

North American Seasonal Fire Assessment and Outlook

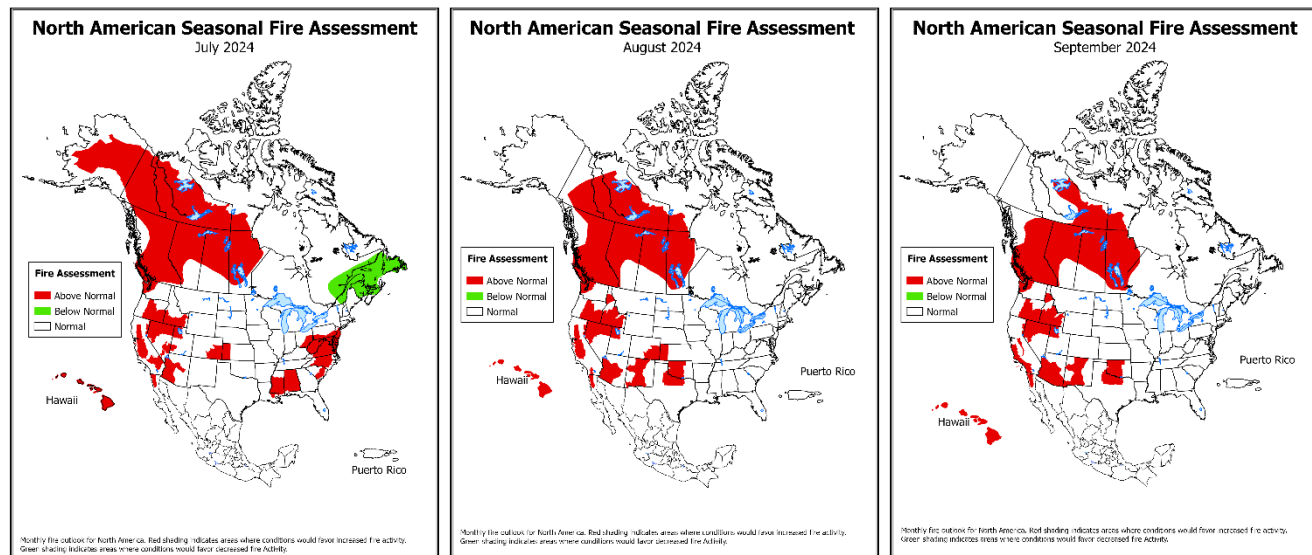
National Interagency Fire Center • Natural Resources Canada • Servicio Meteorológico Nacional
United States Canada Mexico

Outlook Period July through September 2024
Issued 12 July 2024

Executive Summary

Dry weather continued in the Northwest Territories and northern Quebec through most of June. Cool and occasionally wet weather occurred further south and west in much of the western provinces, where brief pulses of warm weather raised temperatures but not enough to exceed slightly below normal monthly values. A dome of very warm air over eastern Canada during the week of June 16 set record high temperatures exceeding 36 C in some locations. Some record lows occurred in western Canada during the same period as a stagnant Arctic air mass lingered for several days before finally being displaced by warm air.

Total precipitation was heavier than normal through most of the boreal forest and southern parts of eastern Canada through the first half of June. Conditions in western Canada began to dry near the end of June, continuing into July as a very large and slowly moving ridge began to cross the country. This forced moisture further north into the southern Territories and extreme northern parts of the provinces in early July. However, much of the region is very dry and precipitation accumulations are likely to remain light except in mountainous regions and localized due to thunderstorms.



Monthly fire outlook for North America for July 2024 (left), August 2024 (middle), and September 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.](#)

In the United States, fire activity gradually increased across the western geographic areas and Alaska in through June. In early July, a more rapid increase in fire activity occurred in the western US, while fire activity slowed significantly in Alaska. The National Preparedness Level was increased to three (on a scale of 1-5) on June 28, and four on July 10, due to the increase in fire activity in the West.

Temperatures across much of the West were above normal June into early July, with two heat waves from June 17-23, and the second, historic heat wave that began July 4 and continues as of this writing.

Above normal temperatures were also recorded across the eastern US as well, but anomalies were not as extreme as those found farther west. Precipitation across the contiguous US in June into early July was below normal for much of the West, although pockets of above normal precipitation was recorded in the Southwest and greater Four Corners. Well above normal precipitation fell across the Upper Midwest, with historic flooding in portions of northern Iowa into southern Minnesota and western Wisconsin. Precipitation was below normal for much of the Ohio Valley into the Mid-Atlantic, Appalachians, and Southeast as drought developed and intensified.

Climate Prediction Center and Predictive Services outlooks issued in late June depict above normal temperatures are likely across much of the US in July continuing through September. Temperatures are likely to be below normal in southwest Alaska through the period, with a slight chance of above normal temperatures for the Brooks Range and North Slope. Precipitation is likely to be above normal along the Gulf and East Coasts through September, but below normal precipitation is likely for much of the Intermountain West to the Plains. Precipitation for Alaska is expected to be above normal through the period. Above normal significant fire potential is forecast for much of the West through September, with a peak in August. The areas with the greatest potential will be across the central and northern Great Basin into eastern Oregon, as well as the lower elevations of California where fine fuel loading is well above normal. Areas of above normal potential are also forecast across portions of the Deep South, and across portions of the Carolinas north into the Mid-Atlantic and Upper Ohio Valley in July. Above normal significant fire potential is also forecast for portions of north Texas and much of central Oklahoma in August and September.

The number of fires across Mexico so far this year has been slightly below normal, while the area affected by forest fires has been significantly above average for the second consecutive year. In fact, 2024 ranks as the year with the third highest number of hectares affected behind 2023 and 2011. Precipitation was below average during April and May, while average temperatures were above the national average April through June. During June, several weather systems brought heavy rains along the Gulf of Mexico slope which contributed to a decrease in forest fire activity and a reduction in the exceptional drought in northern and eastern Mexico. However, a very hot to extremely hot environment persisted, typical of the season, which increased the areas affected by severe and extreme drought in Michoacán and Guerrero.

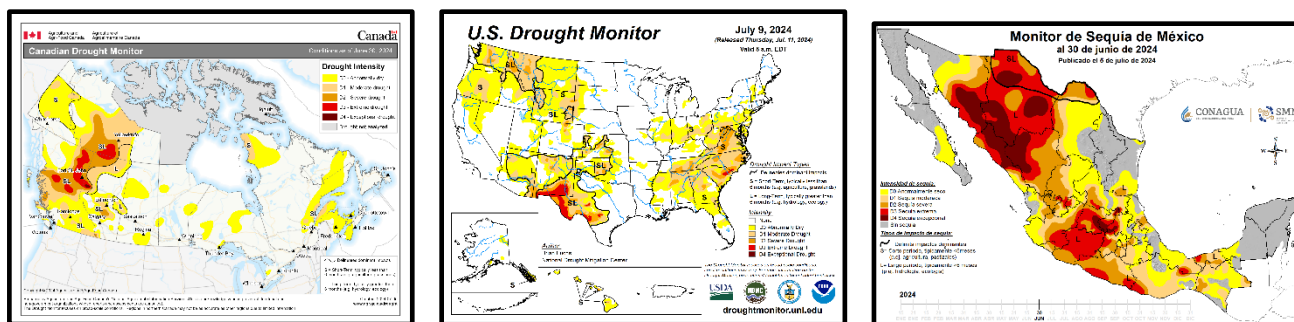
The climate outlook for July through September is expected to be warm, with wet conditions in July and August followed by below normal precipitation in September. Above normal significant fire potential is forecast for northern Baja California, as fire activity begins to increase in the region during this time of year. Across the rest of the country, wildfire activity will remain minimal due to the rainy season, which is normal.

Critical Factors

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

El Niño-Southern Oscillation:

El Niño-Southern Oscillation (ENSO) neutral conditions are present in the equatorial Pacific Ocean. Sea surface temperature (SST) anomalies in the central equatorial Pacific are near average, while cooler than average SST anomalies are found off the South America Coast. A rapid transition to La Niña continues to be forecast over the summer into the fall, with the Climate Prediction Center forecasting a 65% chance of La Niña developing in the July through September period, and 85% chance of La Niña persisting into the winter. A negative phase of the Pacific Decadal Oscillation (PDO) is also expected to impact the forecast this summer. Other climate oscillations like the Madden-Julian Oscillation and the weakening easterly phase of the Quasi-Biennial Oscillation are expected to have little impact, leaving the developing La Niña and negative PDO as 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:

About 38% of Canada outside Nunavut, where drought is not assessed, is experiencing some level of dryness, from abnormally dry to exceptional drought. This marks a reduction of about 7% from the end of May assessment.

Although drought expanse and intensity has lessened in many regions, serious drought persists in a line from central to northeast British Columbia, across northwestern Alberta, and into the southwest part of the Northwest Territories. This extended drought is having a major effect on the Mackenzie River, which in places is at the lowest ever recorded levels. The patches of exceptional drought stretching across the Alberta/British Columbia border in the Peace River region have shrunk. Lesser drought levels from severe drought to abnormally dry surround these most-impacted areas, plus a few small areas of moderate to severe drought remain in southern Alberta and British Columbia. The Yukon is recording abnormally dry conditions with a few patches of moderate drought. The abnormally dry region that recently developed in the St Lawrence River Valley in Quebec and the southern Atlantic Provinces now has some pockets of moderate drought east of Quebec City.

Temperatures were above normal for much of the southern two-thirds of the Western US in June, with a significant heat wave across the southern half of the West June 19-23. Temperatures were also above normal from the Mid-Mississippi Valley into the Mid-Atlantic and Northeast, mostly due to the heat wave from June 17-23. Temperatures were near to above normal in the Southeast into the central and southern Plains. Temperatures were near to slightly below normal along the Canadian border from Washington to Minnesota. Temperatures in Alaska were above normal for much of the state in June but cooled significantly after July 4. A record breaking heat wave affected the West the beginning of July, with all-time record high temperatures recorded in several locations including Las Vegas, Nevada and Redding California, near 49 C.

Above normal precipitation fell across much of the Upper Midwest with historic flooding in portions of northern Iowa into southern Minnesota from June 16 through the end of the month. Above normal precipitation was also observed across much of Arizona into northwest New Mexico and southwest Colorado, mainly in late June. Above normal precipitation fell across south Texas, south Florida, and western Washington as well. However, precipitation was below normal for much of the rest of the US, with significant dry anomalies across the Great Basin, Inland Northwest, and northern and central Rockies that continued into July. Well below normal precipitation was also observed across the Ohio Valley to the Appalachians and East Coast. Precipitation was well below normal across Hawai'i, with less than 25% of normal precipitation for Maui and the Big Island. Precipitation was below average in Alaska in June, but very wet conditions have occurred across much of the state so far in July.

Relatively few areas saw drought improvement in June, primarily across portions of New Mexico. Extreme drought persisted in much of southern New Mexico and portions of southwest Texas, and lesser drought conditions persisted in portions of Washington, northern Idaho, and western Montana. Drought increased across portions of Wyoming, with also increasing in area and intensity across the western Montana into Washington. Drought developed across a large region from the Ohio Valley and through the Mid-Atlantic into the Southeast, with portions of Virginia, North Carolina, South Carolina, Georgia, Tennessee, and Alabama in moderate drought. Drought improved marginally in southeast

Colorado and western Kansas but developed in portions of western Oklahoma. Drought was resolved in central and southern Florida.

During the second half of June, several weather systems were responsible for heavy rains in much of Mexico. These included the presence low pressure areas, the beginning of the North America Monsoon, Tropical Storm Alberto, and three additional tropical waves.

These wet conditions prevailed mainly along the Gulf of Mexico coast, where the greatest positive precipitation anomalies were recorded. Rainfall also resulted in the reduction of exceptional drought in Sonora, Chihuahua, Sinaloa, Durango, Tamaulipas, San Luis Potosí, Querétaro, Guanajuato, Hidalgo, Veracruz, and Puebla. However, extreme drought conditions persisted in Nuevo Leon, Coahuila, Zacatecas, Aguascalientes, State of Mexico, Tlaxcala, Oaxaca, and Tabasco, as well as severe drought in Nayarit, Mexico City, Morelos, Chiapas, and Campeche. The Yucatán Peninsula continues in moderate drought.

Despite the rains, the environment remained very hot to extremely hot, typical of the season, which increased the areas affected by severe and extreme drought in Michoacán and Guerrero. As of June 30, nearly 55% of the country was in moderate to exceptional drought, which represents a decrease of 19% from the first half of June.

Fire Season Status:

Although both Canadian fire numbers and area burned are close to or below normal in most jurisdictions at the start of July, an extended hot and dry spell appears set to increase numbers as the month progresses. The number of fires as of July 8 was at 2,254, about 77% of the 10-year average, and the area burned near 1 million hectares, about 61% of the 10-year average. These numbers may be closer to normal than the 10-year average suggests, given the huge amount of area burned during 2023 has elevated the means.

Yukon and New Brunswick remain the only jurisdictions reporting more than the usual number of fires as of July 8, while British Columbia, Yukon, and Newfoundland have more area burned than the 10-year normal. Most of the British Columbia area burned is due to fires in the northeast.

Some fires have occurred in unfortunate places and caused evacuations. In the Northwest Territories, the majority of fires in some locales were mainly human-caused, although this anomaly (as most usually result from lightning) relates to the dryness of the region and the absence of lightning. A mid-June fire near Fort Good Hope, Northwest Territories, resulted in an evacuation. Churchill Falls, Labrador, and the power generating station west of the town were evacuated, and in late June, the Port Cartier penitentiary in Quebec was evacuated.

Apart from northern British Columbia, northern Alberta, and the southern Northwest Territories where fire has been present for months, other regions have thus far seen fire activity appear for a few weeks then dissipate again. Some fires appeared in Yukon, where activity was sustained during June, but relief appeared imminent in early July with a few rainy days expected. Fires in northern Quebec and Labrador were dampened by rain, reducing activity at least temporarily.

Fire activity gradually increased across the western geographic areas in the US in June, with a much more rapid increase in early July. Fire activity steadily increased across Alaska through June but decreased significantly after July 4 due to a much wetter southwesterly flow pattern. With the increase in activity, the National Preparedness Level increased to three (on a scale of 1-5) on June 28, and four on July 10, due to the increase in fire activity in the West. Multiple geographic areas are at preparedness level three as of July 12 including the Southwest, Northern California, Southern California, Northwest, Northern Rockies, Great Basin, and Alaska.

Strong northerly winds across California June 16 resulted in the Post, Aero, and Sites Fires, indicative of the significant increase in activity the latter half of June. Strong southwest winds in New Mexico the following day, June 17, resulted in the South Fork and Salt Fires that burned several hundred structures

in and around the Village of Ruidoso that evening. A sudden increase in moisture followed June 19-23, rapidly replacing the fire threat with damaging debris flows off the burn scars. Modest amounts of moisture with an incoming Pacific trough ignited several fires June 24-26 across California into southeast Oregon and the Great Basin, with the Fresno June Lightning Complex and Basin Fires in central California the most notable. The record-breaking heat wave in early July resulted in numerous large fires across all western states, several of which continue to burn as the heat continues. Year-to-date annual acres burned for the US is above the 10-year average at 112% of normal at 1,192,648 hectares (2,947,034 acres) but the national year-to-date tally of 23,991 wildfires remains below average, at just over 80%.

So far this year 7,054 forest fires have been registered in 32 states resulting in 942,243 hectares burned across Mexico. The vegetation corresponding to grass and brush was 94%, while timber composed 6% of the total. States with the highest number of wildfires were State of Mexico, Mexico City, Jalisco, Michoacán, Puebla, Chihuahua, Durango, and Chiapas, representing nearly 80% of the total fires. States with the largest area burned were Oaxaca, Jalisco, Chiapas, Guerrero, Michoacán, Chihuahua, Durango, and Nayarit, representing almost 72% of the national area burned. Out of the total number of fires, 966 (14%) occurred in fire-sensitive ecosystems, burning 113,488 hectares, which represents 12% of the total area burned. Forest fire activity has remained above normal in the western states in early summer, while the burned area is above normal across most of Mexico.

Canada Discussion

July/August/September: Above normal temperatures and below normal rainfall are expected to continue through July for much of Canada. While precipitation forecasts lack accuracy, normal rainfall in the presence of above normal temperatures could still increase fire activity. British Columbia, Yukon, the Northwest Territories, and provinces eastward through Manitoba may be susceptible to increased fire activity. Although temperatures are forecast to be above normal in eastern Canada, rainfall may be at a high enough level, especially in the south, to prevent excessive fire risk. At this time of year, grasslands and agricultural regions are generally excluded unless prolonged intense drought has prevented vegetation green-up.

Climate models predict a similar outcome for August, with warm temperatures and large areas with low rainfall. The predicted outcome for fire activity looks similar to that of July, although Yukon may benefit from cooler temperatures and more rainfall, so expected fire severity appears normal in that region.

Cooler and moister weather is forecast to push into northwest Canada during September, so the area at highest risk moves southward, although the eastern Northwest Territories may still have above normal risk. While fire activity in the north often dwindles rapidly in the late summer in northern Canada, 2023 featured warm, windy weather in dry areas driving large fire growth in later September, so this occurrence should still be considered with the current drought levels across western Canada. The area expected to have increased September fire severity is confined to British Columbia and the Prairie Provinces, and the Northwest Territories south of Great Bear Lake and southeast of Great Slave Lake.

United States Discussion

July/August/September: Climate Prediction Center and Predictive Services outlooks issued in late June depict above normal temperatures are likely for much of the US through September. Precipitation is likely to be above normal for much of the Gulf and East Coasts, while below normal precipitation is forecast for the Intermountain West into the Plains.

In comparison to the outlook issued a month ago, more and larger areas are expected to experience above normal significant fire potential starting in July. Above normal significant fire potential is now forecast for much of Alaska, Alabama, Mississippi, the central Appalachians, Mid-Atlantic, portions of the Carolinas, southern Nevada, southwest Utah, and southeast California in July before returning to normal in August. Above normal potential is forecast for much of the northern Great Basin into central

and southeast Oregon and far northeast California July through September due to well above normal fine fuel loading. Above normal potential is forecast for southeast Colorado into western Kansas in July and August, with above normal potential expected in northwest Washington through September. Above normal potential in western Arizona in July is forecast to expand into much of southeast Arizona and central New Mexico by September. Above normal potential is expected in the California Central Valley and Diablo Mountains in July and August, with above normal potential in much of coastal southern California in September. Above normal potential is forecast for Hawai'i through September, especially for the lee sides.

Mexico Discussion

July/August/September: For the July through September quarter, mainly wet conditions are expected in Mexico. During July and August, above normal rainfall is expected, especially in the eastern portion of the country. However, moving into September, a decrease in precipitation is anticipated, with negative anomalies focused on the northern portion of Mexico. As for maximum temperatures, they are forecast to be above average in most of the country through September. However, below normal temperatures will persist over the Baja California Peninsula and the coast of Jalisco.

Given the current temperatures, precipitation, and status of drought in the country, coupled with the forecast model trends, the climate outlook for the July-August-September quarter is forecast to be warm. Above normal precipitation is forecast for July and August, followed by below normal precipitation in September. Above normal significant fire potential is forecast for northern Baja California, as fire activity begins to increase there over the summer. For the remainder of Mexico, fire activity will remain minimal due to the rainy season.

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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