

# North American Seasonal Fire Assessment and Outlook

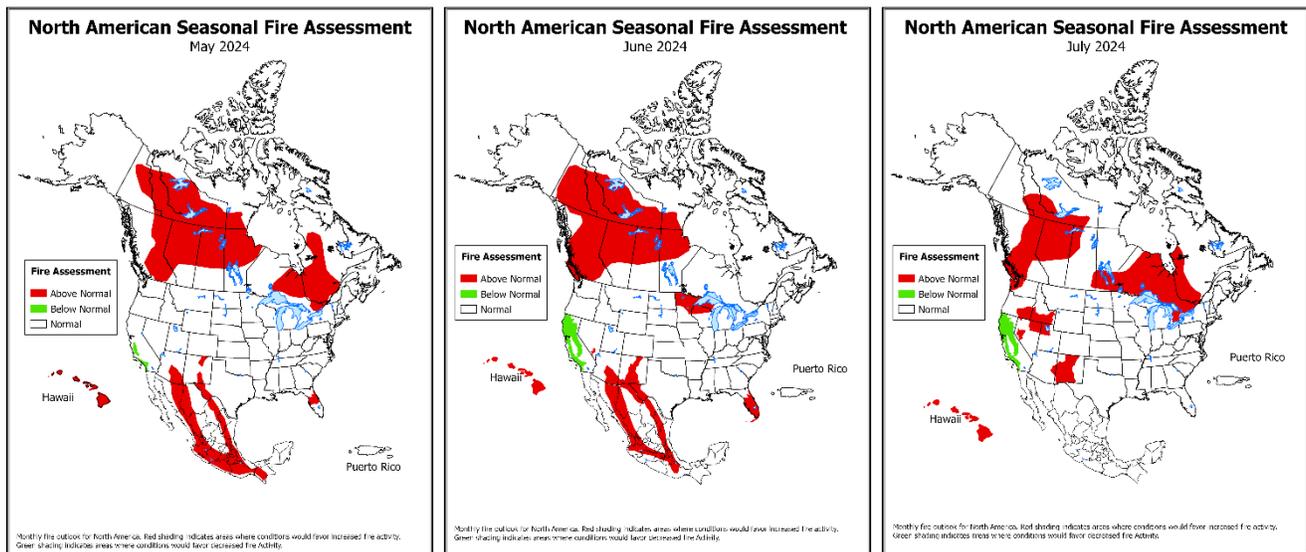
National Interagency Fire Center • Natural Resources Canada • Servicio Meteorológico Nacional  
United States Canada Mexico

Outlook Period May through July 2024  
Issued 13 May 2024

## Executive Summary

Widespread drought persists in much of Canada, with ongoing dryness in some regions since the late summer of 2022. This has led to water restrictions and fire bans in some regions of western Canada, although rain in early May is helping temporarily end or modify some of these restraints. Despite this recent rain, April's weather pattern did little to reduce the widespread drought.

April was slightly warmer than average across most of Canada with the greatest temperature departures from normal in the north. Only a small area in central British Columbia recorded slightly below temperatures. Despite the warmth, melting of remaining snow has proceeded at a relatively normal pace in northern regions. Most regions have remaining snow depth that are close to the climatological norm for the time of year. While this sounds promising, much of Canada had a light or absent snowpack over the winter.



Monthly fire outlook for North America for May 2024 (left), June 2024 (middle), and July 2024 (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.*

Along with the warmth, some regions remained dry during April, especially in the north. Higher amounts of precipitation fell in eastern Canada, the southern Prairies, and Rocky Mountain areas, as well as central Ontario and Quebec. These regions received about 150% of normal April precipitation. In early May, widespread rain fell in the southern Prairie Provinces with a band extending through northern Alberta into the western Northwest Territories. A region that remains anomalously dry is northeastern British Columbia and northwestern Alberta.

April's weather pattern has resembled an El Niño spring month with warm temperatures and generally light precipitation, although temperature trends have been mixed since January. This may follow general

expectations of a fading El Niño being replaced by neutral ENSO conditions and likely La Niña by mid to late summer.

In the United States, fire activity remained at low levels with just a few large fires burning in Oregon, Arizona, Mississippi, and Florida in early May. Precipitation was generally above normal across much of the eastern Plains into the Mississippi Valley and Great Lakes, as well as portions of California and Oregon. Precipitation was below normal across much of New Mexico, the Florida Peninsula, portions of the Mid-Atlantic, and northwestern US. Temperatures were generally above normal for much of the US near and east of the Mississippi River, and near to below normal across the West. However, it has been cold to start May in the West, where temperatures anomalies are as much as 8 C below normal.

Most climate outlooks depict tendency for above normal temperatures across much of the US, including Alaska, with near normal temperatures favored along the southern California Coast. Precipitation is likely to be below normal in much of Texas and southeast New Mexico, but above normal across much of the US east of the Mississippi River, with the best chance for above normal precipitation in the Southeast. Portions of the Southwest will have above normal potential through July, as well as portions of central and south Florida through June. Above normal potential will develop over much of the northern Great Basin, southeast Oregon, and northwest Washington in July, with above normal potential in portions of the Upper Midwest in June. However, a slow start to the season is forecast in California with much of the state forecast to have below normal potential in June and July, but the lee sides of Hawai'i will have above normal potential.

Forest fire activity has remained below average for most of Mexico, while the areas burned have remained below normal for the northern states, and above normal in the southern portion of the country. For March and April, precipitation was below normal overall, while in February it was above normal. Temperatures for the previous quarter were also above average nationally.

The most significant rainfall in the last quarter occurred in portions of Coahuila, Nuevo Leon, San Luis Potosi, Hidalgo, Puebla, Veracruz, Oaxaca, Chiapas, Yucatan, and Quintana Roo, which resulted in a reduction in drought levels. However, low precipitation in the rest of the country increased the areas with extreme to exceptional drought in San Luis Potosí, Guanajuato, Querétaro, and northern Veracruz.

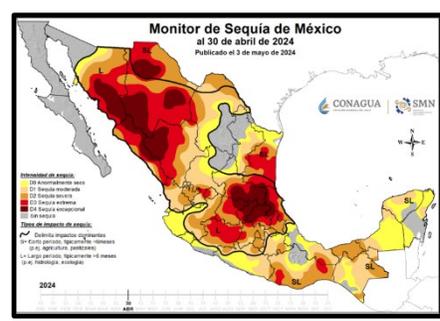
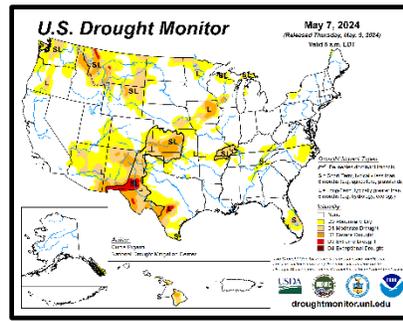
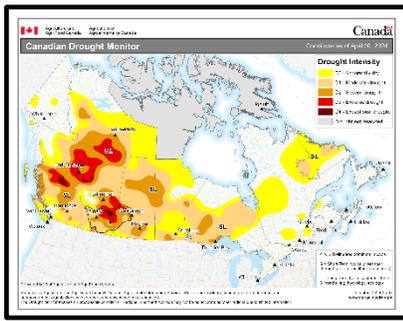
Given the current climatic conditions, along with the climatological forecast, normal or above normal precipitation is expected for the May through July quarter due to the transition to La Niña. Above normal temperatures are also expected through July, so fire activity for this period is forecast to be above normal during May, with some decrease in June.

## **Critical Factors**

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

### **El Niño-Southern Oscillation (ENSO):**

El Niño continues in the equatorial Pacific Ocean, with the warmest sea surface temperature (SST) anomalies in the central Pacific Ocean. El Niño has been weakening since the beginning of the year, with a return to neutral El Niño-Southern Oscillation (ENSO) conditions likely in the next two months, an 85% chance forecast by the Climate Prediction Center (CPC). A rapid transition to La Niña conditions is becoming more likely over the summer, with CPC forecasting a 60% chance of La Niña for the June – August period. The spring predictability barrier is still an issue, with a better forecast for the ENSO transition likely over the next few weeks. Other climate oscillations like the Madden-Julian Oscillation and Pacific Decadal Oscillation will also influence weather and climate during the outlook period, but the transition from El Niño to ENSO neutral and potential La Niña conditions will be the main driver.



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

## Drought:

About 61% of Canada outside Nunavut, where drought is not assessed, is experiencing some level of dryness, from abnormally dry to exceptional drought. A large region extending through central and northern British Columbia, northern Alberta, and the southern Northwest Territories remains in severe and extreme drought levels. Similar levels of drought intensity persist in southern Alberta and into western Saskatchewan, but recent rain may help reduce intensity. Small pockets of exceptional drought remain in southern Alberta and central British Columbia and new pockets have developed in the Peace River area in northwestern Alberta. The region of extreme drought crossing between British Columbia and Alberta in the Peace River has also grown slightly.

Drought is minimal or absent in northwestern Canada, including Yukon and northwestern British Columbia. Similarly, drought is absent in a slice of northeastern Manitoba through extreme northern Ontario, into northern Quebec. Southern Ontario and Quebec and much of the Atlantic region are also drought-free.

Slight improvement has occurred across southern Ontario and Quebec, where the extent of abnormally dry conditions is now smaller, and Labrador, where areas of moderate drought have shrunk. A small area of extreme drought that previously existed in southern Manitoba is now classified as severe.

Temperatures were above normal for much of the US Plains to the Appalachians in April, with near to above normal temperatures observed for much of the East Coast and Rockies as well. Near to below normal temperatures were observed across much of Florida, the West Coast, and Southwest. Temperatures in Alaska were near to below normal for southwest Alaska and above normal for much of the Interior. Temperatures across Hawai'i were mixed, with above normal temperatures for Oahu, Molokai, and the Big Island, but below normal for Maui and Kauai.

Above normal precipitation fell across much of the northern Plains, Mid-Mississippi Valley, and Great Lakes as well as much of east Texas, northern Louisiana, and southern Arizona. Precipitation was below normal across much of the northern two-thirds of the West, although pockets of above normal precipitation were observed across portions of the northern Great Basin and central California. Precipitation was well below normal across portions of eastern Montana, southeast Colorado, western Kansas, eastern New Mexico, and far West Texas. Below normal precipitation was also observed across the Tennessee Valley to the Carolinas and much of central and south Florida. Above normal precipitation was recorded across Kauai and Oahu, but it was below normal from Molokai to the Big Island. Much of Alaska received below normal precipitation except for the Seward Peninsula and northwest Alaska.

Drought coverage across the US changed decreased slightly over the past month, with only 15% of the US covered by drought. Drought improved in the Upper Midwest, Mid-Mississippi Valley, portions of Arizona, and far western New Mexico. However, drought persisted across much of the northern Rockies. California remains drought free, but drought persists in Hawai'i on the Big Island and Maui, although drought was removed across Oahu and Kauai.

During the second half of April 2024, several weather systems affected the northern and eastern regions of Mexico. These included three cold fronts, which were aided by moisture transport from the polar and subtropical jet streams. With the active pattern, positive precipitation anomalies were recorded in areas of Coahuila, Nuevo Leon, San Luis Potosi, Hidalgo, Puebla, Veracruz, Oaxaca, Chiapas, Yucatan, and Quintana Roo. These rains resulted in the reduction of areas with extreme drought in Sonora and moderate drought in the border area between Coahuila and Nuevo Leon, in southern Veracruz, and along the coast of Chiapas.

However, the presence of an upper-level ridge maintained a hot to very hot environment over the remainder of Mexico, along with below normal rainfall. The areas with extreme to exceptional drought increased in San Luis Potosi, Guanajuato, Queretaro, and northern Veracruz, from severe to extreme in northern Puebla, and abnormally dry conditions in Jalisco, Colima, Michoacan, and Guerrero. The percentage of coverage with moderate to exceptional drought for the second half of April was almost 68%, an increase of over 3% than that observed in the first half of April 2024.

### **Fire Season Status:**

Fires from 2023 across Canada continue to mingle with new fires starting in 2024, although the number of holdover fires appear to have been reduced, likely due to suppression. Seasonal fire weather calculations at weather stations are gradually spreading across northern regions as snow disappears. Stations in much of northern Yukon and the Northwest Territories, northern Ontario and Quebec, and Labrador have not started yet. The number of stations calculating fire weather and danger indices will increase as May progresses.

Some large fires have occurred, with the largest at about 8,000 hectares in north-central Alberta. A couple more fires in Alberta and British Columbia have exceeded the 1000-hectare size. A few smaller-sized fires were out of control as of May 7, with the others being held or under control. Some agencies have recorded more fires than normal for the time of year, but it is unclear if these include 2023 holdover fires. Some area burned reports include 2023 fires that are still active, while other sources of data may exclude the 2023 fires that remain active. Area burned using only 2024 fires is lower than normal in all jurisdictions thus far.

Fire activity remains at low levels across the US at the beginning of May, but activity has slowly been increasing, especially across portions of the Southwest, Northwest, and Florida. A few large fires are currently burning across Oregon, Arizona, Mississippi, and Florida. The Southwest and Southern Geographic Areas are the only geographic areas not at preparedness level 1 (on a scale of 1-5), and they are both at preparedness level 2. Year-to-date annual acres burned for the US is well above the 10-year average as of May 10, near 215% of normal, much of it occurring in late February in Texas, but with a below average number of fires, just below 74%.

Fire activity has been below average for most of Mexico so far this year. As of the end of April, 3,517 forest fires have been registered in 32 states resulting in 179,849 hectares burned. The vegetation corresponding to grass and brush was 94%, while timber was 6%. States with the highest number of wildfires were the State of Mexico, Mexico City, Jalisco, Puebla, Michoacán, Durango, Tlaxcala, Veracruz, Chiapas, and Chihuahua, representing nearly 86% of the total fires. States with the largest area burned were Jalisco, Chiapas, State of Mexico, Oaxaca, Guerrero, Durango, Michoacán, Veracruz, Puebla, and Nayarit, representing almost 86% of the national area burned. Of the total number of fires, 485 (5%) occurred in fire-sensitive ecosystems, with a burned area of 24,179 hectares, representing 14% of the total area burned.

## **Canada Discussion**

**May/June/July:** The Canadian Wildland Fire Information System seasonal forecast indicates increased risk for May in southern/eastern British Columbia, the majority of Alberta, Saskatchewan, and Manitoba, the Northwest Territories and northern Yukon, and a patch along the Ontario/Quebec border. The area

in northeastern British Columbia, northwestern Alberta, and the southern Northwest Territories continues to remain under intense drought conditions, and 2023 fires continue to smolder, with new fires being reported during 2024. An upcoming period of warm, dry, and at times windy weather, coupled with possible thunderstorms in western Canada may kickstart additional fire activity.

Model forecasts for June indicate above average temperatures are likely across most of Canada. As well, both climate models used in Natural Resources Canada's (NRCan) seasonal prediction suggest widespread dryness across much of Canada, although the Atlantic region may receive ample rainfall to minimize fire problems. Above normal fire potential is predicted for western provinces and territories from Manitoba westward. The region from southwestern British Columbia through northwestern Alberta and a patch along the central Alberta/Saskatchewan border are indicated as having much above normal severity anomaly on the Canadian Wildland Fire Information System (although these distinctions are not noted in the North American Outlook). These are regions where intense drought persists.

Predictions for warmth continue for July, but with precipitation forecasts lacking accuracy, rainfall trends are hard to assess. The two climate models NRCan uses for seasonal forecasts predict opposing trends for July. The net result is increased fire potential lumped into regions stretching from southwestern British Columbia through the northeast of the province, across northern Alberta and northwestern Saskatchewan, and into the southern Northwest Territories. Another region covers most of Ontario and western Quebec. Due to the irregular shape and patchiness of these areas, confidence is lower than if a large continuous area was represented. The areas shown coincide with regions where the two climate models generally suggest normal to below normal rainfall. Much of this region also coincides with areas currently suffering intense drought.

## **United States Discussion**

**May/June/July:** Climate Prediction Center and Predictive Services outlooks issued in late April depict above normal temperatures are likely for much of the eastern US in May, followed by above normal temperatures for most of the US in summer. Above normal temperatures are also likely for portions of eastern Alaska through much of the summer. Precipitation is likely to be above normal across much of the southeastern and central Plains in May, with above normal precipitation stretching into the Carolinas and Mid-Atlantic, with above normal precipitation for much of the Ohio Valley to the northern/eastern Gulf Coast over the summer. Below normal precipitation is likely for the much of New Mexico and Florida in May, and across much of the Northwest, Intermountain West, and Plains over the summer. Precipitation is likely to be above normal for the western half of Alaska into the summer.

Above normal significant fire potential is forecast for central Florida in May, expanding to much of the Florida peninsula in June before returning to normal over the summer. Above normal potential is forecast for portions of the Southwest May through July, with the greatest expanse in July. Above normal potential is forecast for northern Minnesota, northern Wisconsin, the western Upper Peninsula of Michigan, and Red Rock area of southern Nevada in June. Much of the northern Great Basin, including portions of western Nevada, southeast Oregon, and northwest Washington, are forecast to have above normal potential in July. Similar to last year, a slow beginning to the peak fire season is forecast for California, with below normal potential forecast for portions of southern California in May, expanding to much of the state in June and July. Above normal potential is forecast for the lee sides of Hawai'i, especially for Maui and the Big Island, extending into July.

## **Mexico Discussion**

**May/June/July:** According to seasonal forecast models, the probability of precipitation is expected to be above normal in the Yucatan Peninsula and Isthmus of Tehuantepec, and in areas of eastern Durango, central/northern Zacatecas, and western San Luis Potosi. Below normal precipitation is forecast in the Baja California peninsula, Sonora, Chihuahua, Sinaloa, southern Durango, southwest Zacatecas, Nayarit, Jalisco, Colima, Michoacán, Guerrero, and between the state borders of Oaxaca

and Puebla. In the remaining states, none of the categories dominates. As for temperature probability, it is expected to be above normal in most of the Mexican Republic through July.

With the weather outlook for the May through July quarter forecast to be warm and overall precipitation near normal, fire potential within normal is possible throughout the Mexican sierras and jungle regions. However, above normal fire activity is forecast for the mountains of western, southern, and eastern Mexico.

## **Additional Information**

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

United States:

National Significant Wildland Fire Potential Outlook

[https://www.nifc.gov/nicc-files/predictive/outlooks/monthly\\_seasonal\\_outlook.pdf](https://www.nifc.gov/nicc-files/predictive/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**

Contributions to this document were made by:

Canada: Richard Carr, Natural Resources Canada  
Ginny Marshall, Natural Resources Canada

United States: Jim Wallmann, Predictive Services, US Forest Service  
Julie Osterkamp, GIS, Bureau of Land Management  
Steve Larrabee, Fire Analyst, Bureau of Indian Affairs

Mexico: Martín Ibarra Ochoa, Servicio Meteorológico Nacional  
Darío Rodríguez Rangel, Servicio Meteorológico Nacional  
Alejandro J. García Jiménez, Servicio Meteorológico Nacional  
Roberto Rodríguez, Servicio Meteorológico Nacional  
José L. Solís Aguirre, Servicio Meteorológico Nacional