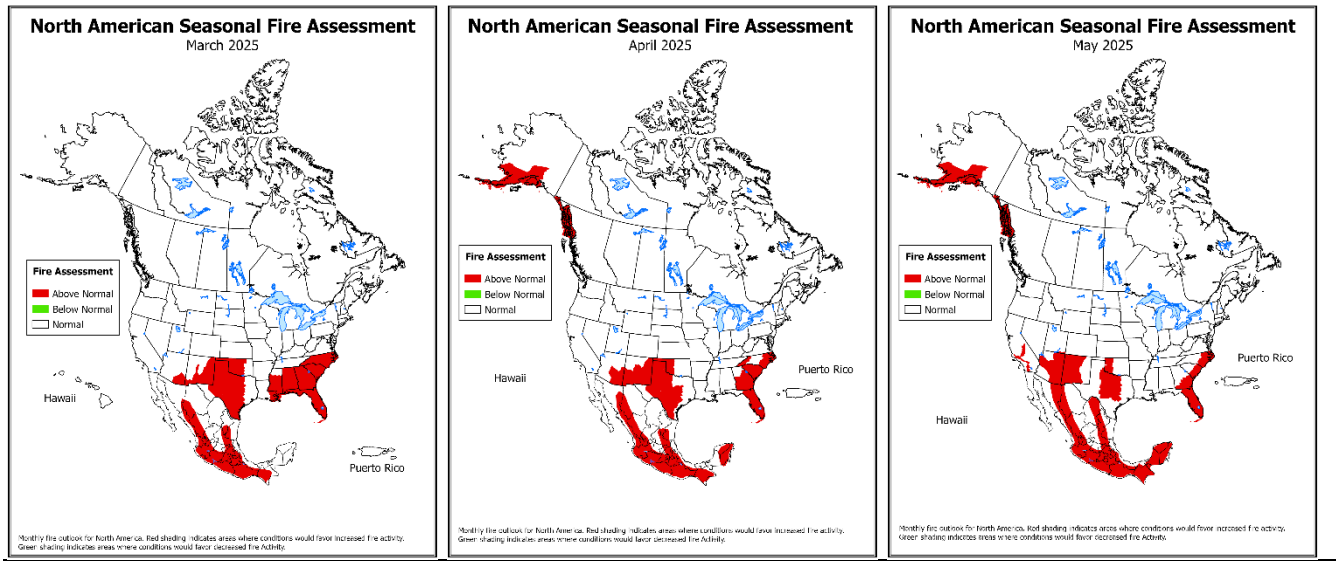
North American Seasonal Fire Assessment and Outlook

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

Outlook Period March 2025 through May 2025
Issued 14 March 2025

Executive Summary

Western Canada had a cold start to February under a northerly upper-level flow, then surging Pacific air gradually pushed east, with above normal temperatures in the last third of the month. A few record highs were set in British Columbia and Alberta after record lows earlier in February. This warm weather melted light snow cover in parts of southern British Columbia and Alberta, and fire weather index calculations started in a few locations. This followed a January in the southern Interior of British Columbia that was in the top 3 driest since 1900, and with snowpack in the bottom 10th percentile. February precipitation has been more prevalent, although coastal British Columbia, southern Manitoba, and other scattered locations in western Canada were dry.



Monthly fire outlook for North America for March 2025 (left), April 2025 (middle), and May 2025 (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.*

Northern parts of eastern Canada continued to see the greatest positive temperature anomalies, while normal values were common in southern regions. Below normal temperatures were prevalent around and south of the Manitoba/Ontario border elbow and in southeastern Ontario. Although much of Ontario had close to normal temperatures, the month featured swings between warm and cold conditions. Temperatures were slightly below normal in southern Quebec, and above normal in the northern part of the province and all of Labrador, although colder conditions occurred late in the month. The warmth tapered off in the Atlantic region, where slightly above normal temperatures were recorded only in western Newfoundland. Values were close to normal in most of Nova Scotia, New Brunswick, and Prince Edward Island, with a patch of below normal temperatures around the Bay of Fundy.

Heavy precipitation fell in parts of southern Ontario and Quebec, mainly in mid-month. Toronto Pearson Airport set a record snowfall of 78 cm for February, and depths on the ground were record-setting east of Lake Huron. Precipitation was also above normal in patches around James Bay. Some of these areas likely received lake effect snow squalls with Great Lakes ice cover about 37% in the third week of

February. Montreal, for the first time, recorded two consecutive winter snowfalls exceeding 30 cm (34 cm on February 13, 37 cm on February 16). Gaspé, Quebec set a record one-day total of about 68 cm on February 17. Scattered areas in western Quebec had above normal precipitation, while patchy areas along the Labrador border, most of Labrador, and the southwestern Ungava Bay area were drier than normal. Although February was stormy in parts of the Atlantic region, precipitation totals were low in southern New Brunswick, most of Prince Edward Island and Nova Scotia, and a small part of eastern Newfoundland. Small areas of above normal precipitation occurred on the west side of Cape Breton Island and in western Newfoundland. Snow cover remained shallow in most of these regions but was deep in northern New Brunswick.

Fire activity remained at low levels across the US in February before increasing some in early March. February precipitation was generally above normal in the northwestern US, and from much of Kentucky into Virginia, and portions of the Northeast. Below normal precipitation was observed in much of the Southwest, southern Great Basin, and much of the Plains. Below normal precipitation was also observed in along the Southeast coast into much of Florida, except for near normal precipitation in portions of central Florida. Below normal precipitation continued in much of Texas into New Mexico and the Appalachians into early March. Drought improved across portions of central and southern California into the western Great Basin, with drought improvement also noted across the Tennessee Valley, central Appalachians, and portions of the Mid-Atlantic. Drought developed and/or intensified across much of the Southwest, southern Great Basin, and southern Plains. Drought also developed in portions of the Midwest, South Carolina, Georgia, and Florida.

Climate Prediction Center and Predictive Services outlooks depict above normal temperatures are likely across much of the southern tier of the US and East Coast the through May. Below normal precipitation is likely across much of the Southwest, Great Basin, central Rockies, High Plains, and Florida through May, with above normal precipitation in portions of the Northwest and from the Great Lakes to Tennessee Valley. Of note, both outlooks indicate and increasing probability of warmer and drier than normal conditions for the West in May. Above normal significant fire potential is forecast across much of the Southern Area in March, before decreasing by May to portions of central Texas and Oklahoma as well as much of the southeast Atlantic Coast. Above normal potential in the Southwest will expand from southeast Arizona and southeastern New Mexico in March to much of central and western New Mexico and Arizona by May. Above normal potential is forecast in the Alaska Panhandle and much of southwest Alaska in April and May, with above normal potential in the southern California mountains in May, as well.

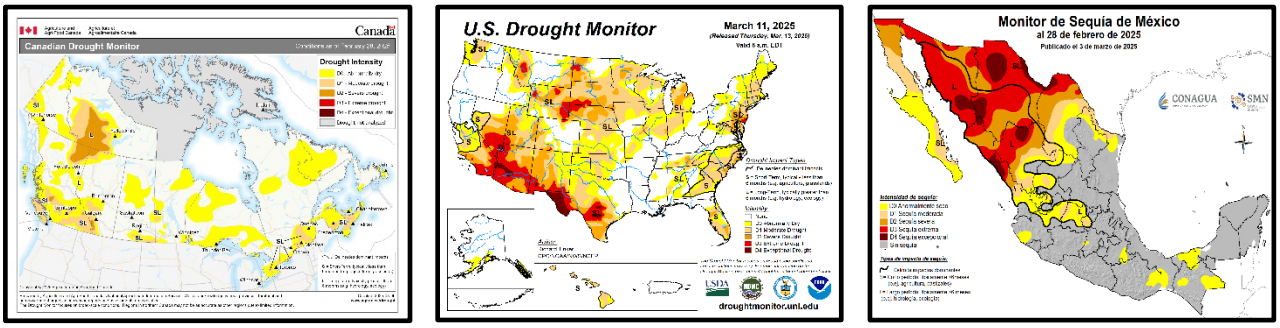
For Mexico, December, January, and February precipitation was below average, while temperatures were above average in December and February, but below average in January. Drought has expanded and/or intensified in much of the northwestern half of Mexico the past month. The climate outlook for March through May predicts overall warmer and drier than normal conditions. With the current drought conditions, past weather, and forecast climate conditions, wildfire activity through May quarter is expected to remain above average Mexico’s mountainous and jungle regions. This is mainly because of La Niña combined with a negative Pacific Decadal Oscillation that are influencing the dry and warm climate outlook. However, the forecast for La Niña indicates that it will be weak and short-lived, which decreases the probability of conventional La Niña impacts this spring.

Critical Factors

The critical factors influencing significant fire potential for this outlook period are global climate patterns related to sea surface temperatures, particularly in the Pacific Ocean, and large scale, longer-term soil moisture deficits:

El Niño-Southern Oscillation and Other Climatic Teleconnections:
A weak La Niña continues in the equatorial Pacific Ocean as a La Niña Modoki, with the coolest temperatures in the central equatorial Pacific. Sea surface temperature (SST) anomalies in the central equatorial Pacific have been 0.5-1 C below average but have warmed the past couple weeks. La Niña is forecast to continue into March, with a transition to El Niño-Southern Oscillation (ENSO) neutral

conditions forecast by the Climate Prediction Center this spring. A strongly negative phase of the Pacific Decadal Oscillation (PDO) is also expected to persist into the spring, but this feature has also been weakening the past month. The Madden-Julian Oscillation (MJO) has been active this winter but is expected to be weaker for the next month and not impact this outlook. The La Niña transition to ENSO neutral conditions and the negative PDO are expected to be the main drivers.



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:
As of February 28, about 38% of Canada outside Nunavut was abnormally dry or in some drought stage, down from 44% at the end of January. A large patch of abnormally dry, moderate drought, and severe drought in northern British Columbia, Alberta, and the western Northwest Territories has changed little, but a small patch of extreme drought near Fort Simpson, Northwest Territories faded to severe, but severe drought has expanded southwards in northeastern British Columbia. Little change in drought was observed in Yukon from the end of January. Southern British Columbia is experiencing reduction in some areas from moderate drought to abnormally dry, but moderate drought has appeared through the extreme south, while pockets of severe drought have appeared in the Chilcotin region. A small patch of severe drought appeared in British Columbia's Rocky Mountains around Golden, while moderate to severe drought expanded further in southwestern Alberta.

Slight improvement occurred in some places in abnormally dry regions from Saskatchewan through Ontario, but abnormally dry areas expanded east through central Ontario north of the Great Lakes. Patches of moderate drought shrunk in southern Ontario but expanded in southern Quebec along the St Lawrence River between the Ontario border and Quebec City. The abnormally dry patch in eastern Quebec and Labrador is smaller and moderate drought was removed. Slight changes occurred in the rest of the Atlantic region, most notably the reduction of moderate drought in Nova Scotia. Some abnormally dry regions have appeared on or near Newfoundland's Avalon Peninsula.

Temperatures in February were below normal across much of the northern tier of the US and much of the Plains as far south as North Texas. Temperatures in Montana into western North Dakota were as much as 15 degrees below normal for the month. Above normal temperatures were observed in southern California through Arizona, southern Nevada, and Utah into Colorado and New Mexico, west of the Divide. Temperatures were also above normal in the Southeast. Temperature anomalies have flipped in early March with above normal temperatures in the northern tier of the US and much of the Plains, with near to below normal temperatures in the southwestern and southeastern US.

Precipitation across the US in February was above normal in the Northwest, northern California, and northern Rockies, but below normal for the southern Great Basin, Southwest, and southern Plains. Precipitation was also below normal for much of the northern Plains, Mid-Mississippi Valley, Lower Great Lakes, southern Atlantic Coast, and Florida. Above normal precipitation was observed in much of Kentucky east into Virginia, with areas of above normal precipitation in northern New England. For early March, very dry conditions continue in southern New Mexico into the southern half of Texas, with drier than normal conditions observed in much of the Appalachians, Kansas, and the southern half of Florida. Snowpack across the West is generally near to above normal for in northern half of the West, except in Washington to northwest Montana and in the Sierra which is slightly below normal. Snowpack is well below normal for the southern Great Basin, Southwest, and southwest Colorado.

Overall drought coverage remained about the same with nearly 44% of the US in drought. Drought development was noted for portions of the southern Plains, with expansion across much of the Southwest into the southern Great Basin and portions of the West Slope. Drought also expanded across portions of the Midwest, South Carolina, Georgia, and Florida. However, drought improved over the southern Appalachians into North Carolina and Virginia, with drought improvement also found from central and northern California north into portions of western Nevada. Extreme drought is noted in portions of southern California, much of the Mohave and Sonoran Deserts, southern New Mexico, far West Texas, and portions of central Texas. Smaller areas of extreme drought are noted in portions of southern New Jersey, Wyoming, the western South Dakota-Nebraska border, and western Montana. Exceptional drought persists in far West Texas and has emerged in far southeast Nevada and portions of western Arizona.

In Mexico during the first half of February, two cold fronts combined with “Norte” wind events caused above-average rainfall in specific regions of the states of Tlaxcala, Puebla, Veracruz, Guerrero, Oaxaca, Chiapas, Tabasco, Campeche, and Quintana Roo. However, the rest of the country recorded below-average rainfall. The dry conditions contributed to an increase of regions of severe to exceptional drought in the states of Sonora, Chihuahua, Durango, and Sinaloa. An expansion of abnormally dry and moderate drought conditions occurred in isolated regions of Jalisco, Guanajuato, Querétaro, and Tabasco. As of February 15, nearly 42% of the country's surface area was in moderate to exceptional drought, an increase of 1.3% compared to the end of January.

Fire Season Status:
Fire weather calculations started in parts of southern and central British Columbia, about two to three weeks earlier than usual. Fire weather calculations have also started in southern Alberta, but this is common in this Chinook wind zone. In this area, some grass fires have occurred, although snow and rain in early March is likely reducing the likelihood of more activity through mid-month. Outside these areas, minor fire activity has been reported, and moderate to deep snow cover will prevent notable fire activity for another few weeks.

Fire activity was at low levels overall across the US in much of February but a modest increase in activity was observed in late February into early March with the National Preparedness Level increasing to two (on a scale of 1-5) March 4. The greatest increase in activity was observed across the Southern Area, with notable increases also observed in the Southwest, Rocky Mountain Area, and Eastern Area, especially in early March. Strong wind events in the Southeast March 1 and in the southern Plains March 4 resulted in numerous large fires, with the Covington Drive Fire in South Carolina ordering an incident management team. Total acres burned through March 12 of this year is below the 10-year average at 49% of normal, with 83,889 hectares (207,289 acres) burned. The total number of fires through March 12 is 9,929, or 139% of normal.

So far this year, 691 wildfires have been recorded in 30 states, with a total of 53,412 hectares burned. Grass and brush vegetation accounted for 94% of the area burned, while the timber accounted for 6%. The states with the highest number of wildfires were Jalisco, Michoacán, Chihuahua, State of México, Mexico City, Puebla, Morelos, Durango, Veracruz, and Aguascalientes, representing almost 80% of the total wildfires. The states with the largest burned area were Baja California, Sinaloa, Chihuahua, Chiapas, Jalisco, Aguascalientes, Nayarit, Tabasco, Guanajuato, and Michoacán, representing almost 92% of the national burned area. Of the total number of wildfires, 150 (22%) occurred in fire-sensitive ecosystems, with a burned area of 7,010 hectares, representing 14% of the total.

Through March 6, the largest fires this year were recorded in western, central, and northern Mexico. The states of Jalisco and Michoacán were the most affected with 149 and 78 fires above average respectively. In terms of hectares burned, the Pacific states are the most affected. Baja California has recorded more than 30,000 hectares burned, and Chiapas more than 3,000 hectares.

Canada Discussion

March/April/May: March in Canada should produce normal fire weather conditions with minimal activity. With weak La Niña or neutral ENSO conditions continuing, normal temperatures and precipitation will likely prevail in most regions. This will result in snow melt continuing into April or later in regions with moderate to deep snow cover. Those areas are mainly mountainous or in the Territories and northern portions of the provinces.

Climate models are reducing the likelihood of a cool spring in western Canada and are now favoring warmer than normal conditions. Precipitation forecasts suggest above normal amounts are likely in northern parts of the provinces, so fire activity may be limited to grassland and parkland regions. Some fire activity is likely in British Columbia, the southern Prairies, and the southern Atlantic region, but at normal levels.

Normal fire activity is expected in May, with adequate precipitation expected in many regions despite the expected above normal temperatures. Alberta often has the bulk of its fire activity in spring, so even with a normal activity level, some large or frequent events are possible. Similar activity could also occur in western Saskatchewan and northeastern British Columbia, which is normal.

United States Discussion

March/April/May: A weak La Niña has developed but is forecast to weaken to ENSO neutral conditions this spring. Climate Prediction Center and Predictive Services outlooks continue to indicate temperatures and precipitation consistent with La Niña through March. Above normal temperatures and drier than normal conditions are likely in the southwestern US and along the Gulf and East Coasts through May. However, temperatures are likely to be below normal for the northwestern US. However, a significant change in the pattern is likely to occur in May with above normal temperatures likely across much of the western US. Below normal precipitation is likely in much of the central and southern Rockies into the adjacent High Plains through May, with the area of below normal precipitation likely to include the entire West in May. Above normal precipitation is likely in portions of the Northwest, mainly through April, and for the Great Lakes south to the Tennessee Valley this spring.

For March, above normal significant fire potential is forecast from southeast Arizona into southern and eastern New Mexico into much of Texas and Oklahoma. Above normal potential is also forecast from the Lower Mississippi Valley east into the Carolinas, Georgia, and Florida. Above normal potential will continue in much of Texas and western Oklahoma in April westward into southeast Arizona and much of New Mexico. Above normal potential is expected to contract in the Southeast to the Florida Peninsula, and from the southern Appalachians to the Atlantic Coast. Above normal potential is also forecast for April in much of southern Alaska that will continue into May. Above normal potential is expected to persist through May across central Texas and Oklahoma, as well as along the southeast Atlantic Coast into Florida. Above normal potential is forecast across most of the Southwest, as well as the Transverse and Peninsular Ranges of southern California and the southern Sierra.

Mexico Discussion

March/April/May: Wildfire activity in Mexico is entering a critical stage, as during the upcoming quarter typically sees the highest activity of the wildfire season in all regions of the country, with peaks in March and April in the western and central regions and peaks in April and May in the northern, northeastern, and southeastern regions of the country. The effects of La Niña will combine with a negative Pacific Decadal Oscillation and contribute to a dry and warm climate outlook the next three months. However, this La Niña is expected to be short-lived, with a return to ENSO neutral conditions this spring.

Over the past three months, national precipitation was below average. Temperatures were above average in December and February but below average in January. The climate outlook for March-May

is for warmer and drier than normal conditions. Wildfire activity during this period is expected to be above average in the Sierra Madre Occidental, the Sierra Madre Oriental, the Neovolcanic Axis, the Sierra Madre del Sur, the Chiapas highlands, and areas of the Yucatan Peninsula.

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

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.

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