

National Significant Wildland Fire Potential Outlook

Predictive Services National Interagency Fire Center

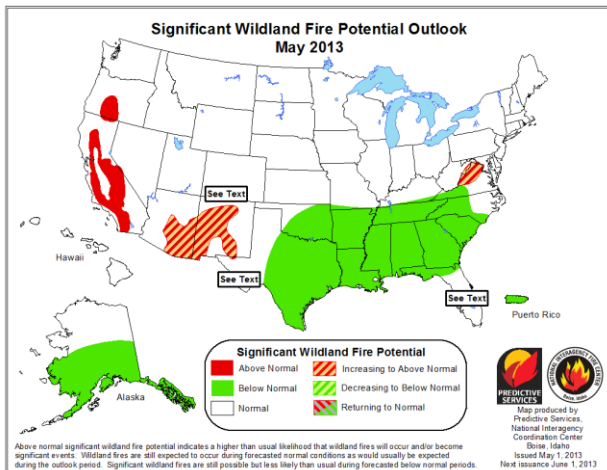
Issued: May 1, 2013

Next Issuance: June 1, 2013

Outlook Period – May, June and July through August

Executive Summary

The May, June and July through August 2013 significant wildland fire potential forecasts included in this outlook represent the cumulative forecasts of the eleven Geographic Area Predictive Services Units and the National Predictive Services Unit.

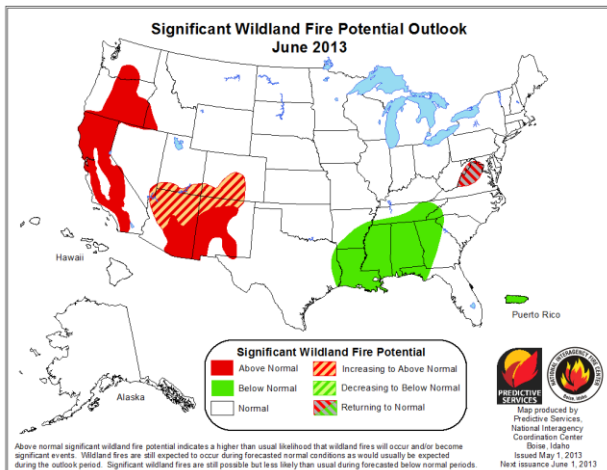


May

- Significant fire potential will be above normal for south central Oregon, the interior mountains and foothills of southern California and the Sacramento Valley and adjacent lower foothills.

- Significant fire potential will increase to above normal in southeastern Arizona, much of western New Mexico, and northern Virginia.

- Significant fire potential will be below normal for most of the southeastern U.S., Puerto Rico and the southern half of Alaska.

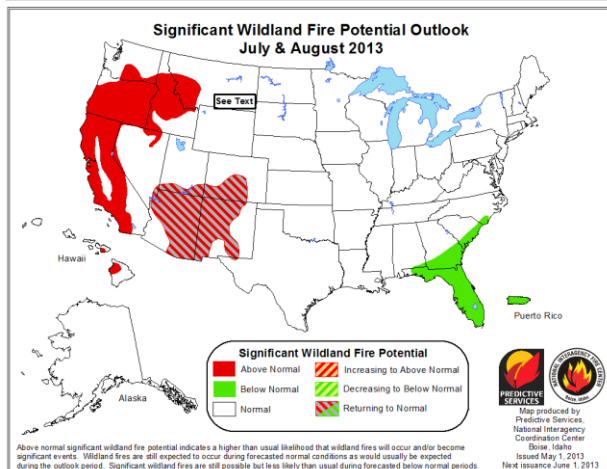


June

- Significant fire potential will be above normal over much of California and Oregon, south central Washington, most of Arizona and New Mexico, and southern Utah and Colorado.

- Significant fire potential will remain below normal for the central Gulf states and Puerto Rico.

- Significant fire potential will return to normal in northern Virginia.



July and August

- Above normal significant fire potential will remain in California, Oregon and Washington while expanding into central Idaho and southwestern Montana.

- Significant fire potential will return to normal in the Southwest.

- Significant fire potential will be below normal in the far Southeast and Puerto Rico.

Past Weather and Drought

Several late season winter storms traversed the U.S. in April, bringing heavy snow to the northern and central Rockies, the Plains, the Upper Midwest, the Great Lakes, and parts of New England. A few locations in Minnesota and Wisconsin received record snowfall for the month. Heavy rain associated with the same storms fell over much of the Gulf and Southeast states. Meanwhile, much of the West and Southwest received very little precipitation in April.

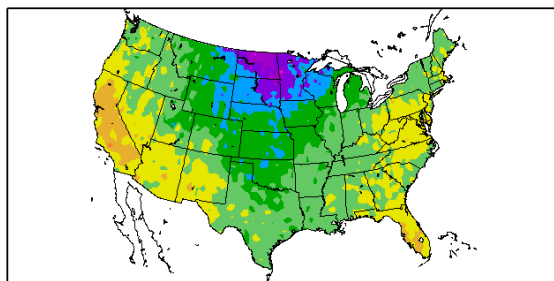
Frigid air from Canada settled into the central U.S., reinforced by each storm as it crossed the nation. Temperatures were more than ten degrees below normal across the Dakotas and Minnesota with readings between six and ten degrees below normal stretching as far south as northern Texas. Temperatures were generally within three degrees of normal in the West and the East, with a few pockets of readings three to six degrees above normal in California and Florida. Much of Alaska was below normal.

Precipitation exhibited large extremes with less than 25 percent of normal across much of the West and Southwest and over 200 percent of normal across much of the northern and central Rockies, the Plains, and the Gulf states. New England, despite a few passing storms, remained dry with only 50 percent of normal precipitation. Alaska continued dry although some areas of the southeast received above normal precipitation. Hawaii had some relief from dry conditions with showers toward the end of the month. Widespread heavy rain in Puerto Rico helped alleviate precipitation shortages.

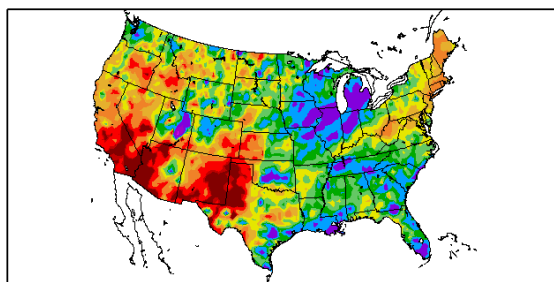
Snowpack was near normal over Washington and the northern and central Rockies. However, dry and warm condition reduced snowpack from Oregon to the Great Basin and across the southern Rockies. California remained very dry, extending deficits since the start of the year. Drought continued at extreme to exceptional levels over much the Plains and parts of the Southwest while severe drought conditions increased through much of the West.

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)

Departure from Normal Temperature (F)
4/1/2013 - 4/30/2013

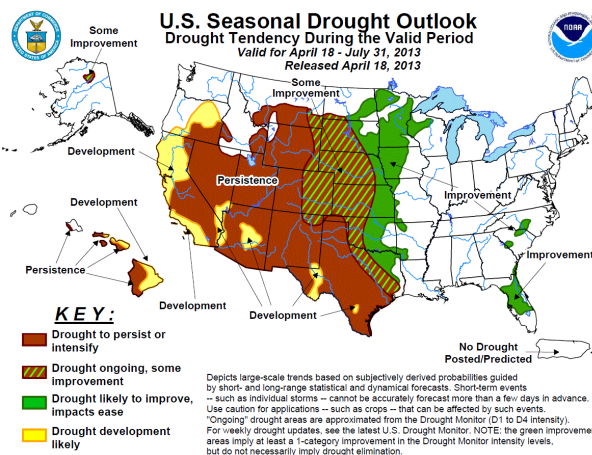
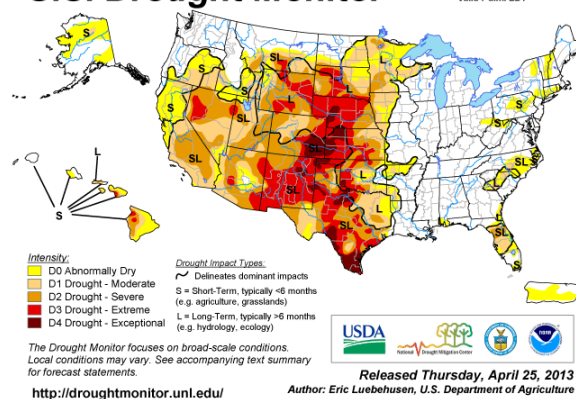


Percent of Normal Precipitation (%)
4/1/2013 - 4/30/2013



U.S. Drought Monitor

April 23, 2013
Valid 7 a.m. EDT



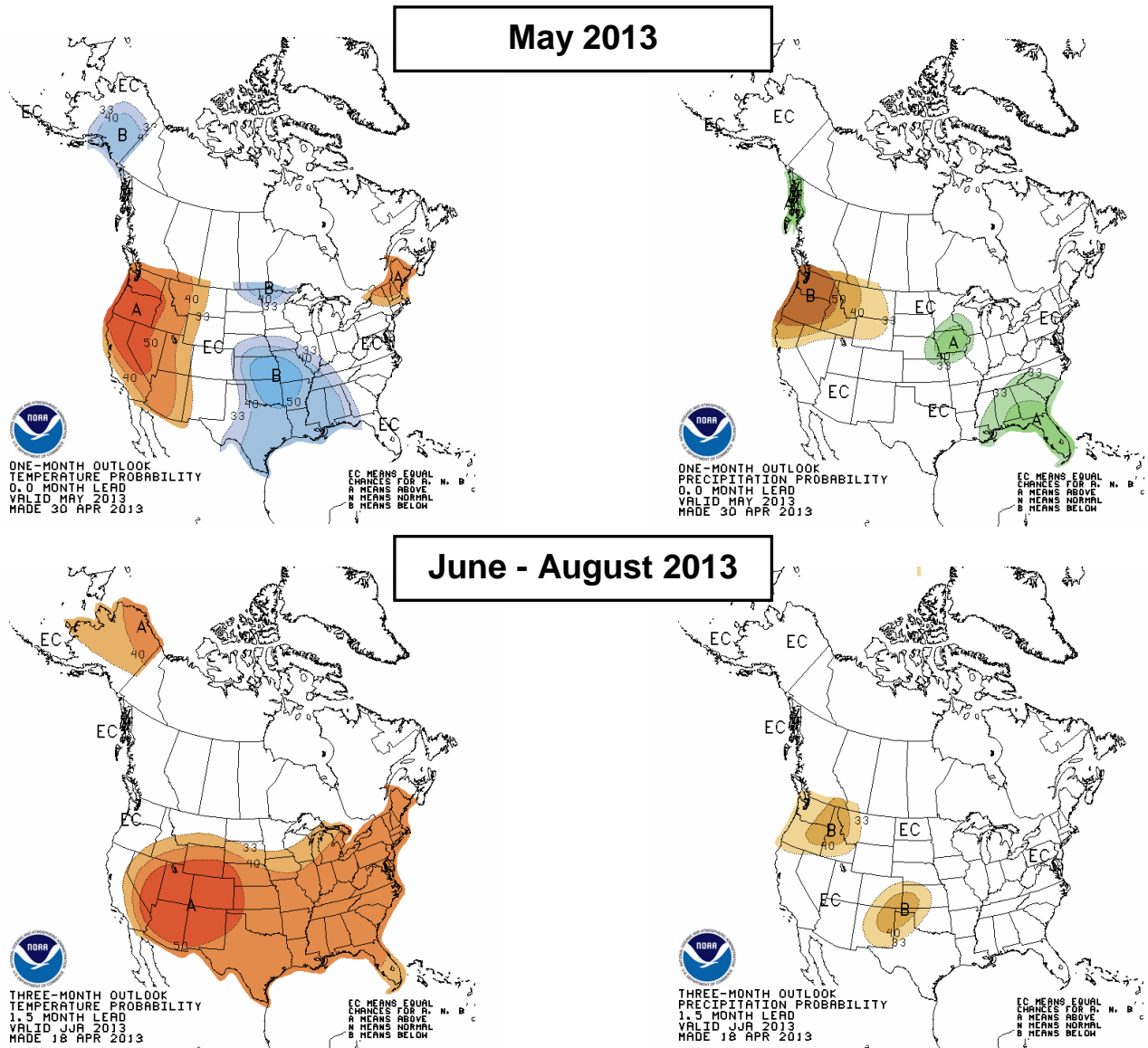
Weather and Climate Outlooks

Sea surface temperatures over the equatorial Pacific continue to oscillate around normal. Coupled with other global circulation patterns, there is no clear signal of how long-term weather patterns will evolve this summer. However, the latest guidance suggests a continued wet and cool pattern across most of the eastern U.S. from the Plains to the East Coast during the first half of May. By June, the pattern should trend toward drier and warmer across most of the country, especially the West Coast and the Southwest.

Current climate projections by the Climate Prediction Center (CPC) indicate higher probabilities of warmer than normal conditions for much of the West and cooler than normal across the Plains and the mid- and lower Mississippi Valley. Precipitation is expected to be below median over the Northwest and northern Rockies and above median precipitation is expected in the Upper Midwest and over the Southeast.

Temperatures for June through August are expected to be above normal for most of the U.S. Precipitation is expected to remain near median with pockets of below median precipitation over the Northwest and the southern Plains.

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



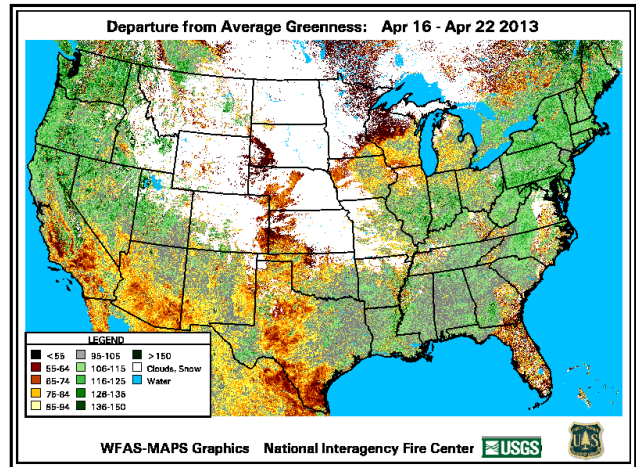
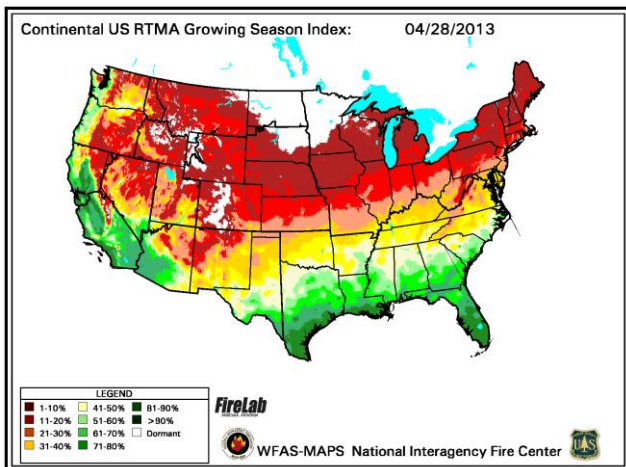
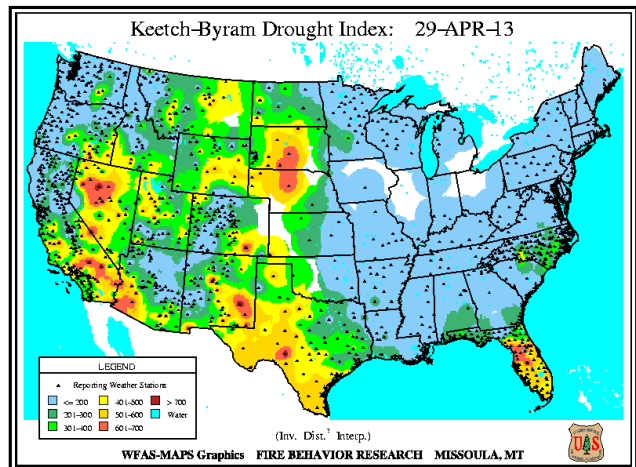
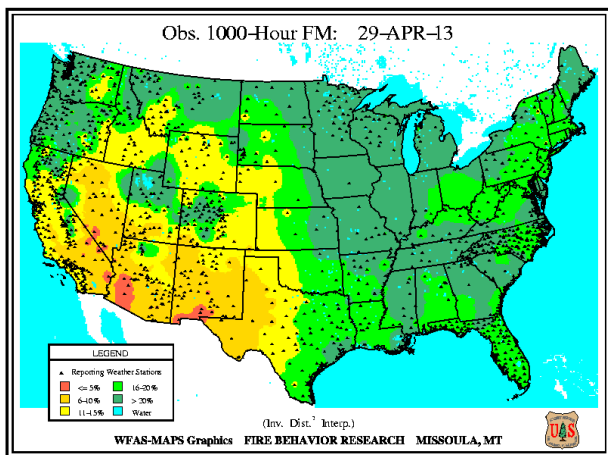
Fuel Conditions

Severe drought conditions across the western U.S. had a significant effect on fuel conditions. Nearly all areas west of the Rocky Mountains, except the far northern tier, are experiencing both live and dead fuel moistures which are extremely low and raise the probability for severe early season fire activity that will likely continue into summer. One notable anomaly associated with the severe drought conditions is fine fuel loading across the Great Basin. Precipitation deficits in the region are slowing and stunting the growth of annual grasses. Low fuel loadings should limit rates of spread and fireline intensities in areas that otherwise would experience very active wildland fire behavior.

East of the Rocky Mountains, storms have produced periodic moisture influxes necessary to reduce drought and moisten fuels. In many of these areas much colder than normal temperatures have delayed green up and vegetation is reaching its mature state much later than normal, delaying fire season onset and potentially shortening it as well.

In Alaska, fuels are frozen and snow-covered much later in the year than normal. The cooler than normal temperatures forecast for the start of May will further delay snow melt and consequently delay the start of fire season.

Top left: Observed 1000 Hour Fuel Moisture. Bottom left: Growing Season Index. Top right: Keetch-Byram Drought Index. Bottom right: Departure from Average Greenness (from Wildland Fire Assessment System)



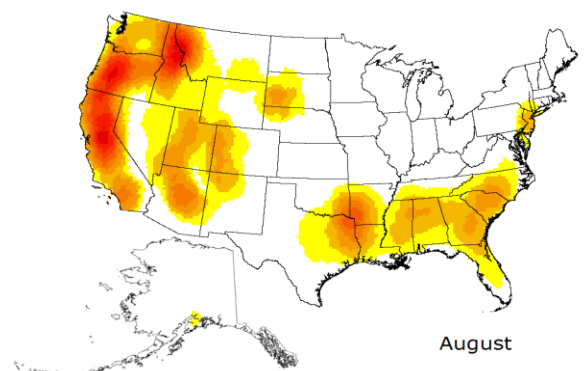
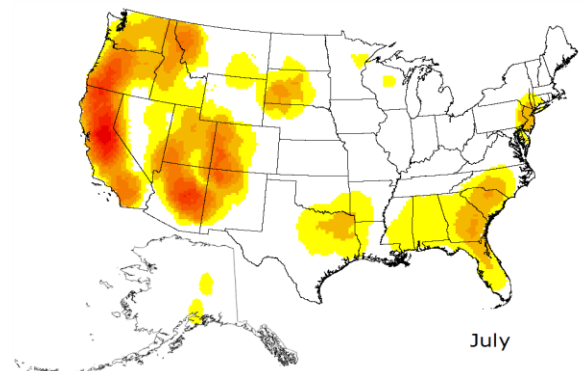
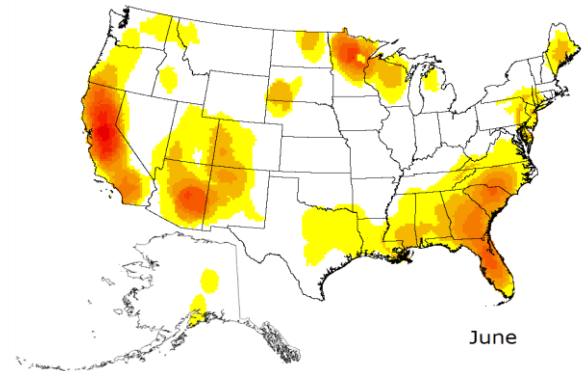
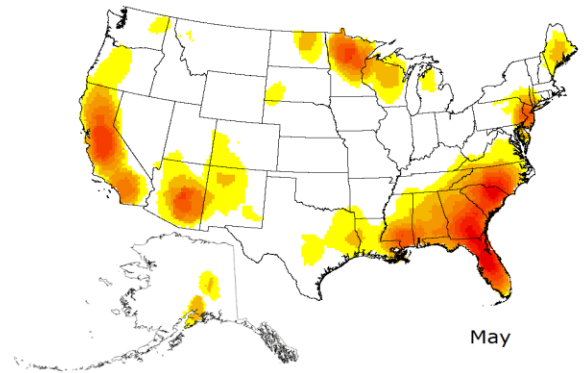
Fire Season Timing

Across the western U.S., fire season is likely to occur somewhat earlier than normal in most areas due to the effect severe drought has had on fuel dryness early in the season. Worsening conditions in California could accelerate the onset of fire season and the potential for significant fires in May, nearly a month ahead of schedule. In some areas such as southern and eastern Oregon and southern and central Washington, fire season is expected to begin in June, weeks earlier than usual. Cooler and wetter weather across Washington and Montana will allow a normal to slightly delayed onset of fire season. . In the Great Basin fire season may occur slightly earlier than normal especially in areas to the far south where heavier fuel types coincide with worsening drought conditions.

In the Rocky Mountains and central Plains fire season onset is expected to be near normal. Green up in eastern Colorado, Kansas and Nebraska has started and will begin in Wyoming and South Dakota by mid-May. Southern Colorado remains dry, contributing to an earlier fire season start.

Across the eastern U.S. from the Mississippi Valley to the East coast, cooler temperatures and above normal precipitation will prolong green up. Fire season onset is delayed and will likely shorten the fire season.

The Alaska fire season is expected to be delayed somewhat in the southern half to two thirds of the state due to ample snowpack and cooler temperatures through the beginning of May. The remainder of the state is expected to be near normal with a peak in the second half of June and new fire starts tapering off through July.



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

Geographic Area Forecasts

Alaska: Expect below normal significant wildland fire potential in May for southern Alaska including the panhandle with normal significant wildland fire potential statewide from June through August.

April was much colder than normal across most of Alaska. Several snow storms added to the snowpack that saw little loss in the cold conditions. Despite periods of warm weather with rain, the winter was generally cooler and drier than normal in the north and west, and near normal in the south and east. An area of abnormally dry conditions persisted in northern Alaska with a small area of drought north of Bettles. These conditions are expected to moderate. Long range forecasts indicate a cool start to May statewide but with a focus in eastern Alaska including the panhandle. The remainder of May, however, should be normal. Warmer than normal temperatures will evolve on the north slope later this spring and expand to the northern interior. The precipitation forecast for the beginning of May is for above normal in eastern and northern Alaska with the remainder of the outlook period showing indicating normal. Alaska is out of fire season. The cooler than normal temperatures forecast for the start of May will prolong snow melt and delay fire season in the south and the central Interior. However, due to the lower snowpack in the north central and northwest Interior, the progression of the snow-free area is likely to be rapid once it begins. So instead of a moderate three to four week progression of snow-free conditions from south to north, it is more likely to happen in two to three weeks. A wind event last fall resulted in extensive blow down in a portion of the Upper Tanana Valley. These down and dead trees will be a cause for concern in the event of a fire in this area.

Northwest: The significant wildland fire potential will be normal in May except for above normal in south central Oregon. However, warmer and drier conditions beginning in June will quickly elevate significant wildland fire potential to above normal across southern and eastern Oregon and portions of south central and southeastern Washington.

The first half of April was moist and cool for Washington and a few sections of northern Oregon. However, much of the Area remained well below normal for precipitation accumulation since the beginning of the year, particularly east of the Oregon Cascades. Southeastern Oregon remains unusually dry where precipitation accumulation over the last year remains at a record low level. The only exceptions to the unusually dry conditions since the first of the year are western Washington and northwest Oregon where precipitation is near or slightly above normal since the beginning of the year. Upper elevation snow remains adequate over Washington and the northern Oregon Cascades but is diminishing rapidly over much of the rest of Oregon. Snow melt is expected to continue at a higher rate than normal through May. Bare soil conditions are expected earlier than usual over Oregon. Climate outlooks for May through August suggest temperatures continuing at or a bit below average through May and June then climbing to above normal in July and August. Rainfall is most likely to continue to be below average across the Area except perhaps in western Washington. As is normal for late April, fire danger indices being reported are currently too low to support risk of significant fires. However, given the dry conditions, fire danger indices are expected to rise quicker than usual in May and June, leading to greater potential for large fires earlier in June than is usually expected. Fire season typically begins in late June or early July for much of the Area. Fire season is likely to begin weeks earlier than usual for much of the Area east of the Cascades, particularly in Oregon. The likelihood of significant fires developing west of the Cascades in Oregon will increase in July and August.

Northern California and Hawaii: In May, significant wildland fire potential will begin to increase to above normal across Northern California. Potential will be limited to the Sacramento Valley and adjacent foothills mainly below 1500 feet through May. However, mid elevations between 1500 and 3500 feet could begin to see some increased activity toward the end of May. For June, July and August most of Northern California is expected to see above normal significant wildland fire potential.

April was drier than normal for most areas, contributing to precipitation deficits of nearly half of normal since the start of the year. January through April is typically the wet season but this was the driest first

four months in over 50 years, expanding moderate drought conditions across northeastern California. Snowpack was only about half of normal by the end of the month. Below normal precipitation is again expected for May. With fuels near record dry levels and grasses curing about a month ahead of schedule there is an increased chance of large fires in the Sacramento Valley and adjacent foothills. Any snowpack across the higher elevations should be mostly gone by the end of the month. June is expected to have near normal temperatures and precipitation. However, long range models show the potential of an offshore low pressure system off the coast by mid-June. This pattern is typically favorable for thunderstorms. Usually thunderstorm activity in mid-June is not conducive for significant fire starts or large fires this early, but with fuels being near record levels, any lightning activity would dramatically increase significant fire potential. July and August are expected to have above normal significant wildland fire potential in most areas. The exception will be across the east side areas, due to a lack of fuel from a poor spring grass crop. Also, parts of the Sacramento Valley which were above normal for May are expected to return to near normal levels. Fuels continue much drier than normal. An earlier start to green up has already occurred and curing in the lower elevations is more than a month ahead of schedule. Dead fuels are near record dry levels, about 6 weeks ahead of schedule. An earlier start to fire season is expected in all areas.

Expect near normal significant wildland fire potential for Hawaii throughout the outlook period, except for July and August on portions of the southern islands. Most areas have been alleviated of severe drought, except for portions of the Big Island. Near normal temperature and precipitation are expected throughout the outlook period.

Southern California: In Southern California significant wildland fire potential will elevate to above normal in May and June across the inland valleys, mountains and foothills. For July and August this area will expand to include the coastal areas.

The Area is expected to experience above normal temperatures in May and June, except for immediate coastal areas which will see some relief from the marine layer and onshore flow. Farther inland and in areas above 3,000 feet, the above normal temperatures will likely be accompanied by low daytime humidity. No significant rainfall is expected in May or June. One or two offshore wind events will be possible in early May which may increase the potential for significant fires across the Area. Rainfall over central and southern California was under 25 percent of normal in April which followed an extremely dry late winter pattern. This has left fuels highly receptive to ignition and capable of carrying fire in all fuel types several weeks early this year. Long range models indicate some troughing may linger offshore through at least the first half of summer. This pattern may cause monsoonal moisture associated with summertime convective activity to remain east of the Area. Fewer thunderstorms may result this summer compared to last season. While this may eliminate an important source of ignition, a lack of summer rain would further deprive vegetation of beneficial moisture in July and August. Marine layer coverage typically wanes by the beginning of July and the potential for significant fires will likely become elevated in the coastal regions as well.

Northern Rockies: Significant wildland fire potential is expected to be near normal throughout the entire Area through May and June. In July and August, however, expect above normal significant wildland fire potential to develop across portions of southwestern Montana and northern Idaho.

The snow year ended with mountain snowpack near normal in all basins. The late recovery is more a result of cool conditions in late April that delayed the onset of melt than that addition of late season snow. This can be seen in departure from normal precipitation for the last 60 days which shows significant deficits across much of western Montana, especially southwest Montana where severe drought conditions are expanding northward and westward. Soil moisture in this area is near record low values. This is the same area that usually has a high likelihood for lightning activity. This raises significant concerns for the peak of the upcoming fire season and will need to be monitored closely as spring unfolds. East of the Continental Divide, significant improvement has occurred across much of southeastern Montana and North Dakota. The cool, wet pattern has provided some drought relief, thus enabling the region to experience a full green up and thus reduce the early season fire danger. The relief could prove to be temporary, however, as long range data suggests overall warm and dry

conditions through much of the spring. While southeastern Montana and North Dakota have experienced some drought relief, the same cannot be said of south central Montana which continues to experience extreme drought conditions along with near record low soil moisture. South central Montana may be the first area to see significant wildland fire activity this year. The Northern Rockies will remain out of fire season until mid to late June as live fuels experience green up and then begin to cure. A normal start to the primary fire season is expected beginning in south central and southeastern Montana in late June followed by a gradual transition westward with the drying and curing of the fuels. The core of fire season across western Montana and northern Idaho should begin in mid to late July and hit its stride in August.

Eastern Great Basin: Normal significant wildland fire potential is expected across the entire Area through May. In June expect conditions in southern Utah and the Arizona strip to elevate to above normal. In July this area will likely return to normal significant wildland fire potential while portions of western Idaho and the central Idaho mountains increase to above normal significant wildland fire potential through July and August.

The Area was cool in April but saw a series of robust precipitation events, particularly Utah and western Wyoming. These late spring storms were enough to raise snowpack levels to near normal across northern and central Utah and western Wyoming going into early May. Western and central Idaho, however, did not receive much snow and were well below normal for the month. Far southern Utah also remained fairly dry through the spring. Drought conditions remain in place across Utah, southern Idaho and western Wyoming and are not expected to see much improvement this summer. May will continue to have an unsettled pattern with periods of warm and dry conditions mixed with cool and wet conditions. This pattern could continue into June but overall temperatures may end up being slightly above normal for the month. Green up is underway across the lower elevations and is expected to occur normally. Live fuel moistures are near normal for the time year, except some of the sites across southwestern Idaho and far southeastern Utah which are below normal due to the dry winter and spring conditions in those areas. The annual grasses may be fairly robust across northern and central Utah due to the recent precipitation events. Although green up is currently underway some fire activity would still be normal during the month of May, especially on very warm and windy days. The heavier fuels across the central Idaho mountains are going into the fire season drier than usual. Normal large fire activity will likely develop in mid to late June.

Western Great Basin: The Western Great Basin will experience normal significant wildland fire potential in May. However, above normal significant wildland fire potential will develop in mid-June across parts of the Arizona Strip and southeastern Nevada. In mid-July these Areas should improve to normal significant wildland fire potential while parts of the Sierra Front, the northern mountains and the Ruby Mountains will increase to above normal significant fire potential in July and August.

Some wet weather over the northern half to two thirds of Nevada in mid-May may delay curing for a short time. Any new fuel growth in May will likely still be short and not in a cured state across most of the Area with the exception of the far south. Also, carryover fuels from the last two years were compacted by snow in most areas, and should be a minimal factor except in the far south. The far south may start seeing more fires later in May, but this would be considered normal. Fire season typically begins in June and increases in July and August across the Area. The main concern is the growth of new fuels in the spring and the mid to upper slope timber areas due to long term drought. Spring precipitation will remain below normal again keeping new fine fuel growth below normal. Above normal fire potential may develop in June over the far south and southeast near the Utah-Nevada border and along the Arizona Strip before the monsoon develops in July. Above normal conditions may also develop in parts of the Sierra Front and over higher elevations in northern and northeastern Nevada by July and August as fuels cure, soil moisture remains very low and the drought continues. The weather pattern from June through August will largely determine the fire season, and confidence is not high on this pattern. If cooler or wetter weather develops, the fire season may be delayed and shortened. However, if hot and dry weather develops we may see the above normal conditions defined above. Fire season may begin slightly early over southern Nevada, but looks to remain on schedule or slightly delayed elsewhere. However, the main areas of concern

would be over the very dry areas of the Arizona Strip where fuels are slightly more plentiful. In the heavy fuel areas of the Sierra Front and far northern and northeastern Nevada after a prolonged dry period and during strong wind events ahead of cold fronts, significant fire could also develop earlier than normal. However, occasional periods of wet weather will likely diminish this threat with normal conditions expected through May and early June. With carryover fuels not as abundant and grass growth expected to be minimal in most areas, fuels will not be as likely to carry fire early in the season.

Southwest: Above normal significant fire potential will develop across much of the southern halves of New Mexico and Arizona in May. For June the areas of above normal significant wildland fire potential will spread north encompassing much of the northern halves of these states as well. In July, as monsoonal conditions develop, expect these areas to return to near normal significant wildland fire potential.

A number of conditions for the Southwest Area are fairly well defined at this point. Drought that is severe or greater, limited fine herbaceous fuel growth, and below normal winter and spring precipitation are set at this point. Variability affecting the fire season into May through August will be determined by how the monsoon develops and the evolution of fire weather patterns. For May, an erratic weather pattern is likely with moisture remaining north and east, keeping significant wildland fire potential lower there while allowing above normal significant wildland fire potential to develop across southeast Arizona into central New Mexico. Expect at least some significant moisture in May, with more lightning potential than wind. In June, conditions will move toward a summer pattern and a likely expansion of warm and dry conditions north and west. Above normal significant wildland fire potential will continue and expand to include areas north and west. Areas farther south and east will likely come out of season in July with a timely monsoon, while those farther north and west will do so more slowly. Concerns linger that even a few trough passages inland into the Great Basin could sweep moisture out of the Four Corners area, extending fire season. At this point confidence in this forecast is low to moderate due to variable weather and weather impacts. Potential exists for a significant fire season with drought and other factors, but whether or not conditions will support sustained periods of activity is still uncertain.

Rocky Mountain: Significant wildland fire potential is anticipated to remain normal across the Rocky Mountain Area in May. In June however, significant wildland fire potential is predicted to increase to above normal across southern Colorado. As the monsoonal pattern develops in July it is expected that this area will see a reduction back to normal significant wildland fire potential.

A large portion of the Rocky Mountain Area experienced some drought relief this spring in wetter and cooler than average conditions. However, below average precipitation trends dominated across southwestern Kansas and southern Colorado. Statewide snow deficits in Colorado were most evident in the southwestern part of the state where higher elevation heavy fuels could pose a greater risk for fire activity this year. Long range outlooks point toward an intensification of drought over southern and western Colorado during the fire season, although early May could start with average precipitation across the Area, including the driest areas in southern Colorado and southwestern Kansas. Overall, significant wildland fire potential is not comparable to 2012, with a wetter and cooler pattern during the spring hindering fire season development. Though a repeat of the 2012 fire season is unlikely, average fire seasons are characterized by periods of increased fire potential and some large fires.

Eastern Area: Normal significant wildland fire potential is forecast for the Eastern Area from May through August.

Long term drought was still in place across portions of the Upper and northern Mid-Mississippi Valley at the end of April, despite widespread precipitation and cooler than normal temperatures. If below normal temperatures persist into May then fire potential will remain at or below normal. The rest of the Eastern Area will experience near normal fire potential through late spring and into the summer. A later start and shorter duration to the spring fire season will occur across the Great Lakes due to

colder and wetter than normal conditions which prevailed March into April. Once temperatures consistently stay on the warm side, green up is forecast to occur faster than normal across the Great Lakes. As always, any areas which experience any warm and windy periods of weather will see an increase of fire activity, especially prior to green up across the northern tier.

Southern Area: For May significant wildland fire potential will be below normal across most of the Southern Area. Only portions of southern Florida and the mid-Atlantic coast will see normal significant wildland fire conditions. A small portion of northern Virginia will see a short term increase to above normal significant wildland fire potential. For June and July through August below normal significant fire potential conditions will slowly retreat and most of Southern Area will return to normal by the end of the outlook period.

The Southern Area has seen significant widespread and long duration precipitation activity since the beginning of the year. The rainfall activity improved the short term drought picture across the Florida peninsula and southern Texas and dramatically accelerated Area green up, especially in the northeast. Through early May it appears there will be continuing rain activity in the South. Notable exceptions will remain in far western Texas and in the northern Virginia mountains where green up is still lagging. Precipitation in May could be average to below normal, which could allow a continuing drier than normal precipitation trend and a pre-green up window where fire potential would be higher. Green up is ongoing but still lagging normal in the northeastern areas, especially the mountains. Through mid-May there could be a short window of opportunity for fire activity before leaf out is complete. Lower fuel loading in the grasses of west Texas is still a major inhibitor to large fire potential. At this time the greatest confidence is in the continuing and expected drier pattern over the northern Virginia mountains and in far western Texas. While Florida still has pockets of receptive fuels, the conditions have improved and should remain generally less volatile through May. An earlier onset of the tropical easterlies and an afternoon daily shower pattern should be a moderating factor after May. Lightning activity in the coming month and early June will be the major unknowns in terms of an ignition trigger.

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 and property, 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 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>