



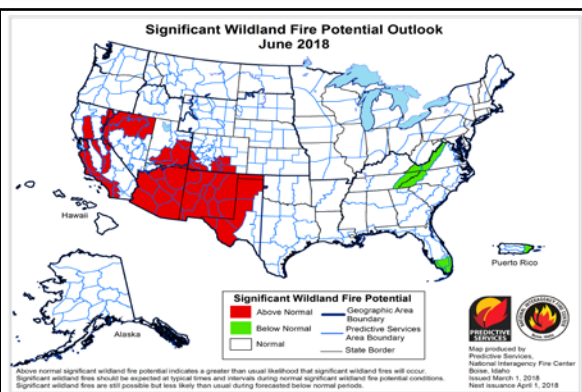
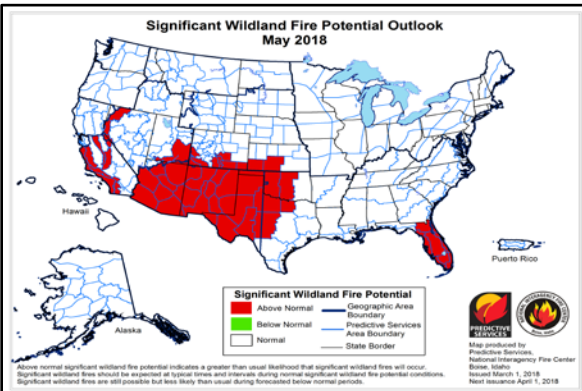
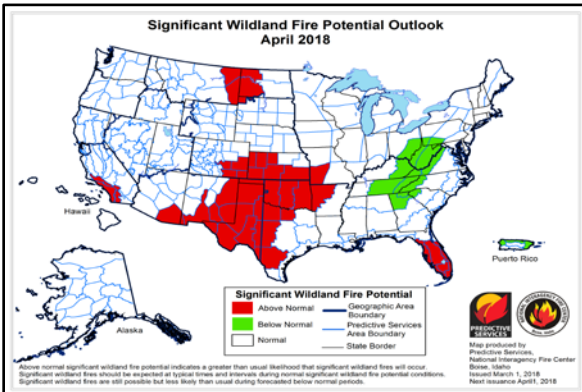
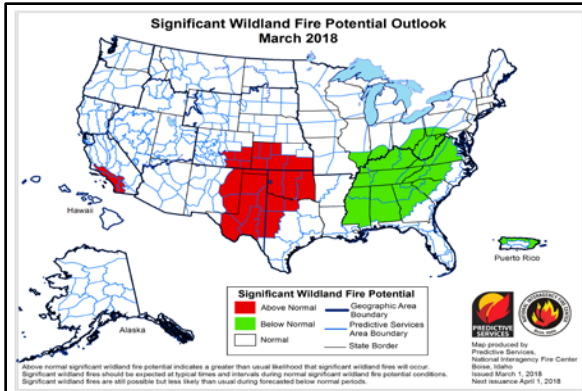
National Significant Wildland Fire Potential Outlook

Predictive Services
National Interagency Fire Center



Issued: March 1, 2018
Next Issuance: March 1, 2018

Outlook Period – March, April, May, and June 2018



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.

Wildfire activity is likely to increase in March in a manner typical to most years beginning in the central through southern Great Plains and the Southwest where preexisting drought conditions and fuel loadings have promoted an environment favorable for Above Normal significant wildland fire potential entering spring. While some improvement is expected across East Texas and Arkansas, areas to the west will likely see a continuance or an intensification of the Severe Drought conditions. Periods of special concern will be highlighted by passing weather systems that create periodic strong, westerly, downsloping winds. During such events, ignitions will be able to quickly become significant fires. Elevated large fire potential is also expected to continue across coastal portions of Southern California where preexisting dry conditions have left fuels in a very dry state.

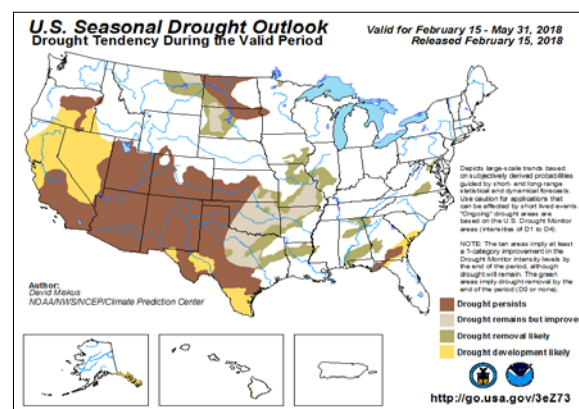
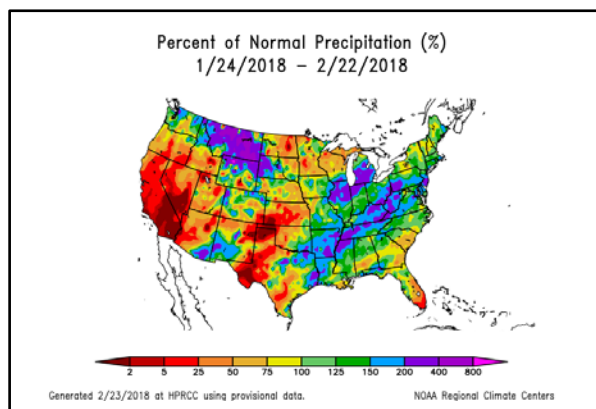
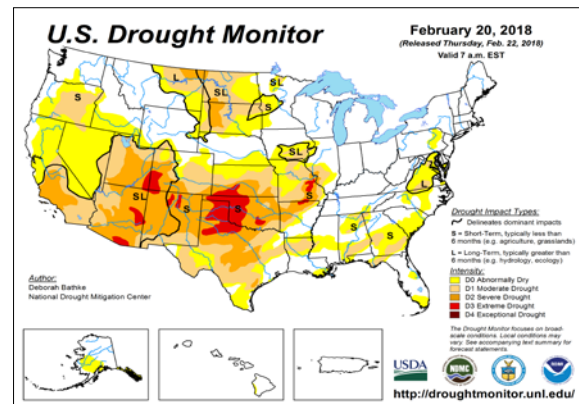
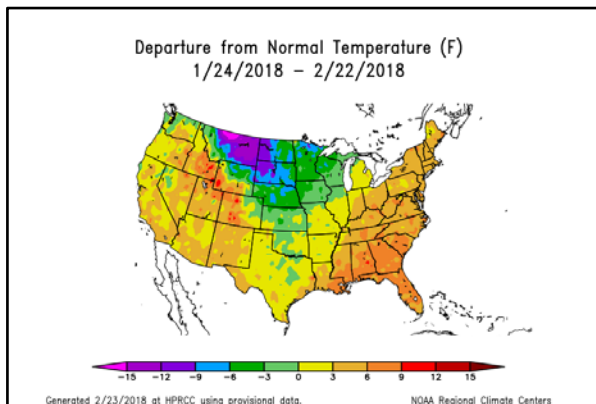
As the Western Fire Season continues to increase in activity across the Southwest in April, conditions across the central and southern Great Plains will gradually improve as greenup takes hold. Concerns across Southern California will remain as dry conditions will have led to a muted green up across the southern half of the state. Conditions in Alaska entering spring suggest a normal seasonal transition. While some areas of abnormally dry conditions exist across portions of the southwestern interior, large fire potential is expected to remain near normal entering May.

The fire season activity across the Southwest will peak in May and June. Above Normal significant large fire potential is expected across the southern tier of the region during this period as drought conditions intensify under the dry, building heat. The same conditions will continue to promote Above Normal potential as well across Southern California. There is some indication that the Southwestern Monsoon may produce some initial surges in activity in late June. This could begin to slow activity across both regions while initiating the seasonal shift northward into the Great Basin. In Alaska, above average temperatures and near average precipitation across the state's interior is expected to lead to Normal significant large fire potential for the core fire season months of May and June.

Past Weather and Drought

February was a month of dramatic transition in the overall weather patterns across the country. The month began with a weakening, cold trough of low pressure over the eastern states and a retreating ridge of high pressure over the western states. As the month progressed, the mean position of the eastern trough moved to be over the western states which led to a twenty to thirty degree cool down across the West and a significant warm up across the east as high pressure began to build along the East Coast. By mid-late month, near 50 degree temperatures across portions of the northern Great Plains were replaced by -40 degree wind chills as the frequency of passing Arctic fronts increased. Overall, precipitation was above average across the Northern Rockies and northern Great Plains while below average across the Great Basin and California. The central through southern Great Plains and the southwest generally received below average precipitation though a pocket of above average precipitation was observed along the Mexican Border and along the New Mexico and Arizona state lines. In the East, precipitation amounts received were generally above average except across portions of the Deep South and Florida where some below average anomalies were observed.

Drought change maps and U. S. Drought Monitor products continued to show drought expansion and intensification across the southwestern quarter of the nation from central Texas and Oklahoma west to the Pacific Coast and from the Mexican Border north into Idaho and Oregon. Some improvement was observed across the central and northern Great Plains from Nebraska and northeastern Colorado north to the Canadian Border. Overall improving conditions were observed across the East and the South. Recent dry conditions across the Deep South were not yet showing abnormal dryness in the drought products except across southern Georgia and Alabama.



Left: Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom) (from High Plains Regional Climate Center). Right: U.S. Drought Monitor (top) and Drought Outlook (bottom) (from National Drought Mitigation Center and the Climate Prediction Center)

Weather and Climate Outlooks

El Niño-Southern Oscillation (ENSO) continues to show La Niña conditions in the equatorial Pacific Ocean. Latest model forecasts continue a slow trend toward neutral conditions by mid-spring. Latest data suggests that the event has peaked and that a gradual weakening trend is about to begin as warmer water in the western Pacific Ocean begins to slowly migrate eastward and upwells.

Weather conditions commonly associated with La Niña are expected to continue across the southern half of the nation through May as overall warmer and drier than average conditions linger. One exception to this will be the Mississippi and Tennessee River Valleys where above average precipitation is expected. Across the northern half of the country expect cooler than average temperatures in March to be followed by near-average temperatures in April and May. Generally above average precipitation is expected in these areas during this period except possible across the northern Great Plains in May where below average precipitation is expected. Long range data suggest that a typical summer-like pattern will develop over the country in June as the Four Corners high pressure ridge begins to build over the west. This should help produce some early surges of moisture into the Southwest while promoting warmer and drier than average conditions elsewhere. In Alaska, the warmer than average conditions expected across the northwestern half of the state in March and April will expand southeastward in May and June to encompass the entire state. However, precipitation trends should be toward average, perhaps above average in some locations by June.

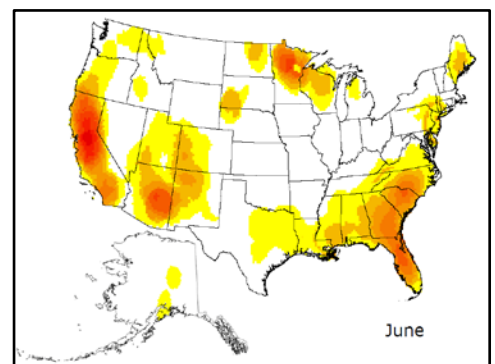
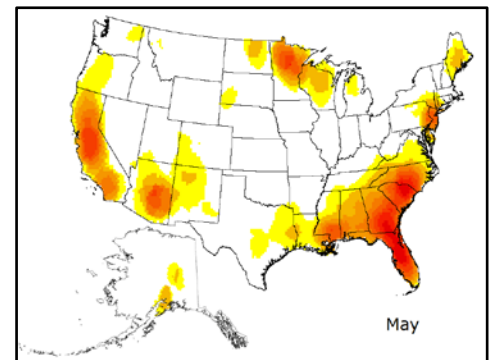
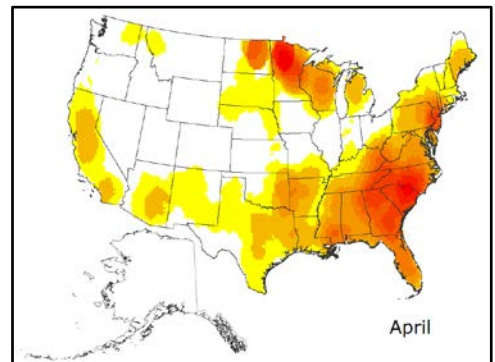
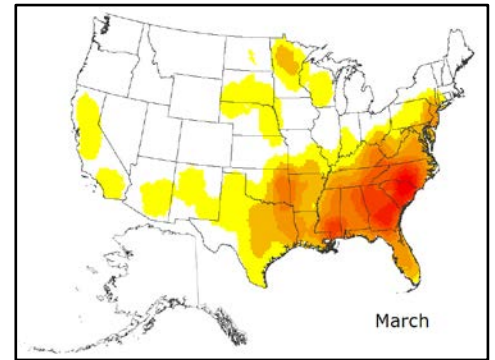
Geographic Area Forecasts

Alaska: Normal significant wildland fire potential is expected for Alaska for the outlook period February through May.

The U.S. Drought Monitor shows a wide swath of abnormally dry from the coast of Norton Sound, across the southwestern interior, through the Anchorage area and the Kenai Peninsula. However, since this has just recently appeared, and the snowpack in most areas of Southwest Alaska are from 1-2 feet, it seems unlikely this dry area is an issue. There is also an area of abnormally dry identified over the Panhandle. This seems reasonable as there is little snow on the ground at many locations there. Much of the Interior has very deep snowpacks this season.

Climate outlooks indicate a more than 50% likelihood of temperatures being warmer than average along the north and west coasts. It seems that those conditions are expected to hold into the spring months and expand inland, encompassing the western Interior, as well. There is also a trend towards wetter weather in the north, and drier weather in the south, but confidence in this is not high. Moving into early summer, there are no reliable indicators that tell whether the season will be active or slow.

Calculations of the Canadian Forest Fire Danger Rating system are suspended due to snow cover and below freezing temperatures. Alaska is out of fire season. Most of the state is snow covered and/or temperatures are at or below freezing. It's expected that at the end of



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)

March, some places in the far southern part of the state may become snow-free, but temperatures will likely stay too cool for fire activity. It is typically not until late April or early May that some human caused fires will begin to crop up.

Northwest: Normal significant wildland fire potential is expected for the Northwest through the Outlook period.

The winter of 2017-2018 has so far proven to be unusually warm and dry for much of Oregon. This trend proved especially true through January and the first half of February 2018 when temperatures were well above average and precipitation was at or below average, especially east of the Oregon Cascades. The pattern shifted during the last half of the month as an active northwesterly flow developed. Until then, conditions across Oregon were progressively worsening with the worst conditions being observed across southern portions of the state. Some improvement occurred late in the month with the pattern change. Across Washington, the situation has been different. While temperatures have been above average since the beginning of the year, precipitation has been closer to average, or even above average in some locations.

Despite the warm temperatures, snowpack across Washington is near or slightly above average, especially near the border with British Columbia. However, snow continues to remain well below average for Oregon for late February. In mid-February, reporting basins in Oregon reported snow water equivalent accumulation less than half of average in most locations. Some reporting stations in Oregon are tracking near all-time minimums at this point.

Outlooks for the northwest geographic area suggest near normal or cooler-than-typical conditions are likely in March and further into May across the region. Precipitation outlooks for March are calling for above average rain and snowfall. Beyond March, outlooks are mixed. Despite dry conditions over Oregon, fire danger is too low for risk of naturally ignited significant fires in the geographic area. Fire danger will not likely rise to such levels until June.

Northern California and Hawaii: Normal significant wildland fire potential is expected in all areas through May. Then Above Normal large fire potential is expected in June across the far east side, Sacramento Foothills, and the East Bay Area while other areas can expect Normal significant large fire potential.

The outlook for the North Ops region is for near average precipitation in March followed by below average precipitation from April through June. Temperatures are expected to continue above average throughout the Outlook period. Typically, little to no large fire activity occurs within the region through May, and enough precipitation is expected to hold off the onset of the active fire season prior to the end of May. With dry and warm conditions expected in June it is expected that fire activity will ramp up, and this represents an earlier start than average by a few weeks.

Sea surface temperatures (SSTs) surrounding the Hawai'ian Islands have been slightly cooler than average, but dynamical forecast models expect SSTs to rebound to slightly above average during the outlook period. Temperatures throughout the islands are expected to be near average in March and slightly above average from April through June. Hawai'i is expected to receive average to above average precipitation during the outlook period. This is a time when there is little to no occurrence of large fires throughout the Hawai'ian islands.

Southern California: Above Normal significant wildland fire potential is expected along the coastal areas and mountains of Southern California in March and April. This area will expand to include the foothills and mountains surrounding the San Joaquin Valley and the eastern slopes of the southern Sierras in May and June. Elsewhere, expect Normal significant wildland fire potential.

Another dry month passed by in February with little in the way of significant precipitation occurring across the region. A few systems brought light rain to the region the second half of the month; however, they paled in comparison to the strong storms which often arrive in February. By the end of the third week of the month, precipitation received for February stood at 0-25% of average across the entire southern portion

of the state. For the water year, since October 1, percentage of average rainfall is well under 50% with most of the region seeing precipitation amounts less than 25% of average.

Long range models continue to indicate the strong high pressure ridge will remain over the Eastern Pacific. Overall this does not promote favorable storm tracks. So, following the period of brief relief in late February and early March, the overall storm track will return to an unfavorable pattern for most of California. Thus, the weather is expected to remain warmer and drier than average the rest of the winter and throughout the spring. There may be a couple of weak storms in March or early April which may bring some wetting rains, but overall, expect conditions to remain far drier than average.

Dead fuel moisture will likely remain near or below record levels during the coming months. Live fuel moisture may have already peaked for the season and fine fuels such as grasses may start curing several weeks early. Some open aspects or areas with poor soils have not seen any greenup over Southern California, and as a result, the grass crop this year will be much smaller than last year. Therefore, there may not be the typical spike in fire activity in May normally associated with grass fire season. The lack of a grass crop may also keep the number of new starts lower than last spring. But the extreme dryness of the heavy fuels along with no snowpack will likely keep the threat of large fires higher than normal through much of the year. The rest of the area will likely see well above normal resource demand for the foreseeable future.

Northern Rockies: Above Normal significant large fire potential is expected across extreme eastern Montana and western North Dakota in April followed by a return to Normal significant large fire potential for May and June. Elsewhere expect Normal significant large fire potential for the outlook period.

The temperature and precipitation pattern during February was remarkably consistent with what has generally been occurring since the beginning of the water-year (October 01), and what is typically expected during La Nina dominated fall/winter periods, with a slight difference given to the eastern third of the region. Well-above average precipitation continued to occur across northern Idaho and most of Montana, with an exception being the far eastern sections. Temperature anomalies during this period were near to slightly below average in all areas. Unfortunately for far Eastern Montana and North Dakota, precipitation during the past month, and for the water year has been well below average. Moderate to severe drought conditions persist there. Mountain snowpacks in the western areas are all now above to well above average. Significant snowpack also exists over the lower elevations in central and much of eastern Montana.

Impacts from the expected weakening of the ongoing La Nina episode on the region will be a continuance of near to below average temperatures and near to above-average precipitation (mainly over the Western areas) in March followed by a transition to a somewhat drier pattern in April with near-average temperatures. Long range outlooks then depict near average temperatures and precipitation in May for most of the region, except for eastern Montana, which may be drier than average. Heading into June, warmer and drier than average conditions are expected to develop region-wide. Mountain snowpacks in the western areas now have above to well-above normal snow water equivalent basin averages, especially across western Montana and Yellowstone National Park.

Wildfire potential generally only exists for short periods over the winter and early spring east of the Continental Divide when gusty drying southwest and west winds occur. Due to preexisting drought conditions from last spring/summer, 1000 and 100 hour fuel moistures were well below-average in eastern Montana and western North Dakota heading into winter, when routine calculations of these ended. It is likely they are still drier than average, as precipitation in these areas has continued to be below-average during the past three months. Central Montana and the western portions of eastern Montana however, have seen above average precipitation during the last few months. Thus during dry windy conditions in the eastern areas, drier than average fuels could become available for combustion more quickly than normal but should be confined to far eastern Montana and western North Dakota.

Great Basin: Normal significant wildland fire potential is expected across the Great Basin for the outlook period except across northwestern Nevada and southeastern Utah in May where Above Normal significant

wildland fire potential is expected. These Above Normal areas will expand in coverage to include all of northern Nevada and eastern Utah in June.

Temperatures were 3-10 degrees above average across the Great Basin over the past month. Precipitation was well below average, especially across southern Nevada, northern Utah and eastern Idaho. Following an exceptionally dry winter for the southern Great Basin, snowpack remains below 40% of average across much of Nevada and southern Utah. The snowpack is near average in the Central Idaho mountains and over western Wyoming. Due to very dry conditions over the last few months, drought has returned to most of Utah, the Arizona Strip and is expected to develop across the state of Nevada.

Fuels are predominantly dormant across the area. Carryover fuels are expected to be a concern this year over the northern half of Nevada into parts of southern Idaho and northern Utah. There was a significant grass crop in 2017 due to record precipitation received in the late winter and spring months, and recent warm and dry conditions have limited the amount of low elevation snowfall to compact the fuels. Therefore, a significant carryover grass crop is expected.

Normal significant large fire potential is expected for all areas of the Great Basin through April, which for this time of year translates to minimal large fire activity. The only exception will be in the areas of higher grass crop from 2017, after prolonged dry periods and on windy days. As May approaches, Above Normal significant large fire potential is possible across the higher elevations of southeastern Utah and across northwestern and northcentral NV, assuming dry weather returns and continues through the spring. Due to the prolonged dry conditions, the 100 and 1000 hour fuels are expected to be well below average levels in these areas by April and May. The 2017 grass crop is still available to burn across northern Nevada. As dry, windy weather moves in during the month of May, this will cause large fire potential to increase to Above Normal. Further north and east, areas will remain Normal through April and May. By June, the area of Above Normal significant large fire potential will expand further north to include the central Utah mountains and northeastern Nevada as those areas have also been very dry this winter.

Southwest: Normal significant fire potential is expected for most of the region during March followed by a gradual increase from the southeast to the northwest as the spring progresses toward early summer. Much of the eastern plains of New Mexico into West Texas will see Above Normal significant large fire potential in March with increasing areas of Above Normal significant large fire potential likely across southern/south-central New Mexico westward into Arizona by April. Above Normal significant large fire potential will likely increase further north and west from May into June.

Over the past month, high temperatures have generally been above average across most of the region...warmest across the northern sections and closest to average across the southeastern sections. Over the past month, both the northwestern half and eastern portion of the region have been drier than average with southeastern Arizona into western and southwestern New Mexico being the main areas receiving above average amounts of precipitation.

Confidence in this overall outlook is slightly above average as La Nina-like conditions have been a factor for months in both the eastern and central tropical Pacific ocean but there are now some indications that La Nina will weaken and turn into neutral conditions as early as April-June. Despite this, the expectation is for overall temperatures to generally remain warmer than average with drier than average conditions to remain intact overall for most areas of the region.

In March, periods of colder than average temperatures will be most likely from the central New Mexico westward into Arizona overall as a West Coast/western U.S. trough pattern presently intact will continue for at least the first half of the month. Areas along and east of the New Mexico central mountains will experience periods of increased dryness and will combine with above average fuel loadings for increased significant large fire potential for these areas. Downslope flow conditions ahead of cold frontal passages typically lead to one to two day large fire events east of the New Mexico central mountains coincident with high temperatures above to well above average along with very low humidities. This threat will continue into mid-spring as long as the downslope flow pattern remains intact. Areas across the southern tier of the region will begin to see Above Normal significant large fire potential increase as March transitions into April as continued dryness and increasing periods of mild temperatures will begin to lead to an increased threat.

For April and May, Above Normal significant large fire potential will be on the increase across most of the region except for the northern and northwestern tier of the region as an on/off active storm track will likely bring periods of cooler temperatures and precipitation. The northern half of the region will be most susceptible to receiving beneficial precipitation with the southern portions of the region more than likely continuing to be dry with periods of increased wind. This more active pattern will oscillate back and forth with a West Coast or eastern Pacific upper level ridge setup into May before the subtropical high associated with the summer monsoonal timeframe begins to push northward from old Mexico.

Present thoughts suggest either a slightly early or on-time arrival of the monsoonal season with more than likely a good burst of moisture initially perhaps followed by a stronger focus along and east of the Continental Divide as the summer moves forward.

Rocky Mountain: Normal significant wildland fire potential is expected for the Rocky Mountain Area through June except for the southeastern corner of Colorado and Kansas (excluding northeastern Kansas) where Above Normal significant wildland fire potential is expected in March and April. For May and June, Above Normal significant wildland fire potential will shift west to include portions of southwestern Colorado while southeastern Kansas returns to Normal large fire potential.

Regional precipitation increased through the middle portion of February compared to the last couple of months; however, significantly below average amounts were still received across southwestern and south-central Kansas and portions of south-central and southwestern Colorado. Above average temperatures continued west of the Divide during January and to a lesser degree in February, with cooling east of the divide becoming more pronounced across the plains.

Fuels available to burn this time of year are primarily categorized by dry grass and brush in the lower elevations of the region, especially considering the pre-green period of March through mid-April in the lower elevations east of the Continental Divide. Above average moisture during the 2017 spring growing season resulted in significant fuel loading across the plains, especially in southern and western Kansas. Snowpack deficits continue in the southern Colorado mountains with resultant exposed fuels that are typically under snow this time of year, especially in the central to southern Colorado front range.

Forecast precipitation data for early March reflects an expansion of dry conditions across eastern Colorado into western Kansas along with warm, dry, and windy conditions. In the southern portion of the region, long range forecasts favor above average temperatures in combination with drier than average conditions for April, with an expansion of warm and dry trends across a larger portion of the region in May and June. Considerations and fire season outlook fire activity is expected to increase mainly over southeastern portions of the region as the area transitions from its slower time of year in terms of large fire activity, into the more active pre-green period of March and April.

Continued drought and predicted temperature and precipitation patterns through April along with forecast and climatologically increasing cases of warm, dry and windy patterns through mid-April point towards above Average large fire risk for late February through April across southeastern Colorado through most of Kansas (excluding the northeast). Similarly for May, a warm and dry trend and below average green-up is predicted to maintain the above average large fire risk from southwestern Kansas into southeastern Colorado, and expanding across the remainder of southern Colorado as well for the May-June period.

Eastern Area: Normal significant wildland fire potential is expected for the Eastern Area through the Outlook period except across portions of the western Middle Mississippi Valley where Above Normal significant wildland fire potential is expected to continue in April. In addition, Below Normal significant wildland fire potential is expected across the lower Ohio River Valley in April.

Soil moisture and precipitation anomalies were below average across portions of the northern Great Lakes and northern New England and above average across much mid-Mississippi Valley, the southern Mid-Atlantic States and the southern Great Lakes during February.

Below average temperatures are forecast over much of the region in March. Wetter than average conditions are forecast across the southern tier of the compact in March. Warmer than average

temperature trends are then forecast across the southern tier of the region in April and May. Drier than average conditions may redevelop and persist over the far southwestern portion of the region this spring.

100 and 1000 hour fuel moistures as well as Energy Release Components or Canadian Build-Up Indices were near seasonal normal levels over the majority of the region at the end of February. The spring fire season may begin earlier than normal across portions of the western mid-Mississippi Valley if drier than normal conditions redevelop and persist over this area.

Southern Area: Above Normal significant wildland fire potential is expected across the southern Great Plains of Oklahoma and Texas March through May and across Florida in April and early May. Below Normal significant wildland fire potential is expected across the Appalachian Mountains and surrounding Piedmont areas in March followed by a reduced area that includes the mountains only in April. Portions of Puerto Rico can also expect to see Below Normal significant wildland fire potential during the outlook period. Some areas of Below Normal significant wildland fire potential may be possible across portions of southern Florida and across the southern Appalachian Mountains in June. Elsewhere, expect Normal significant wildland fire potential through the outlook period.

The overall wetter than average conditions experienced in February are expected to continue into March. This coupled with expected overall cooler than average conditions should produce broad areas of below average large fire potential. Given the volatility associated with changing seasons, expect the chances for extreme events, including snow to continue entering March. In Oklahoma and Texas, conditions are expected to continue to be overall warmer and drier than average, this should lead to continued periods of elevated large fire potential. With drought conditions evolving across Florida and southeastern Georgia, these areas could see initial attack increase.

Entering April a trend toward overall warmer than average conditions is expected to begin. This should accelerate green-up. The cool water ENSO episode will likely be fading but should still allow rain activity east of the Mississippi River Valley, centered from the Appalachian Mountains west into eastern Kentucky and Tennessee. The longer term dry areas of Oklahoma and Texas along with warm temperatures are likely to keep fire potential above average with drier weather increasing large fire potential for Florida.

With green-up progressing, long term drier conditions in central through western Oklahoma and north central Texas along with warmer than average temperatures will produce lingering but waning fire potential progressing through May and into June. Continued dry conditions across Florida will keep the peninsula in elevated potential but wane through the May as sea and land breeze activity becomes more evident.

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>