

## CLIMATIC ASSESSMENT OF THE RECENT SOUTH LOUISIANA DROUGHT

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The onset of La Niña (ENSO “cold phase”) in mid 1998 set the stage for a shift to a “drier” weather pattern for the Bayou State. Historical review of past “moderate to strong” La Niñas — like the recent event — indicates that a highly significant relationship exists between southern Louisiana precipitation and the establishment of La Niñas. Winter-spring rainfall has been below-normal for roughly 80% of past “mature” La Niñas — clearly a strong signal and a useful long-range forecasting tool. Unfortunately, the magnitude of these La Niña-driven rainfall deficits — the degree of “dryness” — remains difficult to predict, as does the duration of the La Niña events themselves.

Various measures of the 1998-2000 La Niña suggest that this event was likely the most significant “cold phase” event — in terms of duration — since the mid 1970s. Its impact on south Louisiana rainfall is obvious, with the past 24-month period ranking among the “driest” observed within the past century for many parishes. The expected winter-spring rainfall departures were compounded by summer “dryness” resulting from the unusually-persistent development of an upper-level ridge over the U.S. Southern Plains, which frequently inhibited typical summer convective activity over the Louisiana coast. The result: regional monthly rainfall was below-normal for upwards of 75% or more of all months during this time frame. At the same time, temperatures tended to run above-normal, with the 1998-1999 and 1999-2000 winters proving to be unusually mild. From a water-balance perspective, the combination of below-normal precipitation and elevated temperatures led to enhanced environmental moisture demand and evapotranspiration rates.

Current oceanic and atmospheric indicators suggest that the ENSO “cold phase” is reaching an end, with ENSO “neutral” conditions anticipated for the upcoming several months. Although this suggests that the probability for continuation of the recent “dry weather” trend is reduced, confidence and skill in climate forecasting for coastal Louisiana is generally weakest during ENSO “neutral” periods.