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Maryland Climate Bulletin
April 2026

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DEPARTMENT OF ATMOSPHERIC & OCEANIC SCIENCE
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Maryland State Climatologist Office

Summary

Statewide averages indicate that April 2026 was warmer and drier than normal (i.e., 1991-2020 averages). Regionally, monthly mean temperatures were between 44 and 62°F, maximum temperatures were in the 65−77°F range, and minimum temperatures were between 42 and 50°F. Monthly total precipitation was in the 0.9−3.6 inches range.

Maryland Regional Features (Figures 1-5, C1, and D1)

- The mean temperature was warmer than normal across the state, particularly in Garrett County (7.0−7.5°F), western Allegany County (6.0−6.5°F), and western Montgomery, southern Frederick, and southern Washington counties (5.0−5.5°F), and the rest of the counties in the central-to-western Piedmont (4−5°F). Smaller departures from normal appeared in the Eastern Shore (2.5−3.5°F).

- The maximum temperature, similarly, was warmer than normal throughout the state, too, notably in Garrett County (7.0−8.0°F), western Allegany County (6.0−6.5°F), and western Montgomery, southern Frederick, and southern Washington counties (6.0−6.5°F), as well as the rest of the counties in the central-to-western Piedmont (5−6°F). Smaller departures from normal appeared in the Eastern Shore (3.0−4.5°F).

- The minimum temperature was also warmer than normal in the entire state, particularly in Garrett County (6.5−7.0°F), western Allegany County (5−6°F), and counties in the central-to-western Piedmont (3.5−5.0°F). Again, the smaller departures from normal appeared in the Eastern Shore (2.0−2.5°F).

- Precipitation was below normal everywhere in the state, especially in the southern third of the state at both sides of the Chesapeake Bay (2.0−2.6 inches deficit), and parts of the central counties of Montgomery, Prince George's, Anne Arundel, Kent, Queen Anne's, and Talbot counties (1.6−1.8 inches deficit). The region in the central counties received 50−55% less precipitation than their climatological monthly precipitation, while southern Somerset and Worcester counties received 70−75% less; the rest of the southern counties received 55−70% less than normal. The northern counties got 20−50% less precipitation than normal for the month.

- Drought conditions worsened from the end of March, as Severe Drought covered 68% of the state by the end of April, and every part of the state was under active drought conditions. The drought-free areas at the end of March in Garrett, Kent, Talbot, Queen Anne's, Caroline, and Dorchester counties were under Moderate Drought by the end of April. Similarly, the areas that were under Moderate Drought in southeastern Maryland, the coastal plains on the western side of the Bay, the Piedmont, and western Maryland to eastern Garrett County by the end of March, were under Severe Drought by the end of April.

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

- All the climate divisions were warmer than normal in April, with Climate Division 8, Allegheny Plateau, having the largest departure from normal (7.1°F). All climate divisions were drier than normal, with Climate Division 1, Southeastern Shore, having the largest deviation from normal (2.24 inches deficit).

- The statewide mean temperature was warmer than normal (4.2°F) for a second month in a row, after a warmer-than-normal March (5.8°F), and a colder-than-normal February (3.3°F below). Statewide precipitation was drier than normal this month (1.75-inch deficit), with a larger deficit than in March (1.64 inches) and February (0.41 inches); this is the ninth consecutive month with below-normal precipitation since last August.

Extreme daily temperatures, precipitation, and growing degree days (Figures 8-10)

- Statewide minimum daily temperatures from January 1 to April 30 indicated that only two freezing days below 32°F occurred in April, and none below 28°F or 24°F because of the warmer temperatures in this month.

- Statewide daily total precipitation from January 1 to April 30 showed that the number of days with extreme precipitation (at least 0.64 inches –the 95th percentile in 1951−2000) was one day below normal (5 vs. 6). The number of dry spells (two or more consecutive days with daily precipitation of no more than 0.04 inches) was two fewer spells than normal (15 vs. 17); the longest duration of the dry spells was nine more days longer than normal (20 vs. 12). April didn't have any day with extreme precipitation and had four dry spells, with a maximum duration of 12 days.

- The cumulative calendar year (January 1 to April 30) modified growing degree days (base 86/50°F) reached around 558°FDD by the end of April and have been greater than normal since the second week of March, with a departure above normal of 155°FDD by the end of April. Under these conditions, the modified growing days were 12-13 days ahead of normal for this time of year; or in other words, this amount of accumulated growing degree days is normally reached around the 12th or 13th of May. Similarly, the simple growing degree days (base 50°F) reached around 385°FDD by the end of April and have been above normal since the last week of March, with a departure from normal of 162°FDD by the end of April. The simple growing days were 14-15 days ahead of normal for this time of year.

Historical Context (Figure 11, Tables A1 and A2)

- Statewide mean, maximum, and minimum temperatures in April 2026 (58.5, 70.5, 46.5°F) were above their (1895-2025) long-term means (52.6, 63.9, 41.4°F) and within

5% of their warmest values. While the mean and minimum temperatures for the month were close to their warmest records of 59.5 and 48.8°F set in 2017, the maximum temperature tied the record of 2023. Statewide precipitation (1.77 inches) in April was below the long-term mean (3.47 inches), within 10% of the driest values, and relatively far from the record of 0.67 inches in 1985.

- Statewide mean, maximum, and minimum temperatures indicated that April 2026 was the second, second, and third warmest April since 1895, respectively. Seventeen of the counties had mean temperatures among the five warmest on record; among these counties, Allegany and Garrett got their warmest mean temperatures on record, while Anne Arundel, Calvert, Carroll, Charles, Frederick, Howard, Montgomery, Prince George's, Saint Mary's, and Washington had their second warmest. Fourteen counties had maximum temperatures among the five warmest on record; from these, Anne Arundel, Carroll, Charles, Frederick, Garrett, Howard, Montgomery, Prince George's, and Washington had their warmest maximum temperatures on record, while Allegany had its second warmest. Twelve of the counties had minimum temperatures among the five warmest on record; among these, Garret had its warmest minimum temperature on record, while Allegany, Carroll, Charles, Frederick, Montgomery, and Saint Mary's had their second warmest.

- Statewide precipitation in April 2026 (1.77 inches) indicated that this was the ninth driest April on record. Nine counties had precipitation totals among the ten driest on record; among these, Calvert and Saint Mary's got their fourth driest, while Charles, Dorchester, Somerset, and Worcester had their fifth.

Century-Plus Trends, 1895-2026 (Figures 12, 13)

- Statewide mean temperature and heating degree days in April had significant trends: a warming trend (3.1°F/century) and a decreasing heating trend (–92.0°FDD/century). On the other hand, statewide precipitation had a non-significant, very small wetting trend (0.02 inches/century).

- Regionally, April mean temperatures showed significant warming trends everywhere in the state. Notably, over Baltimore City (4.0−4.2°F/century), Baltimore, Howard counties, and parts of Montgomery, Frederick, Carroll, Harford, Prince George's, and Anne Arundel counties (3.2−3.6°F/century), and over Caroline, Talbot, Dorchester, Somerset, Wicomico, and Worcester counties (3−3.4°F).

- Regionally, April precipitation had significant wetting trends only in Garrett County (0.5−0.7 inches/century) and parts of Allegany County (0.5−0.6 in/century). Non-significant wetting trends are found in the northern counties of the Piedmont (0.1−0.3

in/century); the largest non-significant drying trends are found over Anne Arundel County (0.3−0.5 in/century).

Chesapeake Bay Sea Surface Temperatures (Figures 14, 15, E1)

- Sea surface temperatures in the Chesapeake Bay in April 2026 were in the 56–63°F range. Regionally, they were warmer than the 2007-2020 mean everywhere in the Bay, especially in the southern half of the Lower Basin, southward of Taylor Island to Smith Island, including waters in the Tangier Sound, Fishing Bay, Nanticoke, Wicomico, Manokin, and Annemessex rivers, and the Potomac and Patuxent rivers (4°F); similar anomalies also appeared in parts of Eastern Bay, and the Choptank and Chester rivers. Smaller anomalies appeared in the rest of the Bay (2.8−3.6°F) and the Chincoteague Bay (1.2−2.8°F). The all-basin mean temperature of 57.8°F in April was above the 2007-2020 base period mean (54.0°F) and set a record for the month in the 20-year dataset (2007-2026).

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. It documents the surface climate conditions observed across the state in a calendar month and is issued in the second week of the following month.

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 monthly surface climate conditions in the state, situating them within the context of regional and continental climate variability and change, to help Marylanders interpret and understand recent climate conditions.

The monthly surface climate conditions for April 2026 are presented via maps of key variables, such as average surface air temperature, maximum surface air temperature, minimum surface air temperature, total precipitation, and their anomalies (i.e., departures from normal); they are complemented by drought conditions for the state, as given by the U.S. Drought Monitor in Section 3. Statewide and climate division averages for the month are compared using scatter plots in Section 4. Extreme cold daily minimum temperatures and precipitation, as well as growing degree days, are presented from the analysis of daily statewide averaged temperatures and precipitation in Section 5. Monthly statewide averages are placed in the historical context using box-and-whisker plots in Section 6. Century-plus trends in statewide air temperature, heating degree days, precipitation, and state maps of air temperature and precipitation are presented in Section 7. Maps of monthly sea surface temperature (SST) in the Chesapeake Bay are presented in Section 8, along with basin averages and their annual evolution for the month. Ancillary statewide, climate division, and county-level information for air temperatures and precipitation are provided in tables and plots in Appendices A and B; climatology and variability maps are included in Appendices C and D, along with the percentage of normal precipitation and normalized anomalies; mean and variability of the sea surface temperatures in the Chesapeake Bay are displayed in Appendix E.

2. Data and Methods

Surface air temperatures, total precipitation, and 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) for 1895-present. Available in preliminary status at: https://www.ncei.noaa.gov/data/nclimgrid-monthly/access/
  Data was downloaded on May 8, 2026.

- NOAA Monthly U.S. Climate *Divisional* Dataset (NClimDiv – Vose et al., 2014) for 1895-present. Available in preliminary status (v1.0.0-20260506) at:
  https://www.ncei.noaa.gov/pub/data/cirs/climdiv/
  Data was downloaded on May 8, 2026.

- NOAA area averages of daily temperatures and precipitation dataset (nClimGrid−Daily −Durre et al., 2022) for 1951-present. Available in a preliminary status, v1.0.0, at:
  https://www.ncei.noaa.gov/products/land-based-station/nclimgrid-daily
  Data labeled as "scaled" was downloaded on May 7, 2026.

Drought conditions are from the U.S. Drought Monitor website:
https://droughtmonitor.unl.edu/Maps/MapArchive.aspx

Data and sources for the Chesapeake Bay are the following:

- Satellite-based sea surface temperatures from NOAA's CoastWatch Program. The data was made available by the Program's East Coast Node. This satellite-based sea surface temperature data uses data from the Advanced Very High Resolution Radiometer (AVHRR) on the European MetOp satellites, and the Visible Infrared Imaging Radiometer Suite (VIIRS) on the U.S. SNPP and NOAA JPSS satellites. In creating this product, nighttime overpasses for the U.S. East Coast are used, thereby avoiding daytime solar heating of the ocean surface and the associated warm bias in the data. In particular, the acquired product consists of monthly sea surface temperature data for the Chesapeake and Delaware Bays, with a nominal horizontal resolution of 750 m from 2007 to the present. This product is available at:
  https://eastcoast.coastwatch.noaa.gov/data/avhrr-viirs/sst-ngt
  Data was downloaded on May 4, 2026.

- A shapefile of watersheds for the state from the Maryland Department of the Environment and the Department of Natural Resources: the Maryland Watersheds – 8 Digit Watersheds. It contains 138 separate watersheds, identified with an 8-digit numeric code from which three are on the main steam of the Chesapeake Bay: the Upper Chesapeake Bay (code: 02139996; from the mouth of the Susquehanna River to northern side of the mouth of the Gunpowder River), the Middle Chesapeake Bay (code: 02139997; from the Gunpowder River to the mouth of the Chester River), and the Lower Chesapeake Bay (code: 02139998; from the south side of the mouth of the Chester River to the mouth of the Potomac River), which in turn are used to create a one-watershed shapefile for the entire basin. These four watersheds are used to create area-averaged sea surface temperatures for the Bay. The shapefile and associated files are available at:
  https://data.imap.maryland.gov/datasets/maryland::maryland-watersheds-8-digit-watersheds/about

Some definitions:

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 long-term average of weather elements. If the average period is long enough, we can start 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 average weather data is traditionally known as Climate Normal (Kunkel and Court 1990) and is updated every ten years (WMO 2017). Establishing a climate normal, or climatology, is important because 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.

It should be noted that the satellite-based sea surface temperature data set has a short temporal coverage of 20 years, from 2007 to the present, which prevents the calculation of its current climate normal (1991-2020). Instead, the 2007-2020 mean will be used without referring to it as a climatology.

About the anomalies: Anomalies for a given month (e.g., April 2026) are the departures of the monthly value from the corresponding month's 30-year average (i.e., from the average of 30 Aprils) during 1991-2020. When the observed monthly 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 a negative anomaly. In the case of the sea surface temperature anomalies, they are calculated with respect to their 2007-2020 mean.

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 freezing days. Freezing temperatures affect people's health, comfort, and livelihoods by impacting crops, livestock, infrastructure, water, and energy resources. Here, freezing temperatures are tracked by the count of days when daily minimum temperatures are below 32°F, 28°F, and 24°F (originally used to categorize agricultural impacts −USDA 2024) and by their consecutive occurrence. When these conditions persist for two or more consecutive days, they define freezing day spells. These threshold values correspond to the 28th, 19th, and 12th percentiles of statewide daily minimum temperature for the period 1951−2000.

About degree days. Degree days represent the difference between the daily mean temperature (calculated as the average of 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 get a general idea of the amount of 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).
- Growing Degree Days. These are used to estimate the growth and development of plants and insects during the growing season, under the assumption that development occurs only if the temperature exceeds a minimum development threshold temperature, or, in other words, if enough warmth is accumulated. Because actual development varies across plants and insects, and the presence of weeds and precipitation can influence it, a base temperature of 50°F is generally considered acceptable for all plants and insects (OSU 2024). However, this base temperature is best suited for the development of specific crops like corn, sweet corn, soybeans, tomatoes, and a few others.
    - Modified Growing degree days. The modified growing degree days are calculated by establishing base temperatures for the daily maximum and minimum temperatures before determining the daily mean temperature. When the base temperature for the daily maximum temperature is set to 86°F, and the base temperature for the daily minimum temperature is set to 50°F, the growing degree days are specific to corn development, as no appreciable growth is detected at temperatures below 50°F or above 86°F.

About extreme precipitation. This is defined as the number of days per year on which statewide-averaged daily total precipitation is equal to or greater than 0.64 inches. This threshold value represents the 95th percentile of statewide averaged daily total precipitation for 1951-2000.

About the dry day spells. A dry day is defined as a day with precipitation below 0.04 inches. These conditions are referred to as dry spells if they persist for two or more consecutive days. The number and duration of dry spells are particularly important during the vegetation period (Tschurr et al. 2020).

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. April 2026 Maps

A. Mean Temperatures

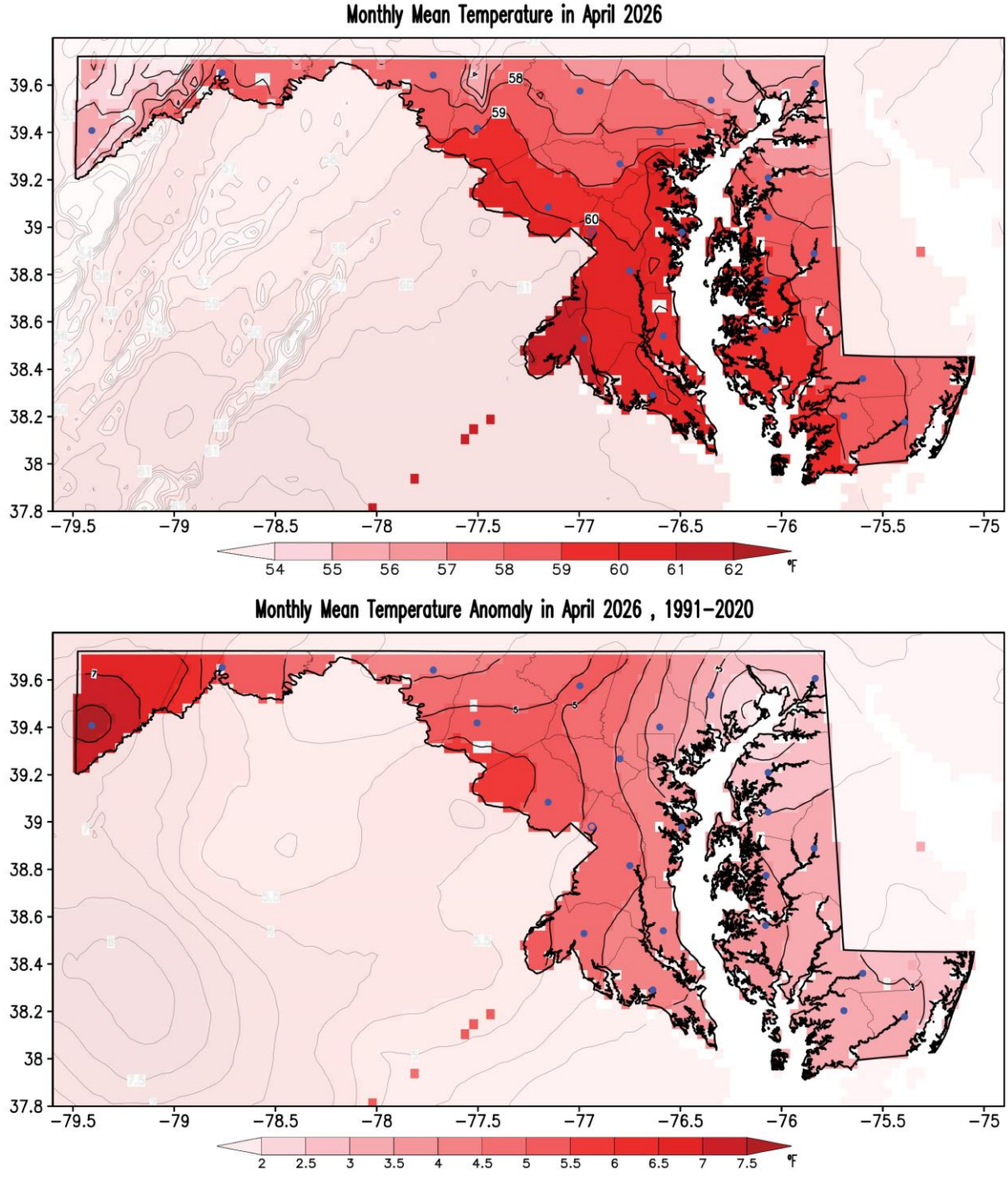

Figure 1. Monthly mean surface air temperature (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for April 2026. Temperatures are in °F following the color bar. Red shading in the anomaly map marks warmer-than-normal conditions. Note shading outside the state has been washed out to facilitate focus on Maryland. Filled blue circles mark the county seats.

B. Maximum Temperatures

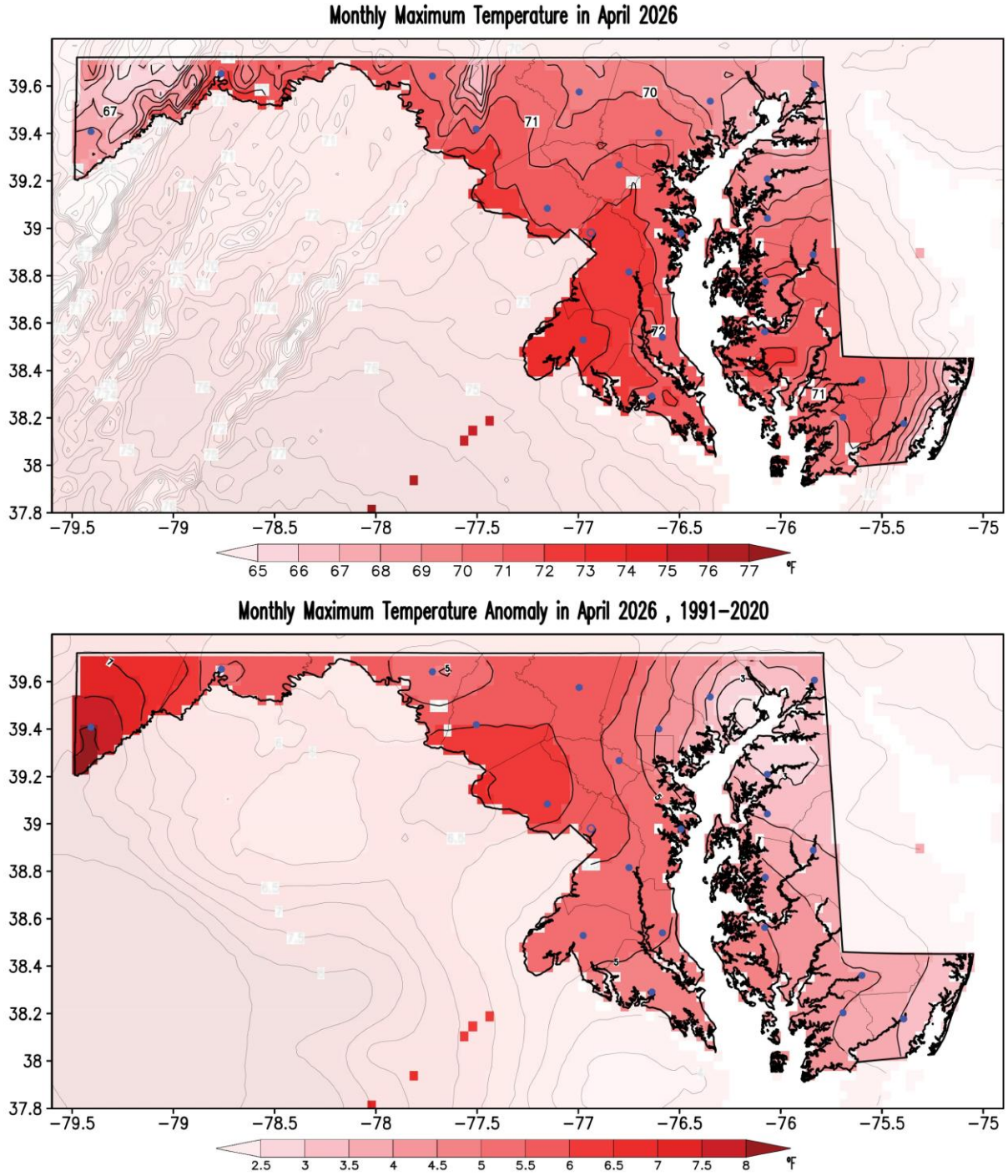

Figure 2. Monthly maximum surface air temperature (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for April 2026. Temperatures are in °F following the color bar. Red shading in the anomaly map marks warmer-than-normal conditions. Note shading outside the state has been washed out to facilitate focus on Maryland. Filled blue circles mark the county seats.

C. Minimum Temperatures

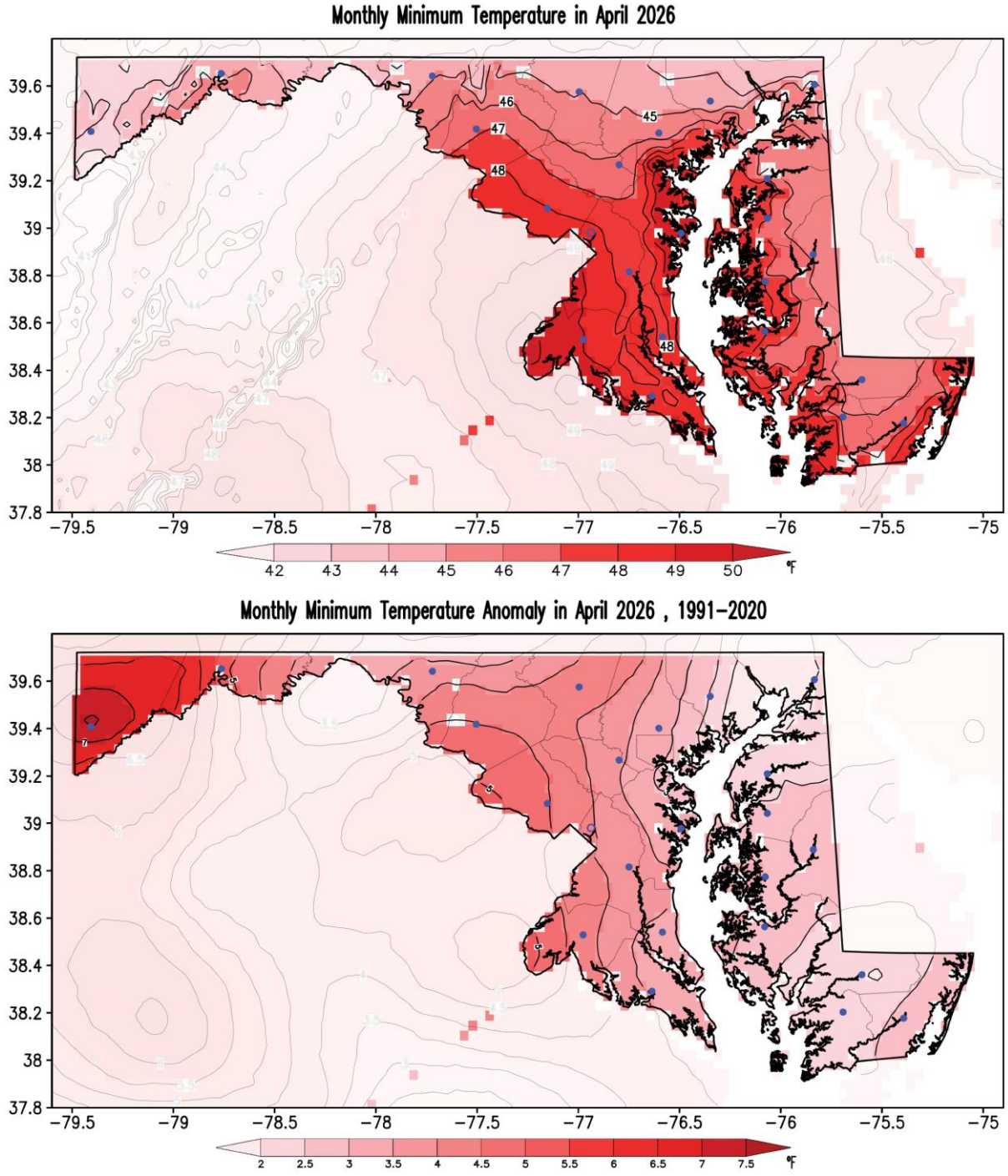

Figure 3. Monthly minimum surface air temperature (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for April 2026. Temperatures are in °F following the color bar. Red shading in the anomaly map marks warmer-than-normal conditions. Note shading outside the state has been washed out to facilitate focus on Maryland. Filled blue circles mark the county seats.

D. Precipitation

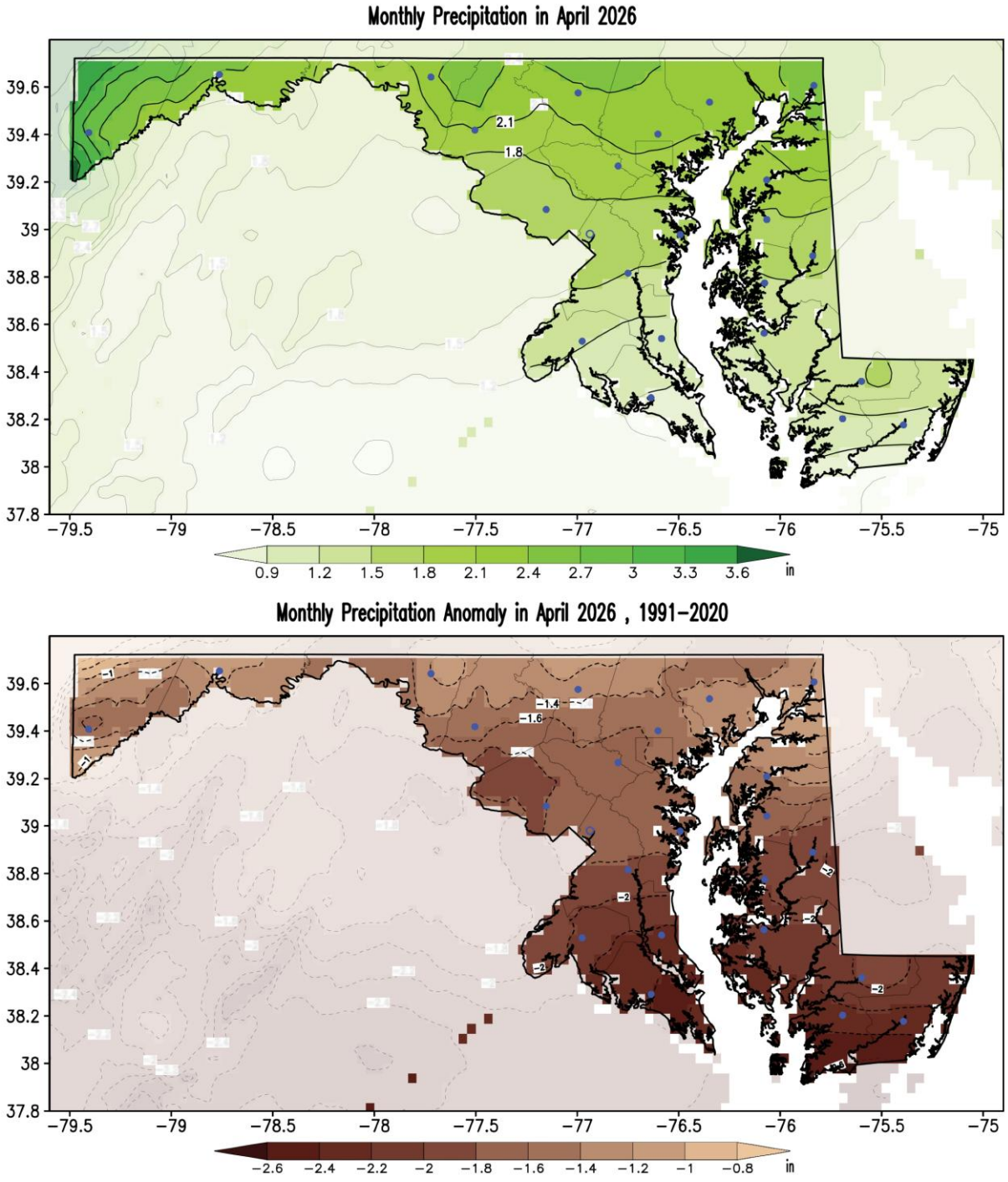

Figure 4. Monthly total precipitation (top panel) and its anomaly with respect to the 1991-2020 climatology (bottom panel) for April 2026. Precipitation is measured in inches, as indicated by the color bar. Brown shading in the anomaly map indicates drier-than-normal conditions. Note shading outside the state has been washed out to facilitate focus on Maryland. Filled blue circles mark the county seats.

E. Drought

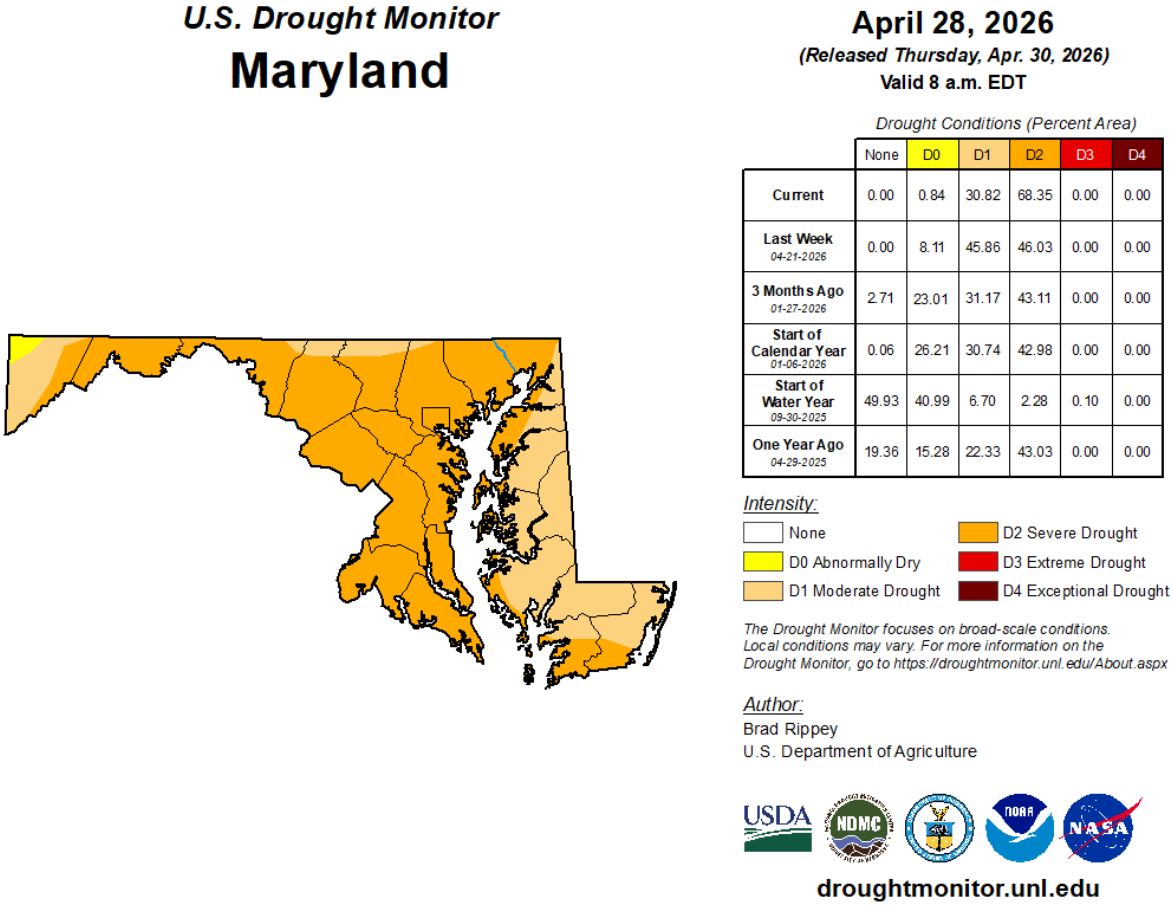

Figure 5. Drought conditions as reported by the U.S. Drought Monitor on April 28, 2026. Drought conditions worsened from the end of March, as Severe Drought covered 68% of the state, and every part of the state was under active drought conditions. Yellow shading indicates abnormally dry regions; light orange shading shows regions under a moderate drought, and dark orange shows regions under severe drought. Numbers in the table indicate the percentage of the state covered under the particular drought category at the time (in the left column). Areas shown in yellow (Abnormally Dry) indicate land that is going into or coming out of drought. Light orange areas (Moderate Drought) highlight land that may experience a low water supply and crop and pasture damage. Dark orange areas (Severe Drought) show land with water shortages and an increased likelihood of crop and pasture losses. Current conditions can be monitored on the U. S. Drought Monitor website. If interested, you can help monitor drought conditions by submitting a report of your local soil conditions through the National Drought Mitigation Center's Drought Impact Toolkit by using the Condition Monitoring Observer Reports system.

4. April and FMA 2026 Statewide and Climate Divisions Averages

A. April Scatter Plots

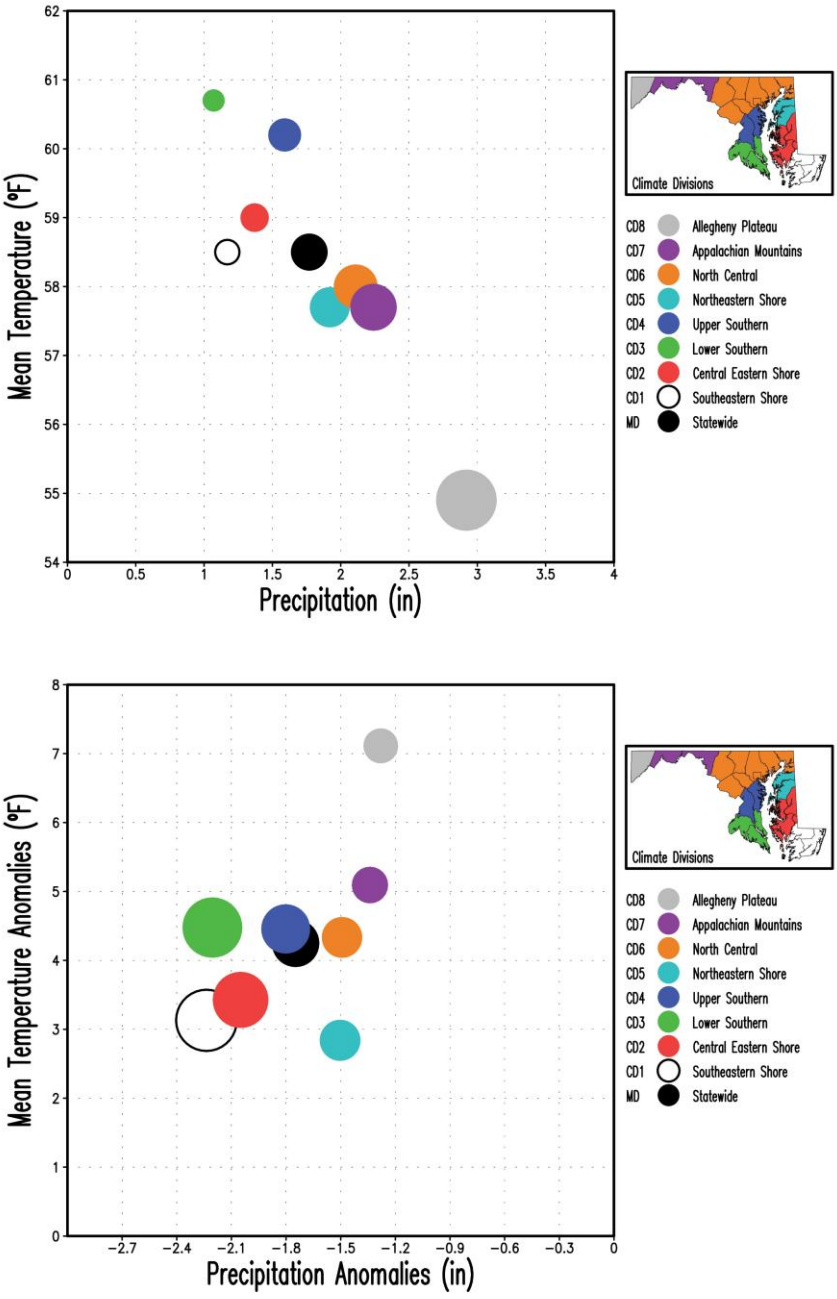

Figure 6. Scatter plots of Maryland (statewide) and Climate Divisions (CD#) monthly mean surface air temperature vs. total precipitation for April 2026. The upper panel displays the mean temperature and total precipitation, while the bottom panel displays their anomalies relative to the 1991-2020 climatology. 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 (2.92 inches in CD8, top panel) and by the maximum precipitation anomaly (|−2.24| 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. February – April Scatter Plots

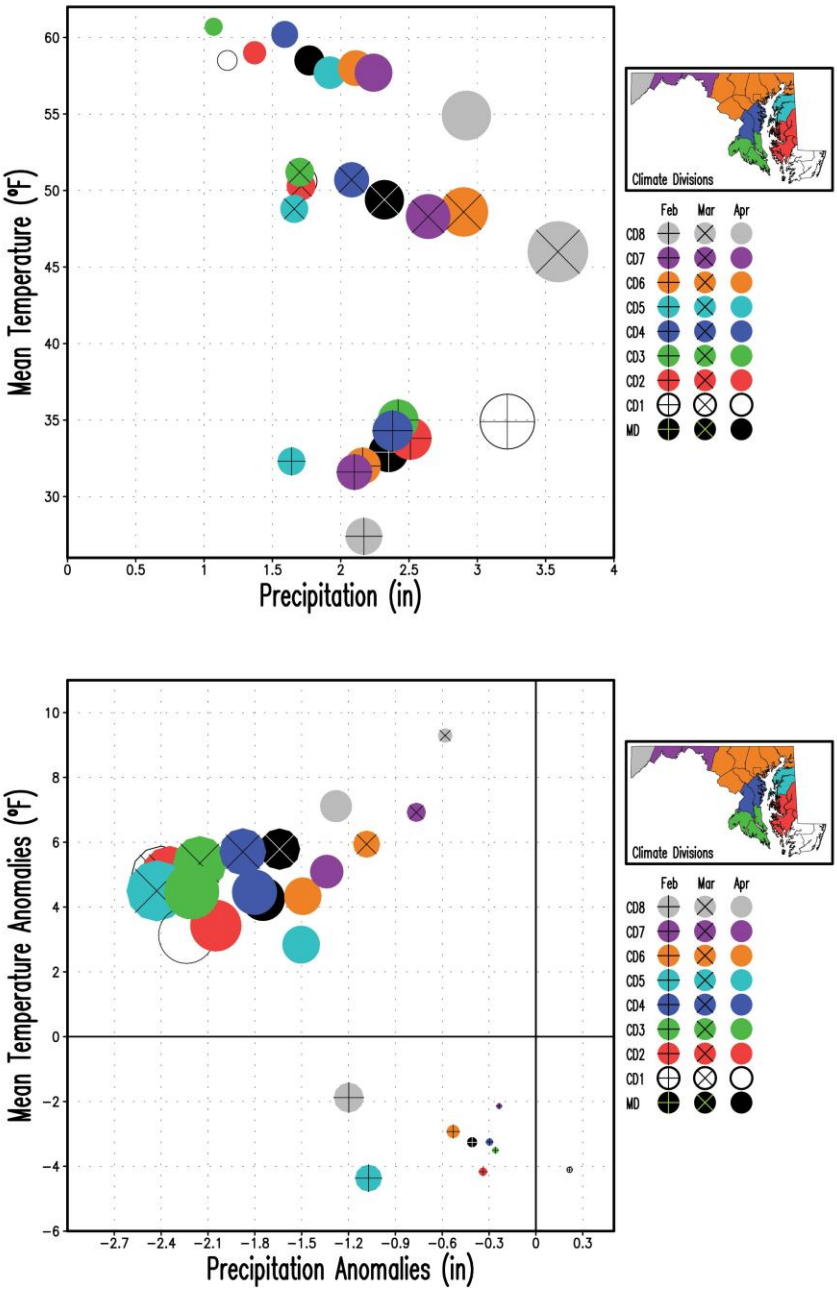

Figure 7. Scatter plots of Maryland (statewide) and Climate Divisions (CD#) monthly mean surface air temperature vs. total precipitation for February, March and April 2026. The upper panel displays the mean temperature and total precipitation, while the bottom panel shows their anomalies relative to 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 (3.59 inches in CD8 in March, top panel) and by the maximum precipitation anomaly (|−2.43| inches in CD5 in March, bottom panel) among the nine regions and three months. April is displayed with filled circles only, while March and February are displayed with superposed multiplication and addition signs, respectively.

5. Extremes in Statewide Averages

A. Freezing Days

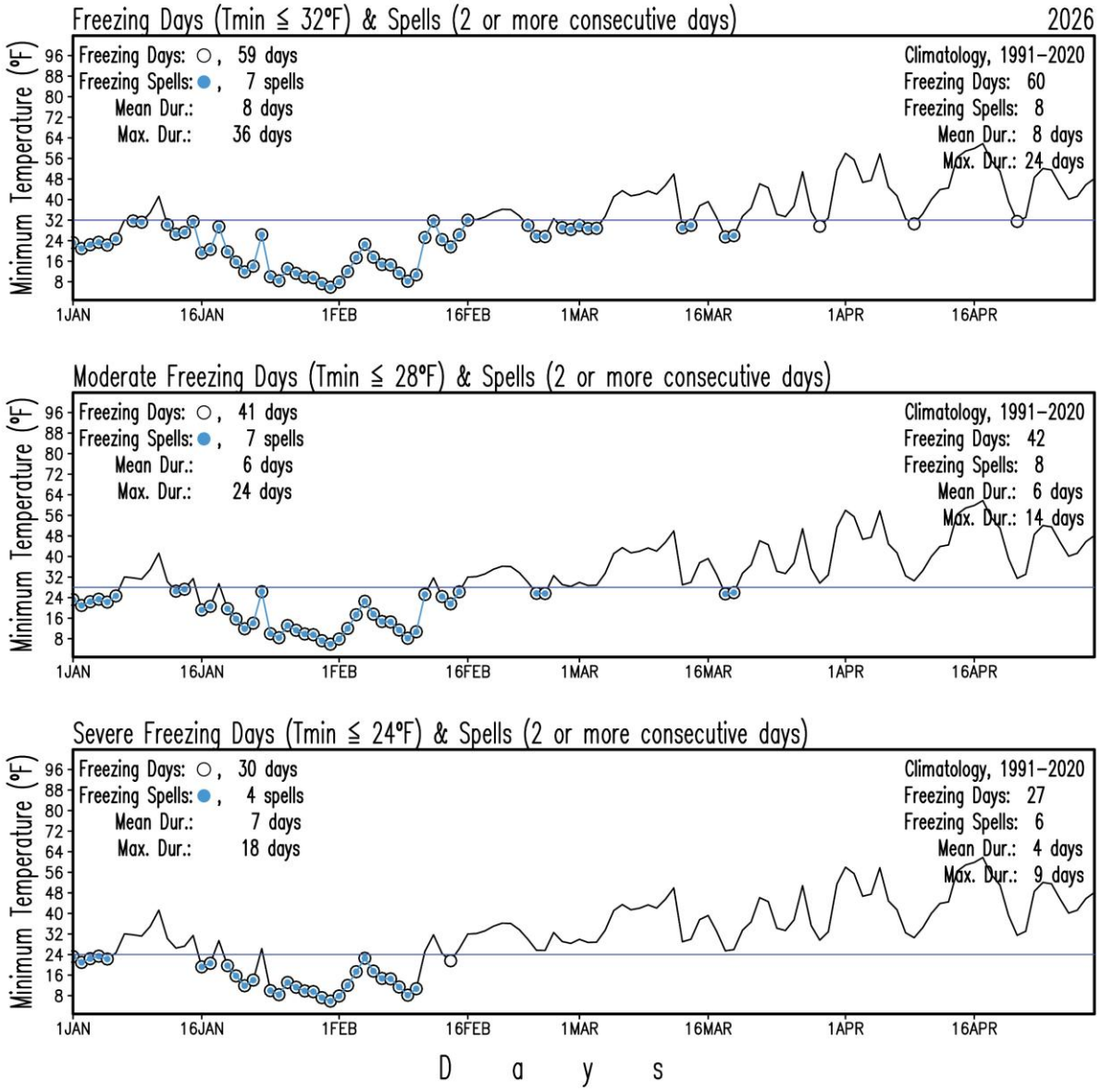

Figure 8. Maryland (statewide) number of freezing days, and their consecutive occurrence for the period January 1 – April 30, 2026. The panels show freezing days in open circles and spells of freezing days in blue-filled circles from statewide daily minimum temperatures. The upper panel displays freezing days and spells when statewide daily minimum temperatures are equal to or below 32°F. The middle panel shows freezing days and spells when statewide daily minimum temperatures are equal to or lower than 28°F. The lower panel shows freezing days and spells when statewide daily minimum temperatures are equal to or below 24°F. The blue line in each panel marks the threshold temperatures of 32°F, 28°F, and 24°F for each case. Figures at the county and climate division levels, as well as summary tables, are available on the MDSCO website, along with near-real-time figures.

B. Extreme Precipitation and Dry Spells

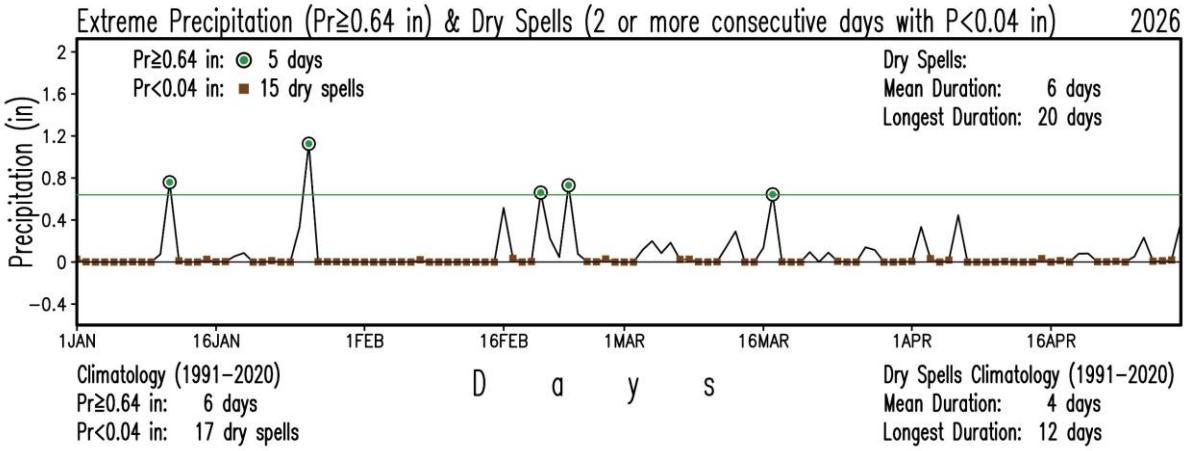

Figure 9. Maryland (statewide) number of days with extreme precipitation and dry spells for the period January 1 – April 30, 2026. Days with extreme precipitation (precipitation of 0.64 in or more) are identified by green-filled circles. Dry spells (consecutive days with daily total precipitation less than 0.04 in) are shown by brown-filled squares. Both extremes are identified from the statewide total daily precipitation. Figures at the county and climate division levels, as well as summary tables, are available on the MDSCO website, along with near-real-time figures.

C. Modified and Simple Growing Degree Days

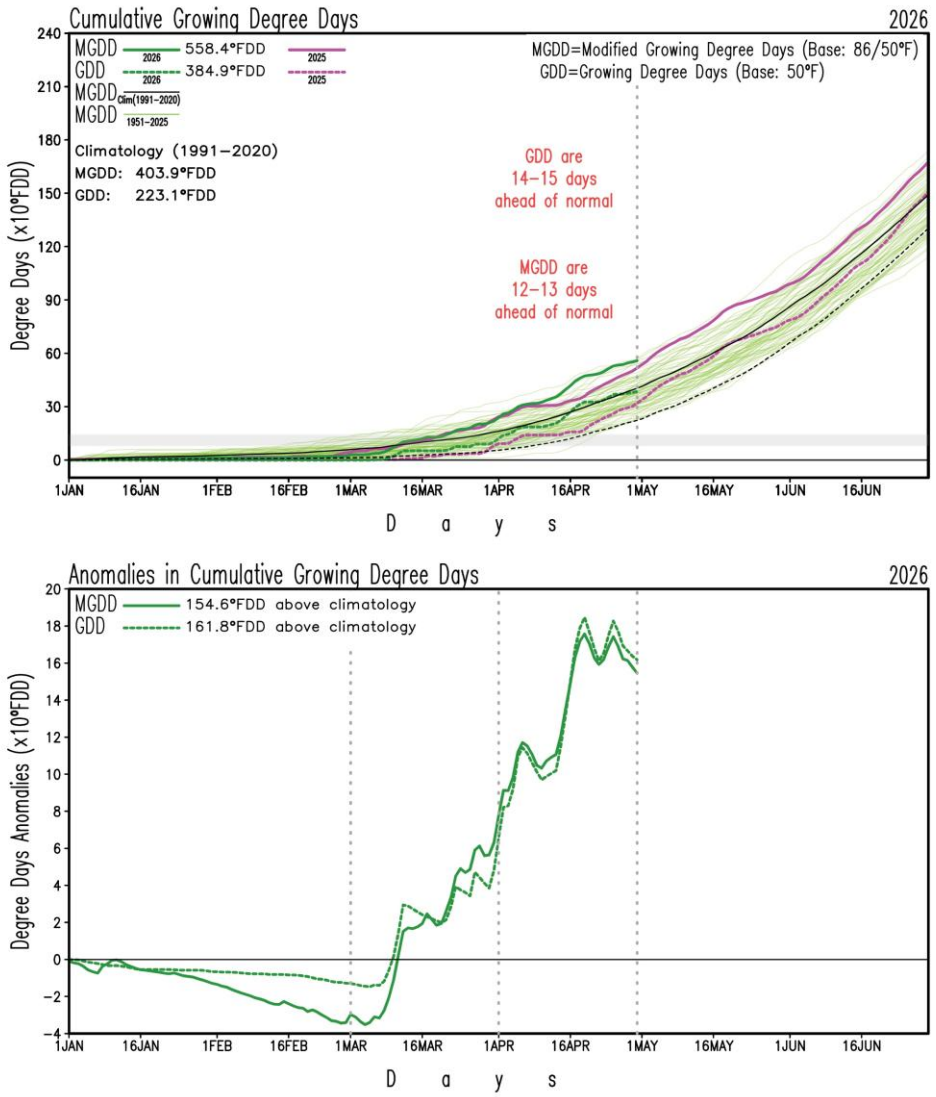

Figure 10. Maryland (statewide) cumulative modified and simple growing degree days (upper panel) and their anomaly with respect to the 1991-2020 climatology (lower panel) for the period January 1 – April 30, 2026. The modified growing degree days are shown with the continuous thick green line in the upper panel and for reference their 1991-2020 climatology and the year 2025 are displayed with continuous black and purple lines, respectively; the continuous thin light-green lines display the cumulative modified growing degree days every year from 1951 to 2024. Similarly, the simple growing degree days are shown as dashed lines. The gray shaded areas mark a range of values for emergence (82-140 in corn development (IPAD, 2023). The red annotations in the upper panel display how many days ahead of climatology the April 30 accumulated values were. Anomalies relative to the 1991-2020 climatology in the cumulative modified growing degree days (bottom panel) are displayed as the continuous green line, while those for the cumulative growing degree days are shown as the dashed green line. The vertical dotted gray lines mark the start of the months since March. The accumulated growing degree days and their anomalies as of April 30 are displayed at the top left of each panel. Analysis is from statewide daily maximum and minimum temperatures. Figures at the county and climate division levels, as well as summary tables, are available on the MDSCO website.

6. April 2026 Statewide Averages in the Historical Record

A. Box and Whisker Plots

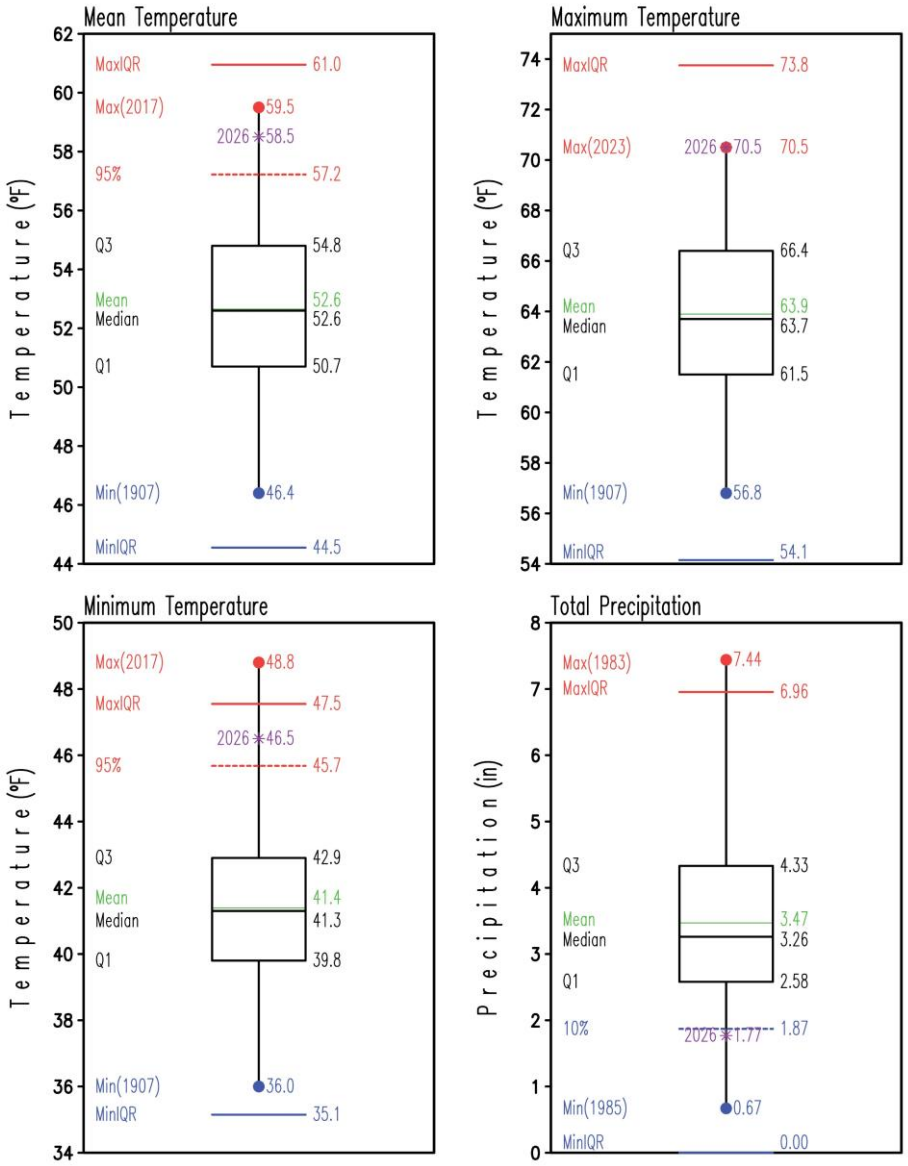

Figure 11. Box and Whisker plots of Maryland (statewide) monthly mean (upper left), maximum (upper right), minimum (lower left) surface air temperatures, and total precipitation (lower right) for April for the period 1895-2025. Conditions for April 2026 are represented by the label and asterisk in purple. Statistics for the period 1895-2025 are labeled at the left side of each box and whisker plot, and their values are 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 smallest and largest values, are the lower and upper horizontal black lines of the box, respectively. For reference, the 95th percentile in mean and minimum temperatures and the 10th percentile in precipitation 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 parentheses. The blue and red horizontal lines represent extreme values defined by Q1-1.5×(Q3-Q1) and Q3+1.5×(Q3-Q1), respectively.

7. 1895-2026 April Trends

A. Statewide Averages in Mean Temperature, Heating Degree-Days, and Precipitation

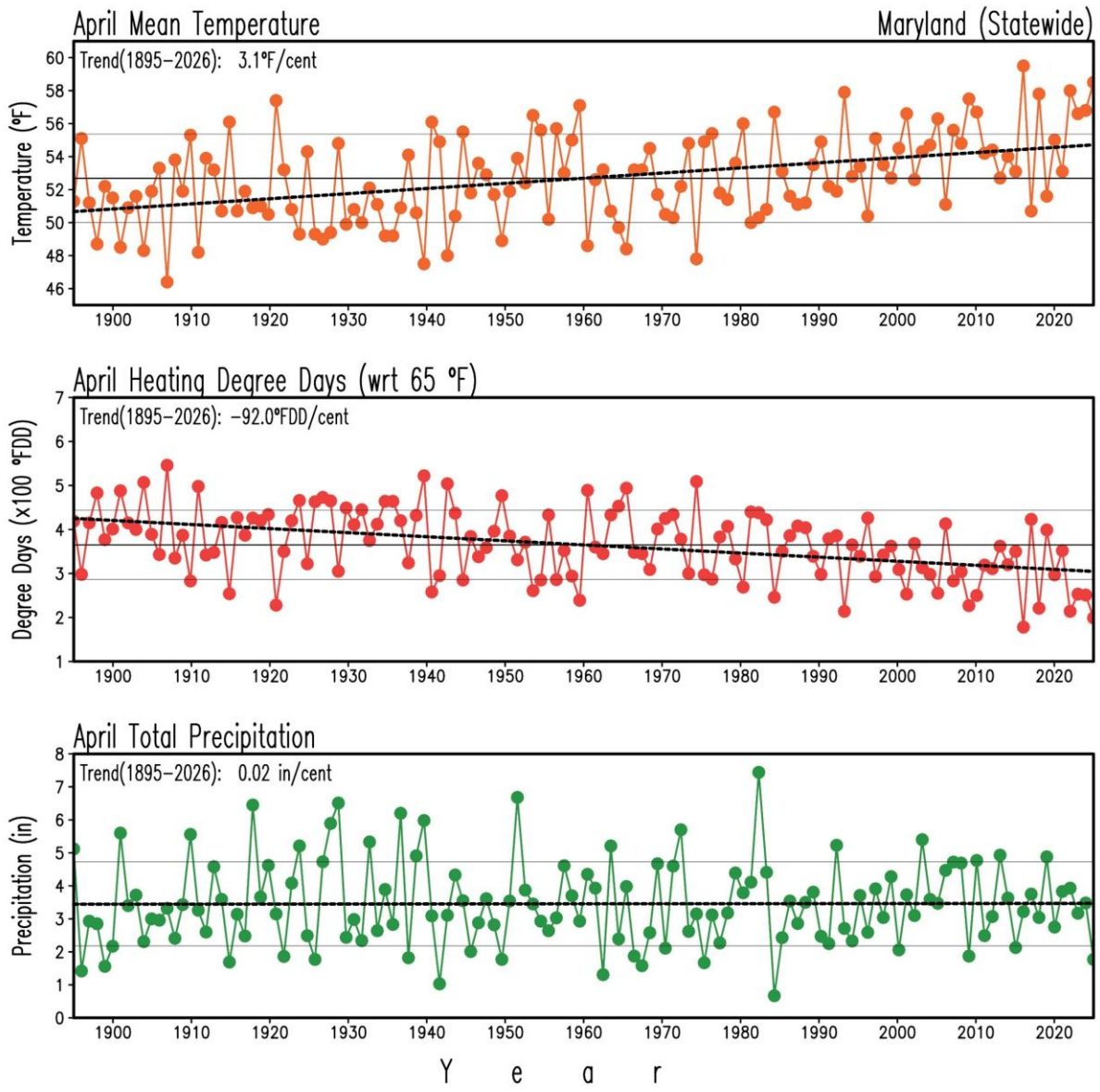

Figure 12. Maryland (statewide) mean surface air temperature, heating degree days, and precipitation in April for the period 1895-2026. Temperature is in °F, degree-days are in °F degree-days (°FDD), and precipitation is in inches. The thin, continuous black lines in each panel display the long-term means (52.7°F, 365.0°FDD, and 3.46 in, 1895-2026), and the double thin, continuous gray lines indicate the standard deviation (2.7°F, 78.5°FDD, and 1.27 in) above/below the long-term mean. The thick dashed black lines show the long-term linear trend. The warming temperature trend (3.1°F/century) and the decreasing heating degree-days trend (−92.0°FDD/century) are statistically significant at the 95% level (*Student's t-test* −Santer et al. 2000); precipitation shows a non-significant minuscule wetting trend (0.02 in/century).

B. Temperature and Precipitation Maps

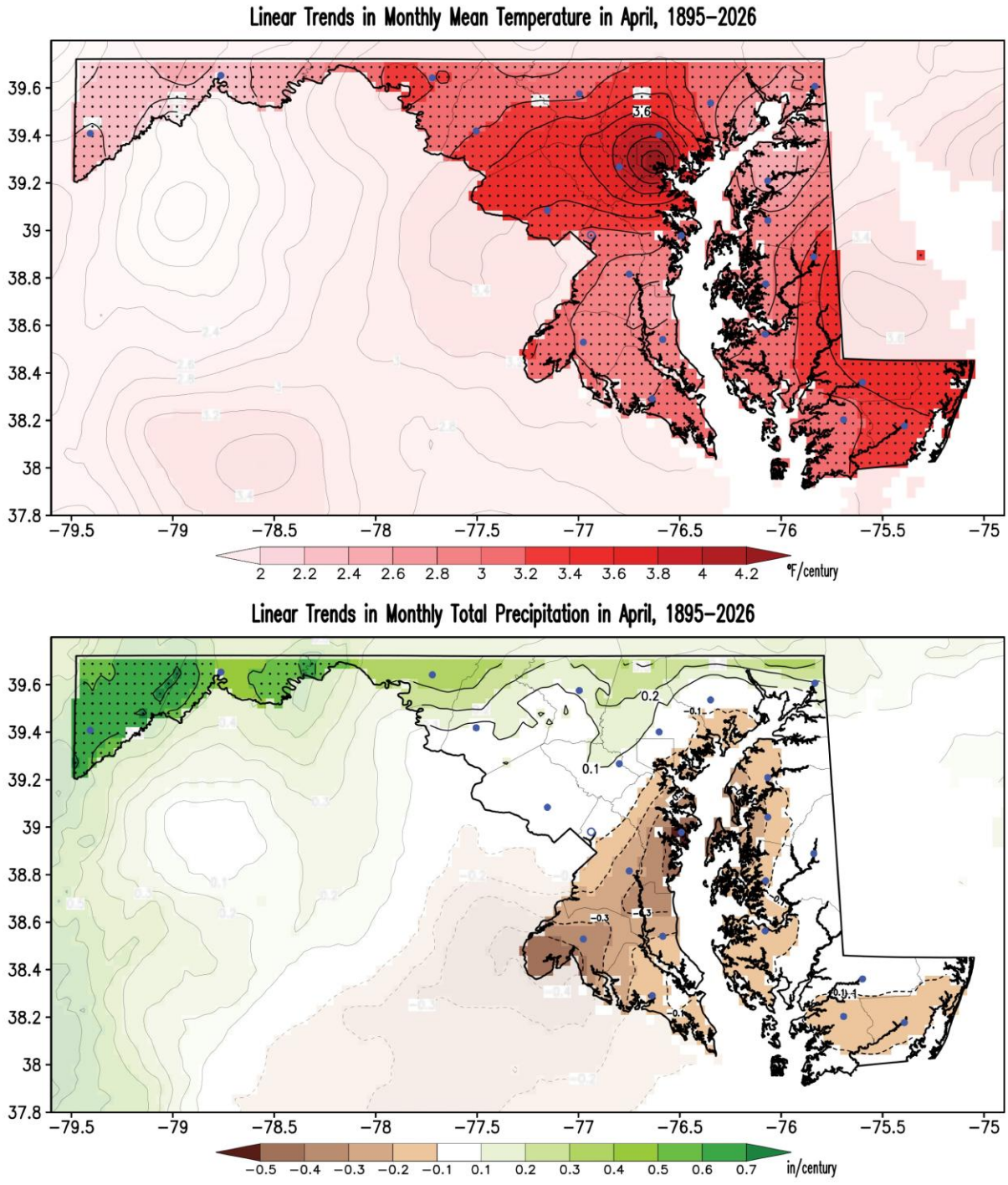

Figure 13. Linear trends in surface air mean temperature and precipitation in April for the period 1895-2026. Temperatures are in °F/century, and precipitation is in inches/century following the color bars. Red shading in the temperature map marks warming trends. Brown/green shading in the precipitation map shows drying/wetting trends. Stippling in the maps indicates 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 focus on Maryland. Filled blue circles mark the county seats.

8. Chesapeake Bay's Sea Surface Temperatures

A. April 2026 Sea Surface Temperature Maps

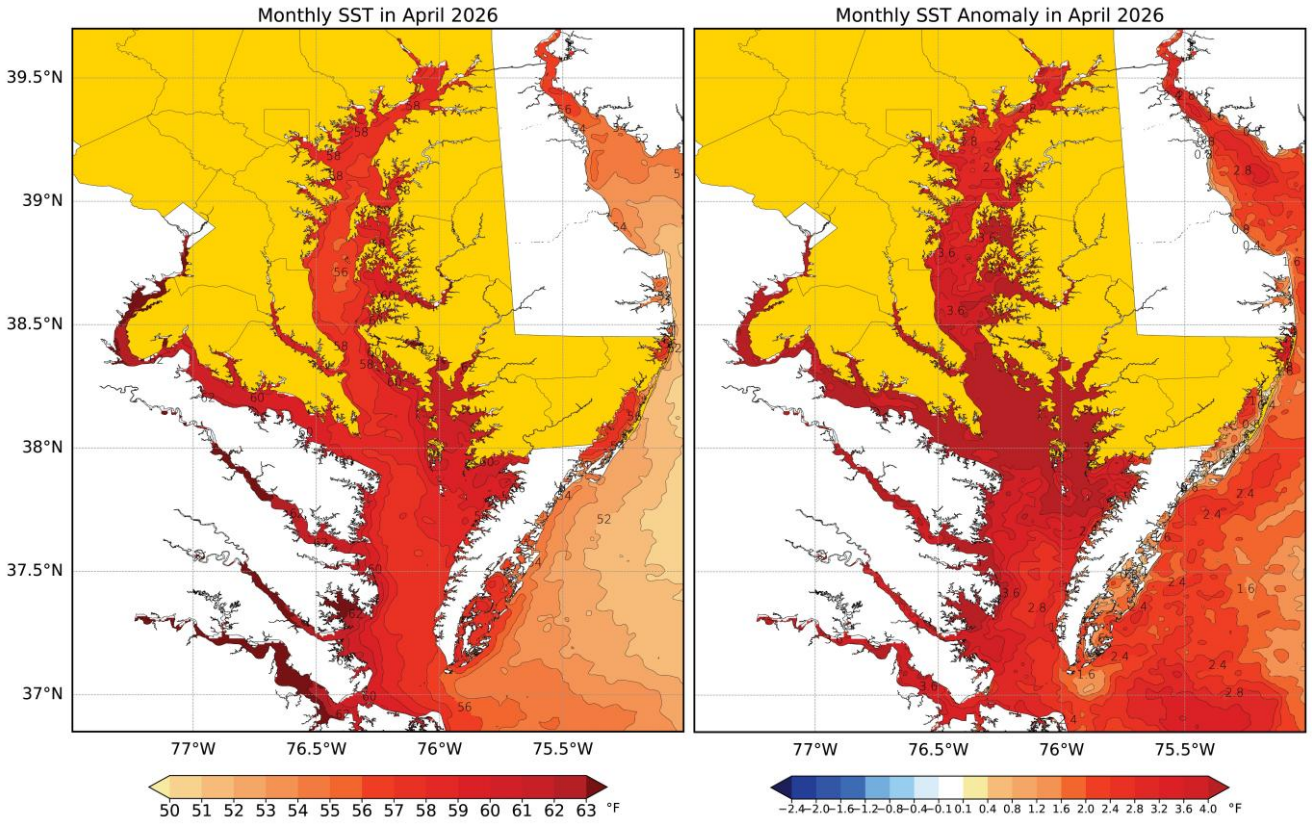

Figure 14. Monthly sea surface temperature (left panel) and its anomaly (right panel) in the Chesapeake Bay and surrounding coastal areas in April 2026. Temperatures are in °F, following the color bar. Orange shading in the anomaly map marks warmer temperatures than the 2007-2020 mean. For clarity, the temperatures and their anomalies have been smoothed using a 9-point spatial smoother applied four times. Note that Maryland has been shaded yellow to facilitate focus on the state waters.

B. April Upper, Middle, Lower, and Entire Basins Sea Surface Temperature Averages

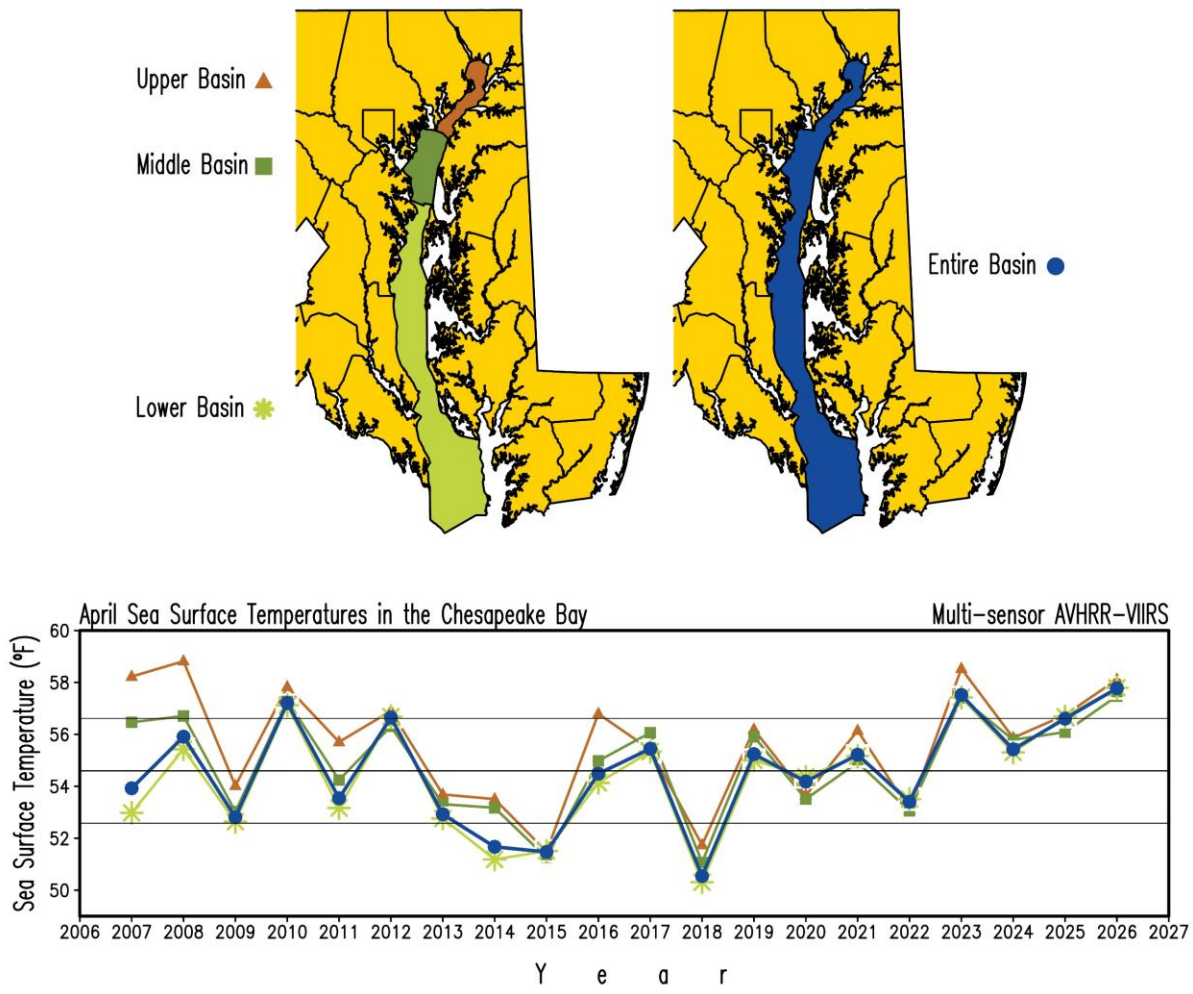

Figure 15. Watersheds in the Chesapeake Bay (top panel) and their area-averaged sea surface temperatures in April for the period 2007-2026 (bottom panel). Temperatures are in °F. The color of the lines corresponds to the color of the watersheds in the Bay, as indicated on the maps: Brown for the Upper Bay, dark green for the Middle Bay, light green for the Lower Bay, and Navy Blue for the Entire Bay. The mean temperature for the Entire basin in April 2026 was 57.8°F, while for the Upper, Middle, and Lower basins was 58.1, 57.5, and 57.8°F, respectively. The thin, continuous black line in the lower panel displays the 2007-2026 mean for the Entire Basin (54.6°F), and the double thin, continuous gray lines indicate the standard deviation (2.0°F) above/below the long-term mean. The 2007-2026 mean temperatures for the Upper, Middle, and Lower basins in April were 55.6, 54.9, and 54.4°F, respectively, while their standard deviations were 2.2, 1.9, and 2.1°F, respectively.

Appendix A. April 2026 Data Tables: Statewide, Climate Divisions, and Counties

A. Mean Temperature and Precipitation

Region	Mean Air Temperature (°F)	Rank (#)
Statewide	58.5	131
Climate Division 1	58.5	127
Climate Division 2	59.0	128
Climate Division 3	60.7	131
Climate Division 4	60.2	131
Climate Division 5	57.7	125
Climate Division 6	58.0	131
Climate Division 7	57.7	131
Climate Division 8	54.9	132
Allegany	57.6	132
Anne Arundel	60.1	131
Baltimore	57.9	129
Baltimore City	59.5	129
Calvert	60.0	131
Caroline	58.4	127
Carroll	57.5	131
Cecil	56.2	123
Charles	61.2	131
Dorchester	59.3	129
Fredrick	58.5	131
Garrett	54.9	132
Harford	56.6	125
Howard	58.8	131
Kent	57.4	125
Montgomery	59.8	131
Prince George's	60.3	131
Queen Anne's	58.1	128
Saint Mary's	60.2	131
Somerset	59.1	128
Talbot	59.3	129
Washington	57.8	131
Wicomico	58.5	127
Worcester	57.9	127

Region	Total Precipitation (in)	Rank (#)
Statewide	1.77	9
Climate Division 1	1.17	6
Climate Division 2	1.37	5
Climate Division 3	1.07	4
Climate Division 4	1.59	12
Climate Division 5	1.92	14
Climate Division 6	2.11	23
Climate Division 7	2.24	32
Climate Division 8	2.92	38
Allegany	2.33	41
Anne Arundel	1.66	14
Baltimore	2.23	24
Baltimore City	2.05	24
Calvert	1.08	4
Caroline	1.56	7
Carroll	2.26	29
Cecil	2.37	26
Charles	1.20	5
Dorchester	1.24	5
Fredrick	2.11	26
Garrett	2.92	38
Harford	2.19	21
Howard	1.91	18
Kent	2.04	18
Montgomery	1.67	14
Prince George's	1.53	10
Queen Anne's	1.83	14
Saint Mary's	0.91	4
Somerset	1.01	5
Talbot	1.46	7
Washington	2.15	28
Wicomico	1.40	8
Worcester	1.13	5

Table A1. Monthly mean surface air temperature (left) and total precipitation (right) at Maryland (statewide), climate division, and county levels for April 2026. Temperatures are in °F, and precipitation is in inches. The rank is the position the variable for April 2026 occupies among the 132 Aprils, after the 132 values have been arranged from lowest to highest using the *standard competition ranking method*. The closer to 132 the rank is, the larger (i.e., the 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	70.5	131
Climate Division 1	69.9	126
Climate Division 2	71.0	127
Climate Division 3	72.4	132
Climate Division 4	72.1	132
Climate Division 5	69.2	122
Climate Division 6	70.1	132
Climate Division 7	70.7	131
Climate Division 8	67.0	132
Allegany	70.7	131
Anne Arundel	71.7	132
Baltimore	70.2	130
Baltimore City	71.2	128
Calvert	71.6	130
Caroline	70.7	125
Carroll	70.0	132
Cecil	67.7	120
Charles	73.2	132
Dorchester	71.4	129
Fredrick	70.7	132
Garrett	67.0	132
Harford	68.3	123
Howard	71.1	132
Kent	68.6	121
Montgomery	71.7	132
Prince George's	72.5	132
Queen Anne's	69.6	122
Saint Mary's	71.8	129
Somerset	70.5	127
Talbot	70.8	127
Washington	70.8	132
Wicomico	70.9	125
Worcester	68.6	123

Region	Minimum Air Temperature (°F)	Rank (#)
Statewide	46.5	130
Climate Division 1	47.0	125
Climate Division 2	47.0	125
Climate Division 3	48.9	131
Climate Division 4	48.3	130
Climate Division 5	46.3	125
Climate Division 6	45.9	130
Climate Division 7	44.7	131
Climate Division 8	42.8	132
Allegany	44.5	131
Anne Arundel	48.4	126
Baltimore	45.6	129
Baltimore City	47.9	126
Calvert	48.3	130
Caroline	46.0	126
Carroll	45.0	131
Cecil	44.7	122
Charles	49.3	131
Dorchester	47.3	125
Fredrick	46.2	131
Garrett	42.8	132
Harford	44.8	125
Howard	46.4	130
Kent	46.3	125
Montgomery	47.9	131
Prince George's	48.2	130
Queen Anne's	46.5	125
Saint Mary's	48.6	131
Somerset	47.7	124
Talbot	47.8	126
Washington	44.8	130
Wicomico	46.2	125
Worcester	47.1	126

Table A2. Monthly maximum (left) and minimum (right) surface air temperatures at Maryland (statewide), climate division, and county levels for April 2026. Temperatures are in °F. The rank is the position the variable for April 2026 occupies among the 132 Aprils, after the 132 values have been arranged from lowest to highest using the *standard competition ranking method*. The closer to 132 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. April 2026 Bar Graphs: Statewide, Climate Divisions, and Counties

A. Temperatures and Precipitation

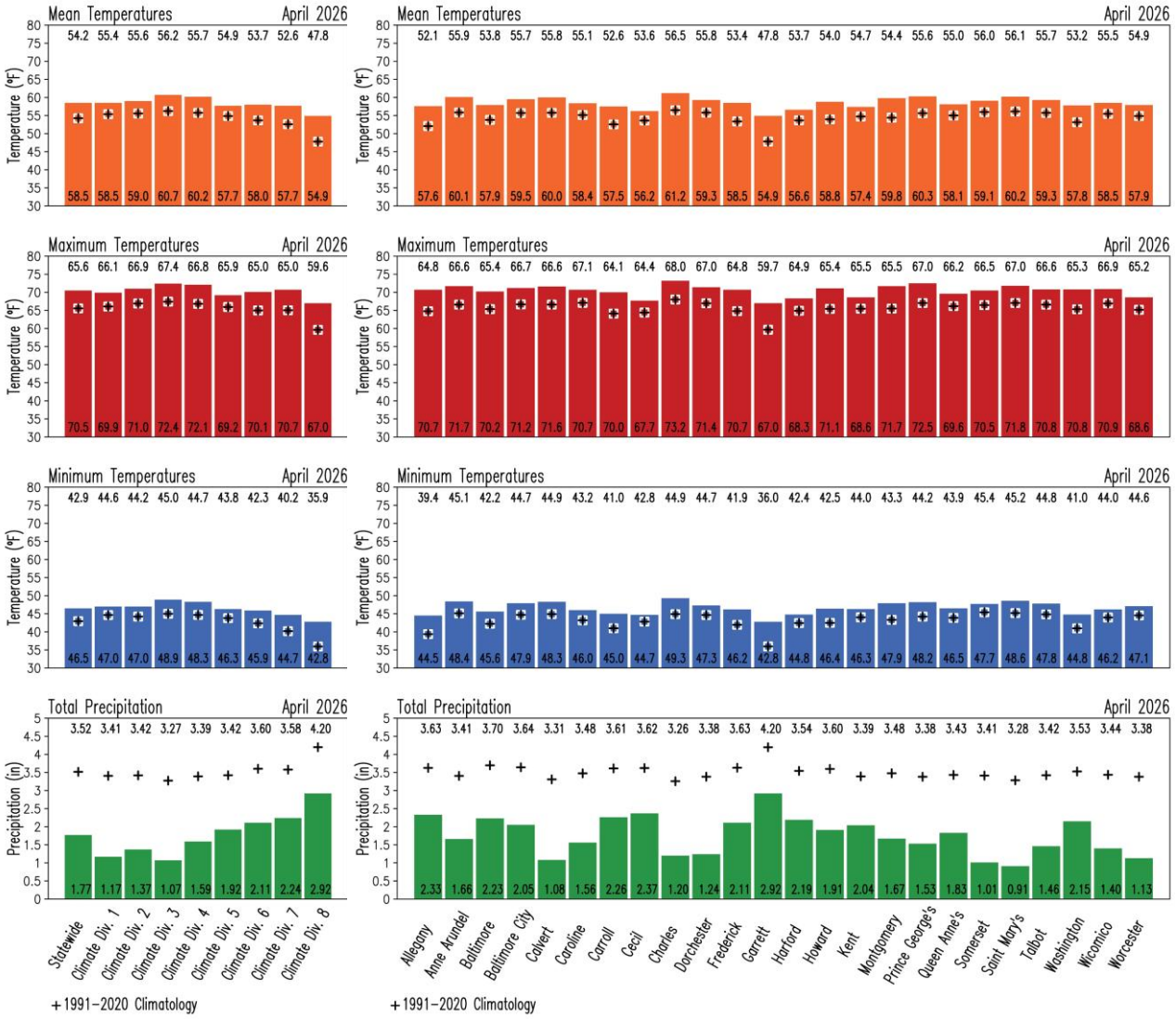

Figure B1. Monthly surface variables for Maryland in April 2026. Color bars represent the variables as follows: mean surface air temperature (orange), maximum surface air temperature (red), minimum surface air temperature (blue), and total precipitation (green) at statewide and climate division (left column), and 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 April 2026. For comparison, the corresponding 1991-2020 climatological values for April are displayed as black addition signs, and their magnitudes are shown at the top of the panels.

B. Temperatures and Precipitation Anomalies

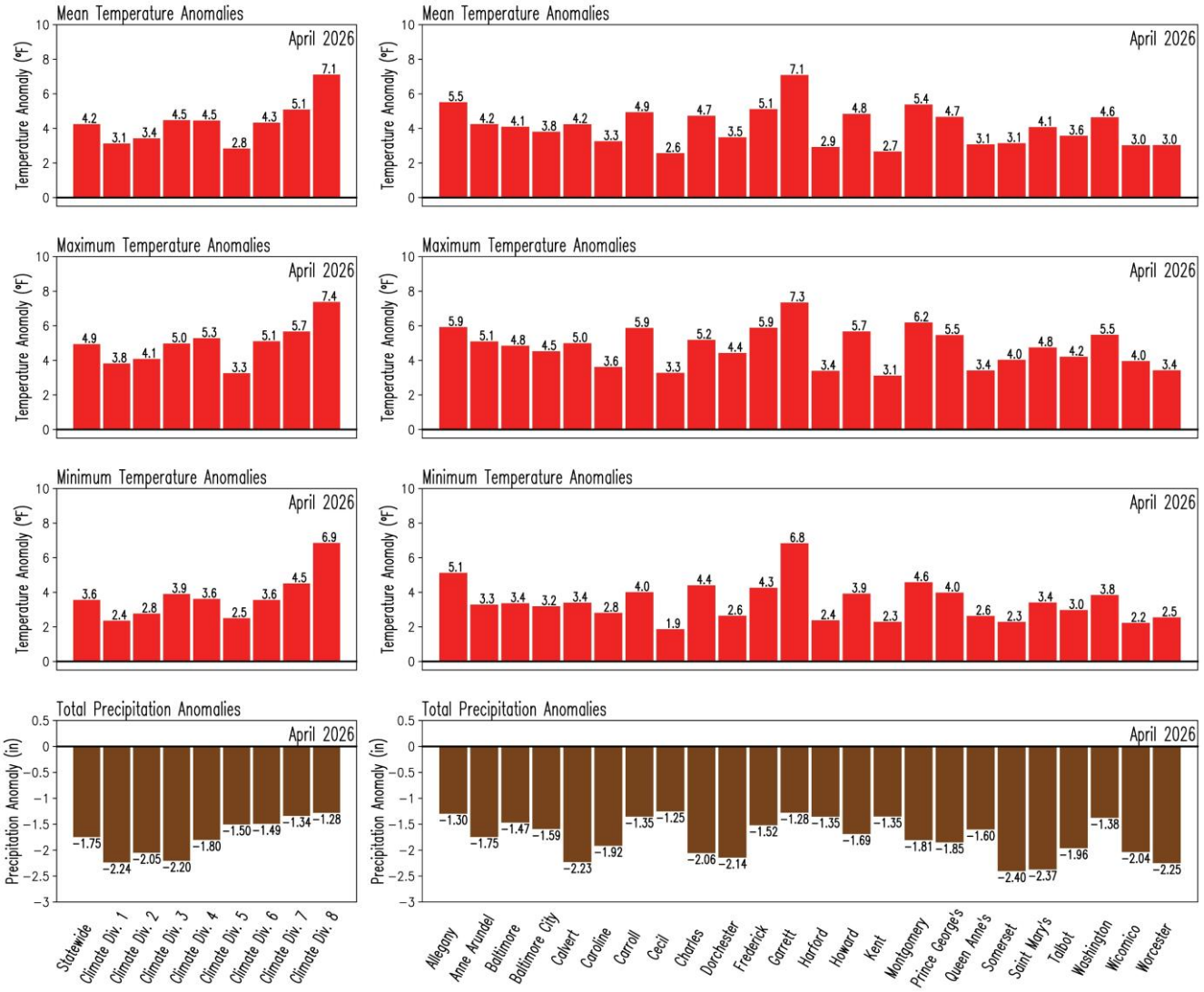

Figure B2. Anomalies in the monthly surface variables for Maryland in April 2026. Anomalies are with respect to the 1991-2020 climatology. Red color represents positive (warmer than normal) anomalies for mean surface air temperature (upper row), maximum surface air temperature (second row from top), and minimum surface air temperature (third row from top), while brown color indicates negative (drier than normal) anomalies in total precipitation (bottom row) at statewide and climate division (left column) and 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 April 2026.

Appendix C. April 1991-2020 Climatology and April 2026 Precipitation as Percentage of Climatology Maps

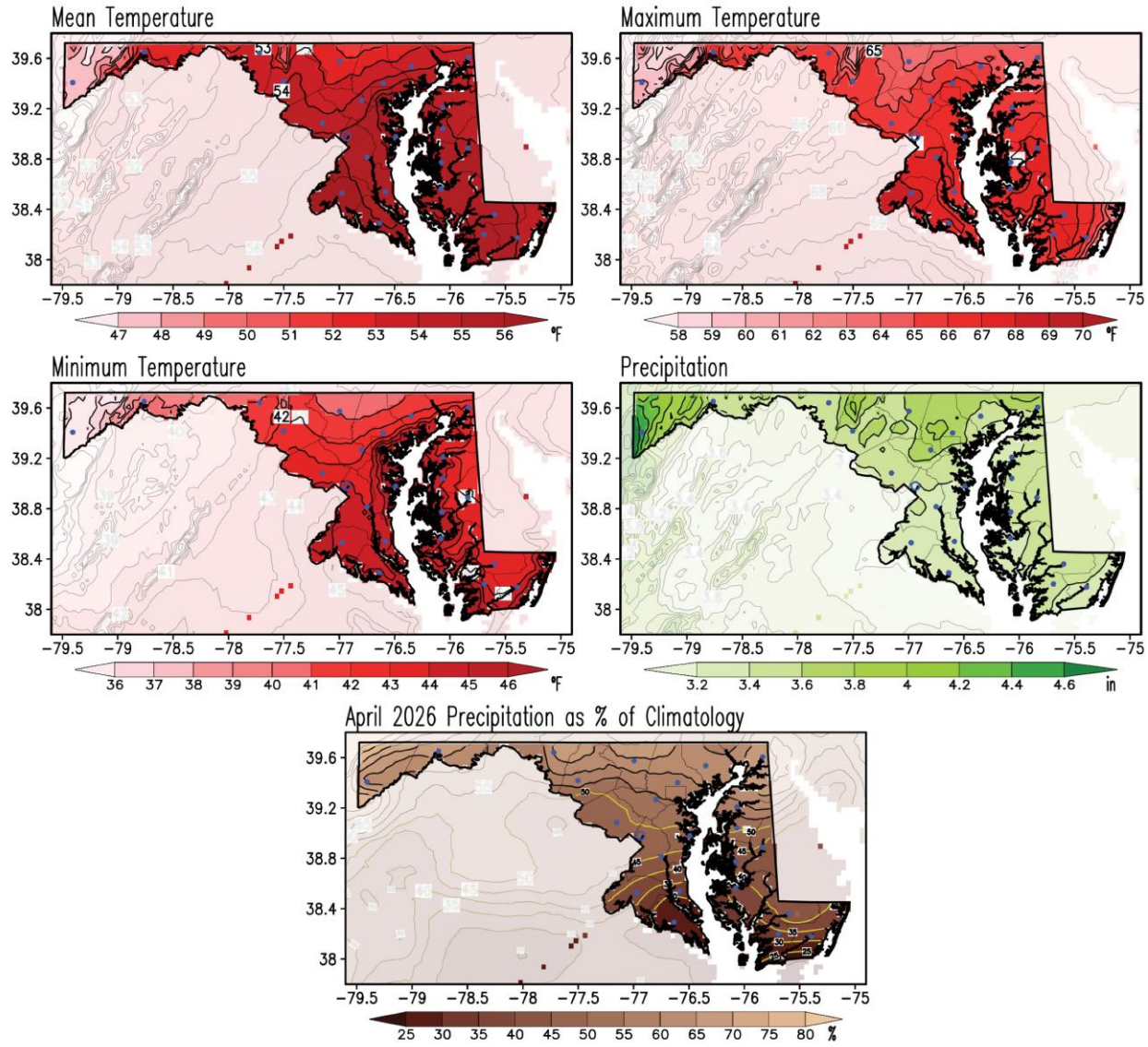

Figure C1. April climatology of the monthly mean, maximum, and minimum surface air temperatures, and total precipitation for the period 1991-2020 (upper and middle rows), and precipitation in April 2026 as a percentage of climatology (bottom row). Temperatures are in °F, and precipitation in inches according to the color bars. This is the current climate normal against which the April 2026 conditions are compared to obtain the April 2026 anomalies (from Figures 1 to 4). Precipitation as a percentage is calculated by dividing the total precipitation (from Figure 4) by the climatology (from the middle right panel) and multiplying that ratio by 100, so the units are expressed as a percentage of the climatology (%); the brown shading in this map indicates drier than normal conditions, and yellow isolines are for percentages equal to or less than 50%. Note that shading outside the state has been washed out to facilitate focus on Maryland. Filled blue circles mark the county seats.

Appendix D. April Standard Deviation and April 2026 Standardized Anomalies Maps

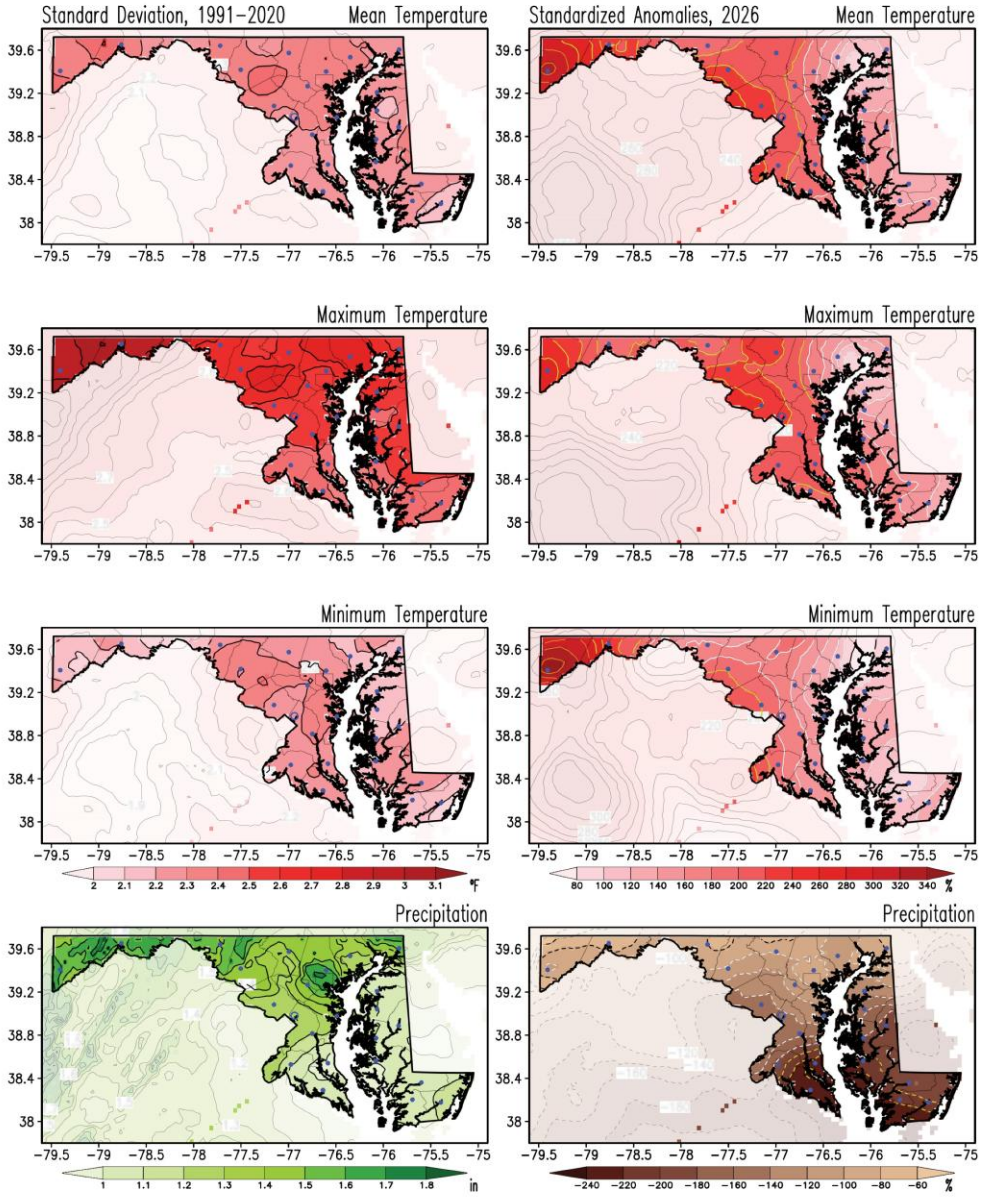

Figure D1. Standard deviation for April and standardized anomalies of temperatures and precipitation for April 2026. Standard deviations for monthly mean, maximum, and minimum surface air temperatures and total precipitation were obtained from the 1991-2020 period (left column). Anomalies for April 2026 (right column) are obtained as a percentage of the standard deviations. The standard deviations for temperature are in °F, and those for precipitation are in inches according to the color bars. Red shading in the anomaly temperature maps marks warmer than normal conditions; brown shading in the anomaly precipitation map marks drier 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 the ratio by 100; hence, the units are in percent (%); white/yellow isolines highlight anomalies equal to or larger than 1/2 standard deviations. Note that shading outside the state has been washed out to facilitate focus on Maryland. Filled blue circles mark the county seats.

Appendix E. April 2007-2020 Mean and Standard Deviation of Sea Surface Temperature Maps

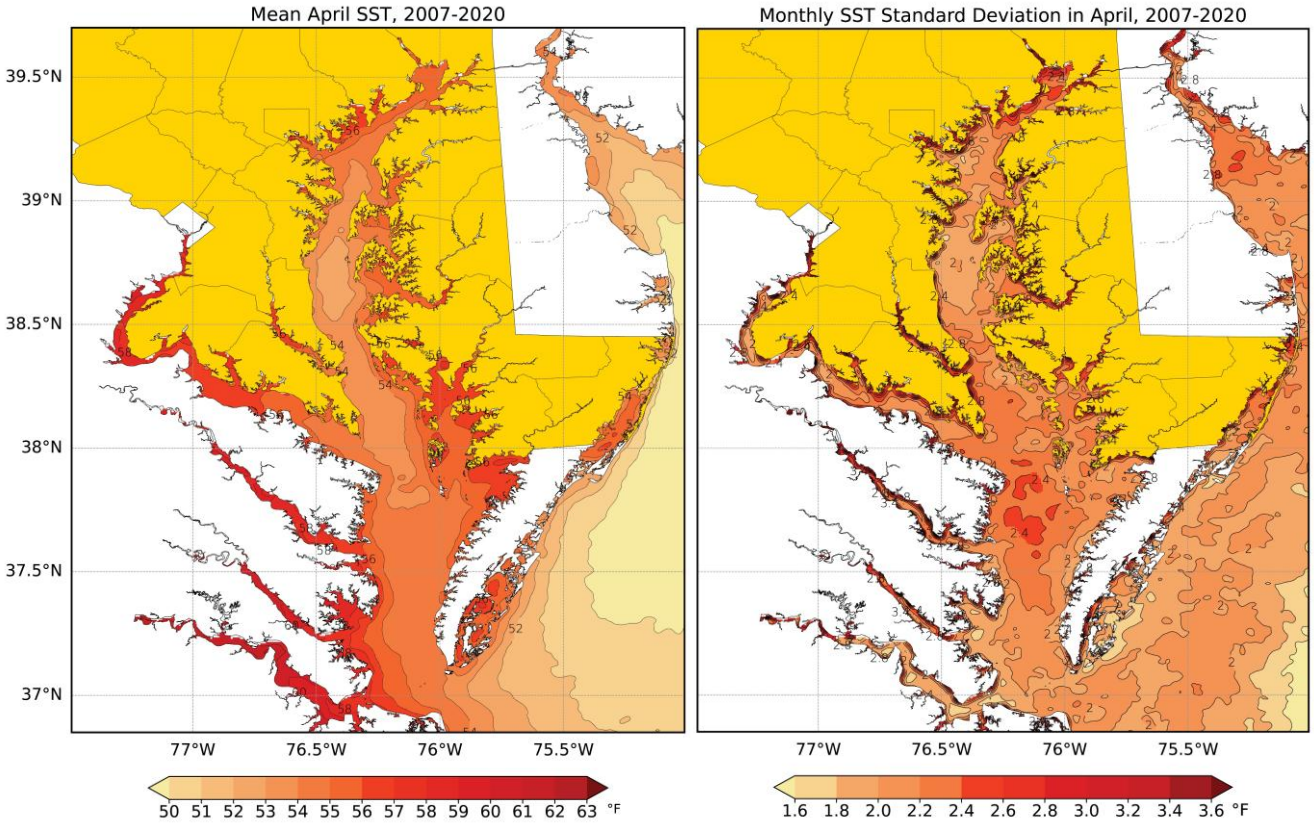

Figure E1. Mean (left panel) and standard deviation (right panel) of sea surface temperatures in the Chesapeake Bay and surrounding coastal areas in April for the period 2007-2020. The mean and standard deviation of the temperatures are in °F according to the color bars. The mean temperature map is the current mean against which the April 2026 conditions are compared to obtain the April 2026 anomalies (from Figure 14). For clarity, the mean and standard deviation of the temperature have been smoothed using a 9-point spatial smoother, applied four times. To facilitate comparison between the mean April map (left panel) and the April 2026 map (Figure 14, left panel), the shading schemes are the same. Note that Maryland has been shaded yellow to facilitate focus on the state waters.

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