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# Maryland Climate Bulletin Spring 2025

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# Summary

Spring 2025 was warmer and wetter than normal (i.e., 1991-2020 averages) in Maryland, with warmer and wetter-than-normal conditions in May, but warmer and drier-than-normal conditions in April and March. Regionally, spring mean temperatures were between 49 and 60°F, maximum temperatures ranged from 60 to 71°F, and minimum temperatures were between 38 and 49°F. Seasonal accumulated total precipitation ranged from 11 to 17.5 inches.

*Maryland Regional Features* (Figures 1-5, C1, and E1)

- The mean temperature was warmer than normal throughout the state, particularly in western Charles County (3.6−4.0°F), Garrett County (3.2–3.8°F), and parts of Calvert, Saint Mary's, Talbot, Caroline, Dorchester, Wicomico, Somerset, Worcester, Montgomery, and Frederick counties (3.2–3.6°F).

- The maximum temperature was also warmer than normal everywhere in the state, notably in Garrett County (4.0–4.6°F), southern Charles and Calvert counties, and Saint Mary's County (3.6–4.2°F), and parts of Talbot, Dorchester, Wicomico, and Somerset counties (3.6–4.0°F).

- The minimum temperature was warmer than normal in all the state as well, especially over western Charles, Montgomery and Frederck counties (3.6–4.2°F), southern Queen Anne's, and parts of Caroline, Talbot, and Dorchester counties (3.4–3.8°F), and northern Baltimore, Harford and western Cecil counties (3.4−3.6°F).

- Precipitation was above normal over almost the entire state, particularly in northern Garrett and Allegany counties (3.5−4.5 in), southern Calvert and Saint Mary's counties, and Harford and Cecil counties (3.0−4.0 in), and the eastern portions of the counties in the Eastern Shore (3.0−3.5 in). All of these regions in the state received around 25−35% more than their climatological spring precipitation. Below normal precipitation appeared in northwestern Montgomery and southwestern Frederick counties (0.1−0.5 inches deficit), which amounted to 5% less than the normal spring precipitation.

- The partial water year 2025 (October 2024 − May 2025) was below normal across almost the entire state, notably over parts of Howard, Carroll, Montgomery and Frederick counties (6−7 inches deficit), and parts of Harford, Kent, and Queen Anne's counties (6 inches deficit); these regions received 21−27% less than their climatological water amount. Above-normal water amounts developed only over northern Garrett and western Allegany counties (0.5−1 in), which received around 3% more than their climatological water amount.

*Maryland Climate Divisions* (Figures 6-7, B1, and B2)

- All eight climate divisions experienced warmer and wetter-than-normal conditions during spring 2025. Climate Division 3, the Lower Southern, west of the Bay, had the

largest mean temperature departure from normal (3.5°F), while Climate Division 7, the Appalachian Mountains, had the smallest (2.6°F below). Climate Division 1, the Southeastern Shore, to the east of the Bay, had the largest departure from normal precipitation (3.26 in); in contrast, Climate Division 4, the Upper Southern, to the west of the Bay, had the smallest departure (1.33 in).

- Seasonally, statewide mean temperature anomalies in spring 2025 were warmer than normal (3.1°F), following a colder-than-normal winter 2024-25 (1.6°F below) and a warmer-than-normal fall 2024 (1.8°F). Statewide precipitation anomalies in spring 2025 were above normal (2.38 in) after conditions were drier than normal in winter 2024-25 (2.63 inches deficit), fall (6.25 inches deficit), and summer 2024.

*Historical Context* (Figure 8, Tables A1 and A2)

- Spring 2025's statewide mean, maximum, and minimum temperatures (56.9, 67.6, and 46.1°F) were above their long-term (1895-2024) averages (52.6, 63.6, and 41.7°F) and within the 5% of their warmest values on record. Still, these temperatures were far from their warmest records of 58.2, 69.3, and 47.0°F, established in 2012, respectively. The statewide precipitation for spring 2025 (13.89 in) was above the long-term average (10.99 in) and within 25% of the wettest values on record, and far from the wettest spring on record of 18.81 inches in 1983.

- Statewide, mean temperatures indicated that spring 2025 was the fifth warmest spring since 1895. Statewide maximum temperatures revealed that this was the sixth warmest spring, while statewide minimum temperatures showed this was the fourth warmest spring on record.

- All counties reached mean temperatures within the nine warmest on record, and seventeen of them within the five warmest; among these, Calvert, Charles, Dorchester, Saint Mary's, Somerset, Talbot, Wicomico, and Worcester counties reached the second warmest spring. Similarly, twenty-two counties reached maximum temperatures within the nine warmest on record, and nine of them within the five warmest; among these, Calvert, Dorchester, Saint Mary's, and Somerset counties reached the second warmest spring. Likewise, all the counties reached minimum temperatures within the nine warmest on record, and twenty-two of them within the five warmest; among these, Caroline, Saint Mary's, and Talbot counties reached the second warmest spring.

- Statewide precipitation revealed that spring 2025 was the sixteenth wettest spring on record. It was the fifteenth wettest spring for Baltimore, Garrett, and Harford counties and the eleventh wettest for Allegany, Somerset, and Worcester counties.

*Century-Plus Trends, 1895-2025* (Figures 9, 10)

- Statewide mean temperature in spring showed a significant warming trend (2.1°F/century), while heating degree-days had a significant decreasing trend (−178.8°F degree-days/century). The statewide accumulated total precipitation had a significant increasing trend (1.00 in/century), and similarly, the statewide partial water year (October 2024−May 2025) also had a significant increasing trend (2.25 in/century).

- Regionally, spring mean temperatures exhibited significant warming trends throughout the state, notably over southern Baltimore County and Baltimore City (2.6−3.0°F/century), and the eastern half of the Eastern Shore (2.2−2.6°F/century).

- Regionally, the accumulated total precipitation in spring showed statistically significant wetting trends over the Piedmont and western Maryland and the southern tip of Worcester County. Maximum increasing trends were found over Garrett County (1.8−2.0 in/century) and to the northwest of Baltimore City (1.8 in/century). A small, non-statistically significant drying trend was found on the southwestern tip of Charles County.

# Contents

# 1. Introduction

The Maryland Climate Bulletin is issued by the Maryland State Climatologist Office (MDSCO), which resides in the Department of Atmospheric and Oceanic Science at the University of Maryland, College Park. This is the seasonal version of the bulletin.

Maryland's geography is challenging, with the Allegheny and Blue Ridge mountains to the west, the Piedmont Plateau in the center, the Chesapeake Bay, and the Atlantic Coastal Plain to the east. The range of physiographic features and the state's eastern placement within the expansive North American continent contribute to a comparatively wide range of climatic conditions.

The bulletin aims to document and characterize seasonal surface climate conditions, situating them within the context of regional and continental climate variability and change, to help Marylanders interpret and understand recent climate conditions.

The seasonal surface climate conditions for spring 2025 are presented via maps of key variables, such as average surface air temperature, maximum surface air temperature, minimum surface air temperature, accumulated total precipitation, and their anomalies (i.e., departures from normal); they are complemented by partial water year conditions for the state (Section 3). Statewide and climate division averages for the season are compared using scatter plots (Section 4). The seasonal statewide averages are placed in the context of the historical record via box and whisker plots in Section 5. Century-plus trends in statewide air temperature, heating degree-days, accumulated total precipitation, partial water year, and state maps of air temperature and accumulated total precipitation are presented in Section 6. Ancillary statewide, climate division, and county-level information is provided via tables and plots in Appendices A and B; climatology and variability maps are included in Appendices C-E.

# 2. Data & Methods

Surface air temperatures, total precipitation, and heating degree-days data in this report are from the following sources:

- NOAA Monthly U.S. Climate *Gridded* Dataset at 5-km horizontal resolution (NClimGrid – Vose et al., 2014). It is available in a preliminary status at: https://www.ncei.noaa.gov/data/nclimgrid-monthly/access/
  Data was downloaded on 6/10/2025.

- NOAA Monthly U.S. Climate *Divisional* Dataset (NClimDiv – Vose et al., 2014). It is available in a preliminary status (v1.0.0-20250605) at: https://www.ncei.noaa.gov/pub/data/cirs/climdiv/
  Data was downloaded on 6/10/2025.

Some definitions:

*About the seasons*: Seasons are defined following the common three-month meteorological definitions. Spring includes March, April, and May; summer includes June, July, and August; fall includes September, October, and November; and winter includes December, January, and February. Seasonal temperatures are calculated as the mean of the temperatures in the three months, while seasonal precipitation and degree days are calculated as the sum of their values in the three months, which in turn were obtained by summing their daily values.

*About climate and climatology*. Weather and climate are closely related, but they are not the same. Weather represents the state of the atmosphere (temperature, precipitation, etc.) at any given time. On the other hand, climate refers to the time average of weather elements when the average is over long periods. If the average period is sufficiently long, we can begin to characterize the climate of a particular region.

It is customary to follow the World Meteorological Organization (WMO) recommendation and use 30 years for the average. The 30-year averaged weather data is traditionally known as Climate Normal (Kunkel and Court, 1990), which is updated every ten years (WMO, 2017). Establishing a climate normal or climatology is important as it allows one to compare a specific day, month, season, or even another normal period with the current normal. Such comparisons characterize anomalous weather and climate conditions, climate variability and change, and help define extreme weather and climate events (Arguez et al., 2012). The current climate normal, or simply the climatology, is defined for the period 1991–2020.

*About the anomalies*: Anomalies for a given season (e.g., spring 2025) are the departures of the seasonal value from the corresponding climatology; in this case, the 1991-2020 climatology. When the observed seasonal value exceeds its climatological value, it is referred to as above normal (e.g., warmer than normal or wetter than normal) or a positive anomaly. In contrast, when this value is smaller than its climatological value, it is referred to as below normal (e.g., colder than normal or drier than normal) or negative anomaly.

*About variability*. The monthly standard deviation of a climate variable measures its dispersion relative to its monthly mean and assesses its year-to-year, or interannual, variability. Anomalies are sometimes compared against that variability to identify extremes in the climate record. When anomalies are divided by the standard deviation, they are referred to as standardized anomalies.

*About degree days.* Degree days are the difference between the daily mean temperature (calculated by averaging the high and low temperatures) and a predefined base temperature. Since energy demand is cumulative, degree-day totals are typically calculated on a daily, monthly, seasonal, and annual basis.

- *Heating and cooling degree days.* These are used to obtain a general idea of the energy required to warm or cool buildings. The base temperature used for this purpose is 65°F, which is considered tolerable for human comfort (CPC, 2023).

*About the water year.* The water year is the sum of total precipitation from October 1st to September 30th of the following year and is labeled by the year in which the measurements end. Therefore, the water year 2025 started in October 2024 and will end in September 2025. Total precipitation for the entire water year reflects both winter snow accumulation and summer rainfall. Precipitation that falls during a water year reflects the amount of water that will contribute to actual stream flow and groundwater inputs for that year. This Bulletin presents only the partial water year from October 2024 to May 2025, based on the total monthly precipitation data for that period.

*About NOAA's Climate Divisions.* The term "climate division" refers to one of the eight divisions in the state that represent climatically homogeneous regions, as determined by NOAA: https://www.ncei.noaa.gov/access/monitoring/dyk/us-climate-divisions

The eight climate divisions in Maryland are:

- Climate Division 1: Southeastern Shore. It includes the counties of Somerset, Wicomico, and Worcester.
- Climate Division 2: Central Eastern Shore. It includes the counties of Caroline, Dorchester, and Talbot.
- Climate Division 3: Lower Southern. It includes the counties of Calvert, Charles, and St. Mary's.
- Climate Division 4: Upper Southern. It includes the counties of Anne Arundel and Prince George's.
- Climate Division 5: Northeastern Shore. It includes the counties of Kent and Queen Anne's.
- Climate Division 6: North Central. It includes the counties of Baltimore, Carroll, Cecil, Frederick, Harford, Howard, Montgomery, and the city of Baltimore.
- Climate Division 7: Appalachian Mountains. It includes the counties of Allegany and Washington.
- Climate Division 8: Allegheny Plateau. It includes Garrett County.

Note that these Climate Divisions do not correspond with the *Physiographic Provinces* in the state, as the former follow county lines. Climate Division 8 follows the *Appalachian Plateau Province*, Climate Division 7 follows the *Ridge and Valley Province*; however, Climate Division 6 includes the *Blue Ridge and the Piedmont Plateau provinces,* Climate Divisions 3, 4, and a portion of 6 include the *Upper Coastal Plain Province*, and Climate Divisions 1, 2, 5, and a portion of 6 include the *Lower Coastal Plain (or Atlantic Continental Shelf) Province*.

# 3. Spring 2025 Maps

## A. Mean Temperatures

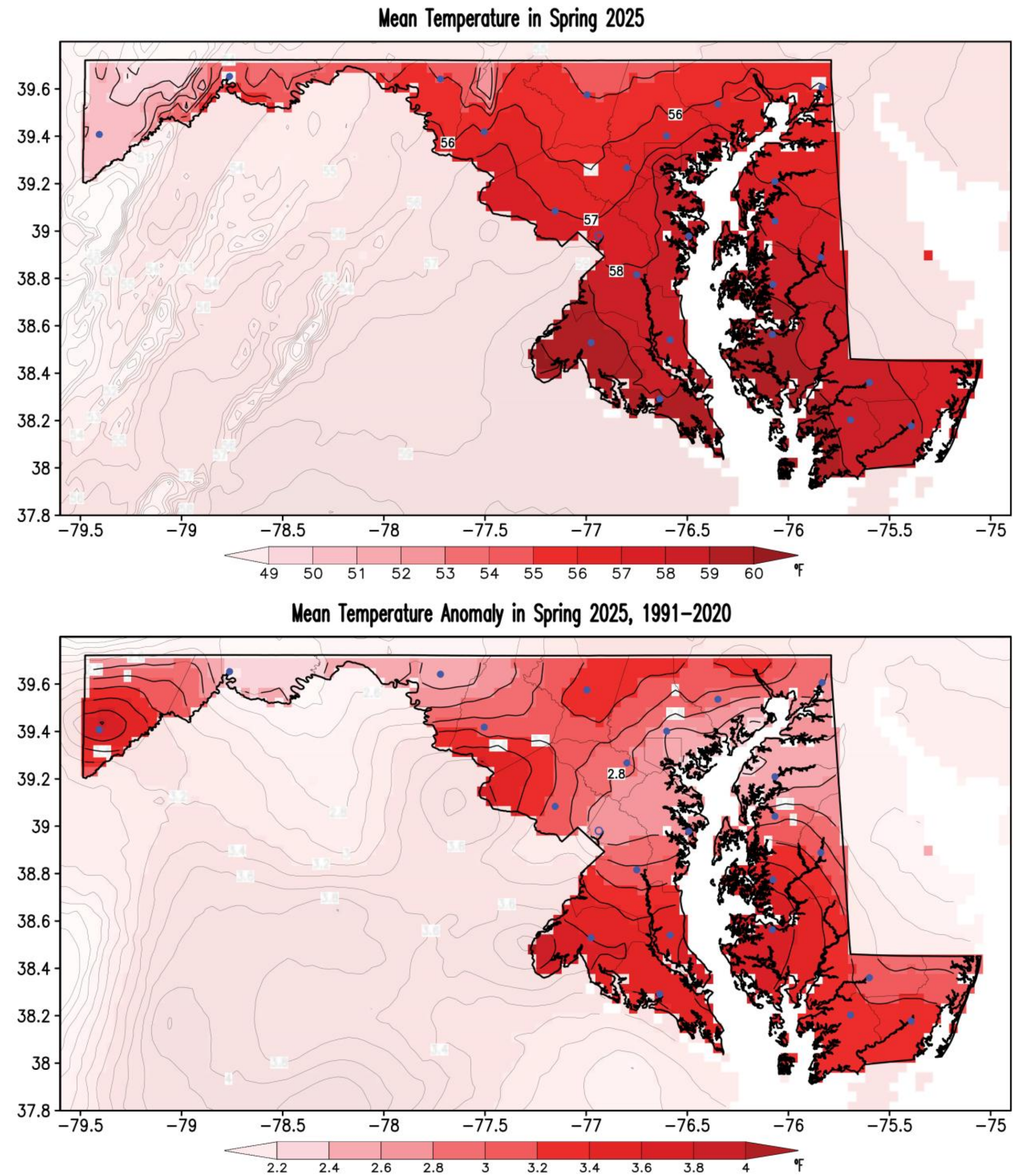



**Figure 1.** Seasonal mean surface air temperature (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for spring 2025. Temperatures are in °F following the color bar. Red shading in the anomaly map marks warmer than normal conditions. Note shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

B. Maximum Temperatures

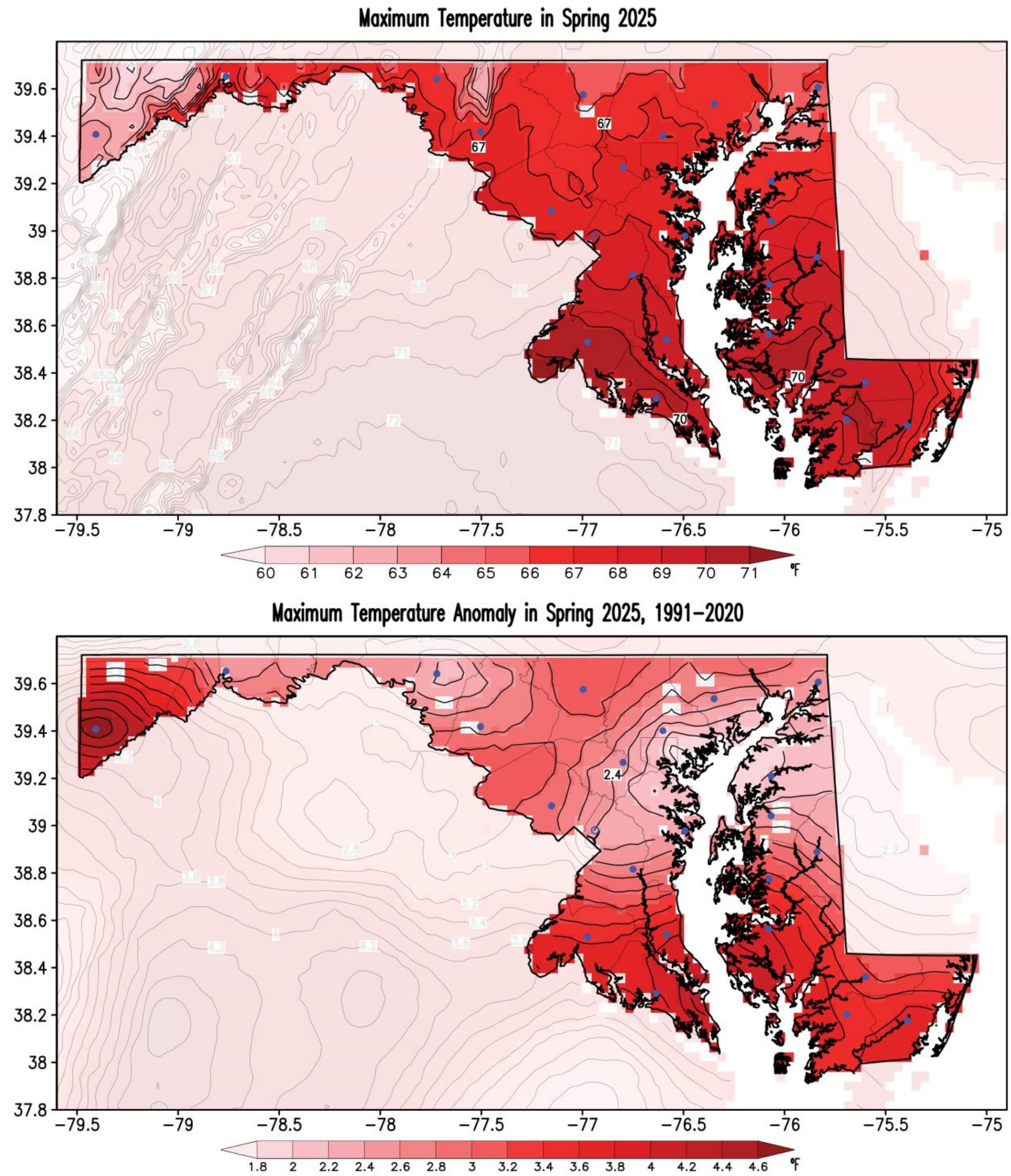



**Figure 2.** Seasonal maximum surface air temperature (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for spring 2025. Temperatures are in °F following the color bar. Red shading in the anomaly map marks warmer than normal conditions. Note shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

## C. Minimum Temperatures

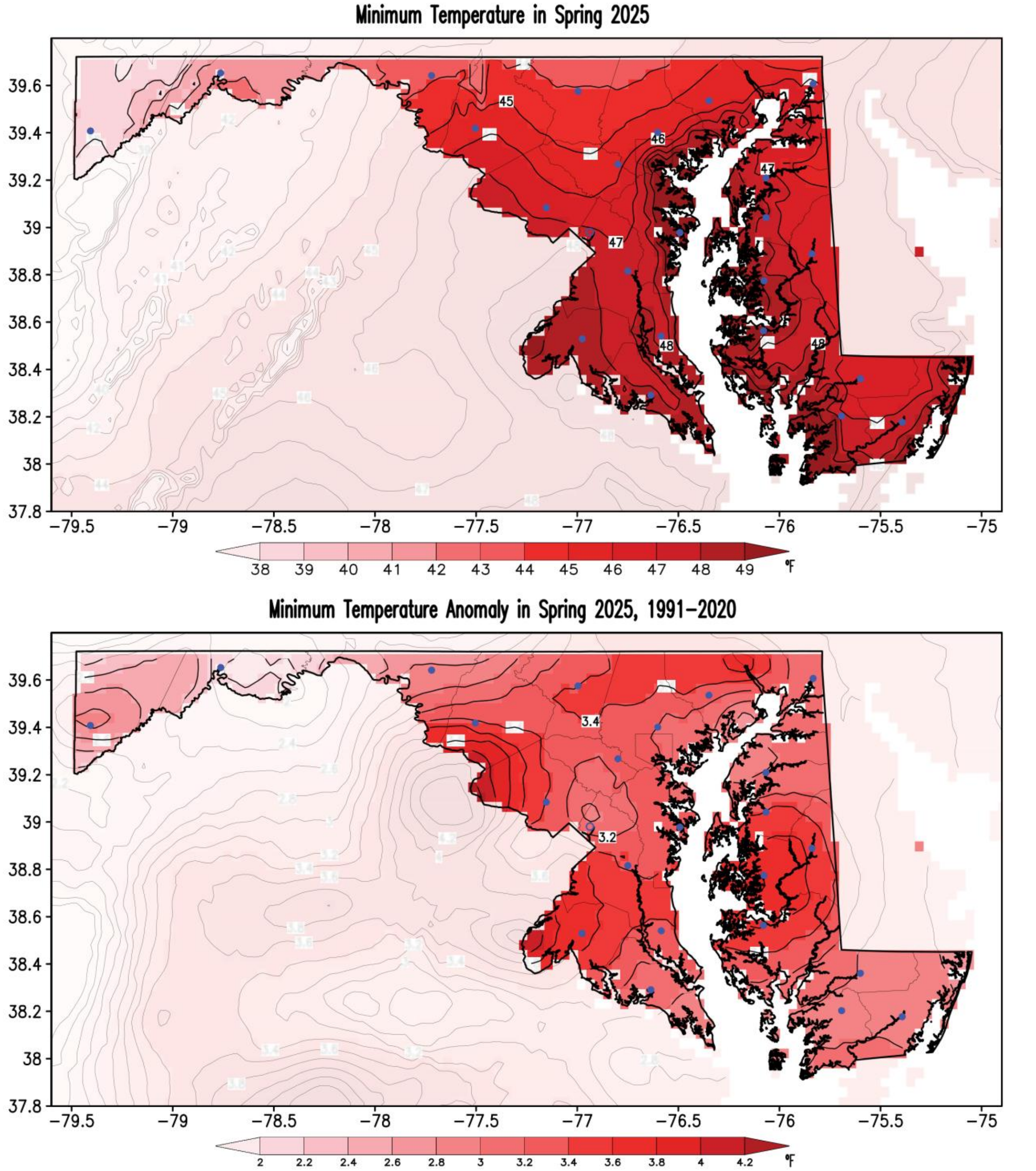



**Figure 3.** Seasonal minimum surface air temperature (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for spring 2025. Temperatures are in °F following the color bar. Red shading in the anomaly map marks warmer than normal conditions. Note shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

D. Precipitation

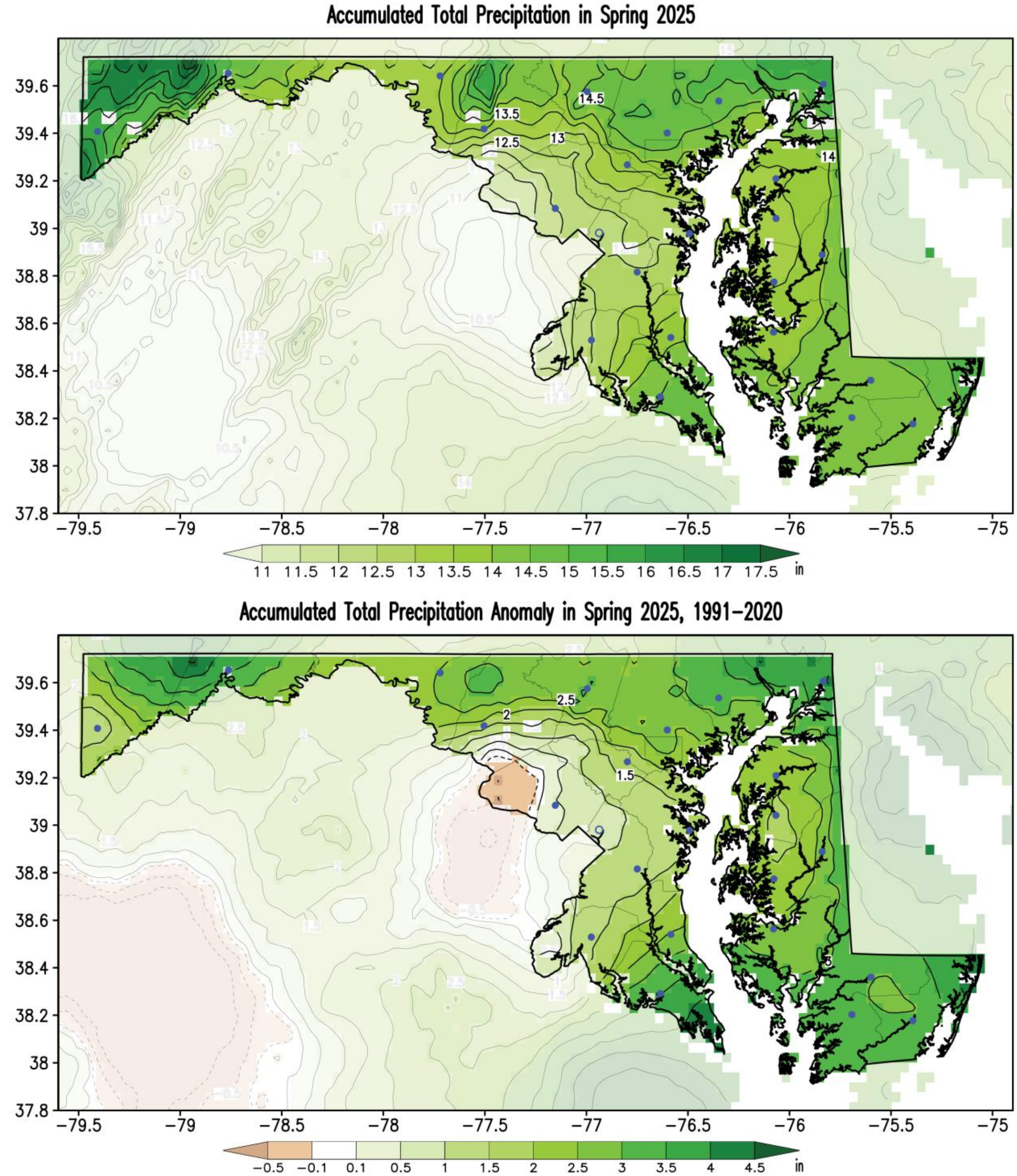



**Figure 4.** Seasonal accumulated total precipitation (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for spring 2025. Precipitation is in inches following the color bar. Brown/green shading in the anomaly map marks drier/wetter than normal conditions. Note shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

E. Partial Water Year (October 2024 – May 2025)

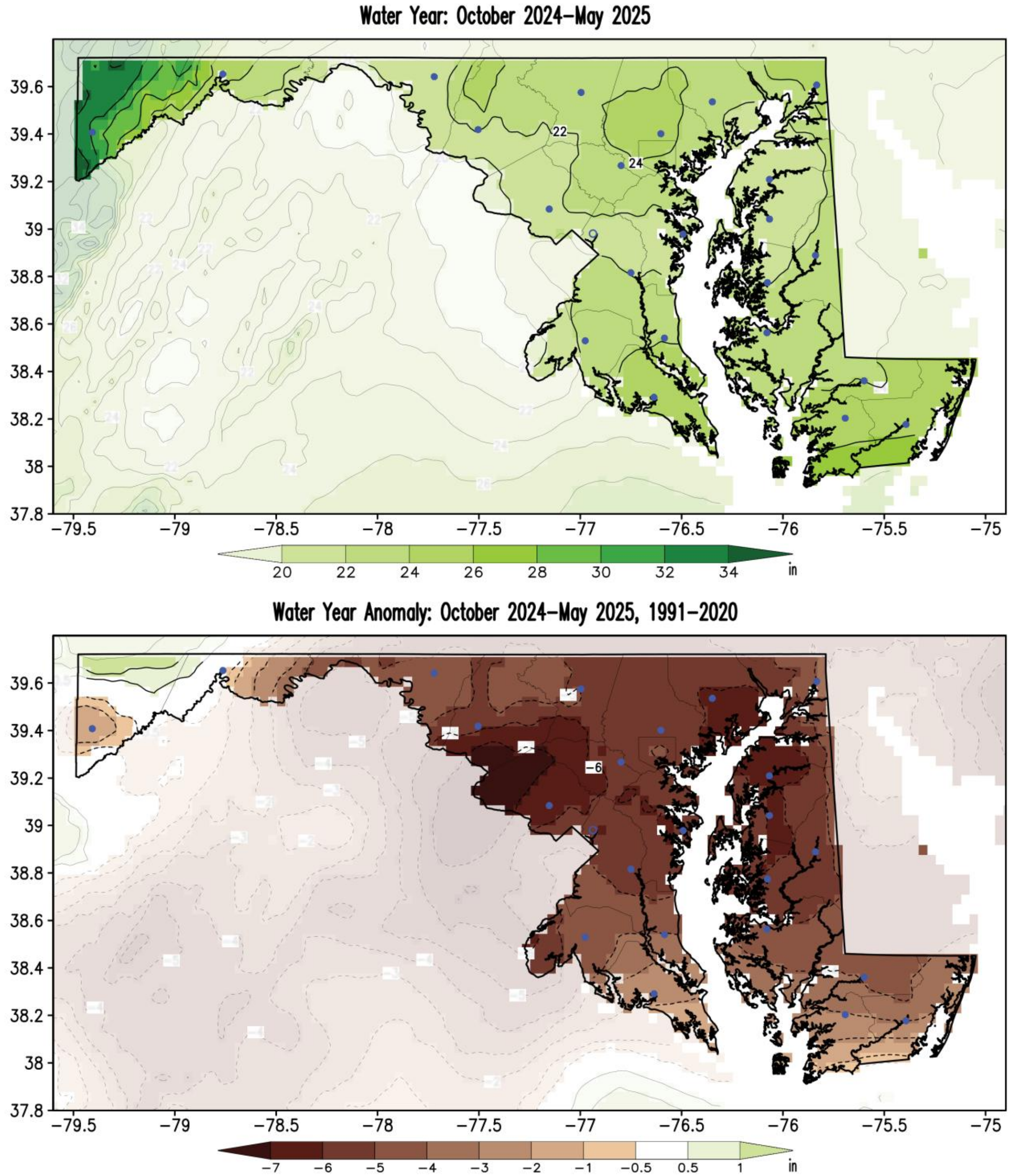
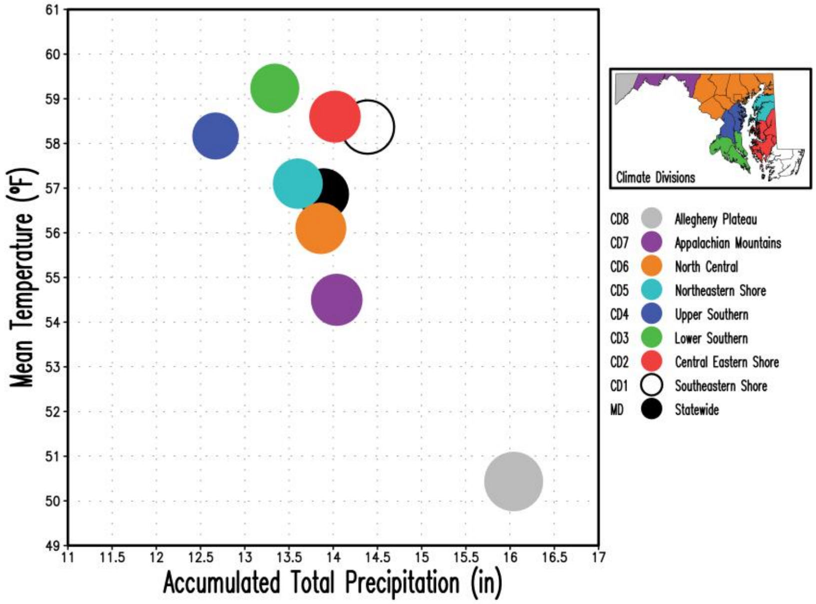



**Figure 5.** Partial water year until May 2025 (top panel), and its anomaly with respect to the 1991-2020 climatology (bottom panel). Water year is in inches following the color bar. Brown/green shading in the anomaly map marks drier/wetter than normal conditions. The current maps display the partial conditions from October 2024 to May 2025. Note shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

# 4. Spring 2025 and Fall 2024 – Spring 2025 Climate Divisions Averages

## A. Spring 2025 Scatter Plots



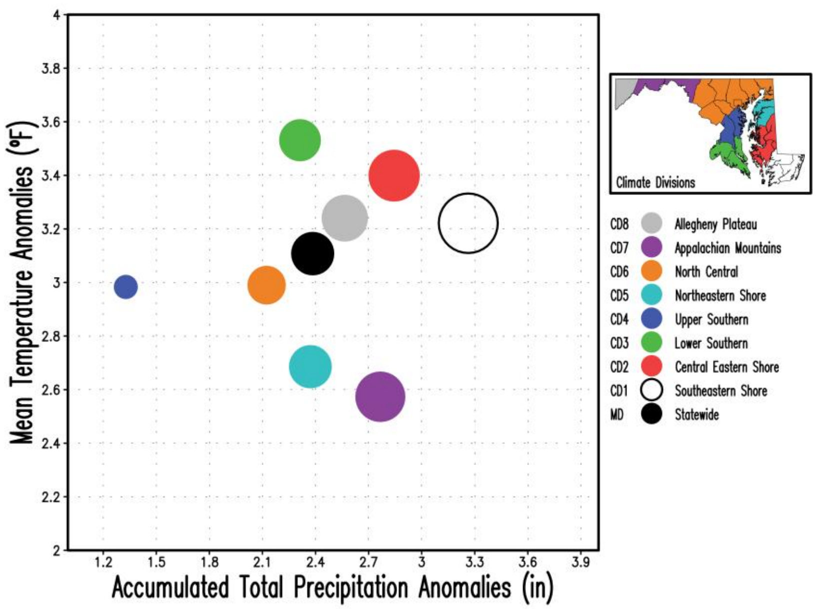
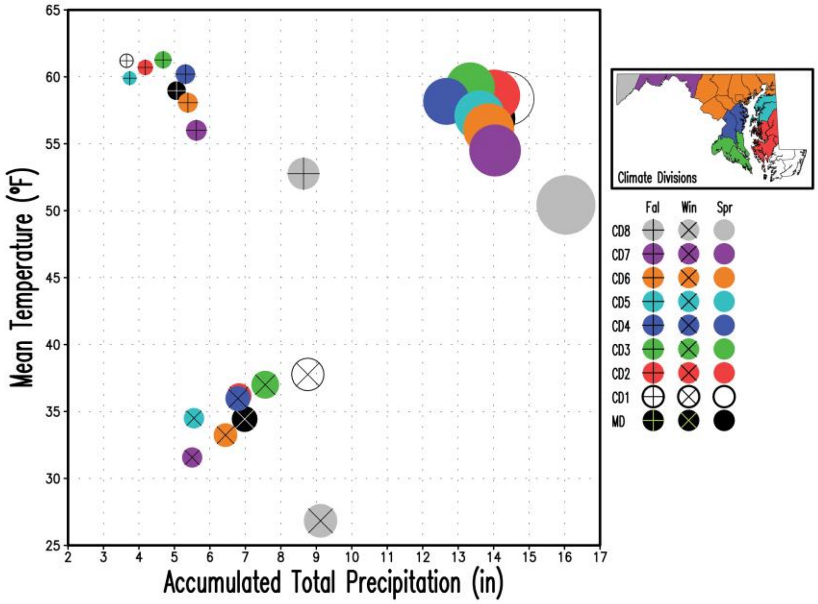




**Figure 6.** Scatter plots of Maryland (statewide) and Climate Divisions (CD#) seasonal mean surface air temperature vs. accumulated total precipitation for spring 2025. The upper panel shows the mean temperature and total precipitation, and the bottom panel displays their anomalies with respect to the 1991-2020 climatology. Temperatures are in °F and precipitation is in inches. The size of the circles is proportional to the total precipitation scaled down by the maximum precipitation (16.04 inches in CD8, top panel) and by the maximum precipitation anomaly (3.26 inches in CD1, bottom panel) among the nine regions. Note that the color of the filled circles corresponds to the color in the Climate Divisions according to the inset map.

B. Fall 2024 to Spring 2025 Scatter Plots



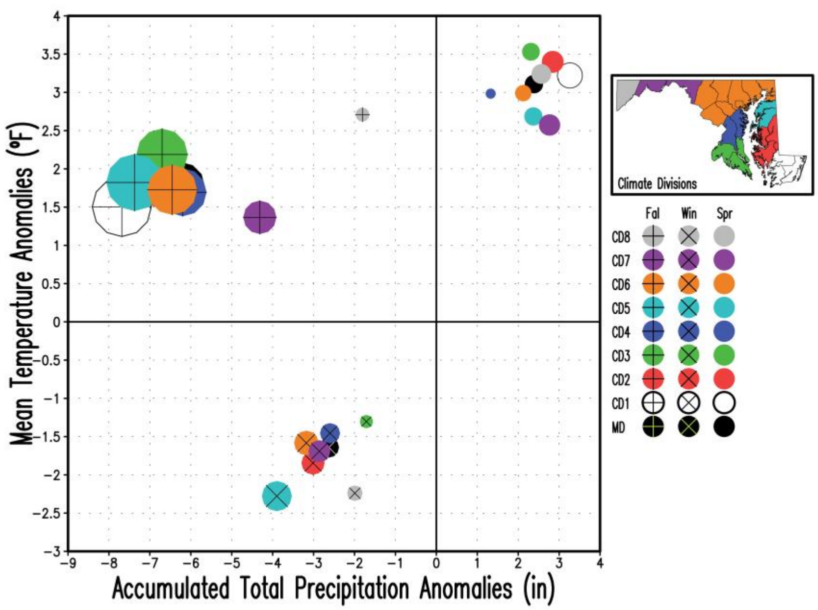




**Figure 7**. Scatter plots of Maryland (statewide) and Climate Divisions (CD#) seasonal mean surface air temperature vs. accumulated total precipitation for fall 2024, winter 2024-25 and spring 2025. The upper panel shows the mean temperature and total precipitation, and the bottom panel displays their anomalies with respect to the 1991-2020 climatology. Temperatures are in °F, and precipitation is in inches. The size of the circles is proportional to the total precipitation scaled down by the maximum precipitation (16.04 inches in CD8 in spring, top panel) and by the maximum precipitation anomaly (|–7.69| inches in CD1 in fall, bottom panel) among the nine regions and three months. Spring 2025 is displayed with filled circles only, while winter 2024-25 and fall 2024 are displayed with superposed multiplication and addition signs, respectively.

# 5. Spring 2025 Statewide Averages in the Historical Record

## A. Box and Whisker Plots

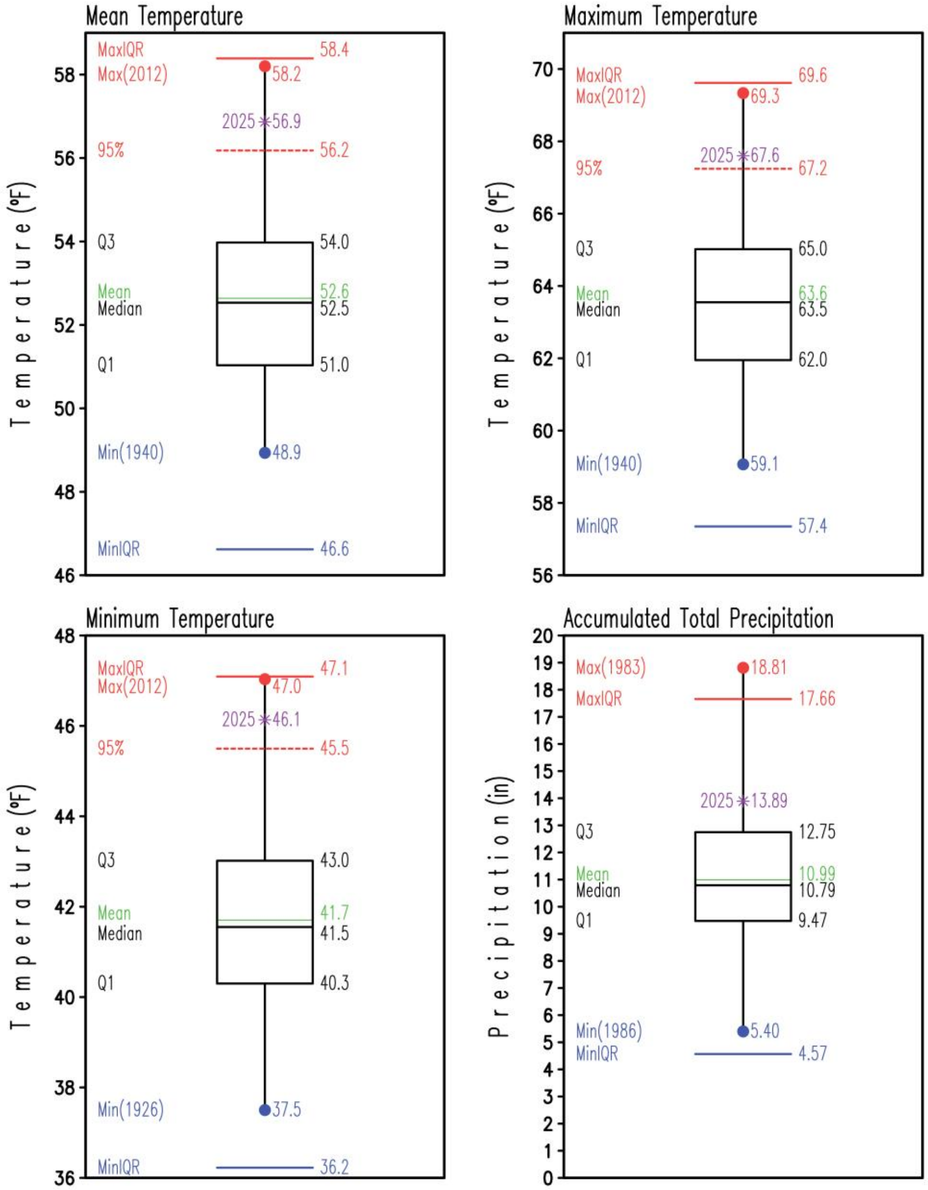



**Figure 8.** Box and Whisker plots of Maryland (statewide) seasonal mean (upper left), maximum (upper right), minimum (lower left) surface air temperatures, and accumulated total precipitation (lower right) for spring for the period 1895-2024. The label and asterisk in purple represent conditions for spring 2025. Statistics for the period 1895-2024 are labeled at the left side of each box and whisker plot and their values at their right. Temperatures are in °F and precipitation is in inches. The mean is the green line within the box, while the median is the black line within the box. The lower (Q1) and upper (Q3) quartiles, indicating the values of the variable that separate 25% of the smaller and larger values are the lower and upper horizontal black lines of the box, respectively. For reference, the 95th percentiles in the temperatures are displayed with a red dashed line. The blue and red dots mark the minimum and maximum values in the period at the end of the whiskers; the year of occurrence is shown in parenthesis. The blue and red horizontal lines represent extreme values defined by Q1-1.5×(Q3-Q1) and Q3+1.5×(Q3-Q1), respectively.

# 6. 1895-2025 Trends

A. Statewide Mean Temperature, Heating Degree-Days, Accumulated Total Precipitation, and Partial Water Year (October 2024-May 2025)

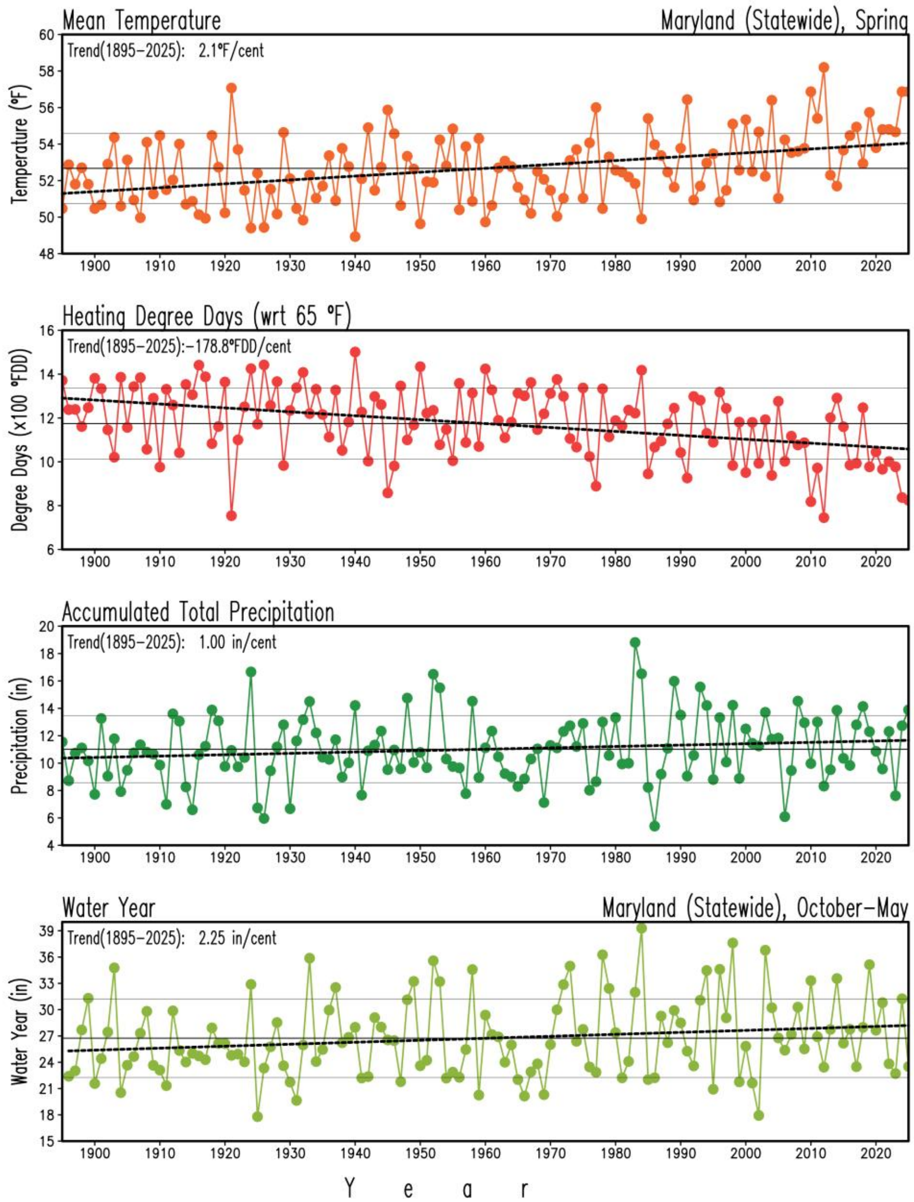



**Figure 9.** Maryland (statewide) mean surface air temperature, heating degree-days, accumulated total precipitation in spring, and partial water year (October 2024 – May 2025) for the period 1895-2025. Temperature is in °F, heating degree-days is in °F degree-days (°FDD), and precipitation and water year are in inches. The thin, continuous black lines in each panel display the long-term means (52.7°F, 1174.4°FDD, 11.01 in, and 26.74 in, 1895-2025), and the double thin, continuous gray lines indicate the standard deviation (1.9°F, 162.1.1°FDD, 2.44 in, and 4.49 in) above/below the long-term mean. The thick dashed black lines show the long-term linear trends. The warming temperature trend (2.1°F/century), the decreasing heating degree-days trend (–178.8°FDD/century), the wetting precipitation trend (1.00 in/century), and the increasing water year trend (2.25 in/century) are statistically significant at the 95% level (*Student's t-test* −Santer et al. 2000).

## B. Temperature and Precipitation Maps

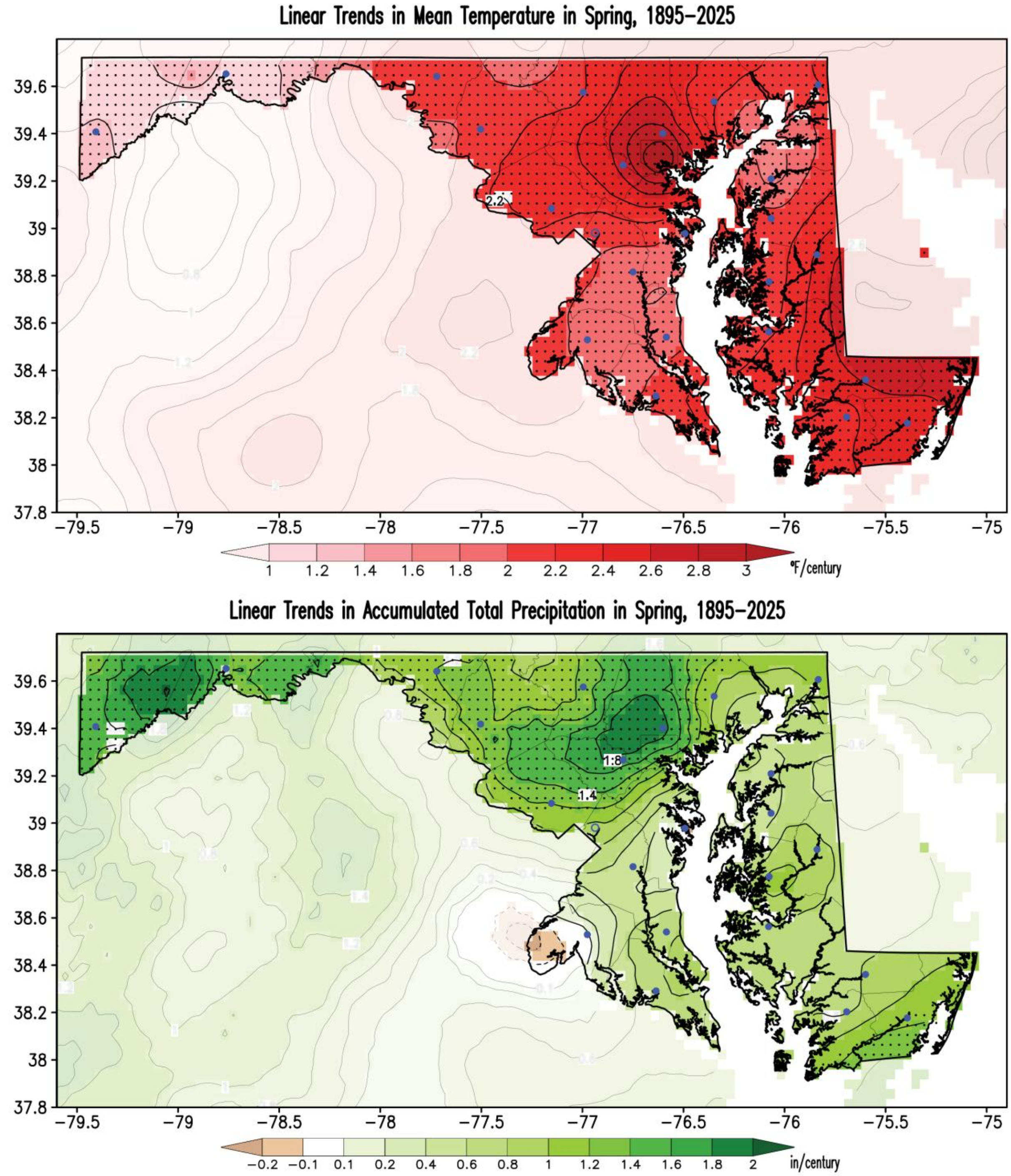



**Figure 10.** Linear trends in spring surface air mean temperature and accumulated total precipitation for the period 1895-2025. Temperatures are in °F/century, and precipitation is in inches/century following the color bars. Red shading in the temperature map marks warming trends. Brown/green shading in the precipitation map shows drying/wetting trends. Stippling in the maps shows regions where trends are statistically significant at the 95% level (*Student's t-test* −Santer et al. 2000). Note that shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

# Appendix A. Spring 2025 Tables: Statewide, Climate Divisions, and Counties

## A. Mean Temperature and Precipitation

| Region | Mean Air Temperature (°F) | Rank (#) |
|---|---|---|
| **Statewide** | 56.9 | 127 |
| **Climate Division 1** | 58.4 | 130 |
| **Climate Division 2** | 58.6 | 130 |
| **Climate Division 3** | 59.2 | 130 |
| **Climate Division 4** | 58.2 | 127 |
| **Climate Division 5** | 57.1 | 125 |
| **Climate Division 6** | 56.1 | 127 |
| **Climate Division 7** | 54.5 | 124 |
| **Climate Division 8** | 50.4 | 128 |
| **Allegany** | 53.9 | 123 |
| **Anne Arundel** | 58.1 | 127 |
| **Baltimore** | 56.2 | 127 |
| **Baltimore City** | 57.8 | 127 |
| **Calvert** | 58.8 | 130 |
| **Caroline** | 57.8 | 129 |
| **Carroll** | 55.2 | 127 |
| **Cecil** | 56.0 | 126 |
| **Charles** | 59.5 | 130 |
| **Dorchester** | 59.0 | 130 |
| **Fredrick** | 55.8 | 127 |
| **Garrett** | 50.4 | 128 |
| **Harford** | 56.1 | 126 |
| **Howard** | 56.3 | 127 |
| **Kent** | 56.8 | 124 |
| **Montgomery** | 57.0 | 127 |
| **Prince George's** | 58.1 | 127 |
| **Queen Anne's** | 57.4 | 126 |
| **Saint Mary's** | 59.1 | 130 |
| **Somerset** | 58.9 | 130 |
| **Talbot** | 58.7 | 130 |
| **Washington** | 55.1 | 124 |
| **Wicomico** | 58.3 | 130 |
| **Worcester** | 57.9 | 130 |

| Region | Acc. Total Precipitation (in) | Rank (#) |
|---|---|---|
| **Statewide** | 13.89 | 116 |
| **Climate Division 1** | 14.39 | 121 |
| **Climate Division 2** | 14.02 | 114 |
| **Climate Division 3** | 13.34 | 106 |
| **Climate Division 4** | 12.67 | 101 |
| **Climate Division 5** | 13.60 | 110 |
| **Climate Division 6** | 13.86 | 115 |
| **Climate Division 7** | 14.04 | 121 |
| **Climate Division 8** | 16.04 | 116 |
| **Allegany** | 14.58 | 121 |
| **Anne Arundel** | 12.76 | 100 |
| **Baltimore** | 14.53 | 117 |
| **Baltimore City** | 14.26 | 115 |
| **Calvert** | 13.84 | 110 |
| **Caroline** | 14.05 | 114 |
| **Carroll** | 14.10 | 114 |
| **Cecil** | 15.16 | 119 |
| **Charles** | 12.34 | 96 |
| **Dorchester** | 14.02 | 114 |
| **Fredrick** | 13.62 | 109 |
| **Garrett** | 16.04 | 117 |
| **Harford** | 14.71 | 117 |
| **Howard** | 13.08 | 105 |
| **Kent** | 13.66 | 109 |
| **Montgomery** | 11.86 | 95 |
| **Prince George's** | 12.61 | 99 |
| **Queen Anne's** | 13.49 | 109 |
| **Saint Mary's** | 14.42 | 116 |
| **Somerset** | 14.31 | 121 |
| **Talbot** | 13.49 | 110 |
| **Washington** | 13.52 | 116 |
| **Wicomico** | 14.30 | 119 |
| **Worcester** | 14.52 | 121 |

**Table A1.** Seasonal mean surface air temperature (left) and accumulated total precipitation (right) in Maryland (statewide), climate division, and county levels for spring 2025. Temperatures are in °F, and precipitation is in inches. The rank is the order that the variable for spring 2025 occupies among the 131 springs since 1895 after the 131 values have been arranged from the lowest to the highest in the *standard competition ranking method*. The closer to 131 the rank is, the larger (i.e., warmer/wetter) the value of the surface variable is in the record; similarly, the closer to 1 the rank is, the smaller (i.e., the colder/drier) the value of the surface variable is in the record.

## B. Maximum and Minimum Temperatures

| Region | Maximum Air Temperature (°F) | Rank (#) |
|---|---|---|
| **Statewide** | 67.6 | 126 |
| **Climate Division 1** | 68.9 | 129 |
| **Climate Division 2** | 69.3 | 128 |
| **Climate Division 3** | 70.1 | 130 |
| **Climate Division 4** | 68.4 | 124 |
| **Climate Division 5** | 67.1 | 124 |
| **Climate Division 6** | 66.6 | 125 |
| **Climate Division 7** | 66.4 | 123 |
| **Climate Division 8** | 62.3 | 126 |
| **Allegany** | 66.3 | 124 |
| **Anne Arundel** | 67.9 | 124 |
| **Baltimore** | 66.8 | 124 |
| **Baltimore City** | 67.6 | 121 |
| **Calvert** | 69.3 | 130 |
| **Caroline** | 68.8 | 127 |
| **Carroll** | 66.2 | 125 |
| **Cecil** | 65.9 | 124 |
| **Charles** | 70.5 | 129 |
| **Dorchester** | 69.8 | 130 |
| **Fredrick** | 66.5 | 125 |
| **Garrett** | 62.3 | 126 |
| **Harford** | 66.4 | 124 |
| **Howard** | 67.1 | 125 |
| **Kent** | 66.5 | 120 |
| **Montgomery** | 67.4 | 126 |
| **Prince George's** | 68.7 | 124 |
| **Queen Anne's** | 67.6 | 124 |
| **Saint Mary's** | 70.0 | 130 |
| **Somerset** | 69.3 | 130 |
| **Talbot** | 68.9 | 128 |
| **Washington** | 66.5 | 124 |
| **Wicomico** | 69.5 | 129 |
| **Worcester** | 68.1 | 129 |

| Region | Minimum Air Temperature (°F) | Rank (#) |
|---|---|---|
| **Statewide** | 46.1 | 128 |
| **Climate Division 1** | 47.8 | 129 |
| **Climate Division 2** | 47.9 | 130 |
| **Climate Division 3** | 48.4 | 130 |
| **Climate Division 4** | 47.9 | 128 |
| **Climate Division 5** | 47.1 | 128 |
| **Climate Division 6** | 45.6 | 127 |
| **Climate Division 7** | 42.6 | 125 |
| **Climate Division 8** | 38.6 | 126 |
| **Allegany** | 41.4 | 123 |
| **Anne Arundel** | 48.3 | 128 |
| **Baltimore** | 45.6 | 127 |
| **Baltimore City** | 47.9 | 128 |
| **Calvert** | 48.2 | 128 |
| **Caroline** | 46.8 | 130 |
| **Carroll** | 44.2 | 127 |
| **Cecil** | 46.1 | 128 |
| **Charles** | 48.5 | 129 |
| **Dorchester** | 48.2 | 129 |
| **Fredrick** | 45.1 | 128 |
| **Garrett** | 38.6 | 126 |
| **Harford** | 45.8 | 128 |
| **Howard** | 45.5 | 127 |
| **Kent** | 47.1 | 128 |
| **Montgomery** | 46.6 | 129 |
| **Prince George's** | 47.5 | 128 |
| **Queen Anne's** | 47.3 | 128 |
| **Saint Mary's** | 48.3 | 130 |
| **Somerset** | 48.6 | 128 |
| **Talbot** | 48.6 | 130 |
| **Washington** | 43.8 | 127 |
| **Wicomico** | 47.2 | 129 |
| **Worcester** | 47.7 | 129 |

**Table A2**. Seasonal maximum (left) and minimum (right) surface air temperatures in Maryland (statewide), climate division, and county levels for spring 2025. Temperatures are in °F. The rank is the order that the variable for spring 2025 occupies among the 131 springs since 1895 after the 131 values have been arranged from the lowest to the highest using the *standard competition ranking method*. The closer to 131 the rank is, the larger (i.e., the warmer) the value of the surface variable is in the record; similarly, the closer to 1 the rank is, the smaller (i.e., the colder) the value of the surface variable is in the record.

# Appendix B. Spring 2025 Bar Graphs: Statewide, Climate Divisions, and Counties

## A. Temperatures and Precipitation

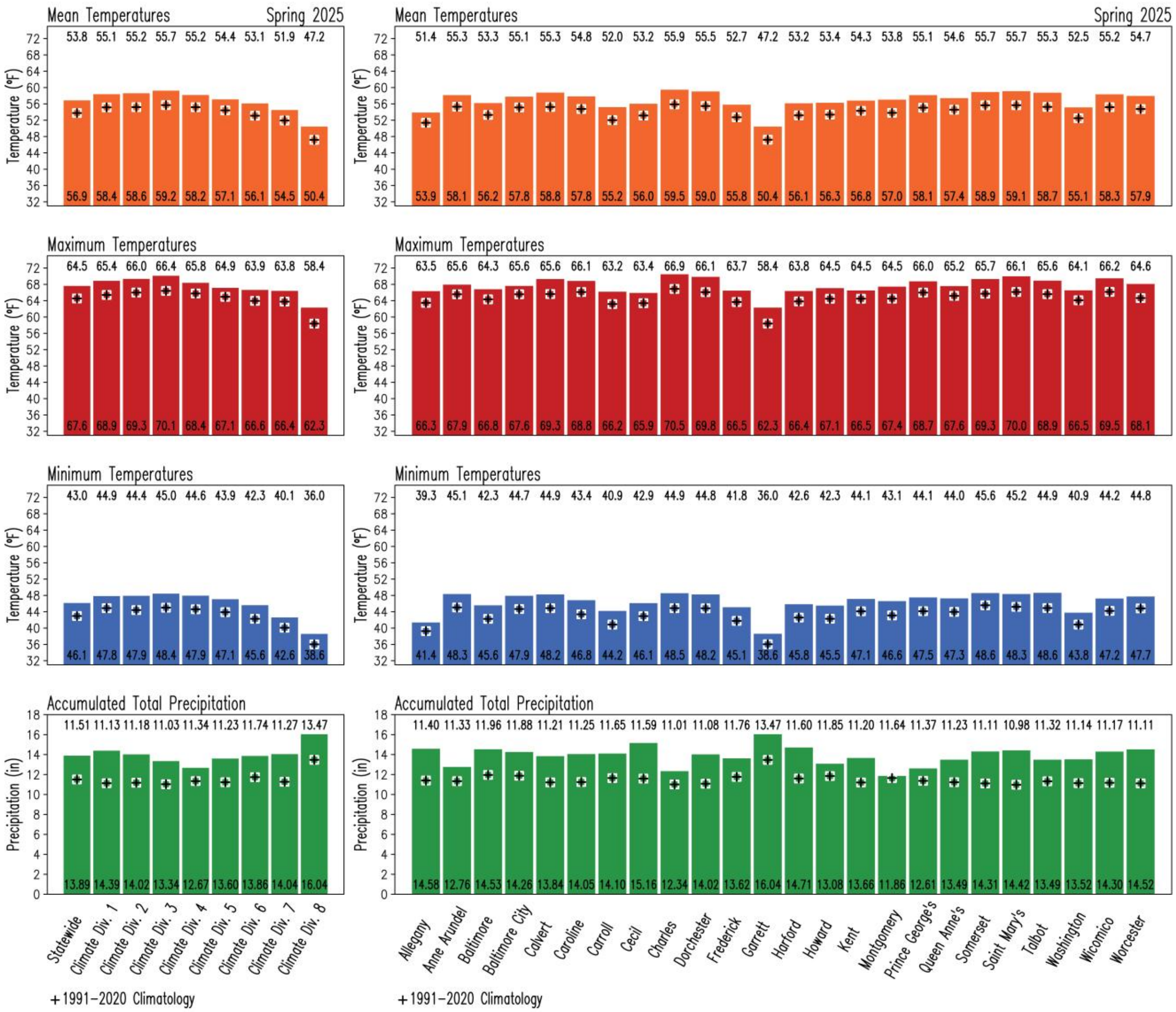



**Figure B1.** Seasonal surface variables in Maryland for spring 2025. Color bars represent the variables as follows: mean surface air temperature (orange), maximum surface air temperature (red), minimum surface air temperature (blue), and accumulated total precipitation (green) at statewide and climate division (left column), and at county (right column) levels. Temperatures are in °F, and precipitation is in inches. The numbers at the base of the bars indicate the magnitude of the variable for spring 2025. For comparison, the corresponding 1991-2020 climatological values for spring are displayed as black addition signs, and their magnitudes are shown at the top of the panels.

## B. Temperature and Precipitation Anomalies

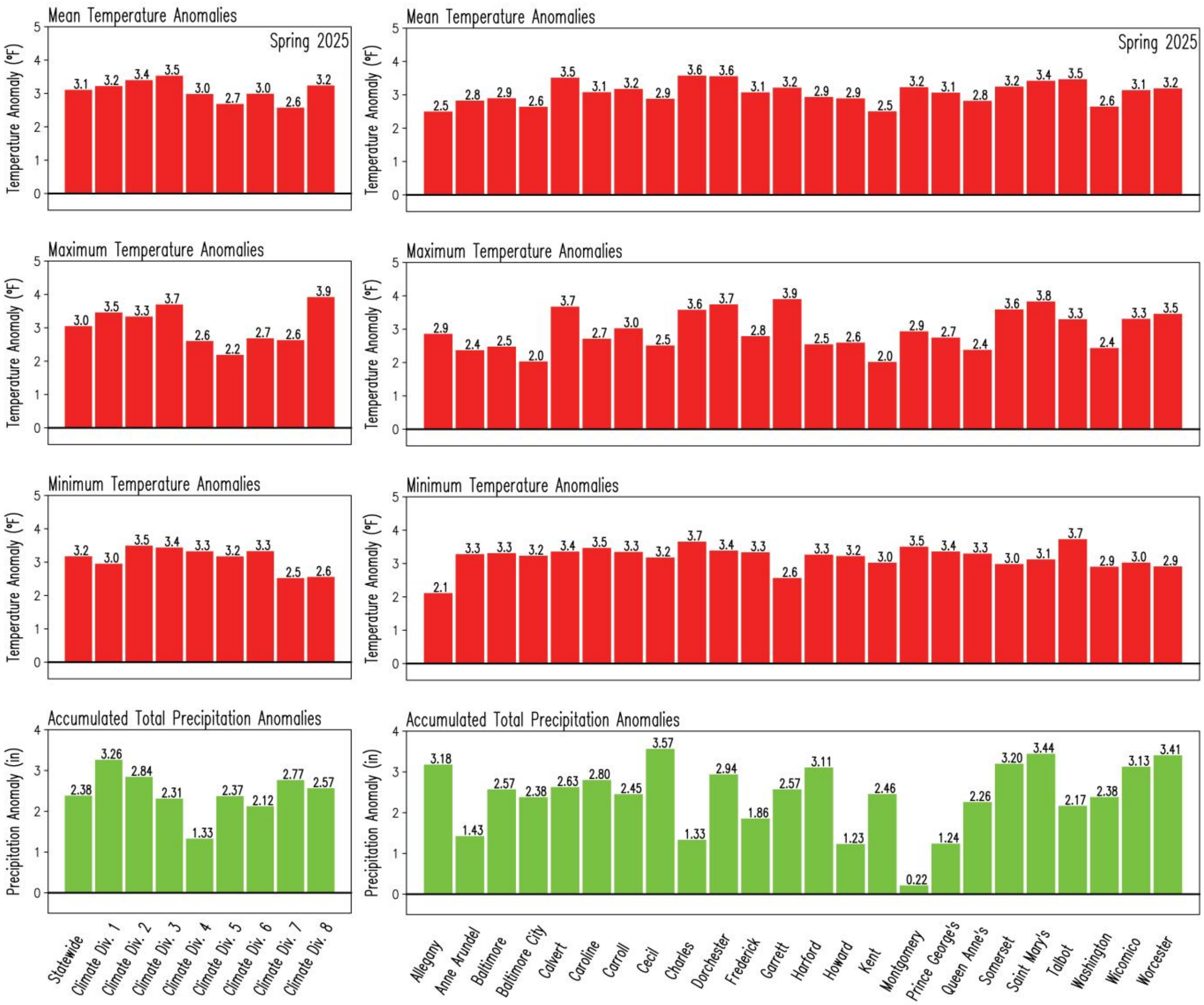



**Figure B2.** Anomalies of the seasonal surface variables in Maryland for spring 2025. Anomalies are with respect to the 1991-2020 climatology. The red color represents warmer than normal anomalies for mean surface air temperature (upper row), maximum surface air temperature (second row from top), and minimum surface air temperature (third row from top), while the green color indicates wetter than normal anomalies in accumulated total precipitation (bottom row) at statewide and climate division (left column), and at county (right column) levels. Temperatures are in °F, and precipitation is in inches. The numbers outside the bars indicate the magnitude of the anomaly for spring 2025.

# Appendix C. Spring 1991-2020 Climatology Maps and Spring 2025 Precipitation as Percentage of Climatology

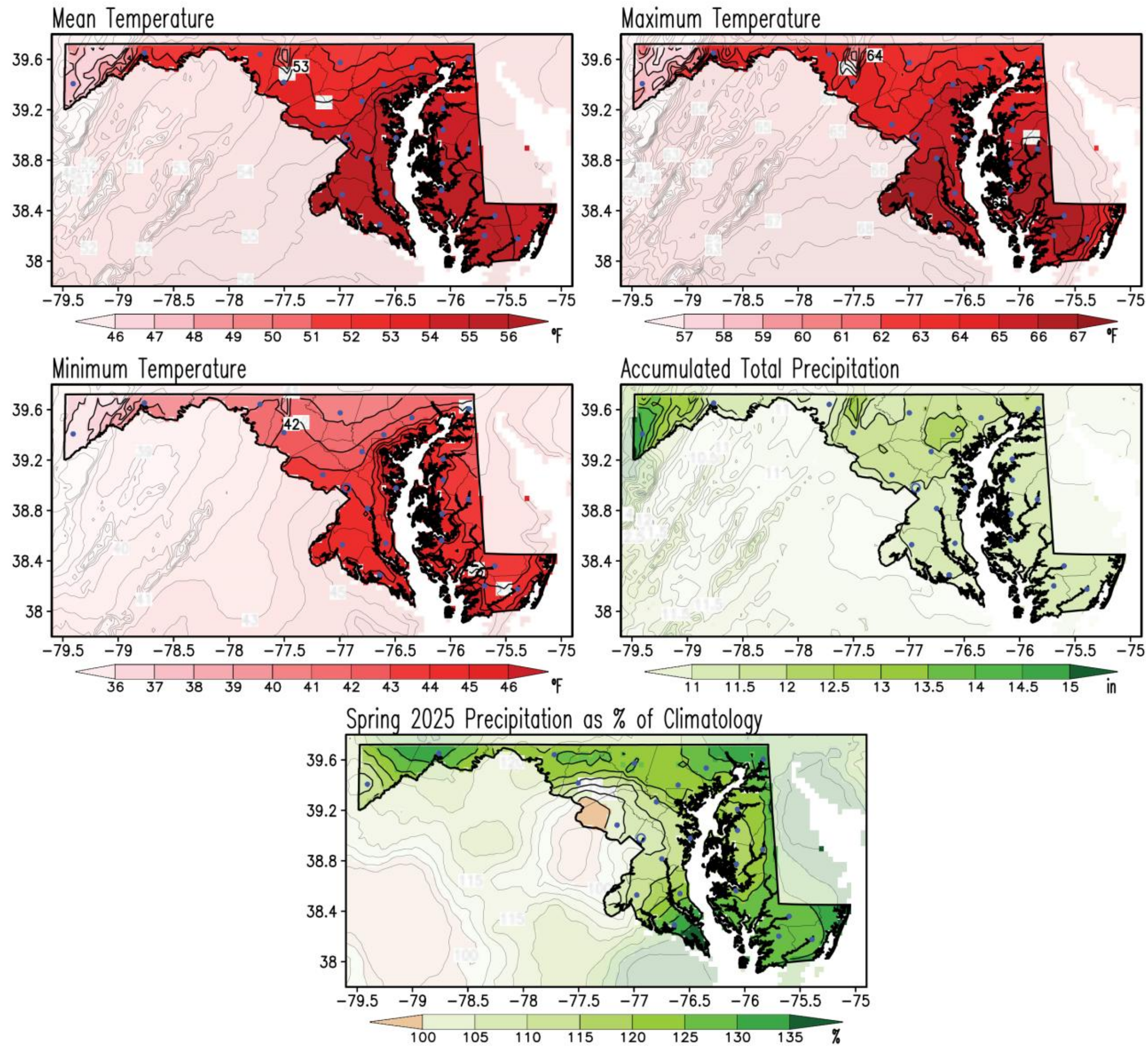



**Figure C1.** Spring climatology of the seasonal mean, maximum and minimum surface air temperatures, and accumulated total precipitation for the period 1991-2020 (upper and middle rows), and precipitation in spring 2025 as a percentage of climatology (bottom row). Temperatures are in °F, and precipitation is in inches according to the color bars. This is the current climate normal against which the spring 2025 conditions are compared to obtain the spring anomalies (from Figure 1 to 4). The precipitation as a percentage is obtained by dividing the total precipitation (from Figure 4) by the climatology (from the middle right panel) and multiplying that ratio by 100 so units are in percent of climatology (%); brown/green shading in this map shows drier/wetter than normal conditions. Note that shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

# Appendix D: The Water Year 1991-2020 Climatology, and October 2024 – May 2025 as Percentage of Climatology

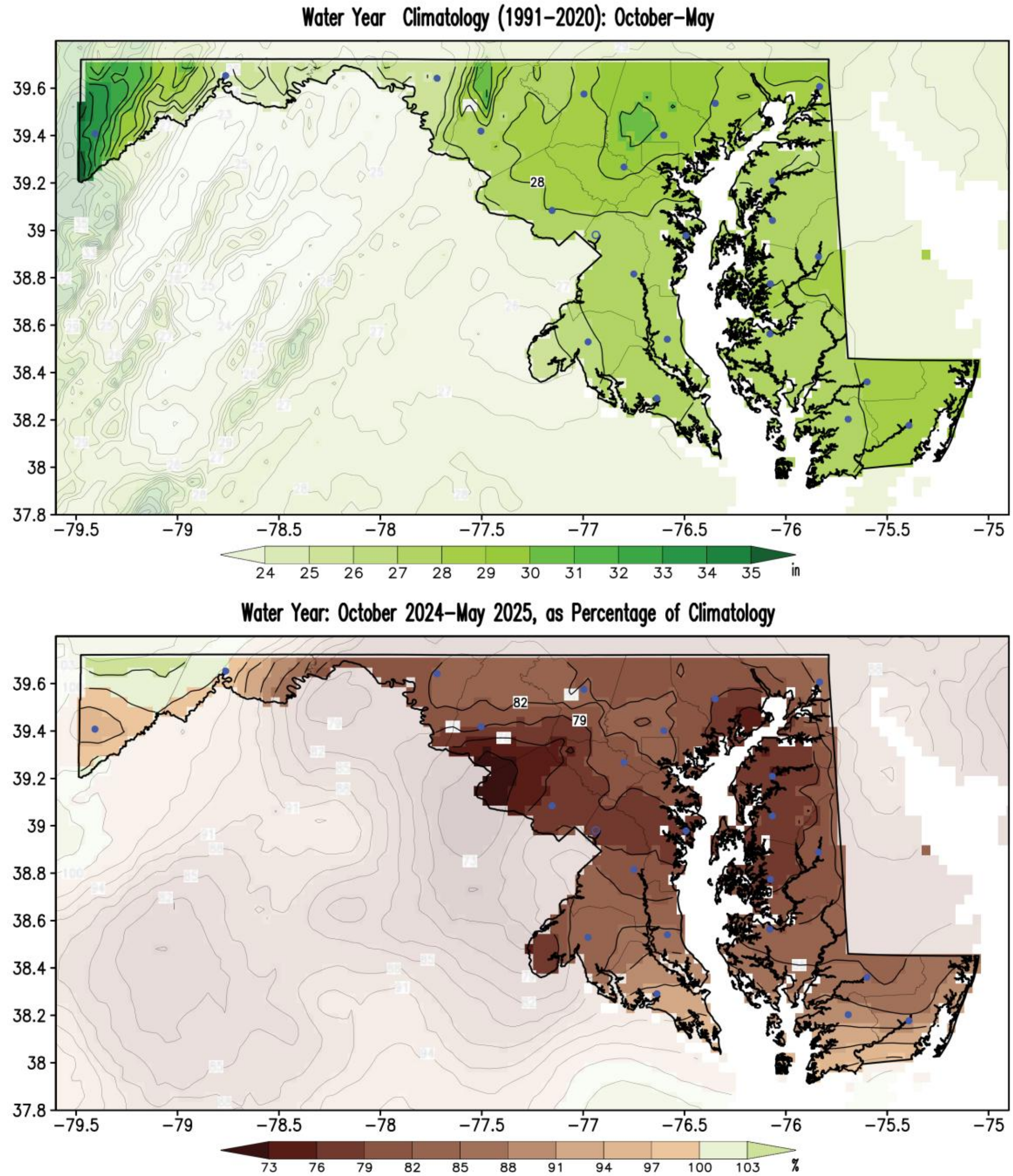



**Figure D1.** Climatology of the partial water year (October – May, top panel), and current partial water year (October 2024 – May 2025) as a percentage of the climatology (bottom panel). Climatology is for the period 1991-2020. The water year climatology is in inches, following the color bar. The current water year as a percentage of climatology is obtained by dividing the current water year (Figure 5 upper panel) by the climatology (upper panel) and multiplying the ratio by 100; hence, units are in percent (%). Brown/green shading in the percentage map highlights regions where the current water year is drier/wetter than normal. Note that shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

# Appendix E. Spring Standard Deviation and Spring 2025 Standardized Anomalies Maps

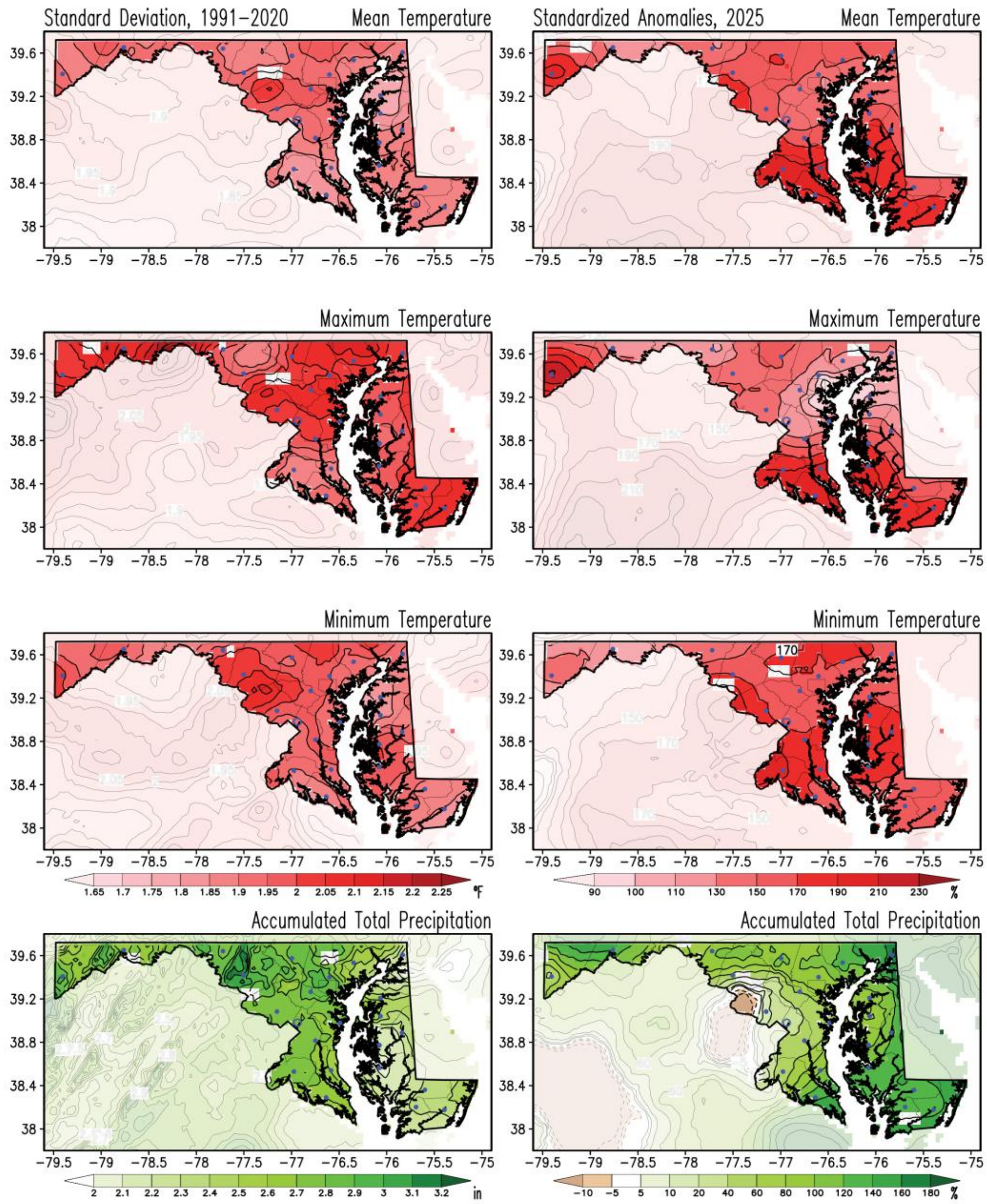



**Figure E1.** Standard deviation for spring and standardized anomalies of temperatures and precipitation for spring 2025. Standard deviations for seasonal mean, maximum, and minimum surface air temperatures and accumulated total precipitation were obtained for the 1991-2020 period (left column). Anomalies for spring 2025 (right column) are obtained as a percentage of the standard deviations. The standard deviations in temperatures are in °F, and those in precipitation are in inches according to the color bars. Red shading in the anomaly temperature maps marks warmer than normal conditions; brown/green shading in the anomaly precipitation map marks drier/wetter than normal conditions. The standardized anomalies are obtained by dividing the raw anomalies (from Figures 1 to 4) by the standard deviation (from left column panels) and multiplying that ratio by 100; hence units are in percent (%). Note that shading outside the state has been washed out to facilitate focusing on Maryland. Filled blue circles mark the county seats.

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