

North American Seasonal Fire Assessment and Outlook

National Interagency Fire Center • Natural Resources Canada • Servicio Meteorológico Nacional
United States Canada Mexico

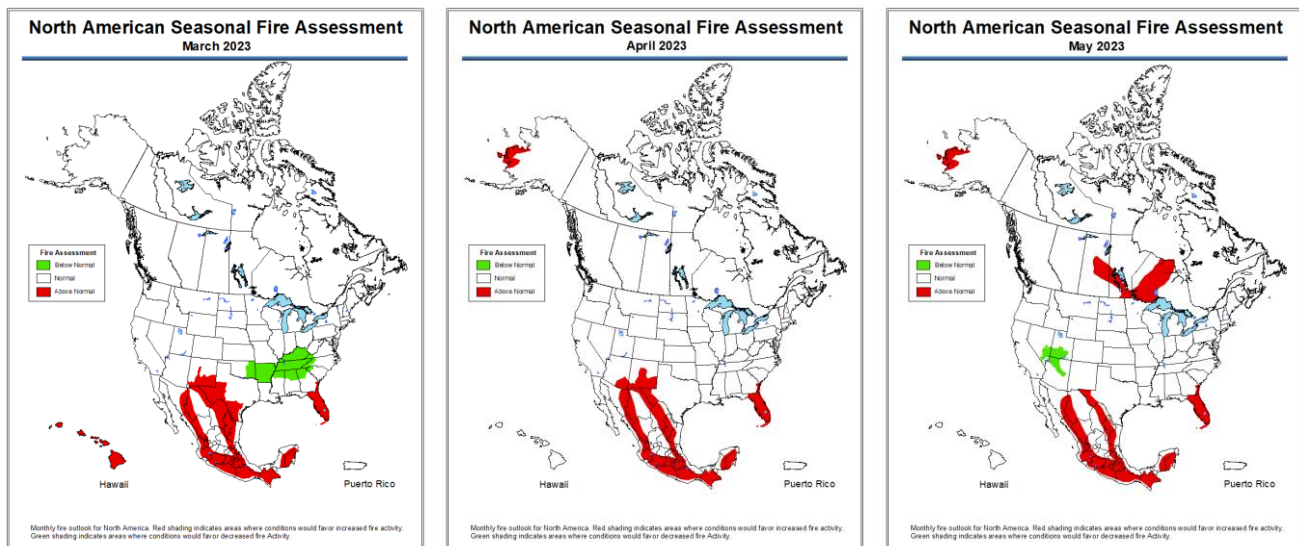
Outlook Period March through May 2023
Issued 13 March 2023

Executive Summary

While most of February was warm in much of Canada, cold conditions returned near the end of the month. Temperatures remained close to normal from Yukon through much of British Columbia and the southern Prairies, while southern Ontario featured a greater positive temperature anomaly. The rest of the nation had below normal temperatures through much of February and early March. These conditions are in accordance with late winter in an extended La Niña.

Large amounts of snow fell in parts of Canada and covered Prairie areas east of the Rockies, which had bare ground over the past few weeks. Central British Columbia also received much above normal precipitation the past month. Lesser amounts fell farther east in the Prairies, although much of this region had ample snowpack heading into February. Heavy precipitation affected southern Ontario and Quebec, while drier conditions prevailed further north and in the Atlantic Provinces.

Significant fire activity was minimal across much of the US during February as upper-level trough passages continued to bring timely periods of precipitation and limit significant fire potential. However, a small increase in significant fires occurred over portions of the southern US from eastern New Mexico to the Gulf Coast. The driest fuels continued across much of the southern High Plains into the Rio Grande Valley, with occasional critical fire weather conditions. Drying fuels were also noted along the Gulf Coast. Drought reduction continued through February across much of California into the Great Basin. However, drought continues across more than 40% of the country, with the most intense drought continuing on portions of the southern and central Plains. Above normal significant fire potential is forecast for the Florida Peninsula and Georgia coast through May, across portions of south and west Texas in March, and far west Texas in April and May. Above normal potential is forecast.



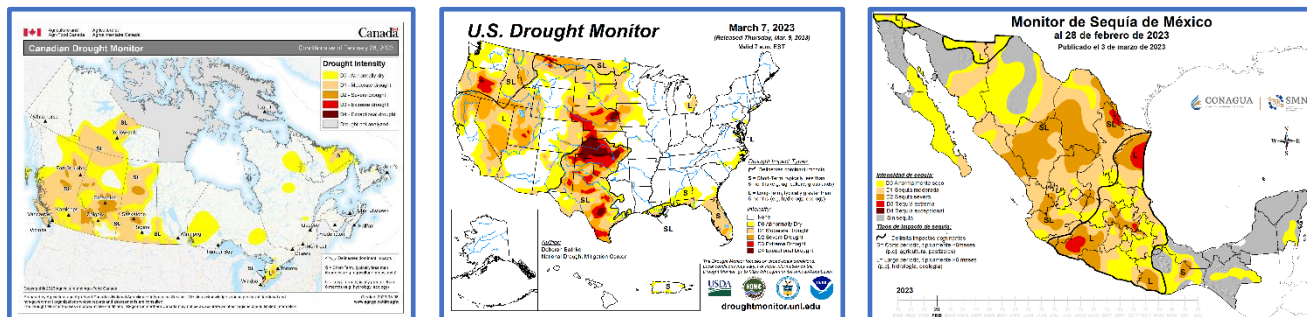
Monthly fire outlook for North America for March 2023 (left), April 2023 (middle), and May 2023 (right). Red shading indicates areas where conditions would favor increased fire activity. Green shading indicates areas where conditions would favor decreased fire activity. [Click on each image to see larger versions.](#)

across southern New Mexico through April as well. Below normal potential is expected from eastern Oklahoma to the southern Appalachians in March and across northwest Arizona into the higher elevations of southern Utah and southern Nevada in May.

Fire activity has been increasing gradually in the last two months and it will reach its peak during March, April, and May over the central, western, northern, and southern Mexican states. Precipitation for the last quarter (December, January, and February) was below normal across most of Mexico, and the dry conditions will continue to stress vegetation. With warm and dry conditions forecast for much of the country through May, most of Mexico is forecast to have above normal fire potential.

Critical Factors

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



Left: Canadian Drought Monitor from *Agriculture and Agri-Food Canada*. **Middle:** United States Drought Monitor. **Right:** Mexican Drought Monitor from *CONAGUA-Servicio Meteorológico Nacional*.

El Niño-Southern Oscillation (ENSO):

La Niña has ended with neutral ENSO conditions now observed across the Equatorial Pacific Ocean. Neutral ENSO conditions are forecast to continue through spring, with many models showing continued warming of sea surface temperatures in the tropical Pacific through spring. While some models are showing El Niño conditions by the end of spring, the Climate Prediction Center (CPC) and most models forecast neutral conditions to continue through early summer. Currently, the Madden-Julian Oscillation (MJO) is in a very active phase, with atmospheric rivers favored to impact the west coast of North America, particularly California, through the remainder of March. Other teleconnection patterns, such as the Pacific Decadal Oscillation, Pacific-North American Pattern, and Arctic Oscillation are likely to have much smaller influences on weather and climate during the outlook period.

Drought:

Heavy precipitation in central British Columbia has removed the small extreme drought areas and generally reduced drought classes, including the southern part of the province. With heavy precipitation also affecting the Rocky Mountains and western Prairies, extreme drought has been eliminated in the Rockies and adjacent eastern slopes in southwestern Alberta, while a drought-free area in southern Alberta expanded slightly. Improvement has occurred in long-term drought across southern Saskatchewan, and heavy precipitation in southern Ontario has slightly reduced drought intensity.

Winter is typically not the best time of year to eliminate drought, and a large expanse of abnormally dry to severe drought remains in western Canada. The overall area displaying drought has not changed much since the end of January as continuous drought of various categories still exists across most of British Columbia, Alberta, and Saskatchewan, with a branch into southwestern Manitoba. A northern extension of this western Canadian area reaches across the central Northwest Territories to the Nunavut border southeast of Great Bear Lake. Patchy drought remains in eastern regions from western Ontario to the Atlantic Provinces. While these small regions are subject to frequent change, persistent drought remains in southern Ontario south of Lake Ontario and in eastern Labrador.

Significant drought improvement was observed across California into portions of the Great Basin due to continued impacts from the numerous atmospheric river events during January and early March, with periodic, albeit light, precipitation for much of February. Drought improvement also occurred over

portions of the Southeast coast due to above normal precipitation received at the beginning of February. However, drought continues in over 40% of the country, and drought expanded in portions of the Florida Peninsula, northwest Montana, and the Idaho Panhandle. The most intense drought remains on portions of the central Plains, particularly western Kansas, with severe to extreme drought also in portions of Oregon, Utah, Montana, and Texas.

In the first half of February, above average rainfall was observed over areas of northwest Mexico and along the Gulf of Mexico Coast. This rain was caused by two cold fronts near the Gulf Coast and a winter storm in northwest Mexico. This rainfall reduced moderate drought over eastern Chihuahua and abnormal conditions over the Yucatan Peninsula. However, moderate drought increased over Nuevo León, Zacatecas, San Luis Potosí, Nayarit, Hidalgo, State of Mexico, Morelos, Tlaxcala, and Puebla, while severe drought increased in Sinaloa, Durango, Coahuila, Jalisco, Guerrero, and Michoacán. Michoacán also observed an increase in extreme drought.

Fire Season Status:

Notable fire activity has been absent in Canada due to persistent snow cover in most regions. Some small grass fires may have occurred in dry areas in the southern Prairies, although if activity has occurred, it has not been significant.

Significant fire activity was low across the US in February, but gradually increased across much of the Southern Area and portions of the Southwest during the latter half of February into early March. The greatest increase in significant fire activity was observed across portions of the northern Gulf Coast and Florida in early March. Consistent upper-level trough passages and precipitation kept fire activity minimal elsewhere. It remains dry across much of the central and southern High Plains into the Rio Grande Valley, with drying conditions along the Gulf Coast and Florida. Through March 10, fire statistics showed 5,431 fires have burned a total of 29,572 hectares (73,072 acres), 87% of average for fires and 26% of the average area burned.

So far this year 907 forest fires have been registered in 28 states resulting in nearly 16,856 hectares burned. Grass and brush area burned was 97% of the total, while timber was only 3%. States with the greatest number of fires were Mexico City, State of Mexico, Jalisco, Puebla, Michoacán, Veracruz, Tlaxcala, Chiapas, Morelos, and Chihuahua, representing nearly 89% of the total fires. States with the largest area burned were Jalisco, Chihuahua, Guerrero, Oaxaca, Michoacán, State of Mexico, Puebla, Tabasco, Chiapas, and Mexico City, representing almost 88% of the area burned. Out of the total fires, 138 (15%) occurred in fire-sensitive ecosystems, with a burned area of 3,063 hectares, which represents 19% of the total area burned.

Canada Discussion

March/April/May: Normal winter conditions are expected in Canada in March, which translates to minimal fire activity. This is the result of lingering cold weather and snow cover in most of the country, typical for late winter during an extended La Niña. Snow cover will be melting in much of Canada during April, but fire activity will likely remain low due to the late loss of snow.

A small area of above normal fire risk may occur in the central and eastern Prairies and western Ontario. Due to the patchy nature of this area, normally low levels of May fire in western Ontario, and current forecasts suggesting significant June risk, this may indicate increasing potential in mid to late May. While small areas in central Saskatchewan show an above normal trend, the limited size does not suggest a dramatic likelihood of fire since some spring activity is normal. However, this may also lead to a more active June in central Saskatchewan.

United States Discussion

March/April/May: Below normal temperatures are likely from Washington eastward into portions of the northern Plains through May. Above normal temperatures are forecast from the Southwest into the Appalachians, southern Plains, and Gulf and East Coasts, while equal chances of above or below

normal temperatures are forecast from California extending northeast into the western Great Lakes. Above normal precipitation is most likely from the Great Lakes into the Mid-Mississippi Valley, the central and southern Appalachians, and Mid-Atlantic. Below normal precipitation is most likely across the Southwest into the southern High Plains and on the Florida Peninsula. Drought is anticipated to expand into portions of Texas and the Florida Peninsula, but drought conditions will likely improve across the Northwest, northern California, northern Great Basin, Montana, northern Plains, and Michigan. Drought removal is likely in several portions of the improvement area as well.

Above normal significant fire potential is forecast for the Florida Peninsula and Georgia coast March through May, with above normal potential also forecast for southern New Mexico in March and April. Southeast Arizona is forecast to have above normal significant fire potential in April as well. Portions of south and west Texas are forecast to have above normal potential in March, retreating to the west Texas mountains for April and May. Below normal significant fire potential is forecast for much of the northern tier of the Southern Area, from eastern Oklahoma into the southern Appalachians. Below normal potential is also forecast for northwest Arizona, including the Mogollon Rim, and southern Great Basin mountains in May.

Mexico Discussion

March/April/May: Precipitation for the last quarter (i.e., December, January, and February) was below normal across most of Mexico, and the dry conditions will continue to stress vegetation. The maximum temperature was also above normal in most of the country the past quarter, except in the Baja California Peninsula where temperatures were below normal.

It is expected that precipitation is likely to be below normal in almost all the country through May, except for central and southern states, where none of the categories will dominate. Temperatures are likely to be above normal across most of Mexico through May, except for Baja California, where none of the categories will dominate.

Given the recent temperature, precipitation, and drought trend across the country, along with the precipitation and temperature forecast, fire potential is expected to be slightly above normal during the March, April, and May period in almost all of Mexico. However, the Baja California Peninsula is forecast to have normal fire potential through May.

Additional Information

Additional and supplemental information for this outlook can be obtained at:

United States:

National Significant Wildland Fire Potential Outlook

http://www.predictiveservices.nifc.gov/outlooks/monthly_seasonal_outlook.pdf

Canada:

Canadian Wildland Fire Information System

<http://cwfis.cfs.nrcan.gc.ca/home>

Mexico:

Servicio Meteorológico Nacional

<https://smn.conagua.gob.mx/es/observando-el-tiempo/monitoreo-atmosferico-ambiental>

Outlook Objective

The North American Seasonal Fire Assessment and Outlook is a general discussion of conditions that will affect the occurrence of wildland fires across Canada, the United States, and Mexico. Wildland fire is a natural part of many ecosystems across North America. This document provides a broad assessment of those factors that will contribute to an increase or decrease of seasonal fire activity. The objective is to assist wildland fire managers prepare for the potential variations in a typical fire season.

It is not intended as a prediction of where and when wildland fires will occur nor is it intended to suggest any area is safe from the hazards of wildfire.

Acknowledgements

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