Executive Summary

Typical La Niña winter conditions continue in Canada. While mild temperatures were common in western Canada from mid-January through most of February, occasional snowfall in the grasslands prevented significant grass fires. A return to cooler and wetter conditions at the end of February and early March continues the trend towards a significant snowpack in most of the country. Despite this, light snow cover is present in parts of north-central British Columbia, the southern Prairies, along the Northwest Territories-Nunavut border, and the eastern Atlantic Provinces, where precipitation has fallen as rain or snow. Snow depths are above normal in much of Yukon, central parts of the Prairie Provinces, and Quebec north of the Saint Lawrence River. No Canadian weather stations used in the Canadian Wildland Fire Information System had fire weather indexes calculated throughout the winter, but a few have resumed calculations in early March. This provides insight into the widespread cool and snowy conditions Canada has endured in the winter.

Fire activity increased in February, especially across Southern Area. Year-to-date number of fires and acres burned for the US are nearly double the 10-year average, with more than 90% of the acres burned coming from Southern Area, which is typical for this time of year. Above normal significant fire potential is forecast to expand portions of the Southeast Atlantic states into April, with lingering above normal potential forecast to remain in Florida during May. Much of the central and southern Plains are expected to have above normal significant fire potential into April, while persisting on the High Plains and eastern slopes of the Front Range through May. Much of the Southwest is forecast to have above normal significant fire potential by May, with much of Alaskan Interior and Panhandle likely to have below normal potential.

Monthly fire outlook for North America for March 2022 (left), April 2022 (middle), and May 2022 (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 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 across 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. SSTs are warming, however, and the Climate Predictor Center (CPC) forecasts La Niña to continue to weaken with neutral conditions forecast by late spring. Despite the warming, the influence of La Niña is forecast to continue through April. There is also a 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: Improvement in drought conditions occurred along the southern Rocky Mountains and in the Prairies. Despite this, drought remains significant in the Prairie Provinces, with extreme levels in southeast Alberta and southwest Saskatchewan. A small area of exceptional drought persists near Rosetown, Saskatchewan. While the most severely afflicted regions are grassland and agricultural, lesser drought categories spread to the north into the Peace River region in east-central British Columbia and west-central Alberta and into central Saskatchewan and the southern third of Manitoba. The Okanagan region in southern British Columbia and Ontario west of Lake Superior also have areas of abnormally dry to moderate drought. Elsewhere, only a few isolated spots of abnormally dry are present.

Most of the West, Plains, and Texas remain in drought, with abnormally dry conditions now across Florida and continuing in portions of the Carolinas. Temperatures were below normal from the Intermountain West to the western slopes of the Appalachians, but near to above normal temperatures were observed on the East Coast. Much of the West and Plains had a dry February, with snowpack across the West mostly below normal. However, Alaska has well above average snowpack and snow cover. Large swaths of Eastern Area and northern portions of Southern Area received above average precipitation in February.

During the first part of February, above-average rainfall was observed throughout the states along the Gulf of Mexico and the Yucatan Peninsula. The greatest amount of this precipitation was concentrated in the north of Chiapas, Tabasco, and in the Yucatan Peninsula, which helped to reduce the areas with abnormally dry conditions and moderate drought in these regions. The northwestern and western regions of the country did not receive significant rainfall. Therefore, the most significant rainfall deficits were recorded in the northwest regions, the Sierra Madre Occidental and the Bajío, where the abnormally dry conditions and moderate drought
increased. Other regions with increases in areas of drought were central (moderate drought) and northern (moderate to extreme drought) Mexico. As of 15 February, the area with moderate to extreme drought was 13.2% at the national level, which is 22% less than what was quantified as of 31 January.

**Fire Season Status:** Light snow cover continues in parts of the southern Prairie Provinces, with no significant fire activity reported. The snow depth in the rest of the country will prevent significant fire activity for the next few weeks. Fire Weather Index calculations in the warmest parts of the nation gradually went into winter mode between late December 2021 and mid-January 2022, with indices emerging from this winter shutdown in early March in a few southern British Columbia locations.

Large fire activity increased during February, 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 10 March showed 11,663 fires burned a total of 116,334 hectares (287,468 acres). These totals are twice the 10-year average for fires and 107% of the 10-year average for hectares burned.

Wildfire activity continues to increase across Mexico but has been below normal year-to-date. Through 3 March, 651 forest fires have been registered in 29 states, affecting an area of 11,796 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, Michoacán, Chihuahua, Morelos, Chiapas, Tlaxcala, Veracruz, and Durango, representing over 85% of the national total. States with the largest area affected were Chiapas, Oaxaca, Mexico, Chihuahua, Zacatecas, Puebla, Durango, Ciudad de Mexico, Aguascalientes, and Morelos, which represent 89% of the national total. Additionally, 89 (14% of the total) wildfires occurred in fire-sensitive ecosystems, affecting an area of 4,027 ha. (34% of the national total).

**Canada Discussion**

March/April/May: March is still early to expect significant fire activity in Canada. To date in 2022, regular snowfalls are helping prolong winter conditions, even in areas that had little snow cover during winter. This will prevent significant fire activity until sustained warm temperatures and a drying trend dominates. Since little fire activity is expected in March and Natural Resources Canada does not produce fire weather normals for months between October and March, above or below normal severity areas for March are not indicated on the accompanying maps.

April will likely bring normal to below normal temperatures for western Canada, with model agreement providing reasonably high confidence. Temperatures in central Canada may be above normal, and the eastern half of the country should be near normal. The high snowpack in most central regions will likely linger through part of April, meaning fire activity should remain minimal. Precipitation trends vary between models, with some leaning towards above average precipitation in much of British Columbia, below average precipitation in the southern half of Quebec, and normal precipitation elsewhere. Since average severity ratings in April are low to moderate, and minimal fire activity is expected in April, no above normal severity areas are indicated on the accompanying maps.

Climate models suggest May will be dry in western Canada and moist in central regions. With La Niña fading over the spring, the possibility exists for spring fire activity to occur in the western Prairies, as this pattern favors Arctic high-pressure areas drifting through the Prairies. This pattern normally brings large pools of dry air southward, with significant wind around the edges of these features. By May, temperatures are often warm on the west side of these ridges, which also contributes to fast-spreading fire events. Warmth may dominate central Canada in May, contributing to an area of above normal fire severity expected in southern Manitoba. While drying in May in British Columbia often precedes serious summer fire problems as ENSO indexes transition through neutral conditions, May usually remains generally quiet. These possible events of course depend on these weather patterns and ignitions occurring.

**United States Discussion**
March/April/May: Climate outlooks through spring indicate areas receiving below normal precipitation will likely expand generally south to north across the West, with below normal temperatures likely continuing across the Pacific Northwest and northern Rockies. Much of the Great Lakes and Northeast are forecast to have above normal precipitation through spring, with near to above normal temperatures across the central and eastern US. Additionally, there are indications for an active severe weather pattern this spring from eastern portions of the Plains into the Southeast and Ohio Valley. Critically dry and windy periods will accompany the severe weather for much of the Plains, especially the southern and central High Plains.

Above normal significant fire potential is forecast to expand across Florida, Georgia, and the Carolinas during March and April, with lingering above normal potential forecast to remain in Florida during May due to expanding precipitation deficits and forecast warmer conditions. Much of the central and southern Plains are expected to have above normal significant fire potential into April, while persisting on the High Plains and eastern slopes of the Front Range through May. This potential will be especially acute during critically dry and windy periods that become more common this time of year on the Plains. Above normal potential is forecast in portions of south Texas and the Hill Country during March, with the westward retreat of above normal potential in Oklahoma, Kansas, and Texas following the expected green-up process during April and May.

Most of the Southwest is forecast to have above normal significant fire potential by May, with potential increasing across southern and western Colorado indicating an early and active start to fire season. Central Oregon is likely to have above normal significant fire potential in May, with above normal potential possible in portions of coastal California by late May. Alaska is forecast to have below normal potential in its panhandle through April, with below normal potential expected across large portions of the Interior in April and May.

Mexico Discussion

March/April/May: Precipitation was below normal while temperatures were mostly above normal during December – February in most of country leading to drier fuels with abnormally dry areas expanding. Portions of Mexico are now entering their driest time of year, which will likely be exacerbated by ongoing La Niña conditions.

Much of Mexico is forecast to have above normal temperatures and below normal precipitation March – May. However, portions of the Yucatan Peninsula and southeast Mexico may have normal to above normal precipitation during this period, while portions of Baja California and northwest Mexico may experience below normal temperatures as well.

Wildfire occurrence typically increases across much of Mexico during March – May, with wildfire occurrence peaking in western and central areas during April and in northern and southeast portions of country in May. Given the forecast climate conditions and antecedent fuel conditions, above normal fire potential is forecast for northeast and southeast portions of Mexico during March and possibly in the Sierra Madre Occidental. Above normal fire potential expands in April to encompass large swaths of northern, central, western, and southeast Mexico, with northern Baja California forecast to have above normal potential in May.

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

United States:
National Significant Wildland Fire Potential Outlook

Canada:
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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