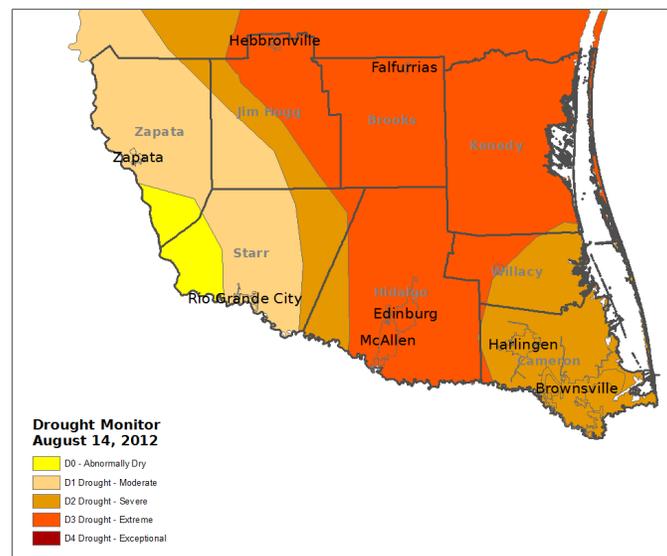


## Another Cruel Summer?

### Through Mid August, Top Ten Driest and Hottest for Many across the RGV

For the third of four years, unusually hot and generally dry weather has been the rule for most of the border region from June 1<sup>st</sup> through mid August. As shown above and in the image at right, the most populated region of the Valley (Hidalgo to western Cameron) has largely missed the torrential rains which painted the corners of the region, including [Brownsville](#) (lower right) and portions of the Rio Grande Plains and ranchlands (left). Rainfall in Brownsville, which was dominated by two events (June 30<sup>th</sup> and August 7<sup>th</sup>), was aided by sea breeze convergence and outflow boundary interaction; rainfall along and near the Rio Grande from western Starr to southwestern Jim Hogg County, and through western Zapata County, occurred on June 30<sup>th</sup> and generally between July 10<sup>th</sup> and 14<sup>th</sup>.

Agriculture was adversely affected in critical growing areas of the Lower and Mid Valley; soil moisture levels declined to short and very short. Rangeland and pasture conditions



also deteriorated. Abundant dry forage posed a high wildfire risk, and was deterring livestock producers from providing supplemental feed. Hay remained expensive. The sorghum and corn harvests were complete or nearly complete; details on loss were not available as of this writing. The cotton harvest was ongoing, and sugarcane irrigation remained active.

Several public water supply entities continued voluntary conservation efforts to avoid shortages or additional restrictions, with a few entities requiring mild restrictions. One public water supply entity in Starr County continued severe restrictions. According to the State of Texas Commission on Environmental Quality, there were three public water supply entities in Cameron County, eight in Hidalgo County, 5 in Starr county, 3 in Zapata county, and 2 in Willacy county that are continued water restrictions as of mid August. Residents of the Rio Grande Valley are urged to conserve water. Reservoir levels at Falcon International Reservoir had fallen below 20 percent for the first time since 1998, and were just above 18 percent on August 17<sup>th</sup>.

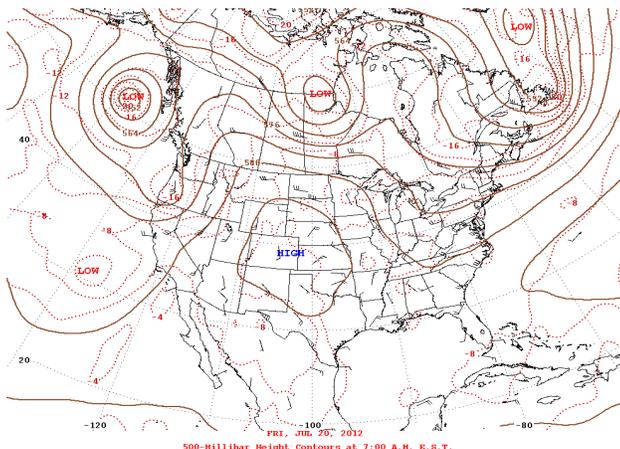
Recent records for heat (2009) and drought (2011) remained intact. However, the summer of 2012 so far (June 1 through August 15) had proved equally as memorable, combining heat and dry conditions into the top ten, in some cases where records have been kept for more than 100 years. The table below shows selected locations and rankings.

*Preliminary data for temperature and rainfall for June 1 through August 15<sup>th</sup>. Highlighted red rows denote top five hottest. Highlighted orange rows show top five driest. Highlighted green rows show top 20 wettest.*

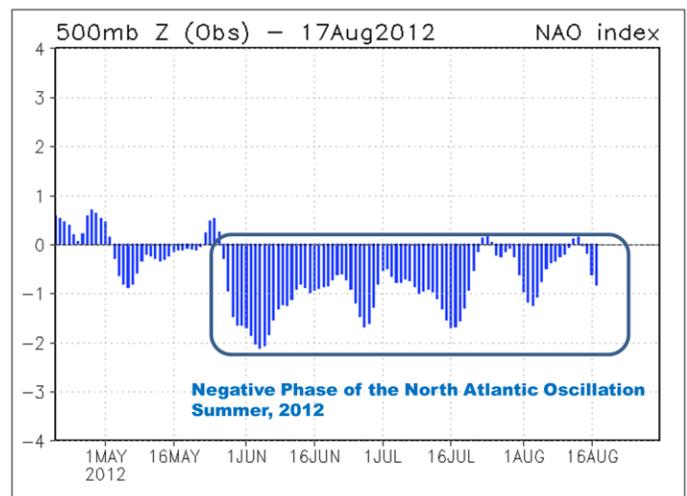
Location	Average Temp.	Hot Ranking	Rainfall	Dry Ranking
Brownsville	86.0	4	9.39	78 (17 <sup>th</sup> wettest)
Harlingen/Coop	86.3	5	0.93	3
McAllen/Miller	88.6	3	0.88	5
McAllen/Coop	88.2	3	0.36	5
La Joya/Mission	88.7	3	1.16	12
Rio Grande City	88.9	6	2.53	31*
Falcon Dam	86.9	21	7.26	38(11 <sup>th</sup> wettest)
Hebronville	87.2	3	5.03	58
Sarita 7 miles east	84.8	N/A	2.44	20
Raymondville	85.3	16	1.94	12
Port Mansfield	83.7	9	2.34	17
Port Isabel	85.0	8	6.44	63(19 <sup>th</sup> wettest)

### Why Hot and Dry...Again?

The primary reason once again this summer is a pronounced dome of high pressure extending from the Great Plains south through northern Mexico and west to the Rocky Mountains (below left), which has suppressed atmospheric moisture and compressed air into near record heat in many areas. Why the location of the ridge has held firm in the central/west central portions of the U.S. while frequent troughs have produced parts of the eastern U.S. with rounds of dangerous thunderstorms may be related to the persistent negative phase of the North Atlantic Oscillation (right), which can favor a summertime pattern similar to that in 2012.

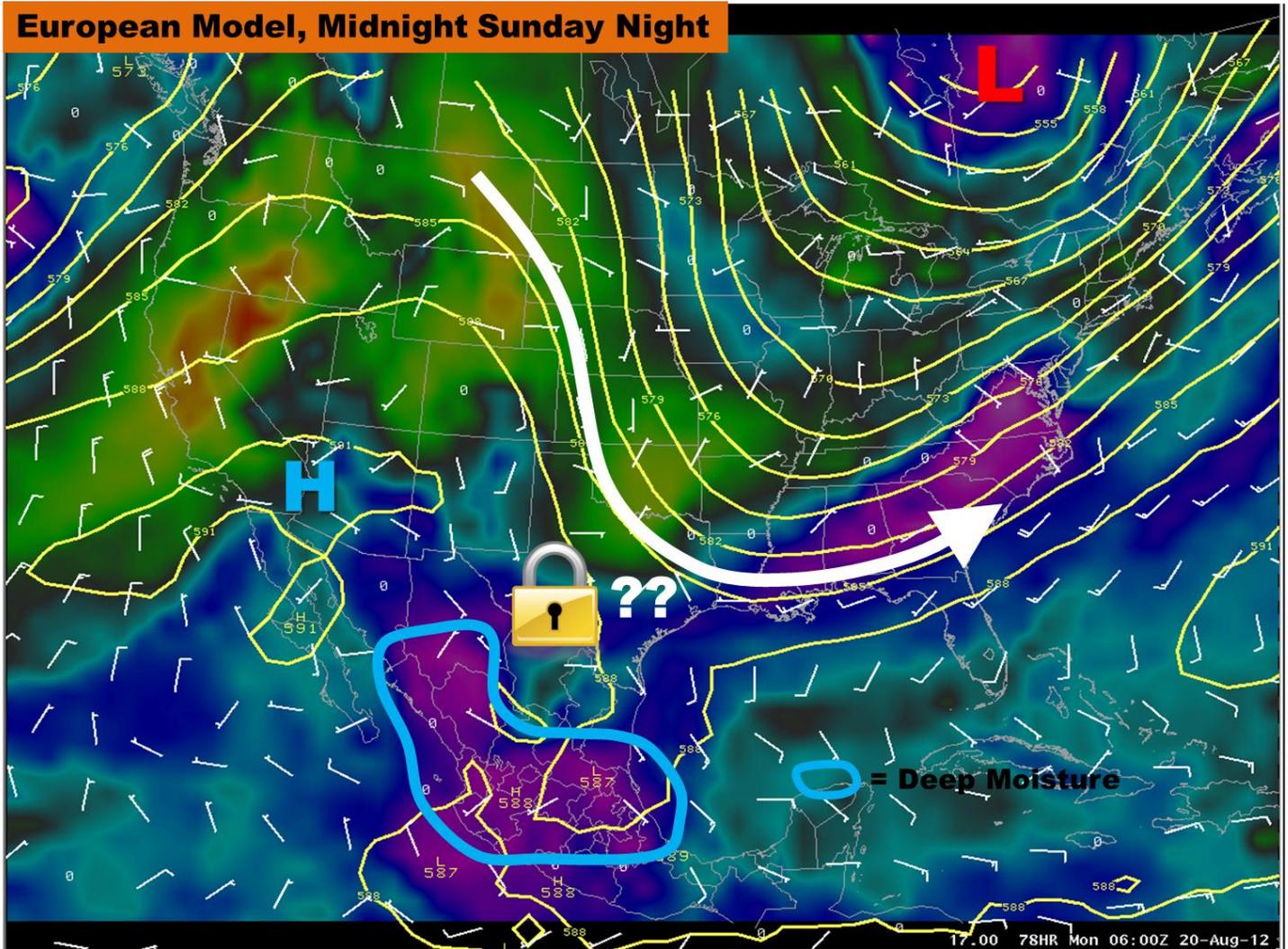


Above: 500 mb (18,000 feet) height contours on July 20th, 2012.



### Relief on the Horizon?

Yes for some, but more likely no for most. A developing eastern U.S. trough during the weekend of August 18<sup>th</sup> and 19<sup>th</sup> (below) will likely link up with remnant tropical moisture from Tropical Depression #7 to produce a bit of rain for most of the Valley on the 19<sup>th</sup> and 20<sup>th</sup>. How much rain remains in doubt, and the ability of the atmospheric ridge to dominate the central and western U.S. and a trough in the eastern U.S., leading to predominant drying northerly flow high into the atmosphere, favors lesser rainfall the farther from the coast one gets. That could spell worsening drought for areas that need the most rainfall, and keep precipitation needed to help replenish the reservoirs along the Rio Grande locked down in central Mexico through the end of August, if not later.



Forecast height of the 500 mb pressure surface (around 18,000 feet) for midnight Sunday night. The "locked door" indicates the best moisture would be held down in central Mexico.