Executive Summary

Winter conditions normally associated with La Niña continued through the first half of January across much of Canada. Snow cover in the eastern half of Canada is near normal, with a few exceptions, despite below average precipitation in January. The area from northeastern British Columbia extending southeast to the Alberta-Montana border into southern Saskatchewan has below average snow depths, with much of the area snow-free. While precipitation in most of western Canada has been normal to above normal over the past month, southern Alberta and southwestern Saskatchewan have received little precipitation. Western Canada observed well below normal temperatures in early January, but recent warming in western Canada has resulted in significant melting and runoff, which will exacerbate exceptionally dry conditions in the western prairies with potential for increased fire risk this spring. Temperatures in the eastern territories and provinces observed below average temperatures last month, while the western territories and provinces were normal to above normal overall.

Drought changed little over the US since January as nearly 90% of the West remains in drought. Slight improvement in drought occurred over portions of the West, with drought removal over portions of the Carolinas and Virginia. Below normal precipitation was observed over much of the West into the Plains and Florida in January, with above normal precipitation across the Ohio River Valley to the Carolinas and Mid-Atlantic. Temperatures were near normal in January across the West with below normal temperatures in the eastern US. Above normal fire potential is forecast for the southern Plains, southern Georgia, and the interior Florida Peninsula in February as above normal temperatures and below normal precipitation are forecast across much of the southern US. Fire potential is forecast to return to normal across portions of the eastern Plains into April, but above normal potential is forecast to expand throughout Florida and into the Carolinas as well as southern New Mexico and southeast Arizona.
In January, forest fire activity across Mexico continued at low levels, with the greatest activity in Mexico City, Mexico State, Chiapas, and Oaxaca. Forest fire activity normally reaches its peak in March and April for the western and central states of Mexico. In the northern, northeastern, and southeastern states, fire season begins in February, reaching its peak in April and May, but due to the influence of La Niña, fire potential in Mexico could intensify to above average this spring. Below normal precipitation in December and January has been observed of most of Mexico, with an increase in drought and abnormally dry areas. Drought will likely intensify due to the dry season, which could be aggravated due to La Niña. Given the fuel conditions, drought, and climate outlooks, the fire potential is forecast to be normal for northwest Mexico through April. Above normal fire potential is forecast in portions of northern, northeast, central, western, and southeast Mexico through April.

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

**El Niño-Southern Oscillation (ENSO):** La Niña conditions are present, with below average sea surface temperatures (SSTs) over much of the equatorial Pacific Ocean. The Climate Predictive Center (CPC) forecasts La Niña to continue into spring, which will continue to have a major impact on the next few months’ weather and climate. There is also a strongly negative Pacific Decadal Oscillation (PDO) that continues to impact the large-scale pattern. Other teleconnection influences, such as the Madden-Julian Oscillation and Arctic Oscillation may still have roles in shaping the weather and climate patterns, but La Niña with the negative PDO will likely remain dominant influences on the pattern.

**Drought:** The extent of drought across much of Canada was largely unchanged from the end of December, with a few exceptions. Improvements were noted in north-central British Columbia and west-central Alberta, and in portions of eastern Saskatchewan, Manitoba, and western Ontario. Despite drought intensity easing slightly in these regions, the southern half of Alberta, Saskatchewan, and Manitoba have seen little change, with a large patch of severe to exceptional drought persisting. Ontario experienced modest improvement with many regions now categorized as abnormally dry. In Quebec, the area extending from Montreal to northeast of Quebec City remains in abnormally dry to moderate drought. A few patches in western Quebec, northern Ontario, and around Yellowknife are abnormally dry, with the rest of the country absent of drought.

There was little change in drought across the West in January except for slight improvement over portions of California, western Montana, and eastern Colorado. Drought was removed from much of the Carolinas and Virginia due to abundant rainfall during January. However, drought expanded over portions of the central Plains, with most of the Plains now in drought due to very dry conditions that continued through January. Drought expanded and intensified over the Lower Mississippi Valley due to below normal precipitation as well.

During early January, above average rainfall was observed in portions of the Gulf of Mexico Slope and southeast Mexico with the passage of cold fronts. The rain helped reduce abnormally dry areas in northern Tamaulipas, central and southern Veracruz, Tabasco, Chiapas, and the Yucatan Peninsula. In contrast, below average precipitation was observed across much of northwest and central Mexico, with the most significant precipitation deficits along the Sierra Madre Occidental. The drier conditions were the result of high pressure off the west coast of Mexico and the lack of cold frontal passages. The lack of precipitation resulted in an increase of abnormally dry areas in the west and south-
central of the country, moderate drought increased in San Luis Potosí, and moderate to extreme drought increased in Chihuahua and Coahuila. As of January 15, the area with moderate to extreme drought covered 13% of the country, a slight increase over last month.

**Fire Season Status:** Although the snow-free period in parts of the southern Prairie Provinces continues, Natural Resources Canada has not noted significant fire activity. However, southern Alberta and Saskatchewan are currently at risk for potential grass fires given the above average temperatures and dry conditions in early February.

Large fire activity was low across the US, with most activity across the southern Plains and southeast US and some activity noted in portions of California and the central Plains. Year-to-date fire statistics through February 11 showed 3,120 fires burned a total of 21,921 hectares (54,170 acres). These totals are 123% of the 10-year average for fires and 107% of the 10-year average for hectares burned.

Through January, 84 forest fires have been registered in 17 states, affecting an area of 1,314 hectares. Approximately 98% of the fires were in grass and shrub fuel types and less than 2% in timber. States with the highest number of fires were Mexico City, Mexico, Chiapas, Puebla, Jalisco, Veracruz, Hidalgo, Oaxaca, Tlaxcala, and Aguascalientes, representing over 82% of the national total. States with the largest area affected were Chiapas, Aguascalientes, Oaxaca, Puebla, Mexico City, Mexico, San Luis Potosi, Jalisco, Hidalgo, and Chihuahua, which represent 95% of the national total. Additionally, seven (8% of the total) wildfires occurred in fire-sensitive ecosystems, affecting an area of 298 ha. (23% of the national total).

**Canada Discussion**

**February/March/April:** Canada can expect minimal levels of wildfire due to cold temperatures and snow cover across much of the country. Southern Alberta and Saskatchewan, however, is at risk for grass fires in February with little to no snowpack, average to above average temperatures, and normal to below normal precipitation forecast for western Canada.

Ensemble weather forecasts indicate below normal temperatures are likely in the western half of Canada while Ontario and southwestern Quebec will experience above average temperatures as La Niña slowly transitions to neutral conditions later in the spring. However, continued modification of below normal SSTs in the northeast Pacific Ocean through spring may modify the extent of cold air in western Canada. Confidence in precipitation trends is lower, with climate models leaning towards above average precipitation through most of southern Canada, but northern British Columbia and Newfoundland are likely be drier than normal. Northern Canada is forecast to have near normal precipitation. March is still too early to expect significant fire activity in Canada. However, without significant precipitation in the southern Prairie provinces, drought conditions are expected to continue with some fire activity possible in March.

April will likely bring normal to below normal temperatures for the western half of Canada, while temperatures in the eastern half of the country forecast to be near normal. Precipitation trends vary between ensemble forecasts, with models leaning towards above average precipitation in much of British Columbia, below average precipitation in the southern half of Quebec, and normal precipitation elsewhere. While still early in the fire season, interior British Columbia and the southern Prairie Provinces may be subject to spring fire activity.

**United States Discussion**

**February/March/April:** Climate outlooks for late winter into spring indicate above normal temperatures are likely across much of the eastern US except the western Great Lakes, central and southern Plains, and greater Four Corners region. The highest probabilities for above normal temperatures are in New Mexico and Texas. Below normal temperatures are likely for the northwest US and portions of northern California, Idaho, Montana, California, and Alaska. Above normal precipitation is forecast for portions of the northwest US into northern Idaho and Montana with the Mid-Mississippi Valley into the Great
Lakes likely to experience above normal precipitation through April as well. Below normal precipitation will likely accompany above normal temperatures across the greater Four Corners region into the central and southern Plains, the Gulf Coast, and the eastern Carolinas.

In February, above normal significant fire potential is forecast for much of the central and southern Plains from southeast Colorado and across most of Kansas then south through eastern New Mexico, Oklahoma, and much of central and western Texas. The area of above normal potential will expand into southern New Mexico, southeast Arizona, and the Front Range of northern Colorado by April. The above normal potential will be acute during wind-driven events. However, above normal potential will return to normal across portions of the eastern Plains of Kansas, Oklahoma, and Texas by April as well.

Above normal significant fire potential is also forecast for southern Georgia and the interior Florida Peninsula in February. Above normal potential is forecast to expand into much of Georgia, the Carolinas, and all of Florida by the beginning of April.

**Mexico Discussion**

**February/March/April:** Fire season typically peaks across western and central Mexico in March and April. In the northern, northeastern, and southeastern states, forest fire season begins in February, reaching its peak in April and May. However, due to the influence of La Niña, fire season through spring could intensify and be above normal for much of Mexico.

Precipitation across much of Mexico in December and January was below normal, which has resulted in an increase in drought and abnormally dry areas across portions of the country. Drought is likely to intensify during the dry season which could be aggravated by La Niña. Observed temperatures have also been slightly above normal across Mexico the past few months.

Climate forecasts through April indicate above normal precipitation is likely for portions of Michoacán, México State, Guerrero, Oaxaca, and Chiapas. In much of northwest, north, and northeast Mexico, precipitation is forecast to be below normal with near normal precipitation across and southeast Mexico. Temperatures are forecast to average above normal throughout Mexico through April. Given the climate forecast, drought, and fuel conditions, fire potential is forecast to be normal in northwest Mexico through April. However, much of northern, northeast, central, and western Mexico are forecast to have above normal fire potential in February, with above normal fire potential expanding into portions of the Yucatan Peninsula in March and April.

**Additional Information**

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

- United States:
  - National Significant Wildland Fire Potential Outlook

- Canada:
  - Canadian Wildland Fire Information System
    [http://cwfis.cfs.nrcan.gc.ca/home](http://cwfis.cfs.nrcan.gc.ca/home)

- Mexico:
  - Servicio Meteorológico Nacional

**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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