National Seasonal Assessment Workshop

Eastern & Southern Geographic Areas

Shepherdstown, WV
January 29-30, 2008

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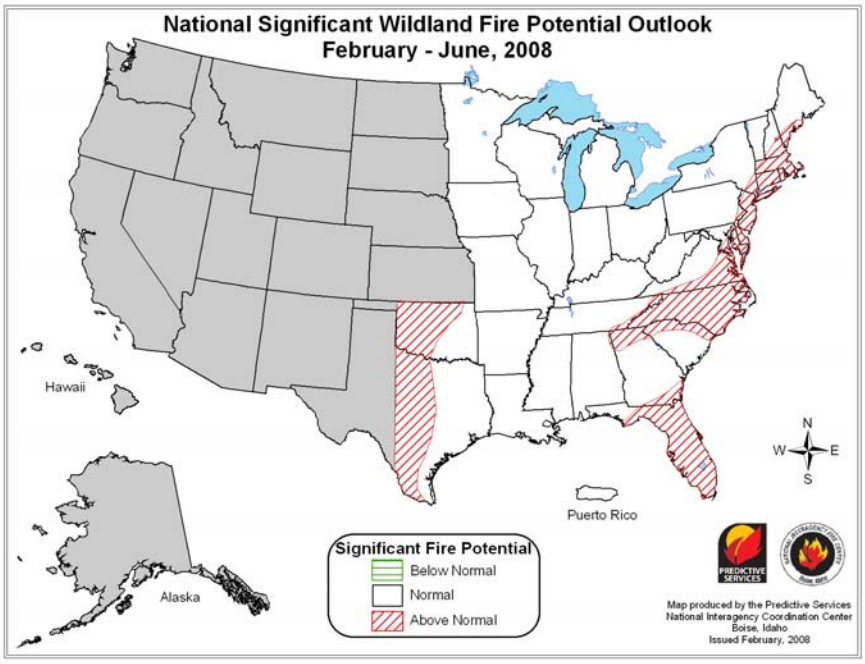
2008 National Seasonal Assessment Workshop for the Eastern & Southern Geographic Areas

On January 29-30, 2008, 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 fifth annual National Seasonal Assessment Workshop for the eastern United States. A fire potential forecast for the Eastern and Southern Geographic Areas was produced. This briefing document includes a description of existing climate forecasts, fuels conditions, and potential resource impacts.

Significant Fire Potential Forecast (February – June 2008)

The map below shows the significant fire potential forecast for the Eastern and Southern Geographic Areas. 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 of February through June, 2008.

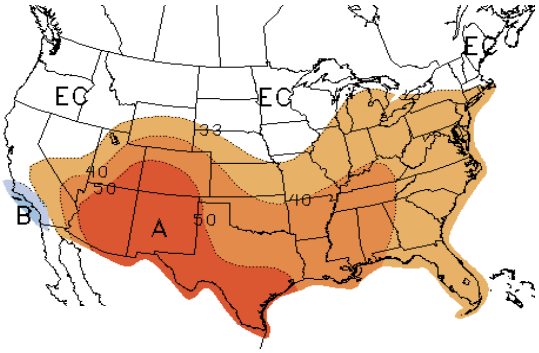


The results of the workshop indicate there is above normal significant fire potential in portions of Texas and Oklahoma, much of Florida, southeast Georgia, and from the southern Appalachian Mountains up the East Coast. The critical factors influencing fire potential for this outlook period are:

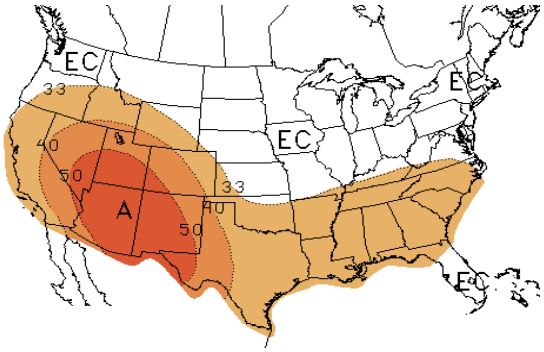
- **La Niña is expected to persist into summer and bring dry conditions and associated above-normal fire potential to south-central and southeastern portions of the country into spring.**
- **Current severe drought conditions across the Southeast and Florida are expected to elevate fire potential leading to a second consecutive active spring fire season in Georgia and Florida.**
- **Dry conditions will likely expand across western and central Texas and Oklahoma increasing the likelihood of rapid fire spread, spotting and higher difficulty of control especially during high wind events.**
- **The combination of unseasonably warm and dry weather, along with insect infestation and associated defoliation will lead to above normal fire potential along the Eastern Seaboard.**

Temperature Forecasts

February-April 2008

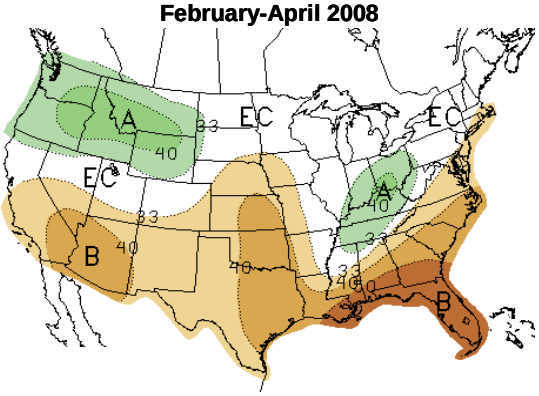


April-June 2008

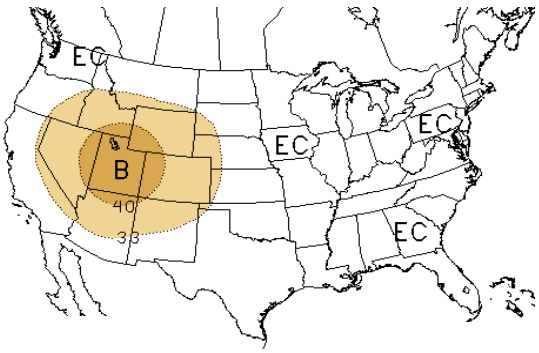


Precipitation Forecasts

February-April 2008



April-June 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/90day/

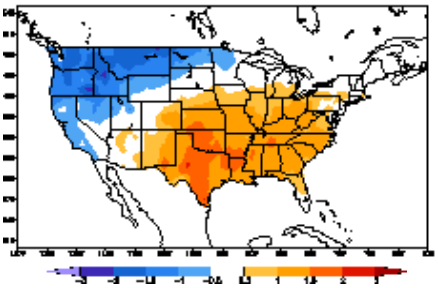
Climate Conditions and Forecasts

La Niña conditions, i.e. cooler than normal sea surface temperatures in the tropical Pacific, developed in mid-2007 and has strengthened into a moderate to strong event. La Niña alters storm tracks such that winters and early springs are typically wetter than normal in the Pacific Northwest and the Ohio River and Tennessee Valleys with warm, dry weather along the southern tier of the U.S. In late spring, La Niña tends to focus slightly wetter than average conditions over the Southeast. While the Northwest experienced wet conditions through January typical of historic La Niña episodes, the Southwest and Southeast have not been as dry as expected from a moderate to strong La Niña event.

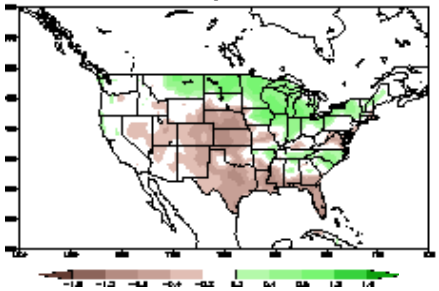
La Niña's maximum influence on U.S. climate and weather often occurs during the winter and spring months. La Niña is currently at its peak and forecasts project increasing ocean temperatures and weakening La Niña strength through early spring, though it is possible that the event may linger into summer.

La Niña Spring Anomalies

Temperature



Precipitation



http://www.cpc.ncep.noaa.gov/products/predictions/90day/tools/briefing/

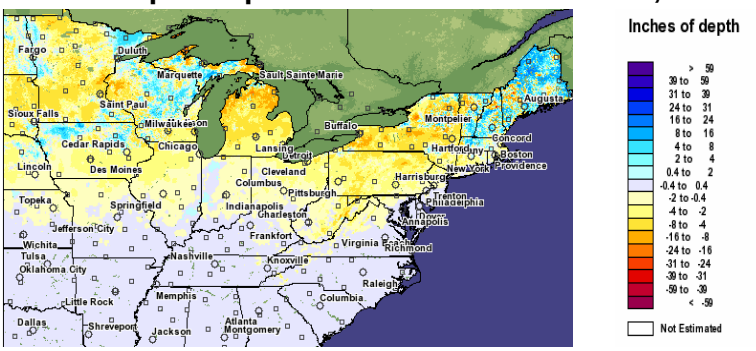
Temperature and Precipitation

Over the past three months, conditions have been persistently dry over much of Florida with severe drought across the Southeast states. Increasing dryness has been steadily developing in Texas and the southern Plains. Warmer than normal winter temperatures across much of the East have lead to a mid-winter snow melt in the Northeast and an increasing precipitation deficit. Northwest Minnesota, northeast Wisconsin and northwest Lower Michigan are still showing a deficit in long-term moisture; however, these areas could recover with normal precipitation over the remaining winter months. If snow pack remains below normal in these areas, water levels will not recover before entering the critical spring months.

Temperature and precipitation outlooks through spring (see images at left) are heavily influenced by the weather patterns generated from historic La Niña episodes. Below normal precipitation is predicted for the southern tier states for late winter and early spring with wet conditions expected across the Ohio River and Tennessee Valleys. Much of the southern tier and east-central portions of the country are predicted to be warmer than normal for the forecast period. Drought projections indicate improving conditions over portions of the Southeast during the spring. However, for the spring fire season, improvements are not expected to occur early enough in the season to mitigate concerns about high fire potential in the Southeast.

Fuels Assessment

Snow Depth Departure from Normal Jan. 30, 2008



http://www.nohrsc.noaa.gov/interactive/html/map.html

Eastern Area: Fuel moistures remain low in the southeast Mid-Atlantic states and the northern Great Lakes due to below-normal precipitation. However, heavy fuels are not expected to influence fire danger unless extended dry periods develop in the spring. In parts of the Northeast, snow packs are below normal. If snow packs are not replenished during the late winter and spring, an early fire season may develop due to lower than normal fuel moistures. If water levels do not recover in northwest Minnesota, northeast Wisconsin and northwest Lower Michigan before entering the critical spring months, organic fuels will be prone to fires burning deep in the fuel bed. Fuel conditions will quickly deteriorate without timely spring rains in this area. In addition, insect infestation continues to impact the Eastern Area.

Specific insect issues include:

- A second year of extensive gypsy moth defoliation of oak is expected across portions of the Mid-Atlantic states northward into the southern New England states.
- Typical of concerns about insect infestation is the damage of up to 500,000 acres of forest in the New Jersey Pine Barrens.
- Emerald ash borer infestation is expected to increase over the western Mid-Atlantic and southern Great Lakes states.
- Warmer winters over the past several years have increased survival rates of southern pine beetle and allowed them to migrate further northward.
- The extent of spruce budworm and jack pine budworm infestation in 2007 decreased from previous years but still impacts significant acreage in Minnesota.

Southern Area: Fuel conditions over much of Florida have worsened over the winter months. An early January freeze has cured fine fuels from north Florida to Lake Okeechobee and southwest of Ft. Myers. Western Texas and Oklahoma have already seen increased fire activity in January; above normal fine fuel loadings, expanding dryness across the western half of these states and below normal precipitation forecasts foreshadow a significant increase in fire activity from mid-February through March. Heavy fine fuel loadings produced by heavy rains in 2007 will provide conditions for rapid fire spread. Low water tables in the organic fuels of North Carolina and Florida amplify wildfire potential concerns due to increased risk of underground fires and their resistance to control.

Specific fuel issues include:

- Fuel conditions over the southern half of the Florida peninsula have worsened since the summer of 2007 with Keetch-Byram Drought Indices over 600 in some areas.
- January fire activity in North Carolina is occurring in the larger fuels accumulated either through storm damage or heavy bug kill.
- Fuel conditions are likely worse than in 2007, with fire danger indices tracking higher than last year.
- Southeast Georgia understory fuels have already re-grown following the record breaking fires of 2007.
- Heavy rain in 2007 produced extremely high fine fuel loadings in Oklahoma and Texas.

Resource Concerns

Eastern Area: Resources are anticipated to be needed earlier than normal across southern New England southward to the Mid-Atlantic states due to the significant loss of snow pack in early January and a projected early start to the fire season. Expect normal movement of resources in response to fire activity across the majority of the Eastern Area. The exceptions may be the eastern seaboard of New England down into the eastern Mid-Atlantic states where fire activity could require resource assistance from outside the local area.

Southern Area: Limited water resources due to drought conditions may cause competition with other water users for water that would normally be available for fire suppression. There is a very high probability of simultaneous multi-state need for resources that may possibly require outside Geographic Area resources.

Fire Potential Forecast Confidence and Bias

Eastern Area: There is moderate confidence in the Eastern Area fire potential forecast. This is due to the fact that the fire potential forecast is highly dependent on spring storm tracks, which are difficult to forecast accurately. Northwest Minnesota, northeast Wisconsin and northwest Lower Michigan could see above normal fire potential if anticipated spring rains do not materialize. Along the East Coast, areas currently exhibiting above normal fire potential could see decreased fire potential if spring storm tracks shift slightly eastward.

Southern Area: There is very high confidence in the above normal fire potential forecast for portions of Texas, Oklahoma, Florida and southeast Georgia due to strong climate signals. There is moderate confidence in the above normal fire potential forecast for the Mid-Atlantic states as there is some question regarding whether early spring rains may begin to relieve drought in this area. If La Niña persists into spring stronger than currently projected, dryness and increasing fire potential could spread across the southern Plains.

2008 National Seasonal Assessment Workshop Summary

The main objective of the Fifth Annual National Seasonal Assessment Workshop for the Eastern 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 product of the workshop was a map forecasting significant fire potential for the eastern and southern United States.

The 2008 workshop was part of the fifth 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 below.

An assessment workshop for the western United States and Alaska will be held in April 2008. For more information, contact the workshop organizers.

Participating Agencies

Bureau of Land Management
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
New Jersey Forest Fire Service
NOAA Climate Prediction Center
North Carolina Division of Forest Resources
Southern Area Coordination Center
Southern California Coordination Center
State of Vermont
U.S. Fish & Wildlife Service
USDA-Forest Service