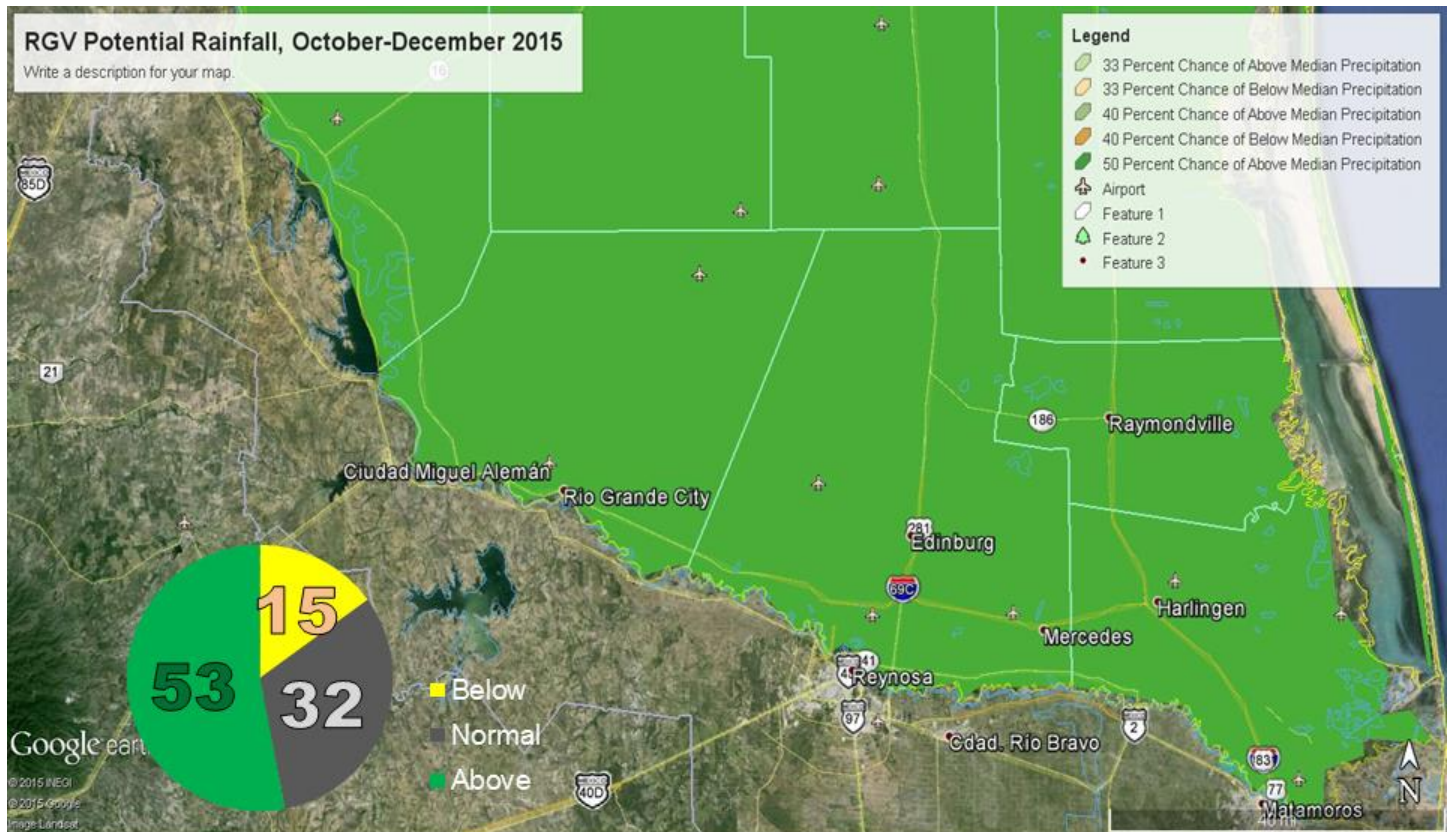


October-December 2015 Outlook



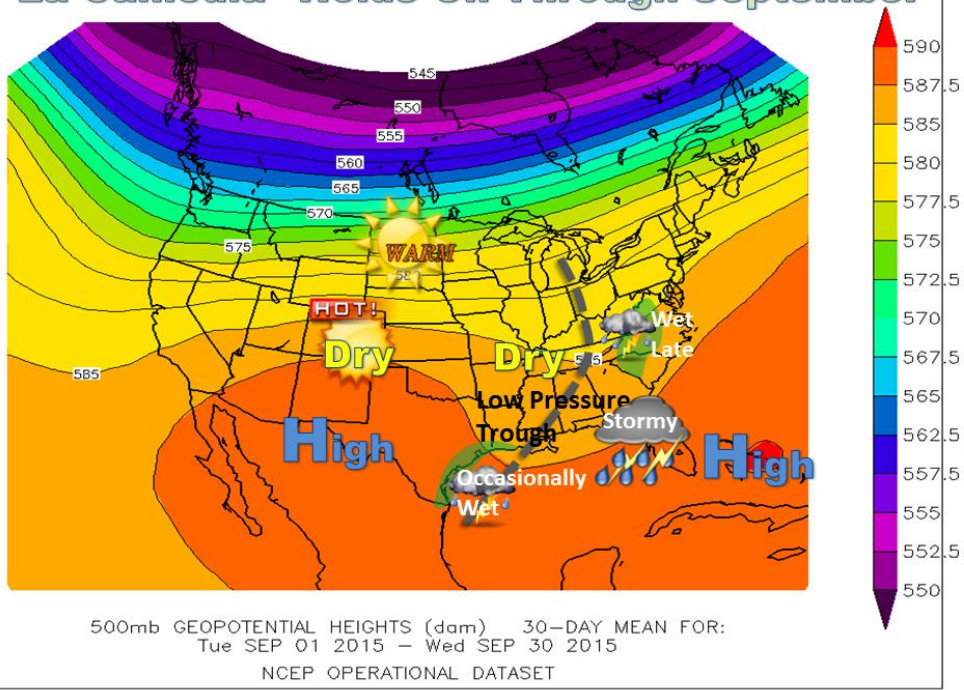
Average Rainfall:
4 to 5 Inches West
5 to 7 inches East

Here Comes the Rain...Again?

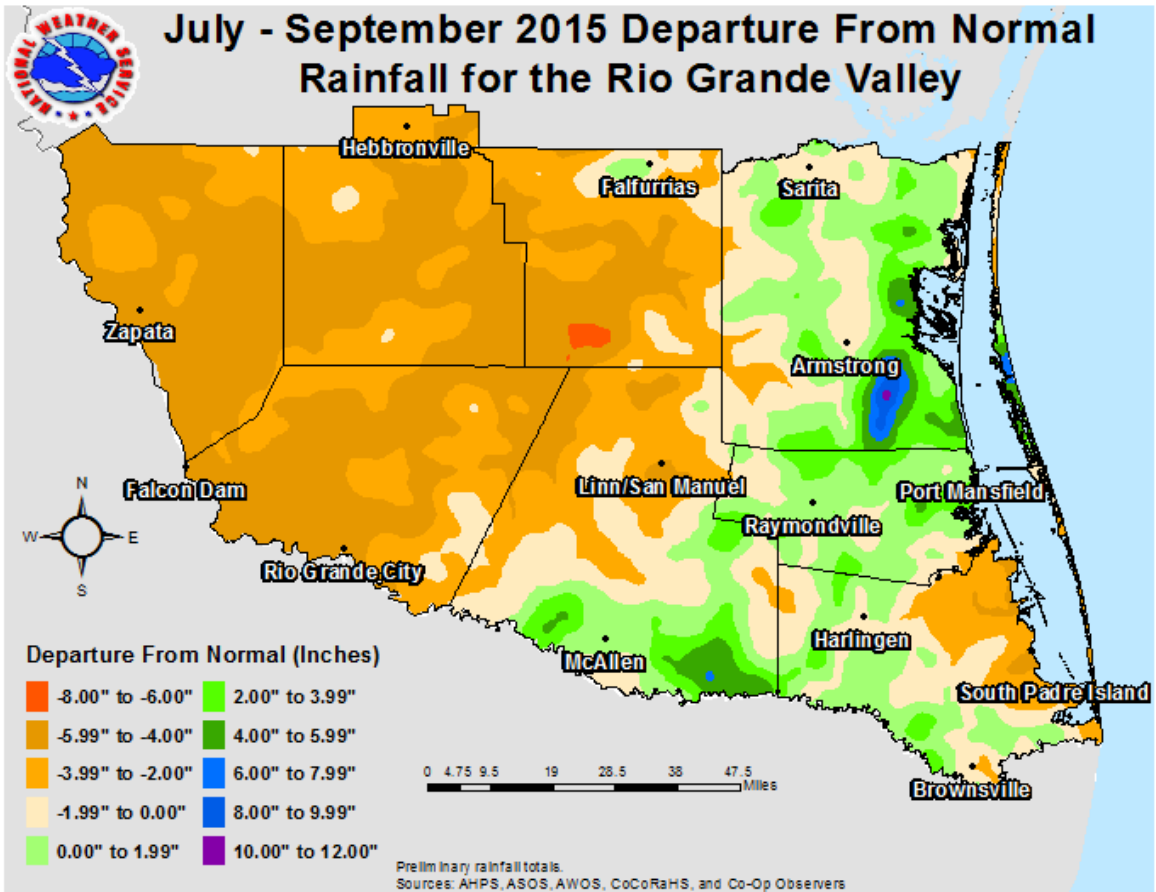
October Should Transition to a Wetter and Cooler November/December

El Niño continued to roll [near record levels](#) by the end of September, 2015, and the expected, enhanced “La Canícula” (Dog Days) that dominated July and August, persisted into September (top of next page) with slightly hotter than average temperatures and a mix of dry and wet weather. The wet weather, which in recent Septembers ([2013](#) and [2014](#)) came with tropical moisture arriving on persistent east to southeast flow from deep in the Caribbean and southern Gulf, came more serendipitously in 2015. A “Friday Night Lights” (football) event on the 11th accounted for a good portion of the rain; other scattered events, mainly along the sea breeze enhanced by a low pressure trough which occasionally “back built” into Texas, helped the populated Rio Grande Valley end at or just above normal. The ranchlands from of Brooks, Starr, Jim Hogg, and Zapata missed a lot of the action which tended to dry out into the Rio Grande Plains. This was rather predictable, as described in the [July through September 2015 Outlook](#), which mentioned a September “wild card” with sensible weather highly dependent on whether a period of tropical moisture, or a tropical cyclone that would defy the odds of very low chances (one never did) would occur. September ended as July generally began: hot and rain-free, and October was starting along the same lines. But change is likely to come.

“La Canícula” Holds On Through September



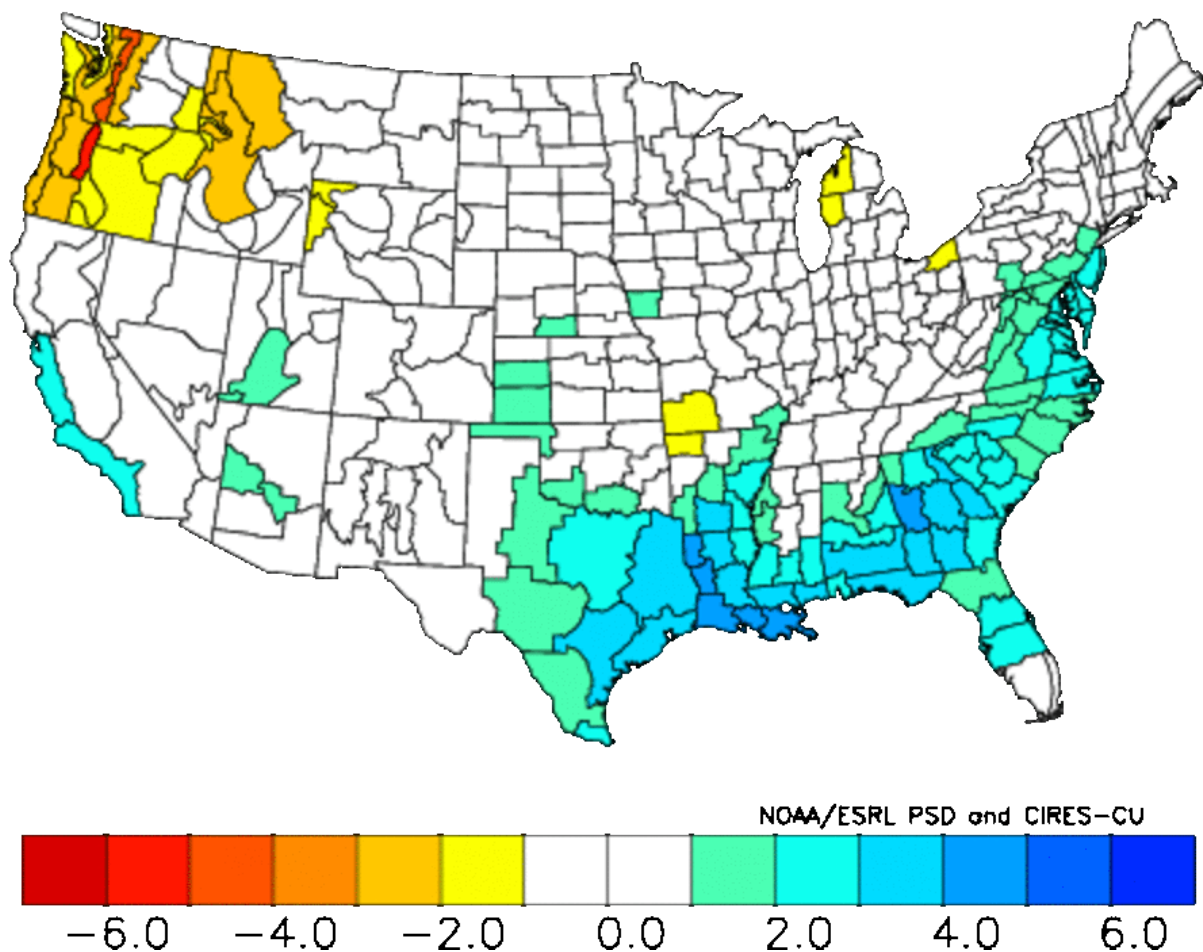
Above: Mean steering pattern at ~18,000 feet for September, 2015. Note the persistence of the "Canícula" ridge (over northern Mexico and southwest Texas), which kept most of the state hot and dry, including the Upper Valley and Rio Grande Plains ranchlands.



Transition Time?

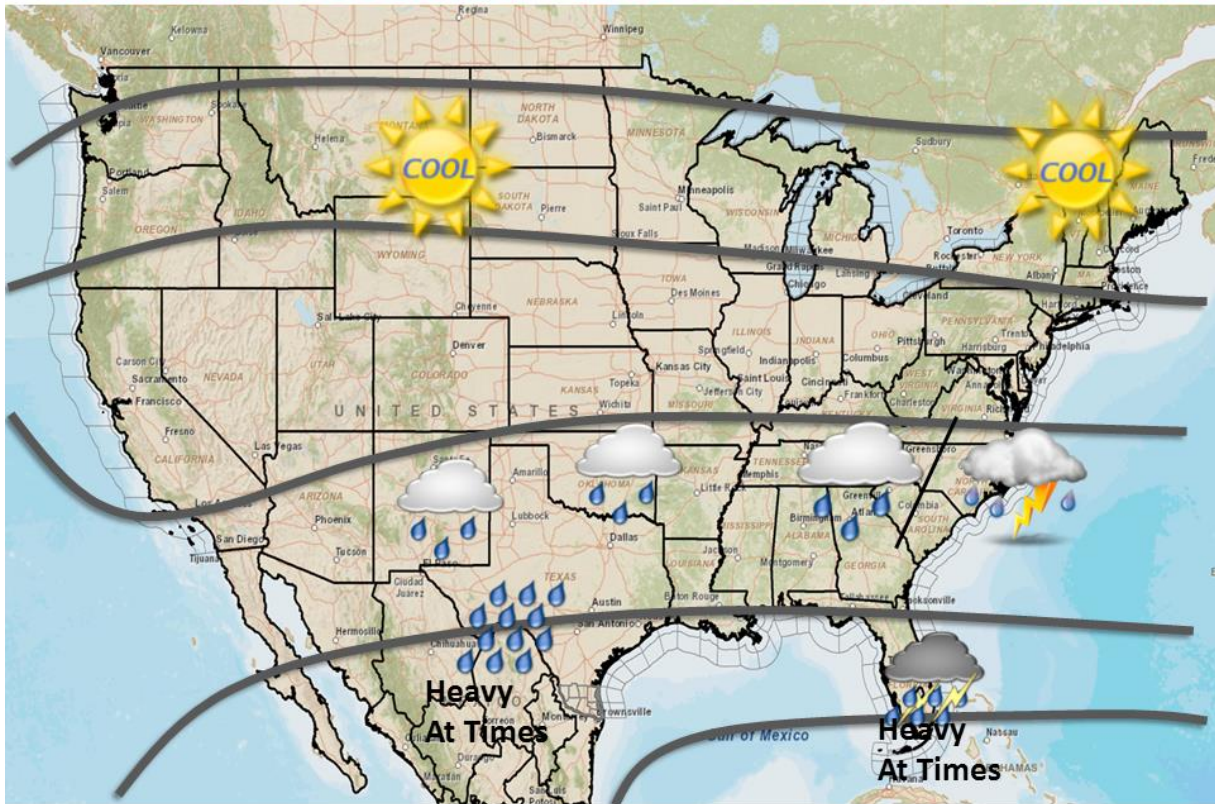
If past mid-autumn through early winter seasons with a developing moderate to strong El Niño are any guide, much of the southern U.S. from Texas to Florida will shift from the hot, dry mid summer/early autumn pattern to a cooler, cloudier, and increasingly wetter time. Comparing years with similar steady-to-rapid El Niño development, rainfall would run some 2 to 4 inches above normal for the October-December period, which could be double the 1981-2010 average in some areas. *How* that occurs remains uncertain as of this writing (October 1, 2015), but it is most likely in the form of thunderstorm downpours at some point in October or early-mid November, and in the form of a steady, occasionally heavy rain from a Texas Gulf low pressure system (“[Texas Nor’Easter](#)”) at some point in late November or December. The pattern evolution suggests El Niño’s influence will ultimately embed deep tropical moisture into upper level disturbances that either dive into the southwest U.S. or eject out of the tropical eastern Pacific tropics and link up with occasional southwestern U.S. troughs that move in from California or points south in the subtropical Pacific.

NOAA/NCDC Climate Division Composite Precipitation Anomalies (in)
Oct to Dec 1957,1963,1965,1972,1997,2002,2009
Versus 1950–1995 Longterm Average



Will October 1997 Happen Again? That year, upper level energy and the remnant of an eastern Pacific Hurricane’s residual energy flowed abundant tropical moisture into the region between the 2nd and 12th. The season’s first significant cold front hooked up with the residual moisture on the 13th and provided the slam dunk of several inches of rain, with widespread freshwater flooding the result. In total, much of the Lower Valley received 10 to 20 inches of rain. As October 2015 began, there was no such starting point. However, other parts of the U.S. began to face unusual early month-patterns – patterns that actually kept Texas dry. Should those patterns shift and bring tropical moisture into South Texas at some point, big rains would ultimately follow. Stay tuned to our webpage and social media posts for more, and to check out a new three to four week temperature and rainfall outlook at any time, click [here](#).

October-December 2015 Pattern Possibilities

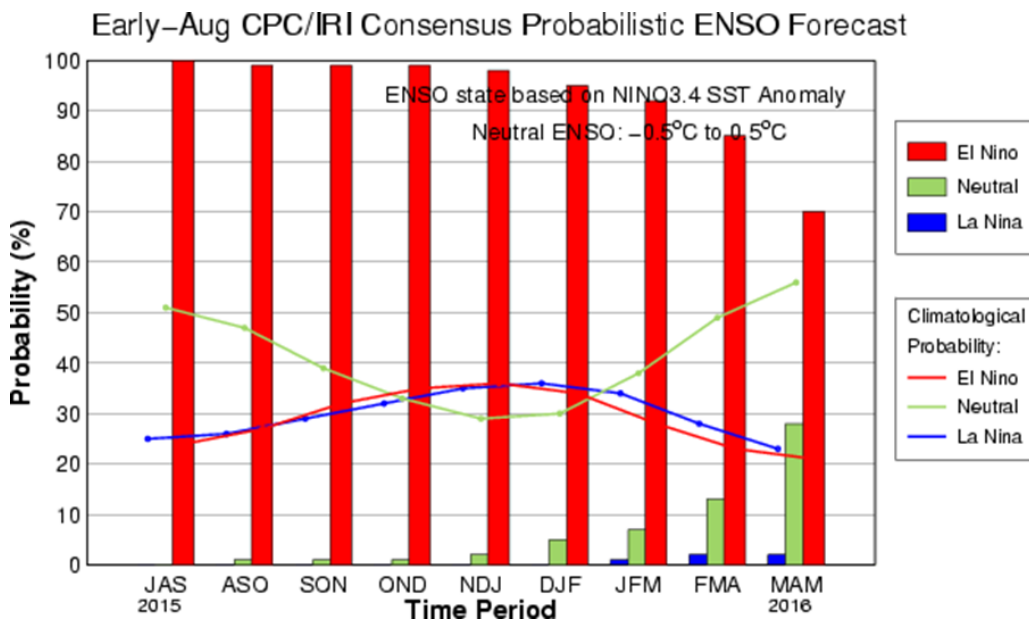
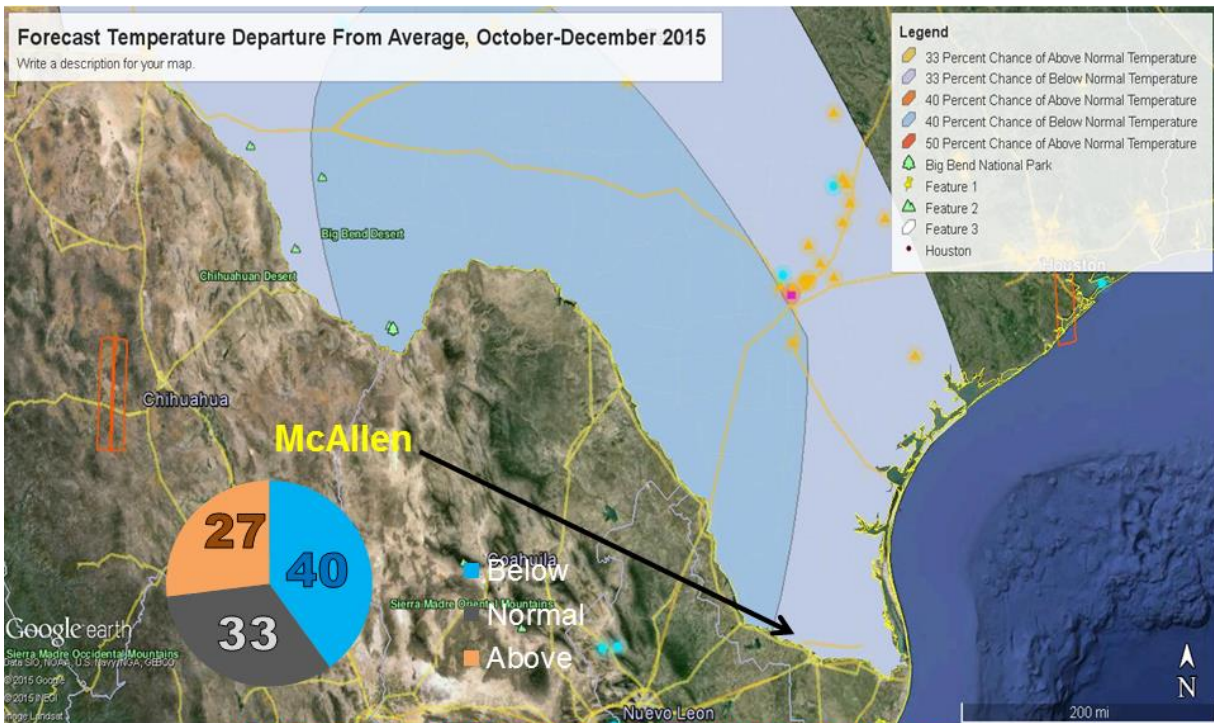


Above: Wet is the Word? As "La Canicula" fades into memory, a flatter flow with "buckles" across the southwestern U.S. could develop and be a conduit for eastern Pacific tropical moisture, boosted by impressive latent heat energy provided by El Niño.

Above: Near Los Fresnos, October 13, 1997, the last time El Niño developed the way it has in 2015. Could Los Fresnos look like this in October 2015?

El Niño and Autumn: Transition "Game On"?

November is where things could get interesting – or not. El Niño implies a more distinct, two-jet stream pattern; a mid-latitude jet stream that can bring the typical autumn fronts across the nation, dipping farther south, including the Rio Grande Valley, as the season heads toward winter, and a low latitude, subtropical jet stream that folds in ample moisture from the eastern tropical Pacific which can enhance rainfall and cool temperatures down with the precipitation and cloud cover. The most recent El Niño episode (mid 2009 through early 2010), however, saved its rainier conditions for December through February, and the aforementioned 1997/98 episode practically "wrung" itself out in October, with November reverting to below average rainfall (even though temperatures ended up notably below average). Cool and wet? Cool and dry? The final answer remains to be seen, but the potential for "cool and wet", especially from mid-late November into December, has increased.



El Niño remains a near certainty through early spring 2016 (85% probability or higher); little has changed from this graph from early September 2015.

Preparedness, Awareness

With the 2015 Texas Gulf Hurricane Season ending with a whimper, we shift gears to more typical autumn changes: Strong cold fronts and, with El Niño in full flight, potential for flooding rainfall.

- **Flooding Rain.** Tropical downpours could accompany thunderstorms along slow moving cold fronts from late October through November, or in a situation where energy from a northward moving weakening late season eastern Tropical Pacific cyclone infuses said cold fronts. Later November and December could see widespread heavy rainfall events, which combined with additional cloud cover and limited evaporation rates, could pile up water across the Rio Grande Valley, more likely toward the coast.

October is a good time to check roofs and walls for leaky areas and repair, and remove any debris from gutters and downspouts. Speaking of debris - after trimming brush and cutting grass, be sure to remove it and never clog drainage ditches or canals!! More here:

- [Flood Safety Awareness](#)

- **Lightning.** Lightning has been a common hazard during most big rain makers from March through September, and contributed to more than 100,000 total residential and business power outages through the spring and summer. 2015 seems to be “our” year for lightning. The transition from early fall warmth and humidity to cooler and generally less humid (though still moist-feeling) air as autumn progresses may provide the contrast that allows for at least one significant “squall line” of prodigious lightning-producing storms at some point through November. Lightning likely has caused well over \$1 million in damage through August 2015, and any cloud to ground strike can be a killer. Check safety tips and learn much more at <http://www.lightningsafety.noaa.gov>.
- **Chill.** Each fall and winter, sharp changes in air masses from balmy breezes to biting chill are a hallmark for the Valley. While the number of very sharp changes (dipping 40 to 60 degrees lower from one day to the next) probably won't rival that of the [fall/winter of 2013/2014](#), to see one or two such events anytime from late November through the end of the year would not surprise. Be ready to change from spring/summer clothes into winter jackets, sweaters, and the like in a matter of hours when the season of “gray ‘northers” begins. If you have a space heater and plan to use it later this fall, October is the time to service it to ensure sparks don't ignite into a house fire.
- **Freezes and Winter Weather (ice/snow)?** We can't discuss December without the outside chance. That said, past moderate to strong El Niños have tended to keep the coldest of air locked up well north of the Rio Grande Valley, and the influence of tropical moisture on the atmosphere favors chilly, but not frigid, weather during December. There are no certainties, however; atmospheric “teleconnections” such as the North Atlantic/Arctic Oscillation could become a player in cold air intrusion by late December, especially if a significant negative phase develops by November or early December.