

Howard County Climate Report (2000-2025)

The report examines climate trends in Howard County in Maryland over 25 years from 2000 January to 2025 July.

Howard County Climate Report Summary (2000 2025):

Maximum Temperature Analysis

- Mean: 68.32°F
- Range: 64.6°F - 70.8°F (6.2°F increase)
- Standard Deviation: 1.56°F
- Trend: upward

Average Temperature Analysis

- Mean: 54.31°F
- Range: 50.7°F - 57.3°F (6.6°F increase)
- Anomaly Range: -3.6°F to +3.0°F
- Trend: upward

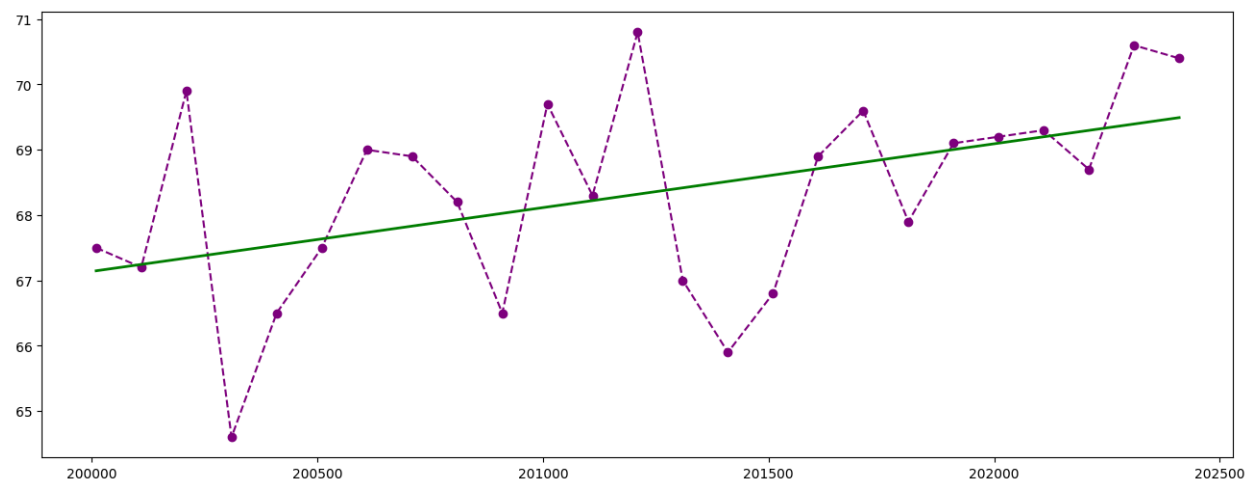
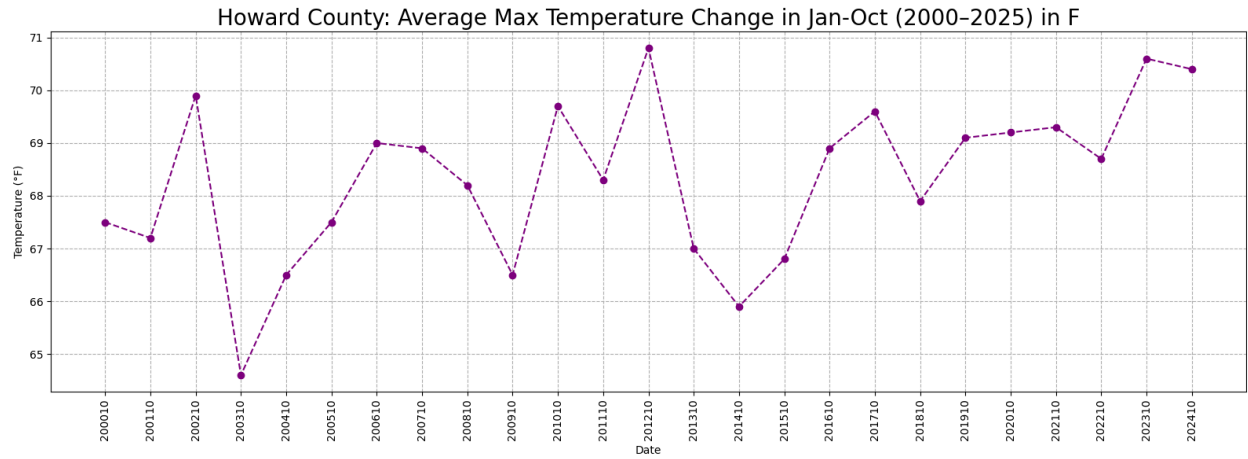
Minimum Temperature Analysis

- Mean: 44.97°F
- Range: 43.0°F - 46.6°F (3.6°F increase)
- Anomaly Range: -2.0°F to +1.6°F
- Trend: upward

Precipitation Patterns

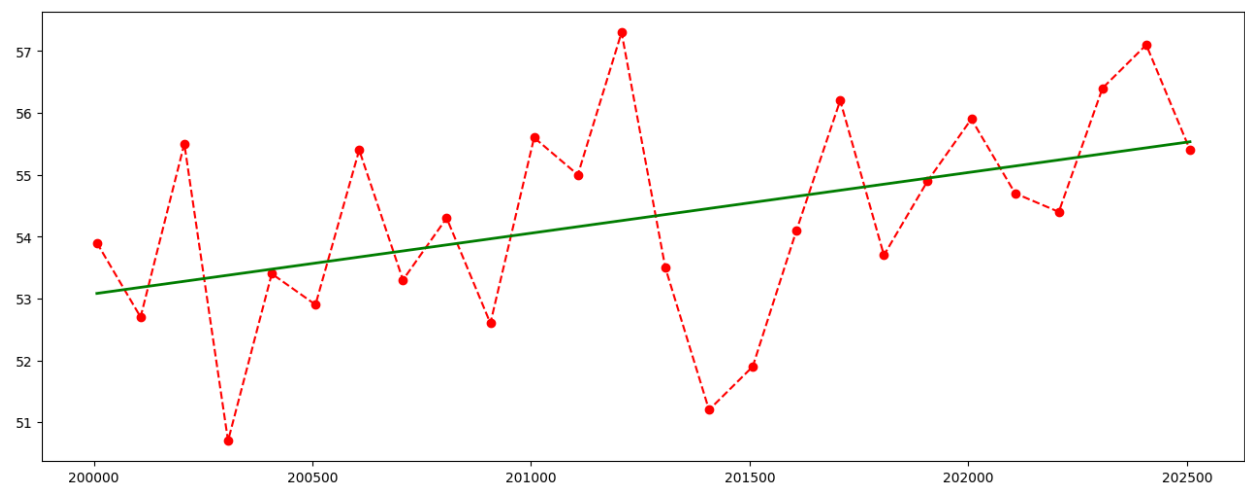
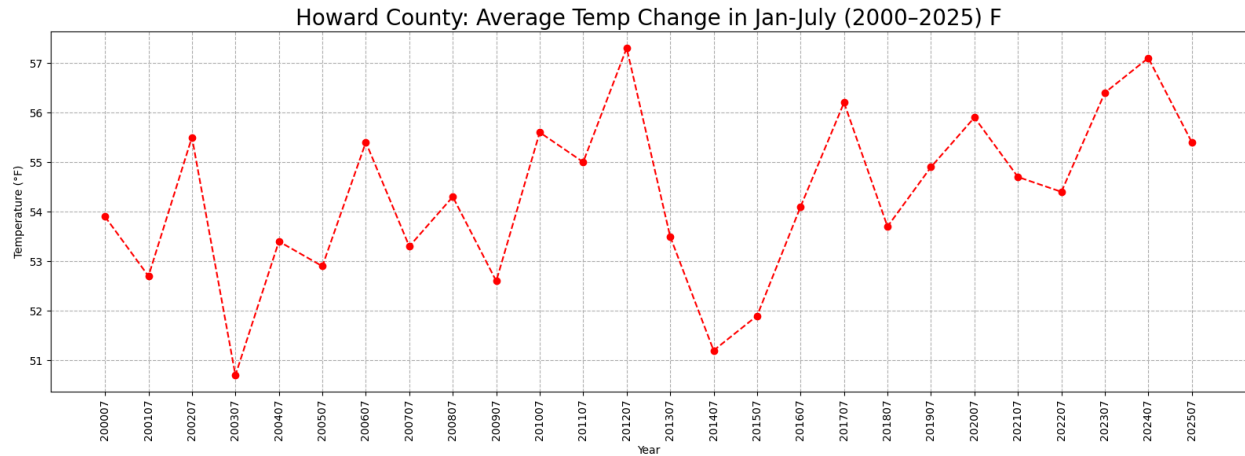
- Range: 33.78 - 71.68 inches annually
- Anomaly Range: -12.1 to +25.8 inches
- Trend: Increasing variability with upward trend
- Correlation: upward

The report shows overall long term changes in the climate and the precipitation levels in the county. The examination of the maximum and minimum temperature in Howard County shows that there is an overall increase in the trend of the climate as the temperatures have increased overall and there is a positive trend. The increasing precipitation alongside rising temperatures suggests that as the weather gets warmer there is more evaporation which then causes there to be more rainfall. There is an average 25.8 inches of rain increase since 2000.



	Date	Value
count	25.000000	25.000000
mean	201210.000000	68.320000
std	735.980072	1.561249
min	200010.000000	64.600000
25%	200610.000000	67.200000
50%	201210.000000	68.700000
75%	201810.000000	69.300000
max	202410.000000	70.800000

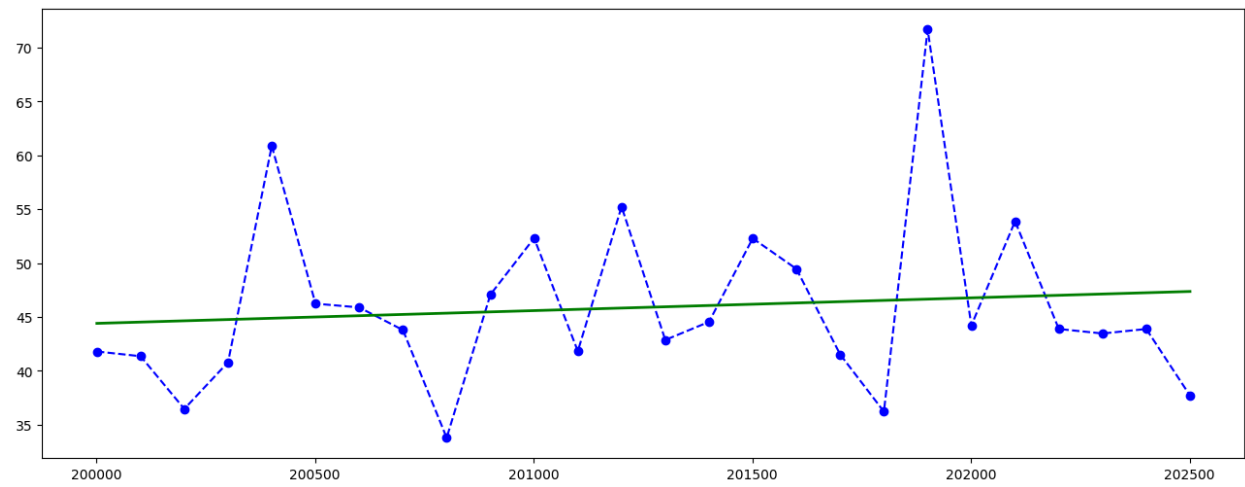
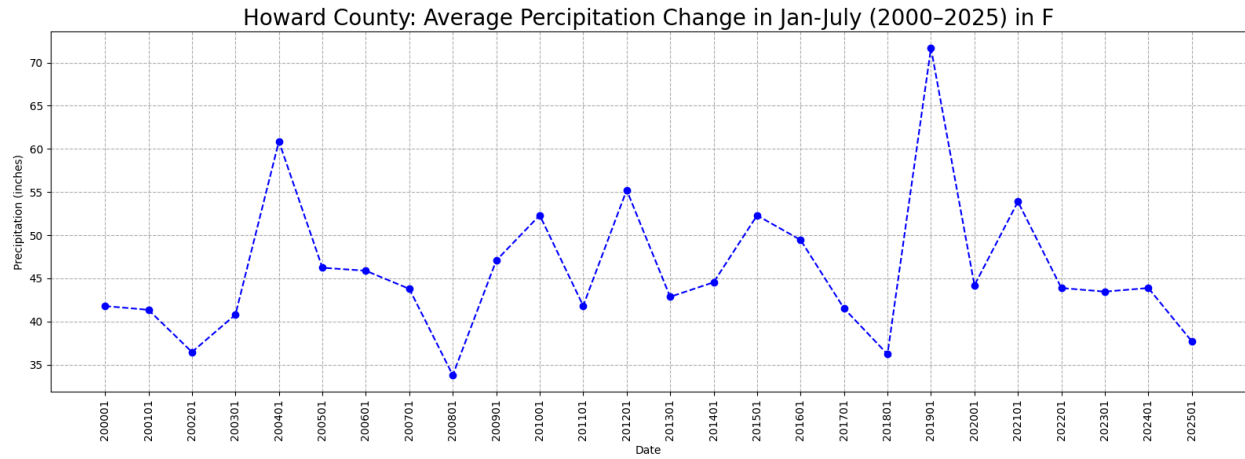
The average maximum temperature is increasing over time.
This may indicate a warming trend in Howard County the past 25 years.



	Year	Temperature	Anomaly
count	26.000000	26.000000	26.000000
mean	201257.000000	54.307692	0.007692
min	200007.000000	50.700000	-3.600000
25%	200632.000000	53.325000	-0.975000
50%	201257.000000	54.350000	0.050000
75%	201882.000000	55.475000	1.175000
max	202507.000000	57.300000	3.000000

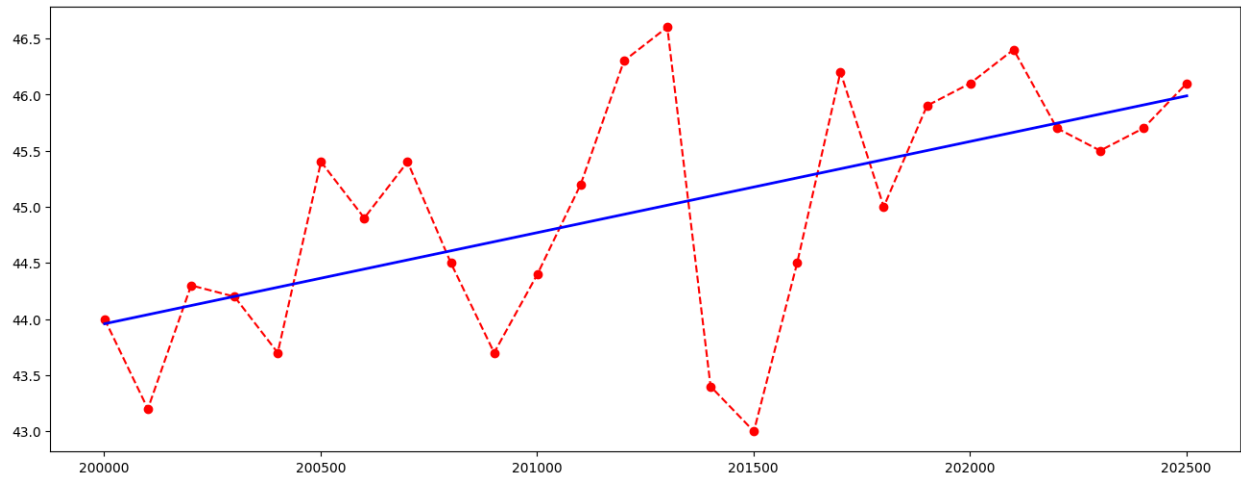
The Temperature is increasing over time.

This indicates an increase of the overall climate temperature in Howard County the past 25 years

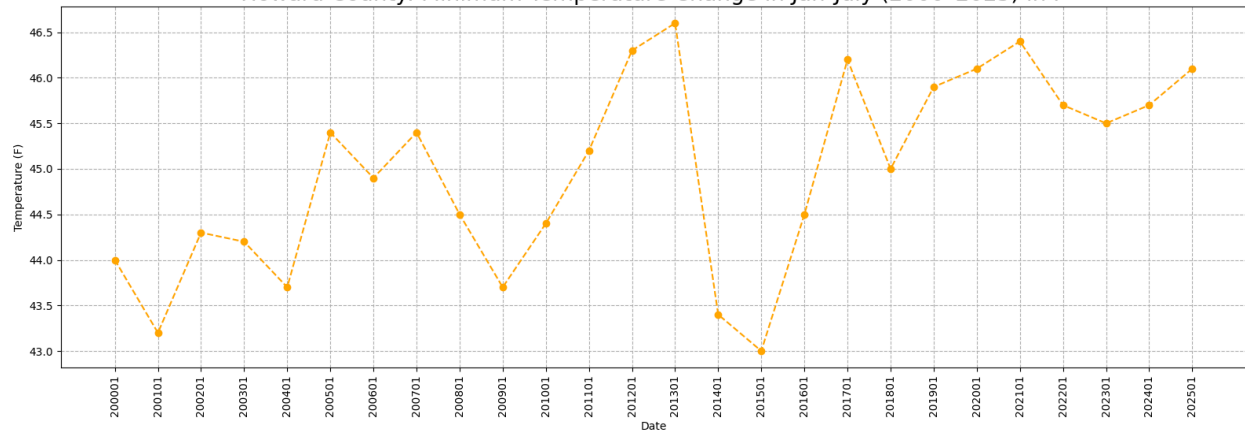


Date	Value	Anomaly	
count	26.000000	26.000000	26.000000
mean	201251.000000	45.880769	0.000769
min	200001.000000	33.780000	-12.100000
25%	200626.000000	41.580000	-4.300000
50%	201251.000000	43.880000	-2.000000
75%	201876.000000	48.855000	2.975000
max	202501.000000	71.680000	25.800000

The precipitation is increasing over time.



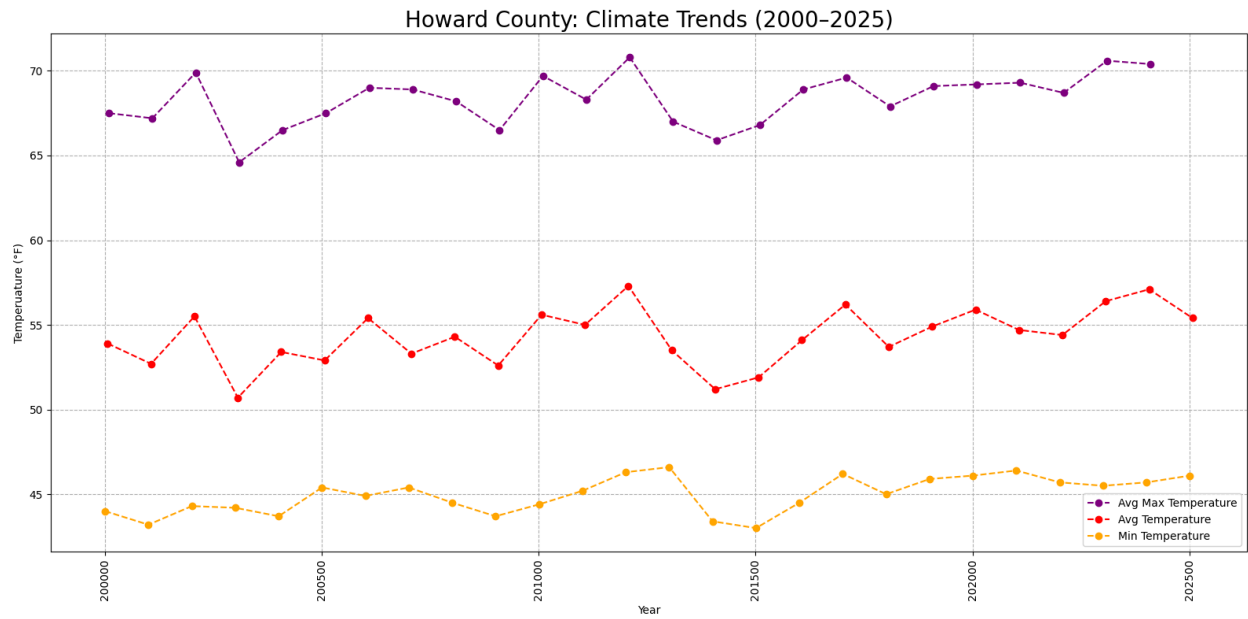
Howard County: Minimum Temperature Change in Jan-July (2000-2025) in F



	Date	Value	Anomaly
count	26.000000	26.000000	26.000000
mean	201251.000000	44.973077	-0.026923
min	200001.000000	43.000000	-2.000000
25%	200626.000000	44.225000	-0.775000
50%	201251.000000	45.100000	0.100000
75%	201876.000000	45.850000	0.850000
max	202501.000000	46.600000	1.600000

The minimum temperature is increasing over time.

This indicates an increase of the overall climate temperature in Howard County the past 25 years



All three lines show general upward trends over the 25-year period, confirming consistent warming.

All three metrics show a downward trend around 2007

All three trends see a peak in 2011

2020-2025 there is a consistent increase in temperatures.