

# National Significant Wildland Fire Potential Outlook

Predictive Services  
National Interagency Fire Center

Issued: February 1, 2017

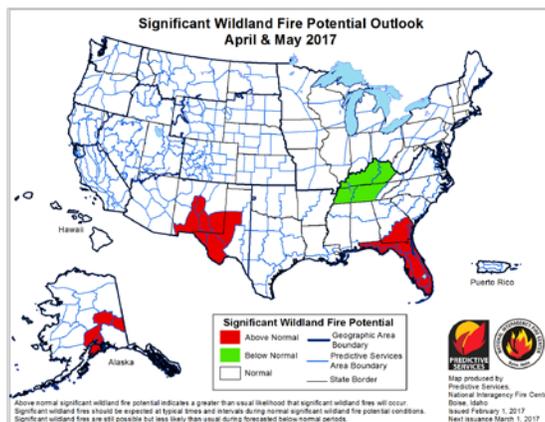
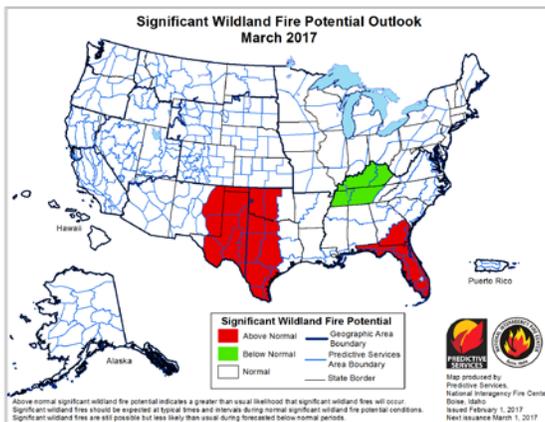
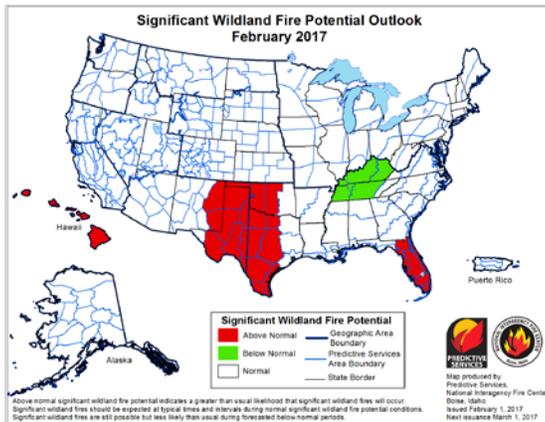
Next Issuance: March 1, 2017



## Outlook Period – February, March and April through May 2017

### 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 begin to increase in February as would be seasonally expected. During the early portions of the year it is typical for significant fires to begin to occur across the southern tier of the U.S. Currently it appears the highest likelihood for above normal significant wildland fire potential will be in place across portion of the southern plains and Florida and Georgia. Across the southern plains the last years precipitation totals have brought about a somewhat robust fine fuel crop, which will provide an elevated baseline of fire activity. When this elevated fuel condition is exacerbated by a period of dry and windy conditions it will provide opportunities for any ignitions to become significant fires. These incidents will be difficult to predict, but extra attention should be paid to this area when dry and windy conditions are forecasted. In Florida and Georgia the significant drought that led to amplified fire activity in the fall across the south has not improved. Moisture deficits in these fuel types are significant because they not only make ignition significantly more likely but they also make fires much more difficult to fight. Both conditions make the need for fire suppression resources higher. Both of these significant areas of above normal potential are likely continue through March and probably return to normal in April or May.

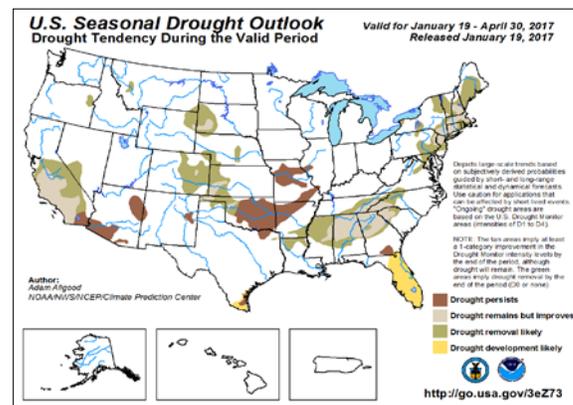
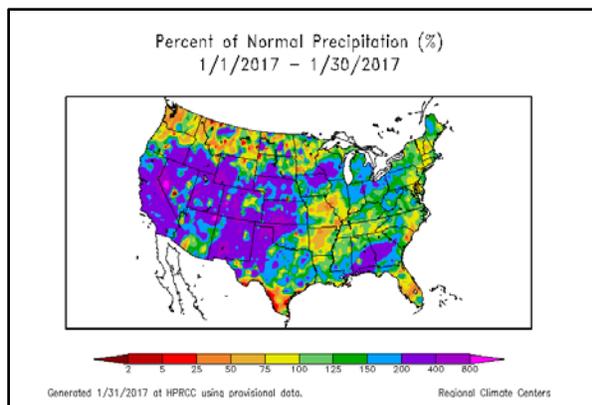
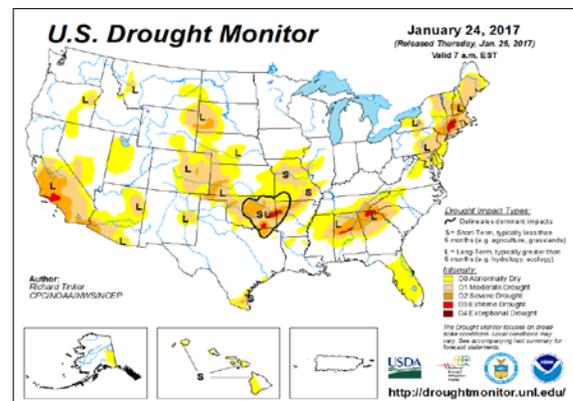
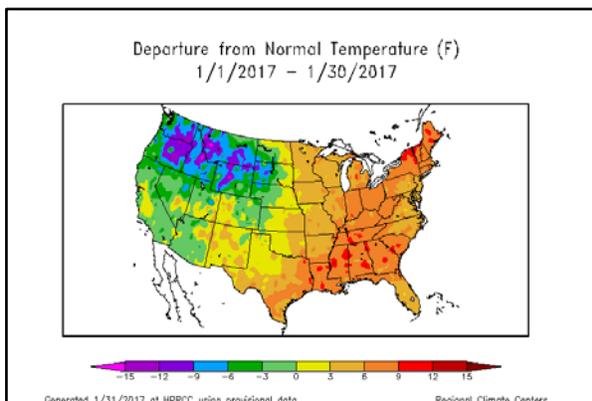
At the end of the Outlook period significant fire potential across portions of Alaska will be to increase. This is also generally seasonally anticipated, however, the potential for above normal significant fire activity in the south central portion of the state is likely. Drought conditions indicate that some unusual dryness will be in place in this area as fire season begins. This will likely lead to earlier than usual ignitions and the potential for worse than usual fires. In the shorter term Hawaii is likely to see some elevated activity thanks to some unusual dryness, but this condition is expected to be short lived.

Additionally, fire activity is expected to be below normal across western portions of Tennessee and Kentucky throughout the Outlook period.

## Past Weather and Drought

A series of deep troughs traversed the U.S. in January, bringing much needed precipitation to the drought-ridden southwestern corner of the country as well as throughout the Interior West and parts of the Southeast. Much of the western states received above normal rain and snow with most areas receiving 200 to 400 percent of normal precipitation for the month. The Plains from West Texas to South Dakota also observed over 200 percent of normal precipitation. The Gulf Coast states, the Appalachians, and the Great Lakes region had over 150 percent of normal. Parts of the northern Rockies, the Northwest, and deep South Texas had below normal precipitation. Cold arctic air remained firmly in place across the Northwest but much warmer conditions developed in the eastern half of the nation. Temperatures were six to twelve degree below normal from Washington and Oregon to the western Dakotas. Across the East, temperatures were six to nine degree above normal along the Gulf Coast, the Mississippi Valley, the Great Lakes, and New England.

Drought was largely reduced across the U.S. during January. Southern and central California remain in severe to extreme drought but the magnitude dropped considerably with the worst conditions remaining along the southern and central coast. Drought in Nevada was mostly eliminated except for pockets of moderate drought in the southern part of the state. Elsewhere, pockets of severe to extreme drought remain in the central and southern Plains, the southern Appalachians, and New England but areal extent is reduced from the previous month.



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 in a very weak La Niña to near neutral state. Latest model forecasts continue a trend toward neutral conditions through at least early spring.

Temperatures will generally remain above normal through early spring for the Southeast from Texas to the Mid-Atlantic. Warmer temperatures could spread westward across New Mexico and Arizona. Surges of cold into the Northwest and northern Rockies will continue the region's colder-than-normal conditions through the period. Precipitation will likely be above normal across the northern third of the nation, especially from the northern Rockies to the Great Lakes. Drier trends in the Southeast and parts of the Southwest could worsen existing drought or increase its areal extent. Precipitation in Alaska is trending toward slightly below normal through the spring.

## Geographic Area Forecasts

**Alaska:** Normal significant wildland fire potential is expected for Alaska in February and March. From April through May significant fire potential is expected to increase to above normal across south central Alaska.

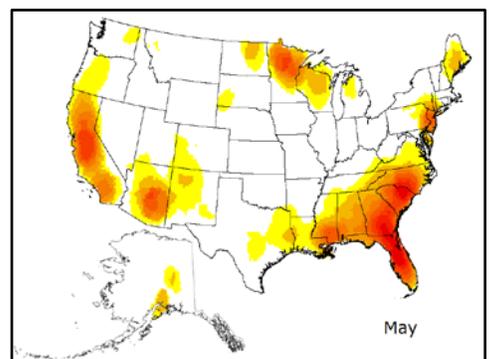
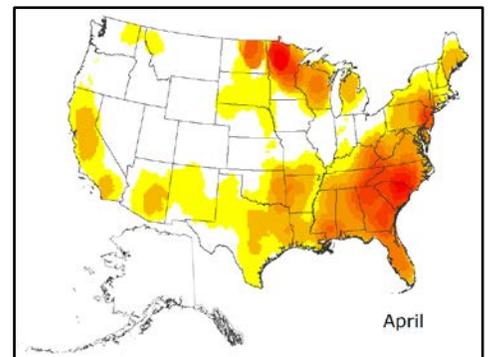
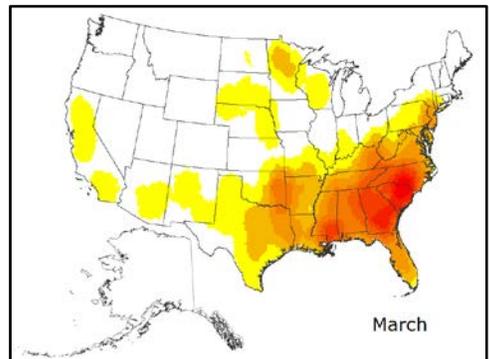
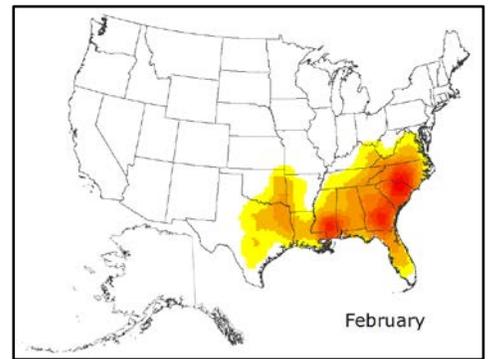
Abnormally dry conditions continue in the southeastern Interior of Alaska. Precipitation amounts were near normal around much of the state for January, helping to keep dry conditions from getting worse. Most areas are approaching near normal snowpack. The ground is generally frozen and most of Alaska has at least a small amount of snow cover

Warmer-than-normal conditions are forecast across much of western and northern Alaska. Precipitation forecasts show equal chances of above, below, and normal amounts of precipitation through the early summer. February continues some of the coldest temperatures of the year and unbroken snow cover over most of Alaska. Warmer conditions in parts of southern Alaska, particularly along the coast, may provide some burnable fuels, but fire spread potential is low without strong winds.

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

Temperatures in January were well below normal across the Area, especially east of the Cascades. Precipitation was above normal over Oregon and generally below normal over Washington. After a warm October and November, temperatures fell below normal across the region due to the cold spells recorded in December and January. Snow accumulation surpassed normal across almost all of Oregon but was below normal over the Washington Cascades.

The latest climate outlooks favor below normal temperatures through March or April for the Area. Precipitation outlooks are mixed and inconclusive. Snow accumulation is expected to be near normal.



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)

Fire danger indices fell well below the values for wildfire risk early in October and are not expected to rise substantially until May or June. Fire activity is likely to remain low until June. Normal fire potential is expected through May, which indicates out of fire season conditions until June.

**Northern California and Hawaii:** Normal significant wildland fire potential is expected for Northern California through the Outlook period.

Above normal significant fire potential is expected in February for Hawaii, but normal significant wildland fire potential is expected to return for the remainder of the Outlook period.

Since 1 October 2016, nearly the entire Northern California region received above normal precipitation, with about a quarter of the region at more than 200 percent of normal. Snowpack is near 200 percent of normal for late January. The outlook for the Area for February through April is for above normal precipitation, followed by near to below normal precipitation in May. Temperatures are expected to be below normal through March then trend to normal-to-above-normal in April and May. These outlook conditions will lead to a robust fine fuel crop at lower elevations that likely remain green until July. They will also lead to a greenup of live fuels at all elevations, peaking at fairly robust values and later than in recent years. This will lead to a relatively late start to the active fire season at mid and upper elevations. Since significant fires are rare between February and May significant, fire potential through May is normal for all areas.

Sea surface temperatures in the vicinity of Hawaii are expected to remain slightly above normal through May. Therefore, temperatures throughout the islands are expected to remain slightly above normal. Since the water year began the majority of the state has received below normal precipitation, and some areas in the central islands are below 50 percent of normal during this time. January has been much drier-than-normal, with the majority of the state receiving below 50 percent of normal precipitation. The remainder of January looks fairly dry throughout Hawaii so February will start out with dry conditions. The drought indices have increased to mid-June levels and at these levels significant fire potential begins to increase. The outlook for February calls for continued below normal precipitation. Precipitation is expected to be near to slightly above normal from March through May. Therefore, significant fire potential is above normal in February and normal from March through May.

**Southern California:** Normal significant wildland fire potential is expected for Southern California through the Outlook period.

A torrent of rainfall was unleashed upon the state January as a strong jet stream remained parked over the area. Several strong storm systems passed through the Area, bringing widespread heavy rain at lower elevations with deep snow accumulations in the mountains. This is a stark contrast to previous years. At the start of the winter season, over half of the Area was in exceptional drought. By late January, drought levels dropped two categories with many areas seeing eliminated completely. Precipitation amounts are now near seasonal normals with plenty of the typical wet season remaining.

The wholesale change from six years of drought to a precipitation surplus in a short amount of time will have profound effects on the hydrological, agricultural and overall vegetative state this year. Unlike the past few years, the probability of significant wildfire activity in the winter is near zero. Fuels will remain too wet to allow for any fire spread and live fuels at lower elevations should show a healthy burst of new growth this spring. Some long term models indicate a change to a modestly drier pattern later this winter, but the healthy amount of subsoil moisture should remain in place for weeks to come.

When the rainy season ends this spring, there will be a much heavier than usual grass crop which will likely begin to cure in early May. There may be an increase in grass fire activity this year compared to the past few seasons, but heavier vegetation should retain good fuel moisture until the summer. The only exception may be in areas where a heavy, curing grass crop interfaces with large stands of dead trees, such as in the Sierra Foothills. If the weather turns sufficiently hot, fires may transition from grasses and other fine fuels into heavier stands of dead fuels. But the weather pattern does not appear supportive of

abnormally hot weather during the next few months, so significant fire potential is expected to remain near normal through May.

**Northern Rockies:** Normal significant wildland fire potential is expected for the Northern Rockies through the Outlook period.

Most lower-elevation areas in Montana and northern Idaho have recorded the coldest and snowiest conditions to date in three to four decades. North Dakota experienced colder and wetter-than-normal conditions as well but not quite to the extremes seen farther west. A milder pattern of Pacific low pressure systems separated by several days of high pressure is expected to persist for a while. This matches very closely to the conditions observed during winter of 1983-84. Mountain snowpack is above normal over Yellowstone National Park and south-central Montana, but still remains below normal over the rest of the higher terrain; mainly due to the very cold conditions in December through Mid-January which produced very dry snow. Nevertheless, due to the very wet October and near normal November the Area remains drought-free. Live fuels are dormant for the winter. Dead fuel moisture levels have risen accordingly. A sustained period of warm, dry, windy weather east of the Continental Divide can heighten grass and brush-fire potential in February and March. Given the lack of drought, and likelihood of continued at least normal precipitation the rest of the winter, fire potential will be very low in February, and normal, at best, in March and April before greenup. In May greenup should proceed at a quick pace, with healthy vegetative growth.

Impacts from the transition of global circulations should translate to an overall normal precipitation pattern continuing, with near to below average temperatures. Therefore near normal snowpack accrual is expected to persist, but may end up by April remaining at slightly below normal levels. However, given that near to slightly below normal spring temperatures are expected, this would be offset by somewhat slower melting rates. The Northern Rockies will therefore be out of season in February. Grass and brush fire potential will be normal east of the Continental Divide in March, April, and May.

**Great Basin:** Normal significant wildland fire potential is expected for the Great Basin through the Outlook period.

Above normal precipitation fell throughout the Great Basin over the past few months, and normal to above normal snowpack exists across most of the Area. Lower elevations across western Nevada and southern Idaho may end up with significantly above normal winter and early spring precipitation. This should provide the conditions needed for the potential for a large grass crop which could begin drying out rapidly by the end of May. This could lead to above normal fire potential at the start of fire season. Otherwise no significant concerns exist for the Area. Above normal snowpack on the Sierra Front and some other areas of the Great Basin could delay the start of significant fire activity.

**Southwest:** Above normal significant wildland fire potential is expected across the eastern portion of the Southwest Area for February and March. Above normal potential will then begin to shift further north and west to areas generally east of the divide by April and will start to spread westward by May.

Over the past month temperatures were generally above normal east of the continental divide and below normal to the west. Much of the region experienced above normal precipitation over the past month. The Southwest received very good winter precipitation over the past two months with ample snowfall focused in the north and west. Eastern sections of the region have received good precipitation over the past few weeks as well.

It appears as if a much drier period is about to ensue into at least early February with temperatures above normal and focused south and east and closer to normal north and west. Much of the upcoming outlook will end up with near to below normal temperatures focused across the northwestern half of the region with any sustained warmth likely focused south and east. Precipitation is likely to be below normal Area-wide through the forecast period, especially south and east. Any focus for above normal precipitation episodes will likely be across the northwestern half of the region. The most changeable aspect will be temperature swings through the next few months. Areas to the lee of the New Mexico

central chain will likely experience some wind events during the mid to late winter timeframe with confidence of this slowly increasing. Some existing dry conditions along with above average fine fuel loadings and the anticipated seasonal windy weather could lead to periods of enhanced significant fire potential. Fire potential will likely peak in March or into early April for this area. Thereafter, a general drier pattern will allow above normal fire potential to gradually spread north and west through April into May.

**Rocky Mountain:** Normal significant wildland fire potential is expected for the Rocky Mountain Area through the Outlook period.

Precipitation deficits continued from November across the southeastern corner of Colorado into southern Kansas intensifying drought while wetter-than-normal conditions prevailed elsewhere. An abundant dead grass and brush fuel component remains in place in the lower elevations and foothills of the Area. Mountain snowpack started building slowly but has since recovered with most areas reporting snow cover.

Near normal precipitation and temperatures are expected across the Rocky Mountains Area, except a warmer and drier signal edging into southeastern Colorado and southwestern Kansas. Significant fire activity is typically at a slight increase in February. Pre-greenup fire occurrences peak from the second half of March through the first half of April. The primary fire carrier this time of year is dead grass and brush which is abundant this year as a result of a wetter-than-normal spring and early summer east of the Continental Divide.

**Eastern Area:** Normal significant wildland fire potential is expected for the Eastern Area through the Outlook period.

Soil moisture and precipitation anomalies were below normal across portions of the south central Mid-Mississippi Valley and northern New England. Near to above normal precipitation and soil moisture anomalies were in place over the rest of the Eastern Area. Fuel moistures were near to above normal over the majority of the Eastern Area towards the end of January. The exceptions were across portions of south central Mid-Mississippi Valley where drier-than-normal conditions existed.

Below normal temperatures are forecast over the portions of the Great Lakes February into March. Then a trend toward warmer-than-normal temperatures is expected to develop over much of the Eastern Area in April. Wetter-than-normal precipitation trends are expected over parts of the Great Lakes in February, shifting southward into the Mid-Mississippi Valley and Ohio March into April. The 2017 spring fire season may begin earlier than normal across the northern tier of the Eastern Area if the forecast warmer-than-normal conditions develop in April. Near normal fire potential is expected over the majority of the Eastern Area through the rest of the winter into the spring.

**Southern Area:** Above normal significant wildland fire potential is expected for the Southern Area through at least April across the southern plains including portions of Oklahoma and Texas as well as Florida and portions of Georgia. Below normal conditions are expected to remain in place across western Kentucky and Tennessee through at least April as well. Elsewhere normal significant fire potential is expected.

Recurring periods of moderate to locally heavy rain and the subsequent broad improvement in fuel moistures have minimized fire activity during January for most of the Southern Area except areas of western Oklahoma and West Texas. Existing dry conditions in these areas, above average fine fuel loadings, and anticipated periods windy and dry weather, should produce a fuels environment increasingly receptive to ignition and fire spread.

The weak La Niña episode in the tropical Pacific is expected to further weaken through the outlook period and transition to a warm pattern by the end of the outlook period. These transition periods can produce a widely varying pattern of temperature and precipitation anomalies and because of this there is more than typical uncertainty in the outlooks for late winter and spring. Oklahoma and Texas followed by Georgia and Florida will see the highest potential for warmer and drier weather patterns.

## ***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>