Executive Summary

Snow cover is light to normal in most southern areas of the Canadian provinces. A swath of area with less than 40% normal December precipitation extends from west-central Alberta southeast through southern Saskatchewan and Manitoba, then northeast across southern Hudson Bay. Parts of the southern Prairie Provinces have bare ground. Only northern Saskatchewan and Manitoba, central Quebec, southern Yukon, and high-elevation mountains have above normal snow depth. Temperatures have been above normal in almost all of Canada through December and early January. While the dryness and warmth do not translate to significant fire activity in the winter, it may set the stage for early spring activity.

Much of the United States (US), especially the contiguous US (CONUS), experienced below normal precipitation and above normal temperatures in December, most prominently in the northern Plains. However, much of the Mid-Atlantic and Northeast observed above normal precipitation with near to below normal temperatures in the Southeast last month. Drought persisted across much of the West and Plains with some intensification and expansion in portions of these regions. Large portions of the southwest US, Great Basin, Colorado Rockies, and southern High Plains are in exceptional drought (i.e., the highest category).

La Niña will continue to significantly affect the weather and climate patterns through winter and into spring. Normal to below normal significant fire potential is likely for large portions of the southeast US, Appalachians, and Mid-Atlantic. However, an early and active start to the fire season is expected for the southern High Plains during late winter. Given the background drought and anticipated warmer and drier than normal conditions across the southwest US and southern Plains, significant fire potential is forecast to be above normal late by spring.

Forest fire activity continues to be minimal throughout most of Mexico. Vegetation continues to cure, and this will be accentuated due to forecast above normal temperatures and below normal precipitation in the upcoming months. For February, northeast Chihuahua and northern Coahuila will likely have above normal risk for wildfires. This will likely extend to northern Nuevo León, northwest Tamaulipas, and northern Sonora in March. Fire season begins in January for central and western portions of Mexico while shifting to northern, northeast, and southeast Mexico in February.

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

El Niño-Southern Oscillation: La Niña continues with below average sea surface temperatures (SSTs) in the Equatorial Pacific Ocean. The Climate Predictor Center (CPC) forecasts a 95% chance that La Niña conditions will persist through March. There is a 50% chance that ENSO neutral conditions will return April – June with the transition likely occurring during the spring. La Niña will continue to significantly impact weather and climate patterns into spring with warmer and drier than normal conditions forecast across the southwest US, southern High Plains, and northwest Mexico.
Drought: Snowfall and snowpack across the southern half of the western US remain mostly below the 30-year median, according to Natural Resources Conservation Service (NRCS) data with some areas in the southwest US below 10%. Drought persisted across the West with some expansion and intensification in places, including portions of California, the Southwest, and the Great Basin. Drought also intensified and expanded in portions of the Plains with some improvements in portions of Pennsylvania and the Northeast.

Patchy abnormally dry conditions lie from northern Yukon to the central Northwest Territories/Nunavut border, with a small region of moderate drought close to the Yukon/Alaska border near Old Crow. Patchy dry areas are scattered through southern Alberta and Saskatchewan, although drought intensity lessened between the Columbia River in British Columbia and Calgary, Alberta. Between eastern Saskatchewan and western Ontario, a large area of moderate to severe drought persists with the most intense conditions between Regina and Lake Winnipeg. The northern limit of severe drought extends north of Swan River, Manitoba. This large area marks the northern edge of drought that continues to affect the western US. A broken band of abnormally dry to moderate drought still affects the northeast US and Atlantic Provinces.

During December, the passage of five cold fronts, two winter storms, and an atmospheric river resulted in precipitation in western, southern, and southeast portions of Mexico. Therefore, southern and southeast Mexico remain drought free with a reduction of abnormally dry conditions south of Nayarit and moderate to extreme drought in northern Jalisco. However, moderate and extreme drought expanded in northern and southern Pacific regions. The greatest expansion and intensification of drought were observed in the north Pacific and northwest regions. On December 15, coverage of Moderate to Extreme drought at the national level was 53%, 5% higher than on 30 November.

Fire Season Status: Warm weather at the beginning of December prolonged the snow-free period in parts of the southern Prairie Provinces, although significant fire activity has not been noted.
Temperatures continue above normal in much of Canada, although the normally minimal levels of winter fire activity should persist for a few more weeks.

Large fire activity has been mostly minimal with most activity in the southern US. Year-end fire statistics show that through December 31, 2020, 58,950 fires burned 4,096,364 hectares (10,122,336 acres) across the US. The year-to-date acres burned is 48% above the 10-year average with the number of fires slightly below the 10-year average.

Accumulated fire statistics from 2020 show that 5,701 forest fires were registered in 32 states, affecting an area of 357,894 hectares. Of the total fires, 94% corresponded to herbaceous and shrub vegetation and 6% in timber. The states with the highest number of fires were: Mexico, Michoacán, Jalisco, Mexico City, Chihuahua, Chiapas, Puebla, Durango, Guerrero, and Tlaxcala, which represent 79% of the national total. States with the largest area affected were: Guerrero, Baja California, Quintana Roo, Jalisco, Michoacán, Oaxaca, Chiapas, Durango, Nayarit, and Campeche, which represent 77% of the national total.

Canada Discussion

January/February/March: While early December model guidance suggested much of western Canada would have a cold January, this scenario has yet to develop with above-normal temperatures in much of the southern half of the country. This will not translate to significant fire activity with some snow cover present in most regions; therefore, normal (minimal) winter levels of wildfire should prevail January through March. Latest model guidance forecasts above-normal temperatures for January – March in almost all of Canada. Since snow cover is presently light in much of the southern Prairies through western Ontario, these regions may be prone to early spring fire activity if light precipitation continues for the next few weeks.

United States Discussion

January/February/March: Drought conditions are expected to continue for much of California, the Great Basin, and the southwest US through winter into spring with drying expected to increase across portions of the Plains and possibly the southeast US. Cool and wet weather in the southeast US and Mid-Atlantic during December along with climate outlooks suggest normal to below normal significant fire potential is likely for large portions of the southeast US, Appalachians, and Mid-Atlantic. However, an early and active start to the fire season is expected for the southern High Plains during late winter with above normal fire activity continuing into the spring.

Lower elevations in the southwest US are favored to have above normal significant fire potential beginning in March. Oklahoma, eastern New Mexico, and most of Texas are forecast to have an active spring fire season before green-up in March and possibly beginning as early as February. Above normal significant fire potential is also likely to extend north into southern Kansas and southeast Colorado during spring.

Mexico Discussion

January/February/March: Above normal temperatures and below normal precipitation are expected for much of Mexico into spring. This will be most pronounced in northern and western portions of Mexico, which will exacerbate ongoing drought conditions.

Temperature, precipitation, and drought conditions across Mexico, together with the climatological analysis indicate above normal significant fire potential is expected in northeast Coahuila, northeast Chihuahua, northern Nuevo Leon, and northwest Tamaulipas beginning in February and expanding in March, including into Sonora.
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

Mexico:
Servicio Meteorológico Nacional
http://smn.cna.gob.mx/index.php?option=com_content&view=article&id=156&Itemid=113

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: Nick Nauslar, Predictive Services, Bureau of Land Management
                Dianna Sampson, GIS, Bureau of Land Management

Mexico: Martín Ibarra, Servicio Meteorológico Nacional
        Darío Rodríguez, Servicio Meteorológico Nacional
        Abril Z. Espejo Madrigal, Servicio Meteorológico Nacional