



# National Significant Wildland Fire Potential Outlook

## Predictive Services National Interagency Fire Center

Issued: July 1, 2022  
Next Issuance: August 1, 2022



Outlook Period – July through October 2022

### Executive Summary

The significant wildland fire potential forecasts included in this outlook represent the cumulative forecasts of the ten Geographic Area Predictive Services units and the National Predictive Services unit.

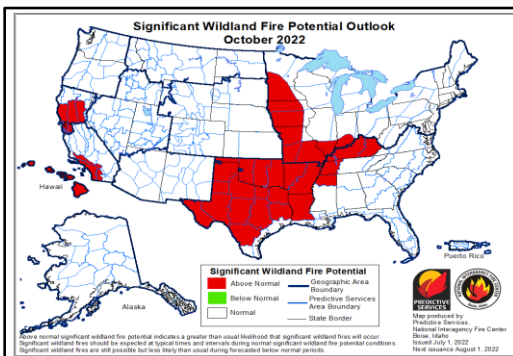
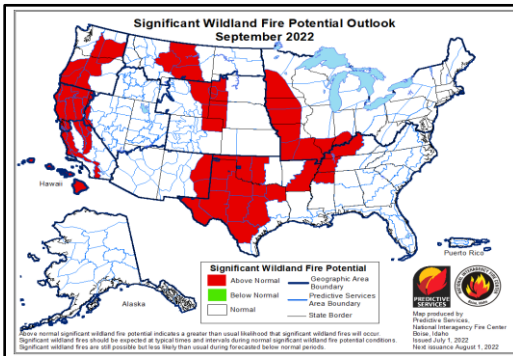
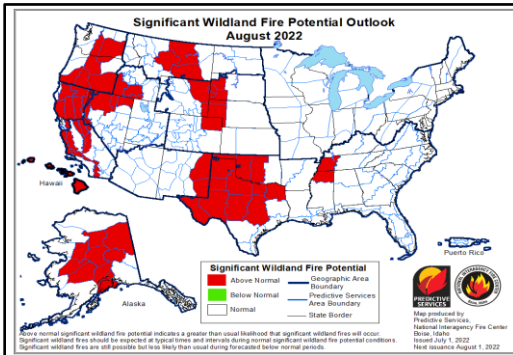
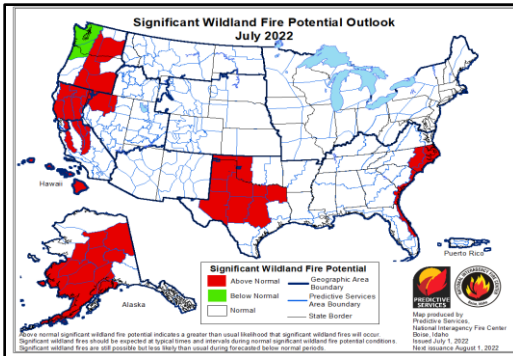
Fire activity gradually increased in June across much of the West, except for the Southwest, which saw a rapid decrease in activity during the latter half of June. Fire activity rapidly increased across Alaska, with activity continuing at low to moderate levels in the Southern and Eastern Areas. Year-to-date acres burned for the US is approximately 220% above the 10-year average, with over 92% of the total acres burned in Alaska, the Southwest, and Southern Areas.

Most of the West, Plains, and Texas remain in drought, with areas of extreme to exceptional drought across the southwestern US. Drought developed across southwest Alaska and expanded or increased in severity across the Southeast and Hawai'i. Temperatures were above normal across the southern tier of the US and the Plains, with near to below normal temperatures across the northwestern US and the Northeast.

Climate outlooks indicate below normal precipitation is likely across much of the Plains through the central Rockies into the Inland Pacific Northwest, with above normal temperatures likely across most of the contiguous US (CONUS) through summer. A robust North American Monsoon is expected to continue through July into August across the Southwest and portions of the broader Four Corners region. Alaska is likely to remain warm, with near normal precipitation likely through summer.

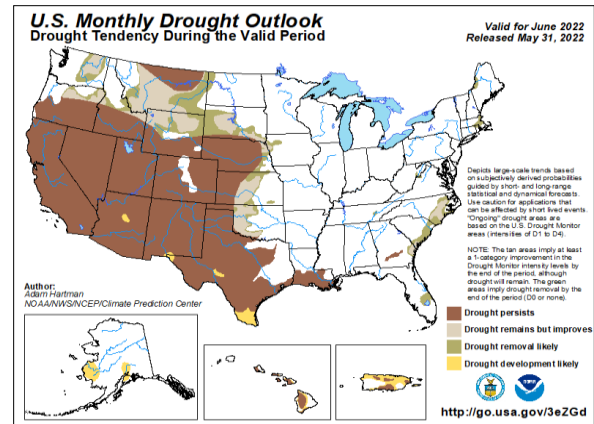
Above normal significant fire potential is forecast for the southern Plains through October, spreading across Texas, the Lower to Mid-Mississippi, Missouri, and Ohio Valleys by fall. Much of the central and northern High Plains, including the Black Hills, are likely to have above normal potential through summer. The Southwest, southern Great Basin, and Colorado Rockies have returned to near normal potential.

Southwest, south-central, and Interior Alaska will have above normal significant fire potential through August, although portions of southwest Alaska will likely return to near normal potential during August. Much of the Sierra and Coast Ranges in California will have above normal significant potential by August, continuing through September. Offshore wind prone areas in California will likely retain above normal potential in October as well. Along and east of the Cascades into much of the western and northern Great Basin is expected to have above normal potential this summer due to above normal fine fuel loading and long-term drought, with southwest Oregon likely to have increasing potential by August. Leeward sides of the Hawai'i Islands will have above normal potential through October due to ongoing drought and likely enhanced trade winds.



The Pacific Northwest, and portions of northern California, Idaho, northwest Montana, and Yellowstone National Park received above normal precipitation last month, with record flooding in Yellowstone and south-central Montana. An early start to the North American Monsoon during the latter half of June brought above normal precipitation to the Southwest and portions of southern California, southwest Utah, and southwest Colorado. Well below normal precipitation was observed in much of the Great Basin, with below normal precipitation from the Plains to the East Coast. Most of Texas and the Southeast was also much drier than normal. June temperatures were above normal for the southern tier of the US, Plains, and Ohio Valley, while near to below normal temperatures were observed in the Pacific Northwest, northern Rockies, and Northeast. Alaska temperatures were much above normal in June with below normal precipitation.

Fire activity increased rapidly across Alaska during June, with the geographic area preparedness level rising to five on June 30. Hot and dry conditions at the beginning of June, followed by lightning across southwest Alaska and the western Interior, ignited many of the fires, with fire activity continuing to increase across the Interior through the end of the month. Fire activity gradually increased across California, the Great Basin, the Inland Northwest, and Rockies, but a rapid decrease in fire activity occurred during the latter half of June in the Southwest due to the North American Monsoon. Fire activity continued at low to moderate levels in the Eastern and Southern Areas. Overall, fire danger is at record highs in much of Alaska, with fire danger increasing across much of the West, except the Southwest. The national preparedness level is at two, with significant fire activity in Alaska, but low to moderate activity elsewhere.



**Left: Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom)** (from PRISM Climate Group, Oregon State University). **Right: U.S. Drought Monitor (top) and Drought Outlook (bottom)** (from National Drought Mitigation Center and the Climate Prediction Center)

## Weather and Climate Outlooks

La Niña conditions remain, with below average sea surface temperatures (SSTs) over much of the equatorial Pacific Ocean. SSTs have begun to warm, with weak La Niña to neutral conditions forecast this summer by the Climate Prediction Center (CPC). This fall, SSTs may cool again in the equatorial Pacific Ocean, with CPC forecasting a near 60% chance of La Niña in the early fall. The negative Pacific Decadal Oscillation (PDO) continues as well, but La Niña remains the dominant climate signal. The effect of La Niña will weaken over the summer, but an increase in its influence is possible this fall.

## Geographic Area Forecasts

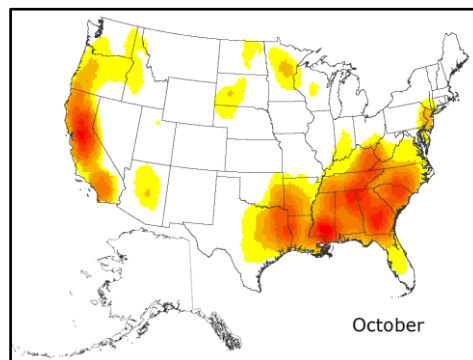
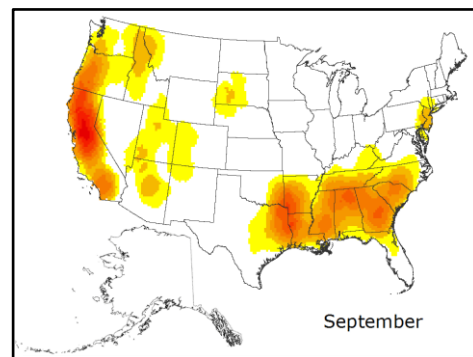
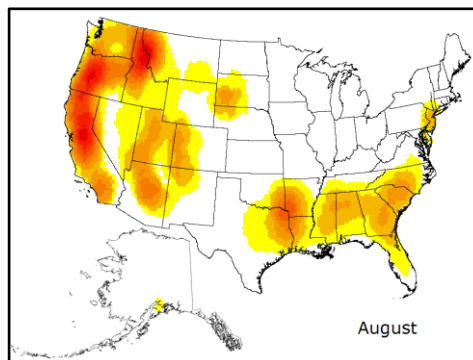
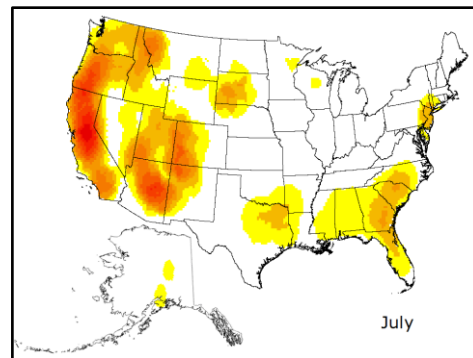
**Alaska:** Above normal fire potential is expected for much of southwest, south-central, and Interior Alaska July through August. All other areas will be normal, with normal potential forecast across Alaska September into October.

A month of hot and dry weather across much of the state has led to extremely dry fuels across the landscape. Temperatures in the 80s, relative humidity below 25%, and periods of very gusty winds have exacerbated this typically dry month. Precipitation has been minimal, with even the localized convective showers typical of June largely absent. The US Drought Monitor has much of southwest, south-central, and the western and central Interior Alaska as abnormally dry with areas of moderate drought. The drought correlates well with current fire weather and fuel indices.

Warm and dry weather is forecast for the central and eastern Interior for the next few weeks, with the chance for afternoon showers and thunderstorms most days. Southwest Alaska will see some moderating weather, but several days of rain with total accumulation near an inch is needed to stop fires there. Therefore, an end to the fires there seems unlikely currently. In addition, south-central Alaska is extremely dry, and any emerging fire could quickly become significant.

There are numerous fires in the southwestern and central Interior. Though some are burning in limited fire management areas, many are burning in areas that need point protection and resource commitments. Many of these fires will likely need attention until September when freezing weather returns. With the focus of hottest and driest weather shifting to the eastern half of the state, the next month is expected to have above normal significant fire activity.

Alaska Predictive Services has issued a Fuels and Fire Behavior Advisory for southwest Alaska and much of the Interior. During July, daylight hours are long, and the sun angle is high, so solar heating continues to cause drastic warming and drying of fuels. Fuels are already extremely dry, with fire danger representative of deeper duff layers near record highs in parts of the state. This indicates that even the mid and deeper layers are burnable, so fires will burn hotter, more completely, and will endure even moderate rain events. Fuels this dry are very resistant to control efforts.



Normal fire season progression across the contiguous U.S. and Alaska shown by monthly fire density (number of fires per unit area). Fire size and fire severity cannot be inferred from this analysis. (Based on 1999-2010 FPA Data)



Alaska's high latitude and boreal forest make it one of few places that can have a record snowpack and late snowmelt immediately followed by one of its busiest fire seasons. Though the summer started out cool with little to no fire activity, it quickly turned very hot and dry. With a lot of fire on the ground and more ignitions imminent during the climatological peak of lightning into early July, the fire season in Alaska will continue to be extremely busy. Even if end-of-season rains arrive on time by mid-August, these fires will need constant attention through the end of August. By September, it is likely that cooler weather, lower sun angle, and limited daylight will bring the season to a close and back to normal conditions.

**Northwest:** Significant fire potential will be above normal for July in Oregon Predictive Services Areas (PSAs) NW06, NW07 and NW12 and in Washington PSAs NW05 and NW10. Significant fire potential will be below normal in July in northwestern Oregon and western Washington PSAs NW01 and NW02, with normal potential elsewhere. For August, Oregon PSAs NW04, NW06, NW07, and NW12 as well as southeast Washington PSAs NW05 and NW10 will have above normal potential for significant fires. In September, PSA NW03 joins the above normal potential group, while NW12 is expected to drop back to normal as lightning potential historically drops. Normal significant fire potential is forecast for the entire geographic area in October.

The unusually cool and wet conditions that began in April over Oregon and Washington continued through May and June. Precipitation was above normal for nearly all the geographic area in June and was up to 300% of normal in western Oregon and portions of central and eastern Washington. As a result, drought severity was reduced in southwest Oregon, central Oregon, and southeast Oregon. Drought severity was also reduced in central and eastern Washington. Temperatures were below average for the geographic area during June despite a brief heat wave at the end of the month. The cool and wet conditions in spring slowed the normal snowmelt from higher elevations that occurs in May and June, with a few reporting stations still reporting snow as of late June.

Due to the wet and cool spring and early summer, fire activity has been well below average for June. Over 100 fires have been reported with a total of 89 acres burned as of June 27. However, on June 28 the Willow Creek and Touchet North Fires began in eastern Oregon and Washington, respectively, burning more than 45,000 acres by June 30, primarily in grass. The number of fires is less than 30% of the historical June average, with some days recording zero fires, unusual for June. Fires thus far have been primarily recreational or waste and debris burning on private lands.

Energy release components (ERCs) at the beginning of the month were in the single digits at several locations and only above 20 in a few locations, which is below normal. The fuel moisture values in large fuel classes were above average, and many locations on the northeast and eastern side of the geographic area recorded maximums for the 100 and 1000-hr dead fuels. The cool weather delayed green-up at upper elevations, while in the valleys and basins, fine fuel production is average to above average. Of concern is the height and density of exotic annual grasses at lower elevations in the geographic area. The Columbia Gorge, Columbia Basin, Yakima Basin, and the foothills of eastern Washington and Oregon have all had increases in fine fuels that are currently in advanced curing stages. Due to the cloud cover and excellent humidity recovery, fires have not been large until the end of the month, but now as temperatures are returning to normal, large fires are anticipated at lower elevations. The herbaceous and native perennial species fuel moistures are still at maximum or average levels, so they are not anticipated to be significant contributors to fire size until mid-July.

Climate outlooks for July suggest below normal temperatures for western Washington and much of western Oregon. East of the Cascades, no temperature anomaly is foreseen in July. July precipitation is expected to be near normal for the entire geographic area. For August through October, a tendency for warmer than typical weather is most likely for the entire geographic area, while only extreme southeastern Oregon, which shows drier than normal chances.

**Northern California and Hawai'i:** Significant fire potential is projected to be above normal up to 6000 feet during July and all elevations during August except for near coastal areas, including the North Coast and Bay Area-Marine Predictive Services Area (PSAs). All areas and elevations are forecast to have above normal potential during September, with areas west of the lower Cascade and Sierra Crests to the Pacific Ocean retaining above normal potential in October. For Hawai'i, significant fire potential is forecast to be above normal July through October across much of the islands, especially the leeward sides.

The weather pattern during June was diverse, with a mix of warm and dry upper ridging intermixed with unusually cool and wet upper trough passages. The most widespread cool and wet period occurred June 3-5. June is typically a drier month, with the four observed cool and wet periods resulting in above normal precipitation for the northern quarter of California. However, to the south in central California, near to below normal precipitation was observed. The pattern of observed temperatures was similar, with cooler than normal observations across the far north and east, while near to above normal observations occurred elsewhere. The snowpack started out well below normal at the beginning of the month and was largely gone by the end of the month, with snow now relegated to elevations above 8000 feet.

Dead fuel moisture fluctuated but was generally near to above the seasonal averages, although moisture rapidly lowered the last week of the month due to an extended period of unusually warm and dry conditions. Energy release component (ERC) values exceeded the 90<sup>th</sup> percentile value across the Bay Area and Sacramento Valley PSAs at the end of the month. Herbaceous fuels continued to cure during June, with a cured or mostly cured fuels found below 3000 feet and partly to mostly cured fuels between 3000 to 5000 feet. Herbaceous green-up was most prolific between 6000 to 7000 feet at the end of the month. Live shrub and tree canopy moisture levels continued to experience a mix of moistening and curing, which was species dependent. Chamise, which is dominant across the greater Bay Area and in the foothills of the Sacramento Valley, continued to cure and likely contributed to fire spread as the month progressed. Sage, which is a primary species found across the far north and east, had peaked and was largely curing during the month but was less flammable. Manzanita generally moistened with mixed flammability based on aspect and elevation.

There were a few gusty wind and lower relative humidity periods, including two northerly wind events on June 13-14 and June 21, as well as a notable dry westerly event June 27-28 that created elevated fire danger. Cloud-to-ground lightning accompanied several of the Pacific storm systems and the first monsoonal moisture period of the season occurred June 22-23, with just under 1000 cloud-to-ground lightning strikes across northern and eastern portions of North Ops. Daily wildfire ignitions fluctuated but averaged between 15 to 20 per day. Several large fires were reported across the Greater Bay Area and Sacramento Valley-Foothills PSAs and were mainly in a grass-hardwood mix.

The July through October weather outlook shows near to above normal temperatures and near to below normal precipitation. The weather pattern during July is expected to be a mix of warm upper ridges interspersed with cooler upper trough periods. A few monsoonal moisture surges are also expected, but the main moisture surges are likely to stay south and east of the geographic area placing northern California on the periphery of these surges. Monsoonal moisture and associated lightning will likely be less common during August as Pacific troughs and onshore flow are expected to dominate. The North American Monsoon is likely to end in September, with a pattern that could lead to more intense heat and drier wind events. Confidence decreases during October, although La Niña should be present, with some drier than normal conditions to start the month. The most likely month for lightning ignitions appears to be July for northern California. Onshore or westerly winds are expected to be more dominant during July and August, providing timely and impactful marine influence near the Coast, but dry breezes farther inland.

Drought conditions are expected to intensify some during the next few months, but likely not as dramatic compared to the previous two years due to less potential for extended hot and dry periods. Regardless, dead fuel moistures will spend ample time at unusually dry and critically dry levels, especially away from the coast. Live fuels will continue to become more flammable during the summer, with the transition most noticeable during July across the low and mid elevations when several species are likely to cure. The herbaceous fuel loading, based on measurements and field assessments, are near to above normal, with the above normal loading favoring the Far East Side PSA. Other fuel wildcards that impact significant fire

potential include large areas of blow-down with cured leaves and needles due to intense storms last December across portions of the Tahoe, Eldorado, and Six Rivers National Forests, as well as a high likelihood that tree mortality has returned in greater numbers due to the extended drought.

Historically in July and September, PSAs average one to three large fires and two to five large fires during August. The exceptions include less than one large fire in the Bay Area PSAs during this period, with the Far Eastside PSA generally observing less than one large fire during September. During October, all PSAs average one large fire or less.

Sea surface temperature anomalies surrounding the Hawai'ian Islands are near to above normal. Average temperatures were generally near to above normal across most of the islands excluding Kaua'i and Ni'ihau where below normal observations occurred. Precipitation during June was generally drier than normal except for above normal precipitation across portions of the Big Island and the windward side of Maui. The July through October weather outlook forecasts generally below normal precipitation, although enhanced trade winds due to a prolonged La Niña could result in areas of above normal precipitation on windward slopes. Significant fire potential is projected to be above normal during July through October, especially across the leeward sides of the islands due to cured and curing herbaceous fuels, intensifying drought, and periods of enhanced trade winds.

**Southern California:** The Sierra and Coast Ranges are expected to have above normal significant fire potential by August, with some of these areas having above normal potential in July. By October, above normal significant fire potential will likely remain confined to the southern California coast where periods of Santa Ana winds are likely.

A series of troughs continued to move into the Pacific Northwest and northern Rockies through mid-June, resulting in sustained southwesterly flow aloft and onshore flow at the surface in southern California. As such, the month began cool, with one notable storm bringing significant rainfall to much of the central Sierra as an unusually deep upper trough moved onto the West Coast.

The pattern flipped later in the month when a ridge expanded over New Mexico and Texas, with an early monsoon surge. Most of the moisture remained well to the east of California, but occasional surges brought thunderstorms to the geographic area, most notably June 22. As a result of the early June storm and monsoon surge late in the month, several areas across southern California finished June with well above normal precipitation, including the southern Sierra, Tehachapi Mountains, and Peninsular Ranges. Neither the wet storm in early June nor the monsoonal surge lasted long as both wet periods were quickly followed by typical dry June weather. Thus, fuel moisture was not impacted in any meaningful way in the long term.

Despite the out of season rain and above normal precipitation experienced last month, extreme to exceptional drought continued. Dead fuel moisture fluctuated, but overall, fuel moisture continues to trend downward. Live fuel moisture remains well below normal and close to readings observed last year. Lower elevation live fuel moisture will likely fall to near critically low values by mid to late July in open, exposed areas. Dead fuel moisture will continue to hover near the 10<sup>th</sup> percentile and record low values. The only exception may be over the far eastern desert in areas where sparse, non-continuous fuels exist.

Sea surface temperatures across the eastern Pacific still indicate a La Niña. There have been a few pockets of warming over the central equatorial Pacific Ocean, which may continue over the next few weeks. However, longer-range models indicate that La Niña is likely to return in the fall after a brief return to neutral conditions this summer.

It is likely that strong ridging will continue to cycle around the Intermountain West during the next several months. The resultant warmer and drier than normal weather coupled with very low fuel moisture will likely keep much of the non-desert and non-irrigated regions of the geographic area in above normal significant fire potential through the summer and early fall. Significant fire potential may begin to decline in central California in October due to shorter daylight hours and a lower sun angle. However, potential may remain above normal over southern California a few weeks longer as offshore wind events become more likely. There is currently no indication whether there will be an above or below normal number of offshore wind

events this fall. How the tropical Pacific Ocean evolves with respect to La Niña will largely determine the number of offshore flow events this fall. While the number of offshore events remains uncertain, it is likely significant wetting rain will not precede the onset of significant offshore wind events.

**Northern Rockies:** Normal significant fire potential is forecast for all the Northern Rockies Geographic Area Predictive Service Areas (PSAs) for the month of July. Above normal significant fire potential is forecast for portions of central and eastern Montana during August and September (PSAs 11, 13, and 14), with normal potential elsewhere. In October, normal potential is forecast for all the geographic area.

It has been a cool and relatively wet spring in the Northern Rockies Geographic Area, which continued the past month for most locations. It has been quite wet in northern Idaho and northwest Montana, as well as over southwest Montana, south-central and southeast Montana, and Yellowstone National Park, where record flooding occurred June 12-13. Far eastern Montana and western North Dakota also observed above average precipitation during the past month. Meanwhile, portions of west-central Montana, most of central Montana, and the eastern two-thirds of North Dakota have been drier than average. As a result, the latest US Drought Monitor only keeps moderate or higher drought in place over north-central Montana, while the rest of the geographic area is drought-free.

Because of the cool, relatively wet spring over the bulk of the geographic area, a slower than usual green-up occurred, especially in the western timbered areas. 1000 and 100-hour dead fuel moistures are still near average levels for this time of year but have begun their seasonal declines. Fine fuels curing has been slow but is beginning in the lower elevations of the western PSAs and will begin soon on the Plains areas. No significant large fire activity has occurred for the month of June in the geographic area. There is periodic initial attack, with resultant fires generally a few acres or less.

Climate Prediction Center (CPC) long range temperature and precipitation outlooks are assigning higher probabilities of near-average conditions for the month of July. The seasonal outlook for July through September forecasts slightly warmer than average conditions for north Idaho and most of Montana, while northeast Montana and North Dakota are shown to have equal chances. The seasonal outlooks lean drier than average for all the geographic area, with the greatest potential for below normal precipitation in southern Montana. This would imply the August and September period will be more likely to see much warmer and drier than average conditions. El Niño-Southern Oscillation (ENSO) modeling forecasts weak La Niña conditions early, possibly becoming neutral in late summer. Summers in the geographic area tend to be warmer and drier than average during La Niña and ENSO neutral summers.

The late start of green-up this spring, and the absence of severe or greater drought over the bulk of the geographic area, except over portions of north-central Montana, accompanies an absence of sustained periods of extreme heat in the current short-term forecast modeling. This combined with the July monthly climate outlook of near-average temperatures and precipitation, leads to a forecast of normal significant fire potential for all the geographic area during July. Fine fuels curing and dead fuel moisture drying should occur at typical rates and are not likely to be accompanied by widespread live fuel moisture deficits. The drying and slight warming shown in the longer-range outlooks would imply higher potential in some areas for August and September, most likely in portions of central and eastern Montana, which are still in some category of drought. Thus, for Montana PSAs 11, 13, and 14, above normal significant fire potential is forecast in August and September, with normal for the rest of the geographic area. CPC outlooks show diminishing warm and dry signals for fall, so normal potential will be forecast for all the geographic area during the month of October, which typically coincides with the end of the fire season over the western half of the geographic area.

**Great Basin:** Above normal significant fire potential is forecast across western and northern Nevada and southwest Idaho by August due to well above normal grass fuel loading. The geographic area is likely to have near normal significant fire potential by October except for lingering potential along the Sierra Front in September.

The latter half of June saw an abrupt early shift to an unusually early and strong monsoonal pattern across most of Utah and the eastern Arizona Strip. Far western Utah, the western Arizona Strip, and eastern

Nevada were on the periphery of the early monsoonal push in late June. Past weather has also been wetter and cooler than normal across much of Idaho and western Wyoming for the past two to three months. A continued active monsoon pattern is expected for the eastern Great Basin through July into August, with warm and dry conditions elsewhere through late summer.

Fire activity increased in mid-June across southern Utah and eastern Nevada. However, fuels across the eastern half of Utah moistened significantly in the last ten days of June, with energy release components (ERCs) falling to typical late July monsoon levels in most locations. There is concern across lower elevations of southwest Idaho and northwest Nevada due to an above average grass crop, in some areas up to three times the normal loading. Curing of the grass is already well underway, but sage live fuel moisture is still elevated and a few weeks away from curing. Farther south across Nevada, fine fuels are too scarce for concern. Otherwise, fuels remain green and far from critical levels across northern areas, such as central Idaho and western Wyoming.

Above normal significant fire potential was removed from the previous forecast in northern Utah in July, as were areas of eastern Idaho and western Wyoming in August due to continued precipitation in spring and early summer. Those areas are now forecast to have normal fire potential through October. Above normal significant fire potential is forecast for northwest Nevada in July and August, northeast Nevada, and southwest Idaho in August, and along the Sierra Front August into September. Otherwise, normal fire potential is forecast for much of southern Nevada, Utah, central and eastern Idaho, and western Wyoming.

**Southwest:** Normal significant fire potential is anticipated area-wide for July, with much of the region remaining normal for August. Areas of significant fire potential will rise to above normal across the eastern plains of New Mexico in August and September. Significant fire potential will return to normal for all areas in October.

The early arrival of the North American Monsoon in mid to late June ended the significant fire season in the Southwest Area. The monsoon is expected to remain rather robust through much, if not all, of July. This will be especially true across the central portions of the Southwest, with eastern sections of the region likely to exhibit less expansive areas of significant precipitation and warmer than normal temperatures as the month goes on. August into September, above normal significant fire potential is forecast across the eastern third to half of New Mexico, with a focus on the eastern plains. The above normal potential will be accompanied by areas of very warm to hot temperatures likely centered in Texas. Areas farther west, in western New Mexico and Arizona, will begin to see some drier periods in August, with a drier than normal September likely nearly area wide. However, significant fire potential should remain closer to normal farther west despite the likely warming and drying during late summer, compliments of the robust beginning to the monsoon season. The month of October will likely turn somewhat wetter as the westerlies become more active with the onset of fall and significant fire potential returning to normal area wide.

**Rocky Mountain:** Although significant wildland fire potential has moderated across portions of the Rocky Mountain Area (RMA) due to seasonal green-up and early monsoon precipitation, above normal potential is still likely across portions of the High Plains in August and September due to the persistence of long-term drought and forecast warmer and drier than normal conditions.

Following a strong La Niña this spring, La Niña began to weaken in late May and June and the trend is moving toward neutral conditions. A northwest to southeast split in temperatures anomalies persisted across the RMA, with temperatures considerably cooler than climatology across Wyoming and western South Dakota, and slightly warmer than average across Colorado, Nebraska, and Kansas. Following a late-season May snowstorm on the Front Range of Colorado, the month of June began with a cool, windy, and wet storm with more than an inch of precipitation over a two-day period. By the second week of the month, a ridge of high pressure dominated the weather pattern and generated twelve days of near to above 90-degrees, which is ten to fifteen degrees above average. The heat began on the west side of the geographic area and shifted onto the Plains east of the Continental Divide by mid-month. Precipitation was timely and beneficial for central and eastern Kansas, but heavy rain also created areas of flooding. For the rest of the Rocky Mountain Area into mid-June, precipitation was only about 40-50% of average except across western South Dakota. However, subtropical moisture began to stream northward in the latter part



of June with an early onset of the North American Monsoon. The significant amount of moisture resulted in much above normal precipitation in the San Juan Mountains of southwest Colorado, with precipitation up to 300% of normal.

Marked improvement was noted in drought from the US Drought Monitor over the past month across most of the Rocky Mountain Area. However, a large portion of the RMA remains in moderate to severe drought, while drought was removed from South Dakota in late June.

Green-up in combination with intermittent precipitation in late May and June have mitigated the extreme fire danger conditions that were previously observed during winter and spring across the Plains. Furthermore, the strong and persistent downslope wind events that were so frequent earlier in the year have diminished under high pressure aloft. During the last week of June, early monsoon rainfall brought fire danger indices from down from the 97<sup>th</sup> percentile to near to below average in southwest Colorado. Improving fire danger indices are anticipated to continue to spread farther north and east through the Rocky Mountain Area into early July with lower fire danger overall.

Lightning ignitions are likely to increase and could hold over into mid-July following the recent uptick in thunderstorm activity as heavy 1000-hour fuels are still exceptionally dry in the higher elevations of Wyoming and Colorado. However, live fuel moisture remains high with many of the grasses and shrubs still flush with new growth at lower-to-mid elevations. Large fire activity was limited in late May and early June due to timely precipitation in western and southwest Colorado. The remainder of June had a few large fires that were spread out across the geographic area from south-central South Dakota into southeast Colorado, but those were contained within two weeks.

For the summer, La Niña will likely transition to neutral conditions, but there is a near 60% probability of a return to a weak La Niña during the fall. A return to La Niña could lead to another dry fall season in the southern half of the geographic area. According to the Climate Prediction Center (CPC), the first half of July is expected to favor cooler and wetter than normal conditions across the Rocky Mountain Area before a warmer and drier regime begins in late July and August. Long-term outlooks from the CPC suggest that September and October will continue to be warmer and drier than normal for much of the RMA due to the influence of a ridge of high pressure and the resurgence of La Niña.

The outlook for the RMA features a return to normal significant fire potential across most of the geographic area in July, with the first half of the month remaining seasonably mild due to the monsoon influence. Above normal significant fire potential is anticipated to develop across the High Plains of northeast Colorado, eastern Wyoming, western South Dakota, and the Nebraska Panhandle in August and September. Fine fuels will cure and become available to carry fire along with pockets of drier 1000-hour fuels in this area. A return to normal significant fire potential is expected during the month of October for all the Rocky Mountain Area, with shorter daylight hours and burning periods. However, it will likely remain dry due to the potential return of La Niña.

**Eastern Area:** Near normal significant fire potential is forecast across the majority of the Eastern Area July into October. Above normal potential is forecast in portions of the Missouri, Mississippi, and Ohio Valleys September into October.

Thirty to 90-day soil moisture and precipitation anomalies were near to above normal across much of the Eastern Area toward the end of June. Drier than normal conditions were indicated across portions of the Mississippi and Lower Ohio Valleys.

Above normal temperatures are forecast over the western tier of the Eastern Area through August. Above normal temperatures are expected over the Mid-Mississippi and Lower Ohio Valleys in September, then returning to the entire western tier in October. Below normal precipitation is forecast over parts of the Mississippi and Lower Ohio Valleys in July and the western and central tiers of the Eastern Area heading into August. Above normal precipitation is expected over parts of the Mid-Atlantic and Northeast into September. The Upper Mississippi Valley may experience below normal precipitation in September and across much of the Eastern Area in October.

Near to above normal fuel moisture is forecast over the majority of the Eastern Area through the remainder of the summer season. Above normal fire potential may develop over parts of the Mississippi Valley as the summer progresses if the forecast warmer and drier trends develop or persist.

**Southern Area:** Above normal significant fire potential is forecast for much of Oklahoma and Texas through summer and fall. Significant fire potential will increase across the ArkLaTex and Lower Mississippi Valley into the Ohio Valley by fall.

Widespread hot, sunny, and dry conditions have characterized the past several weeks, pushing drought coverage to nearly 35% of the Southern Area as of June 21. Keetch-Byram Drought Indices above 500 now cover large parts of Texas, Louisiana, and Mississippi, with increasing values noted through the Mid-Mississippi Valley and from northern Florida into the Southeast. Potential tropical cyclone one brought well-timed rain to south Florida, while an early onset of the North American Monsoon has resulted in rainfall trending well above normal across portions of the Trans Pecos. A rare June cold front settling into the region this week will bring scattered relief.

Significant wildfire potential remains heightened across a large part of Texas into increasing portions of western Oklahoma, driven by critically dry fuels, continued dryer than normal conditions, and for summer and early autumn likely to be ruled by extended heat waves. Extreme fire behavior on several recent fires were observed on the southern Plains and portions of central and eastern Texas amid the background drought. Despite an uptick in activity recently, portions of southeast and east Texas were left out of the July outlook, with the potential for a tropical system to move inland early in the month. In fact, flooding rainfall appears likely for these areas. Should this system fail to materialize or heavy rain remain localized, above normal fire potential is possible for July and beyond into every eastern Texas PSA, including near the coast. Otherwise, an expanding footprint of hot and dry conditions and resultant drought should allow for above normal significant fire potential to overspread the Mississippi and Ohio Valleys heading into late summer, and especially during the secondary fall peak of the fire year.

Much of the coastal Southeast has been included in the July outlook due to recent large fire activity and a continuation of moderate to severe drought. Thunderstorms may remain too scattered to alleviate drought in the short term, especially into Georgia and eastern Florida. North Carolina may see infiltrations of very dry air as cooler air masses from the north clip the region occasionally. Global ensemble guidance has been consistent in suggesting below normal rainfall for a good part of Florida during the next several weeks, with low-level easterlies possibly favoring the western part of the peninsula for daily convection. With time, upper-level troughing over the Great Lakes and Northeast should promote increasing probabilities for above normal rainfall in the Southeast, perhaps exacerbated by what will almost certainly be a very active hurricane season across the Atlantic basin. Any extended heat waves over the Southeast and Appalachians through July and August would be cause for concern this fall, especially if tropical cyclones fail to bring wetting rainfall.

The Southern Area fall fire season is likely to be busy and may begin early, in large part due to expected La Niña conditions and ongoing or developing drought. The greatest uncertainty in the outlook lies along the Gulf Coast and over most of the Southeast, where tropical cyclones will likely make or break significant fire potential later this year.

## ***Outlook Objectives***

*The National Significant Wildland Fire Potential Outlook is intended as a decision support tool for wildland fire managers, providing an assessment of current weather and fuels conditions and how these will evolve in the next four months. The objective is to assist fire managers in making proactive decisions that will improve protection of life, property, and natural resources, increase fire fighter safety and effectiveness, and reduce firefighting costs.*

***For questions about this outlook, please contact the National Interagency Fire Center at (208) 387-5050 or contact your local Geographic Area Predictive Services unit.***

**Note:** Additional Geographic Area assessments may be available at the specific GACC websites. The GACC websites can also be accessed through the NICC webpage at:

**<http://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm>**