



National Significant Wildland Fire Potential Outlook

Predictive Services
National Interagency Fire Center

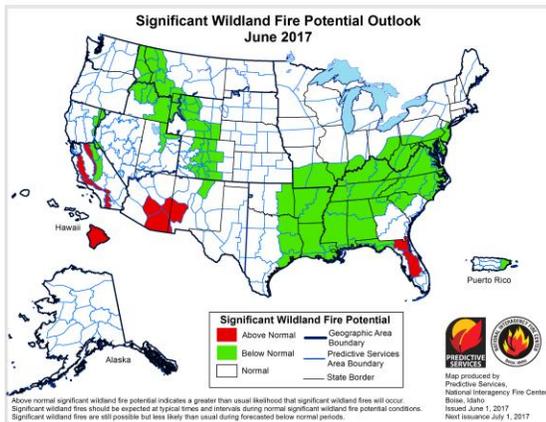


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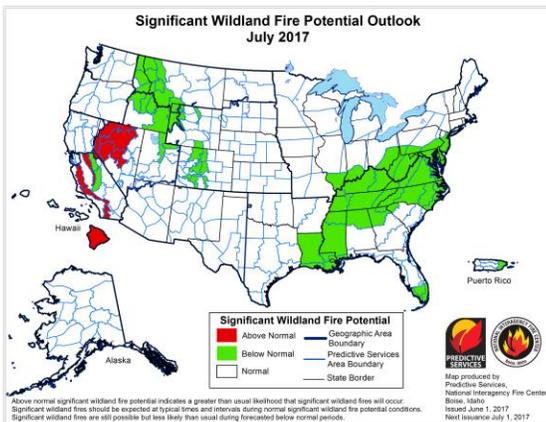
Outlook Period – June, July and August through September 2017

Executive Summary

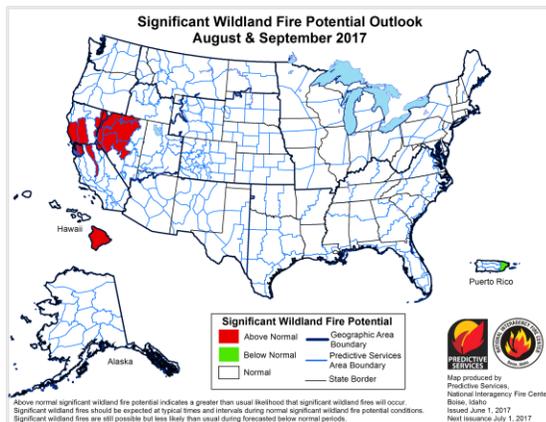
The significant wildland fire potential forecasts included in this outlook represent the cumulative forecasts of the ten Geographic Area Predictive Services units and the National Predictive Services unit.



Florida and Georgia experienced slight relief during the latter half of May as moderately wet systems produced widespread precipitation in both states. Activity across the southwest including Southern California began to increase toward month's end as the region began to enter its core fire season. Nationally, the acres burned were above average at the end of May largely due to the fire activity that occurred in early March across the southern Great Plains where more than a million acres burned. The number of fires may be a more representative number this year and remains below average for 2017.



Above normal precipitation and soil moisture is leading to a robust green-up across the West. Overall cooler than average temperatures and a heavy snowpack have led to slower than normal melting of the mountain snowpack in nearly all locations across the West. This should lead to a delayed start to the fire season in the higher elevations which may, in turn lead to a compressed season.

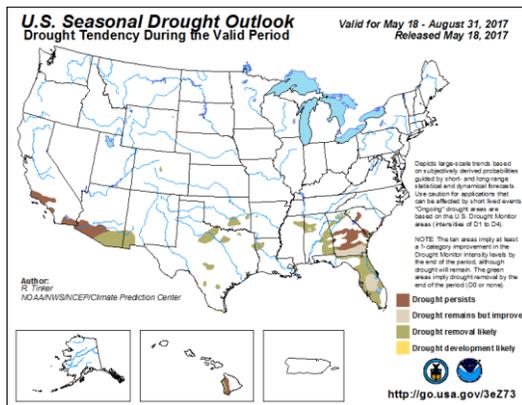
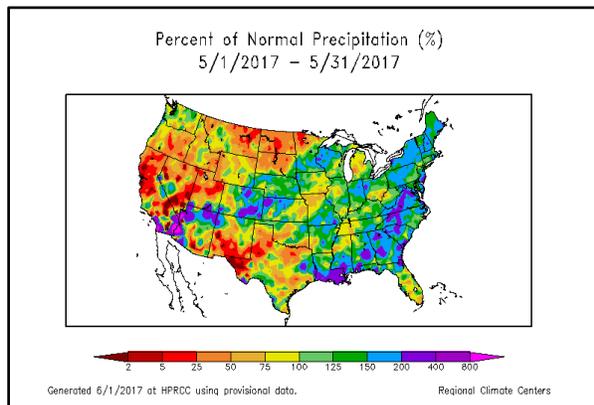
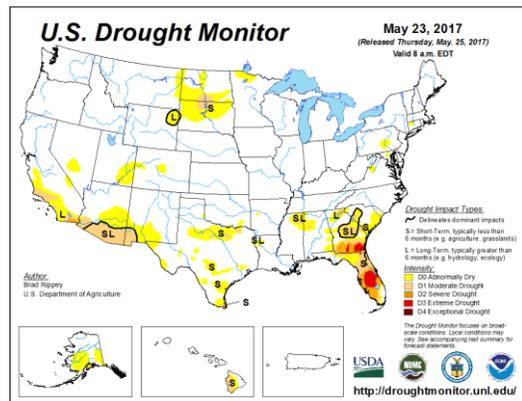
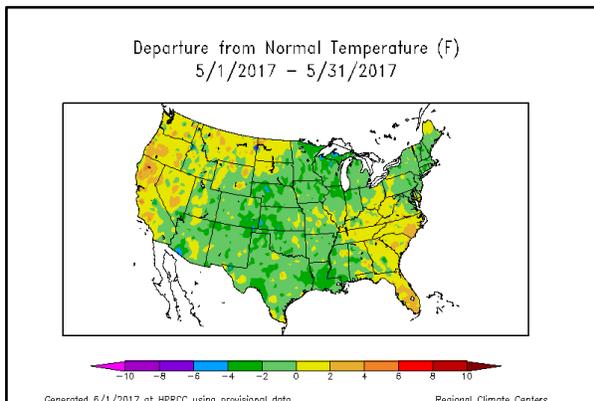


Above Normal large fire potential will continue across southeastern Georgia and Florida into mid-June before the cumulative effects of precipitation events begin to take hold. Below Normal potential is expected across most of the remainder of the southeast through July before returning to Normal for August and September. Recent dry conditions across the southwest will lead to Above Normal potential across southeastern Arizona and Southern California. Below Normal to Normal large fire potential is also expected in the majority of the higher elevations across the West in June and July. July and August may be periods of concern. Above Normal potential is expected across the western portion of the Great Basin and across the middle elevations in California in July and August after the abundant grass crop cures. Fire activity will be mostly driven by short term weather events. Looking north, Alaska appears to be transitioning into a normal fire season for June and July with late summer rains ending the season across the interior in August. Extended dry conditions on the west side of the big island in Hawaii will lead to Above Normal potential that should last into September.

Past Weather and Drought

A transitional weather pattern produced conditions that were cooler and slightly wetter than normal across the western half of the nation in May. Several cool and strong low pressure systems impacted the region bringing significant lower elevation rainfall and late high elevation snow from the Canadian border south to Arizona. The abnormally cool conditions were of a sufficient duration to offset two brief warm periods that occurred during the second and fourth weeks of the month. Across the Great Plains and southeastern states, conditions were warmer and drier than normal with the dry conditions being most pronounced during the first half of the month. By late in the month, Georgia and Florida began receiving much needed precipitation. Cooler than normal conditions prevailed across the Great Lakes and northeast. Precipitation was near-average. In Alaska, temperatures were generally above normal and precipitation was near normal for the month as a persistent weak ridge of high pressure lingered over the state's interior.

Overall, drought conditions improved in May, but previous areas of concern continued to experience drought intensification and expansion. Southern Georgia and Florida saw preexisting extreme drought conditions worsen while abnormally dry conditions along the Mexican border with Arizona and New Mexico developed into a moderate drought. Abnormally dry conditions were also observed across portions of central and southern Texas as well as across portions of the Alaskan interior.



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 slightly positive, neutral state. Latest model forecasts show very slight warming but continue to keep ENSO in a neutral state through June and possibly July before developing a weak El Niño by late summer or early fall.

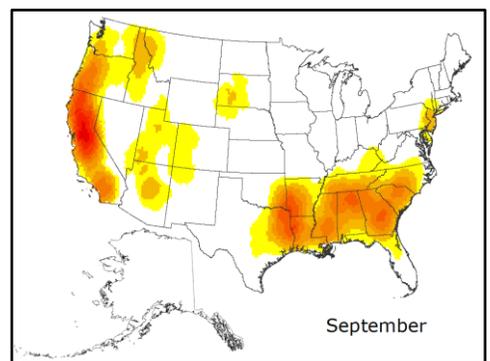
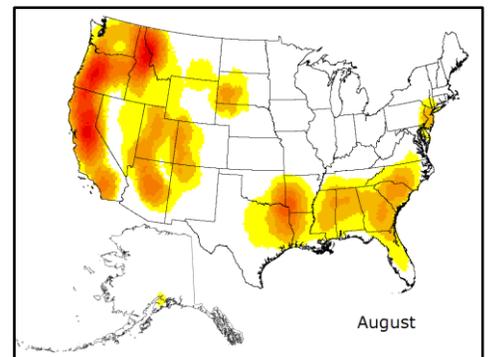
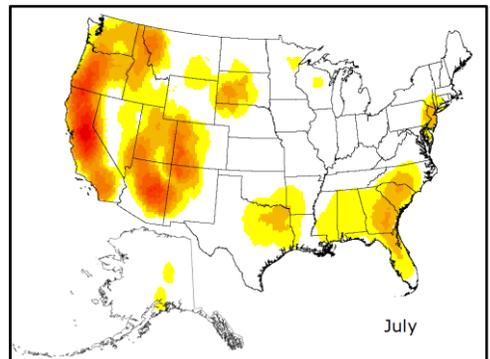
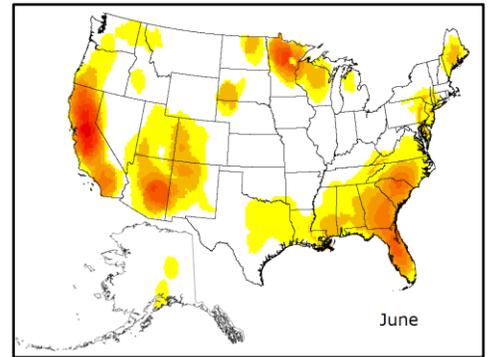
Above normal temperatures are expected across Alaska in June as the state enters its fire season. The above normal temperatures should continue into September. Across the Lower 48, warmer than normal temperatures are expected across California, Oregon, and Washington. Looking east, the preexisting trend toward below normal temperatures will continue into July, especially across portions of the Great Basin, the Southwest, and possibly the western Great Plains. Normal to above normal temperatures are expected across the eastern half of the nation through August. Long range data suggests that a transition to cooler than normal temperatures could occur in September along and east of the Mississippi River.

Below normal precipitation is expected across the interior of Alaska in June followed by a return to normal to above normal precipitation by late July and August. Near normal precipitation is expected along the Pacific coast June through September, though a drier than normal pattern could develop over western portions of the Pacific Northwest in mid-August and September. Normal to above normal precipitation is possible through the outlook period across the Great Basin and Rocky Mountains. Across the Great Plains, expect normal precipitation through the summer months except along the eastern fringes of the region near the Mississippi River where above normal precipitation is expected. Florida and Southern Georgia, will continue to see below normal rainfall into early July before tropical weather patterns begin to bring more consistent precipitation from mid-July onward. The remainder of the states along the East Coast should receive near normal precipitation.

Geographic Area Forecasts

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

The U.S. Drought Monitor is showing an area of abnormally dry conditions over much of the southern mainland Alaska and the Kenai Peninsula. Precipitation amounts have been below normal for much of the state for early May. The second half of May has been wetter than normal across southwestern and south central Alaska. Snow pack is gone from Alaska south of the Brooks Range. After a warm, dry start to May the month is ending with a cooler pattern over much of the state. June temperature forecasts have above normal tendency for western and south central Alaska and normal in the east and panhandle. Precipitation forecasts for June show equal chances of above or below normal. For July through September an area of above normal precipitation over the Eastern Interior extending southwestward to the Yukon Kuskokwim Delta will be developing.



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)

Snow pack has retreated northward through the Interior with fire season conditions in place south of the Brooks Range. The North Slope should be snow-free by early to mid-June. Though warmer than normal temperatures are expected, this is not enough to suggest Above Normal fire potential.

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

Temperatures and rainfall varied in May. Rain was generally above average in Washington and western Oregon and lower than average elsewhere. Temperatures were generally cooler than average. Snow melt is underway over higher terrain but the snow still on the ground remains generally above average for late May. The latest climate outlooks from NOAA and other sources indicate no unusual extremes with precipitation or temperature through June. For July through September, however, warmer and drier than normal conditions are the most likely scenario for the Northwest.

Thousand hour fuel moisture values are above normal, especially west of the Cascades. However, warm and dry weather at the end of May did start a drop in fuel moisture and elevating danger. It is anticipated that fuel moisture values in June will be near normal for most of the geographic area east of the Cascades and above normal on the west side. Current projections do not indicate an early arrival or a severe fire season for 2017 over the Northwest. Significant fire activity for June is expected to be near normal, which historically includes few, if any, large fires. However, if July and August turn out to be warmer and drier than normal, the region could experience normal fire activity late in fire season depending upon the amount of lightning received. Some large fires are to be expected in a normal fire season for the geographic area, particularly east of the Cascades and in southwest Oregon.

Northern California and Hawaii: Significant large fire potential in the far eastern areas will be Below Normal for June and Normal elsewhere. All areas can expect Normal significant fire potential for July. By August, fine fuels are expected to be fully cured. Due to the abundant growth, areas with a significant coverage of fine fuels can expect Above Normal potential in August and September while other areas can expect Normal potential. Abnormally Dry to Moderate drought conditions continue on the lee side of the Big Island of Hawai'i. This area has Above Normal significant fire potential through September. All other areas have Normal significant fire potential through September.

The Northern California region has experienced a very wet rainy season with a significant mountain snowpack. The outlook for the region is for normal to below normal precipitation (during a period when precipitation is very light) and near to above normal temperatures through September. A robust fine fuel crop is curing at lower elevations and is coming in or still green at mid elevations and east of the Cascade-Sierra crest. Brush in these areas also experienced significant growth. Greenup of live fuels is beginning or underway in many higher elevation areas, outside of areas with existing snowpack. Fine fuels at lower elevations will be fairly well cured in June and initial attack for small grass and brush fires will increase, but the threat of large grass and brush fires there will not increase significantly until late July or August when those fuels are fully cured. At middle and lower elevations east of the crest it will take at least until mid-August, before the threat of large grass and brush fires increases significantly. Larger live fuels at mid and upper elevations, and dead fuels at upper elevations, will be very slow to dry out this summer, and may never dry to critical levels. These areas will have Normal potential at most. The amount of lightning that these areas receive will determine fire activity and current analyses indicate normal thunderstorm activity.

Sea Surface Temperatures (SSTs) in the vicinity of Hawai'i are expected to remain above normal through September. Therefore, temperatures throughout the islands are expected to remain above normal. The current ENSO conditions will likely lead to near to above normal rainfall patterns throughout the region through September. It is likely that the western half of the region receives above normal rainfall while the eastern half receives normal rainfall from June through September.

Southern California: Above Normal large fire potential is expected across many foothills and inland valley areas through the early to middle portions of the summer. Later in the summer, large fire potential may remain elevated in the Sierra foothills, in particular, due to the high number of dead or dying trees due to the bark beetle infestation. Below Normal fire potential is expected in the higher elevations of the Sierras in June and July. Elsewhere, expect Normal fire potential through the outlook period.

Grass fire activity spiked in May across the entire geographic area as seasonal grasses cured. This year's crop is far heavier than in recent years with some lower elevations of central California reporting three to four foot high grasses. Such a high amount of fine fuel loading will drive large fire potential and resource demand during the next few weeks. Conversely, higher elevations of the Sierras still have substantial snowpack which may need several more weeks of warm weather to melt. Dead fuel moisture is below normal over much of southern California due to the abrupt end of the winter rains in early March. Farther north, dead fuel moisture is closer to normal while most areas still have near to above normal live fuel moisture. Chamise and chaparral are still showing growth with flowering at lower elevations. These fuels should retain enough moisture over the next few weeks to remain somewhat resistant to fire spread. Toward the late summer months into the early fall, these fuels will approach critical dryness, which typically occurs around Labor Day. By then, most fuel types will be available for burning, except perhaps the Sierras above 8,500 feet due to lingering moisture from the snowpack.

Most available long term models indicate this summer may be warmer and a bit drier than normal. Daytime temperatures may be a few degrees above normal due to less cloud cover and fewer days of summertime convection. The bulk of the monsoonal moisture may divert east of the area, resulting in less rainfall in the mountains compared to recent years. Last year was an exceptionally quiet summer thunderstorm season. While this year may yield slightly more activity than 2016, the number of thunderstorm days and area coverage of thunderstorms may be less than average. At the current time, there is no reliable guidance concerning the possibility of offshore winds this fall. These events usually begin in late September or October and one or two episodes may occur by the end of the outlook period.

Northern Rockies: Below Normal significant fire potential is expected in the mountains of northern Idaho, western Montana, and northwestern Wyoming in June and July while Normal significant fire potential is expected elsewhere across the region. For August and September, Normal significant fire potential is expected in all areas though there are concerns for elevated fire potential across eastern Montana and North Dakota in September should warmer and drier than normal conditions carry over into the fall.

Most sites in northern Idaho and western Montana received near to above-average precipitation in May. Much of southwestern, central and portions of southeastern Montana received heavy precipitation in the middle of the month when a strong storm system from Canada moved through and dropped 100 to 250 percent of monthly average precipitation in two days. Heavy snowfalls of one to three feet occurred over the higher terrain of west-central and south-central Montana with this system. Meanwhile, most of eastern Montana and North Dakota saw well below-average precipitation over the past month. Temperatures have been near to slightly below average region-wide for the past month. Mountain snowpack continues to melt more slowly this spring than in the past few years. Combined with the effects of the strong storm that occurred last week, a much larger area remains snow-covered with greater depths, over the high terrain of northern Idaho and western Montana than at this time last year. Although large portions of eastern Montana and North Dakota have been dry during the past month, the region remains drought-free due to the very moist conditions since last fall.

Greenup has occurred at lower and middle elevations throughout the western area while the highest terrain remains snow-covered. A somewhat later than normal green-up is therefore likely in the higher elevations of northern Idaho and western Montana. Thousand-hour fuel moisture remains near to above normal over the western half of the region but near to slightly below normal over the eastern half. According to the latest satellite imagery, a very healthy and robust green-up has occurred over most of eastern Montana and North Dakota, in spite of the dry preceding month. With drought conditions absent, live fuel moistures will be at normal healthy levels the rest of this spring and early summer. With long-range temperature and precipitation outlooks predicting at least normal precipitation and near normal

temperatures into August fuels drying will be significantly slower than the last few years. Higher elevations will be especially slow to dry with lingering snowpack.

Great Basin: Below Normal significant wildland fire potential is expected across the higher terrain of Idaho, Wyoming, and Utah in June and July followed by Normal fire potential for August and September. A large portion of northern Nevada, mainly the lower and middle elevations in the grass and brush, will likely see a quick transition to Above Normal fire potential by the end of June when full curing begins. Normal fire potential expected across the remainder of the Great Basin.

An unseasonably wet winter with record rainfall across parts of northern Nevada is priming an abundant grass crop while near normal long-term precipitation over portions of western Utah contributes to a flush of vegetation. Meanwhile slow melting of above normal snowpack continues across most high elevations. May was drier than normal but the region did benefit from occasional wet systems passing through the area. Cool and showery weather will end by early June, followed by typically prolonged warm and dry summer conditions. The monsoon will be difficult to predict but indications are that it will be a bit farther east than normal from the latter half of July into August. This would mean more significant drying for Nevada.

Heading into the fire season, fuel moisture across much of the area was at or above normal. Due to the recent cool, cloudy weather, the grasses in northern areas are still growing. Full growth of the grass crop will not be realized until mid-June. By then it could be dense given favorable growing conditions and soil moisture levels. Early indications are that greenness and later curing in the finer fuels will maintain normal fire activity until the end of June. However at that point, given the expected greater than normal grass crop, fire potential could increase dramatically. Higher elevations, especially across Idaho, Wyoming, and northern Utah remain quite moist and snow covered in some areas. Greenup is occurring later than normal due to the lower than normal melting rates. Look for a late start to the fire season in the higher elevations which should lead to a compressed season ending in September.

Southwest: Above Normal significant wildland fire potential is expected to stretch across southeastern into south-central Arizona into adjacent New Mexico for June. Below Normal significant fire potential is expected across the mountains of northern and northeastern New Mexico for June. Normal significant fire potential is then expected to return area-wide by July into September.

Over the past month, temperatures were generally below normal across much of the region although a slightly warmer trend occurred across the far southeastern portion of the region. A swath of above to well above normal precipitation occurred across most of the northern portion of the region from western Arizona east through the Four Corners and into northern Texas. Most of the southern tier of the area experienced below normal precipitation.

An eventful and wet beginning to winter turned drier and milder over the past several months across the majority of the Southwest Area. However, over the last four to six weeks, storm systems crossed the region regularly and combined with frequent backdoor cold fronts to produce a much more active period of weather. In June, significant fire potential is expected to be Above Normal across southeastern Arizona into south central portions of the state as well as western New Mexico. Areas east of the Continental Divide will continue to receive frequent moisture intrusions into June and lessening the threat of significant fire activity. On the western fringe of this moisture intrusion, areas of increased lightning activity are expected. The areas of Above Normal significant fire potential will revolve around normal to above normal fine fuel loadings and lightning as the primary ignition source as the region enters summer.

The monsoon is expected to start on time or slightly late and will drop significant fire potential regionally as July progresses. It is anticipated that the focus of the monsoonal plume could lie near or west of the Continental Divide region. Confidence in this overall outlook is average to slightly above average. Areas across the eastern half of New Mexico into West Texas could go from moist to dry by mid-summer.

Rocky Mountain: Below Normal large fire potential is expected across the mountains of Wyoming and Colorado through July and across the lower elevations in both states east of the Continental Divide in June. Normal large fire potential is expected elsewhere across the region through September.

After a considerably warmer than normal pattern during the early spring, temperatures cooled considerably in April and May. Precipitation deficits continued across western Colorado and southwestern Wyoming, but areas with deficits got smaller. Elsewhere, precipitation was above normal for the remainder of the region for the last 90 days.

An abundant dead grass and brush crop remains in place in the lower elevations and foothills of the Rocky Mountain Area. However, green-up conditions are gradually expanding in the lower elevations and grasslands, reducing the threat of fire activity. Mountain areas still have considerably snow cover. Colorado and Wyoming mountain snowpack values are well above the historical median. ERC's are below average across the region, and in the case of Nebraska and Kansas values are near historical minimums for this time of year.

Short to medium term precipitation forecasts into early June suggest an active wet period mainly east of the Continental Divide. Long range models show an active storm track into mid-June with deep upper troughs just to the west of the region and a ridge building by July. Overall, near normal temperature and precipitation are expected into early July. For the remainder of the summer into fall, long range predictors point toward normal temperatures and normal to above normal precipitation.

Eastern Area: Normal significant fire potential is expected across the Eastern Area June through September.

Soil moisture and precipitation were below normal across northwestern Minnesota and the Lower Peninsula of Michigan toward the end of May. The dryness was reflected in the 100- and 1000-hour fuel moistures which were also below normal for the same period. Fuel moistures were near to above normal over the remainder of the Eastern Area toward the end of May. Well above normal precipitation and soil moisture were in place over much of the Mississippi Valley. Near normal precipitation and soil moisture were in place over the rest of the Eastern Area toward the end of May.

Wetter than normal conditions are expected across portions of the Mississippi Valley and Great Lakes in June. A trend toward drier conditions may develop over the Northeast in June. Warmer than normal temperatures are forecast to develop over the western and eastern tiers of the area in July and should persist into August over the southern half of the region. Wetter and warmer than normal conditions are forecast over a majority of the Eastern Area through the summer and into September.

Southern Area: Above Normal significant large fire potential is expected through mid-June from southern Georgia through south-central Florida followed by a return to Normal significant fire potential for the remainder of the outlook period. Elsewhere, expect Normal large fire potential from June through September except across the Lower Mississippi, Ohio, and Tennessee River Valleys in June and July where the fire potential will be Below Normal.

Higher humidity and recurring rain events during late May significantly reduced the fire danger that affected southern Georgia and the interior counties of central Florida since March. However, indices are still elevated in many areas across both states, so southern Georgia and the interior Florida peninsula will likely continue to see above normal activity into June. The overall threat is expected to decline with more typical fire activity for the remainder of the summer. Conditions across West Texas have experienced periodic worsening during high wind and low humidity events. However, the short duration of these weather conditions along with the absence of long-term severe or worse drought conditions have limited their impact. Periods of increased fire activity will continue to be event-driven. Overall, Normal significant fire potential is expected across Texas through July.

A continuation of generally seasonal summertime activity is expected. Normal temperatures are expected through August, then becoming below normal in September, while precipitation amounts should be near normal during the outlook period. The Ohio and Tennessee Valley areas of the Southern Area could see a return to normal to below normal fire threat environment during September. The probability of a tropical system reaching the western Gulf appears higher this year. Otherwise, very warm water in the western and west-central Atlantic indicate another year for rapid development and intensification of storms moving to the East coast.

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>