

North American Drought Monitor – September 2006

CANADA: Below average precipitation over much of western Canada throughout the month of September resulted in the abnormally dry and drought areas expanding from previous months. Drought regions are concentrated throughout British Columbia, North western Alberta, Southern Alberta, southern Saskatchewan, southern Manitoba and North Western Ontario. The area of greatest concern is northeastern British Columbia, where conditions have been deteriorating for more than a year. Stream flows continue to be reduced significantly below normal in many regions of western Canada.

British Columbia: Dry conditions continue throughout much of the province with the most extreme region of drought focused in the agricultural producing region of the Peace River District in the northeast. However, over the past couple of months, conditions have worsened in southern regions, including the lower mainland and parts of the interior around Kelowna and Kamloops. In northern regions, wells have gone dry, dugouts have no water and stream flows are critically low or at record-low flows in the Peace, upper and middle Fraser, eastern Nechako, Thompson-Nicola, Similkameen and Kootenay River basins. Crop yields are estimated to be half of normal with degraded quality, and some fields have not been harvested. Many pastures have been completely grazed and supplemental feeding is occurring. Feed is about 30 to 40% of normal supply. Some producers have indicated they will be selling breeding stock because they do not have funds to purchase feed. Prolonged and significant precipitation inputs are needed to restore water levels.

Alberta: Dry conditions persisted in northwest Alberta in September. Precipitation and soil moisture deficits are reported. Above normal precipitation inputs will be required in the autumn and winter to restore soil moisture reserves or this region may face serious water supply issues in the spring of 2007. Alberta Agriculture reports there is a less than 10% probability in this region to reach average autumn soil moisture conditions based on historical precipitation records. Regions in Southern Alberta are also abnormally dry or in moderate drought condition. There is 50% probability of soil moisture reaching average autumn levels for much of the south and some pockets in the southeast have less than 20% probability.

Saskatchewan: Water supply and pasture conditions steadily deteriorated over the summer in southern Saskatchewan. Conditions are most severe in the southwest where many dugouts and streams are dry or have been rendered unfit for livestock use, forcing construction of new dugouts and some emergency pumping. Top soil moisture for the majority of the southern region is classified as very poor.

Manitoba: Dry conditions persist over most of the province. Severe or extreme drought conditions continue for much of the southern agricultural regions; however, conditions have improved slightly in the southeast. Many dugouts are dry or report very low water levels. The summer of 2006 was among the driest on record in southern Manitoba. A large region of southern Manitoba received less than 60 percent of normal precipitation from April 1 to the end of September with a small area around Winnipeg receiving below

40 percent of normal precipitation. Levels and flows of many rivers in southern Manitoba are well below average.

Ontario:

Stream flows in the northwest and some areas of southern Ontario are at low to very low conditions. Northwestern Ontario had extremely low precipitation inputs throughout the growing season, which have continued into the fall. Severe and moderate drought conditions occurring in this region have caused substantial crop deterioration and extremely poor pasture and forage conditions. Forage supplies are at very low levels and producers have been forced to import additional feed for cattle or reduce their herd size. The dry conditions have also resulted in favorable conditions for forest fires north of the agriculture areas.

Nova Scotia:

Unusually low precipitation over the past two months in Nova Scotia has resulted in abnormally dry conditions. The majority of the province has received less than 100 mm (4 inches) of precipitation in August and September. At this time there are no concerns for long term drought impacts on water supplies; however, the extended dry spell has resulted in localized concerns.

UNITED STATES: At the close of September, drought continued to cover much of the central portions of the nation from Texas to Minnesota, the Dakotas, and Montana and across the Southeast from Texas to Georgia. Cooler temperatures over most of the drought areas and above normal precipitation over parts of the region reduced the extent and intensity of the dryness. The area covered by severe drought (D2 or worse) over the contiguous U.S. decreased in the last three months from 19.7 percent to 16.8 percent (according to the U.S. Drought Monitor). Much of Kansas and Oklahoma northeastward across Missouri and into Illinois, however, still received below normal precipitation as less than 25 to 75 percent fell during September and many streams remained low. Low stream flows and below normal precipitation also continued across much of the Southeast and northern Minnesota. Moderate agricultural drought developed in the Pacific Northwest which experienced another warm and dry month while hydrological drought conditions remained over the Southwest and central and northern Rockies. Seasonal dryness prevailed in the Far West which continued to be plagued with wildfires.

At the start of the month, moisture from Hurricane Ernesto soaked the mid-Atlantic with heavy rain while at mid month moisture from the remnants of Tropical Storm Lane helped spread moderate to heavy rain (3 to 4 inches) across southern and eastern Texas. Storms and thunderstorms also brought heavy rain to the Ozark Plateau and across the Ohio Valley and to portions of the middle Missouri and upper Mississippi Valleys.

According to the USDA NASS report for October 1, there was slight improvement nationwide in crop conditions during the month with 30% of the cotton, 36% of the sorghum, 15% of corn, and 13% of soybeans still in poor to very poor condition. The statewide ratings for poor to very poor condition included: Texas (corn, 52%; cotton, 43%; sorghum, 55%), Alabama (cotton, 71%; peanuts, 39%), Florida (peanuts, 39%), Oklahoma (cotton, 55%; sorghum 34%), and Mississippi (soybeans 36%).

MEXICO: The observed precipitation in Mexico during September was very close to normal as reported by the National Meteorological Service (SMN); the monthly national areal average was 147.3 mm (5.80 inches) in comparison with the long-term average of 142.3 mm (5.60 inches) calculated for the period 1941-2005. During the month, wet conditions prevailed across portions of northern Mexico. Two tropical cyclones in the eastern North Pacific contributed abundant rain over western Mexico; Tropical Storm John developed on the 28 of August south of Guerrero and moved northwestward parallel to the coast, and made landfall between La Paz and Los Cabos (Baja California Sur) on September 1 as a moderate hurricane. After making landfall, John followed a northward track, contributing rains along most of the peninsula. On September 13, Tropical Cyclone Lane formed south of Michoacan and moved northwestward into the mouth of the Gulf of California. Lane made landfall north of Mazatlan as a moderate hurricane, and produced heavy rains on the westward slopes of the Sierra Madre Occidental. Major flooding affected crops along the coastal plains of Sinaloa. A beneficial impact from Lane was that the National Water Commission reported a general recovery of the dam levels in Sinaloa, Durango, and Chihuahua. The remnants of Lane moved into Durango and Coahuila, where they interacted with a cold front system. This favored a short period of rains that brought some relief to the drought conditions over these two states. A distinctive feature during September was the number of cold frontal systems that penetrated northern Mexico, a total of six events (somewhat unusual for September), as reported by the SMN. Mild temperatures and rains associated with the frontal systems improved drought conditions over Coahuila, Nuevo León, and northern Tamaulipas.

In September, drought conditions improved over wide sections in Northern Mexico; however, three areas of long term D0-D2 (abnormally dry to moderate drought) still remain over northwest Mexico (Baja California and Sonora), north-central Mexico (Chihuahua and Coahuila), and western Mexico (Nayarit, Durango and Jalisco). There were only two regions where drought increased during September--one includes most of Tamaulipas, where D1 and D2 were added, and the second one in Southeastern Mexico (including portions of Chiapaas, Tabasco, Campeche, Quintana Roo and Yucatan), where D0 and D1 were introduced. These two areas of increased drought reflect the fact that to date only one tropical cyclone has approached Mexico from the Atlantic basin.