National Wildland Significant Fire Potential Outlook

National Interagency Fire Center
Predictive Services

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Next Issue: August 1, 2012

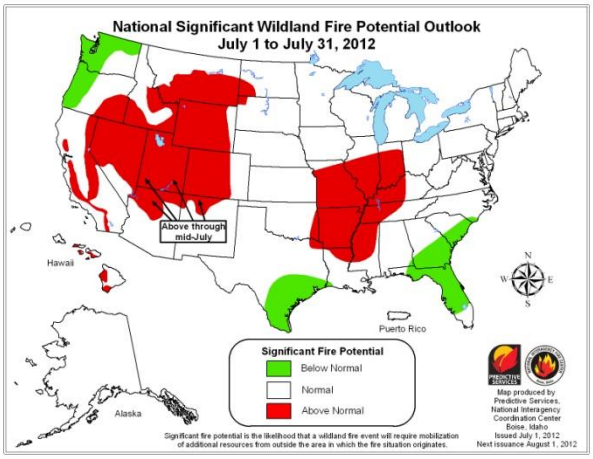
Wildland Fire Outlook – July through October 2012

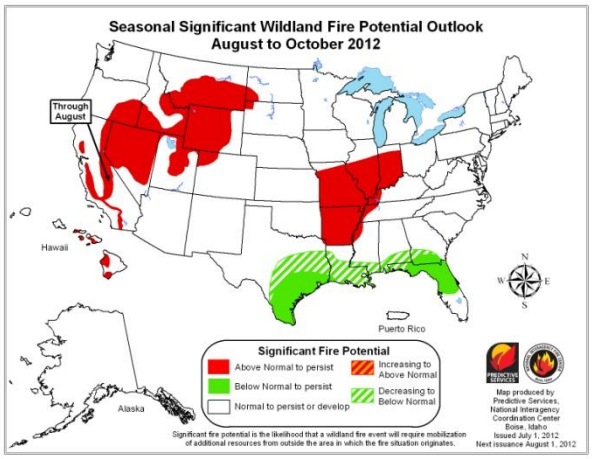
The July through October 2012 significant fire potential outlooks are shown below. The primary factors influencing these outlooks are:

- **El Niño/Southern Oscillation (ENSO):** Conditions in the equatorial Pacific are trending toward El Niño as sea surface temperatures continue to rise.

- **Drought:** Much of the western U.S. and the Ohio Valley had well below normal precipitation in June. Severe to extreme drought worsened across much of the Great Basin and the Southwest and increased across the Ohio and mid-Mississippi Valleys. Extreme to exceptional drought continued over parts of Georgia, Alabama and South Carolina. Heavy rain from Tropical Storm Debby largely ended drought conditions across northern and central Florida.

- **Fuel Conditions:** Worsening drought conditions in the West are leading to below normal live and dead fuel moistures and above normal Energy Release Components (ERCs) from the southern California mountains east through New Mexico and Colorado, and north through Montana and the Dakotas. Expanding drought in the Midwest could lead to low fuel moistures in the Ohio and Mississippi Valleys. Additionally, many of these areas have increased fine fuel loading from lingering dead, standing fuels and below normal snowpack, creating a heavy and continuous fuel bed. In the far northwestern portion of the U.S., mild and moist conditions thus far have kept fuels somewhat moist, even though the fine fuel crops are abundant. The far southeastern U.S. will continue to see periodic precipitation events and tropical activity increasing fuel moistures and reducing fire potential.





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

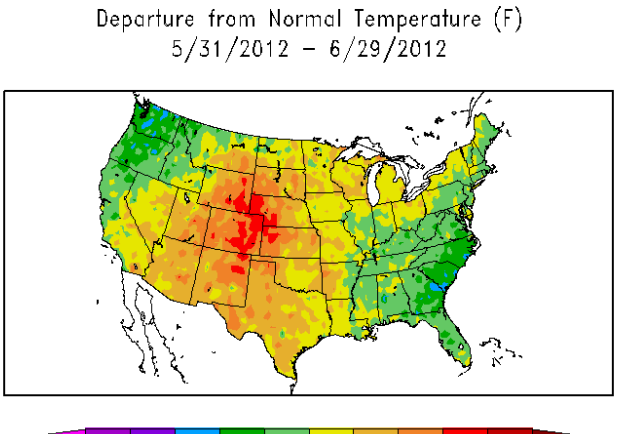
Past Weather and Drought

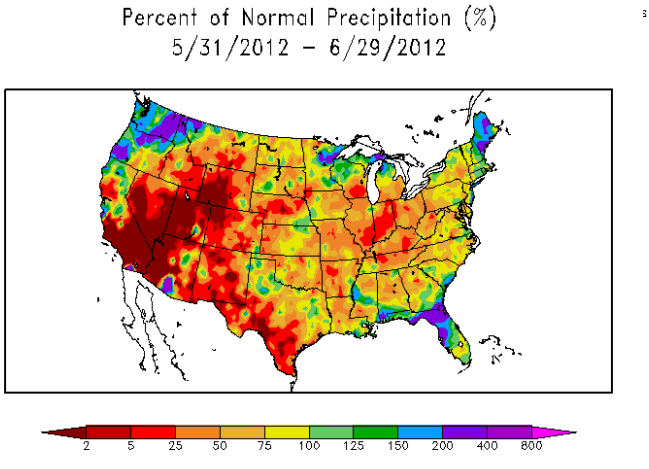
A series of troughs moved through the Northwest before being lifted northward into Canada by the central U.S. ridge. These then dropped into the broad trough over the eastern U.S. Consequently, the Northwest and the Southeast were generally cooler than normal in June while the Southwest and central U.S. saw temperatures rise above normal.

The warmest temperatures were generally across the Plains along the Front Range of the Rockies, from northeastern New Mexico to southeastern Montana with temperatures four to six degrees above normal while much of the West, the Plains and the Great Lakes region were one to four degrees above normal. The Northwest and much of the Southeast and mid-Atlantic were two to four degree below normal.

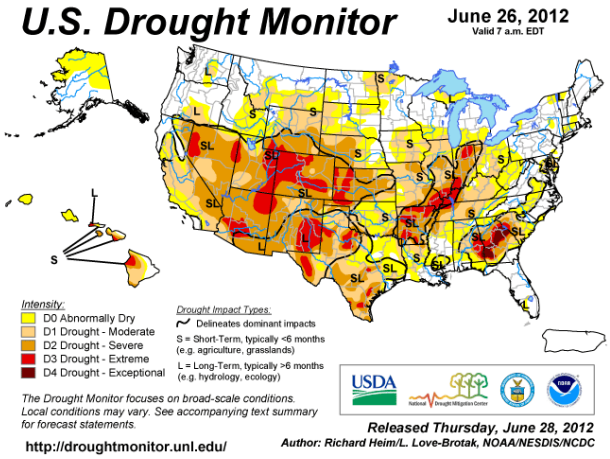
Drought continued and intensified across most of the southern half of the country, especially in the West where much of the Great Basin, the central Rockies and the Southwest received less than 25 percent of normal precipitation. Most of the rest of the country was below normal except for the Northwest where 150-400 percent of normal rainfall occurred and in northern and central Florida where Tropical Storm Debby brought heavy rains of 15-25 inches in a few days near the end of the month.

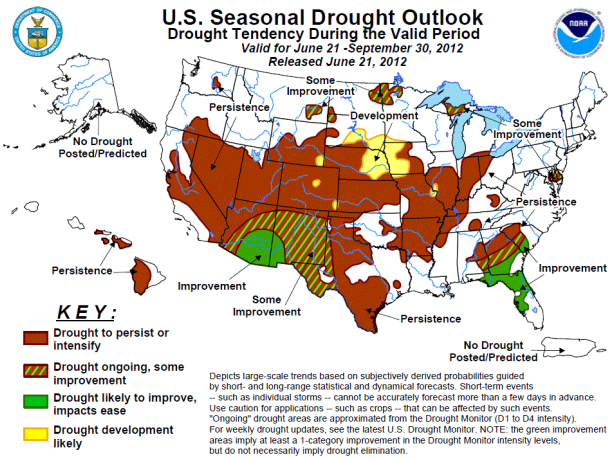
Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom) *(from High Plains Regional Climate Center)*





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



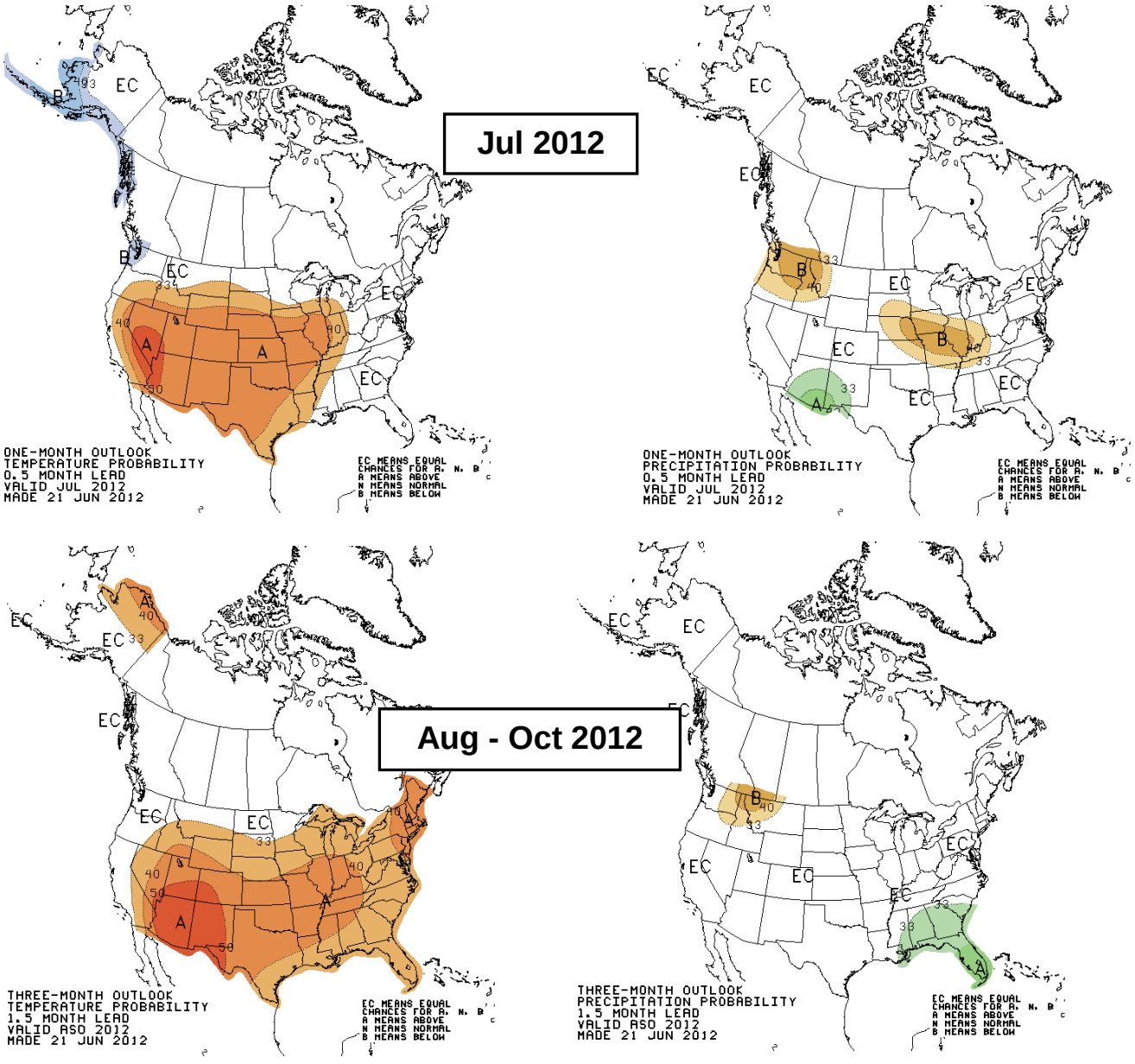


Weather and Climate Outlooks

Oceanic and atmospheric patterns continue to point to El Niño conditions developing later this summer. Current climate projections by the Climate Prediction Center weigh heavily on neutral conditions in the early summer months. This would indicate above normal temperatures for July across most of the western and central United States with cooler than normal conditions expected along the far Northwest coast and along the southern and western Alaska coast. Precipitation projections for July indicate a high likelihood of below median precipitation for the Northwest and for the central Plains and mid-Mississippi Valley. Above median precipitation is likely in the Southwest.

For August through October, Climate Prediction Center temperature projections indicate above normal temperatures across most of the country except along the West coast and across the far northern Rockies and Plains. Temperatures will also be above normal for the northern third of Alaska. Precipitation projections favor a higher probability of below median precipitation in the northern Rockies with above median precipitation likely in the Southeast.

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



Area Discussions

Alaska: Significant fire potential is expected to be normal statewide for July and the August through October period. Above normal temperatures are forecast over northeastern Alaska and the North Slope for the first week of the month. Precipitation is expected to be above normal for the Gulf of Alaska coast. Thereafter, there is no strong indication for above or below normal precipitation. It is typical for July to be a transition month between warmer, drier weather in June and wetter weather with the normal end of fire season in August. July typically sees Alaska's fire season wind down as precipitation generally increases towards the end of the month. There is no reason to expect this year to be any different. ENSO is currently in a neutral state. If it remains neutral, activity will taper off with increasing rains by the end of July and into August. If El Niño becomes dominant, end of season rainfall may be delayed, and the fire season could be extended into August.

Southwest: Above normal significant fire potential is expected across northwestern New Mexico, much of the Four Corners, and northern Arizona in early July with normal significant fire potential elsewhere. Above normal significant fire potential is expected to decline to normal by mid-month. The monsoon appears to be ready to begin moderately during the first week of July and will initially be focused over the southeastern half of the Area during the first half of July before gradually expanding north during the latter half of the month. While forecasting total precipitation amounts is difficult, the focus is expected across the western half of New Mexico as well as eastern Arizona.

Normal significant fire potential is expected across the entire Southwest Area from August through October. However, there is considerable uncertainty with regard to the focus and likelihood of precipitation as well as the mid to late summer state of ENSO. Remaining in ENSO neutral conditions would likely point toward hotter temperatures across the eastern third of the Area with more moisture across the southeastern third. Otherwise, more normal temperatures and much drier conditions would exist across the northwestern portions during this timeframe. A definitive transition to El Niño would mean cooler and wetter conditions across the northwestern half of the Area as well as across the far east with more normal temperatures and below normal precipitation across much of the southeastern half of the Area.

Northern Rockies: Above normal significant fire potential is expected for southern portions of the Northern Rockies Area east of the divide through July. ENSO neutral conditions are expected to continue for July, which is typically the hottest month in the Area. While elevated dew points and higher humidity are expected over eastern Montana and North Dakota, look for very low relative humidity elsewhere. July will be warm and dry for the Area with a good chance of above normal temperatures. Abundant fine fuels have cured and all other classes are becoming available to burn.

Above normal significant fire potential is also expected for August through October for southern portions of the Northern Rockies Area east of the divide. ENSO neutral conditions are expected to dominate through the summer with a weak El Niño forming sometime in the fall. Anticipate a warm, dry summer and longer than normal fire season, possibly extending into October if typical El Niño late summer dryness develops. Look for wind events in late August and early September as dry cold fronts tend to sweep across the Area. A season suspending rain event is typical in late September but may be delayed, extending the season. The 2006 fire season could provide a template for this season, where the moisture and lightning were positioned over central Montana, producing abundant lightning for southwest and south central Montana and Yellowstone National Park.

Western Great Basin: Most of the Western Great Basin will see above normal significant fire potential for July. July and August are the two most active months for fires in Western Great Basin. Typically there are a number of large fires in western and northern Nevada, with fewer large fires elsewhere. Medium range models indicate slightly below normal temperatures and some showers or thunderstorms to start off July over northern Nevada, with warmer weather and an increase in thunderstorms through at least the middle of the month. This warmer weather will continue to further dry out fuels and increase ignition efficiency at all elevations. Maximum temperatures over the last 30 days have been above normal over central and northeast Nevada and near to slightly above normal over southern and western Nevada. Very dry conditions also occurred through

June with precipitation below 25 percent of normal. ERCs were well above normal through June in all areas of Nevada. Some ERCs over northwest and eastern Nevada exceeded record high ERCs for June. ERCs and fuel conditions are more critical than the typical peak of summer in many areas. Snowpack has disappeared across nearly all of Nevada, but is visible in spots on some of the higher peaks, which is less than 5 percent of normal for this time of year. Therefore soil moistures, even at the higher elevations, are below normal. The outlook for July calls for above normal temperatures across all of Nevada with equal chances of above normal, normal or below normal precipitation, which is typically minimal during the summer months. Drought conditions are mostly severe across much of the Area, with pockets of moderate drought over central and eastern Nevada.

The Western Great Basin fire season is typically in full swing by mid-July into August. Due to the abundance of the carryover fuels and the dryness of new growth and carryover fuels, above normal significant fire potential is expected to continue over all but southern and southwest Nevada where fuels are not as abundant. Fire season typically winds down in September, but if conditions remain warm and dry longer, fire season may persist. Drought is likely to persist if not intensify across Nevada. Continued above normal temperatures for Nevada, especially in the east and south, and equal chances of above normal, normal or below normal precipitation is forecast across the state. ENSO has become neutral, with a gradual pattern shift this summer to warmer and drier conditions in Nevada. A switch to El Niño is still a possibility but will likely occur later in the summer or fall. Therefore, the probability of wetter conditions possibly developing over parts of eastern and northeast Nevada seems to be dwindling, depending on the evolution of the monsoon.

Eastern Great Basin: Significant fire potential is expected to be above normal for most of the Eastern Great Basin through July. Near record and record ERC values region-wide reflect the extended warm, dry spring and early summer. Current ERC values exceed 2007 levels, which was a benchmark year for Eastern Great Basin. Frequent warm, dry wind events in June have further dried fuels and contributed to these extreme conditions. Any wind during July will likely produce the same extremely critical fire environment. Live fuel moistures peaked early in May and did not reach normal high values before dropping quite rapidly. Sagebrush values, for example, are at least 50 percent of normal across much of the region. Recent extreme fire behavior across Utah, western Wyoming, and southern Idaho demonstrates the potential for above normal significant fire potential Area wide. Warm and dry conditions are expected to continue across much of the Area through July. The normal increase in lightning activity during July will likely cause a significant increase in ignitions. This is especially true across the mid to high elevations of Utah, eastern Idaho and western Wyoming where the slight increase in relative humidity and spotty precipitation will have little effect on fire spread through the heavy dead and down layer. The increase in humidity at low elevations across southern Utah will likely decrease significant fire potential there for the second half of the month.

With extreme fire behavior and record setting fire danger indices already being observed across most of the Area expect above normal significant fire potential to continue in the higher elevations and northern portions of the Area. It is unlikely that a precipitation event will occur that will change these critical fire potential conditions, especially at the mid and high elevations. Continued hot, dry conditions are expected across the high elevations of eastern Idaho and western Wyoming. ERCs aren't quite as critical across the mountains of west central Idaho as frequent low pressure systems have allowed surges of cool, moist air into the area, but those areas will likely become more critical as the summer heat increases. All of southern Idaho is expected to be active through the season and could see more activity than normal due to carryover grasses and warm, dry spring weather and low live fuel moistures in the brush fuel types. The increase in relative humidity during late July and through August across the low elevations of southern Utah is typically enough to decrease fire potential to normal. This is expected to occur again this year.

Northwest: June was cooler than average for nearly the entire northwestern United States. Precipitation was at or above average in June for the majority of the Northwest Geographic Area due to several frontal systems that arrived throughout the month. Rounds of wet thundershowers also added moisture. The exception to the moist trend observed in June is southeastern Oregon which has remained unusually dry. The cool and moist weather in June significantly slowed or even reversed the rise of fire danger indices normally observed through the first part of summer. ERC and 1000-hour timelag fuel moisture values observed in late June reflect the unusually low fire potential across the region except in southeastern Oregon. The effects of the cool, moist

weather from June are expected to linger into July where significant fire potential is anticipated to be below average for a large portion of the Area where fire danger indices are expected to remain below July averages. However, southeastern Oregon appears poised to remain at above normal significant fire potential for July and probably the remainder of the fire season.

Late summer and early autumn are not expected to be particularly hot or dry over the Northwest Geographic Area. Therefore, drying of fuels is largely expected to proceed at normal rate in late summer and early autumn after a slow start due to substantial June rains. The area most at risk for significant wildfires appears to be southeastern Oregon which was not affected by June rainfall and fire danger indices have been above normal.

Northern California and Hawaii: Significant fire potential is forecast to be mostly normal, except above normal in the more drought affected eastern areas that border Nevada, and in some valley and foothill areas of the southwestern interior. Fuels will be drying out over the first two weeks of July, as the pattern gradually comes under the influence of strong high pressure aloft. July is typically the driest month of the year across the California interior. Even when just bordering the high pressure system and not directly under it, periods of dry southwest gradient winds will be an increasing factor east of the northern Sierra crest. Given expected drying, a dry or widespread lightning event by late July could increase significant fire potential in the currently quiet northwestern mountains.

The atmospheric effects of an El Niño may show up by September or October. Those can vary over northern California in the late summer, depending on how strong the El Niño is. Significant fire potential should be decreasing in the eastern above normal area after mid or late September. The Sacramento Valley may see above normal significant fire potential by mid-September, ahead of the fall foehn wind season.

Southern California: Above normal significant fire potential is expected across many of the mountain and foothill portions of Southern California for July. Slightly above normal temperatures are forecast with near normal precipitation, even though normal is virtually none. Expect active to extreme fire behavior during peak heating hours and the possibility of significant fires in higher elevations.

Above normal significant fire potential is expected to continue in the mountains and foothills of the Area from August through October. Significant fire potential will be decreasing in the Sierras in October, but remain above normal in the mountains and foothills elsewhere. Above normal temperatures and near normal precipitation are expected through the summer, but below average monsoon precipitation is forecast in the Sierras. Drought conditions will be increasing in coverage and severity across most of the Area through the summer months. At this time there is no clear signal to the extent of offshore winds this fall

Rocky Mountain: Above normal significant fire potential is expected to persist across much of Colorado, and expand into much of Wyoming during the month of July. Severe to extreme drought has become well established over many areas of Colorado and southern Wyoming stemming from above average warmth and below average rainfall since March. Drought patterns have also been developing over central to northern Wyoming albeit not as intense as the southern sections of the Area. Monsoon moisture trends are predicted to result in a downward trend in significant fire potential across southern Colorado into the central Front Range, with normal significant fire potential developing in these areas by the second half of the month. For the remainder of Colorado into Wyoming, warmer than average temperatures along with less influence from the monsoonal moisture is predicted to keep significant fire potential above normal for the entire month.

Long range predictions point toward a continued warming trend in the equatorial Pacific sea surface temperatures during the late summer with resultant El Niño temperature anomalies predicted to evolve. This pattern increases the likelihood that average moisture trends in southern and eastern portions of the Area associated with monsoon moisture are expected. Increasing humidity and occasional wet thunderstorms are likely. With this pattern comes a greater likelihood that above normal fire potential moves northward and becomes constrained to northwest Colorado and much of central and western Wyoming.

Eastern Area: Above normal significant fire potential is expected to develop across Missouri and southern portions of Illinois and Indiana, while conditions will remain normal elsewhere. A short to medium range

drought is predicted to continue developing across much of Illinois, Missouri, and Indiana through mid-summer. The occurrence of negative soil moisture anomalies can also be expected to increase through mid-summer over these areas. Indices were above the 90th percentile at many of the RAWS across these areas and 100- to 1000-hour fuel moistures were below the 90th percentile in late June. The majority of Missouri, Illinois, and Indiana were drier and warmer than normal through much of June. The northern portions of Illinois and Indiana were expected to receive much needed rainfall through late June. However, a very warm and dry weather pattern that set up across the mid-Mississippi Valley through late June is forecast to persist into the late summer months. Any windy periods with low humidity levels will lead to above normal significant fire potential across the areas of concern. Near normal significant fire potential is expected across the rest of the Eastern Area through the summer and early fall. However, as always, any short to medium term dry and windy periods will produce elevated fire potential as finer fuels dry out.

Southern Area: Recent moderate rainfall from Tropical Storm Beryl in May and the more recent heavy, widespread rain from Tropical Storm Debby across southeastern Georgia and northern Florida will continue to have lasting fire-limiting effects for the Southeast through July. In addition, a still expected favorable forecast for at least the first half of July will aid in amplifying tropical activity across an area from the Yucatan to the Bahamas. With this pattern, a continued building of the seasonal rain and tropical disturbance threat will persist to produce favorable weather conditions for low significant fire potential. The main area of concern is across the states of the mid-Mississippi Valley, especially Arkansas and western areas of Kentucky and Tennessee. In these areas persistently below average rainfall and the more recent onset of much above average temperatures are producing record setting ERC values as well as low soil moistures, stream flows and fuel moistures. While fire occurrence is presently below normal to normal, the most critical weather-driven risks will be during the first half of July with what should be a more active convection- and rain-producing environment, which will increase humidity and help to lower fire potential from its current level. Ongoing cold frontal passages will allow minimum humidity to periodically drop producing periods of higher fire threat during the month. Expect a large area of the Gulf Coast to fall to below normal significant fire potential due to elevated humidity and recurring rain activity from tropical Gulf flow and interactions with stalling cold fronts. Anticipated cooler temperature conditions and what should be at least moderately active rain-producing patterns during August and October should be enough to keep significant fire potential elsewhere at average or below average.

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

Historic and Predicted Wildland Fires and Acres Burned Data

Based on data reported year-to-date in 2012, nationally there were 72 percent of the average number of fires burning approximately 54 percent of the average acres. Nationally, as of June 30, the 10 year average number of fires is 30,987 and the 10 year average acres burned is 1,284,624. The following table displays 10 year historical, current and predicted information pertaining to fire statistics.

May Reported Year-To-Date		AVG reported for Jun	Projection for Jun YTD+Forecast	Average Reported YTD Jun	10 Yr Low YTD Jun	Year of Low	10 Yr High YTD Jun	Year of High
ALASKA								
Fires	109	142	190	326	197	2006	477	2010
Acres	199	341,526	170,962	429,682	6,896	2008	963,685	2004
NORTHWEST								
Fires	206	357	593	552	208	2010	926	2004
Acres	12,187	8,909	30,004	9,805	926	2010	32,539	2005
NORTH OPS								
Fires	735	735	1,999	1,084	59	2011	2,294	2008
Acres	1,122	31,352	26,906	34,345	2,533	2005	269,091	2010
SOUTH OPS								
Fires	1,159	879	2,395	1,745	1,089	2003	3,155	2002
Acres	2,407	28,622	16,718	39,052	7,598	2003	84,402	2008
NORTHERN ROCKIES								
Fires	652	235	1,108	745	195	2011	1,359	2011
Acres	30,861	4,761	36,434	18,464	631	2010	50,069	2008
EAST BASIN								
Fires	299	279	857	390	206	2011	617	2006
Acres	17,282	50,610	118,502	52,816	1,114	2009	138,227	2002
WEST BASIN								
Fires	160	83	325	172	0	2010	294	2004
Acres	43,637	96,713	237,062	100,067	0	2010	731,377	2005
SOUTHWEST								
Fires	826	767	1,349	1,911	1,320	2010	2,006	2006
Acres	235,855	274,270	591,351	477,483	3,010	2001	1,717,158	2011
ROCKY MOUNTAIN								
Fires	1,066	411	1,888	815	582	2001	1,485	2006
Acres	85,958	51,289	186,083	108,005	6,010	2003	365,333	2002
EASTERN AREA								
Fires	6,664	699	7,198	8,238	3,580	2011	11,919	2009
Acres	55,572	2,463	57,030	92,885	41,857	2011	172,246	2008
SOUTHERN AREA								
Fires	10,310	4,086	12,310	23,719	10,757	2005	37,090	2006
Acres	213,306	146,919	238,498	968,131	185,030	2009	2,436,804	2011
NATIONALLY								
Fires	22,186	8,708	28,864	39,695	26,880	2011	57,248	2006
Acres	698,386	1,039,192	1,118,200	2,323,816	728,615	2003	4,741,401	2011

Prepared July 1, 2012 by the National Interagency Coordination Center Predictive Services Staff. The information above was obtained *primarily* from Incident Management Situation Reports from 2002-2012, however some inaccuracies and inconsistencies have been corrected. Therefore, the data may not reflect other historic records and should *not* be considered for official statistical purposes.

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