

# National Wildland Significant Fire Potential Outlook



## National Interagency Fire Center Predictive Services



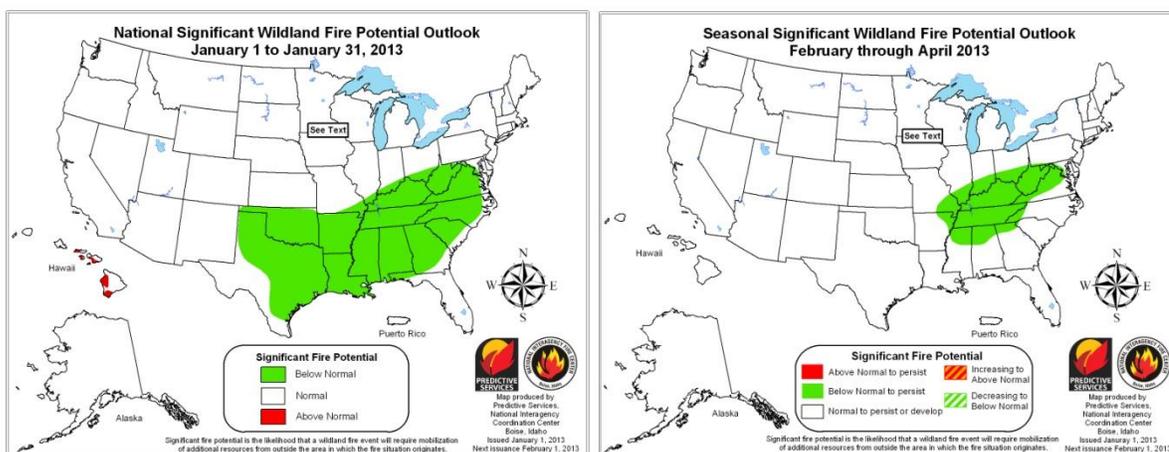
Issued: January 1, 2013

Next Issue: February 1, 2013

## Wildland Fire Outlook – January through April 2013

The January through April 2013 significant fire potential outlooks are shown below. The primary factors influencing these outlooks are:

- **El Niño/Southern Oscillation (ENSO):** Equatorial Pacific sea surface temperatures continue to indicate a neutral ENSO pattern.
- **Drought:** Much of the West had above normal precipitation for the month as did the central Gulf States, the Tennessee and Ohio Valleys. The Plains from South Dakota to central Texas continued to be dry with much of the area remaining in severe to exceptional drought.
- **Fuel Conditions:** Fuel conditions across southeastern U.S. are better than normal for this time of year. This would normally be the area of most concern in the coming months. However, a continued trend of dryness across much of the central U.S. especially into Colorado and New Mexico indicate the possibility of seeing an early onset of fire season in these areas, even though those concerns may have been offset somewhat by recent precipitation.



**Note:** Significant fire potential is defined as the likelihood that a wildland fire event will require mobilization of additional resources from outside the area in which the fire situation originates.

# Past Weather and Drought

A deep trough settled across the eastern U.S. early in December, bringing very cold air to much of the region. The West was mild to warm with a few weak precipitation systems moving through the area. By mid-December, the pattern changed, bringing a series of winter storms across the West and rain to much of the East with strong thunderstorms occurring across the South around Christmas.

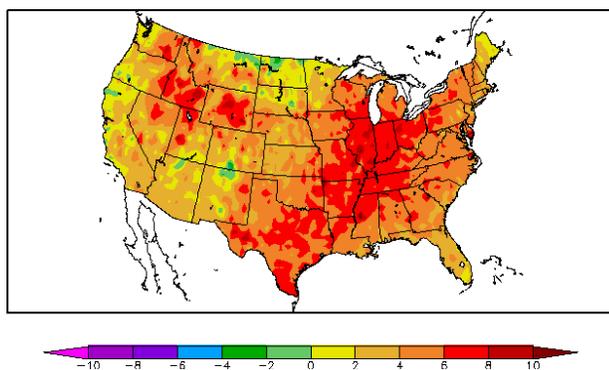
Despite the periodic cold blasts, most of the lower 48 experienced much above normal temperatures for December. Temperatures were six to ten degrees above normal from the Mississippi Valley to the northern Rockies. A few pockets of the northern Plains, the coastal Northwest, and the central Rockies were below normal. Alaska saw December temperatures fall to 15 to 25 degrees below normal in the central and eastern Interior.

Much of the West had above normal precipitation, with up to 400 percent of normal rain or snow from the northern Sierra into the Great Basin. Western snowpack was normal to above normal with lower elevations, generally below 7500 feet, remaining well below normal. The Plains were dry with less than 50 percent of normal precipitation from Montana and North Dakota to Texas, and less than 25 percent of normal from Kansas to western Texas. The central Gulf to the Great Lakes and New England received 125-150 percent of normal precipitation. The mid-Atlantic and much of Florida, however, remained dry. In Alaska, much of the central and eastern Interior saw less than 50 percent of normal precipitation, although a few pockets did exceed 150 percent of normal precipitation.

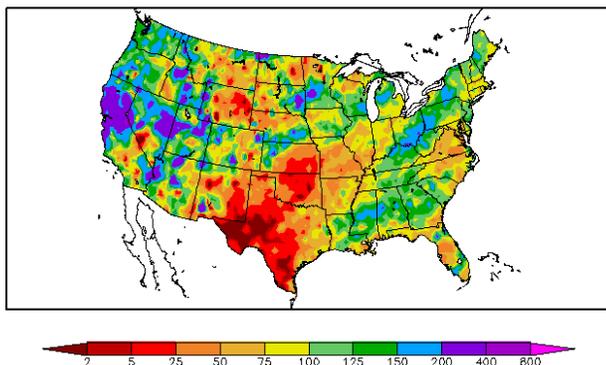
Drought continued over most of the western and central U.S. with severe to exceptional drought conditions spreading from southern California through the Rockies and into the Plains and the mid and upper Mississippi Valley. Parts of Georgia and Alabama also had extreme to exceptional drought conditions.

**Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom)** (from High Plains Regional Climate Center)

Departure from Normal Temperature (F)  
11/27/2012 - 12/26/2012

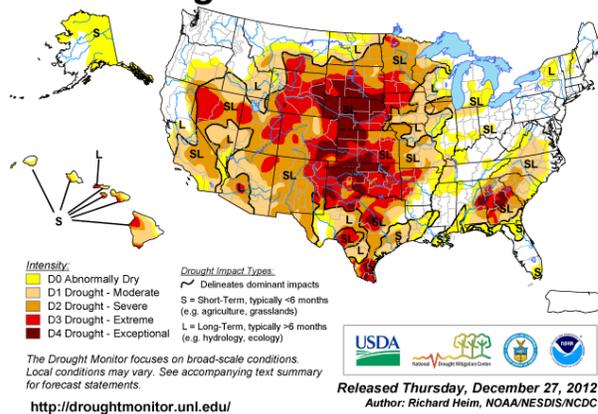


Percent of Normal Precipitation (%)  
11/27/2012 - 12/26/2012

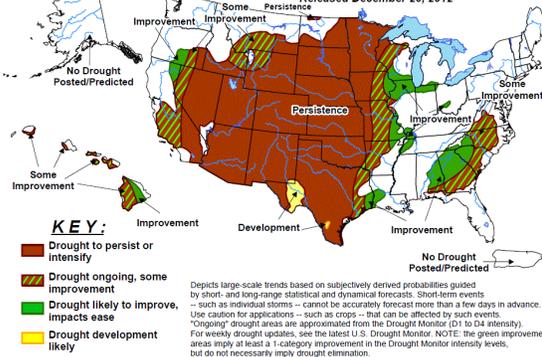


**U.S. Drought Monitor (top) and Drought Outlook (bottom)** (from National Drought Mitigation Center and the Climate Prediction Center)

**U.S. Drought Monitor** December 25, 2012  
Valid 7 a.m. EST



**U.S. Seasonal Drought Outlook**  
Drought Tendency During the Valid Period  
Valid for December 20, 2012 - March 31, 2013  
Released December 20, 2012



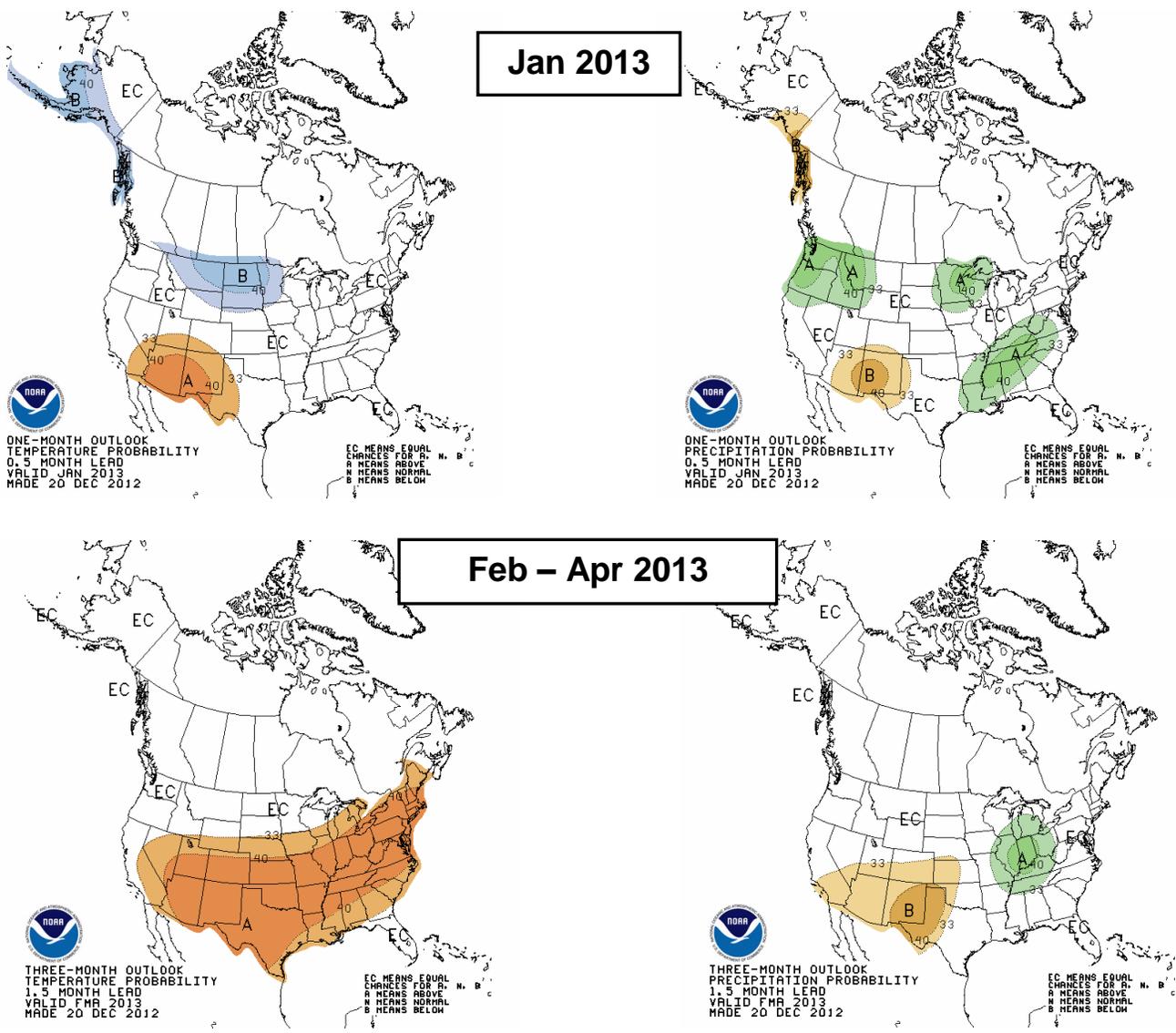
# Weather and Climate Outlooks

Sea surface temperatures on the equatorial Pacific remain slightly above normal but well within a neutral El Niño-Southern Oscillation (ENSO) pattern. This pattern is expected to continue with a slight trend toward cooler sea surface temperatures.

Current climate projections by the Climate Prediction Center favor a continuing neutral ENSO pattern. For January, long range models indicated a high probability of above normal temperatures across the Southwest with below normal temperatures over the northern Rockies, the northern Plains, and southern Alaska. Precipitation projections indicate a high likelihood of below median precipitation for Arizona, New Mexico and southeastern Alaska. Above median precipitation is expected over the Northwest, the northern Rockies, the upper Midwest, and from the lower Mississippi Valley to the central Appalachians.

For February through April, projections indicate above normal temperatures over much of the U.S. except for most of California and from the Pacific Northwest to the Great Lakes. Forecasts indicate higher probabilities of below median precipitation over much of the Southwest and above median precipitation from the mid-Mississippi Valley to the Great Lakes.

Top row: One-month (January) outlook for temperature (left) and precipitation (right). Bottom row: Three month (February-April) outlook for temperatures (left) and precipitation (right). (from Climate Prediction Center/NOAA)



## Area Discussions

**Alaska:** Following a dry beginning of the month, most areas of the state received a substantial amount of snow in December, alleviating the low snowpack. If the cold trend from the first half of the winter continues, temperatures are expected to remain below normal for much of the interior and south-central Alaska. Fuels are frozen and snow covered but it is likely that a few holdover fires are smoldering beneath the snowpack. However, fuel conditions raise no concerns at this time. Normal temperatures and precipitation are expected through April for Alaska. Normal significant fire potential for both January and February through April is expected.

**Northwest:** Heavy rain and snow fell since mid-October over much of the Northwest Geographic Area, except for sections of eastern Oregon. Snow amounts were above average in Washington and near average or slightly below average in Oregon. Despite the abundance of cloudy and wet weather, temperatures were warmer than normal through December.

The Northwest Area is considered to be out of fire season for the first few months of the year. Fire danger in the Northwest is historically too low to sustain a threat of large and costly fires before June. January is typically cool and wet and this year is not expected to be any different. Long-range outlooks into early spring suggest no unusual trends in temperature and precipitation for the region. Normal significant fire potential is expected for January and for February through April.

**Northern California and Hawaii:** A series of wet storms during the latter half of December brought much above normal precipitation to the region, raising snowpack to near normal levels. January precipitation is expected to be slightly above normal in far northern California. Otherwise, no large departures from normal temperatures and precipitation are expected through April. Normal significant fire potential is expected for January and February through April.

In Hawaii, severe to extreme drought conditions continued on the western sides of many of the islands. The winter months are typically the rainy season so some improvement in the drought is likely. While fire activity this time of year is generally not significant, current drought conditions indicate an above normal significant fire potential for January for the western sides of the larger islands. As the rainy season continues, significant fire potential will return to normal for February through April.

**Southern California:** Normal significant fire potential is expected for January and February through April.

**Northern Rockies:** Wet conditions in the late fall and early winter produced snow across the Northern Rockies but mild temperatures led to poor snowpack at midslope and below. However, more favorable conditions by mid-December improved overall snowpack. The mountain areas of northern Idaho and western Montana are considered out of fire season. East of the Continental Divide, normal snowfall occurred over most of the region. However, parts of southeastern Montana and southern North Dakota remained in varying stages of long-term drought. Nevertheless, conditions are unfavorable for large fires. The significant fire potential for January is normal.

Long-term patterns for February through April portray an optimistic outlook for areas west of the Continental Divide heading into the early spring. Snowpack in the middle and upper elevations should be near normal for the season. Normal conditions in the lower elevations of the high country will reduce the potential for the development of pre-greenup grass fires. East of the Continental Divide, conditions are expected to remain normal. February and March are favorable periods for late-season snows in the drought-stricken areas from south central Montana to southern North Dakota. If this occurs, the potential for pre-greenup significant fires diminishes; otherwise, the potential for significant fires increases. Normal significant fire potential is expected for February through April but the plains of southern Montana and southern North Dakota must be closely monitored for increasing potential.

**Western Great Basin:** Wet conditions in December affected most of the state with 200 to 400 percent of normal precipitation over the Sierras and much of eastern Nevada. Fire indices declined significantly, as expected for the season despite temperatures that ranged from two to eight degrees above normal.

January through March is typically a period of no large fires for Western Great Basin, although a prolonged dry and windy period could support a large grass and brush fire in parts of northern Nevada. However, current conditions suggest the significant fire potential for January will be normal. Wetter and warmer than normal conditions are expected through the winter and this should keep the significant fire potential for February through April near normal.

**Eastern Great Basin:** Normal significant fire potential is expected for January and February through April.

**Southwest:** Normal significant fire potential is expected for January and February through April.

**Rocky Mountain:** Long-term drought continued through December across parts of the Rocky Mountain Area, especially southern portions of the area east of the Continental Divide. Early January weather patterns are trending toward a more normal temperature and precipitation regime as the polar jet stream becomes active over the Rocky Mountain Area. Significant fire potential for January is expected to be normal.

Average fire conditions during the late winter and early spring periods typically have little, if any, large fire activity. However, lower elevations can experience wind-driven fires in the early pre-greenup period. The normal weather patterns of January should continue through the early spring so significant fire potential for February through April is expected to be normal.

**Eastern Area:** Severe to extreme drought persisted through December over portions of southwestern and northwestern Minnesota, northwest Iowa, northwestern Illinois and western Mississippi where precipitation shortfalls increased soil moisture deficits. Fire danger indices across portions of the upper and mid-Mississippi Valley were still above the 90<sup>th</sup> percentile in late December.

Above normal precipitation is forecast into early spring for the Ohio Valley, where precipitation and soil moisture is at or above normal. Thus, significant fire potential for January and much of the February through April period is expected to be below normal for this region. The rest of the Eastern Area is expected to have near normal significant fire potential. If precipitation deficits continue into the spring, an early start to the fire season could occur over the drier areas of the upper and mid-Mississippi Valley. Also, any short term dry and windy periods can elevate fire potential as fine fuels dry out.

**Southern Area:** Significant short- and long-term drought continues to affect western and west central Texas, where the Keetch-Byrum drought index remained above 600. Thousand- and hundred-hour fuel moistures in this region remained between 10 and 15 percent. Elsewhere, an increase in precipitation since mid-December reduced soil moisture anomalies from the fall, increased fuel moistures across the spectrum, and dramatically improved stream flows to near or above the 80<sup>th</sup> percentile from Louisiana to Virginia. Ongoing rain activity from an easterly flow across Puerto Rico also kept fire potential in check despite moderate long-term precipitation deficits in eastern and southern parts of the island of Vieques.

A pattern yielding persistently colder and wetter weather (both rain and snow) is likely through January. These higher frequency storms will minimize the occurrence of widespread and long duration drying periods. Thunderstorms will remain a threat in the deep southern Gulf Coast states as strong temperature gradients are produced along the coastal plain. The primary seasonal fire risk in January is across Oklahoma and Texas. However, with the anticipated weather pattern, this threat is largely mitigated. Therefore, significant fire potential for January is expected to be below normal for most of the Southern Area with normal conditions in western Texas and along the Southeast coast.

The January pattern is expected to continue into February but by March, drier conditions will return to the western sections of the area, especially Texas. An active southern branch of the subtropical jet stream is still expected to minimize the fire threat from Louisiana to the Appalachian Mountains. But given the high amplitude of the northern hemispheric weather patterns, periods of windy weather prior to leaf-out season in April will produce short periods of elevated fire risk. For February into March, significant fire potential is expected to be below normal for most of the Southern Area, returning to normal fire potential during March and April, except for an area from the mid-Mississippi Valley to the Appalachian Mountains which will remain below normal.

***For questions about this outlook please contact the National Interagency Fire Center at (208) 387-5050.***

**Note:** This national outlook and some geographic area assessments are currently available at the NICC and GACC websites. The GACC websites can also be accessed through the NICC webpage at: <http://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm>

*(Note, the February issuance of the National Monthly/Seasonal Assessment will assume a new format to provide a more comprehensive and meaningful product.)*