Quarterly DPC Report (SON 2018)

General Conditions (Office of the State Climatologist of Texas)

General conditions in Texas largely dominated were by the extensive record-breaking rain accumulations during this September, November October. and period. Accumulations in September and October were of particular distinction as the two-month period surpassed April-May 2015 as the wettest consecutive two-months on record for the state. September 2018 was the fourth wettest month in the state's history, at 6.67 inches. During this month, the majority of areas east of the High Plains and Trans-Pecos observed rainfall totals in excess of 10 inches, with some coastal areas peaking near 30 inches. These totals accounted for many regions observing more than 200% of normal precipitation. Counties within the North Central,





South Central, and East Texas regions maintained average to slightly aboveaverage percent of rainfall during this month. In contrast, the northern High Plains and Trans-Pecos regions were particularly much drier than the rest of the state. Rain totals in these areas were generally below 5 inches and less than 75% of normal for the month.

October continued the trend of significant rainfall accumulation with large rainfall totals occurring more comprehensively across the state and maximums that were centralized in the state's interior. October totals were of a wide range from 1 to greater than 16 inches throughout Texas. The state averaged 6.93 inches according to preliminary data, making October the third wettest month in Texas history. Most areas within the Edwards Plateau, North Central, and East Texas regions observed greater than 6 inches for the month, as well as some patches exceeding 10 inches. There were only a few areas in October that were below average percentage of precipitation, with the exception of the southern counties of South Texas and the Lower Valley, as well as the western Trans-Pecos where 5 - 70% of normal was observed. Compared to September, consistent rain in October allowed for percentages to be in excess of 150% from the High Plains to East Texas. The western portions of the state's interior measured rain that exceeded 300% of the month's normal.

November was a notably drier month for the state and provided a



gradient of dry to moist conditions from the west to the east. Precipitation accumulation in the state's western sectors were generally below an inch and less than or nearly at normal percentage. Progressing eastward, the central regions of the state measured rain totals upwards of 3 inches - slightly below normal percentage. East Texas and the Upper Coast experienced more moist conditions as accumulations exceeded 5 inches along with several areas accumulating near 10 inches. Normal precipitation percentage was generally average or in exceedance of the month's normal by 30 - 100%.



The quarter's temperatures were generally warmer to the south than to the north, as usual. Departures from normal temperature were mixed for the month of September with the eastern half and Panhandle regions of the state observing average to just above average temperatures while the western regions were just below the month's average. Along the coast, some stations were 3-4 °F above normal.

October was a cooler month overall in Texas as only the southern/southeastern counties of the state observed average temperatures above 70 degrees. Central and western regions maintained average temperatures in the 60s, while the Panhandle remained cooler in the 50s. These conditions provided an overall cooler-than-average month for most of the state, and average to slightly above-average temperatures in the eastern areas.

Intermittent cold spells during the weeks of November reduced regional average temperatures across the state. With the





exception of a few isolated areas, temperature conditions in November were cooler-thanaverage. Almost all of the state was in the range of 0 - 5° F below normal, with only El Paso recording above-normal temperatures for the month.

Texas began the quarter with extensive drought coverage that made up nearly 80% of the state's area. Moderate (D1) and Severe (D2) drought made up a large portion of the state's drought classifications during this time, with several areas in the High and Rolling Plains, North Central, and Southern regions observing designations of Extreme (D3) and even Exceptional (D4) drought. Timely exceptional rain totals reduced some of the most severe drought intensities following the second week of September, leaving the majority of the state in Abnormally Dry (D0) conditions. By mid-October, drought had been relegated to just the Panhandle and Trans-

Pecos regions where both Severe and Extreme drought persisted. Persistent high accumulation rain events removed the



remaining severe drought in Hudspeth County by early November, leaving Moderate and Abnormally Dry conditions in this county and a few others in the Panhandle. Concluding the 3-month period, these areas maintain these classifications, while the remainder of the state is drought-free. This period of drought transition accounts for a 78% reduction in drought area coverage from 98% to 20% of Texas area.



Relating this drought narrative to the state's soil conditions provide a similar trend represented by the Keetch-Byram Drought Index (KBDI). А large of state portion the maintained high KBDI values in the range of 500 -800. suggesting extensive moisture depletion soil September. beginning Observable soil moisture relief was observed by the end of the month as the central and eastern regions of the state decreased to below 300 KBDI. The Brazos

Valley and proximate northern counties preserved drier conditions during this time. By mid-October and continuing through November, the state had been classified as having low to no soil moisture depletion (0 – 200 KBDI), with the exception of the western Trans-Pecos and Lower Valley.

Looking forward, the NOAA Climate Prediction Center forecasts seasonably average temperature conditions for the state during the next quarter. Precipitation probability of exceedance suggests a 0.1 to 1-inch positive anomaly in the coming months. In terms of drought tendencies, the CPC suggests the removal of lingering drought patches in the Panhandle and Trans-Pecos next season. Model predictions of El Nino are showing notable trends toward sustaining positive NINO3.4 SST anomalies and development of an El Nino event. The CPC and International Research Institute model-based ENSO forecast probabilities provide a 94% probability of El Nino development during the next quarter.

Precipitation maps: SCACIS with analysis from Oregon State University's PRISM program Temperature maps: Southeast Regional Climate Center's ClimPer tool Drought maps and charts: National Drought Mitigation Center