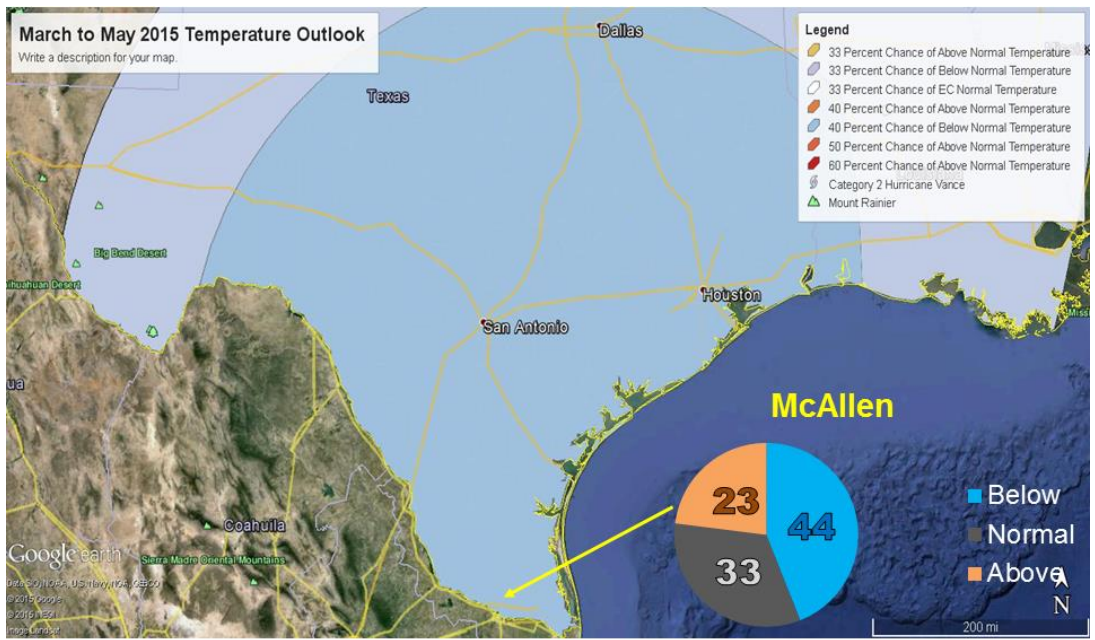
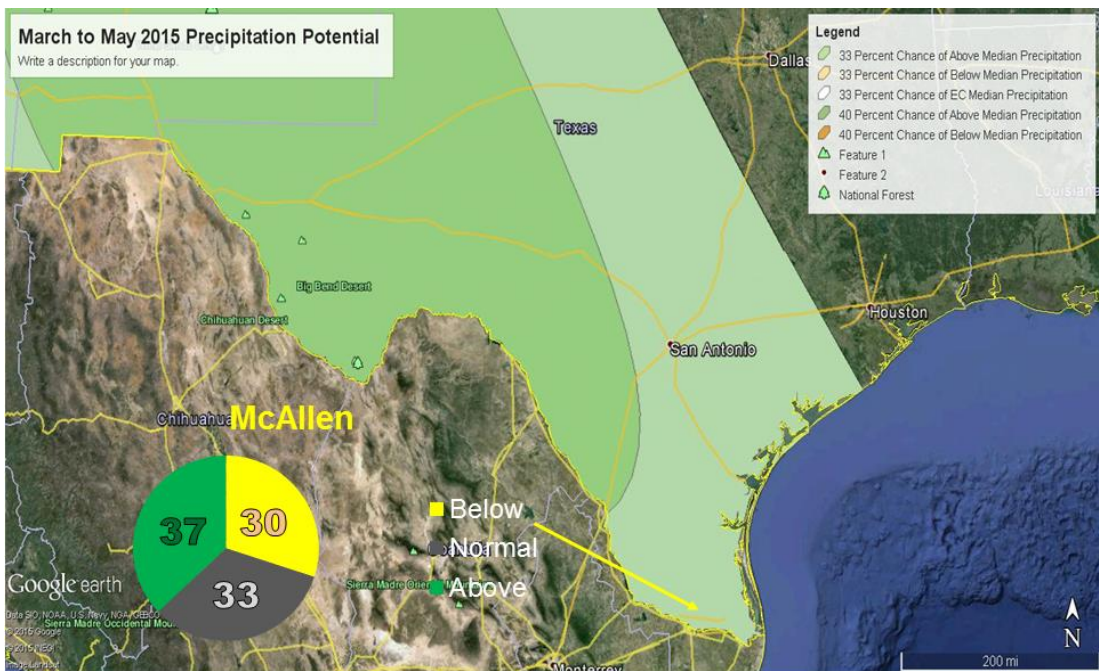


Spring 2015 Outlook



Rio Grande Valley Average for March - May (based on 1981-2010)
Wake-Up Temperature: 60° Ranchlands, Mid 60s Elsewhere
Afternoon Temperature: Around 80° Beaches; Low to Mid 80s Elsewhere

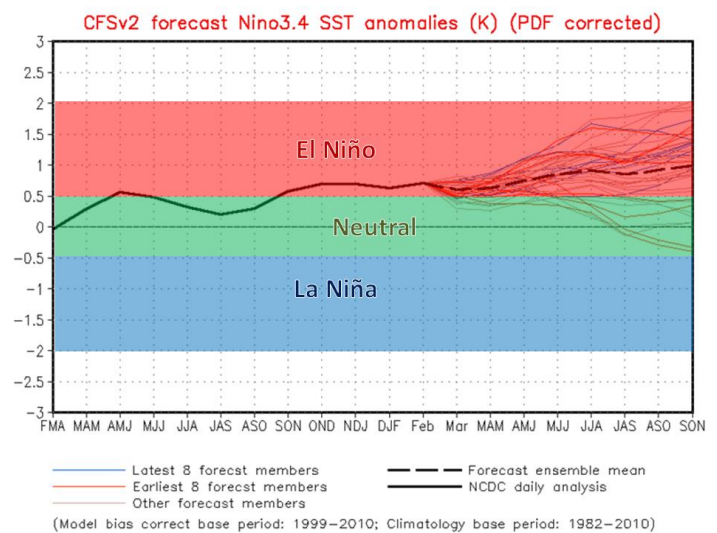
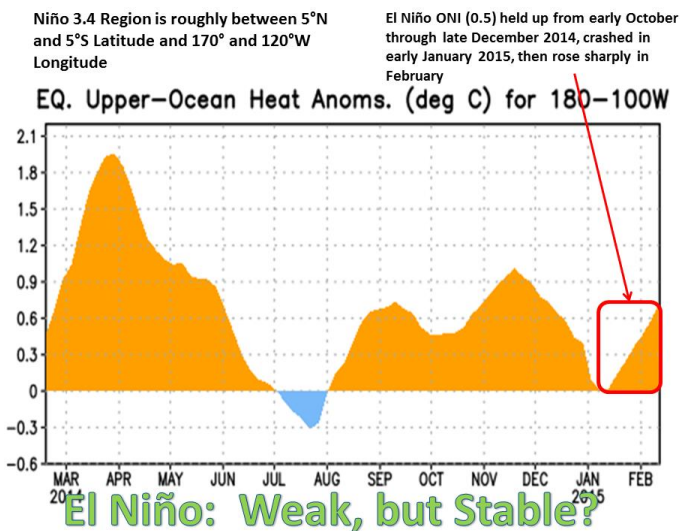


Rio Grande Valley Average for March-May (based on 1981-2010)
Precipitation: Ranges 4 ½ inches Mid/Upper Valley to 5-6 inches Ranchlands and Lower Valley

**Spring's Unsettled Transition for RGV
 Temperature Roller Coaster, Punctuated by Rain and Perhaps Hail/Wind**

Spring Overview

The weather pattern that closed January continued for the first three weeks of February 2015; severe cold set records across the Northeast, Mid Atlantic, and Ohio Valley/Midwest while fluctuating temperatures that averaged close to 1981-2010 normals covered the Great Plains and Texas, with warm temperatures along and west of the Continental Divide. As the sun angle increased in February, Rio Grande Valley temperatures alternated from springlike warmth to winter (Valley-style) chill; in fact, each of the first three weekends were pleasantly warm while weekdays tended to lean cooler. The persistence of the pattern suggested a March that might continue to feature the temperature roller coaster; rainfall, which settled back toward the relatively low (1 to 1.25 inches) area average in February was difficult to handicap and would be highly dependent on the resurrection of a frequent southern/subtropical jet. The presence of a weak but stable El Niño suggested a continued “lean” toward above average rainfall for the season. Weak is the key, however, suggesting low confidence in exactly how rainfall will generate through spring. There is increasing confidence that March remains relatively settled, with periodic cool snaps that prevent a buildup of very warm, humid air masses necessary to produce hail and windstorms but favor more chilly, cloudy fronts with most of the rainfall on the back side of each front, which was the case since December 2014.



Above: Left – Upper Ocean heat departure from normal, March 2014 through late February, 2015. A brief summer dip slowed El Niño’s development, but a steady departure a little above normal through fall and early winter, followed by a resurgence in February, has brought the Oceanic Niño index to or above 0.5°C for three consecutive three-month periods as of January (right; Note: Five periods are required for an El Niño episode). The Climate Forecast System model (right), combined with the recent warm resurgence of the east central tropical Pacific, suggests weak El Niño will become reality in early spring 2015.

April and May

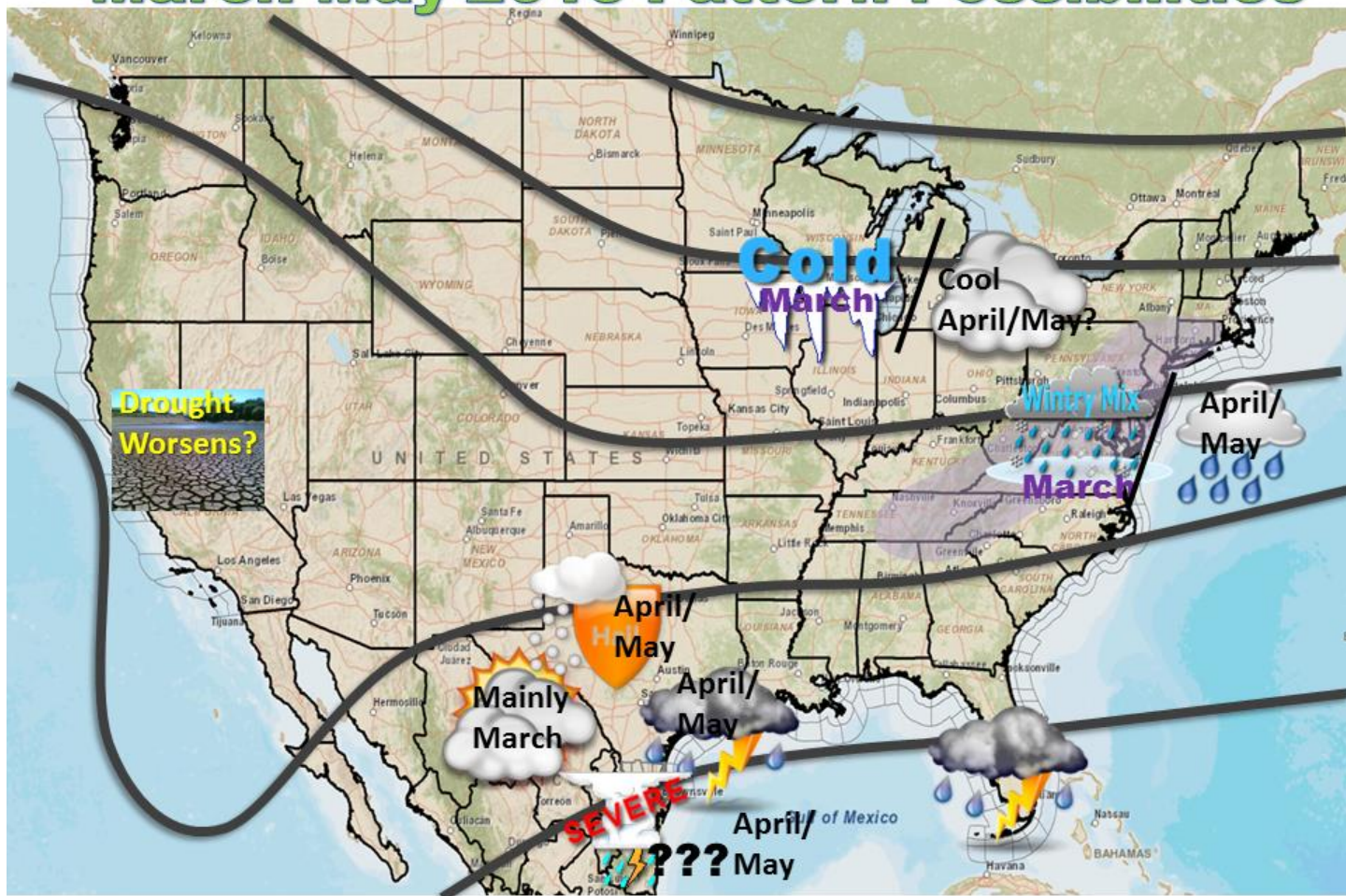
Confidence is low for how the mid to late spring weather trends will evolve across the Valley. At face value, one might think the increased probability for above normal rainfall and below normal temperature would be a recipe for an above average threat for dangerous thunderstorms, including large hail, damaging microburst winds, and even a few tornadoes as the inevitable warm to hot, humid weather arrives as April turns to May. The spring of [2012](#), which featured numerous large hail events and culminated with a [week of wind, hail, and even a couple of small tornadoes from May 8 to 15](#), could repeat in 2015. Or, the spring of 2010, which began with a comfortable March but was followed by a wet April punctuated by [4 to 6 inches of rain mid-month](#) (killing any chance for an active wildfire season), and concluding with one [squall line in mid-May](#), could repeat in 2015. Time will tell. Either way, we expect to see some significant weather events – whether flooding rain or wind/hailstorms – in April and May 2015.

Pattern Matters

Long range forecast models, which take into consideration the current persistent pattern as well as teleconnections including El Niño/Southern Oscillation, the Pacific Decadal Oscillation, and the Arctic and North Atlantic Oscillations (among other parameters), suggest the pattern that defined much of winter will prevail into spring. Big issues across the Nation would include a reinforcement of the already devastating

western U.S. Drought, a slow thaw for the Midwest through New England, and the aforementioned chance for more rain and/or dangerous thunderstorms across the southern Great Plains.

March-May 2015 Pattern Possibilities



— Potential Average Flow pattern at 500 mb (~18,000 feet)

Wind Machine Possibility

March is typically a transition month out of the damp cold fronts and into warmer and more humid weather which sometimes is punctuated by fronts that move more robustly across the Valley. Such fronts can bring the resurgence of the "Valley Wind Machine" where gusts can reach 50 mph or higher and cause more serious damage than the more typical 20 to 30 mph pre- and post-frontal winds. Rapidly moving systems in the atmospheric steering flow in an El Niño spring can assist both windier days and dangerous thunderstorm potential. In early January 2015, we expected to see some wind machine events come March and April, but the numbers compared with other years may be a bit lower. Note that periodic atmospheric warming over a cooler than normal nearshore Gulf would be the recipe for a "Wind Machine" event. A preview occurred on February 20th, 2015 as winds gusted between 40 and 45 mph in exposed areas from Weslaco to Bayview; expect similar events heading through March and perhaps into early April.

Scouts Code: Be Prepared!

The above average threat for dangerous weather - from flooding to hail or windstorms - supports community vigilance to reduce vulnerability and increase resilience. Learn more about severe weather safety

Bottom Line?

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

- For your home: Check window, door, roof, and floor (foundation) for air leaks, and seal them. You can save a lot on your home heating (and cooling) bills with simple repairs.
- 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.
- Review our [Hazardous Weather Guide](#) for thunderstorm and tornado safety!
- Share our “Slide Guides” for thunderstorm and tornado safety, in [English](#) and [en Español](#).
- Flooding can be a threat anytime, including during a rainy spring. Review flood safety, in [English](#) and [en Español](#).