



National Seasonal Assessment Workshop

Eastern, Southern & Southwest Geographic Areas

Shepherdstown, WV
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2010 National Seasonal Assessment Workshop for the Eastern, Southern, & Southwest Geographic Areas

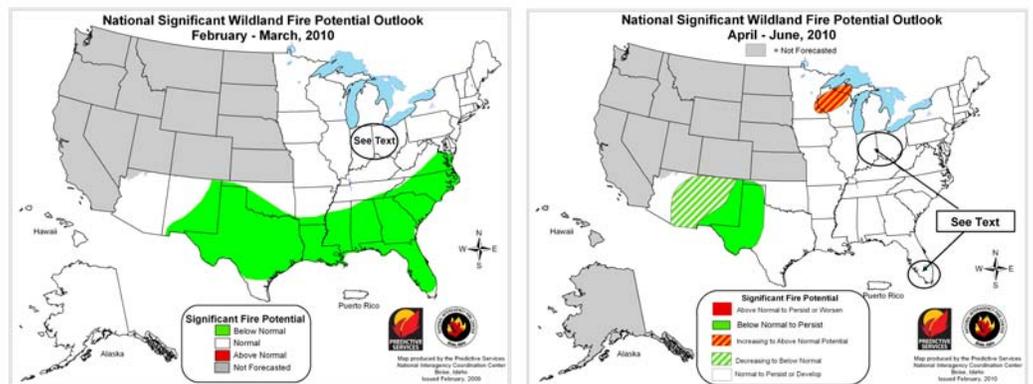
On January 26-28, 2010, wildland fire, weather, and climate specialists convened at the U.S. Fish and Wildlife Service National Conservation Training Center in Shepherdstown, West Virginia for the eighth annual National Seasonal Assessment Workshop for the eastern and southern United States. Two fire potential forecasts for the Eastern, Southern and Southwest Geographic Areas were produced; one for February-March and another for April-June. This briefing document includes a description of existing climate forecasts, fuels conditions, and potential resource impacts.

Significant Fire Potential Forecasts

(February–March and April–June, 2010)

The left map below shows the significant fire potential forecast for the Eastern, Southern and Southwest Geographic Areas for February through March. 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 resources mobilized to augment local capability at some point during the forecast period.

The right map below shows the trend forecast for significant fire potential during April through June for the Eastern, Southern and Southwest Geographic Areas based on the February through March outlook. Significant fire potential areas highlighted in red/orange stripes are expected to either persist or increase to above normal. The area highlighted in green/white stripes is expected to develop below normal significant fire potential during the forecast period.

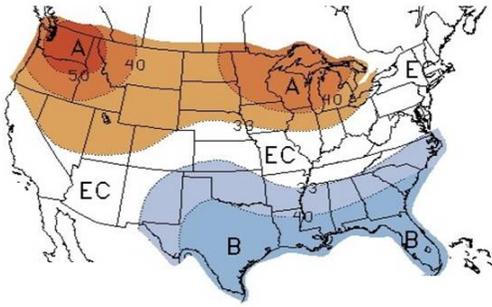


Note: Outlook map images (jpg files) are embedded and linked in this document.

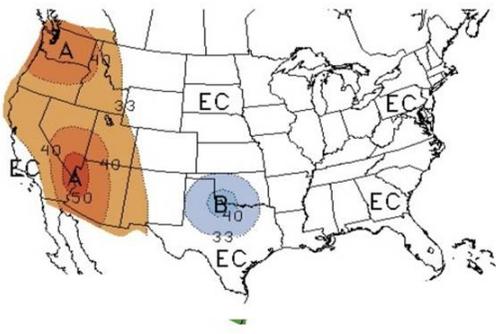
The results of the workshop indicate there will be below normal significant fire potential across much of the Southern Area, including Texas, southwest Oklahoma and the eastern half of New Mexico during February and March. The area of below normal significant fire potential in the Southwest is expected to expand across New Mexico and eastern Arizona during April through June. However, the area of below normal significant fire potential across the Southeast is expected to transition to normal during April through June. Above normal significant fire potential will develop across northern Wisconsin and parts of Minnesota and the Upper Peninsula of Michigan during April through June. Elsewhere significant fire potential is expected to be normal. The critical factors influencing fire potential for this outlook period are:

- **Precipitation:** Frequent moderate to locally heavy precipitation has occurred over most of the southern tier of the U.S. since the fall of 2009.
- **Drought Conditions:** Drought has been mitigated over most of the eastern U.S. and continued improvement is expected in the Southwest this winter.
- **Soil Moisture:** Soil moisture values across northern Wisconsin, the western Upper Peninsula of Michigan, and eastern Minnesota are below average.
- **Fuels:** Fuel moistures are above average from eastern New Mexico to the eastern seaboard. However, a small area of freeze-cured fuels exists in Florida.

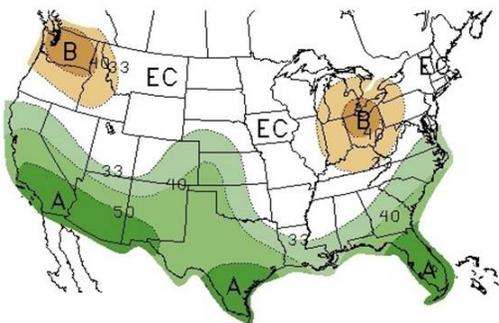
Temperature Forecasts
February-April 2010



April-June 2010



Precipitation Forecasts
February-April 2010



April-June 2010



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

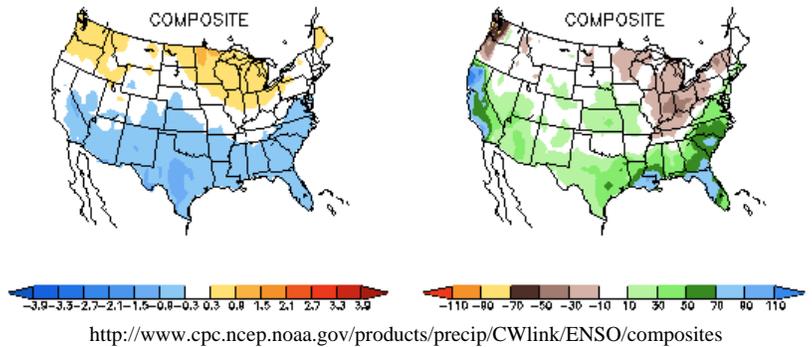
Numbers represent the probability of occurrence.

<http://www.cpc.ncep.noaa.gov/products/predictions/90day/>

Climate Conditions and Forecasts

El Niño conditions have persisted throughout the 2009-10 winter. El Niño can alter storm tracks such that winters and early springs are typically wetter than normal in the Southwest and Southeast U.S., with warm and dry weather along the northern tier of the country. The figures below show typical spring temperature (left) and precipitation (right) patterns associated with El Niño. A gradual weakening of the current El Niño is expected to occur over the next several months, with near-neutral conditions forecasted by mid-summer. Abundant precipitation over the eastern U.S. since the fall of 2009 has eliminated drought in all regions; though reduced, dry conditions remain in northern Wisconsin and west Texas. Substantial winter season precipitation events in the Southwest are also mitigating previous drought in this region.

El Niño Spring (Feb-Apr) Anomalies



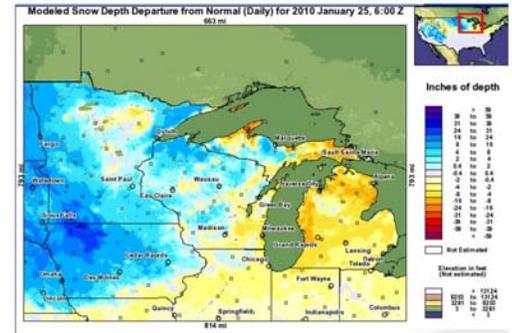
Temperature and Precipitation

Temperature and precipitation outlooks (graphics at left) through April are heavily influenced by the characteristic weather patterns of historic El Niño episodes. An increased probability of below-average temperatures is predicted across the southern Great Plains and Southeast from February through April, while above-average temperatures are more likely in the Pacific Northwest and Great Lakes region. From April to June, the increased probability of below-average temperatures persists in north-central Texas, while above-average temperatures are more likely across the Southwest and West consistent with long-term trend. For precipitation, increased chances of above-average conditions are present through April across the Southwest and southern tier of the U.S., while below-average precipitation is more likely in areas of the Pacific Northwest and Ohio Valley. There is no increased probability of either above, near, or below-average precipitation relative to climatology for the contiguous U.S. during the April to June period.

Fuels Assessment

Eastern Area: Most areas within the Eastern Area received near to above normal precipitation in the months leading into the 2009-10 winter season. However, soil moisture values across much of northern Wisconsin, the western Upper Peninsula of Michigan, and far east/central Minnesota are below average due to extended drought conditions which have been in place over these areas since 2006. The availability of dry fuels this spring, as the snowpack decreases and spring temperatures warm, is expected to lead to above normal significant fire potential over these areas. Precipitation deficits may also develop through the remainder of the winter season and into the early spring season across portions of the Ohio Valley. This region has shown a tendency to dry out during previous El Niño winter episodes. Fire potential and fuel moisture will need to be monitored across parts of the Ohio Valley should these drying trends develop.

Current Departure from Normal
Snow Conditions



Springtime fire danger will vary daily dependent on short-term weather conditions. Fires will be predominately wind-driven in fine fuels; heavier dead fuels should not have a significant effect on fire behavior until later in the spring season, dependent on the timing of spring rains.

Specific fuel issues include:

- Insect damage: Gypsy moth defoliation continues in the mid-Atlantic and spruce budworm outbreaks continue across portions of Minnesota. However, these conditions are not expected to significantly influence the spring 2010 fire season.

Southern Area: A very active southerly storm track produced recurring moderate to locally heavy precipitation since mid-2009 minimizing fire potential across most of the Area. Due to the high frequency and extensive coverage of these moderate to heavy rain and snow events, fuel moistures are well above seasonal averages as of late January 2010. No significant areas of drought are occurring and the likelihood of extensive areas of drought developing through the outlook period is minimal. The duration and magnitude of these wet events have reduced fire activity to some of the lowest levels since 2001. Consequently, the Southern Area will continue to experience below average fire potential through at least March or early April. During May-June, elevated fire potential will depend on the timing of leaf-out, and limited to periods when rainfall deficits emerge, especially across the Tennessee Valley.

In Florida, the southern third of the peninsula is experiencing drought indices that are higher than expected for an El Niño (positive ENSO) winter. If the southern part of the peninsula continues to see less precipitation than the rest of the state, there could be some concern for increased wildfire activity during the April through June period.

Specific fuel concerns here include:

- Live woody fuel moistures at all Florida stations are showing values that are not a concern at this time for wildfire.
- Live herbaceous fuel moistures indicate that conditions are ripe for wildfire as a result of the recent 11-day period of below average temperatures and freezing conditions that extended into southern Florida. The low herbaceous fuel moistures will be cause for concern in southern Florida until temperatures begin to warm and the vegetation begins to green back up. The forecast for continued cooler than normal temperatures and moist conditions at least through March will keep any above average fire behavior from being a concern until the latter part of the fire season (April – May).

Southwest Area: The Southwest is expected to remain unusually wet into May as a result of the ongoing El Niño episode, leading to an expansion of below normal fire potential conditions from east to west across the region during the February through June time frame. Snowpack amounts area-wide are at 100% to 200% or more of normal, and are expected to remain at these levels through the spring melt-off period. Abnormally moist fuels and the prospect of a strong and prolonged spring green-up will combine to significantly delay fire season onset.

Specific fuel issues include:

- The combination of wet heavy fuels and compacted fine fuels as a result of heavy mountain snowpack make it unlikely that there will be much significant fire activity across the higher elevations.
- Windy and dry conditions necessary to drive fire in the fine fuel regimes during the late winter through spring time period are not expected to be frequent or widespread due to the moist weather pattern.
- Conditions in the spring will have to be closely monitored, as the right combination of warmth and moisture could lead to substantial growth in the fine fuels, which could lead to enhanced lowland fire activity should hot, dry conditions develop in May-June.

Resource Concerns

Eastern Area: Normal movement of resources is expected in response to fire activity across the majority of the Eastern Area. Northern Wisconsin may require resources from outside the local area occasionally through the 2010 spring fire season.

Southern Area: There is low probability of multi-state demands for resources through mid-spring. There is some potential for fire activity to trend upward, especially in the Tennessee Valley, from late April into May prior to green-up; however unusual demands are not expected. Fuel conditions in central and southern Florida will need to be closely monitored unless frequent rain activity helps to alleviate the dry conditions there. Lacking significant improvement, there is a slight concern that additional resources could be needed in central or southern Florida this spring.

Southwest Area: The Southwest Area is expected to have below normal resource needs, and will likely be able to meet any needs internally by shifting available resources within the region.

Fire Potential Forecast Confidence and Bias

Eastern Area: There is moderate confidence in the outlook for the Eastern Area. Fire potential outlooks are highly dependent on spring storm tracks, which are difficult to forecast accurately. Also, a wet spring could mitigate the current drought conditions in northern Wisconsin, reducing significant fire potential.

Southern Area: There is moderate to high confidence in the below normal fire potential forecast for the Southern Area through March or the early April period. Any bias, due to a moderate El Niño continuing through early spring, would be for below normal conditions to extend longer into May or even June. For the period from late April through June there is moderate confidence for average to slightly below average fire potential conditions to prevail. Seasonal timing of leaf-out and/or full green-up along with the occurrence of any significant drier periods always introduces some degree of uncertainty. However, at this time we do not see any significant signals indicating periods of high fire potential during the outlook period, except for central and southern Florida as discussed above.

Southwest Area: There is high confidence in below normal fire potential across most of the region through June. Confidence is not as high across the lower elevations of western Arizona by late May into June, given the expected wane of moist conditions at that time, and the potential for fuels in that area to dry relatively quickly. This outlook is fairly conservative with respect to the expanse of below normal fire potential conditions.

2010 National Seasonal Assessment Workshop Summary

The main objective of the Eighth Annual National Seasonal Assessment Workshop for the Eastern, Southern and Southwest United States 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 products of the workshop are maps forecasting significant fire potential for the eastern, southern and southwestern United States.

The 2010 workshop was part of the eighth national assessment organized by the National Predictive Services Group (NSPG), the Climate Assessment for the Southwest (CLIMAS) at the University of Arizona, the Program for Climate, Ecosystem and Fire Applications (CEFA) at the Desert Research Institute and the California Applications Program (CAP) at the Scripps Institution of Oceanography. Other participating agencies are listed.

Participating Agencies

Bureau of Land Management
 CAP/Scripps Institution of Oceanography
 CLIMAS/University of Arizona
 Department of Interior
 Desert Research Institute
 Eastern Area Coordination Center
 Florida Division of Forestry
 Georgia Forestry Commission
 Minnesota Department of Natural Resources
 National Association of State Foresters
 National Interagency Coordination Center

National Park Service
 National Oceanic and Atmospheric Administration
 North Carolina Division of Forest Resources
 SCIPP/Louisiana State University
 Southern Area Coordination Center
 Southwest Coordination Center
 U.S. Fish & Wildlife Service
 USDA Forest Service

An assessment workshop for the western United States and Alaska will be held in April 2010. For more information, contact the workshop organizers.

