National Significant Wildland Fire Potential Outlook

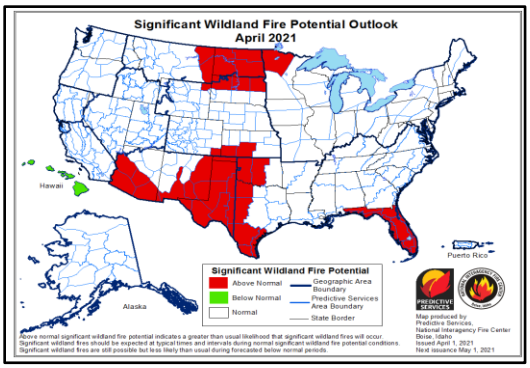
Predictive Services
National Interagency Fire Center

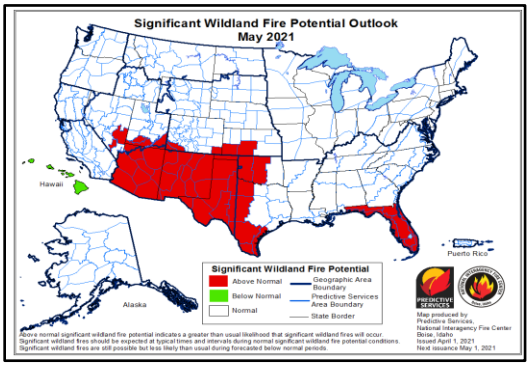
Issued: April 1, 2021
Next Issuance: May 1, 2021

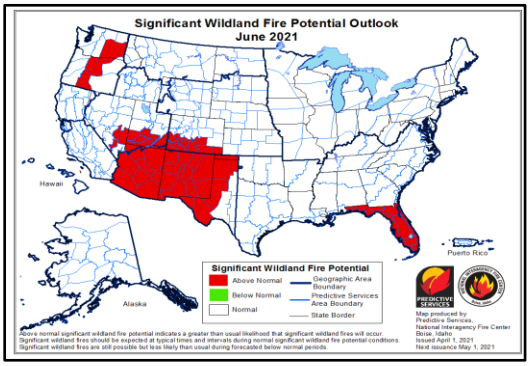
Outlook Period – April 2021 through July 2021

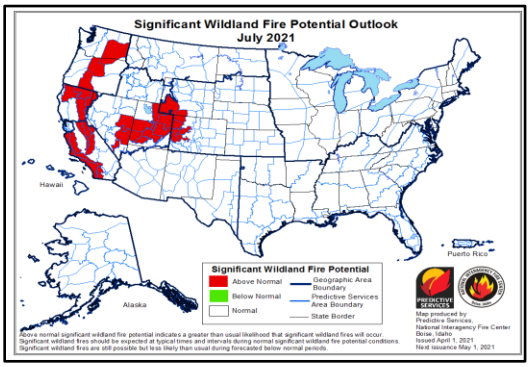
Executive Summary

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.









Large fire activity increased across the United States (US) in March, especially in Southern, Eastern, Rocky Mountain, Northern Rockies, and Southwest Geographic Areas. Dry and windy conditions led to short duration wind driven large fires across these areas periodically through March, including numerous large fires on March 29.

Much of the West observed below average precipitation and cooler than normal temperatures in March. The Colorado Front Range through the central Plains into the Ohio and Tennessee Valleys observed above average precipitation, but the northern and southern Plains, Florida, and the Northeast were drier than average. Like previous months, the warmest and driest anomalies were present across the northern Plains. Drought continues across much of the West and onto the northern and southern Plains with drier conditions developing in Florida and the Great Lakes.

Climate outlooks indicate warmer and drier than normal conditions are likely for much of the Plains and Intermountain West through spring into early summer continuing and exacerbating drought there. A Fuels and Fire Behavior Advisory is in effect for northwest Minnesota for the potential of rapid rates of spread due to high fuel loading and fire carrying in all fuel types, including peat. Active fire seasons are anticipated for much of the Plains, especially the northern and southern Plains, and for the Southwest this spring.

Above normal significant fire potential is expected across the northern Plains into northern Minnesota through April into early May. Depending on weather spring precipitation, this may extend farther into May before green-up. Additionally, much of the southern Plains is forecast to have above normal significant fire potential through May before green-up. Recent and continuing dry weather in Florida is likely to contribute to above normal significant fire potential through May with conditions returning to normal by late June.

The Southwest is forecast to have above normal significant fire potential during most of April through June before the Southwest Monsoon arrives in July. Above normal significant fire potential will expand northward into the Great Basin and Rocky Mountain Geographic Areas May through July. Additionally, central Oregon and central and southeast Washington are likely to have above normal significant fire potential beginning in June with portions of the Coast Ranges, Sierra, and Cascades in California increasing to above normally by July.

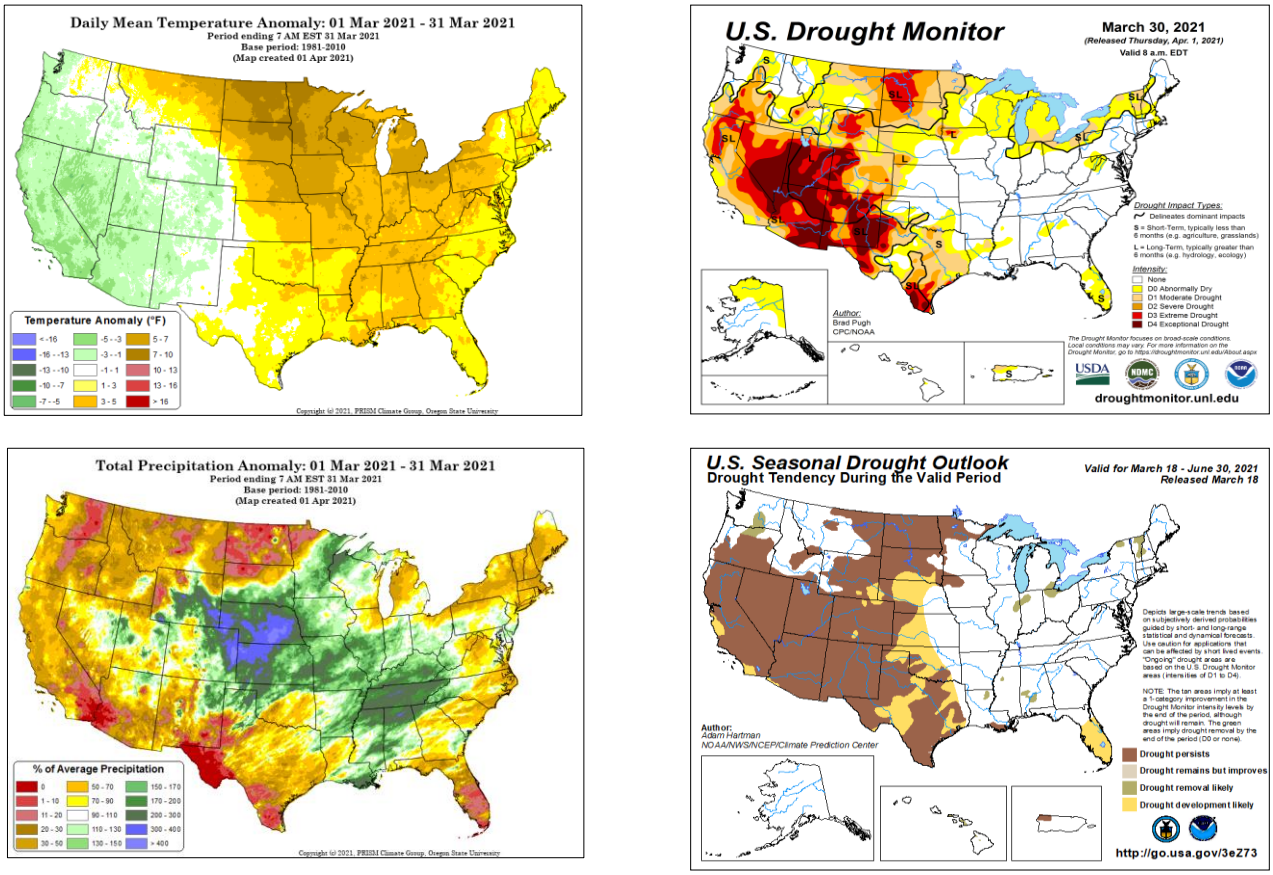
Past Weather and Drought

Snow water equivalent (SWE) across much of the West and Alaska remains near to above normal with the highest values in Washington and northern Oregon according to latest data from the National Resources Conservation Service (NRCS). Most areas in Southwest and much of the Sierra have below average SWE and are now well past climatological timing of peak snowpack.

Much of the West had a dry March, but consistent upper-level trough passages resulted in mostly below normal temperatures except for portions of eastern Washington extending through northwest Montana. The greatest temperature anomalies were across the northern Plains into the Upper Midwest. Below average precipitation was observed across much of the West except for portions of the central Intermountain west with well above average precipitation extending from the Front Range into the Midwest and Ohio and Tennessee Valleys. The northern Plains, southern High Plains into south Texas, Northeast, and Florida had below normal precipitation and above normal temperatures in March.

Drought continues for much of the West with large swaths of extreme to exceptional drought in the Southwest, Great Basin, and on the West Slope. Portions of the Plains, especially the northern Plains and southern High Plains remain in drought, which has intensified recently. Drought is expected to persist if not worsen across much of the West and Plains with drought expansion for the Plains and Florida into summer.

Periodic dry and windy conditions occurred in the Southwest and on much of the Plains during March. Several large wildfires ignited on March 29 across the Plains with most large fire activity for the month in Southern, Eastern, Southwest, Northern Rockies, and Rocky Mountain Geographic Areas. A Fuels and Fire Behavior Advisory is in effect for northwest Minnesota due to fires carrying in all fuel types, including peat, and the potential for rapid fire spread.



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 continues with below average sea surface temperatures (SSTs) from the west-central to eastern Equatorial Pacific Ocean but has weakened. The Climate Predicter Center (CPC) forecasts a 60% chance that ENSO neutral conditions will return during the April – June period with the transition likely occurring during the spring. Long-range forecast guidance indicates ENSO neutral conditions through fall, but slightly below average SSTs in the Equatorial Pacific Ocean. A return to La Niña conditions later this year is possible, but there remains ample forecast uncertainty with this scenario.

Geographic Area Forecasts

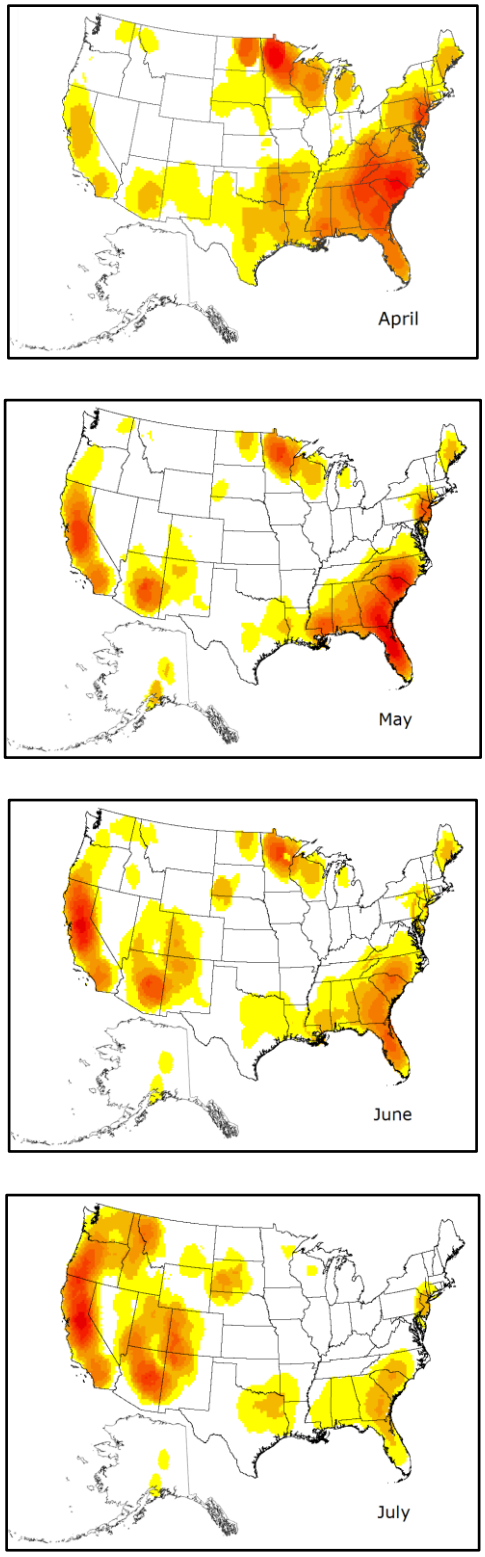
Alaska: Normal fire potential is expected across Alaska through spring into mid-summer.

Winter snowfall has been near normal across most of Alaska. Though the U.S. Drought Monitor categorizes the North Slope, Brooks Range, and eastern Interior as abnormally dry with the latest issuance. There are no active fires at this time; the only potential is for small, human-caused ignitions that are easily suppressed. Fuels are snow-covered and frozen. The spring melt cycle and the amount of snow that falls in April will determine spring fuel conditions.

The Climate Prediction Center calls for temperatures in April to be above normal along the North Slope and below normal over south-central Alaska and the Panhandle. As spring advances into mid-summer, temperatures are expected to become more uniformly warm across all Alaska with the strongest likelihood of above average temperatures over northern and western Alaska. There is no strong signal in the precipitation forecast for much of Alaska, except for potentially above normal precipitation along the west coast. The current La Niña is expected to weaken by summer.

With snowpack established over burnable areas; Alaska is out of fire season at the beginning of April. The first wildfires of the season typically begin in April along population corridors as wind-driven grass fires at lower elevations. By May, wildfires become possible at higher elevations with the continued melting of the snowpack, and thunderstorms become a factor with igniting fires. The duff-driven fire season begins in mid-June and lasts through most of July, engaging deeper layers in burning activity as the summer progresses. Fire season conditions are expected to be normal through July.

Northwest: Significant fire risk is expected to be very low in April and May. In June and July, the risk of significant fires will rise above average in central Oregon and central and southeast Washington.



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)

Weather systems arrived at regular intervals from the Pacific Ocean keeping conditions cooler than typical for almost all of Oregon and western Washington in March. Only central and eastern Washington experienced near or slightly above normal temperatures for the month. Precipitation was below average for nearly the entire geographic area in March with only the southern Oregon coast accumulating near normal rainfall. Elsewhere there was a deficit of rainfall, particularly on the east side of the Cascades, where many reporting stations tabulated less than a quarter of the normal

monthly total. Despite the dry conditions recorded at lower elevation reporting stations, snow continued to accumulate at higher elevations across the geographic area through March. Snowpack in late March was well above normal for almost every reporting basin in Washington with some basins reporting more than 150% of normal. Snowpack in Oregon was also at or above average except for the basins in south-central and southeast Oregon.

Wildfire reports were mainly concentrated in the Columbia Basin of Washington and central Oregon which were the most consistently dry and windy areas throughout March. A strong windstorm in late March resulted in a 200+ acre fire from power transmission lines near Bend, OR that consumed light fuels and some timber. Otherwise, minimal acres were burned. The geographic coordination area remains at Preparedness Level 1. Fire danger has remained consistently above average in the Columbia Basin and at lower elevations of the Okanagan Valley and north-central Oregon where conditions were quite dry throughout the month. Drought designations continue in these areas. Some evidence of green-up initiation exists at lower elevations near the Columbia River, Snake River, Metolius, Klamath, and Deschutes Basins as well as sections of the west side.

Climate outlooks from NOAA Climate Prediction Center and other sources suggest temperature is most likely to remain below normal for Washington and western Oregon through April. For May through July, temperature is likely to climb above average. The precipitation outlook for April suggests rainfall is most likely to be above average in western Washington but no indications of any significant anomaly elsewhere. After that, the precipitation outlook favors drier than is typical conditions for both Oregon and Washington through July.

The northwest geographic area is out of fire season. The risk of significant fires is anticipated to be minimal with normal (i.e., low) potential for large fires expected for the region until June. During June and July, the potential for significant fires is anticipated to rise above average in central Oregon and central and southeast Washington.

Northern California and Hawai'i: For the North Ops region from March through June significant fire potential is forecast to be normal in all areas. Normal is defined as less than one large fire per Predictive Service Area per month through May, then one to two-plus large fires per PSA in June. By July, upper elevations (above 5000 feet) will have above normal significant fire potential while all other areas remain at normal significant fire potential. In July, normal is defined as one or fewer large fires in coastal PSAs and one to three large fires for inland PSAs. For Hawai'i, significant fire potential is forecast to be below normal through May, although some local lee side locations may see closer to normal fire activity. Normal significant fire potential is anticipated for June and July in Hawai'i.

Precipitation in March was below normal, and this continues the trend of mostly below average precipitation for the 2020-2021 rainy season. However, enough precipitation has fallen to produce a green grass crop at lower elevations to the west of the Cascade-Sierra crest. Snowpack has peaked at 72% of the average seasonal maximum and may not reach above this level through the end of the rainy season. The overall outlook for the North Ops region is for drier and warmer than average conditions over the 4-month period from April through July.

On a local scale some middle elevation spots (e.g., between 2500 and 5000 feet) will have higher fire potential during extended any extended dry spell when low humidity and windy weather develop prior to green-up. Fire activity is expected to increase within the normal range at lower and middle elevations in late May and June. In July, snowpack is expected to melt off earlier than normal, and live fuel moisture values will peak earlier and at lower values than usual. This will leave upper elevations vulnerable to active fire spread and behavior several weeks earlier than usual, which is typically in late July or early August. The northerly and offshore wind patterns that produce high fire potential at lower and middle elevations west of the crest are not typical in July. Therefore, those areas are forecast to have normal significant fire potential in July.

Sea surface temperatures (SSTs) surrounding the Hawai'ian Islands are slightly warmer than normal. Warm SSTs are expected through July, leading to above average temperatures. The long-anticipated

wetter than average rainfall expected due to the La Niña pattern finally arrived in March, and a large portion of the islands received 150-300% of normal March rainfall. This has led to new fuel growth and higher live fuel moisture. However, some lee side locations remain a bit drier than average.

The outlook for Hawai'i is for wet conditions to continue in April, followed by a trend to drier than average conditions in June and July. Significant fire potential is below normal throughout the islands in April and May, although some lee side locations may see closer to normal fire activity. As the rainy season and the La Niña pattern come to an end late in the spring drier conditions will lead to more normal fire activity, although some lee side locations may see slightly more than typical fire activity as the above normal fuel loading dries out.

Southern California: Significant fire potential will be above normal away from the deserts and San Joaquin Valley in July. Otherwise, expect near normal significant fire potential across the region through July.

Below normal temperatures were observed most of March as several upper-level Pacific troughs moved into the West Coast from the Gulf of Alaska. A series of cold, upper-level low pressure systems moved through California and brought periods of showers and isolated thunderstorms to the region during the first half of the month. A slower moving storm on March 9 brought two to three days of heavier precipitation totals to many areas of the state. Several feet of new snow fell over the High Sierra and snow levels hovering around 4,000 feet helped to generate over a foot of new snow across the higher mountain elevations of southern California. However, the upper-level low pressure systems that arrived late in the month were not as cold and did not import substantial amounts of moisture into the region. As a result, precipitation totals dwindled and ended up below normal for most of the region in March. The Sierra snowpack also decreased slightly by the end of the month and is now between 40% and 70% of normal.

Winds were predominately onshore (westerly) most of the month as strong, gusty winds surfaced across the mountain ridges and desert passes with each trough passage. However, the ridge of high pressure over the eastern Pacific Ocean gradually amplified and shifted inland along the West Coast during the last week of March, forcing a few fast-moving troughs to drop southward into the Great Basin and skirt across California. This pattern brought about a moderate to strong offshore wind event across southern California observed March 23-24.

Both the 1000-hr and 100-hr dead fuel moisture values increased significantly in March due to the persistent trough pattern and cool, more humid conditions. Across all predictive service areas, these dead fuel moisture values are now close to normal. Greenup was in full progress during March. Even though live fuel moistures started to peak and level off, values are still well below normal for this time of the year. With the persistence of below normal precipitation, drought conditions have accelerated within the coastal areas of both central and southern California with some areas elevated into moderate drought status. Drought conditions have changed little across the interior portions of the area and still are mainly in the moderate to severe categories. Extreme to exceptional drought remain over the deserts bordering Nevada and Arizona.

Expect little change in the weather pattern in April as sea surface temperatures (SSTs) in the Gulf of Alaska and along the West Coast remain below normal. Additionally, an upper-level trough pattern is expected to be the dominant weather feature over California during April. This will effectively keep temperatures below normal and allow scattered showers and isolated thunderstorms to move across the region from time to time. Even though SSTs have shown minimal warming over portions of the Equatorial Pacific, forecast models continue to suggest little change in SSTs across the Pacific Ocean through June into July. This will keep the marine layer deeper than normal and daytime temperatures will likely remain on the cool side of normal during the spring months and heading into summer. There will likely be little in the way of rainfall across most of the region from May through July as the storm track moves northward into the Pacific Northwest and upper-level troughs become weaker across California. However, these troughs still have the potential to introduce a few showers and thunderstorms to the Sierra. The precipitation from any shower and thunderstorm activity is expected to be below normal in July as models continue to show troughing over the northern tier of the United States that may shunt the influence of the Southwest Monsoon south

of the Four Corners region and effectively cut off the feed of tropical moisture into southern and central California.

The large fire threat will likely become above normal in July due to the absence of significant moisture from the monsoon, especially given the fact that precipitation has trended well below normal for the entire water year and fuels will be abnormally dry and receptive to new starts. Any lightning will be problematic in July due to the anticipated drier nature of storms especially if a lightning outbreak coincides with an extreme heat event.

Northern Rockies: Significant wildland fire potential for the Northern Rockies Geographical Area is expected to be above normal in PSAs 15, 16, 17, and 18 for April into early May, but near normal for the remainder of the geographic area through the outlook period.

Aside from a week-long siege of Arctic air in mid-February, the preceding fall and winter in the Northern Rockies brought warmer and drier than average conditions, especially in the PSAs east of the Continental Divide. In between the ridges of high pressure that brought this warmth and dryness, several downslope Chinook wind events elevated fire potential for short periods of one to two days. The most recent event at the end of March was in the 90th percentile for the time of year according to the Hot, Dry, Windy Index. Farther west of the Divide, there were timely and frequent storm systems that delivered adequate snowpack and snow water equivalent (SWE). While the first of April is generally when the snowpack begins to ripen for spring runoff, there may still be additional snow accumulations before substantial warming begins to diminish the snowpack at elevations at 6,000 feet and above.

According to the latest US Drought Monitor, much of North Dakota and extreme eastern Montana are elevated into severe to extreme drought categories. These conditions are expected to persist through the end of June according to NOAA's Seasonal Drought Outlook from the Climate Prediction Center (CPC). Farther west in central and southwest Montana, it is abnormally dry, but the outlook calls for no significant deterioration through the period.

The Northern Rockies Geographical Area remains at Preparedness Level 1 with low fire potential and minimal fire activity overall, but North Dakota has continued to have a much higher than average number of fires during the past three months. Statistically speaking, the five-year average number of acres burned is 13,644 and year to date so far is 24,975 acres (through March 26). There have been six fires over 300 acres, three fires over 1000 acres, and one fire in January was over 5,000 acres with a fire on March 28 that was approximately 25,000 acres.

Fuels at and above 6,000 feet remain snow covered with up to 60 inches or more depth. The snow water equivalent within the snowpack is still running between 90 to 100 percent of average. Elevations between 5,000 feet and 6,000 feet in the western PSAs still have shallow snow cover on the north and east aspects, but the south and west aspects and elevations below 5,000 feet are mostly dry. There is no snow east of the Divide except for the mountains of central and southern Montana where snow depth is near average. The exposed grasses in eastern Montana and North Dakota are extremely dry and vertically arranged, standing upright as carryover fuel from last season in many areas where there was not enough snowpack to compress it. These fuels are in pre-green-up stage, but some of the low elevation annual grasses are starting to come out of dormancy. Prescribed burns have reported total consumption of the fuels, even in the lower elevation valleys of western Montana during the last half of March.

CPC seasonal outlooks for April through June project a trend toward warmer and drier conditions east of the Continental Divide, then warmer and drier than average across all of the geographic area for May through July. One of the most significant factors in these outlooks is the current transition from La Niña to ENSO neutral that is currently underway. Considering the time of year that this is occurring, what is known as the "spring predictability barrier" by climatologists, this introduces more uncertainty than usual to this pre-season outlook.

April and May are typically transition months in the Northern Rockies during the pre-green-up period. This year is anticipated to be normal regarding the timing of snow melt-off at lower elevations before the late

spring/early summer flush from the highest mountains. In contrast, the eastern PSAs from central Montana eastward through North Dakota typically see a spring bi-modal uptick in significant wildland fire potential in April with the onset of the pre-green-up winds. This is considered normal, but in PSAs 15, 16, 17, and 18 this year due to drought, persistently dry fuels, and carry over fuel loading from last season, it is expected to be above normal in April and possibly into May.

Great Basin: Significant wildfire potential is expected to remain normal (i.e., normal) through April, with above normal potential expected in some mid to higher elevation areas of southern Utah, far Southern Nevada, and the Arizona Strip by late May and moving northward into central and northern Utah for June and July due to lower than normal snowpack and significant long-term drought.

Recent weather patterns have brought frequent cold fronts and precipitation events to the Great Basin during the month of March, especially across eastern Nevada and Utah, but Idaho has been on the drier side over the past 30 days. Temperatures have been 3-5°F below normal.

Even with this recent active weather pattern, the long-term drought situation has not improved much. The drought remains extreme to exceptional over much of southern and eastern Nevada, Utah, and the Arizona Strip. Precipitation over the last two months has brought some much-needed moisture to these areas, but they still remain much below normal for the water year. Severe to extreme drought also continues over much of the rest of Nevada and over small parts of central Idaho, where winter precipitation has been lower. These drought areas are expected to persist through the spring with warm and dry weather forecast to return to much of the Great Basin, especially southern Nevada and Utah.

Fire activity remains low in 2021 thus far, which is normal. Great Basin remains in a PL1, and that is expected to continue through April. Fuels are in dormancy across the Great Basin but will begin to green up as warmer weather arrives. Low elevation snowfall that remained on the ground for several days at a time has likely compacted much of the fine fuel carryover from recent years. This compaction, in combination with a less robust new grass crop, should lessen the overall fuel loading and large fire potential threat in the lower elevations going into the summer months. Heavy dead fuel moisture is still quite low over southern areas of the Great Basin. Due to the low soil moisture in Utah, expect Sagebrush live fuel moisture to peak earlier than normal and at a lower value. These fuel moisture considerations combined with significant long-term drought will be a concern for mid to upper elevations across southern Nevada and Utah heading into fire season.

Spring forecasts are calling for above normal temperatures and below normal precipitation for much of the Great Basin with the warmest and driest conditions expected over southern Nevada and Utah. At this point, a normal or slightly early monsoon season is expected, which could bring some relief to southeast Utah and the Arizona Strip by early to mid-July. Fire activity typically is low through the spring as fuels begin green-up and periodic cold fronts pass through the region. Strong pre-frontal winds after a warm dry period may result in occasional low elevation fire activity but that threat should decrease as green-up gets underway. Grasses and shrubs should cure earlier than normal this year due to the low soil moisture and warm, dry weather, especially over southern Nevada and southern and central Utah, which will likely result in an early start to the fire season at all elevations.

Great Basin fire potential will remain normal (i.e., low) through April and will increase to above normal by late May in parts of southern Nevada, southern Utah, and the Arizona Strip. Above normal fire potential will expand farther north into the higher elevations of central and northern Utah by late June into July.

Southwest: Above normal significant fire potential is expected across much of western and southern Arizona, southern and eastern New Mexico, and west Texas (PSAs 2, 3, 6N, 6S, 9, 12, 13, 14N, and 14s) in April. By May and especially June much, if not all, of the region will have above normal significant fire potential. Significant fire potential is expected to drop back to normal area-wide by July with the onset of the monsoon.

Over the past two months, drier than normal conditions have generally continued for most areas across the Southwest, while temperatures have been more variable. Temperatures have ranged from about 2°F

above to 2°F below average area-wide during February and March. Precipitation has been generally 10-50% of average during 2021, except for notable areas of above average precipitation across the Four Corners region, some of the mountain areas east of the of the Continental Divide, and across parts of the far northeastern plains in the geographic area.

The recent weak to moderate La Niña event is waning and is expected to continue to weaken through spring. Overall, both temperature and precipitation outlooks are extending the forecast for mild and dry conditions for April through June. As is typical for the Southwest, just a few major storm systems in an otherwise dry period can have a substantial impact on fire potential, even amidst a drought, and this will be closely monitored. At least a few major storms are expected to move through the area this spring with beneficial moisture impacts most likely to be focused over northern and mountain areas. Unless these storms occur in April and track across the southern portions of the Southwest, lower elevations are not as likely to benefit from any precipitation.

Progressing further into April, May, and then into June a continuation of warmer and drier than normal conditions in combination with spring winds will cause significant fire potential concerns to expand across nearly all the geographic area by late spring and early summer. Concern continues for wind driven critical events focused in April across the southeastern half of New Mexico into west Texas. Above normal significant fire potential will expand northward and upward in elevation to include the heavier fuels by May and certainly by June. Monsoonal predictions are difficult, but guidance indicates that it could be at least an average monsoon in both timing and precipitation amounts. This bodes well for a potential 'normal' end to the large fire season come July.

Rocky Mountain: Occasionally windy, warm, and dry conditions in conjunction with areas of drought indicate above normal significant fire potential during the pre-green early spring period across northeast and south-central portions of the Rocky Mountain Area (RMA). Otherwise, above normal risk is predicted to expand from southwest Colorado in May to much of southern Colorado in June. A shift northward of the above normal significant fire potential is projected across west-central and northwest Colorado into southwest Wyoming during July.

In February, colder than normal temperatures were observed, but warmer conditions developed in March over the Plains, especially in northern South Dakota through eastern Nebraska. Conditions have been somewhat drier than average west of the Continental Divide the last 60 days, while significant amounts of precipitation benefited the geographic area east of the divide, except very dry conditions across northern South Dakota. Snowpack across the mountain areas is well above the median for this time of year east of the divide from Colorado into southeast and north-central Wyoming, while slightly less than 100% of the median was noted west of the divide into western Wyoming and in the Black Hills of South Dakota. The US Drought Monitor portrays improving trends east of the divide in Colorado through the Plains, while little change is depicted from last month west of the divide with exceptional drought west of the divide in Colorado and Extreme drought extending into central Wyoming.

Normal significant fire activity in March is characterized by an increase of wind driven large fires across the Plains, which has been near normal. However, a wind event helped ignite and spread multiple large wildfires across the Plains on March 29. This time of year, the fuels most available to burn are in brush and grass regimes across the Plains during warm, dry, and windy conditions. These conditions occur with increasing frequency during the pre-green period, which peaks through mid-April.

Westerly upper-level flow is predicted across the RMA during the first week of April resulting in warm, dry, and windy periods. Opportunities for precipitation are forecast by the second week of the month across northern portions of the geographic area, but conditions look to remain dry in the south and windy at times. CPC longer range forecasts through the spring indicate warmer and drier than normal conditions across western and especially southern portions of the RMA with conditions closer to normal in the far northern and eastern portions. During June and July forecasts for the RMA show a gradual shift northward and eastward of the warmer and drier than normal weather pattern.

For northern portions of South Dakota into northeast Wyoming occasional warm, dry, and windy conditions in combination with intensifying drought and pre-green conditions indicate above normal significant fire potential during April. Farther south across the geographic area above normal significant fire potential is predicted because of short- and long-term warmer and drier than normal forecasts with pre-green and/or stunted green-up in conjunction with occasional warm, dry, and windy conditions. Specifically, above normal significant fire risk is forecast across southeast Colorado and southwest Kansas for April into the first half of May and emerging in May over southwest Colorado. By June, the above normal risk area is depicted with an expansion across the southern portion of Colorado resulting from expectations of drought intensification and below average snowpack. A shift northward of the above normal potential is anticipated by July across west-central and northwest Colorado into southwest Wyoming as monsoon moisture moderates the fire risk in southern Colorado.

Eastern Area: Near normal fire potential is forecast across the majority of the Eastern Area April into July. However, if the forecast wetter than normal conditions do not develop across drier portions of the Great Lakes April into May, periods of above normal fire potential is likely, especially over the northwestern Great Lakes prior to green-up.

Thirty-day soil moisture and precipitation anomalies were below normal across the northwestern Great Lakes and northern New England towards the end of March. Longer range drought conditions were indicated across parts of the northwestern and southeastern Great Lakes and north-central New England.

Near normal fire danger indices and fuel moisture levels were indicated across the majority of the Eastern Area towards the end of March. Precipitation events persisted across the southern tier of the geographic area through March and increased over the Northeast through the end of March curtailing early spring fire potential. Fuel moisture levels may remain below normal across the northwestern Great Lakes with an active spring fire season anticipated if precipitation events do not increase over these areas.

Warmer than normal temperature trends are forecast over the western and central tiers of the Eastern Area in April and across the southern tier progressing into May. Warmer than normal temperatures are expected across the eastern tier of the Eastern Area in June shifting to the western and central tiers in July. Wetter than normal trends are expected across the Midwest April into May, shifting eastward into portions of the eastern US June into July. Some drying is possible across parts of the Mid-Mississippi Valley in July.

The spring fire season will begin earlier than normal across parts of the Great Lakes if the forecast above normal precipitation trends do not develop April. If the warmer than normal temperatures forecast across much of the Eastern Area come to fruition, green-up will likely occur sooner than normal across the southern tier where near to above normal precipitation amounts were in place leading into April.

Southern Area: A continuing transition to spring weather patterns along with a rapidly weakening La Niña will produce highly variable weather for the South in the coming months with longer drier periods interrupted periodically by episodes of severe weather and heavy rainfall during the spring. Consequently, this pattern will complicate the rest of the spring fire season as the alternating fuel drying episodes will compete with fire limiting green-up and leaf-out. Given historical analogs and model guidance, the main fire threat risks will remain where they have been for the last few months – across western Texas and Oklahoma and Florida with a more average season for the rest of the South. By May and then June, full leaf-out and lingering higher fuel moisture should keep fire potential within average seasonal ranges – the persisting exception still being Oklahoma/Texas where above average temperatures and below average precipitation is expected to keep a drier fuel environment in place. From June through July, the higher humidity summer pattern should produce increases in rain activity and humidity for Texas and Florida. For Florida, the Atlantic tropical season will be underway with higher humidity and an above average rain potential forecast reducing fire risks.

March, like February, has seen several broad coverage, and especially for the central states of the geographic area, heavy and above average rainfall producing events. Rain totals through March 28 broadly range from around 150% to over 300% of average with the higher rain coverage area reaching east into

the Appalachian Mountains. While there have been recurring rain events across the rest of the South, totals for the Atlantic states, especially Florida, and areas of southeast Oklahoma, central and southern Texas, and central Louisiana have been below average. While rainfall departures range mostly from 1 to 2 inches, in scattered areas of Florida the departures are more significant ranging from 3 to 5 inches (highest in the central panhandle). While long-term drought is mostly absent, southern and western portions of Texas have abnormally dry to exceptional drought with areas of scattered shorth-term drought in most of the Gulf states.

Similar to all the previous months this year, March fire activity has been mostly below normal for the Southern Area. Due to the previous month's rain and snow, and above average rain activity in March, fuel moistures consistently continue to track at average and mostly above to well above seasonal levels. The only concern this month has been due to rapid fine fuel and litter drying during low relative humidity episodes.

Weather patterns through winter and now at the beginning of spring have kept fuel moistures elevated, which has resulted in a lower fire threat environment. Fire activity has mainly been dominated by the occurrence of low humidity episodes and those in combination with higher wind speeds, which are characteristic of west Texas and Oklahoma.

An expected drier and warmer than average pattern is expected to evolve through June, which should result in a gradual lowering of fuel moistures and an increase in ERC values. However, a coincident reduction in ignition potential is expected as green-up and leaf out occur, which should be mostly robust due to higher surface and sub-surface moisture levels spreads northward. These conditions will result in fire potential that should stay mostly within seasonal averages.

Dry and windy events with above average temperatures will likely continue to remain problematic for west Texas and Oklahoma through most of this outlook period. Current dry conditions are forecast to remain the trend across Florida, which should produce higher ignition risk conditions leading to above average fire potential for the state into June. Increasing moisture levels and the onset of the Atlantic tropical weather pattern should result in a return to at least average or possibly below average significant fire potential in June and later.

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**