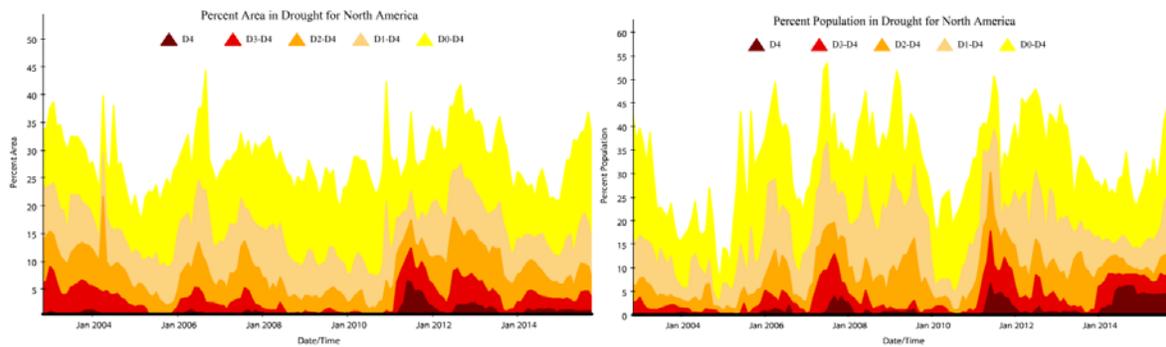


## North American Drought Monitor – October 2015

At the end of October 2015, moderate to exceptional drought (D1-D4) affected approximately 14.0% of the area and 20.8% of the population of North America. These percentages are a decrease of 2.9% for area and 4.9% for population compared to the values for the end of September 2015.



### CANADA: TBD

**UNITED STATES:** As the new water year began for the western United States, drought over the West remained nearly unchanged. The drought that developed during the late summer over the southern Plains and Mississippi Delta improved at the end of October. On Oct. 27, 30.27 percent of the contiguous 48 states was in drought, compared to 31.36 percent on Sept. 29. Severe drought conditions improved from 20.09 to 17.21 percent, extreme drought improved from 11.45 to 10.34 percent, and exceptional drought areas stayed the same. At the end of October, just over 99 million people were being impacted by drought compared to just over 112 million people at the beginning of the month.

October was warmer than normal over most of the United States, with the only areas recording below-normal temperatures along the Eastern Seaboard. The greatest departures from normal were over the Great Basin and the northern Rocky Mountains, where temperatures were 7-9 degrees above normal. Most areas were 2-4 degrees above normal for the month. Along the Eastern Seaboard, temperatures were about 2 degrees below normal, and were 2-4 degrees below normal in portions of New England.

Areas of the southern Plains and the Carolinas were wetter than normal in October with readings from 4-8 inches above normal in Texas to 8-12 inches above normal in the coastal Carolinas. Above-normal precipitation was recorded through much of the Four Corners region and portions of the High Plains as well as the Mid-Atlantic states. Departures were generally 2-4 inches above normal. Much of the Midwest, New England, Southeast, and West Coast remained dry, with below-normal precipitation.

**MEXICO:** Above-normal precipitation fell on most of the country during October, with the exception of areas in Sonora, Guerrero, Oaxaca, and Campeche. As a result, the country's portion from abnormally dry to extreme drought (D0-D3) decreased by 12.16% over the previous month. The main systems causing rains this month were the hurricane Patricia (formed in the Pacific, 20-24 October), three frontal systems and a perturbation on the Yucatan Peninsula. The total rain of 110.6 mm at the national level was 25.8 mm above the long-term mean, ranked as the fourth wettest October since records began in 1941.

The above-normal precipitation in the north and the north Pacific kept the mean temperature from normal to below normal, but for the rest of the country, temperatures were slightly above normal. Five states were classified as the warmest October in the 1971-2015 records, including Guerrero, Morelos, Nayarit, Nuevo Leon, and Queretaro. With the autumn onset in October, it was observed the reduction of daily maximum temperatures above 40 °C, at the same time daily minimum temperatures below 0°C (freezing) increased, it is important to monitor this because their impacts in planted crops. The October's national mean temperature of 25.4 °C was 2.8 °C above normal and was ranked as the second warmest October according to the records since 1971.

Frontal passages (No. 6 and 7, in SMN numbering), remnants of hurricane Patricia combined with the cold front No.8, in addition to a trough during the start of the second week of October brought above-normal precipitation over the northeast, giving as a result the 2<sup>nd</sup> wettest October for Coahuila and the 13<sup>th</sup> wettest for Tamaulipas, and therefore, the abnormally dry area percent decreased in Coahuila (from 27.7 to 5.3%), Nuevo Leon (45.1 to 24.9%), and Tamaulipas (from 47.1 to 35.8%), as well as the moderate drought in Coahuila (falling from 12.5 to 0.4%), Nuevo Leon (from 7.6 to 2.5%) and Tamaulipas (from 4.3 to 0.4%).

On the west side, hurricane Patricia (Category 5 on the Saffir-Simpson scale) and a low pressure system left great amounts of rainfall, resulting in the wettest October for Colima and Jalisco, and the 2<sup>nd</sup> wettest for Nayarit and Guerrero. The abnormally dry areas saw the greatest changes, in Nayarit reduced (from 52.5 to 37.9%), Jalisco (from 55.8 to 25%), whereas in Colima this category faded. Also, the moderate drought fell in Nayarit (from 15.7 to 8.2) and dissipated in Colima and Jalisco. Thanks to rains from this hurricane, the severe drought decreased in Guerrero (from 7.3 to 1.5%) and Michoacán (from 18.5 to 4.6%).

During the third week of the month, two low pressure systems combined with a perturbation associated with a tropical wave over the Yucatan Peninsula. This event favored enough precipitation, with around 700 mm accumulated in southern Veracruz and Tabasco. As a result, the abnormally dry areas decreased in Quintana Roo (from 62.7 to 10.4%). The moderate drought was reduced in Tabasco from 65.8 to 44.8%, Chiapas (from 38.7 to 17.9%), Yucatan (44.2 to 19.8%) and Quintana Roo (from 13.2 to 2.7%). At the same time, severe drought reduced in Tabasco (from 25.9 to 15.7%), Chiapas (from 13.6 to 9.3%) and dispelled in Veracruz and Yucatan.

