

North American Drought Monitor – January 2008

UNITED STATES: A series of winter storms hammered the West this month, boosting snow pack and easing drought conditions, while below-normal precipitation resulted in expanding dryness in the Great Plains. A storm system at the end of the month offered some relief for the Southeast.

One of the most intense Pacific storms in recent years brought heavy rain and snow to California and surrounding states on January 4-6. Several feet of snow piled up in the Sierra Nevada, while several inches of rain covered lower elevations. Another storm system brought more heavy rain and snow to California and the West during the last week of the month. By early February, California statewide mountain snow water equivalent (SWE) stood at 120% of average, and SWE exceeded 120% in the Pacific Northwest and the Southwest. Snow pack and SWE were near the average across most of the remainder of the West. Monthly precipitation exceeded 150% of normal over much of the Southwest, Pacific States, Great Basin, and the Intermountain region. On the drought map, areas of D3 (extreme) were removed, and drought was eliminated from much of northern, central, and coastal California and across central and northern Idaho.

To the east, in contrast, precipitation totaled less than 25% of normal from North Dakota into Minnesota, as well as western Nebraska and large areas of interior Texas as well as eastern New Mexico. As a result, drought expanded across southern Texas and abnormal dryness (D0) spread over northern and western Texas. Dry soils increased the threat of wildfires, and the first 5 weeks of the year featured more fires in the State than during all of 2007. Dry, windy weather hurt the winter wheat crop in Texas, with 61% of the crop rated poor to very poor by early February.

In the Southeast, a large storm system dropped 1-3 inches across the drought region on the last day of the month, improving moisture conditions. D4 drought remained from Alabama into North Carolina, but the area under drought declined during the month, especially from Mississippi across southern parts of Alabama and Georgia.

MEXICO: In January, precipitation for the nation as a whole totaled 21.1 mm (0.83 in), 17% below average (25.5 mm or 1.00 in). Mexico's National Meteorological Service ranked January 2008 as the 33rd driest on record for the period 1941-2007. Precipitation resulted from the passing of nine cold fronts, some transitory low pressure systems, as well as the influence of moist air from the Atlantic and Pacific Oceans. This last feature, enhanced by jet streams, allowed rain to spread over most of the country. The states that received the heaviest precipitation were Baja California Sur with 80.2% above normal, Nuevo Leon (47.6%) and Tabasco (45.3%). All other states had values below normal. The driest were Zacatecas, Aguascalientes, Colima, Queretaro, Morelos and Guerrero; all of them with negligible rainfall (0% of average). As for drought, central and southern Baja California Peninsula and northeast Sonora improved from D2 to D1 due to precipitation in that region; however, in northern Baja California, temperatures over 30°C and lack of rain did not allow conditions to improve and drought has continued for several months. In the western part of the country, drought conditions increased to D2,

covering the whole of Nayarit and parts of Durango, Sinaloa, Jalisco, Michoacán and Zacatecas. D1 areas expanded to some areas in Jalisco, Michoacán and Guerrero. In Chihuahua, the area that was D1 (southwest) last month shifted to the south and now includes northern Sinaloa. In Tamaulipas, D0 conditions expanded southward, covering almost all of the territory as well as parts of San Luis Potosi. In northern Chihuahua, Coahuila and Nuevo Leon, rainfall improved conditions to D0. Two new areas with severe drought (D2) and abnormally dry (D0) developed on the west coast, in Michoacán and Colima, respectively. A dry area also developed in Veracruz, resulting in D0 and D1 conditions. In the peninsula of Yucatan, precipitation during January was not enough to improve drought conditions, which in fact increased, especially in Campeche, where it has reached a D3 classification. In Coahuila, San Luis Potosi, Jalisco, Michoacán y Guerrero, besides poor precipitation, high temperatures (more than 35°C) favored fires. CONAFOR (National Forest Commission) reported that areas affected were covered by grass, scrubs and shrubs. In all the country there were reported 286 fires in 22 entities affecting an area of 2,811 ha (6,900 acres). CONAGUA (National Water Commission) reported a general decrease in the dam capacity during January, although levels were not far from the 10-year mean. Northwestern region decreased from 75.9% to 71.5% of capacity; Northeastern, from 63.6% to 58.7%; Central from 84.2% to 78.7%; South from 70.3% to 63.9%; and North Central from 71.5% to 71.1%.

CANADA: With the exception of the Prairies, drought conditions continue to improve for the rest of the country. Much of the southern Prairies have received less than 25 mm (1 inch) over the last two months, which has resulted in an expansion of the drought extent and severity in this region. Other parts of Canada received near normal temperatures or above normal precipitation throughout January. An area from northeastern Manitoba eastward to parts of New Brunswick saw temperatures 3-5 degrees C (5-9 degrees F) above normal.

For the second consecutive month, slight improvements were seen throughout much of Ontario, as well as a portion of southern British Columbia. The drought extent and severity was reduced in both cases.

Throughout the southern Prairies, drought has increased in severity and extent. For southern and central Alberta and eastern Saskatchewan, spring topsoil conditions still remain a concern due to low precipitation (between 5-15 mm, 0.2-0.6 inches, for January) and below or well below normal snow cover. Above average precipitation will be needed throughout the rest of the winter in order to avoid a large deficit heading into the spring. Although the Peace region of Alberta has received between 20-30 mm (0.8-1.2 inches) of precipitation over the last month, it has been classified as Extremely Low (0-10th percentile) due to the below normal precipitation for the fall period. In Manitoba, the lack of precipitation over the last month, less than 10 mm (0.4 inches), coupled with a below average fall, has warranted at least a D0 drought designation for much of the southern half of the province.

Ontario continues to see significant improvements in the drought areas due to average to above average precipitation over the last few months. Although most regions in southern

Ontario have received at least 225 mm (9 inches) over the last 3 months, they still are classified in a drought due to the long term water deficits, low lake levels and low stream flows. As a result of the near normal precipitation, low water conditions have improved for a number of municipalities in this region, and thus, the region has been upgraded to a D0-D1 drought condition. On average, the levels of the Great Lakes rose during the month of January. All of the Great Lakes except Lake Ontario are still below their respective averages. Although the region bordering northeastern Ontario and Quebec has remained in a D1 condition, its extent has significantly decreased. This is in part due to the 50 mm (2 inches) received in the last month.

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