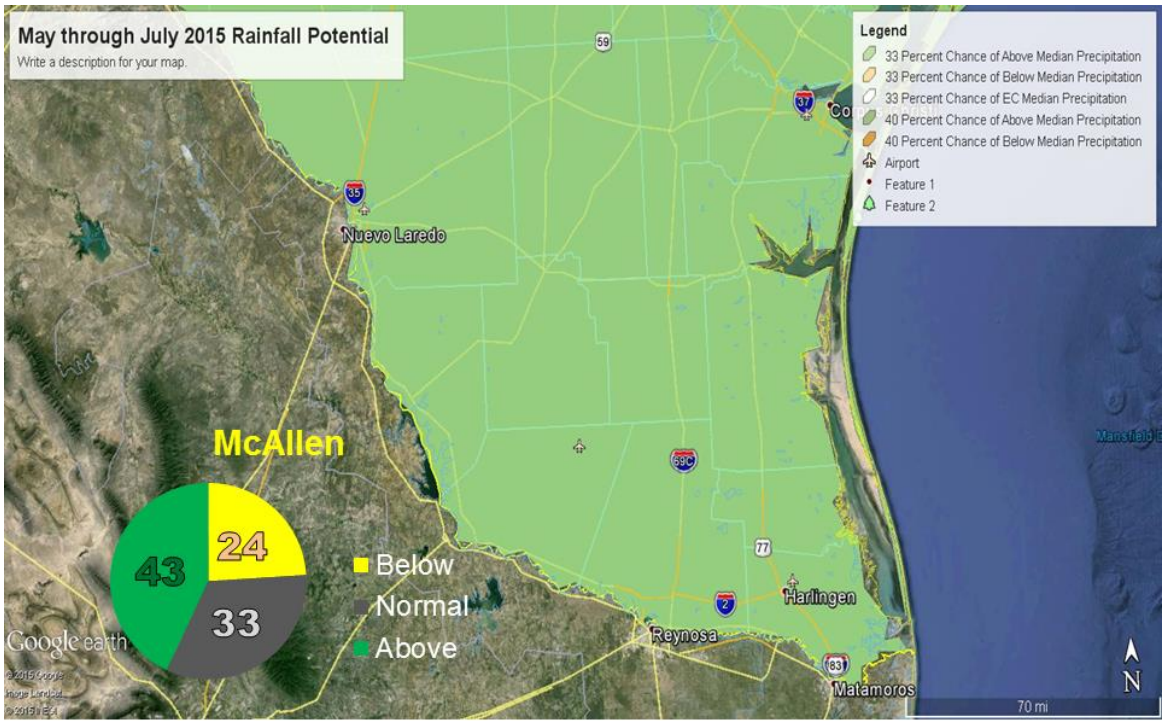
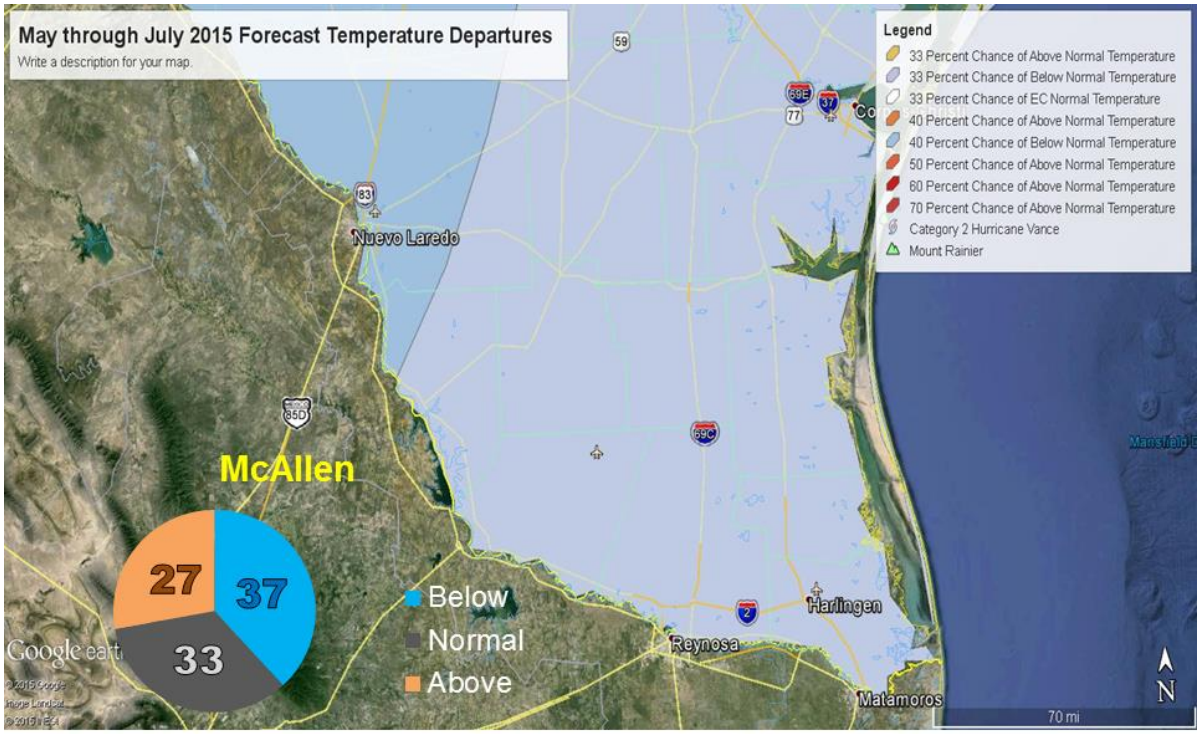
Early Summer 2015 Outlook



Rio Grande Valley **Average Rainfall** for May-July (based on 1981-2010)

Ranges from 6-7 inches Valley to 8-9 inches Northern Ranchlands



Rio Grande Valley **Average Temperature** for May-July (based on 1981-2010)

Wake-Up: Lower 70s Ranchlands, Mid 70s Elsewhere

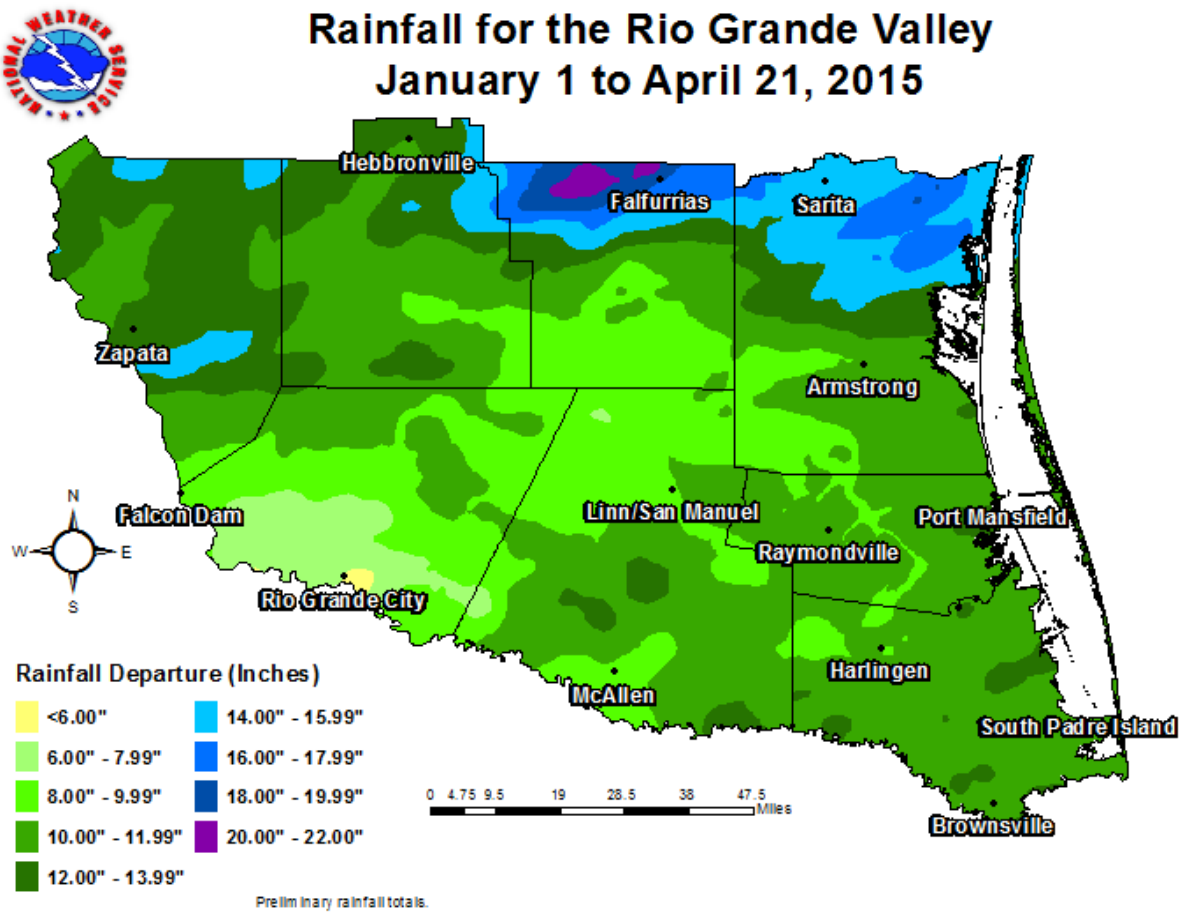
Afternoon: Mid 90s except Upper 90s Starr/Zapata and Upper 80s Beaches

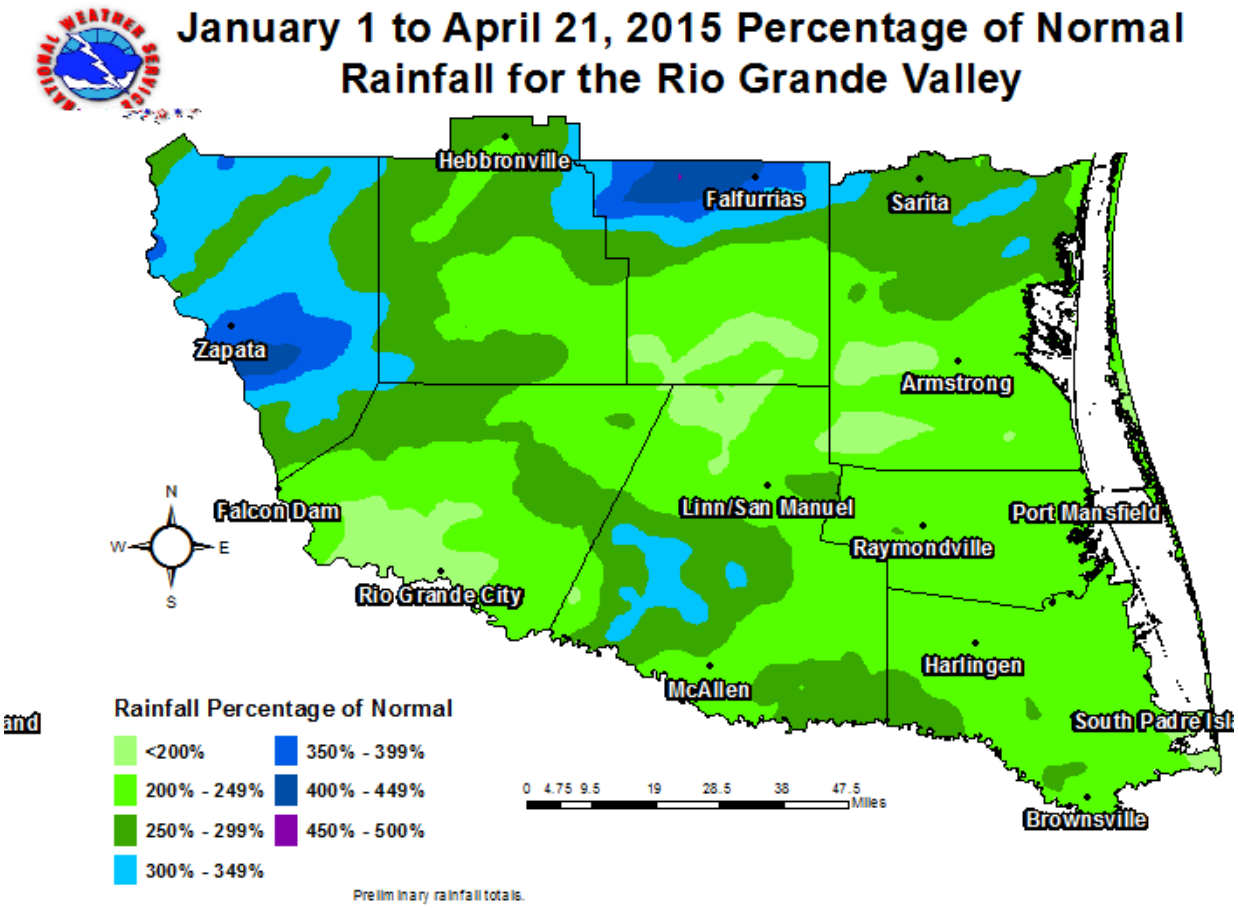
The Beat Goes on into Early Summer?

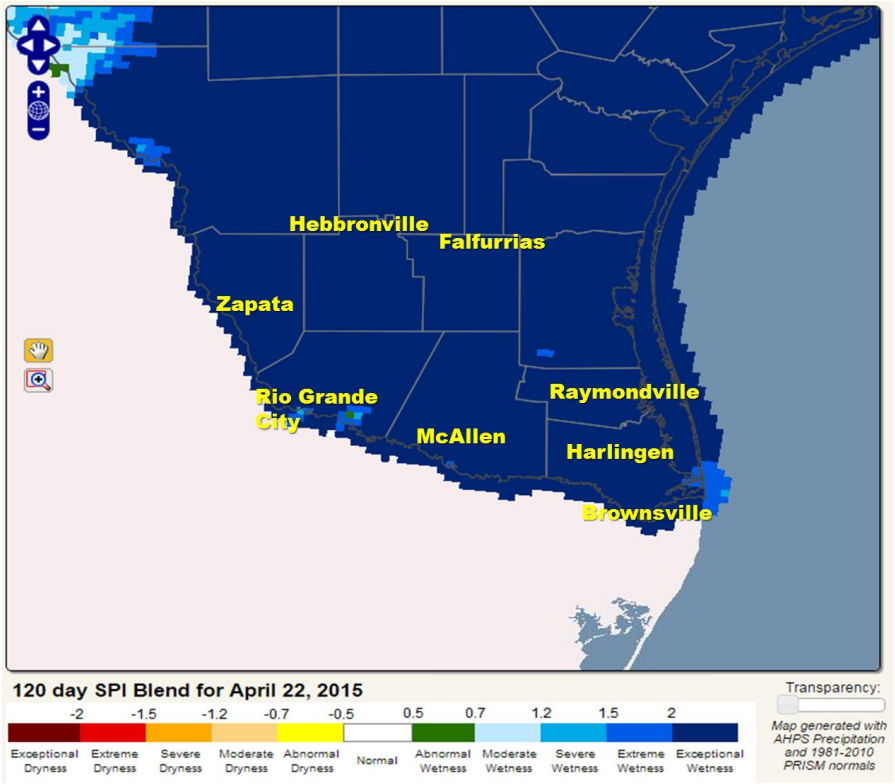
Flooding Rain, Wind and Hailstorms Likely to Continue in May; Perhaps June

Overview

March and April (through the 21st) 2015 exceeded even the wildest expectations of copious rainfall across all of Deep South Texas! By April 21st, the Lower Valley had received two to four times the early to mid-spring average; the Mid Valley two to five times the average, and the Zapata through Brooks County ranchlands **three to six times average.** Officially, the last vestiges of "dry" conditions (Starr and southern Jim Hogg County) were eliminated on March 24, 2015. Year-to-date totals ranged from 10 to 14 inches in the Lower Valley, 8 to 14 inches in the mid Valley and along the Rio Grande in Starr County, and a whopping 14 to 20+ inches across many ranch locations (below). These were generally more than 200 percent of average, ensuring a lush spring for the entire Deep South Texas region.



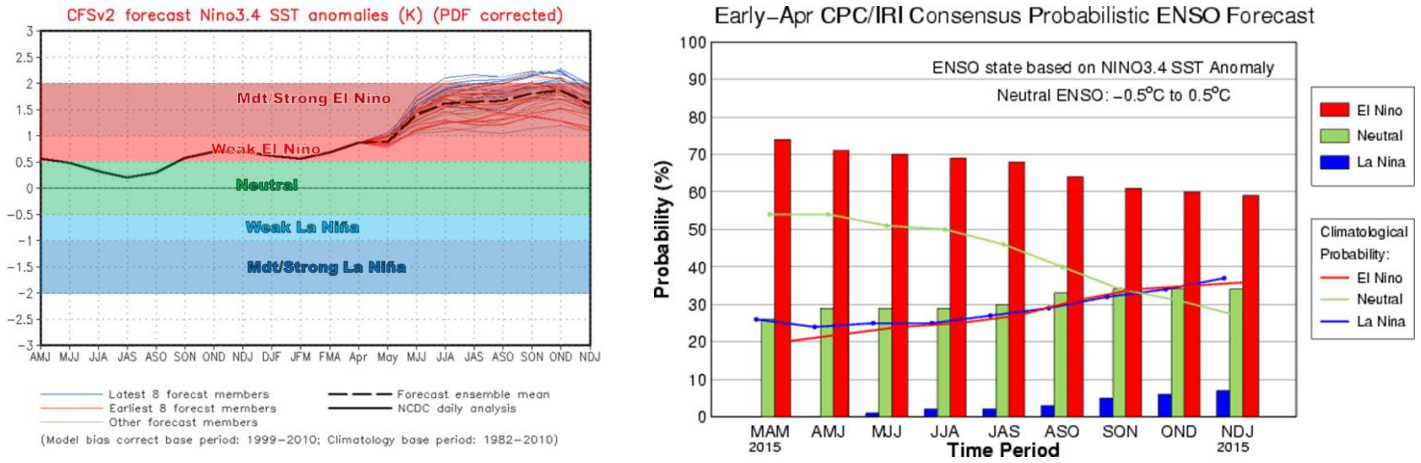




Above: Standardized Precipitation Index (SPI) blend, four month (120 days), ending April 22, 2015. Dark blue for nearly all of Deep South Texas indicates exceptionally moist conditions and strongly suggests no wildfire season through June, given the expectation for more rain and humid conditions through the remainder of spring and into early summer 2015.

The forecast for the end of spring and into mid-summer indicated a continuation of below average temperatures and above average rainfall. Of course, "below average" temperature is relative; daytime readings may be trimmed a few degrees but afternoons should still average at least near 90˚F for the three month period. In fact, below average could be less than 1˚F, kept up by steamy nights should the wetter than average forecast pan out. In fact, nighttime "feels like" temperatures for the latter half of June into July could well remain near 90 for much of the night, meaning air conditioners will get plenty of work.

The three month period will complete the transition to summer. Unlike in some years, where the entire May-July period was hot and dry, 2015 could see a period where the persistent low clouds, high humidity, periodic torrential rains and strong to severe storms that dominated the end of March and nearly all of April could turn quickly into breezy, increasingly dry, and potentially ***hotter*** than average as June turns to July. To begin the period, confidence in a persistent subtropical jet into May is aided by the strengthening El Niño, which became official at the end of March. (What is Official?) That same El Niño, however, could resurrect the "La Canícula" high pressure ridge by the end of June. The last time El Niño conditions were observed by mid-summer (2009), the Valley had one of its hottest summers (June-August) on record. All situations are different; the summer of 2009 El Niño began later than the 2015 version. More importantly, other puzzle pieces, such as the Pacific Decadal Oscillation (PDO) and the North Atlantic/Arctic Oscillation (NAO/AO) were trending much differently in 2009 than they are in 2015.



Above: ***Left*** – Climate Forecast System Observed and Forecast El Niño/Southern Oscillation (ENSO) (anomalies). Solid black line is observed values through mid April; dashed line is forecast ensemble mean values through the end of 2015. ***Right*** – Climate Prediction Center/International Research Institute consensus probability forecast for ENSO through the end of 2015. Each now suggest moderate, perhaps strong (>1.5) El Niño conditions will develop in summer and continue through fall 2015.

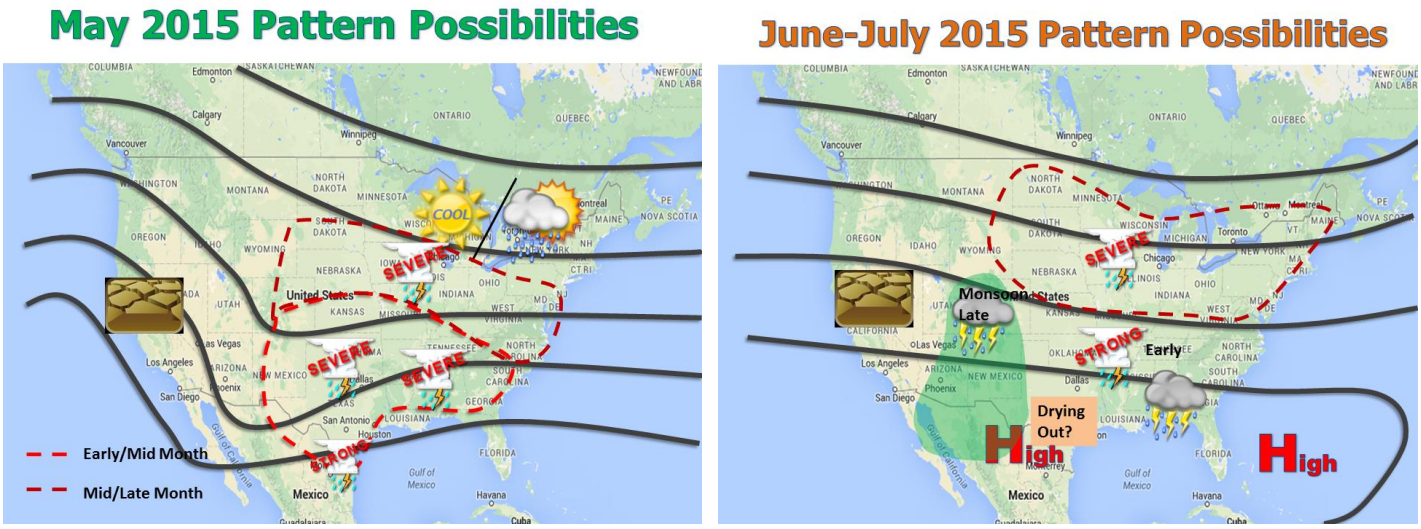
May to July: How It Breaks Down

Confidence is medium that early to mid-summer will end up wetter than average. If May ends up like April – rainfall between 200 and 400 percent of average – the full season will be "set" in just one month. The pattern could persist – at least in "shadow" form – into early June. In general, the continuation of the active pattern into May would continue the threat for at least **local flooding,** as well as the potential for **damaging wind and large hail** with the occasional squall line or thunderstorm cluster, each of which tends to make an appearance sometime in May (In 2014, the squall line ripped through Deep South Texas on the 9th and rain/wind/hail producing clusters hit on the 27th/28th). Beyond early June? Confidence decreases sharply, for multiple reasons:

- Transition to La Canícula (drier and hotter?)
- A sneak early season tropical cyclone or tropical wave?
- Something else – i.e. repeated afternoon/evening sea breeze downpours?

Either way, we expect to see some significant weather events – whether flooding rain or wind/hailstorms – to continue in May 2015 and perhaps early June, 2015. As for the tropics? The presence of a moderate El Niño along with colder than average waters in the Atlantic Main Development Region and expected wind shear across a good portion of the Atlantic basin are lining up for another "quiet" season overall. However, ***it only takes one hurricane*** to make a season. The Valley still remembers Beulah, the late season storm of record in

a year with only eight named Atlantic/Gulf storms. In 1957, Category 4 Audrey ran into the southeast Texas coast at the end of June, at the start of a moderate El Niño period. And Bret (1999) formed in the southwest Gulf and made landfall as a Category 4 windstorm just north of the Rio Grande Valley. Bottom line? Use May to prepare in case the proverbial "needle is threaded" for the Valley in 2015.



Above: Pattern Matters – May 2015 (left) may resemble April as a trough of upper level low pressure, combining tropical moisture from the eastern Pacific with mid-latitude energy diving southeast from the semi-persistent dry ridge across California, keeps the threat of heavy rain through strong to severe thunderstorms in much of Texas. As June turns to July (right), "La Canícula" may rear itself across northern Mexico and begin drying south/east Texas out, while the monsoon gets going toward New Mexico and Arizona by late month.

Agricultural Woes: Too Much of a Good Thing?

The cool, gray, damp to wet winter, followed by torrential rains for much of April had farmers asking, "turn off the spigot and bring back the sunshine!" Critical cash crops, particularly cotton and sugar, were struggling under the lack of sunshine, lower humidity, and persistent – and piling up – rains into April 2015. Little to no cotton had been planted due to the exceptionally moist conditions across the Valley (below), and sugar cane harvests were severely delayed and likely to be harvested during the summer, assuming periods of dry and hot weather arrive during the summer.

The abundant rainfall continued to benefit ranchers and other livestock managers, as high and thick growth rangeland grasses provide abundant feed for the region's large cattle population. Unfortunately, some ranches, particularly west of Falfurrias (Brooks County) where more than a foot of rain had fallen since April 1st, and portions of Zapata County, where estimates of up to ten inches had fallen, had water-logged fields which may have impacted how much grazing could be done. For a full report on the state's agricultural activity, click here.

Talking Points

- **Drought** will remain **"out"** for the Rio Grande Valley through early summer
- **Heat index, or "feels like (summer)" temperature,** will become an issue in May. Already, some days in late April saw afternoon heat index, which combines the impact of temperature and humidity, above 105 during the afternoon. Values above 110 are considered critical to the safety of people spending an hour or more outdoors.
- **There is *zero chance*** for an active wildfire season through June. This could change dramatically in July and August; El Niño summers are typically dry and hot, and with excessive brush and grass (maximum fuel loading), wildfire spread conditions could become an issue in a hurry
- **Agriculture** may suffer without dry periods featuring warm/hot, sunny days. Such stretches may yet come in May and likely in June, but will they be long enough to allow sufficient drying for planting, growth, and harvesting? If not, production losses could rival or exceed those during the drought years of 2012 and 2013.

- **Some combination of wind/hailstorms and flooding rainstorms is likely** at times in May through early June. The dominant type of hazard is difficult to handicap, but trends ***suggest flooding rain remains slightly favored*** over wind/hailstorms.
- **Mosquitoes** and other insects will continue to hatch in untreated high standing water
- **July** could turn hotter and drier than average, similar to 2009, but puzzle pieces such as the Pacific-Decadal Oscillation and the North Atlantic/Arctic Oscillation, as well as the phase of the Madden-Julian Oscillation (which can enhance rainfall and tropical activity) will have a say in the final outcome of summer as a whole
- Even with an expected "quiet" Atlantic Hurricane Season, we remember our A-B-Cs: ***Audrey*** struck the southeast Texas coast as a Category 4 storm – in late June – during a moderate El Niño. ***Beulah*** was only the second named storm in 1967, a season with only eight, and became the "storm of memory" for the Rio Grande Valley. ***Carla*** (1961) was the last significant hurricane to make a direct impact on the Corpus Christi region.

Scouts Honor: Be Prepared!

Keep the raincoats handy, and make sure your umbrellas are (still) working! In all seriousness, the following tips can help you through early summer 2015:

- For your home:
  - Check window, door, roof, and floor (foundation) for water and air leaks, and seal them.
  - While there, check for structural stability to withstand wind or hail. This is good practice to get ready for the coming hurricane season, as well.
  - Have a protected room to move yourself, your family, and heirlooms should damaging wind or hailstorms be in our future.
  - Check and repair air conditioning systems as soon as possible. Above average humidity will require more usage early, and often.
- For your vehicle: Replace dry-rotted or old windshield wiper blades, check your tires for tread wear and replace, and be sure to check tire air pressure often to ensure a safe ride in the rain.
- For your family: Create and discuss a hazardous weather preparedness plan for dangerous thunderstorms and flooding rain. Ensure the plan has ACES in the deck:
  - Awareness – All persons should have ability to keep tuned to weather conditions – before, during, and after a hazard
  - Communications – Know where each person will be prior to the onset of a hazardous weather event
  - Escape Routes – Know the safest way to get to your safe zone (shelter destination). Have alternate routes in mind should damage or flooding cutoff the road(s) normally taken
  - Safe Zone – Designate destination(s) protected from wind, hail, or flooding. Multiple locations may be necessary if damage cuts off access to the primary location.
- In areas untreated by mosquito ("vector") control:
  - Wear repellent if outside for any length of time, especially near standing water
  - Try to be outside during the middle part of the day or when winds are blowing moderately

- Review our **Hazardous Weather Guide** for thunderstorm and tornado safety!
- Flooding can be a threat anytime, including during a rainy spring. Review flood safety, in **English** and **en Español**.
- Share our "Slide Guides" for thunderstorm and tornado safety, in **English** and **en Español**.