National Seasonal Assessment Workshop

Western States & Alaska

Boulder, CO
April 22-24, 2008

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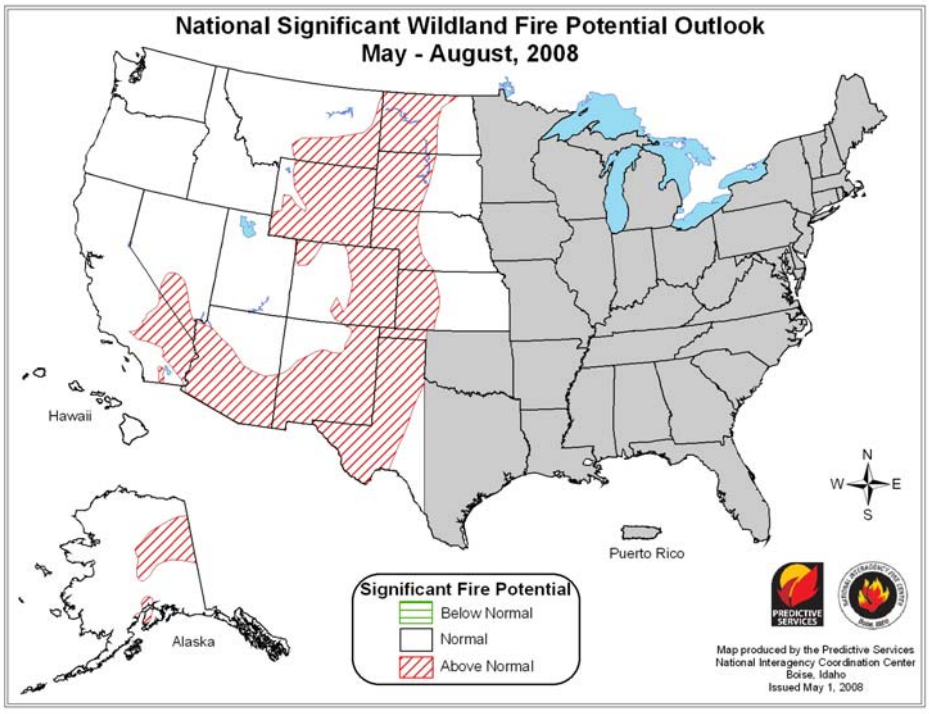
2008 National Seasonal Assessment Workshop for the Western States and Alaska

On April 22-24, 2008 fire, weather and climate specialists convened at the National Oceanic and Atmospheric Administration Earth System Research Laboratory in Boulder, Colorado for the sixth annual National Seasonal Assessment Workshop. A forecast of seasonal significant fire potential for the western states and Alaska was produced. This briefing document includes a description of existing climate forecasts, fuels conditions and the influence on resource requirements.

Significant Fire Potential Forecast (May – August 2008)

The map below shows the significant fire potential forecast for May through August 2008 across the western half of the U.S. and Alaska. 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. Areas highlighted as "Above Normal" are likely to require additional external resource mobilization during the forecast period.

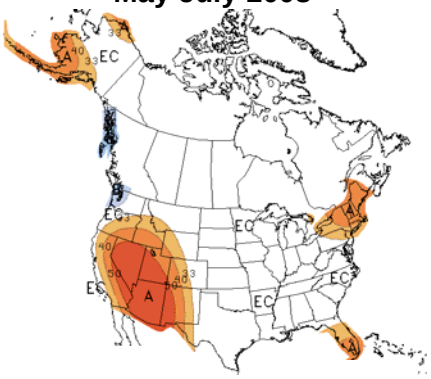


The workshop results indicate there will be above normal significant fire potential across portions of Alaska and much of the Southwest, including portions of California and southern Nevada, extending northward east of the Rockies into eastern Montana and western North Dakota. Elsewhere, significant fire potential is expected to be normal through August. The critical factors influencing significant fire potential for this outlook period are:

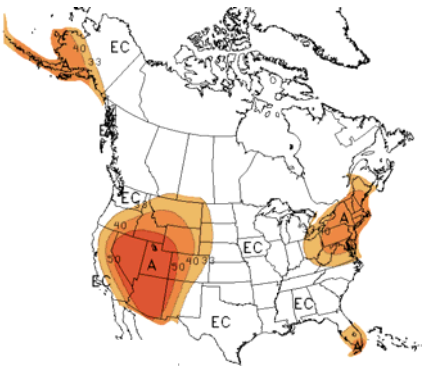
- **Drought:** Drought conditions still persist over portions of the West. Southern California and Arizona have shown significant improvement while drought conditions have intensified in the northern high plains.
- **Delayed High Elevation Fire Season Onset:** Above normal snow pack and cooler than average temperatures this spring are expected to delay snow melt over most of the higher elevation areas across the West. This will help keep fuels moist and delay the onset of fire season in many higher elevation areas.
- **Active Grassland Fire Season:** Abundant new and carryover (from 2006 and 2007) fine fuels across much of the Southwest and Front Range of the Rockies are expected to lead to an active and prolonged grassland fire season**.**
- **Resource Support:** National mobilization for resources is expected to be moderate to high, especially in the later half of the outlook period, due to the breadth and severity of the projected fire season.

Temperature Forecasts

May-July 2008

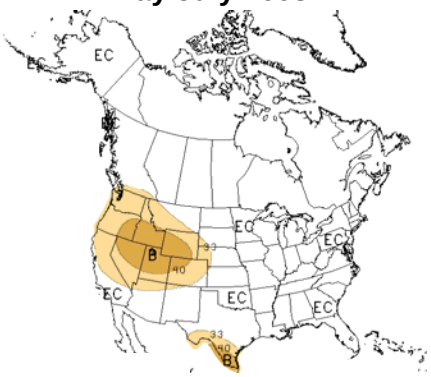


June-August 2008

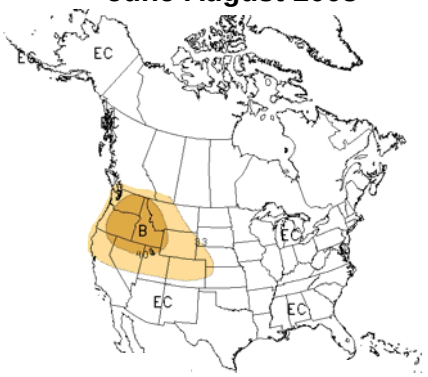


Precipitation Forecasts

May-July 2008



June-August 2008



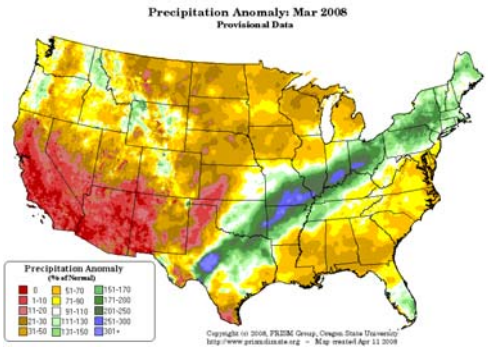
A = Above Normal
B = Below Normal
N = Normal
EC = Equal chances of above, below, or normal conditions

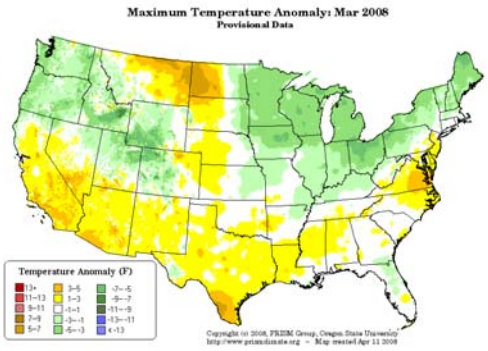
Numbers represent the probability of occurrence.

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead04/off_index.html

Climate Conditions and Forecasts

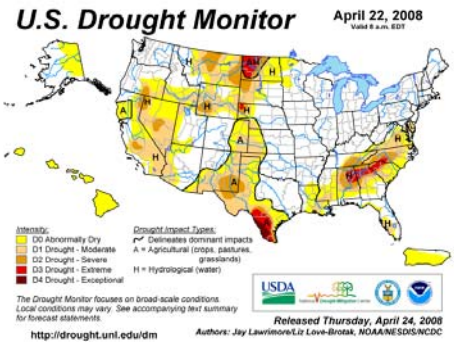
Sea surface temperature (SST) anomalies in the equatorial Pacific have been much cooler than normal for the past 12 months, which is indicative of a strong La Niña event. La Niña events typically bring cool, wet winters to the Northwest and dry weather to southern California and the Southwest. However, the combination of La Niña with enhanced intra-seasonal storminess brought much wetter than normal conditions to most of West this winter. Since March, the Southwest has turned quite dry, but cool, wet weather continues in the Northwest (see below). Recent observations indicate that La Niña has weakened but is still expected to persist through the summer. A typical La Niña during the summer months tends to enhance summer dryness across much of the West.

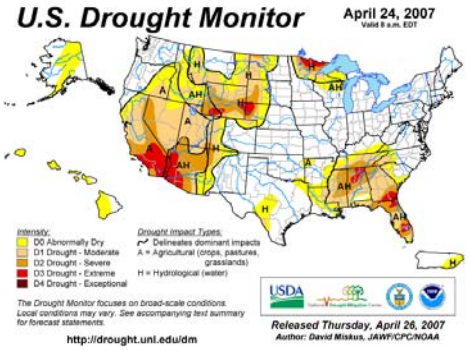




Temperature and Precipitation

Drought conditions persist over portions of the West (2008 below left) but show some improvement in California, the Eastern Great Basin, and the Southwest compared to last year (2007 below right). Currently, the eastern interior of Alaska is characterized as abnormally dry. Drought conditions in eastern Montana and North Dakota have intensified since this same time in 2007.





The NOAA Climate Prediction Center seasonal outlooks for May-July and June-August 2008 (at left) predict a high likelihood of above average temperatures across most of the West and southwest Alaska. A slightly increased likelihood of below normal precipitation is predicted for the Pacific Northwest, Great Basin, and the northern and central Rocky Mountains. Persistent, but weakening La Niña conditions were factored into precipitation predictions. Dynamical and statistical forecast models, as well as La Niña-based climate analogues, agree on enhanced chances of dry conditions in the West. A long-term trend toward warmer temperatures was a primary factor in the extended temperature outlooks.

Geographic Area Discussions

Alaska: The combination of low snow pack across the eastern interior sections of Alaska along with increased chances of warm summer conditions is expected to create above normal significant fire potential in eastern Alaska and portions of southern Alaska early in the outlook period. Eastern Alaska also had higher than average Canadian Drought Code values late last fall and is highlighted as abnormally dry on the latest U.S. Drought Monitor map. Forecasts for May through August call for above average temperatures in southwestern Alaska through the outlook period. Areas of bug-killed timber, especially on the southwestern Kenai Peninsula and portions of the western Cook Inlet, continue to elevate the risk of large fires there. Overall, years when La Niña conditions are present tend to favor fire seasons that burn less than the average number of acres. ***Confidence in the outlook for Alaska is moderate.***

Northwest: Normal significant fire potential is expected through August. The Northwest experienced a generally wet winter and cool, wet spring. The mountainous areas in both Washington and Oregon currently have above normal snow pack amounts. May through June is expected to be cool, but relatively dry, followed by a warm and dry late summer. Snow melt will likely occur late this year, due to substantial current snow pack amounts and cool spring temperatures. Fire potential is expected to increase to seasonal levels by the middle of fire season, as fuels cure and dry later in the outlook period. However, the Northwest is not expected to require significant resources from other areas through August. Prescribed burning opportunities will likely be somewhat limited and need to be completed later than normal due to heavy snow pack and moist conditions. ***Confidence in the outlook for the Northwest is moderate.***

California: Above normal significant fire potential is forecast for most of the desert region across southern California. One thousand hour fuel moistures are generally lower than normal in many lower elevation areas. Abundant and continuous grass and other fine fuels exist over much of the lower elevation areas across the region, especially across the Antelope Valley and Mojave Desert. Dry conditions during March and April have led to early curing of these fuels in the lower valley and desert areas. This could lead to an early start to the fire season in lower elevation areas. The higher elevation areas in the Sierras are mostly snow covered and green up there has been delayed due to cool spring conditions. There is a possibility that above normal fire potential could emerge across portions of northern California this summer if May ends up being warmer than normal, especially in Lassen County and the northern Sierra foothills. Good prescribed burning opportunities should exist this spring and early summer in northern California. ***Confidence in the outlook is high for southern California and moderate for northern California.***

Northern Rockies: Above normal significant fire potential is expected across southern Montana and western North Dakota in early May, decreasing later in the month. Above normal significant fire potential will return during June through August. Normal fire potential is forecast elsewhere. The winter of 2007-2008 resulted in below normal temperatures west of the Divide and above normal temperatures east of the Divide. Winter precipitation was below normal across most locations except the Idaho Panhandle, central Idaho and southwest Montana. As of late April, state snow packs ranged between 90-110% of average for Montana and Idaho. However, abnormally dry conditions exist across south-central/southeast Montana and much of North Dakota, with early spring precipitation running below normal across these same areas. These conditions could limit green up in eastern Montana and North Dakota. Fine fuel loading continues to be normal to above normal in most locations east of the Divide, with heavy and continuous grass fuel loads still in place along southern Montana. Increased chances of above normal temperatures and below normal precipitation are expected across Idaho and western Montana this summer. Large fire activity is expected to emerge east of the Divide first; however considerable snow pack may delay the onset of fire season in the higher elevation areas in the west. ***Confidence in the outlook for the Northern Rockies is low.***

Great Basin: Significant fire potential is expected to be normal in May and then increase to above average over a portion of southern Nevada in June through August. Snow pack amounts were near to above normal in most mountain areas at the beginning of April 2008 and many mountain locations had additional snowfall during April. Overall, precipitation amounts across the lower elevation areas were near normal through early winter, then below normal after that, especially in the southern half of the Great Basin. Moderate drought persists across Nevada and has expanded across much of Utah. Abundant carry over fine fuels persist in some areas, but most have been matted down from good winter snows. Green up is expected to be delayed due to cool, dry spring conditions. The long range climate outlooks call for increased chances of above normal temperatures and normal to below normal precipitation, which should prevent extensive green up and reduce the fine fuels available later in the summer. Fuels in the higher elevation areas should remain moist much longer than in 2007, helping to delay the onset of large fire activity in those areas until mid to late summer. ***Confidence in the outlook for the Great Basin is moderate.***

Southwest: Above normal significant fire potential is expected across the southeast half of the area, rapidly expanding westward across southern Arizona during May. This area of above normal significant fire potential will shift slightly north and west (and higher in elevation) during June as heat builds and moisture events intrude into west Texas and eastern New Mexico, moderating fire potential there. Fire potential across most of the area will moderate by mid-July. Fine fuels across the southern and eastern portion of the Area have normal to excessive loading, are mostly continuous and are

effectively cured at this time; major concerns for southwestern Arizona are focused on riparian areas. Dead fuel moisture values are very low in the same area. Elsewhere, fine fuels are expected to green up over the coming weeks and cure out later this spring. Any additional moisture received in May across northern Arizona and the northwest third of New Mexico will prolong the green up period and/or delay the onset of large fire activity in the timber regimes until late season. Climate outlooks call for generally warm and dry conditions during the outlook period. A strong initial monsoon surge is expected into the West during July; however, climate outlooks show slightly increased chances of below normal precipitation across parts of the Four Corners area. Overall, resource demands are expected to be above normal, primarily for lower elevation large fire activity. ***Confidence in the outlook for the Southwest is high.***

Rocky Mountains: Above normal significant fire potential is forecast for eastern Colorado, southeast Wyoming, and western Nebraska and Kansas during May. This area of above normal significant fire potential will expand and shift north and westward across northwest Colorado, most of Wyoming and western South Dakota during June through August. Fire potential in the southeastern portion of the Area is likely to decrease by late June or early July, as monsoon moisture begins to work its way northward. Fine fuels are abundant and continuous across the eastern half of the area and green up has been lagging due to cool, dry spring conditions. Numerous wind events this spring have already contributed to large fire activity. Snow pack amounts in most locations are near average in Wyoming to above average in Colorado and snow melt has been delayed in the higher elevation areas due cool spring temperatures. Precipitation across Wyoming and western Colorado has been below normal in April and climate forecasts indicate slightly increased chances of drier than average conditions this summer, with limited influence from the Monsoon. ***Confidence in the outlook for the Rocky Mountains is moderate to high for May and moderate to low for June – August.***

Resource Support

National mobilization for resources is expected to be moderate to high due to the breadth and severity of the projected fire season, especially during the later half of the forecast period. In May and June, additional resource support is likely for the Southwest, Rocky Mountain, southern California, Northern Rockies, and possibly Alaska Geographic Areas. In July and August, fire potential should moderate in the Southwest, Northern Rockies and portions of the Rocky Mountain Areas. Significant fire potential is expected to decrease in Alaska after May, but persist in southern California, spread northward in the Rocky Mountain Area, and increase in southern Nevada during June through August continuing the demand for resources to support these Areas later in the outlook period.

2008 National Seasonal Assessment Workshop Summary

The main objective of the Sixth Annual National Seasonal Assessment Workshop is to improve information available to fire management decision makers. Other objectives include:

- Improving communication and cooperation between fire professionals and climate scientists.
- Improving interagency and inter-government (state, federal) information flow.
- Fostering the exchange of ideas and techniques for assessing fire potential and applying climate forecasts and products to meet fire management needs.

These annual assessments are designed to inform decision makers for proactive wildland and prescribed fire management, thus better protecting lives and property, reducing firefighting costs and improving firefighting efficiency.

Workshop participants, in consultation with other specialists unable to attend the workshop, considered a variety of factors when making their assessments. Significant fire potential outlooks are primarily based on interactions between climate factors, fuel types and conditions, long-range predictions for climate and fire and the persistence of disturbance factors, such as drought and insect-induced forest mortality. The main product of the workshop was a map forecasting significant fire potential for the western United States and Alaska.

The 2008 workshop was part of the sixth national assessment organized by the National Predictive Services Group (NSPG), the Climate Assessment for the Southwest (CLIMAS) at the University of Arizona, and the Program for Climate, Ecosystem and Fire Applications (CEFA) at the Desert Research Institute. Workshop funding was provided by the National Predictive Services Group (NPSG) and the National Oceanic and Atmospheric Administration (NOAA). The third North American Seasonal Assessment Workshop, which included participants from Mexico and Canada, was held in conjunction with this workshop. Other participating agencies are listed below.

Participating Agencies

Alaska Center for Climate Assessment and Policy
Alaska Coordination Center
Bureau of Indian Affairs
Bureau of Land Management
California Department of Forestry & Natural Resources
Carnegie Mellon University
CLIMAS/University of Arizona
Cooperative Institute for Research in Environmental Sciences
Department of Interior
Desert Research Institute
Earth Resources Observation Systems
Eastern Great Basin Coordination Center
National Aeronautics and Space Administration
National Association of State Foresters
National Interagency Coordination Center
National Oceanic and Atmospheric Administration
National Park Service
NOAA Climate Prediction Center
NOAA National Weather Service
NOAA Earth Systems Research Laboratory
Northern California Coordination Center
Northern Rockies Coordination Center
Northwest Coordination Center
Orange County Fire Authority
Pacific NW Research Forestry Sciences Lab
Rocky Mountain Coordination Center
Scripps Institute of Oceanography
South Dakota School of Mines and Technology
Southern California Coordination Center
Southwest Coordination Center
USDA-Forest Service
U.S. Fish & Wildlife Service
U.S. Northern Command
Washington Department of Natural Resources
Western Great Basin Coordination Center
Western Water Assessment