

North American Drought Monitor - April 2008

CANADA: During April, drought coverage and intensity was reduced in eastern Canada as well as British Columbia. However Drought conditions have worsened in both area extent and severity throughout much of the southern prairies. In this region April precipitation ranged between 40 to 85 per cent of normal. With the dry winter and continued dry conditions into the spring, soil moisture levels and surface water supplies are very low across the southern Prairies. .

The British Columbia Mountains have near normal or above normal snowpacks and near normal spring runoff is forecast for most river basins, providing a very positive outlook for water-supply conditions for most of the province. Exceptions are the Okanagan and Similkameen basins which are forecast to have below average spring runoff. No water supply problems are anticipated yet because of the delay in snowmelt. These areas may however experience water supply challenges during the summer if conditions do not improve.

The Southern Prairies continue to be dry with April precipitation ranging between 40 to 85 per cent of normal and some areas receiving less than 40 per cent of normal. With the dry winter and spring, soil moisture levels and surface water supplies are extremely low across the southern Prairies. Cool spring temperatures have also limited pasture growth causing cattle farmers to not release cattle on pasture in many regions. In some regions cattle are being put on to pasture too soon, but ranchers are left with few feeding options after running out of baled hay and unable to afford high feed costs. Water supplies are also a significant concern for producers in southern Saskatchewan. With limited snowpack and a very slow melt this spring, dugouts and other traditional water supplies did not recharge. Seeding is progressing well and well ahead of normal, however for much of the southern prairies, there is little soil moisture to support plant development. Producers are also considering changing cropping patterns if it does not rain soon. Timely rains are needed soon, or impacts on producers will continue to worsen. Northern areas of Alberta previously in abnormally dry conditions (D0) received significant precipitation this month resulting in this region being removed from the map.

Central Canada continued to receive near normal precipitation throughout April. Due to the melting of the record or near record snowfalls, some localized flooding has occurred throughout the region. Winter precipitation alleviated much of the drought conditions in southern Ontario, however, dry spring conditions are causing some early concern, especially in some areas in the Southwest. In Northwest Ontario, significant precipitation throughout the month of April has reduced any concern for drought at this time.

In the Atlantic region, there are presently no drought concerns; although below normal rainfall has been received this spring. This is contrary to the above normal winter snowfall, currently resulting in significant localized flooding in some regions, most notably New Brunswick (the Fredericton area and the northwest part of the province). Regions of northern Nova Scotia, portions of Prince Edward Island and southern Newfoundland that had below normal snow this past winter, continue to receive slightly below normal

spring precipitation. Some of these regions are reporting low soil moisture due to the lack of rain over the past month.

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UNITED STATES: During April, drought coverage and intensity continued to decrease in much of the Southeast. Specifically, intense rainfall through the mid-Atlantic resulted in a decrease in extreme drought (D3) throughout central North Carolina, an elimination of extreme drought (D3) in Tennessee, and alleviation of severe drought (D2) conditions in Virginia. Improvements were also noted throughout Wisconsin and the Upper Peninsula of Michigan where abnormally dry conditions were removed, as well as alleviation of the abnormally dry and moderate drought (D0 and D1) conditions in northern Utah. In contrast, conditions worsened and expanded in the Southwest with abnormally dry to moderate drought (D0 and D1) now completely covering the state of Arizona and expanding up the coast and interior of California with associated agricultural drought impacts being felt in that area. Additionally, severe drought (D2) worsened through western and northern Texas and expanded through central Montana. Exceptional drought (D4) conditions showed up in April in southern Texas after being missing from the North American Drought Monitor completely in March.

Agricultural and Hydrological Highlights: Wet conditions throughout the Corn Belt in April kept the corn planting pace behind normal. By the end of the month, only 10 percent of intended acreage was planted, 25 points behind the normal pace. Despite delays in winter wheat heading, 9 points below last year and 10 points below average nationally, production is forecast to be up 17 percent from last year. In contrast, April dryness throughout the West impacted range and pasture conditions. As of May 4, the amount of range and pasture rated as poor to very poor stood at 71 percent for New Mexico, 68 percent for California, 45 percent for Montana, 44 percent for North Dakota, and 42 percent for Colorado. The national average was 22 percent. Dryness was especially evident in Bakersfield, CA and Flagstaff, AZ, where only a trace of precipitation was received during the month. Year to date wildfires across the U.S. totaled 21,121, down 4,814 from the 9-year average. However, these fires consumed 1,342,963 acres, up 568,688 acres from the average.

Although many southeastern lakes continued to rise, lower-than-normal water levels in several lakes reflected the effects of large precipitation deficits during the last year. By the end of April, for example, the surface elevation of northern Georgia's Lake Lanier stood at 1057.63 feet (322.37 meters) above sea level, up 1.01 feet from March but more than 12 feet (3.66 meters) below the average level for this time of year. Similarly, the average surface elevation of southern Florida's Lake Okeechobee on April 30 remained at nearly the same level as March (around 10.3 feet or 3.14 meters), despite some recovery in the early part of April. That level was 3 feet (0.91 meters) below the historical average for this time of year. Meanwhile well levels in the Southeast continued to be well below normal with wells from North Carolina to Alabama recording much below normal readings and a few new record lows.

Despite lower than average precipitation, continued cool April weather throughout most of the West has resulted in the continuation of generally favorable western water-supply prospects for the spring and summer of 2008. Nevertheless, effects of chronic western drought over the last decade continued to be reflected in reservoir storage, which was below average for this time of year in nine of the eleven western States. Exceptions were Arizona, with no report but above-average storage the previous month, and Colorado, with near-average storage. Basin average snow water content remained below to much below normal throughout the Southwest.

April streamflow was near normal throughout much of the country. However, areas of below normal streamflow were found in California, through the upper western states, in the Southeast from North Carolina to Mississippi, and on the eastern seaboard in Maryland, Delaware, and Pennsylvania with smaller pockets in New England, Texas, and the Southwest. Areas of much above normal streamflow dominated the Midwest from Wisconsin down to northern Texas and northern New England with smaller areas in western Colorado and western Florida. Likewise, April soil moisture was generally drier than normal across the West with the largest negative anomalies in California, Nevada, North Dakota, and Texas and Oklahoma. Additional negative anomalies stretched from Delaware through Louisiana. Wetter than normal soil moisture stretched through the Midwest and into New England.

Historical Perspective: According to preliminary information provided by the National Climatic Data Center, it was the 54th-driest April during the 114-year period of record. This resulted from above normal to much above normal precipitation through much of the Central Plains and the mid-Atlantic and below normal to much below normal precipitation throughout most of the West. It was the third wettest April on record in Wisconsin and Iowa, and among the ten wettest in Missouri and Virginia. In contrast, it was the third driest April in Arizona, fifth driest April in California, and eighth driest April in Utah. Overall, precipitation averaged 2.4 inches (61 mm) across the Lower 48 States, 0.04 inch (1.0 mm) below the 114 year average.

For the first seven months of the western water year, which began on October 1, 2007, rankings ranged from the 21st driest October-April period on record in Nevada to the 39th wettest such period in Wyoming. Elsewhere in the West, it was the 28th driest October to

March in California, but the 40th wettest such period in Idaho. Farther east, North Dakota continued to experience a very dry water year with its fifth driest October-April period.

In the Central US and the East, Wisconsin and New York experienced their wettest October – April and Illinois, Indiana, Ohio, and Pennsylvania all experienced their second wettest October – April. Conditions improved along the mid-Atlantic but North Carolina was still experiencing its second driest May-April period.

México: In April, accumulated precipitation at the national level was 19.7 mm, this is 5% above the climatology which is 18.8 mm, calculated for the period 1941-2007. Most of the rain was registered in the Golfo Centro region, specifically over some areas in Veracruz and Puebla.

At the national level, compared with the last month, there were few changes in the distribution and intensity of the areas with different drought conditions, since April is still a dry month.

Most of the precipitation was associated to the passing of four cold fronts as well as to transitory low pressure systems. Distribution of the rain was mainly over northeast, the coast of the Gulf of Mexico, the Peninsula of Yucatan and the Frontera sur region. In this latter area the most significant anomalies were registered in the states of Campeche (223.7% over the normal) and Tabasco (100%); other states with positive anomalies were Puebla (88.7%), Aguascalientes (86%), Distrito Federal (67.1%), Chiapas (61.5%), Tamaulipas (42%), México (36%), Guerrero (32.3%), Michoacán (14.5%), Veracruz (9.2%), Morelos (6.8%) and Hidalgo (5.6%). In the north, northwest and western Mexico there was no precipitation, so this region had an anomaly of 100% below normal.

The Peninsula of Baja California remained with drought conditions ranging from abnormally dry (D0) to severe (D2); these conditions have been present for 4 months now. Abnormally dry conditions (D0) extended over Tijuana.

In the north and northwest of the country, the areas with condition D0 increased to include most of the territories of Sonora, Chihuahua, west Coahuila and north of Durango. Even though there was some heavy precipitation over Sabinas, Coahuila, it was not enough to improve the drought condition, which remains for several months now. High temperatures and lack of rain in the Comarca Lagunera area resulted in the death of cattle. Local authorities started to provide help (food and water) to mitigate this situation.

Over the Rio Bravo bank, in some regions of Coahuila, Nuevo León and Tamaulipas, the sustained high temperatures and lack of rain have contributed to an increase of the drought condition from extreme (D3) to exceptional (D4). This region is an extension from southern Texas.

On the western coast, extreme drought remained without significant changes. The area with condition D0 that extends over most of the west and central region of Mexico had no

major changes either. This area extends from the mountain region of the Sierra Madre Oriental to the limits between Guerrero and Oaxaca.

In the southern region, there were small changes in the areas with different drought conditions D0 and D1, but mostly the distribution remained as in the previous month with the exception of a small region in the frontier between Oaxaca and Veracruz where an area with condition D1 has developed.

In the Peninsula of Yucatan, abnormally dry and moderate drought conditions remained in most of the territory. Only a small area in Quintana Roo increased to condition D1.

CONAFOR reported that during the first 4 months of the year, 6387 fires have been reported. The fires have affected an estimated of 100,293 ha (247,700 acres), mostly covered by scrubs and grass and to a lesser extent some wooded areas. The states with more fires reported are: México, D. F., Michoacán, Puebla, Jalisco, Chihuahua, Hidalgo, Chiapas Oaxaca and Morelos.

As for the report on the changes to dam volumes in the country, there is no updated information available, so in the next report we will include more detailed summary.