

North American Drought Monitor – June 2006

CANADA: The majority of the agricultural areas of Canada continued to receive adequate precipitation throughout June. However, some new areas of concern have developed and other areas that were concerning in previous months have increased in size and severity. Specifically, central and northeastern portions of British Columbia, west central and northwest Alberta, southeastern Manitoba and southwest and southern Ontario, all received abnormally low amounts of precipitation and high temperatures, resulting in the development of very dry conditions.

A large portion of central British Columbia, encompassing the middle and upper Fraser River basin and the eastern Nechako River basin, along with portions of the Peace River basin, were experiencing abnormally dry (D0) or moderate drought (D1) conditions. This resulted from well below normal winter snow accumulation followed by an early and rapid spring snow melt and lower than normal precipitation throughout the spring and early summer. Many rivers in these areas experienced flows near their historic lows for the first week of July.

The dry region in northern Alberta increased in size and severity throughout June. The adequate precipitation received earlier in the spring that helped bring the region out of extremely dry conditions has stopped and the region has again regressed into very dry conditions. Conditions also deteriorated in the west central and northeast portions of the province, which experienced very low streamflows and low precipitation amounts throughout June. Rivers in these areas experienced well below average and some near their historic low flows. Moderate drought (D1) and abnormally dry (D0) conditions were indicated for this area.

Dry conditions extended from northeastern Alberta into northwest Saskatchewan. Low precipitation, high temperatures and low streamflows resulted in a D0 classification for the region. Other areas throughout northern Saskatchewan received adequate but infrequent precipitation throughout the spring, which resulted in short term dry conditions and abnormally high frequency of forest fires; however, overall the conditions did not warrant a D0 classification..

A significant region of southeast Manitoba, in and around the Red River basin, received very low precipitation amounts throughout June making an already dry region much drier. Soil moisture conditions in this region deteriorated throughout the spring and moisture and heat stress were occurring in much of the cropland in this region.

Conditions in Ontario were extremely variable with some regions having received adequate or surplus moisture and some regions having received insufficient precipitation. Low streamflow and low precipitation were recorded in parts of southern Ontario where abnormally dry conditions were defined. Moderate drought (D1) conditions were defined on the northern shores of Lake Superior, and an abnormally dry (D0) region extended from northwest Ontario eastward to the western part of the Abitibi-Témiscaminque region of Quebec.

UNITED STATES: June was dry across much of the central part of the country from the Appalachians to the Rockies, but wet along most of the East Coast. The month was unusually hot from the Great Plains to West Coast. The combination of low rainfall and high evaporation from the hot temperatures stressed crops and deteriorated drought conditions from the Southwest to the northern Plains. Based on the Palmer Drought Index, coverage of moderate to extreme drought increased from 39 percent of the contiguous U.S. at the end of May to 45 percent by the end of June.

Abundant rain from Tropical Storm Alberto early in the month brought drought relief to parts of Florida to the Mid-Atlantic States. Near the end of the month, a slow-moving frontal system with entrained tropical moisture caused widespread moderate to very heavy rains along and east of the Appalachian Mountains. Rainfall totals from Maryland to New York ranged from 150 to 300 mm (6 to 12 inches), with some stations reporting record June totals. Locally heavy rains from convection and upper level weather systems brought improvement to parts of Florida and southeast Texas. Scattered thunderstorms brought above-normal rain to parts of the drought areas of the central Plains and Southwest, but not enough to warrant significant improvement.

The dry weather in June was a continuation of very dry conditions for the last several months across much of the Great Plains, Southwest, and Gulf Coast States. Denver, Colorado recorded its driest start to the year on record, measuring just 69 mm (2.72 inches) of precipitation from January through June. Parts of coastal Louisiana, which were devastated by floods from Hurricane Katrina last September, have had the driest October-June in the 112-year record. Statewide, Iowa had the eighth driest June on record and Colorado the second driest April-June. The Governors of Alabama, Nebraska, South Dakota, and Texas requested drought declarations from USDA for many counties in their respective states. By the end of the month, several dozen large wildfires were burning across the West and Alaska. Since the beginning of 2006, approximately 61,000 wildland fires across the Lower 48 States have burned nearly 4 million acres (1.6 million hectares). Low streamflows and dry soil moisture conditions stretched across the country from Florida to Montana.

The extent and timing of the mid-U.S. dryness has caused steadily increasing stress on crops for the nation as a whole. By the end of the month (according to the July 2 USDA NASS report), 20% of the spring wheat crop and 35% of the pasture and range land, nationwide, were in poor to very poor condition (compared to 4% and 21%, respectively, a year ago). The statewide ratings for poor to very poor condition included: Texas (oats, 63%; corn, 49%; cotton, 50%; sorghum, 44%), South Dakota (oats, 55%; spring wheat, 54%; sorghum, 35%), North Dakota (oats, 30%), Alabama (cotton, 43%), New Mexico (sorghum, 58%), and Nebraska (oats, 45%). Poor to very poor percentages (40% or above) for pasture and range land, by state, include: Arizona (78%), New Mexico (74%), Texas (71%), Alabama (66%), Colorado (65%), Oklahoma (58%), Wyoming (53%), Nebraska (50%), Louisiana (50%), South Dakota (46%), Georgia (43%), Missouri (41%), and Mississippi (40%).

Severe drought (D2) was eliminated from the Carolinas and the D0 to D1 (abnormally dry to moderate drought) areas were removed or contracted across the Northeast to Florida. Extreme drought (D3) was reduced in northeastern New Mexico and conditions improved along the Texas coast. But D1, D2, and D3 expanded across other parts of Texas, and D3 was added to southern Louisiana and Mississippi, northeastern Texas, northeastern Colorado, and parts of Nebraska and South Dakota. D0 and D1 expanded across much of the Gulf Coast States, the central and northern Plains States, and into the adjoining Great Lakes. D2 was added to parts of Wyoming. D3 crept upstream along the Rio Grande on both sides of the border.

MEXICO: Few changes in the drought pattern in Mexico occurred in June. According to preliminary data provided by the National Meteorological Service (SMN), the nationwide area-averaged precipitation for the month was very near the long term average of 105 mm (4.13 inches) (calculated for the period 1941-2005). However the rainfall distribution was somewhat atypical on a regional level. Near-normal precipitation was observed in northwest Mexico (Sonora, Chihuahua and parts of Sinaloa and Durango), associated with an early onset of the summer rainy season in that region, while rainfall deficits were observed in the northeast part of the country (Coahuila, Nuevo León and Tamaulipas), where a general decline of reservoir levels was reported by the National Water Commission (CNA). Important rainfall deficits were also noted over the La Huasteca region (which includes portions of San Luis Potosí, Querétaro, Hidalgo and northern Veracruz). Over south and southeastern Mexico, below-normal precipitation was reported over eastern Oaxaca and the eastern portion of the Yucatan peninsula.

June rainfall in northwest Mexico brought some relieve to portions of Sonora and Chihuahua, however two separate areas of D4 (exceptional drought) remain due to the long term rainfall deficits (as indicated by the 12 month SPI) with hydrological impacts (H). Conditions deteriorated in northeast Mexico where the D3 category (extreme drought) expanded south along the Mexico-US border from Coahuila to Tamaulipas. The D0 and D1 (abnormally dry to moderate drought) also expanded in northeastern Mexico over an area that extends from southern Coahuila, Nuevo León, and Tamaulipas, to parts of Zacatecas, San Luis Potosí, Hidalgo and northern Veracruz. Consequently, traditional farmers experienced some complications for the start of their agricultural activities. No major changes were observed over central and southern Mexico, however two small areas of D0 (abnormally dry) were introduced in this region, one over eastern Oaxaca with agricultural impacts (A) and another on the eastern part of the Yucatan peninsula.

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