



National Seasonal Assessment Workshop

Western States and Alaska

Boulder, CO
April 20-22, 2010

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North American Seasonal Assessment Workshop (NASAW) Canada, México, and Western United States Outlook: 2010

On April 20-22, 2010 fire, weather, and climate specialists convened at the National Oceanic and Atmospheric Administration Earth Sciences Research Laboratory in Boulder, Colorado for the fifth annual North American Seasonal Assessment Workshop. Participants produced a fire potential outlook for Canada, México, and the United States. This briefing document includes a description of observed conditions, climate forecasts, fuel conditions, and potential resource requirements.

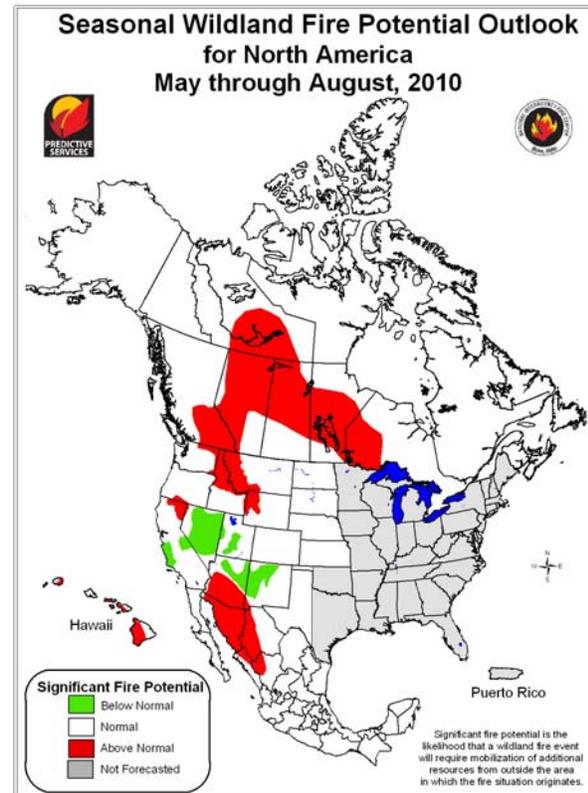
Fire Potential Forecast (May - August, 2010)

The map at right shows the fire potential forecast for May through August 2010 across North America (Note: any areas not included in this forecast are grayed out on the map). Fire potential for this product is defined as the likelihood of a wildland fire event measured in terms of anticipated occurrence of fire(s) and management's capability to respond. Areas highlighted as "Above Normal" are expected to experience above normal fire activity during the forecast period, which will likely demand increased resource utilization as well.

Workshop participants forecast above normal fire potential across portions of Canada, Mexico and portions of the western United States. Below normal fire potential is forecast for portions of the Great Basin, Southwest and California. Elsewhere, fire potential is expected to be normal through August.

The critical factors influencing significant fire potential for this outlook period are:

- **Drought:** Drought conditions continue to persist over western Canada, southern Ontario, northeast California, northwest Nevada, western Wyoming, western Montana, Idaho and portions of southern and western México.
- **Snowpack:** Snowpack in the Southwest has been well above average, while in western Wyoming through the northern Rockies the snowpack has been well below average. Snowpacks are below normal across most of Canada.
- **Grassland Fuels:** Abundant fine fuels across southern Arizona are expected to lead to an active 4-6 week grassland fire season. Fine fuels are not expected to be of fire concern in the Great Basin. There is an increased large fire risk over the California desert areas in June due to fine fuels decreasing to normal by July.
- **Fire Season Onset:** In areas with above average snowpack, fire season onset will be delayed due to a later snowpack melt. Fire season should be earlier than usual across much of Canada.
- **Southwest Monsoon:** Early indications suggest monsoon onset will occur around the typical start date or later with associated precipitation amounts will be near normal for the season.



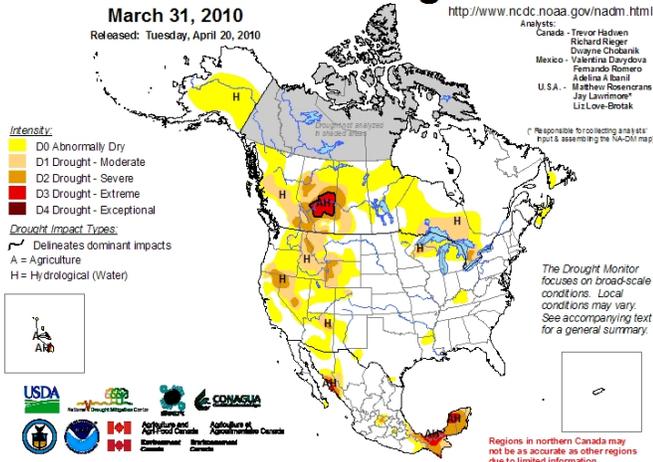
Note: The outlook map image above is embedded and hyper-linked in this document.

Climate Conditions and Drought

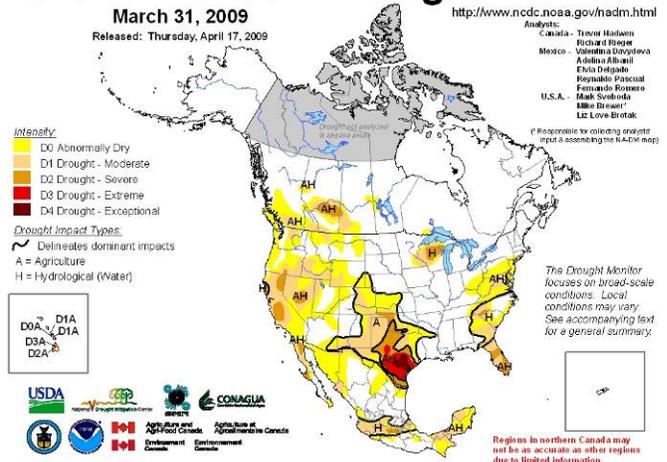
The current El Niño event is weakening and consensus forecasts of sea surface temperatures point to neutral conditions developing this summer. Climate outlooks for May through August show warmer than normal temperatures over much of western and northern Canada, western U.S. and northwest México. Dryness this summer is favored over the Hudson's Bay area, British Columbia and the northwest U.S. A near normal monsoon is expected for México and the southwest U.S.

Drought conditions on March 31, 2010 (left graphic) show varying degrees of drought stretching from western Canada to México with the driest conditions in Alberta. Compared to March 2009 (right graphic), overall drought severity has intensified in central Alberta, British Columbia, Idaho, Montana and Sinaloa.

North American Drought Monitor



North American Drought Monitor

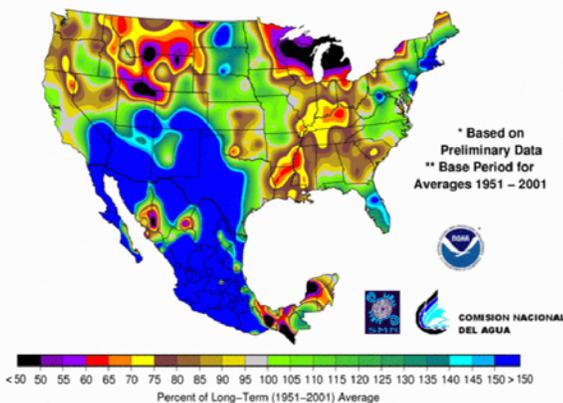


www.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/index.html

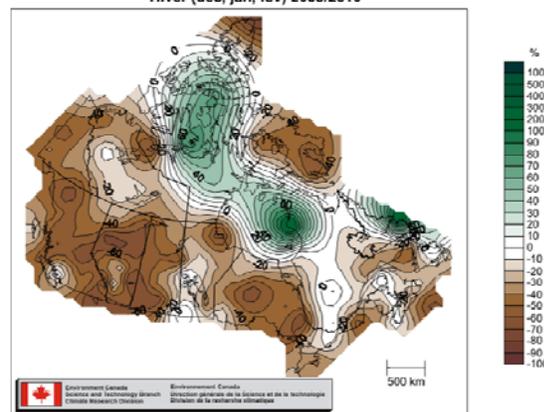
Temperature and Precipitation

Precipitation for the U.S. and México (January – March 2010) and Canada (December 2009 – February 2010) are shown below.

Percent of Long-Term Average Precipitation, 3-Month
January – March 2010



PRECIPITATION DEPARTURES FROM NORMAL
Winter (Dec, Jan, Feb) 2009/2010
ANOMALIES DES PRECIPITATIONS PAR RAPPORT A LA NORMALE
Hiver (dec, jan, fev) 2009/2010



The outlook for May through August favors generally warmer than normal temperatures for much of Canada, the western U.S. and northwest México. It is expected to be cooler than normal along the west coast of Canada during the late summer. Drier than normal weather is expected in the following areas:

- **Canada** – Most of Canada except for Yukon as well as far northern and southeast British Columbia.
- **United States** – The Pacific Northwest, northern/central Idaho and western Montana.

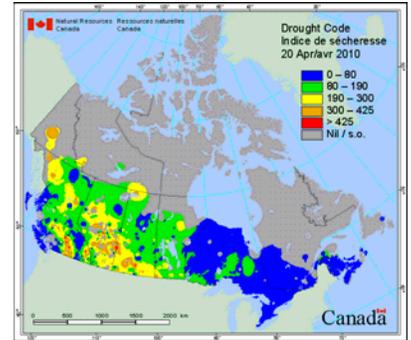
- **México** – Southern Sonora and northern Sinaloa during May.

Contributing Factors

Canada: Above normal fire potential is predicted for much of the area from western Ontario to southern British Columbia, except the central Prairies. Normal fire potential is expected elsewhere. The forecast is based on a combination of observed and predicted climate factors along with other fire danger and fuel information. Climate analogues were also consulted.

Key *observed* factors contributing to the fire potential portrayed on the summary map include:

- Fall drought code values throughout much of western Canada and the Territories, with the highest values in Alberta.
- El Niño conditions lead to a very dry winter across most of Canada (see image on previous page) with high drought code values persisting across much of western and central Canada (see image at right).
- Near total recharge of deep fuel moistures from winter precipitation across eastern Canada.



Key *forecasted* factors contributing to the fire potential portrayed on the summary map include:

- Below normal precipitation through July predicted for most of Canada except for Yukon as well as far northern and southeast British Columbia.
- Above normal temperatures throughout most of Canada through July.

Western United States: Above normal significant fire potential is forecast across portions of the Northwest, Northern Rockies, Rocky Mountains, northern Great Basin, northeastern California, southern Arizona and leeward side of the Hawaiian Islands. Below normal significant fire potential is forecast for portions of southern California, the Great Basin, and the Southwest. Forecast confidence is moderate-to-high for California, Northern Rockies, Great Basin and the Rocky Mountain. Forecast confidence is generally moderate elsewhere. The forecast is based on a combination of observed and predicted climate factors along with other fire danger and fuel information. Climate analogues were also consulted.

Key *observed* factors contributing to the fire potential portrayed on the summary map include:

- Persistent drought over northeast California and northwest Nevada, western Wyoming, western Montana and much of Idaho.
- Snowpack in the Southwest has been well above average, while in western Wyoming through the northern Rockies the snowpack has been well below average.
- Abundant fine fuels across southern Arizona are expected to lead to an active 4-6 week grassland fire season. Fine fuels are not expected to be of concern in the Great Basin. There is an increased large fire risk over the California desert areas in June due to fine fuels, fire potential is expected to decrease to normal by July.

Key *forecasted* factors contributing to the fire potential portrayed on the summary map include:

- A warmer than normal summer is expected across the West and Alaska. Precipitation should be normal except drier than normal over the Northwest, Idaho and western Montana.
- In areas with above average snowpack, fire season onset will be delayed due to a later snowpack final melt.
- Early indications suggest monsoon onset will occur around the typical start date or later, and associated precipitation amounts will be near normal for the season.
- Drought is expected to persist over portions of the West.

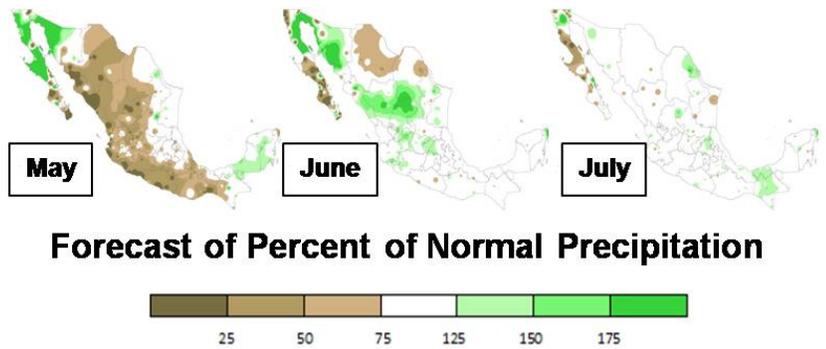
México: Above average fire potential is predicted across northwestern México extending southward from the U.S. border through Sonora, western Chihuahua, northeast Durango and northern Sinaloa. Fire activity typically peaks during April and early May, tapering off by June and ending by August. The forecast is based on a combination of observed climate and predicted climate factors. Climate analogues were also consulted.

Key *observed* factors contributing to the fire potential portrayed on the summary map include:

- Persistent long-term drought over southern Sonora and northern Sinaloa.
- A cold, wet winter contributed to increased fine fuels in the forested areas of the Sierra Madre Occidental.

Key *forecasted* factors contributing to the fire potential portrayed on the summary map include:

- Warmer than normal temperatures are expected across northwest México through July.
- The rainfall forecast is shown to the right. An average onset and strength of monsoon is expected this summer.



2010 North American Seasonal Assessment Workshop Summary

The main objective of the North American 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 international 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. 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 North American Seasonal Assessment Workshop was organized by the National Predictive Services Subcommittee (NSPS), 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 Subcommittee (NPSS) and the National Oceanic and Atmospheric Administration (NOAA). Participating organizations are listed below.

Participating Agencies	
Alaska Coordination Center	NOAA National Weather Service
Boise State University	NOAA Earth Systems Research Laboratory
Bureau of Indian Affairs	NOAA Cooperative Institute for Research in Environmental Sciences
Bureau of Land Management	Northern California Coordination Center
California Department of Forestry & Natural Resources	Northern Rockies Coordination Center
CLIMAS / University of Arizona	Northwest Coordination Center
CNAP / Scripps Institution of Oceanography	Oregon Department of Forestry
Department of Agriculture	Pacific NW Research Forestry Sciences Lab
Department of Interior	Rocky Mountain Coordination Center
Desert Research Institute	Servicio Meteorológico Nacional
Eastern Great Basin Coordination Center	South Dakota School of Mines and Technology
National Association of State Foresters	Southern California Coordination Center
National Interagency Coordination Center	Southwest Coordination Center
National Oceanic and Atmospheric Administration	USDA Forest Service
National Park Service	U.S. Fish and Wildlife Service
Natural Resources Canada	U.S. Northern Command
NOAA Climate Prediction Center	Western Great Basin Coordination Center



