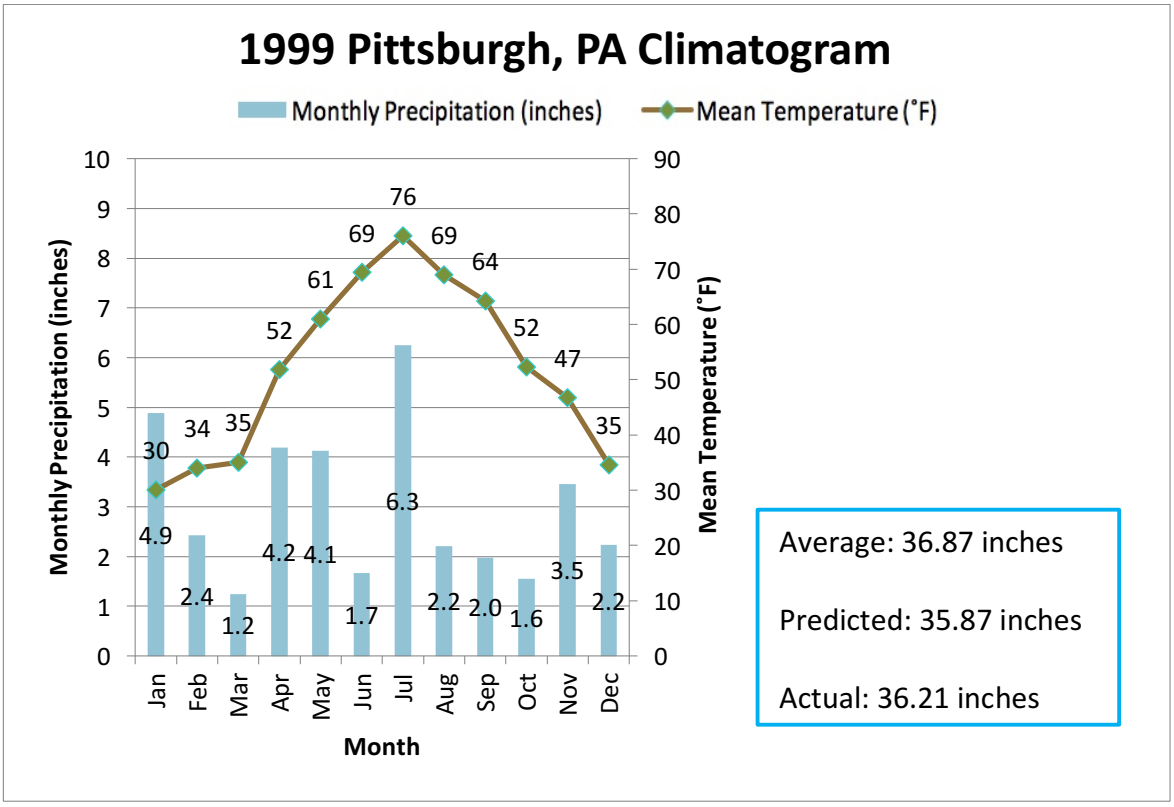

1994 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3.9 2.1 5.0 3.7 2.5 2.9 3.3 7.8 3.6 0.9 3.6 2.0
21 18 43 50 59 68 70 70 63 51 45 35
Average: 36.87 inches
Predicted: 40.10 inches
Actual: 41.34 inches

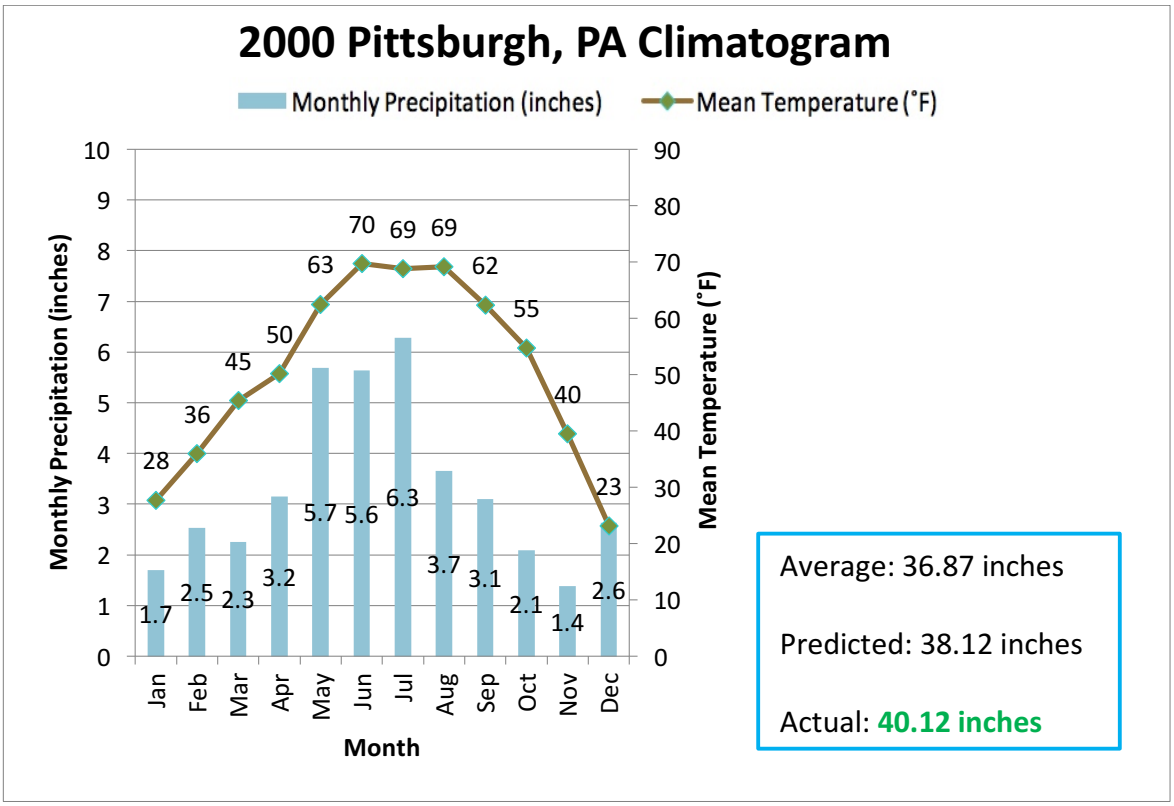

1995 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.2 1.7 1.6 1.7 3.7 3.7 3.1 1.8 1.8 3.2 2.7 1.6
31 27 43 49 60 72 76 78 64 56 38 28
Average: 36.87 inches
Predicted: 35.43 inches
Actual: 28.89 inches

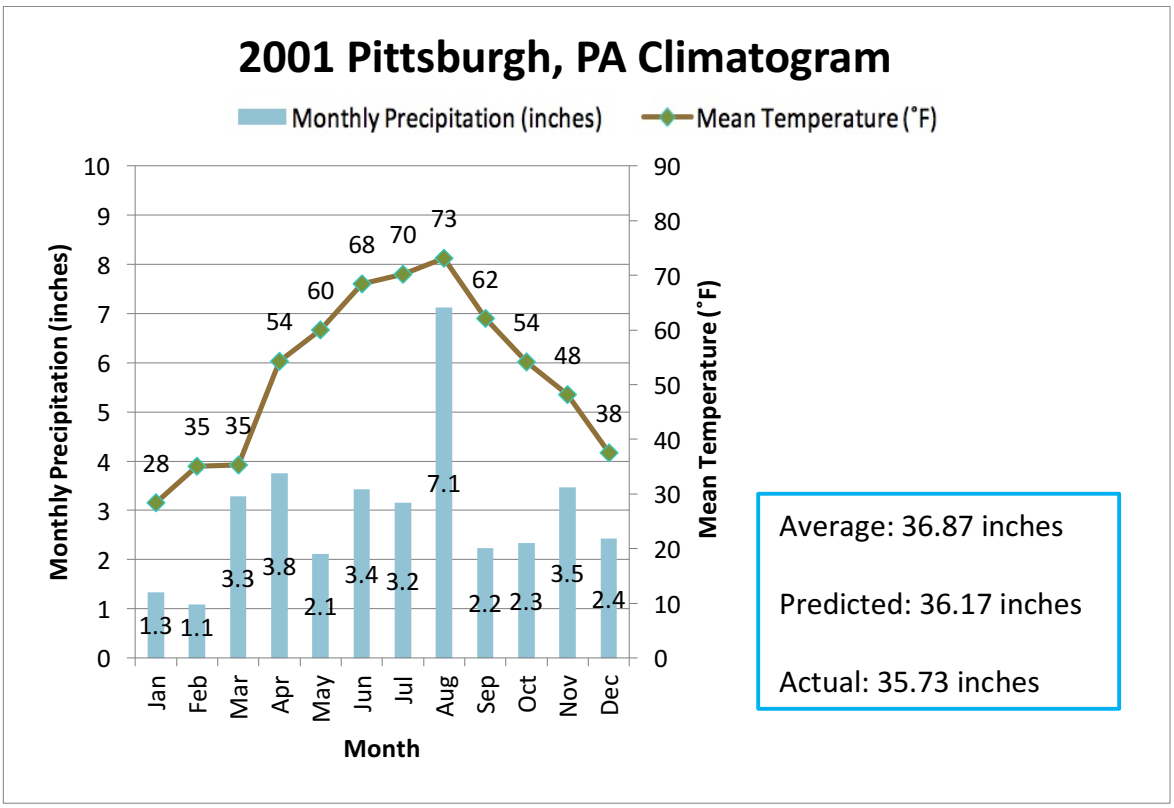

1996 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 30 35 51 60 72 70 71 64 52 36 37
3.7 2.5 4.5 4.4 3.0 8.0 4.0 2.0 5.6 3.0 2.8 2.0
Average: 36.87 inches
Predicted: 38.12 inches
Actual: 45.47 inches

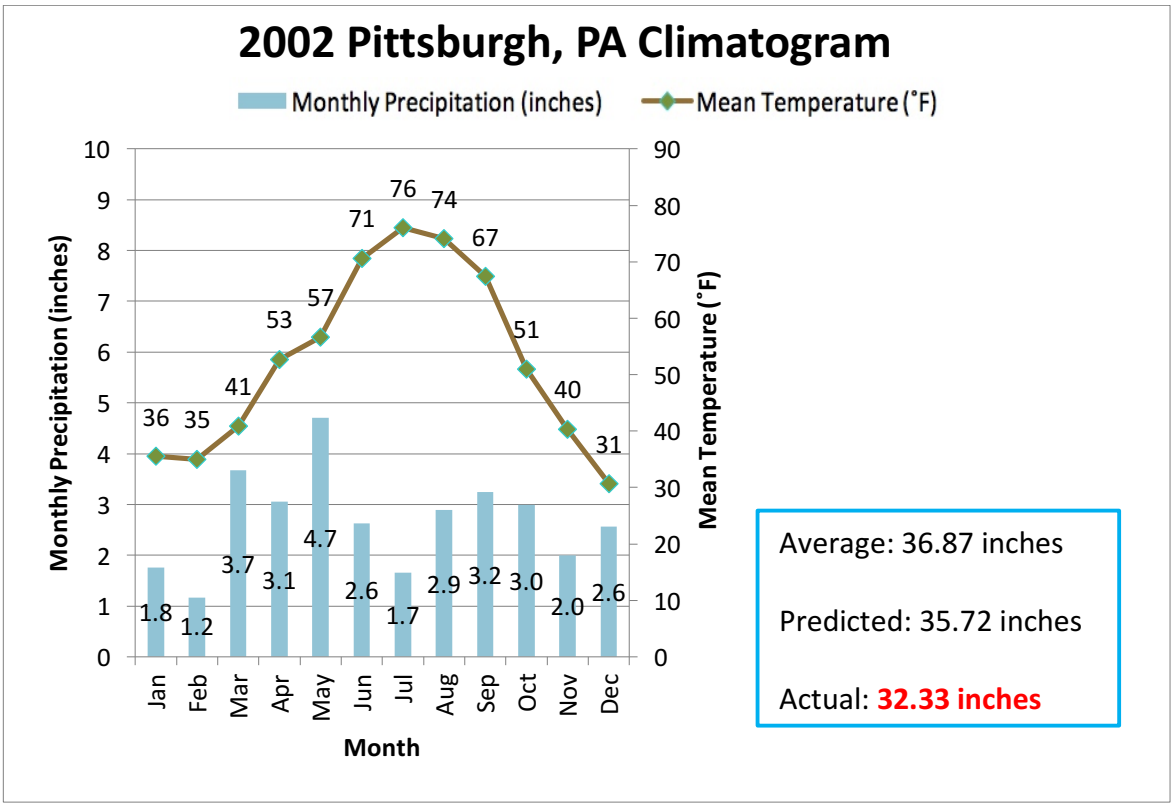

1997 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (°F)
Monthly Precipitation (inches)
Mean Temperature (°F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 35 41 46 54 68 72 68 62 53 39 34
1.6 1.2 3.2 1.6 6.3 4.0 1.8 3.8 2.9 1.0 6.0 1.3
Average: 36.87 inches
Predicted: 37.71 inches
Actual: 34.57 inches

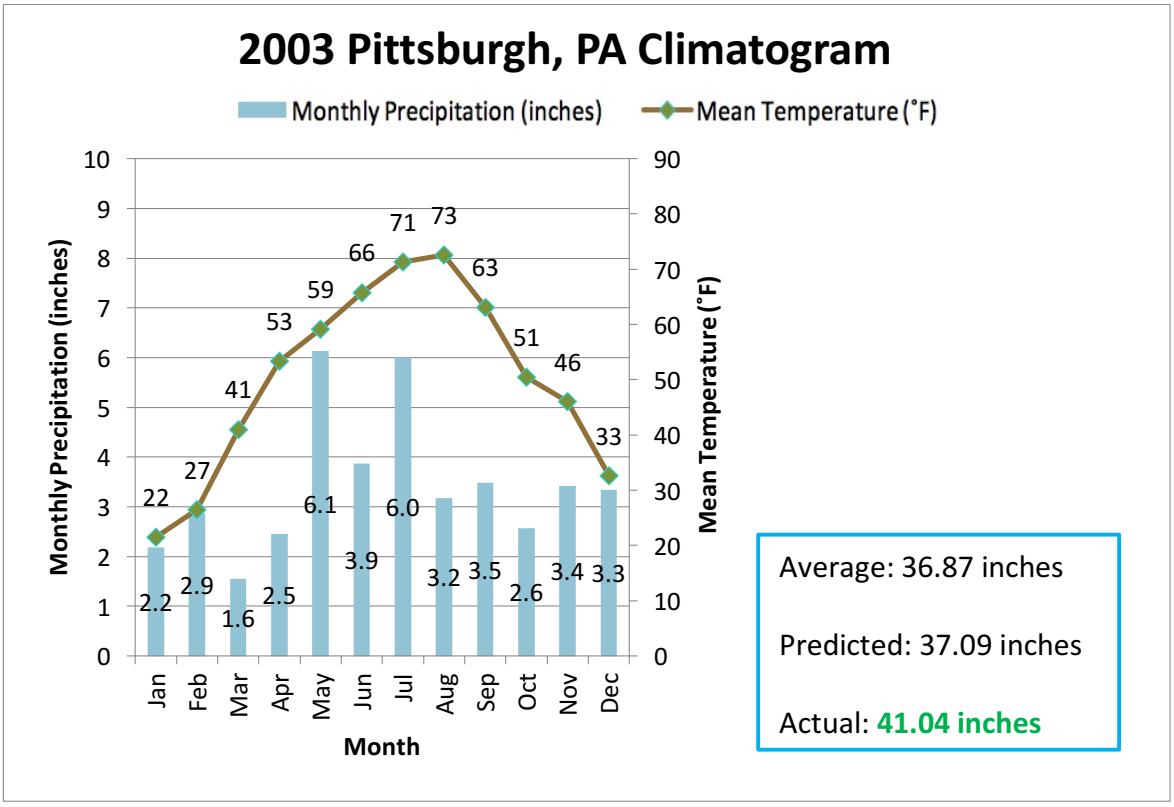

1998 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
37 39 42 51 65 67 71 73 67 53 44 38
3.6 2.6 1.9 5.0 2.4 6.7 2.0 3.3 1.1 2.3 1.5 1.8
Average: 36.87 inches
Predicted: 36.90 inches
Actual: 34.21 inches

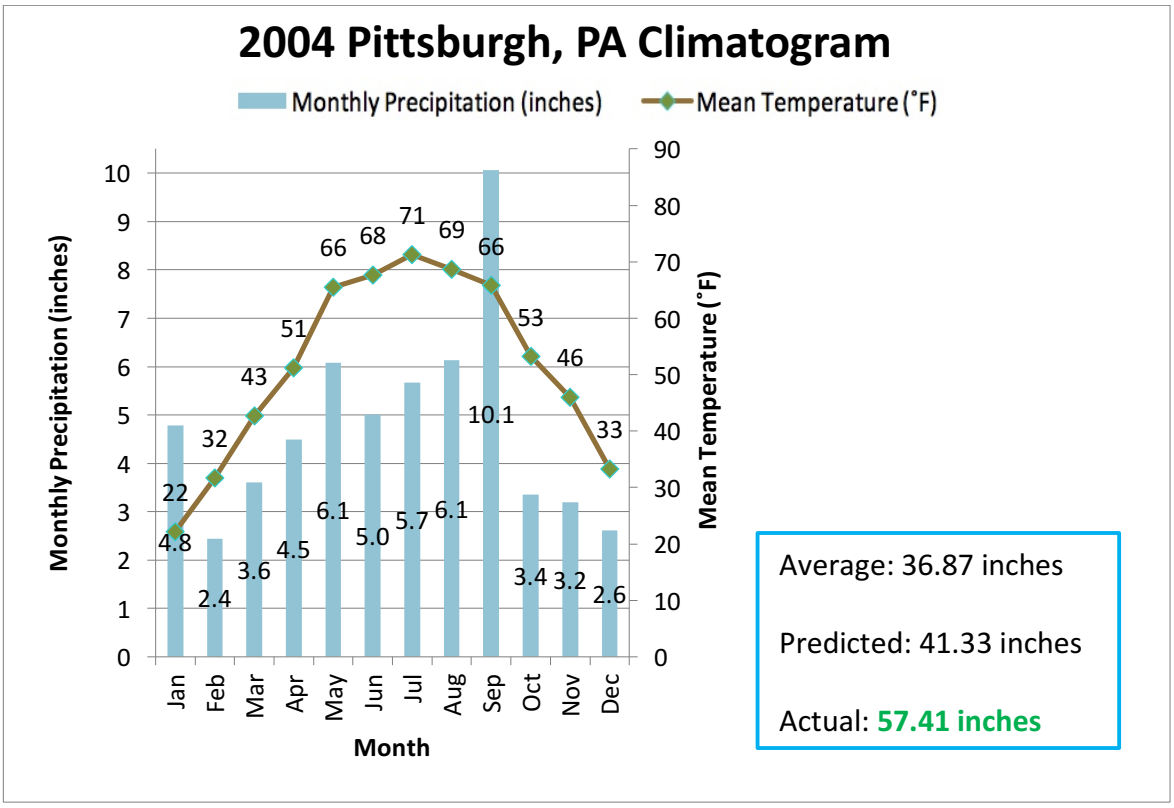

1999 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
30 34 35 52 61 69 76 69 64 52 47 35
4.9 2.4 1.2 4.2 4.1 1.7 6.3 2.2 2.0 1.6 3.5 2.2
Average: 36.87 inches
Predicted: 35.87 inches
Actual: 36.21 inches

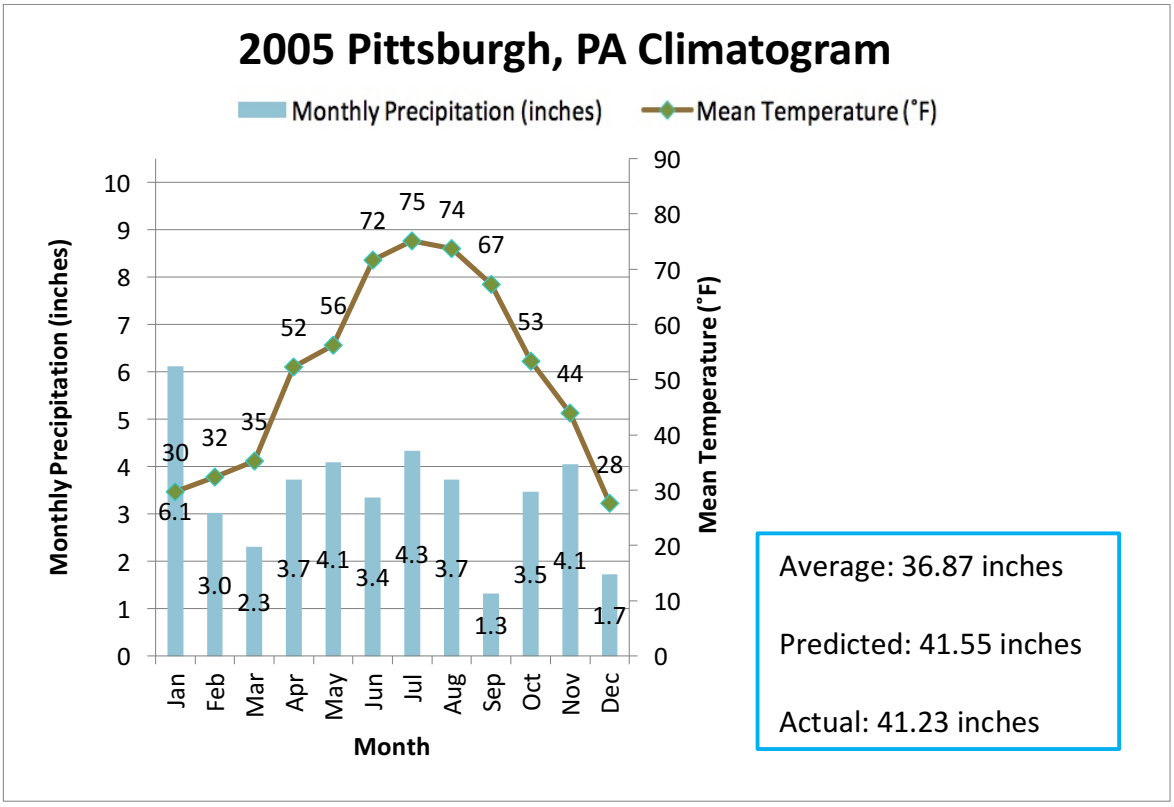

2000 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 36 45 50 63 70 69 69 62 55 40 23
1.7 2.5 2.3 3.2 5.7 5.6 6.3 3.7 3.1 2.1 1.4 2.6
Average: 36.87 inches
Predicted: 38.12 inches
Actual: 40.12 inches

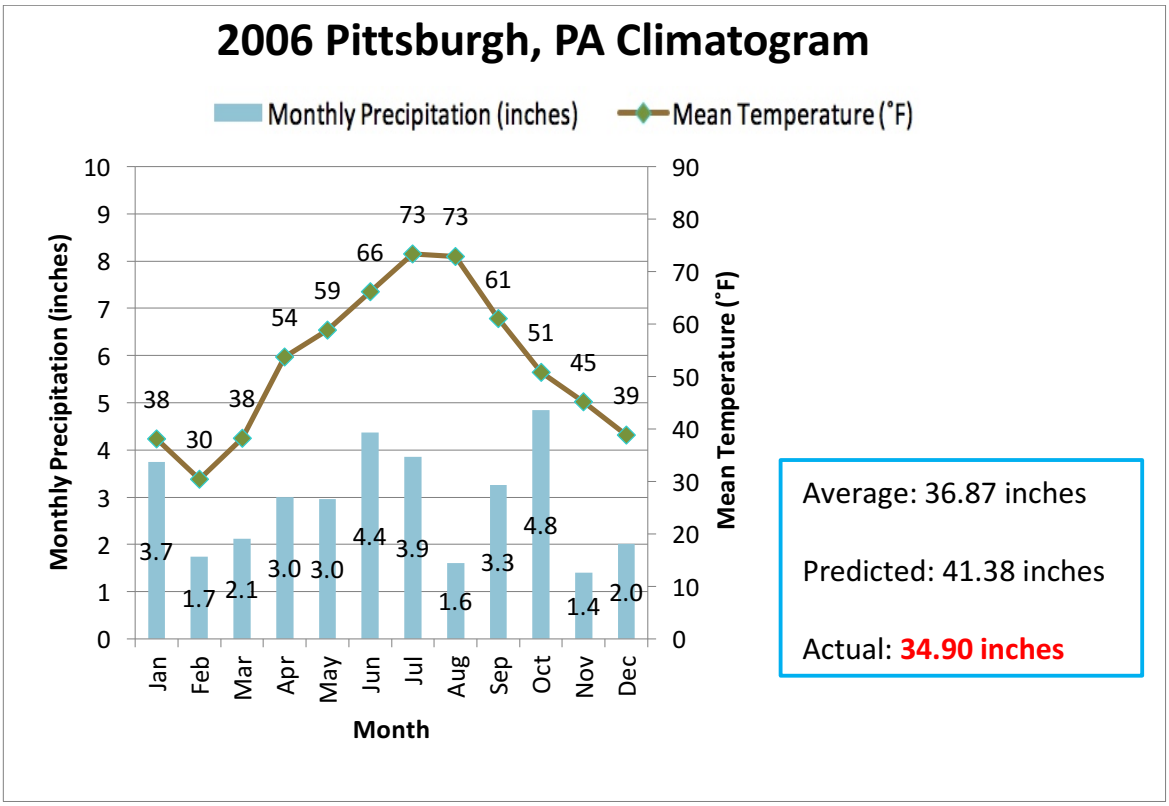

2001 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
28 35 35 54 60 68 70 73 62 54 48 38
1.3 1.1 3.3 3.8 2.1 3.4 3.2 7.1 2.2 2.3 3.5 2.4
Average: 36.87 inches
Predicted: 36.17 inches
Actual: 35.73 inches

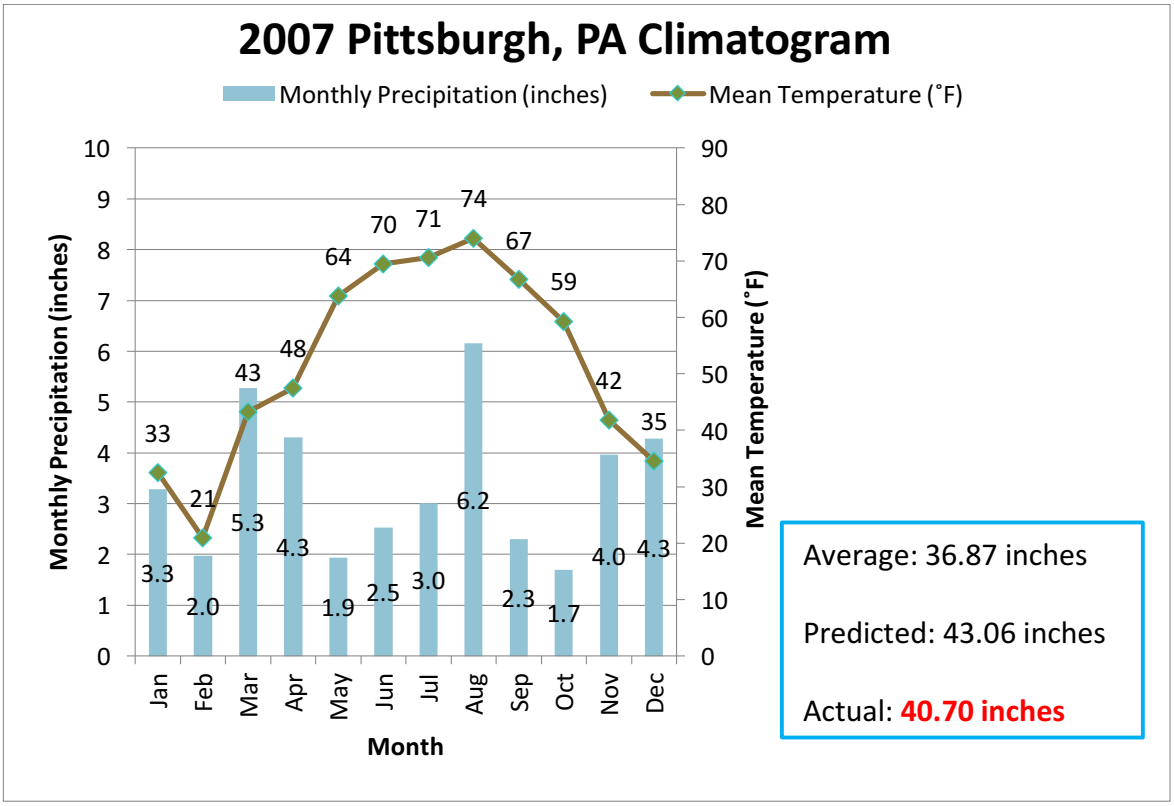

2002 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
36 35 41 53 57 71 76 74 67 51 40 31
1.8 1.2 3.7 3.1 4.7 2.6 1.7 2.9 3.2 3.0 2.0 2.6
Average: 36.87 inches
Predicted: 35.72 inches
Actual: 32.33 inches

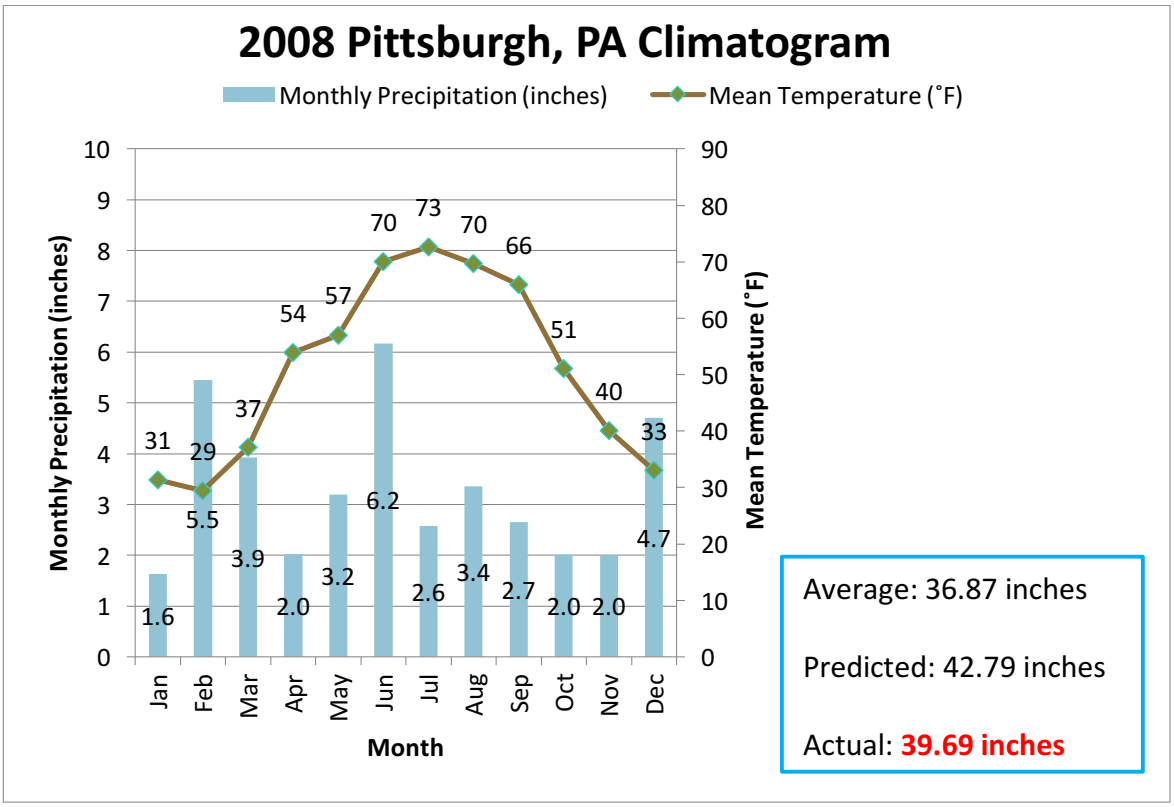

2003 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
22 27 41 53 59 66 71 73 63 51 46 33
2.2 2.9 1.6 2.5 6.1 3.9 6.0 3.2 3.5 2.6 3.4 3.3
Average: 36.87 inches
Predicted: 37.09 inches
Actual: 41.04 inches

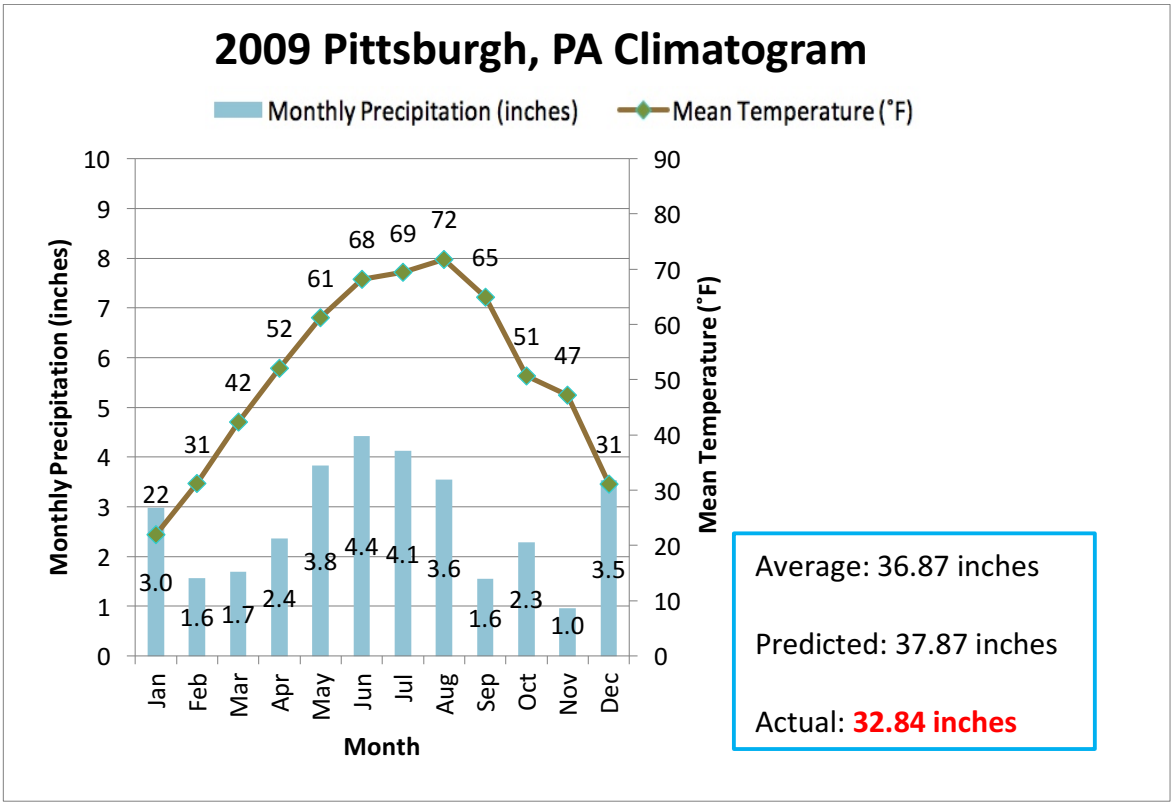

2004 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4.8 2.4 3.6 4.5 6.1 5.0 5.7 6.1 10.1 3.4 3.2 2.6
22 32 43 51 66 68 71 69 66 53 46 33
Average: 36.87 inches
Predicted: 41.33 inches
Actual: 57.41 inches

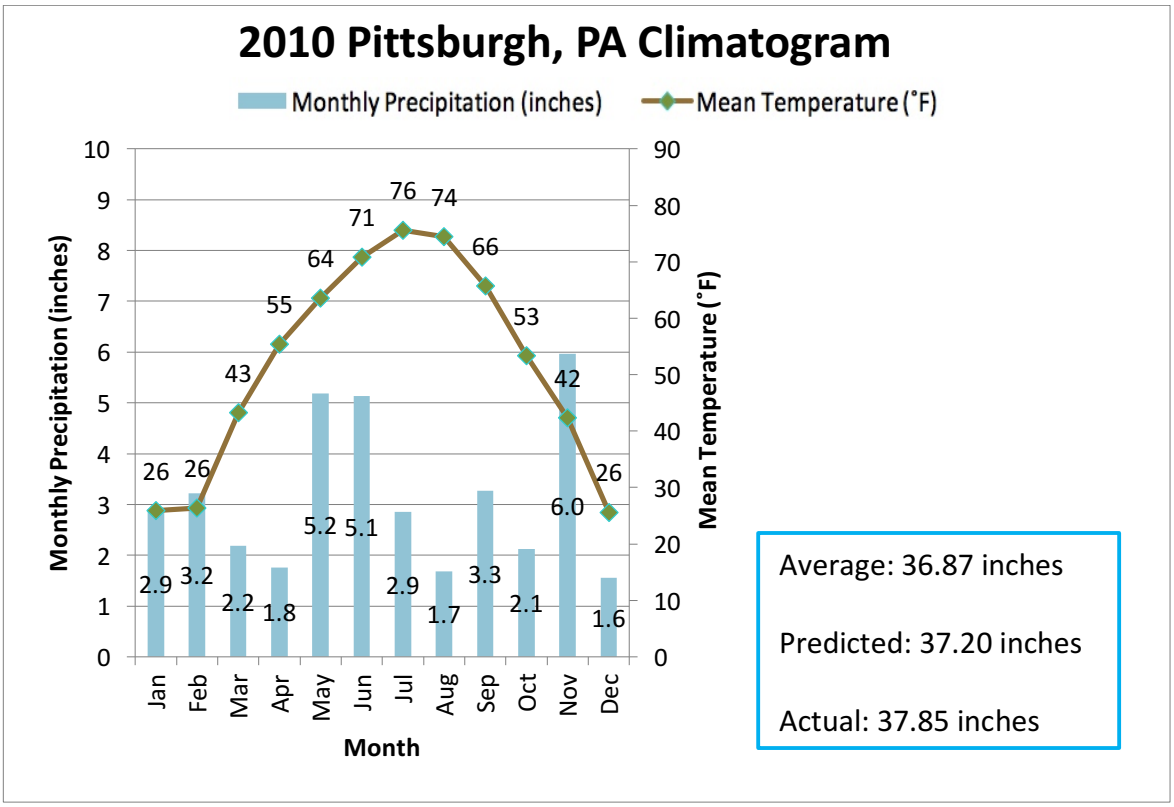

2005 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
6.1 3.0 2.3 3.7 4.1 3.4 4.3 3.7 1.3 3.5 4.1 1.7
30 32 35 52 56 72 75 74 67 53 44 28
Average: 36.87 inches
Predicted: 41.55 inches
Actual: 41.23 inches

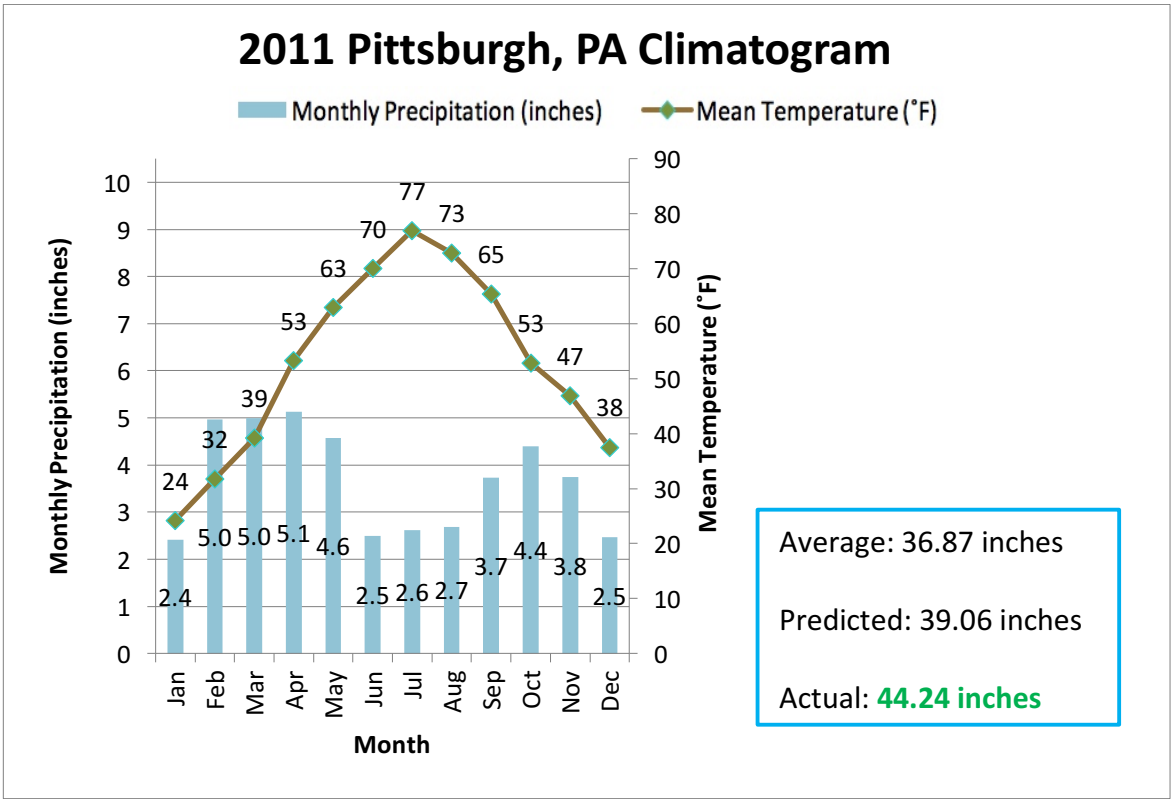

2006 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
38 30 38 54 59 66 73 73 61 51 45 39
3.7 1.7 2.1 3.0 3.0 4.4 3.9 1.6 3.3 4.8 1.4 2.0
Average: 36.87 inches
Predicted: 41.38 inches
Actual: 34.90 inches

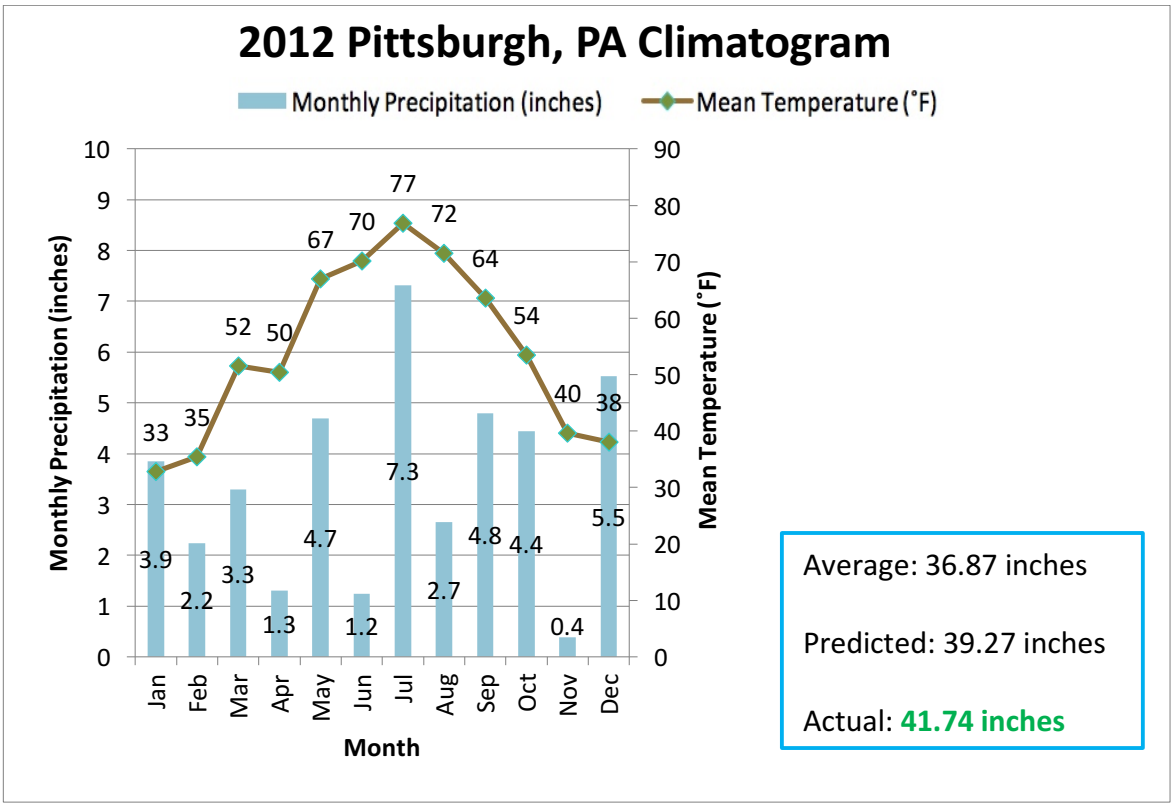

2007 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 21 43 48 64 70 71 74 67 59 42 35
3.3 2.0 5.3 4.3 1.9 2.5 3.0 6.2 2.3 1.7 4.0 4.3
Average: 36.87 inches
Predicted: 43.06 inches
Actual: 40.70 inches

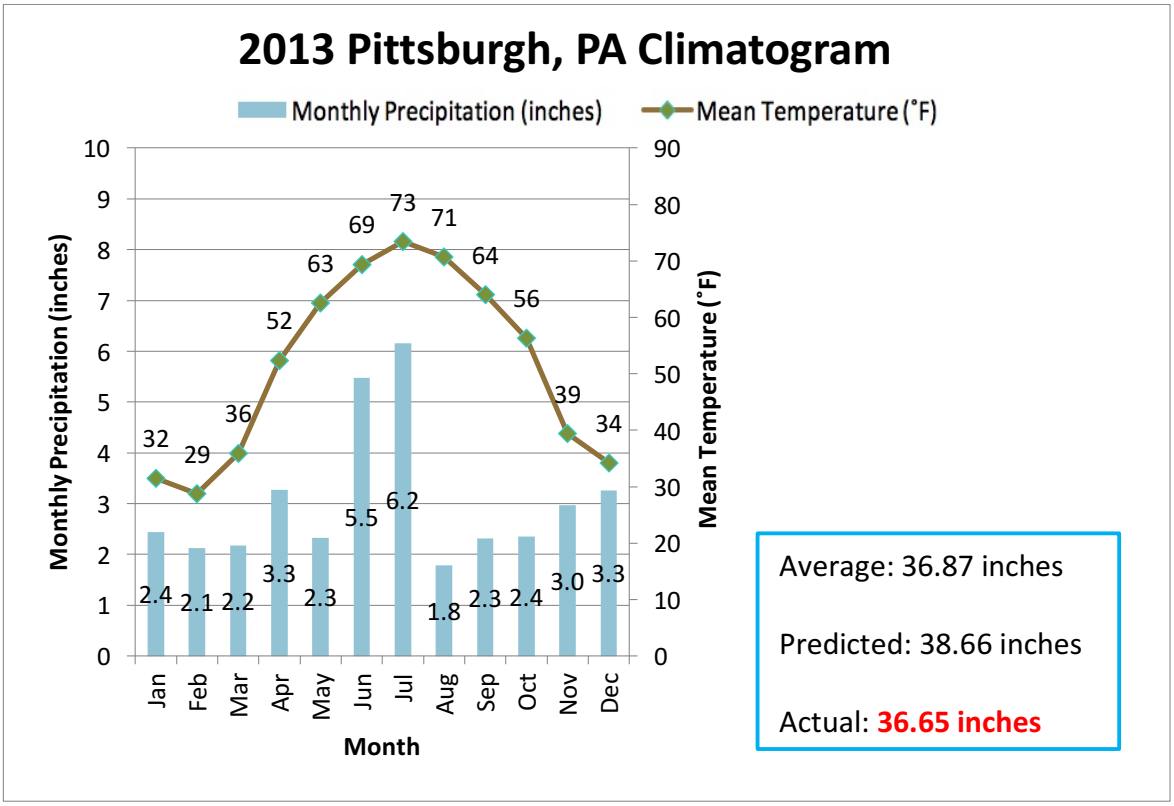

2008 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1.6 5.5 3.9 2.0 3.2 6.2 2.6 3.4 2.7 2.0 2.0 4.7
31 29 37 54 57 70 73 70 66 51 40 33
Average: 36.87 inches
Predicted: 42.79 inches
Actual: 39.69 inches

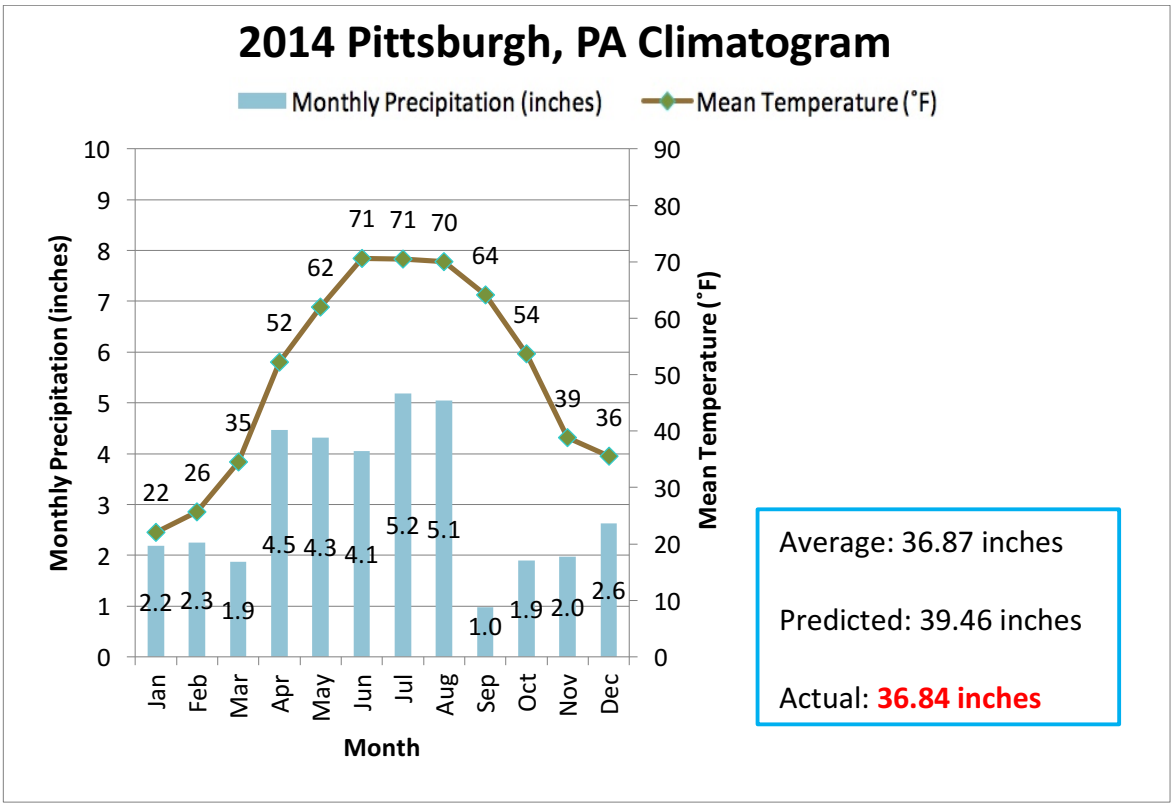

2009 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3.0 1.6 1.7 2.4 3.8 4.4 4.1 3.6 1.6 2.3 1.0 3.5
22 31 42 52 61 68 69 72 65 51 47 31
Average: 36.87 inches
Predicted: 37.87 inches
Actual: 32.84 inches

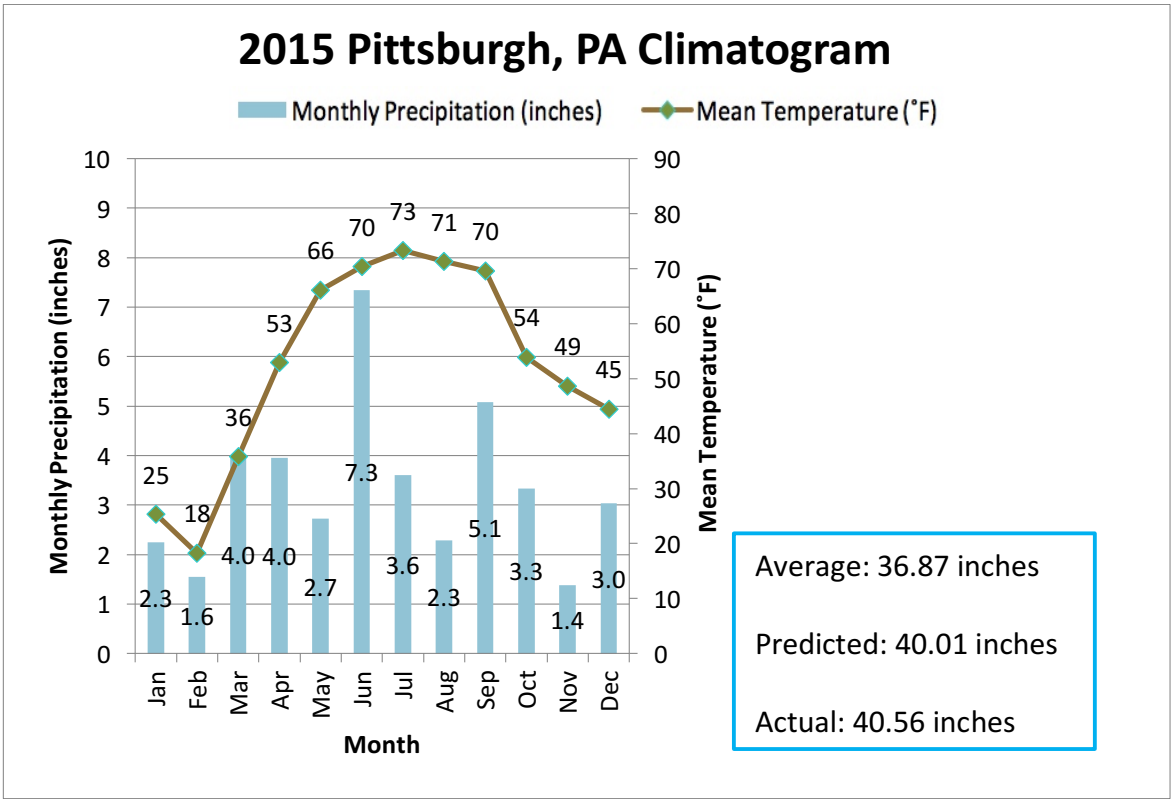

2010 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
26 26 43 55 64 71 76 74 66 53 42 26
2.9 3.2 2.2 1.8 5.2 5.1 2.9 1.7 3.3 2.1 6.0 1.6
Average: 36.87 inches
Predicted: 37.20 inches
Actual: 37.85 inches

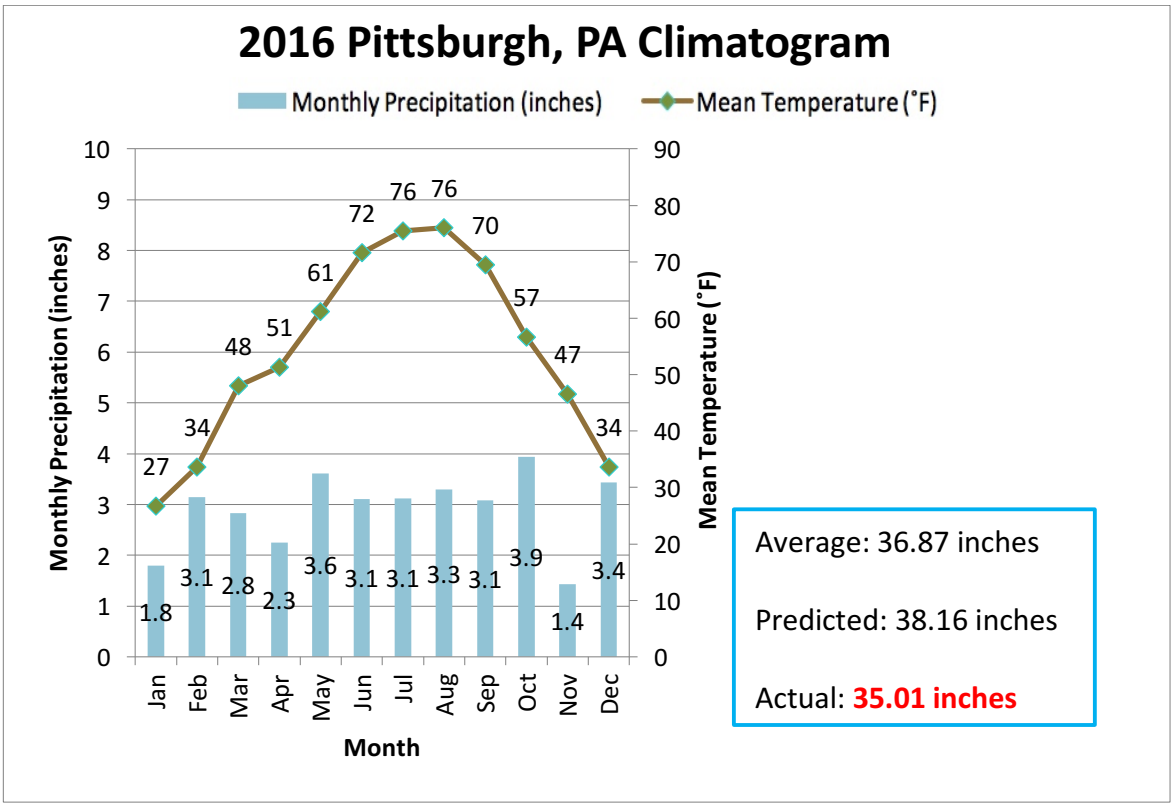

2011 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
24 32 39 53 63 70 77 73 65 53 47 38
2.4 5.0 5.0 5.1 4.6 2.5 2.6 2.7 3.7 4.4 3.8 2.5
Average: 36.87 inches
Predicted: 39.06 inches
Actual: 44.24 inches

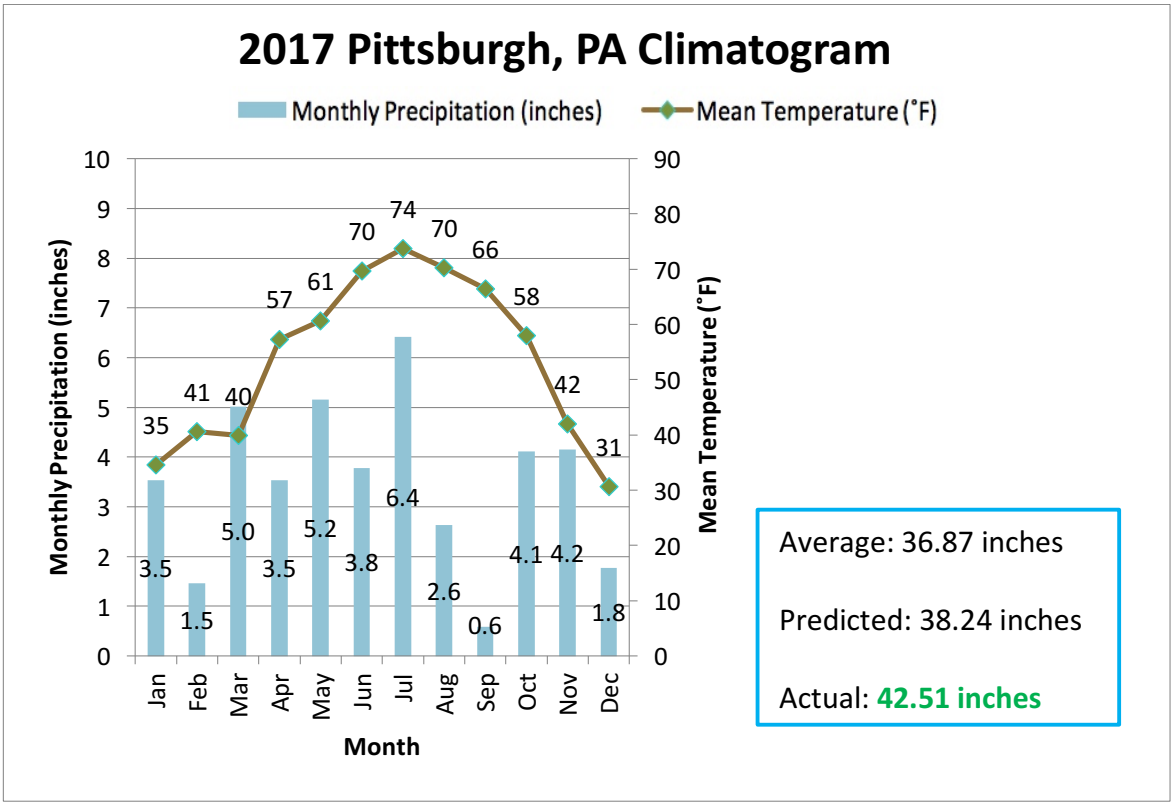

2012 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
33 35 52 50 67 70 77 72 64 54 40 38
3.9 2.2 3.3 1.3 4.7 1.2 7.3 2.7 4.8 4.4 0.4 5.5
Average: 36.87 inches
Predicted: 39.27 inches
Actual: 41.74 inches

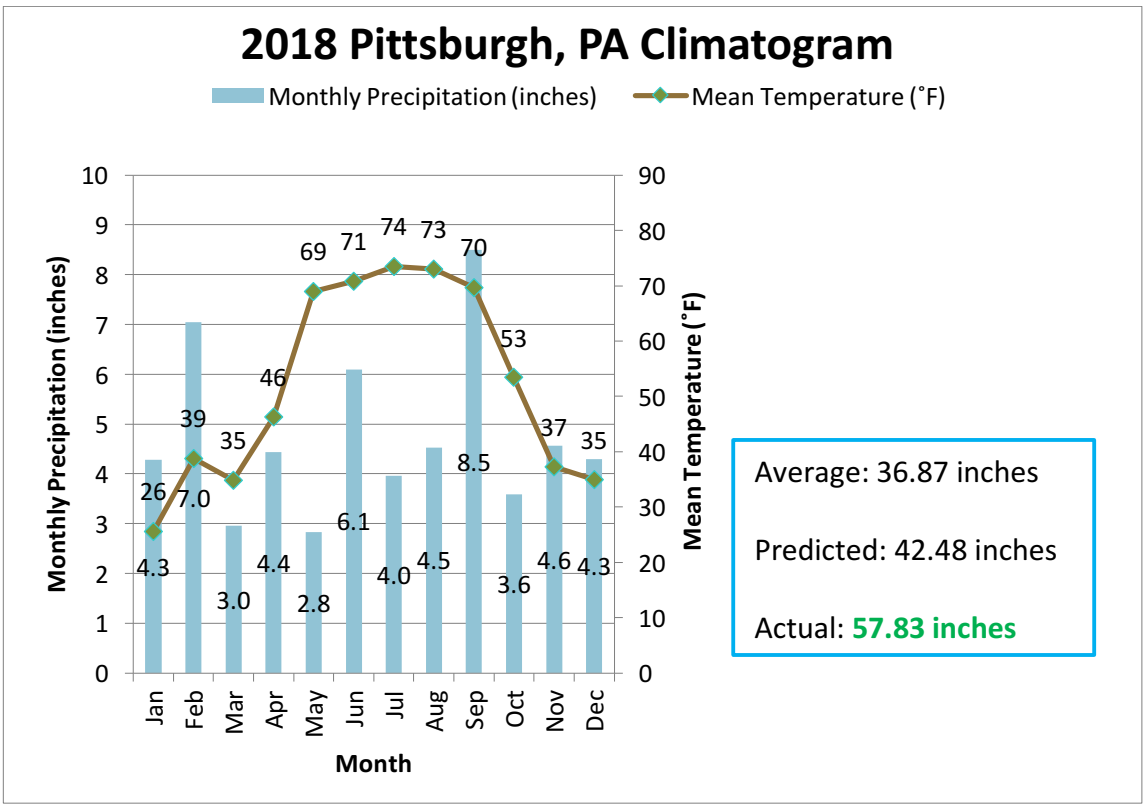

2013 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
32 29 36 52 63 69 73 71 64 56 39 34
2.4 2.1 2.2 3.3 2.3 5.5 6.2 1.8 2.3 2.4 3.0 3.3
Average: 36.87 inches
Predicted: 38.66 inches
Actual: 36.65 inches

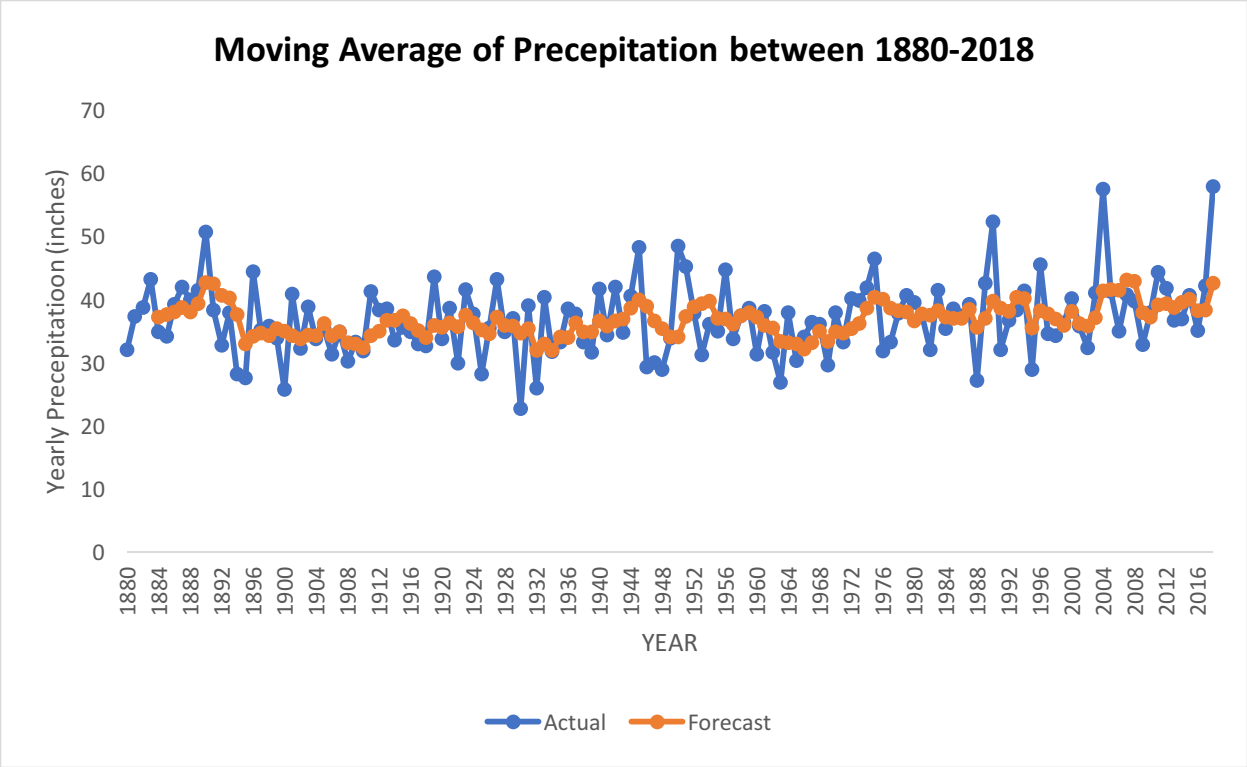

2014 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
22 26 35 52 62 71 71 70 64 54 39 36
2.2 2.3 1.9 4.5 4.3 4.1 5.2 5.1 1.0 1.9 2.0 2.6
Average: 36.87 inches
Predicted: 39.46 inches
Actual: 36.84 inches

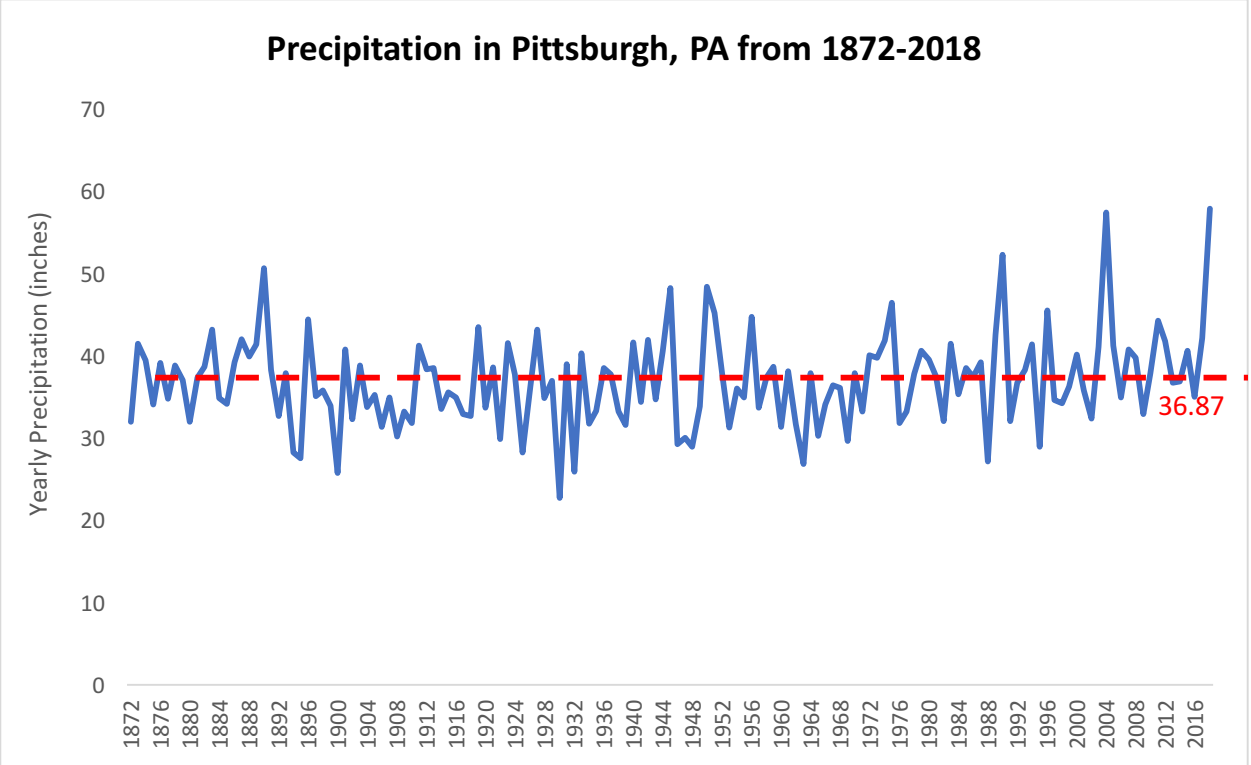

2015 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
25 18 36 53 66 70 73 71 70 54 49 45
2.3 1.6 4.0 4.0 2.7 7.3 3.6 2.3 5.1 3.3 1.4 3.0
Average: 36.87 inches
Predicted: 40.01 inches
Actual: 40.56 inches

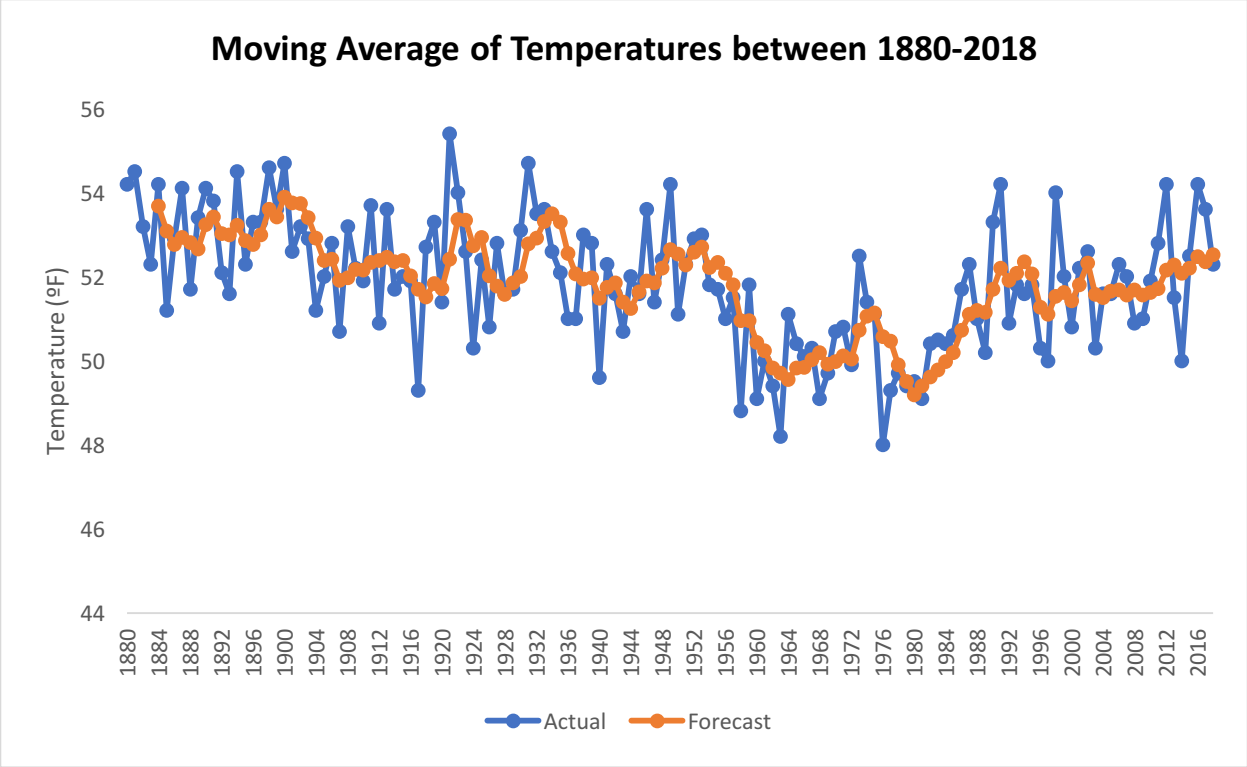

2016 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
27 34 48 51 61 72 76 76 70 57 47 34
1.8 3.1 2.8 2.3 3.6 3.1 3.1 3.3 3.1 3.9 1.4 3.4
Average: 36.87 inches
Predicted: 38.16 inches
Actual: 35.01 inches

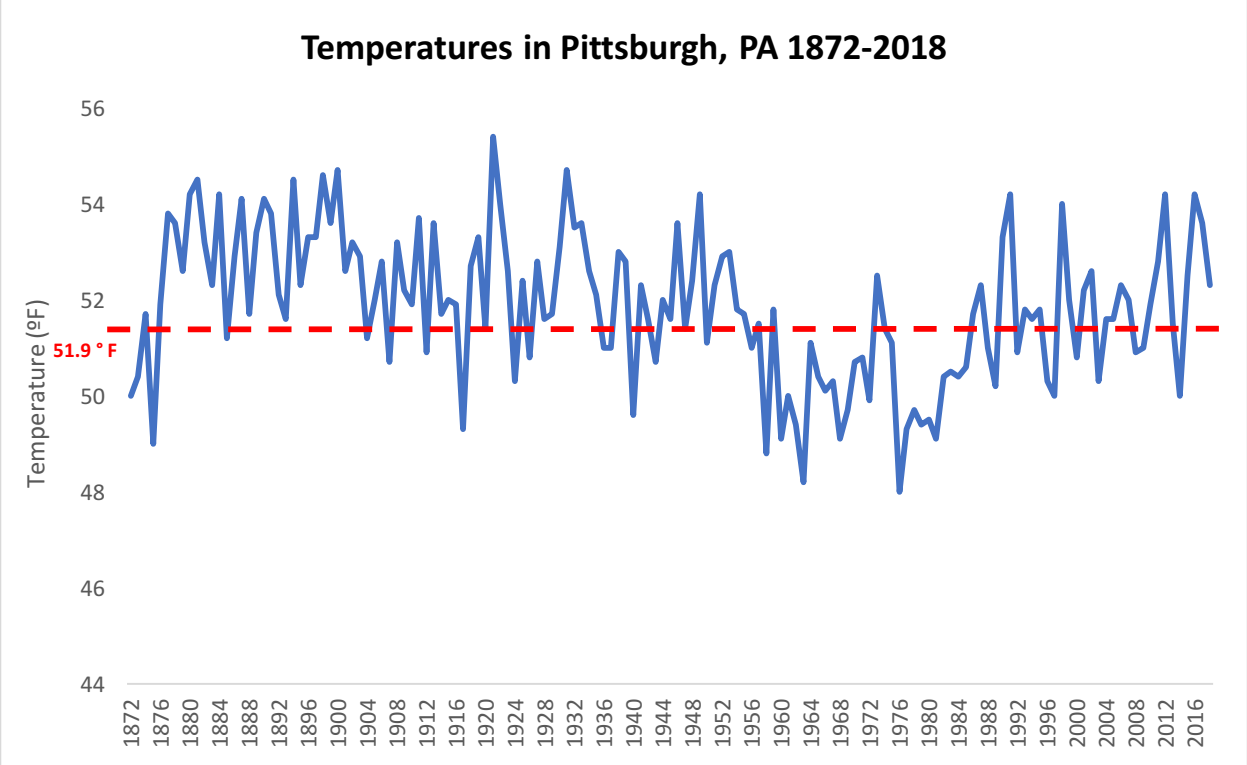

2017 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
35 41 40 57 61 70 74 70 66 58 42 31
3.5 1.5 5.0 3.5 5.2 3.8 6.4 2.6 0.6 4.1 4.2 1.8
Average: 36.87 inches
Predicted: 38.24 inches
Actual: 42.51 inches


2018 Pittsburgh, PA Climatogram
Monthly Precipitation (inches)
Mean Temperature (˚F)
Monthly Precipitation (inches)
Mean Temperature (˚F)
Month
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
26
39
35
46
69
71
74
73
70
53
37
35
4.3
7.0
3.0
4.4
2.8
6.1
4.0
4.5
8.5
3.6
4.6
4.3
Average: 36.87 inches
Predicted: 42.48 inches
Actual: 57.83 inches


Moving Average of Precepitation between 1880-2018
Yearly Precepitatioon (inches)
70
60
50
40
30
20
10
0
1880
1884
1888
1892
1896
1900
1904
1908
1912
1916
1920
1924
1928
1932
1936
1940
1944
1948
1952
1956
1960
1964
1968
1972
1976
1980
1984
1988
1992
1996
2000
2004
2008
2012
2016
YEAR
Actual
Forecast


Precipitation in Pittsburgh, PA from 1872-2018
Yearly Precipitation (inches)
70
60
50
40
30
20
10
0
36.87
1872
1876
1880
1884
1888
1892
1896
1900
1904
1908
1912
1916
1920
1924
1928
1932
1936
1940
1944
1948
1952
1956
1960
1964
1968
1972
1976
1980
1984
1988
1992
1996
2000
2004
2008
2012
2016


Moving Average of Temperatures between 1880-2018
Temperature (ºF)
56
54
52
50
48
46
44
1880
1884
1888
1892
1896
1900
1904
1908
1912
1916
1920
1924
1928
1932
1936
1940
1944
1948
1952
1956
1960
1964
1968
1972
1976
1980
1984
1988
1992
1996
2000
2004
2008
2012
2016
Actual
Forecast


Temperatures in Pittsburgh, PA 1872-2018
Temperature (ºF)
56
54
52
51.9 ° F
50
48
46
44
1872
1876
1880
1884
1888
1892
1896
1900
1904
1908
1912
1916
1920
1924
1928
1932
1936
1940
1944
1948
1952
1956
1960
1964
1968
1972
1976
1980
1984
1988
1992
1996
2000
2004
2008
2012
2016

Climate Change in My Community: Using Climatograms to Visualize Changes in Precipitation

Michelle Valkanas

Learning Goals:

1. To understand and visualize how precipitation changes over time in your community
2. To practice creating graphs and using data to draw conclusions
3. Compare conclusions from graph to real life "test" of the model

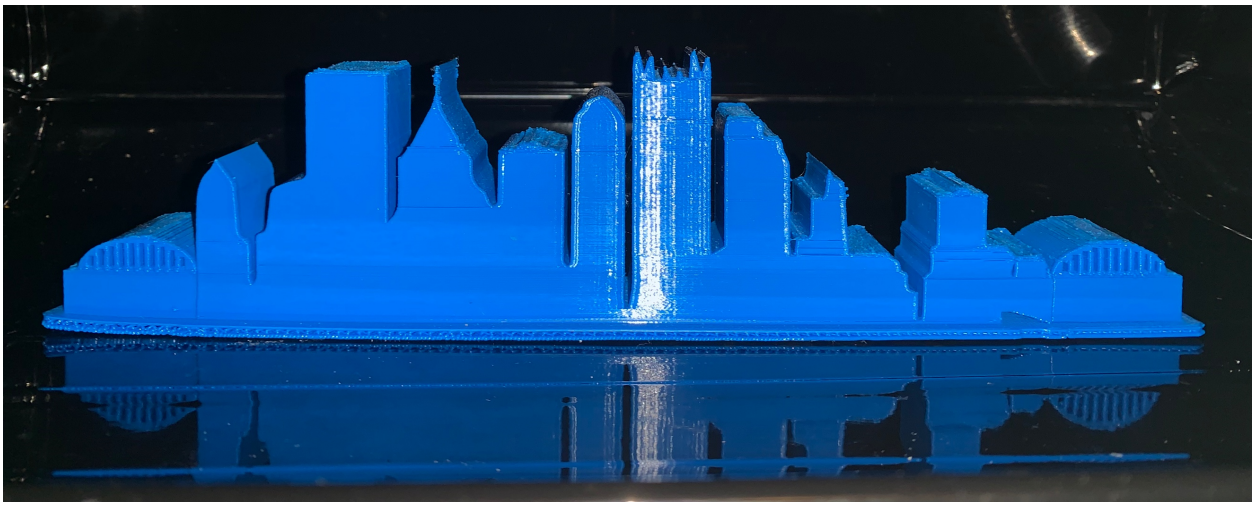
Summary: Using math counting cubes, participants will pick a year and count out the number cubes that corresponds to inches of precipitation for that year. They will place the cubes on the provided timeline. The timeline will have pictures hanging below given years showcasing different events that occurred in the target city (establishment of landmarks, championship sports wins, major flooding events, etc.), The pictures serve a dual purpose: 1. assuring an equal distribution of date selection and 2. providing a relatable component to the activity. As the number of participants increases, so will the data points on the timeline, presenting a bar graph of precipitation. To further demonstrate the amount of precipitation that occurred in each year, water is poured over a 3D image of the city for the same number of seconds as there was precipitation. There will be a designated flood line showing the probability of flooding for that year.

Preparation:

1. Design a timeline
    a. We want to provide a hook that catches participants attention and provokes interest, while also providing a scaffolding for understanding recent history
    b. Wikipedia has dedicated pages to timelines of major cities (i.e. “Timeline of Pittsburgh”)
        i. See Pittsburgh as an example: https://en.wikipedia.org/wiki/Timeline_of_Pittsburgh
    c. Find old (and new photos) to hang from your timeline using the internet or your local library
        i. Be sure that the photos are properly credited and copyright is being honored

2. Collect precipitation data
    a. Precipitation data for all major cities can be found online www.weather.gov
    b. Choose a method of presenting your data. These include:
        i. The data can be presented as is, simply with yearly precipitation totals
        ii. The data can be graphed to be more visually pleasing (see attached example)
        iii. Climatograms are another visual option where precipitation and temperature are graphed together to visualize change over time
            1. More on climatograms and a climatogram template can be found at https://pmm.nasa.gov/education/lesson-plans/geographical-influences
            2. See Climatogram Book of Pittsburgh (attached) as an example

3. Create 3D print of city
    a. local libraries usually provide cheap to no cost 3D printing service
    b. some city models can simply be bought
    c. a lego model would also work



Supplies:
2 x 4 to build timeline (or alternative shelf/stand)
Math counting cubes
    200 x 0.75 inch cubes
    500 x 1 cm inch cubes
Book/Handout of precipitation data
Photos of city events
String or fishing line to hang pictures
3D model of target city
Watering can
Pan to collect water runoff from city

Procedure:
1. Participant selects a date either based on the pictures or a year at random
2. Using the data precipitation handout, they identify the total precipitation for that year and count out that many math cubes
    a. Where 0.75 inch cubes are ten's value and 1 cm cubes are one's value
3. Once cubes are counted out, they should be placed on the appropriate spot along the timeline
4. The participant will then count to the number of seconds equivalent to precipitation, while pouring water over the city with a water can, representing rainfall
5. Lastly, check the city flood line to determine the probability of flooding for that given year

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Questions for Discussion

1. Understanding how precipitation changes over time and using graphs to understand data
    a. For younger visitors, the data can be used simply as a comparison rather than a graph. Which year had more rain based on the counting blocks displayed? If we look at the very beginning of the timeline verse the very end of the timeline, which end received more rain?
    b. For older participants, the timeline should be used as a bar graph. How does precipitation change over time? Is there a steady increase or is it variable? What is the overall trend over the last hundred years?
2. Compare conclusions from graph to real life "test" of the model
    a. For younger participants, will a given amount to cause the city model to flood. If flooding does occur, how can the city make changes in the future to accommodate increases in rainfall?
    b. For older participants, the participants should first identify if the precipitation for a given year was above or below the predicted rainfall for that year. What is the consequences for drastically being over or under the predicted rainfall? A discussion on limitations on predicted rainfall can also be discussed. If flooding does occur, how can the city make changes in the future to accommodate increases in rainfall?