



National Significant Wildland Fire Potential Outlook



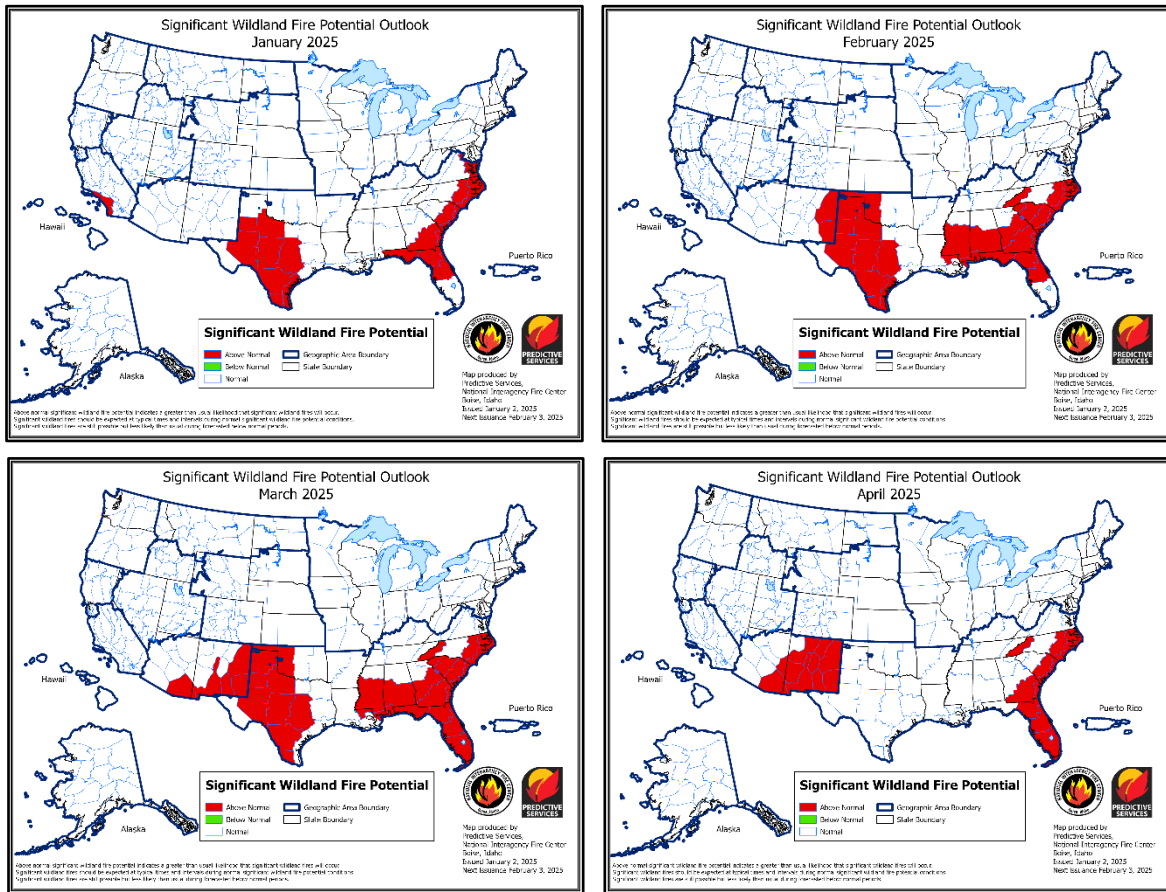
Predictive Services National Interagency Fire Center

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Next Issuance: February 3, 2025

Outlook Period – January through April 2025

Executive Summary

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



Fire activity remained at low levels across the US in December, with the National Preparedness Level remaining at one (on a scale of 1-5). However, portions of southern California and the Southwest were periodically active through the month due to persistently dry conditions. Southern California had the biggest spike in activity December 9-10 as a strong Santa Ana wind event resulted in the Franklin Fire. Preliminary total acres burned in 2024 was above the 10-year average at 127% of normal, with a slightly above average tally of wildfires, near 104%. Official 2024 fire year totals will be released with the annual report at the end of January.

Precipitation across the US varied in December, with above normal precipitation observed in the Northwest, northern California, northern Nevada, and the Snake River Plain. Another area of above normal precipitation extended from east Texas into the Lower Ohio Valley and much of Michigan. Below normal precipitation was observed across much of Florida northeastward along the East Coast into New Jersey. A wide swath of well below normal precipitation was observed in

southern California through the Southwest into the southern and central Plains. Below normal precipitation was also observed in much of Wyoming and western Montana. Temperatures in December were above normal across the West into the Mississippi Valley and near to slightly below normal from the Appalachians eastward. Drought improved marginally across the US in December, with the greatest improvement noted in the central Appalachians into New England, with drought improvement also noted in western Montana. However, drought persisted across much of the central and northern Plains into the Great Lakes and the Mid-Atlantic. Drought development was also observed in much of north Florida.

Climate Prediction Center and Predictive Services outlooks issued in late December depict above normal temperatures are likely in January in much of the West to the southern Plains and across northern New England. However, below normal temperatures are likely from the northern Plains into the Mississippi Valley, Southeast, and Mid-Atlantic. Precipitation in January is likely to be above normal for the Northwest into the northern High Plains, as well as eastern New York and New England. Below normal precipitation is likely from southern California through the Southwest into much of Texas, Oklahoma, and Arkansas. For February through April, above normal temperatures are likely from the Southwest into much of Texas, the Southeast, and East Coast, but below normal temperatures are likely from the Northwest to the northern Plains. Precipitation is likely to be above normal in much of the northwestern US and in the Great Lakes to the Ohio and Tennessee Valleys. Below normal precipitation is likely in the Southwest and central Rockies into southern and central Plains, then along the Gulf and Southeast coasts.

For January, above normal significant fire potential is forecast across portions of southern California, much of central and south Texas, and from the central Florida Peninsula northward through the Panhandle and along the Atlantic coast into eastern Virginia. Above normal potential will expand from much of Texas into western Oklahoma and eastern New Mexico in February, with the above normal area in the Southeast expanding westward into much of Alabama, Mississippi, and eastern Louisiana. For March, above normal significant fire potential is expected from southeast Arizona into much of southern/eastern New Mexico, western Oklahoma, and central and south Texas, with another area from much of Mississippi and eastern Louisiana into the much of the Carolinas, Georgia, and all of Florida. By April, conditions across the Southern Area are expected to improve enough with spring green-up to limit above normal potential to the Southeast coast, much of Florida, and the North Carolina mountains. Above normal significant fire potential will continue in portions of the Southwest, however, expanding across most of New Mexico into southeast and east-central Arizona.

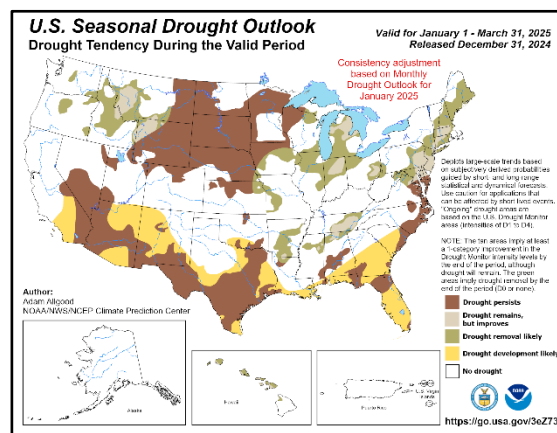
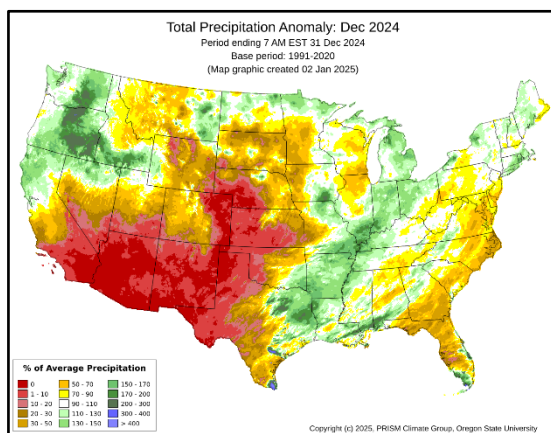
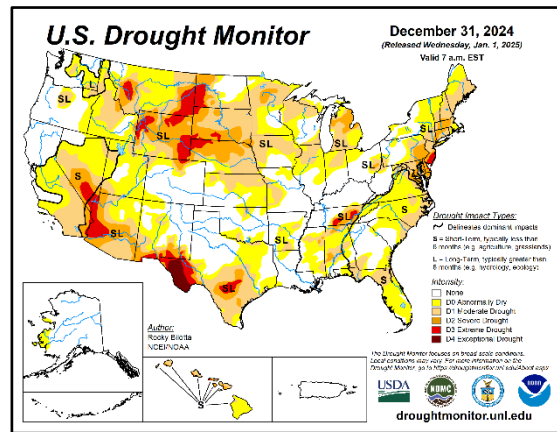
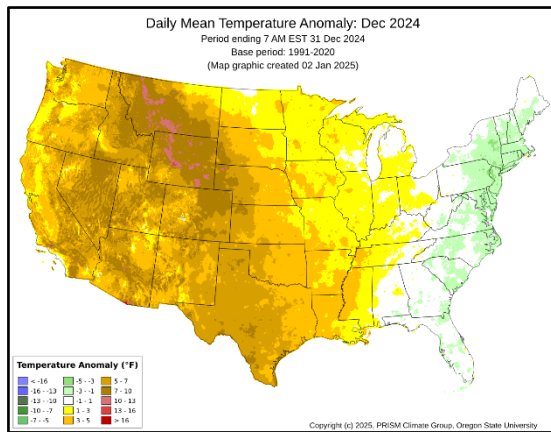
Past Weather and Drought

Above normal temperatures were observed across much of the West into the Plains and Mississippi Valley as well as Alaska in December. Temperatures were well above normal in much of the West, especially across portions of Montana and Wyoming, which were more than 10 degrees above normal. However, temperatures in many valley locations were only slightly above normal for December due to strong inversions at the beginning of the month. Temperatures were near to below normal from the Appalachians to the East Coast. Slightly above normal temperatures were observed in Hawai'i, with the Big Island having the warmest anomalies, from 2 to 4 degrees above normal.

Precipitation was above normal across northern California into the Northwest, northern Nevada, and Snake River Plain for December, with areas of well above normal precipitation for the Inland Northwest. Much of the above normal precipitation was due to several landfalling atmospheric rivers the latter half of the month. Above normal precipitation was also observed from east Texas into the Ohio Valley and much of Michigan, with other areas of above normal precipitation in eastern Montana and portions of North Dakota, northern Minnesota, the northern Gulf Coast, New York, and New England. Well below normal precipitation was observed from southern California into the Southwest, southern Great Basin, central Rockies, southern High Plains, and central

Plains. Many areas of southern California, the Southwest, and central and southern High Plains received no measurable precipitation in December. Below normal precipitation was also observed in much of Wyoming, western Montana, Florida, and along the east Coast from Georgia to New Jersey. Significant weather events during the month included the landfalling atmospheric rivers, as well as a significant severe weather and tornado outbreak December 28-29 from east Texas into the Deep South. Well below normal precipitation was observed in Hawai'i, with many areas receiving less than 25% of their normal rainfall for December. Alaska precipitation was generally below normal, as well, except for an area of well above normal precipitation in the central and eastern Interior.

Fire activity continued at very low levels through much of December, with the National Preparedness Level remaining at one (on a scale of 1-5). However, brief upticks in fire activity were observed in southern California and Southwest during the month. The most notable burst of activity occurred in southern California December 9-10 due to a strong Santa Ana wind event bringing wind gusts as high as 75 mph to southern California as relative humidity dropped as low as 2%. The Franklin Fire near Malibu emerged during this event, burning dozens of structures. The persistently dry conditions in the Southwest also saw an increase in activity with the Soap and Horton Fires emerging in central Arizona during the middle of the month.



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 Seasonal Drought Outlook (bottom) (from National Drought Mitigation Center and the Climate Prediction Center).

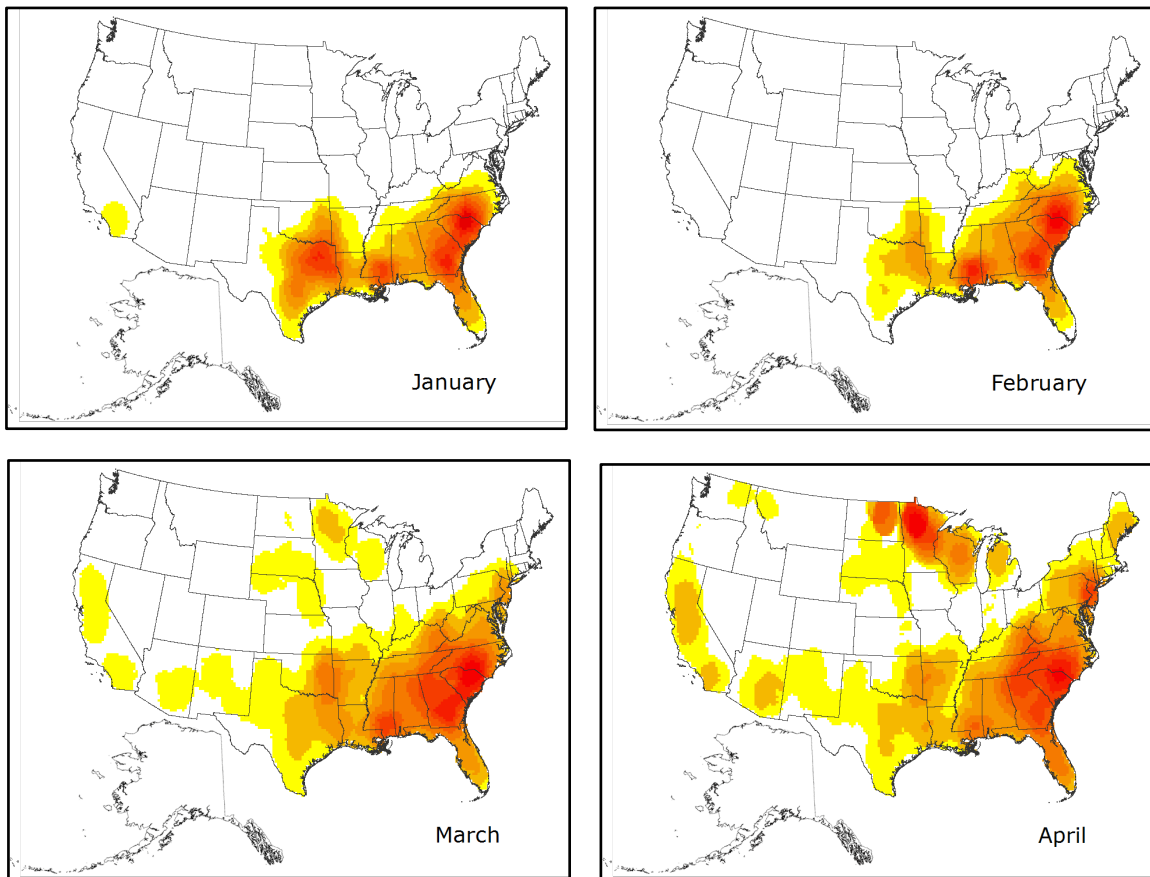
Overall drought was slightly reduced across the US in December, with the area designated in drought falling from over 41% in late November to near 38% in late December. Drought development was noted across much of north Florida, while drought persisted in much of the Plains, Mid-Atlantic, and portions of the Deep South. Drought intensified in portions of southern Nevada, but drought improved in portions of the northern Rockies. Drought also improved across much of the central Appalachians, with portions of West Virginia removed from drought altogether. Drought improvement was also noted in New England and southern Alabama. At the end of December, areas of extreme drought were observed across portions of West Texas, central

Texas, southern New Mexico, western Arizona, southern Nevada, western Montana, the northern High Plains, and southern New Jersey. A small area of exceptional drought persists in West Texas.

Weather and Climate Outlooks

El Niño-Southern Oscillation (ENSO) neutral conditions persist in the equatorial Pacific Ocean, although rapid cooling of the central equatorial Pacific Ocean has occurred the past two to three weeks. Sea surface temperature (SST) anomalies in the central equatorial Pacific are near to below average, as much as 1 C below average. A transition to La Niña is favored to emerge over the next month, with the Climate Prediction Center forecasting a 59% chance. La Niña is then expected to persist into March, assuming it develops. SST anomalies along the South American coast are currently near normal, suggesting this La Niña is likely to be a La Niña Modoki, with the greatest cooling in the central tropical Pacific. A strongly negative phase of the Pacific Decadal Oscillation (PDO) is also expected to persist through the winter. The Madden-Julian Oscillation (MJO) has also been active the past month, with another active phase moving from Indonesia and the Philippines into the western Pacific the past month. The MJO is expected to remain active into early January, with other active phases possible later this winter into spring. For this outlook, the developing La Niña and negative PDO are expected to be the main drivers, although shorter term fluctuations are possible due to any active MJO periods, but their location and intensity are difficult to forecast more than two to three weeks in advance.

Geographic Area Forecasts



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

Alaska

Alaska will remain out of fire season through March and will just begin seeing fire activity in April. Fire potential will be normal for the winter into early spring.

Alaska is free of drought, and all areas are snow-covered except coastal areas of southern Alaska, which remain cool and damp.

Climate Prediction Center graphics for the next few months seem to be divergent in both temperature and precipitation forecasts. Expect large variances in temperature to continue across the state for the winter months, but snowpack will prevent new ignitions and limit spread potential.

There have been no new fires for the month of December and that trend is expected to continue through the winter.

Fuels are covered with snow for most fire-prone areas. The panhandle, Alaska Peninsula, and Kodiak areas are mostly snow-free, but cool temperatures and a maritime environment keep fuels too damp for significant burning during the winter months.

Alaska is out of fire season for the winter months. Small local fires are possible in areas with minimal snowpack along the southern coastal areas of Alaska, but any such fires will be confined to surface fuels as all duff layers are wet.

Northwest

Winter seasonality indicates a normal, or very low, risk of new significant fires and costly activation of incident management teams across the Northwest Geographic Area.

December started with a strong high-pressure ridge positioned over the geographic area. Strong inversions and low clouds kept many low elevation locations from rising much above freezing. Western valleys fared closer to December averages. All higher elevations remained in or above the inversion ending the first week of the month with temperatures well above normal. Low pressure briefly interrupted the upper ridging but, overall, the upper-level high continued through the second week of the month. Then, a series of low-pressure systems spanned the remainder of the month, bringing frequent rain and high elevation snow. Several atmospheric river events saturated soils, particularly from the Cascades westward. Snow levels remained elevated with little snowfall occurring below 4,000 feet. Breezy, occasionally strong and damaging, winds affected parts of the region.

December temperatures averaged from near normal to more than five degrees above normal in localized areas. Despite closing the month with numerous and occasionally very heavy rainfall events, only the Columbia and Harney Basins ended with well above normal precipitation. The remaining parts of the geographic area received near to slightly above normal precipitation. Resultant snowpack is rather curious as all river basins show snow water equivalent amounts of at least 100 percent of average with many Oregon basin exceeding 200 percent of average. However, most accumulated snow has remained across the higher terrain as snow levels through December produced much below average snow loading at elevations lower than 4,000 feet.

Abnormally dry drought designations were further reduced through December. Moderate drought areas remain unchanged, covering the northern Blue Mountains, portions of central Washington and central Oregon, and a portion of southeast Oregon.

Wildfire activity was minimal for December. Periods of dry weather allowed for both broadcast and pile burning to occur across the Northwest. Initial attack activity remained minimal for the entire geographic area for December.

Energy Release Component values for most of the Northwest continue to be at seasonal lows. Some areas of drier fuels exist, but fuels generally continue to be below significant thresholds for fire activity. Flammability of dormant rangeland fuels east of the Cascades has the potential to increase after periods of dry weather. Windy conditions coupled with these recently dried fuels have potential to produce rapid fire spread but should be easily suppressed in one burn period.

La Niña conditions appear to slowly be developing as the central Pacific sea surface temperatures have now dipped below the -0.5 C threshold for a few weeks now. Forecasts maintain these conditions lasting into April before warming toward neutral conditions. La Niña conditions frequently favor cooler and wetter than average conditions for the Northwest Geographic Area.

The Climate Prediction Center outlooks also continue to favor cooler and wetter conditions through April, though it is now more focused over Washington than Oregon. Confidence is also lower at a 34-50 percent level. Chances of near average temperature and precipitation or warmer and drier conditions now span 25-33 percent each.

The Northwest Geographic Area will maintain normal, or low, significant fire potential through winter and the first part of spring. However, the northern Blue Mountains, portions of central Washington and central Oregon, and southeast Oregon bear monitoring. Should drier than average conditions continue for these areas, future outlooks may need to be adjusted toward above average fire potential covering the later spring months.

Northern California and Hawai'i

Significant fire potential is projected to be normal from January through April. Historically, an average of less than one large fire occurs per Predictive Service Area (PSA) per month January through April. Hawai'i's significant fire potential is also forecast to be normal from January through April.

The first ten days of December started out dry due to high-pressure near the West Coast. The weather pattern became much more unsettled the rest of the month due to an active jet stream and multiple landfalling atmospheric rivers. Precipitation anomalies were mixed with the strongest positive anomalies found across the North Coast, Coast Ranges, and Sacramento Valley. Drier than normal conditions generally occurred east of the Cascade-Sierra Crest. Average temperatures were generally above normal. Around 300 lightning strikes were recorded, exceeding the 2012-2022 December average of a little under 250 strikes. A moderate northeasterly dry wind event occurred December 8 to 10. Several strong but moist south to southwesterly wind events occurred during the latter half of the month.

Dead fuels were unseasonably dry across most of the PSAs through December 11 but not critically dry, resulting in Energy Release Component (ERC) values below the 60th percentile. Noticeable moistening occurred after December 11, which promoted less flammable conditions the rest of the month. Some live woody species were in a green-up phase across the lowest elevations, but most species were dormant and contained mixed flammability throughout the month. Herbaceous green-up remained most pronounced below 3,000 feet while grasses were generally cured and dormant above that level. Drought conditions were removed across northern California during December. Snow cover fluctuated in elevation throughout the month and was generally found as low as 4,900 to 5,500 feet across sheltered areas at the end of the month. Snow water equivalent values ranged between 100-180% on December 27. The one-month Evaporative Demand Drought Index (EDDI) values showed no discernible short-term drought impacts or fuel stress in late December.

Wildfire business was most evident during the first 11 days of December with as many as 10 initial attack fires reported on December 9. This period also coincided with increased prescribed burning due to the fuels becoming more flammable and thereby suitable for large broadcast burns. Fire business decreased quite a bit after December 11, with minimal daily initial attack fires and a reversion to mainly pile burn projects. The daily average for reported wildfires lowered from five

during November to two during December.

Northern California is expected to be caught between a more active storm track to the north and a drier one to the south making month to month anomaly projections a bit more precarious. Mixed precipitation anomalies are projected for January and February, combined with near to above normal temperatures. The jet stream could become active over a broader area during March and provide a cooler tilt to the temperature anomalies. The wind patterns are likely to continue to fluctuate between stronger onshore and drier offshore influences but more of the moist onshore events are anticipated.

Based on the current fuel state and future weather predictions normal significant fire potential is projected for the entire area from January through April. Historically this is a period with minimal large fire occurrence. Herbaceous green-up will remain across the lowlands and is likely to intensify during March and April while the standing dead fine fuels from previous growing seasons break down. Snowpack will mitigate fire danger across the mid and upper elevations. The long nighttime hours and low sun angles will also help to keep fuel conditions from becoming critically flammable.

Sea surface temperature (SSTs) anomalies surrounding the Hawai'ian Islands were a little above average during December. Temperature anomalies were generally near to above normal across most of the islands for December. Precipitation was below to well below normal due to extended ridging periods. Drought severity and coverage increased because of the unusually dry conditions with moderate drought touching all the islands, especially the leeward areas. An enhanced trade wind period occurred between December 9 to 12 and prompted National Weather Service Red Flag Warnings December 11 and 12. There were no discernible large wildfires or hot spot areas based on December satellite data except for Big Island volcanic eruption that commenced December 23.

A weak, central Pacific based La Niña is expected to influence the weather patterns during a large portion of Hawai'i's wet season. Average temperatures during the next four months should generally be above normal. The precipitation forecast was not accurate for December but traditional impacts from La Niña and most of the dynamic climate models suggest near to above normal precipitation the remainder of the wet season. The windward sides are likely to benefit the most due to enhanced trade wind periods. Leeward areas are likely to experience more mixed precipitation anomalies, but sufficient moisture should fall to jump start and maintain herbaceous green-up and lessen drought stress during the outlook period. Accordingly, normal significant fire potential is expected for Hawai'i from January through April.

Southern California

December was a notably warm month across southern California. The second half of the month was more variable, but overall, temperatures averaged an impressive two to six degrees above normal in most areas. Precipitation was limited in December, especially across the southern third of the state. Once again, bountiful rainfall was observed in northern California, which extended somewhat into central California. However, much of southern California experienced near record dry conditions. Precipitation in southern California for the past three months is well below normal, generally less than 25% of normal, and in many cases less than 10% of normal, although numbers steadily increased to the north across central California. Snowpack for the central and southern Sierra is running around 80-100% of normal, a reflection of the partial extension of northern California's abundant precipitation into central California. There has been little to no snowfall over the southern California mountains.

Two Santa Ana wind events occurred in December. A strong event December 9-10 resulted in the Franklin Fire near Malibu. A weak to moderate event also occurred December 17-18.

Sea surface temperatures (SST) in the equatorial Pacific remain colder than normal, hovering near La Niña thresholds. The greatest cold anomalies are present over the central tropical Pacific Ocean, a La Niña Modoki type signature, but it remains a weak event.

Latest USDA Drought Monitor shows a notable increase in abnormally dry conditions over southern California, a reflection of the very dry conditions so far this fall and winter. Moderate to severe, and locally extreme, drought conditions continue for many desert areas.

Dead fuel moistures and Energy Release Component values are generally reflective of off-season characteristics. However, heavy dead fuels (1000-hour) are persistently drier than normal over southern California, reflective of the dry pattern. Finer dead fuels, which still make up a significant component of the fuel load in southern California, have remained susceptible to rapid drying during offshore wind events.

Live fuel moistures have begun to show upward trends in central California, where grass growth has also been observed. However, live fuel moistures have shown little increase from Ventura County southward, corresponding to areas that have received little rainfall so far. In many cases live fuel moistures remain at or near critical levels.

Recent SST trends in the tropical Pacific indicate La Niña is on the horizon. However, subsurface water temperature trends combined with climate model projections indicate this event is near its peak strength and will go down as no more than a brief and weak La Niña event. Nonetheless, the general La Niña background state typically favors drier conditions for southern California. A highly active Pacific jet stream pattern has been observed in recent months. There has been no shortage of precipitation over the West Coast, but it has nearly all been directed at northern California and the Pacific Northwest. Heading into January and possibly beyond, there is growing potential for the Pacific polar jet to shift poleward and/or weaken. This would favor more of a ridging pattern along the West Coast or Alaska with less frequent storminess on the West Coast. In such a scenario, southern California would become more reliant on subtropical moisture and the subtropical jet to bring moisture into the region. While transient episodes of this pattern may occur, the lack of El Niño conditions, which would favor a more robust subtropical jet, casts doubt on whether the subtropics could compensate for a lack of traditional polar storm systems. In addition, the expected pattern is conducive for troughing and cold air outbreaks into the central or eastern US. Such a pattern can favor increased frequency of offshore winds for southern California. While not a high confidence projection, a near to above normal number of offshore wind events is likely in the next couple of months.

Southern California continued to experience fire activity during offshore wind events in December. Until widespread rains occur, this risk will continue. Accordingly, above normal significant fire potential is expected for the South Coast Predictive Service Area and adjacent foothills in January. Elsewhere, fire potential will be minimal through April, with the growing cycle beginning to get underway. Significant precipitation has fallen in the Owens Valley in recent weeks, which should limit potential there near a local climatological peak in fire activity centered around February. Desert areas can begin to see fire activity by April, but it is too early to speculate on the upcoming season's fire potential for the deserts. Should conditions remain very dry over southern California, it would support an earlier than normal start to mid and high elevation fire activity later this year, but that is beyond this outlook period.

Northern Rockies

Significant wildland fire potential in the Northern Rockies Geographic Area (NRGA) for January through April is expected to be normal. December was warm for the western half of the NRGA, with the driest area in the lee of the Rockies. This trend will persist into the start of January, but longer-range models are optimistic for February and March precipitation, which is a usual feature of La Niña winters. If these precipitation forecasts fail to be realized, then March and April forecasts may have to be revised to enhance the outlook for the pre-green-up fire activity window.

The eastern half of the NRGAs is experiencing more frequent episodes of winter weather, which will limit significant wildland fire potential through the outlook period.

Winter impacted eastern Montana and North Dakota through the month of December but the lee of the mountains east of the Continental Divide were noticeably much warmer and drier, with temperatures frequently reaching 45 to 55°F. Drought indices over the eastern half of the NRGAs have changed little over the past month. Extreme drought covers much of southeast Montana and along the Montana/Dakotas border with the rest of eastern Montana currently in abnormally dry to severe drought conditions.

December continued a minor trend from November, where better moisture for central and northern Idaho and portions of western Montana slightly improved drought. A pocket of extreme drought remains over the northern part of the Beaverhead-Deerlodge National Forest, western part of the Helena National Forest, and the southern part of the Flathead National Forest. Moderate to severe drought surrounds this area. Northwest Montana is reporting no drought, with north Idaho abnormally dry.

Fuels in the lee slopes of the Rockies below elevations of 6,000 feet are largely snow free but long nights limit surface fire spread. Drought over southwest and parts of west-central Montana could cause fires to be resistant to control during initial attack, but fires should not last more than one operational period.

Dry, warm, and windy days east of the Continental Divide resulted in a few fires reaching 25 acres, but no large wildfires were reported in December. The dryness has also supported continued agricultural and pile burning in portions of the NRGAs.

While a significant portion of the NRGAs is seeing a drier than normal start to winter, weak weather events will bring enough moisture to limit short term fire concerns. Long range computer models expect moisture to be near to above normal in February and March, which should reduce significant fire potential in the pre-green-up fire window in March and April. The expected La Niña pattern in the equatorial Pacific is very weak and is expected to dissipate by spring. This means a decreased influence on NRGAs winter weather and decreases the confidence of this outlook.

Great Basin

Fire activity is expected to be minimal heading into the new year as cool temperatures, long nights, and occasional precipitation events continue across the area.

December was an unusually warm month with temperatures three to nine degrees above normal for much of the area, with even slightly higher values over the east central Idaho mountains. Precipitation was above normal across western Idaho and the Snake River Plain while all other areas saw near to below normal amounts. Far southern areas were particularly dry during the month of December with very little precipitation observed. Drought has been developing over the last few months due to the very warm and drier than normal late summer weather in most areas of the Great Basin. Abnormally dry conditions cover much of the region with areas of moderate to severe drought over parts of central and eastern Idaho, Wyoming, southern Nevada, and southwest Utah. A few small pockets of extreme drought have developed in western Wyoming and southern Nevada. Drought may intensify in portions of southern Nevada, Utah, and Wyoming, but may improve over central and southwest Idaho as precipitation continues across the northern portion of the Great Basin through the winter months.

Fuels have generally gone into dormancy as overnight temperatures have regularly dropped below freezing across most valley locations. Dried grasses will still be abundant over southern Idaho, northern Nevada, and northwest Utah. Prolonged dry periods followed by very strong winds could still pose a wildfire risk along the Sierra Front through the winter.

Fire activity remained minimal across the Great Basin in December. Normal fire potential is expected across the Great Basin from January through April, which generally indicates few wildland fires. However, fire potential may occasionally increase for a burning period during January in areas of western Nevada if there are ignitions after prolonged warm and dry weather during periods of gusty winds. As we head into the spring months green-up will begin and generally keep large fire potential low.

Southwest

Significant fire potential will be normal to above normal across the Southwest Area through April. Areas of above normal significant fire potential will arise across the eastern plains by late winter into early spring. In addition, some areas of above normal significant fire potential will likely emerge across the southern half of the region by late winter into spring.

The period from August through October was warmer than normal for the Southwest Area, with above normal precipitation limited to a small area from the Four Corners eastward across far northern New Mexico into the northeastern plains. The remainder of the Southwest Area experienced below normal precipitation August through October. November was more active overall with widespread above normal precipitation across all areas along and east of New Mexico's central mountains, with near to below normal precipitation farther west. Most areas of the region were cooler than normal during November with above normal temperatures only observed across far southeastern New Mexico. The majority of December was mild to very mild regionally, with below to well below normal precipitation area wide.

An ongoing shift in the equatorial Pacific sea surface temperature setup, coupled with a frequently weakened polar vortex, will likely play a large role in shaping the weather pattern for the bulk of the winter months. A La Niña Modoki has taken shape over the past few weeks and is likely to continue to strengthen over the winter months. This setup features cooler water in the central tropical Pacific Ocean and warmer than normal water across both the far western and eastern sections of the tropical Pacific Ocean. In addition, the Pacific Decadal Oscillation remains strongly negative. These two factors in conjunction with recent developments with the polar vortex will greatly shape the winter season.

Using other historical setups as a guide, the month of December was expected to be mild, which turned out to be correct across the Southwest Area, as the storm track was active just to the north and west across California into the Great Basin. The months of January and February are expected to be drier to sharply drier than normal with temperatures likely to be slightly above normal to well above normal. However, closer to average temperatures are expected across the eastern plains during January and February. Periods of colder than normal temperatures could occur semi-regularly focused just to our east over the Plains states. Snowpack is expected to be below normal, except possibly across the far northern tier of the region, but even this area may struggle to approach normal thresholds. This will be due to an expected semi-permanent high-pressure center off the coast of northern California with a predominant area of low pressure just to the south of Hudson Bay. This setup will bring regular westerly to northwesterly flow across the region on average January into February intermixed with upper-level ridging. As spring approaches, the expectation is for the La Niña Modoki to weaken and eventually turn back to neutral conditions. High temperatures are expected to generally continue to be above normal regionally, although perhaps not as significant compared to average as forecast in January and February. Precipitation overall will continue to be drier than average regionally. It is likely the eastern half of the region will end up drier as compared to the western half, as storms will likely clip the southern sections of the Great Basin, therefore impacting areas west of the Divide at times with some moisture.

Periods of critical winds combined with low humidity conditions are expected by late winter into the early spring focused along and east of New Mexico's central mountains. Areas of above normal significant fire potential are expected for the months of February into March across the

eastern plains of New Mexico. In addition, some areas of above normal significant fire potential are expected across both the southern and eastern tiers of the region March into April.

Rocky Mountain

Significant fire potential will remain normal through April across the Rocky Mountain Area. December was mostly warm and dry across the area, but drought conditions remained largely unchanged. La Niña is still favored to develop during the winter, but the probability of La Niña developing continues to decrease. Impacts from La Niña may not be as strong as a result.

Despite November seeing a more active pattern with more precipitation and cooler temperatures, December has not been as active. Due to the lack of these storm systems, most of the Rocky Mountain Area received below normal for precipitation for the month. East of the Rockies much of the area received less than 10 percent of normal precipitation. Temperatures were above normal across most of the area, with anomalies greater than November, and up to 10 degrees above normal. Drought conditions generally remained the same, and any improvements seen were still from the lingering effects of November's precipitation. Snowpack relative to normal has been decreasing because of the less active pattern, but most basins remained near normal at the end of December.

Fuels remain dormant across the Rocky Mountain Area. While the fire danger indices dropped in November in response to the increased precipitation, December values remained relatively steady, generally slightly above normal.

Most fires during December burned less than an acre. Most of the activity was in the central Plains, with the largest of the fires, the McGee Fire, at 46 acres in the Black Hills National Forest.

A weak La Niña pattern continues to be slow to develop but is still favored over the next three months. The chance of La Niña has decreased again due to the sea surface temperatures remaining steady over the last month, and that is reflected in the long-range forecast. Current outlooks continue to lean towards a La Niña winter, with the northern third of the Rocky Mountain Area likely seeing cooler and wetter than normal conditions. Southwest Colorado is favored to see a warmer and drier pattern. The rest of the area will see more typical weather, but there still could be extended warm, dry periods mixed with cooler and wetter weather. However, if the La Niña pattern does not develop, these impacts may be lessened. Additionally, a La Niña pattern may slightly favor more wind events during the winter months, but these types of events are hard to predict, and will be most impactful following periods of warm, dry weather.

Eastern Area

Normal fire potential is forecast across the majority of the Eastern Area through April. Drought conditions that developed over portions of the Eastern Area through the fall improved from late November into December as precipitation increased. However, longer term drought and 60-day negative precipitation anomalies persisted over the eastern tier of the Eastern Area. Precipitation events are expected to continue across the Northeast and Mid-Atlantic states through the first part of January, further diminishing longer term drought levels. Shorter term negative precipitation anomalies were indicated over portions of the northern Great Lakes, western Iowa, northern Missouri, central Illinois, far southeastern Mid-Atlantic states, and New England towards the end of December.

Neutral El Niño Southern Oscillation (ENSO) conditions remained in place over the central Pacific toward the end of December and will likely remain in a neutral regime into the spring. Other sea surface temperature regimes also contribute to global weather patterns adding to some uncertainty in long term weather forecasts.

The Predictive Services precipitation outlook for January forecasts drier than normal precipitation is likely over the Mid-Mississippi and Lower Ohio Valleys with above normal amounts possible across Maine. Wetter than normal precipitation is forecast over the central and eastern Great Lakes, much of the Mid-Mississippi and Ohio Valleys, northern Mid-Atlantic states, and the southwestern half of New England in February. Drier than normal conditions are forecast over the southern Mid-Atlantic states in February. Above normal precipitation is forecast over much of Minnesota and Iowa with drier trends over the eastern states heading into March. Wetter than normal conditions are expected over the southern tier of the Great Lakes in April. Near to below normal temperatures are forecast over the majority of the Eastern Area January into April.

According to the latest Climate Prediction Center January temperature and precipitation outlooks, below normal temperatures are projected over much of the Eastern Area, except for above normal temperatures in northern New England, with wetter than normal conditions likely for eastern New York and New England. The seasonal outlook into March projects warmer than normal temperatures are likely over the eastern half of the Eastern Area, with colder than normal trends over western Minnesota and northwestern Iowa. Above normal precipitation is likely over much of the Eastern Area into March with the greatest confidence in above normal trends across the eastern Great Lakes, Indiana, and Ohio.

The eastern tier of the Northeast and Mid-Atlantic states experienced significant drought conditions and fire activity October into November, with historical above normal values for the Keetch-Byrum Drought Index (KBDI). Precipitation events over these areas increased in frequency and coverage late in November into December, which decreased overall fire potential.

Below normal snowpack was in place across much of the northern tier of the Eastern Area towards the end of December. An earlier than normal start to the spring fire season with periods of above normal fire potential may occur over the northern tier of the Eastern Area unless snowfall frequency and amounts increase through the rest of the winter season. Below normal snowpack leads to the increased availability of surface fuels such as leaf litter and grasses for the spring fire season.

The southern and eastern tiers of Eastern Area continued receiving precipitation through December, providing relief to the drought conditions that developed through the fall. Fire potential is predicted to be normal for these areas through the outlook period. However, with leaf off complete, surface fuels are at their peak so any dry, warm, and windy periods may create periods of fire activity through the outlook period.

Moderate to significant precipitation deficits developed through the fall season across the eastern tier of the Eastern Area. Precipitation events increased over much of the Northeast and portions of the Mid-Atlantic states from the end of November into the first part of December curtailing fire potential. Precipitation coverage and amounts diminished over the far southeastern Mid-Atlantic states and New England through the second half of December, but a return to more frequent precipitation events and coverage should keep fire activity low heading into January. Accordingly, significant fire potential for all Eastern Area is expected to remain normal through April. However, below normal snowpack across the northern tier of the Eastern Area was of concern at end of December and will need to be monitored heading into the spring fire season. The rest of the Eastern Area should experience near normal fire potential through the winter into the early spring season outside of any warm, dry, and windy periods.

Southern Area

The storm track across the Southern Area has generally fallen in line with what is typically expected for a developing La Niña. The driest areas relative to normal in December stretched from northern and western Oklahoma into the western half of Texas, while most of the coastal Southeast was drier than normal as well. Most areas in between have seen timely episodes of

wetting rainfall, though long-term drought indicators remain from parts of the Lower Mississippi Valley into the Appalachians.

There are several factors affecting the outlook as we transition from the dormant season into spring. These factors include the imminent onset of La Niña and its influence on our seasonal weather patterns and drought, impacts from long-term drought, beetle kill, and hurricanes the last few years, and herbaceous fuel loading in parts of the southern Great Plains.

While the overall pattern of above normal temperatures in the Plains and colder weather in the Southeast observed during December is likely to persist into much of January, there are growing indicators that a more extreme tilt towards severe cold may occur for several weeks over at least the eastern two-thirds of the Southern Area. This will ultimately suppress the storm track farther south than was originally anticipated, and a period of wetter conditions could occur over the coastal Southeast as a result. Low water levels were reported across South Florida in mid-December, but heavy rain late in the month may temporarily ease these concerns until later in the spring. Otherwise, strong winds accompanying any dry fronts that pass through will lead to elevated fire weather concerns at times, but recent rainfall and well below normal temperatures should generally limit significant fire potential across the Southeast. Additionally, a parade of Pacific disturbances riding along the edges of the colder air masses will potentially contribute to an unusually high risk of winter storms over the southern and eastern US by mid-January. Hard freezes could also impact fuel conditions deeper into the Florida Peninsula than has occurred in several years. As is common in most La Niñas, a quick reversal towards unusually warm weather should take hold for much of the southern tier of the region heading into February, with seasonal guidance strongly favoring a warm late winter and early spring along the Gulf coastal plain into the coastal Southeast.

Western Oklahoma into most of Texas may see less influence from, or at least shorter periods of, Arctic air than farther to the east, and a warmer and drier than normal three-to-four-month period is most likely across the southern Plains. As the pattern responsible for the changing conditions develops by February and March, high wind events accompanied by warm and dry desert air have the potential to be more frequent and impactful than an average year, especially near and west of the I-35 corridor. Seasonal guidance continues to favor a windier than normal late winter and spring over the Plains, particularly from the Hill Country into South Texas. The overall storm track from February into March and April will tend to produce heavy rainfall and outbreaks of severe thunderstorms on a recurring basis in the eastern Plains states and Mississippi Valley, potentially extending into portions of the Appalachians. This has the potential to tilt north-central parts of the geographic area from Arkansas into parts of Kentucky and Tennessee towards below normal significant fire potential heading into the spring season, while an early green-up could also mute activity by later in March and April over much of the region. However, normal significant fire potential is forecast in these areas for now due to low confidence. Otherwise, drought appears most likely to develop or worsen over the southern Plains and coastal Southeast the next few months, maintaining above normal significant fire potential in these areas for the spring fire season.

Pine mortality from drought and beetle kill will increasingly contribute to fuel loading across parts of the Lower Mississippi Valley into Alabama, but above average rainfall could occur in some of these areas, limiting the potential for heavy fuels to dry enough to be of concern. Eastern Louisiana into southwest Mississippi can also expect debris from Hurricane Ida to potentially factor into fire potential if drier trends take hold for extended periods. Farther to the east, multiple hurricanes have made landfall along Florida's Big Bend the past few years, with overlapping tree damage concentrated through parts of north-central and northeast Florida into southern Georgia. Fuel loading and debris burning should factor into above normal significant fire potential in all these areas. While impacts from Helene became more localized with northward extent, significant tree damage occurred in eastern Georgia and western South Carolina, with severe blowdown observed on south to southeast aspects of ridges and other terrain-enhanced features throughout most of western North Carolina, far northeast Tennessee, and southwestern Virginia. Heavy fuels

associated with Helene may still not be cured enough to contribute to increased fire potential this spring in the mountains, but finer fuels certainly will, while newly opened portions of the region's hardwood forests will be exposed to more sunlight and more rapid drying, altering fuel models considerably. Perhaps of more importance in the short term, access issues have been noted on a fire in the footprint of Helene's damage in western North Carolina. Washed-out infrastructure, debris from landslides, and vast swaths of downed trees have the potential to be an issue in traditional methods of fighting wildland fire across the southern Appalachians through the outlook period, and likely beyond. Otherwise, hurricane-impacted fuels could also be of concern farther south across Florida as drought expands over the state in the coming months.

Finally, grass loading in the Plains varies considerably from last year, according to the Texas A&M Forest Service and Oklahoma Forestry Services. Above normal grass loading is concentrated in northwestern Oklahoma, parts of the Texas Hill Country near and to the west of the San Antonio-Austin metroplex, and over portions of Deep South Texas adjacent to the Rio Grande. These areas will be especially susceptible to a high-impact dormant season given the fuel loads and expected weather conditions. Normal grass loading is the rule in most of the rest of the Plains, though sparse grasses are noted across most of the Trans-Pecos and adjacent West Texas, far southeast Oklahoma, and west-central Oklahoma into most of the northern and eastern Texas panhandle. Significant fire events will be less likely in these mostly localized areas as a result.

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>