

Weather and Climate Summary and Forecast

June 2025 Report

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Summary:

- It was a mostly warmer than average¹ May over the majority of the west.
- May continued the overall dry conditions experienced in April, with the bulk of the west seeing 50% or less of average. Portions of the southwest and Rockies were the only wetter than average regions during the month.
- The dry spring has heightened drought concerns in the West, with persistence likely in portions of central to southern California and the Southwest, and drought development likely in western portions of the Pacific Northwest and northern Rockies.
- June started with strong onshore flow and cooler temperatures, but will give way to the warmest period of the summer so far over the next week or so. No significant rain events in the forecast for most of the west, although monsoon flow looks to be starting up soon.
- Overall, June is leaning solidly to a warm and dry month for the western US. Coastal zones might lean slightly cooler due to onshore flow returning later in the month. This depends on the position of the North Pacific high pressure ridge as the month progresses.
- For the heart of summer, the 90-day forecast is pointing to a warmer and drier western US. While no extreme heat events appear on the horizon, some models are hinting at the potential for at least 1-3 heat waves over the western US this summer. The monsoon season appears to be shaping up as an active one.

Past Month and Year to Date:

May 2025 was largely warm and dry over the western US (Figure 1). While areas in the Rockies across the northern Plains experienced temperatures 4-7 degrees above average, the majority of the west saw temperatures 0.5-2.5 degrees above average. Portions of northern Oregon, western Washington, and the Four Corners experienced a cooler than average May. Due to a stream of fronts pushing through the heartland, the central portion of the country saw moderate to substantially cooler than average conditions (1-5 degrees; not shown). Dry conditions during May were seen over most of California, the PNW, Great Basin, and Rockies with precipitation amounts running from 60% of normal to some areas getting no rainfall during the month (Figure 1). The exception was in the southwest where much higher than normal precipitation amounts were experienced during May. A dry month was also experienced in the Great Lakes region, while the Plains, the south, and the eastern seaboard all saw higher than average precipitation (not shown).

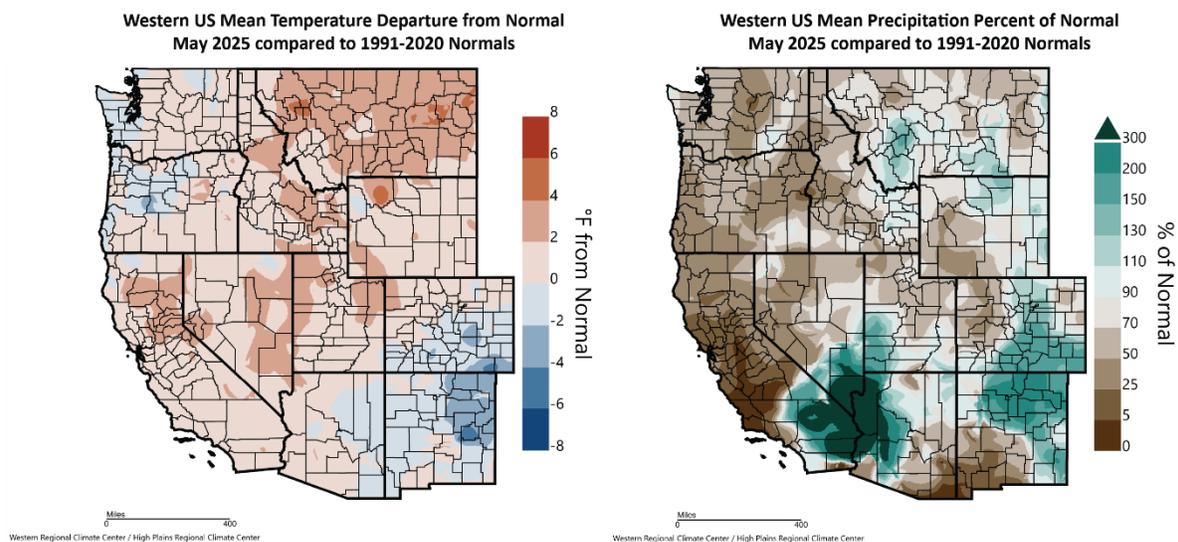


Figure 1 – Western US May 2025 temperature departure from normal (left) and percent of normal precipitation (right; images from Western Regional Climate Center and High Plains Regional Climate Center, 2025)

¹ Note that all references to normal or averages in this report are to the 1991-2020 climate normal for each weather/climate parameter unless stated otherwise. See this website (<https://www.climateofwine.com/climate-normals>) for more information on climate normal.

Year to date temperatures in the western US have been mixed, with central to southern areas running warmer than average while northern areas are closer to average or below average (Figure 2). Coastal zones in California, much of Oregon, northwestern Washington, central Idaho, and the northern Rockies and Plains have been 0.5-1.5 degrees cooler than average, while interior California, the Great Basin, much of the Four Corners, and central and southern Rockies have been 0.5-2.5 degrees warmer than average. The rest of the country continues to experience largely warmer than average temperatures since the first of the year, running 1-3 degrees above average from Texas and the Mississippi River valley eastward. The northern to central Plains and western Great Lakes have seen closer to average or slightly cooler year to date conditions (not shown).

Year to date precipitation over the west has trended to the dry side (Figure 2), although areas from northern California into southern and central Oregon, continuing eastward to the northern Rockies, have seen a wetter than average first five months of the year. The rest of the western US has remained dry, with Washington moderately drier than average, and central to southern California, the southwest, Four Corners currently running 5-70% of normal. The current seasonal forecast has the monsoon season kicking into gear, which will likely alleviate the dry conditions in the southwest (see Forecast periods below). Year to date drier than average conditions are also found in the central to northern Plains, the southeast, and Florida (not shown). The dominant storm track over the first five months of the year has been from Texas into the Ohio River valley, which has brought roughly 150-300% of average precipitation to those areas.

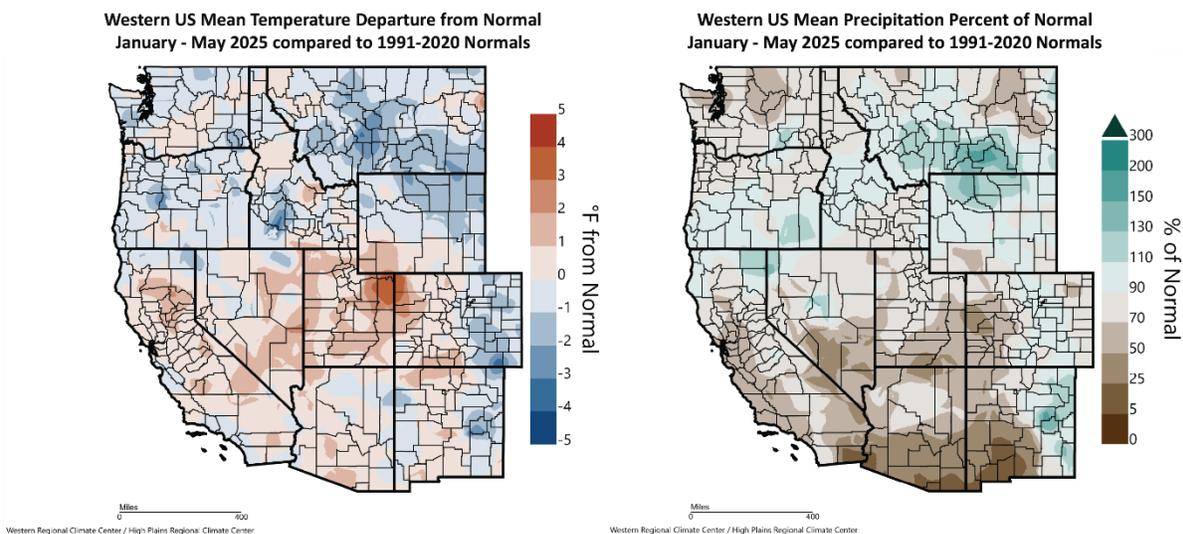


Figure 2 – Western US year-to-date (January 1 through May 31, 2025) temperature departure from normal (left) and percent of normal precipitation (right; images from Western Regional Climate Center and High Plains Regional Climate Center, 2025).

Heat Accumulation:

Growing degree-days (GDDs) during March through May for the western US for 2025 continues to be variable with large areas of the interior states experiencing moderately above average heat accumulation while portions of the Rockies, coastal zones in California, and locations around the PNW are currently running near average to below average (Figure 3). Coastal zones in California, mountainous areas of the PNW, and areas in the central Rockies are 0-150 GDD below average, while inland regions in California, western and eastern valleys in the PNW, the Great Basin, Idaho, and Montana have seen 50-200 GDD above average conditions (Figure 3). In terms of days ahead or behind normal growing degree-day accumulation, the data in Figure 3 finds the warmest regions running 4-20 days ahead of normal and the coolest regions running 2-14 days behind normal accumulation for this point in the vintage (not shown).

For Oregon specifically, heat accumulation (GDD) amounts are currently running 16-54% above the 1981-2010 climate normals, and 26-37% above the 1991-2020 climate normals for the Rogue Valley, Umpqua Valley, and Willamette Valley, while the Walla Walla Valley is currently 8% below (Figure 4). Stations in Roseburg and Medford are currently tracking the same GDD as the 2015 vintage, one of the warmest years in Oregon. Compared to the 2024 vintage, the four locations in Figure 4 are running 3% (McMinnville), 12% (Medford), 23% (Roseburg), to 27% (Milton-Freewater) above the same period last vintage.

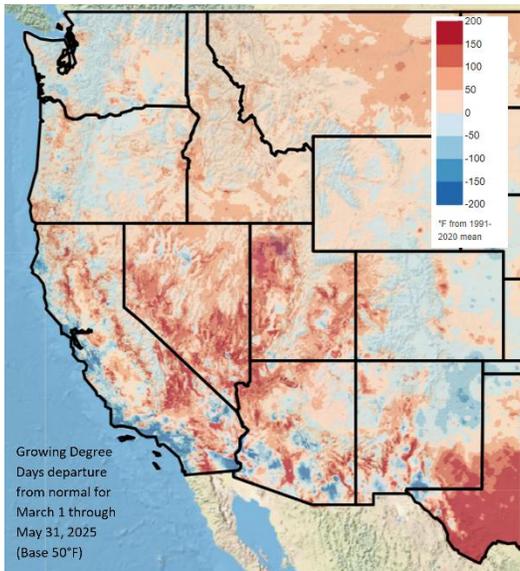


Figure 3 – Western US March through May 2025 growing degree-days (image from Climate Impacts Research Consortium, University of Idaho).

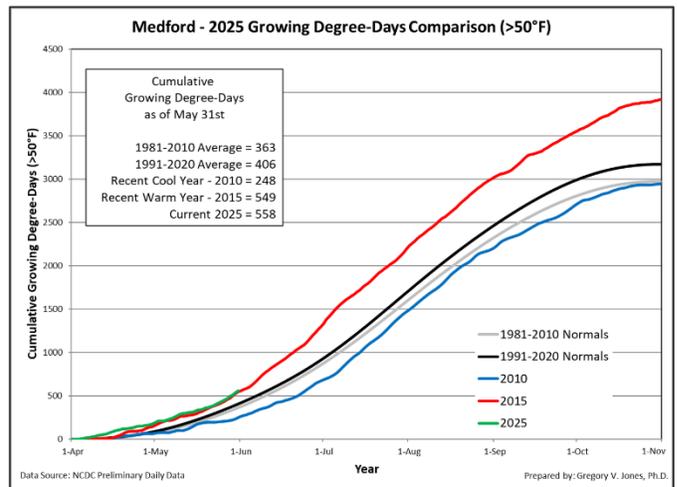
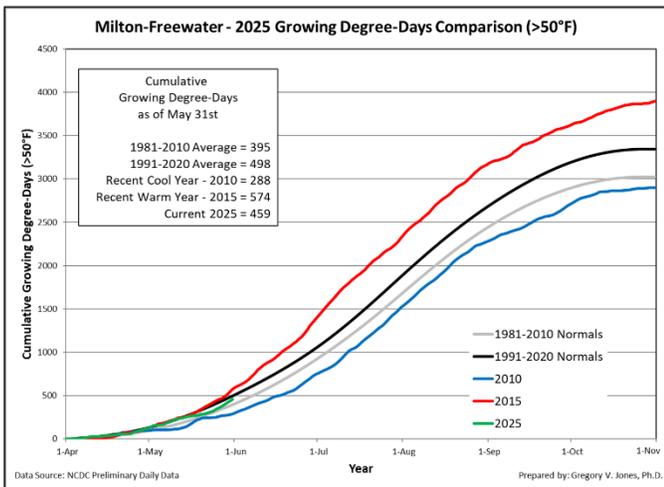
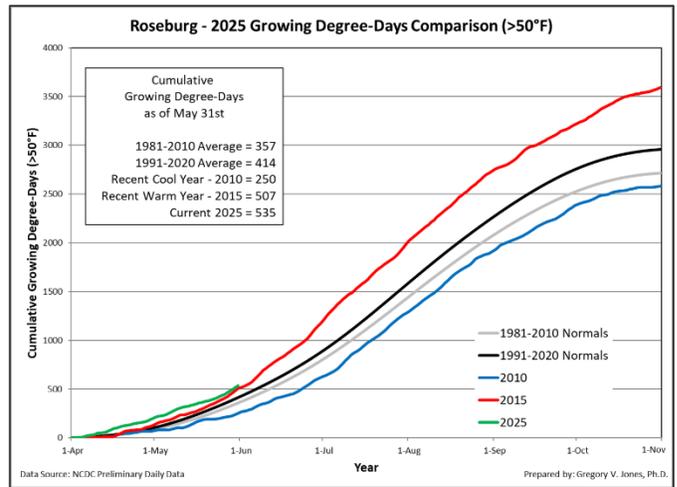
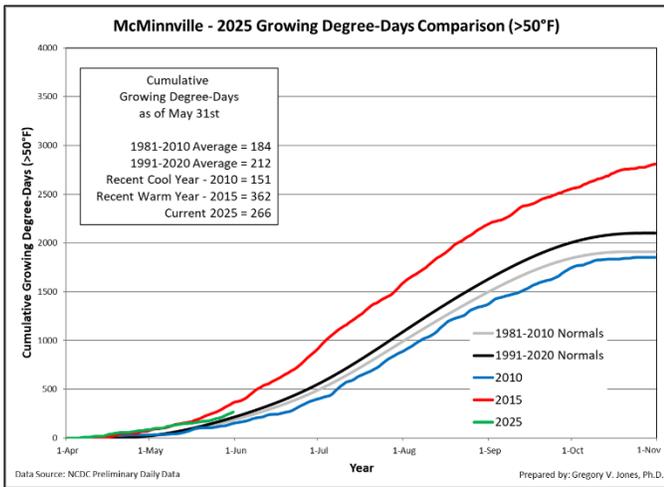


Figure 4 – Cumulative growing degree-days (base 50°F, no upper cut-off) for McMinnville, Roseburg, Milton-Freewater, and Medford, Oregon. Comparisons between the current year (2025) and a recent cool year (2010), a recent warm year (2015), and both the 1981-2010 and 1991-2020 climate normals are shown (NCDC preliminary daily data).

Drought Watch – Precipitation amounts for the US during May alleviated drought concerns across most of the eastern states and across the central to northern Plains. Abnormally wet conditions in the southwest desert also helped lower

drought concerns in one of the driest areas in the country. However, dry conditions in the west during May (Figure 1) and across the Great Lakes region increased drought concerns heading into summer (Figure 5). The overall drought footprint over the continental US dropped slightly to 51%, with the most extreme drought categories declining to close to 17%. Even with some precipitation in May, the area from southern California, across much of the southwest, and into the Rockies continues to have the most prolonged and severe drought situation in the west (Figure 5). With May bringing mostly dry conditions in the west, the overall drought footprint in the region increased slightly from last month to 72%, with the most extreme categories remaining just over 31% of the west. Washington saw its overall drought footprint increase in May to just over 53% of the state, although the state continues to have no areas in the most extreme categories of drought. Oregon also saw its drought footprint increase from just under 15% to nearly 36% of the state, but continues to have no area in the extreme drought categories. Montana's overall drought footprint rose to close to 78% of the state, with the extreme categories increasing slightly to just over 23% of the state. Idaho saw its overall drought footprint increase to just over 60% of the state, but the most extreme drought categories remained at zero. California also saw a slight increase in the overall area in drought, moving close to 60% of the state. The more extreme drought categories remained close to 25% of the state now enduring severe drought, all located in the southern portion of the state (Figure 5).

The general pattern of drought concerns across the US remains similar to the past few months (Figure 5; right panel). Large areas of southern California, the southwest, the Rocky Mountains, and the northern to central Plains are likely to see drought conditions persist or develop further. For the West Coast states, drought concerns heading into summer have risen for central to southern California, the Cascades of Oregon and Washington, along with significant portions of Idaho and Montana, where drought will likely persist or develop further. Much of the East Coast is now forecast to see drought conditions improve, as are significant areas of the southern Plains, eastern Texas, and the south (Figure 5; right panel).

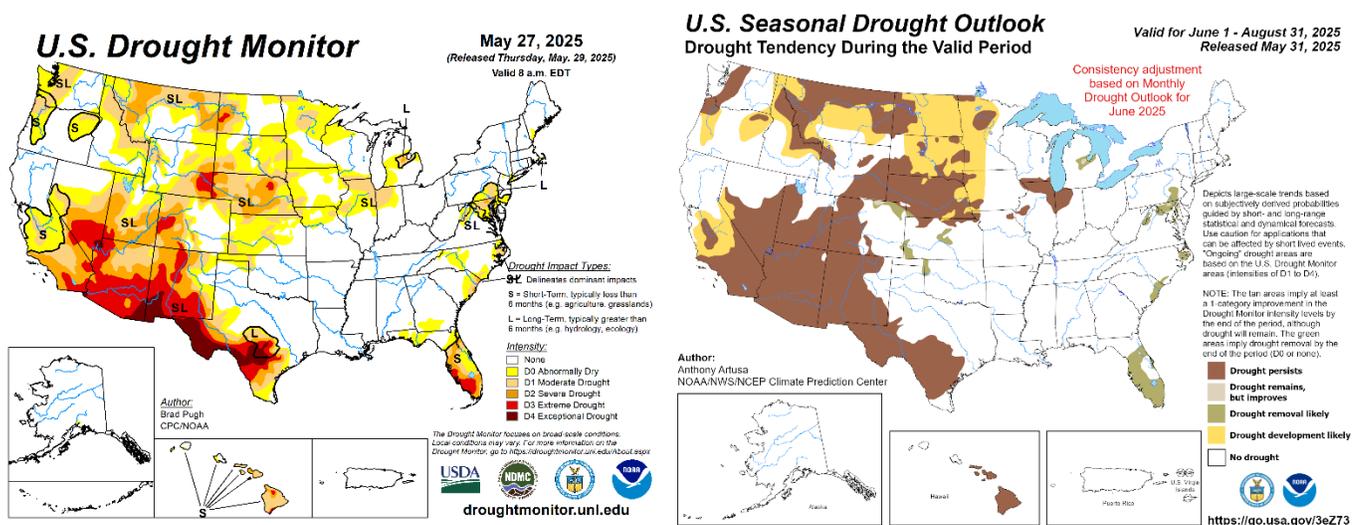


Figure 5 – Current US Drought Monitor and seasonal drought outlook.

ENSO Watch – For the first time in a while, the ENSO Alert System is not active due to the transition to ENSO-neutral conditions. The Climate Prediction Center (CPC) shows that conditions in the Tropical Pacific Ocean across the central ocean basin have near-average sea surface temperatures (SSTs) (Figure 6). Tropical Pacific atmospheric conditions also show anomalies that are consistent with the move to full ENSO-neutral. Observations and models are continuing to show a trajectory of SSTs remaining near average over the next few months, with ENSO-neutral prevailing through the summer (74% chance), into fall, and possibly even into the winter of 2025-2026 (50% chance). Heading further into summer we would expect the overall effect of ENSO on weather conditions for the west coast to continue to weaken. The current 90-day forecast (see below) shows a significant shift from previous seasonal forecasts as we progressed through the winter in the Northern Hemisphere.

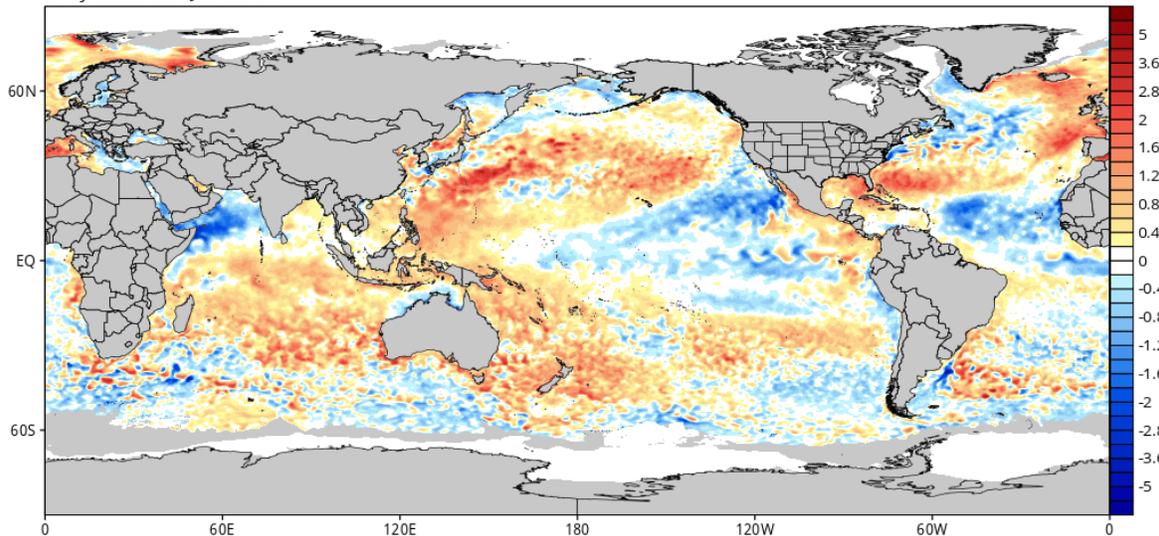


Figure 6 – Global sea surface temperatures (°C) for the period ending June 1, 2025 (image from Tropicaltibits.com).

North Pacific Watch – The overall pattern in SSTs over the North Pacific remains largely the same from the last couple of months (Figure 6). The Pacific Decadal Oscillation (PDO) remains in a negative state, although the magnitude is weakening somewhat from the extreme values that have been in place over the last year or more. A broad area of the North Pacific basin remains warmer than average, while cooler than average SSTs also remain along the western North American coast from California south to Baja California and extending southwest toward Hawaii (Figure 6). While the PDO is still showing negative phase anomalies and will likely continue for the foreseeable future, its effect tends to lessen in the boreal summer, then picks back up in the fall and transition to winter. Right now, I do not see much influence from the North Pacific SSTs, other than tamping down coastal zone temperatures, especially in California and south to Baja.

Forecast Periods:

Next 5 Days: Strong onshore flow has brought higher winds to many, especially in the PNW western valleys. While this should continue over the next few days, as it wanes, the west will warm up to the warmest conditions so far this summer. No organized precipitation is forecast during this period.

6-10 Day (valid June 10-14): Warm over the majority of the western US with the interior PNW and northern Rockies likely to see the warmest conditions through mid-month. Relatively strong onshore flow will likely return, keeping coastal zones from northern California to Vancouver Island near average or slightly cooler than average. Texas, into the lower Mississippi River Valley and Ohio River Valley, will likely see normal to slightly cooler than average temperatures during this period, while the Gulf Coast and eastern seaboard are forecast to see above normal temperatures. Dry across the west coast states during this period, with indicators pointing to summer thunderstorm activity heating up in the Basin and Rockies. Likely wetter than average over most of the rest of the country, except the southern Great Lakes and northern Ohio River valley, which are likely to experience a dry period.

8-14 Day (valid June 12-18): After mid-month onshore flow picks up some more as the Pacific High shifts a little west. This will allow for some cooler air to move into the western US, lowering temperatures to near normal or slightly below normal from central California into the PNW. The rest of the country is likely to see warmer than average temperatures during this period, with the greatest chance being in the northern Rockies and Plains. The western US is forecast to remain seasonal, although onshore flow does bring a slight probability of some precipitation in the PNW. The rest of the country will likely be near normal for rainfall during this period, except for the western Gulf Coast, which is forecast to see above average precipitation, and New England, which is forecast to see below average precipitation.

30 Day (valid June 1-30): The temperature outlook for June in Figure 7 has the bulk of the country leaning to a warmer month. The Basin and inland PNW, along with New England, have the greatest probability of seeing a warmer than

average month of June. The June precipitation outlook has equal chances of above to below amounts for a significant portion of the country (Figure 7). The exceptions are the PNW, where below average precipitation is likely, the southwest where monsoon flow is forecasted to kick in gear, and across the mid-south and Gulf coast where tropical storm activity is anticipated to bring wetter than average conditions.

90 Day (valid June-July-August): The seasonal outlook for summer is holding to a strong chance that the entire country will see a much warmer June, July, and August (Figure 7). The western US and New England have the greatest chances of seeing a warmer than average summer. Precipitation during the summer months is currently forecast to be below average over the northern states from the PNW to the northern Plains and south into portions of Texas. The southwest desert region is forecast to see near average to above average precipitation due to the anticipated summer monsoon flow. The Gulf Coast, southeast, and eastern seaboard are forecast to see a wetter than average summer (Figure 7), largely due to the higher than average tropical storm season forecasted for the Atlantic and Gulf.

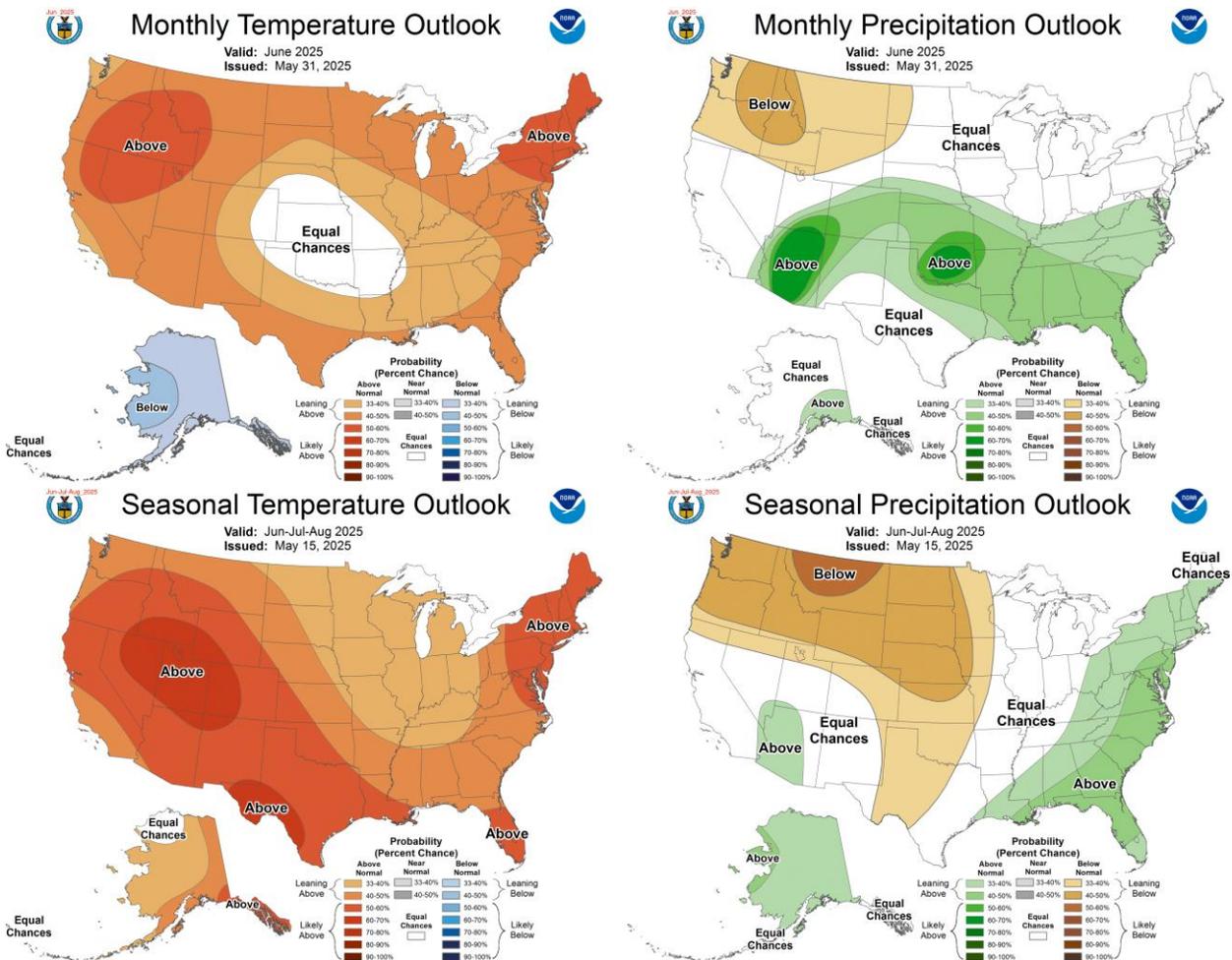


Figure 7 – Temperature (left panel) and precipitation (right panel) outlooks for the month of June (top panel) and June, July, and August (bottom panel) (Climate Prediction Center, climate.gov).

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