

# National Wildland Significant Fire Potential Outlook



## National Interagency Fire Center Predictive Services



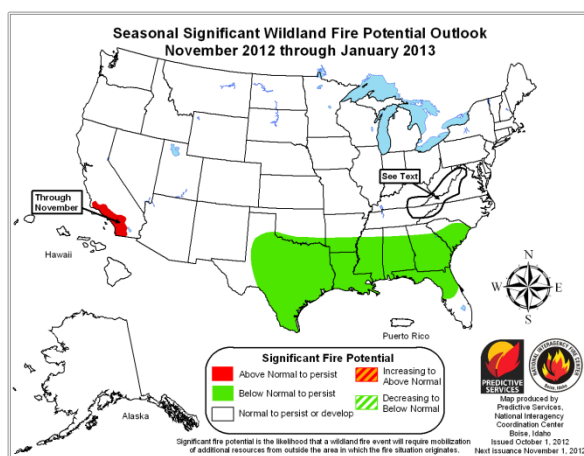
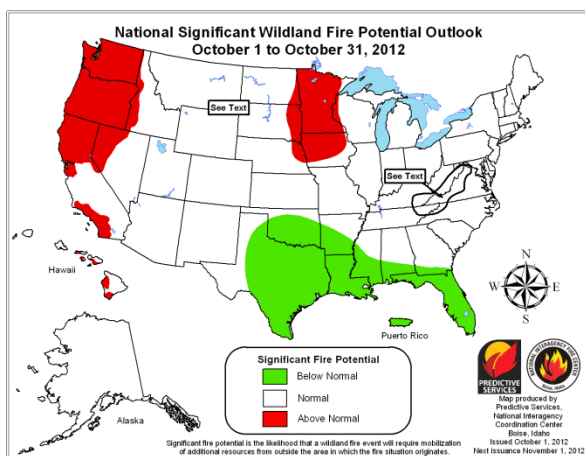
Issued: October 1, 2012

Next Issue: November 1, 2012

## Wildland Fire Outlook – October 2012 through January 2013

The October 2012 through January 2013 significant fire potential outlooks are shown below. The primary factors influencing these outlooks are:

- **El Niño/Southern Oscillation (ENSO):** Equatorial Pacific sea surface temperatures continue to edge toward weak El Niño conditions.
- **Drought:** Above normal rainfall fell across much of the Ohio Valley and the mid and lower Mississippi Valley as well as parts of the Southwest and southern Great Basin. The rest of the country largely experienced precipitation deficits in September with the worst deficits over the West Coast, the Northwest, the northern Rockies and the northern Plains. Severe or worse drought conditions remained over the central U.S. from the Front Range of the Rockies to the mid-Mississippi Valley.
- **Fuel Conditions:** Through September lack of significant precipitation inputs have led to above normal Energy Release Components (ERCs) and below normal live and dead fuel moistures across most of the northern half of the U.S. as well as California. Normally during this time of year fuels conditions would decline fairly rapidly across the northern tier. This season is seeing a very slow decline in nearly all fire danger indices, with that decline coming mostly in response to longer and colder nights. In order for any significant improvement in fuel conditions to take place a sustained input of moisture would need to occur. This seems unlikely at least through the middle of October. Portions of the Hawaiian Islands also continue to see elevated fire danger indices. The southeastern U.S. will continue to see periodic precipitation events increasing fuel moistures and reducing fire potential. As the fall leaf drop season develops the potential exists for a return to above normal significant fire potential across portions of the eastern U.S. depending on fall precipitation that would moisten leaf litter as it drops into the surface fuel layer.



**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

September weather patterns continued where August left off with a persistent ridge in the West and a trough in the East. Warm and dry conditions remained firmly in place across the western half of the nation with only occasional surges of moisture and wetting rains into the Southwest. In the East, several fronts dropped down into the mid and lower Mississippi Valley, bringing wetter and cooler conditions to much of the East. A brief pattern shift toward the end of the month brought cooler conditions to the interior west as well scattered precipitation and even some snow to the central Rockies.

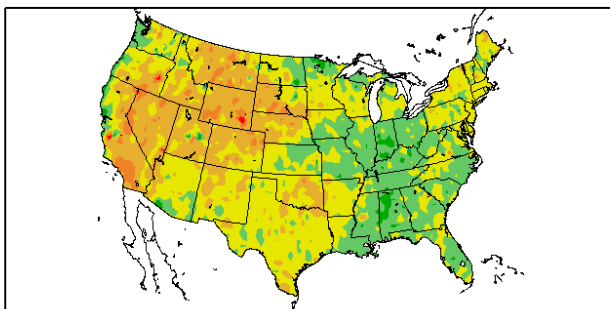
Temperatures were generally above normal in the western states where average readings were two to four degrees above normal. In the East, especially the Mississippi valley and parts of the southeast coast, readings were two to four degrees below normal.

The West continued very dry through the month with precipitation of less than 25 percent of normal along the west coast, across the northern Rockies and over the northern and central Plains. Much above normal precipitation, as much as 400 percent of normal, fell over the Mississippi and Ohio Valleys and into parts of New England. Parts of Nevada, Utah and Arizona also had up to 400 percent of normal rainfall.

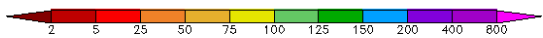
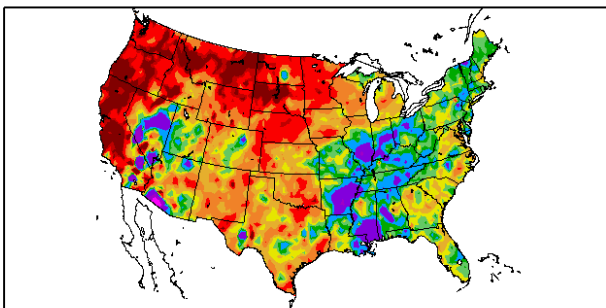
Only a few areas of the country escaped some level of drought, including the Northwest and the far northern Rockies, the Gulf Coastal region, the mid-Atlantic coast, the Appalachians and far northern New England. The rest of the nation continued in drought conditions with portions of at least 31 states in severe to exceptional drought.

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

Departure from Normal Temperature (F)  
8/28/2012 - 9/26/2012

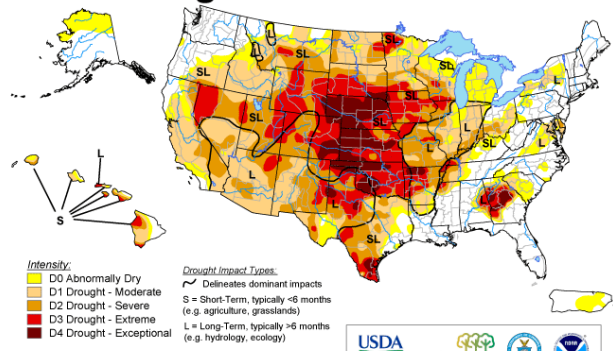


Percent of Normal Precipitation (%)  
8/28/2012 - 9/26/2012



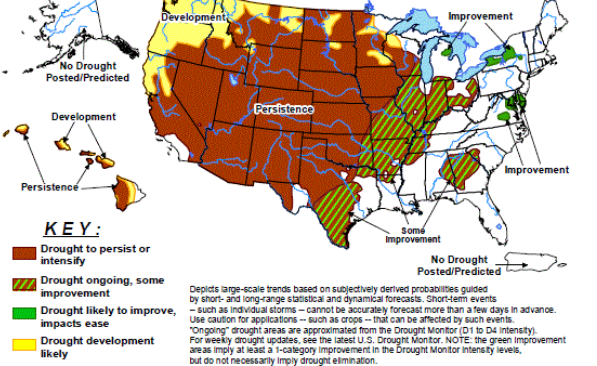
**U.S. Drought Monitor (top) and Drought Outlook (bottom)** (from National Drought Mitigation Center and the Climate Prediction Center)

**U.S. Drought Monitor** September 25, 2012  
Valid 7 a.m. EDT



Released Thursday, September 27, 2012  
Author: Anthony Artusa, NOAA/NWS/NCEP/CPC  
<http://droughtmonitor.unl.edu/>

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



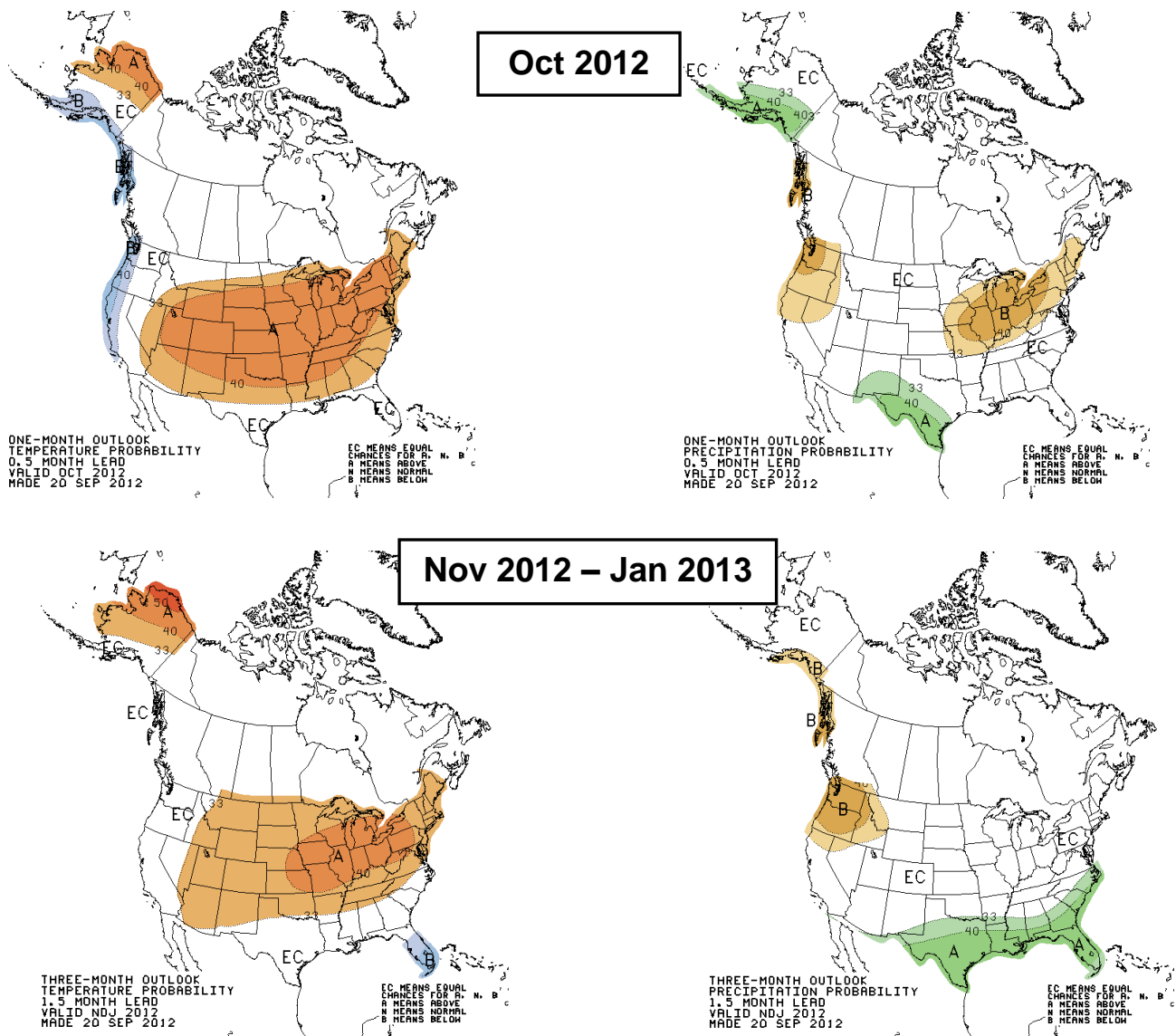
# Weather and Climate Outlooks

Sea surface temperatures along the equatorial Pacific continue above normal, although there has been some weakening of the positive anomaly. Nonetheless, conditions favor a weak El Niño to take hold but it remains likely that atmospheric effects of El Niño will not be felt across the U.S. until later this fall.

Current climate projections by the Climate Prediction Center continue to trend toward a transitioning state as fall begins. For October, this suggests a high probability of above normal temperatures for most of the U.S. except along the Gulf and west coast states and the southern third of Alaska. Precipitation projections indicate a high likelihood of below median precipitation for the Northwest, the mid and upper Mississippi Valley, the Great Lakes region and parts of New England. There is a higher than normal likelihood of above median precipitation from southern New Mexico to southern Texas, and the southern third of Alaska.

For November through January, projections continue to show above normal temperatures for most of the country except the west coast states, the Gulf and Southeast coast states, and southern Alaska. Precipitation will be above median along the Gulf and Southeast coasts and below median in the Northwest and southern Alaska.

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



## Area Discussions

**Alaska:** October significant fire potential is expected to be normal statewide, with November through January significant fire potential expected to be normal as well. Alaska is considered out of fire season. The Alaska fire season has been well below normal this year, though several late September wind events caused fire starts from downed trees into power lines. Above normal temperatures are forecast in October over the northern third of the state with cooler temperatures expected along the Gulf of Alaska coast to the Panhandle. Greater than normal precipitation is expected for the southern third of Alaska. October is when most of the Interior receives its winter snow cover. November brings winter and snow cover for all of Alaska. The November through January time period is expected to have warmer than normal temperatures over most of northern Alaska and slightly below normal precipitation over the central Gulf of Alaska coast and panhandle.

**Southwest:** Normal significant fire potential is expected for the entire Southwest Area for October. A more fall like weather pattern will gradually evolve through the month. This will mean milder and drier periods of weather interspersed with cooler and wetter periods as a high amplitude weather pattern is likely to develop across the western half of the U.S. and the eastern Pacific Ocean. Overall, this will lead to a wetter pattern for the southeastern sections of the Area early in the month with a likely tilt towards cooler and wetter weather conditions across northern and western sections later in October.

Normal significant fire potential is also expected across the entire Southwest Area from November through January. Considerable uncertainty exists in regards to the overall weather pattern for this timeframe as the recently evolving El Niño seems to have weakened some and hasn't shown much of an impact in the overall weather and climate picture through late September. As a result, expect a considerably varied weather pattern during this timeframe with periods of colder and moister conditions interspersed with drier and milder timeframes.

**Northern Rockies:** Above normal significant fire potential will remain across the Northern Rockies Area until at least the middle of the month. Record setting warmth and dryness continued through the month of September. Large fires in central Idaho will continue to burn until significant rain and snow falls. With a continued weak El Niño in the forecast, anticipate October to be warm and dry for at least the first half of the month. Mid-range models continue to waver concerning the arrival of significant wetting moisture and cooling temperatures.

The Northern Rockies is usually out of fire season for the months of November, December and January. Expect a relatively dry fall and winter with below normal snowpack. Weak El Niño winters tend to produce poor snowpack for the Area. Any fire activity will be human caused. Large human caused grass fires are not unusual east of the divide and will continue until snow covers the ground.

**Western Great Basin:** Due to the dry fuels, significant fire potential will remain above normal over western and northern portions of the Western Great Basin until a significant amount of rain or snowfall occurs. Fire season is typically over by October across the Western Great Basin. Average temperatures over the last 30 days have been above normal over much of Nevada and very dry conditions continued over northern and western Nevada. Due to recent dry and warm weather, ERCs over western and northern Nevada increased above the 90th to 95th percentile, and even exceeded historic maximums from mid to late September. Concurrently, 100 hour fuel moistures have been trending in the 95th percentile for the driest years on record. Significant fires continued to occur in September across western and northern Nevada. After a brief period of wet and cooler weather across the Area in late September, dry and warm weather is expected through at least early October. Much of the precipitation that affected Nevada in September did not affect the western and northwest side of the state. Extreme drought conditions exist across much of western and northern Nevada, with severe and moderate drought over the remainder of the state. Expect above normal temperatures across the eastern half of Nevada with below normal precipitation over western and northern Nevada for October.

There are some indications that drier and warmer conditions will continue over parts of northern and eastern Nevada from November through January. However, because this forecast is uncertain the outlook will be for a return to normal significant fire potential based on historical trends. That said, significantly wetter conditions will need to occur over northern and western Nevada in order for this to happen, and the development of these conditions is uncertain at this time. Therefore, some areas of above normal may return by the next outlook if drier conditions persist through October over parts of western or northern Nevada. Drought is likely to persist across all of Nevada. Wetter conditions in the winter over parts of southern Nevada are possible, with drier conditions more likely over western and northern Nevada.

**Eastern Great Basin:** Above normal significant fire potential persists across portions of western Idaho and the central Idaho mountains. Dry fuels and record high fire danger indices will be slowly overcome by shorter day length and cooler temperatures in October. The first week of the month will be warm and dry, but by the second week a more significant system may impact the northern portions of the Area. Pre-frontal winds are the main fire weather concern this time of year for new significant fires, especially for the Snake River Plain and Utah's west deserts. Significant fire potential will decrease dramatically after the first widespread rain or snow producing fall storm. Otherwise, fire potential will gradually decrease as cooler, shorter days continue.

Normal significant fire potential is expected Area wide during November, December and January. Normal fire occurrence for this time of year is generally quite low.

**Northwest:** After a moist June and July, August and September were unusually dry across the Northwest. Only passing thunderstorms provided isolated brief periods of measured rainfall while no organized weather systems provided sustained precipitation. Some reporting sites west of the Cascades reported below average temperatures during September but east of the Cascades was significantly warmer than normal. The extended warm and dry spell resulted in unusually high fire danger indices through August and September. Despite some fluctuations associated with weather changes, ERC values across the Area remained above average through September. Warm periods resulted in several historic ERC peaks that corresponded with large fire outbreaks from lightning in Oregon and Washington. Outlooks suggest continued dry weather for the Area in October and beyond. Temperatures are likely to remain cool on the west side and near or above normal on the east side. This would indicate unusually high fire danger lingering well into the month. Lightning and instability have historically not been factors in significant fire development during October but strong general winds remain a threat. With unusually high fire danger likely across the Area coupled with the potential for dry and gusty winds, the potential for significant fire is expected to be above normal in October.

Late fall and winter weather over the Northwest is typically cool and moist. Fire danger indices are unlikely to be high enough to support significant wildfires and historically the likelihood of large fires is minimal. The Area is considered to be out of fire season. While some indications suggest late fall and winter will be drier than usual, significant fires are still very unlikely. Normal significant fire potential is expected.

**Northern California and Hawaii:** Most dead fuels are above the 90th percentile and in some cases at record dry levels across much of Northern California. Live fuels are down to critical late season moisture levels as well. The current exception is the coastal areas, but warm and dry offshore winds are expected to dry those areas also. Expect above normal temperatures with increasing frequency and strength of both north to east offshore winds and pre-frontal south to west winds. There is also a small lightning threat early in the month. With no wetting rains expected, the area of above normal significant fire potential has expanded to cover the entire Area. For November through January a return to normal significant fire potential is expected as fall rains and winter snows are expected to return. Normal during this period indicates out of fire season conditions.

Drought conditions continue across the lower islands, where above normal significant fire potential is expected to continue. Some relief is possible later in the month as the trade winds weaken, which

could bring more rain to leeward areas. As the rainy season resumes for November through January lingering drought areas are expected to return to normal significant fire potential.

**Southern California:** Significant fire potential will be above normal across Southern California from the coastal mountains westward and also over some of the mountain and foothill areas of central California. Temperatures will be above normal over Southern California while precipitation is expected to be below normal with little if any significant wetting rains occurring in October. Several offshore wind events will be possible across Southern California in October with higher than average initial attack activity.

Winter rains are expected to commence across the Area starting in November with significant fire potential returning to normal throughout the Area during this period. Temperatures and precipitation are expected to be near to a little above normal through January. Expect one to two offshore wind events each month through the period.

**Rocky Mountain:** Cold frontal passages will become more frequent over the Rocky Mountain Area which is typical for this time of year. Very dry fuel conditions are still a concern for above normal significant fire potential early in the month across northern portions of Wyoming into western South Dakota. An anticipated moderating trend is expected to gradually alleviate these conditions through early to mid-October. Overall, the threat for fire activity across the Area is expected to decrease as cooler and occasionally moist conditions develop and natural ignition triggers diminish. On average fire activity in October is limited to the grasslands ahead of cold fronts where wind becomes a major influence. These fires are typically short lived.

The trend of normal significant fire potential is anticipated to continue during the November through January period. During a typical El-Niño fall and winter, precipitation and mountain snowpack trends toward average to above average in southern portions of the Rocky Mountain Area, while in northern portions of the Area an average to below average moisture trend is typical. Normal significant fire potential during the November through January period typically indicates little if any fire activity.

**Eastern Area:** Areas of moderate to severe drought are predicted to persist across much of Minnesota southward into portions of Iowa into October. Below normal soil moisture and precipitation anomalies existed at the end of September over these areas. Fire danger indices were near or above record levels across these areas as well and 100 to 1000 hour fuel moistures were drier than the 90th percentile in late September, warmer and drier than normal conditions are forecast across much of the Eastern Area into October. When coupled with below normal precipitation trends across the Upper Mississippi Valley, this will create above normal significant fire potential over this area into October. Longer nights and cooler temperatures later in the fall will limit fire activity across the area of concern. However, any warm, dry, and windy periods will still create above normal significant fire potential into November if rainfall does not increase. Near normal significant fire potential is expected across the rest of the Eastern Area through the remainder of the fall season and into the winter. However, any dry and windy periods will produce above normal significant fire potential as finer fuels dry out.

**Southern Area:** Expect recurring rain activity to persist in the western states, which should keep significant fire potential normal to below normal for much of the Area west of the Mississippi River and along the southern tier to Florida. An overall dominating surface high pressure pattern for the central and eastern states will allow some drying of fuels. With leaf drop still in the early stages and prospects for some at least moderate rain fall producing cold fronts penetrating into the Ohio and Tennessee Valleys, expectations are for mostly normal weather driven fire activity. However, with gradual drying expected over the course of the month across the Appalachians along with increasing fine fuel loading from leaf drop later in the month, fire potential could increase for this area during the last ten days of the month. Active but decreasing tropical activity around the eastern Caribbean should minimize fire activity for Puerto Rico.

Overall expect colder weather and continuing rain activity affecting the Gulf and southeast Atlantic states to produce mostly below normal significant fire potential with more normal levels of activity expected for the rest of the Southern Area. As fuel conditions carryover from late October into November and as leaf drop progresses to its culmination during November, some potential for above normal fire activity is expected if a drier than average rain pattern prevails. Due to the uncertainty of this forecast normal significant fire potential is likely, however, increasing to above normal significant fire potential is possible for the Appalachian Mountains.

***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 75 percent of the average number of fires burning approximately 138 percent of the average acres. Nationally, as of September 30, the 10 year average number of fires is 64,642 and the 10 year average acres burned is 6,379,206. The following table displays 10 year historical, current and predicted information pertaining to fire statistics.

	Sep Reported Year-To-Date	AVG reported for Oct	Projection for Oct YTD+Forecast	Average Reported YTD Oct	10 Yr Low YTD Oct	Year of Low	10 Yr High YTD Oct	Year of High
<b>ALASKA</b>								
Fires	388	6	396	514	308	2006	707	2004
Acres	266,407	40,989	271,378	1,904,609	62,647	2008	6,645,978	2004
<b>NORTHWEST</b>								
Fires	2,029	190	2,203	3,311	2,102	2010	4,716	2006
Acres	1,451,000	26,658	1,504,316	435,462	122,192	2004	1,099,430	2002
<b>NORTH OPS</b>								
Fires	3,249	319	3,491	3,763	2,731	2011	4,663	2001
Acres	813,957	18,395	850,746	201,430	22,899	2011	933,322	2008
<b>SOUTH OPS</b>								
Fires	3,766	365	4,124	4,124	3,310	2006	4,917	2007
Acres	81,450	106,578	116,079	327,872	84,174	2010	792,421	2007
<b>NORTHERN ROCKIES</b>								
Fires	2,923	93	3,028	2,736	1,712	2010	4,247	2006
Acres	1,376,327	13,196	1,402,718	398,798	37,830	2004	1,163,845	2006
<b>EAST BASIN</b>								
Fires	2,311	117	2,424	2,217	1,630	2008	3,151	2001
Acres	2,025,973	9,156	2,044,286	677,696	89,169	2004	2,401,187	2007
<b>WEST BASIN</b>								
Fires	995	-200	728	692	0	2010	1,248	2006
Acres	640,329	-198,293	610,414	353,314	0	2003	1,340,538	2006
<b>SOUTHWEST</b>								
Fires	2,529	143	2,619	3,849	2,400	2010	5,422	2006
Acres	537,824	14,776	541,924	671,979	147,306	2001	2,101,844	2011
<b>ROCKY MOUNTAIN</b>								
Fires	4,240	578	5,085	3,141	1,884	2004	6,050	2003
Acres	1,070,196	41,205	1,152,605	266,118	44,987	2004	668,079	2002
<b>EASTERN AREA</b>								
Fires	9,644	477	9,930	11,799	5,339	2011	14,181	2002
Acres	100,674	5,788	105,741	125,834	59,857	2005	200,033	2008
<b>SOUTHERN AREA</b>								
Fires	16,184	1,674	16,958	32,413	13,336	2006	44,316	2006
Acres	438,584	33,111	458,507	1,307,323	241,412	2004	3,724,893	2011
<b>NATIONALLY</b>								
Fires	48,258	3,990	48,367	68,632	56,036	2011	89,784	2006
Acres	8,802,721	300,686	8,516,790	6,679,893	3,172,044	2003	9,602,226	2006

Prepared October 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>