

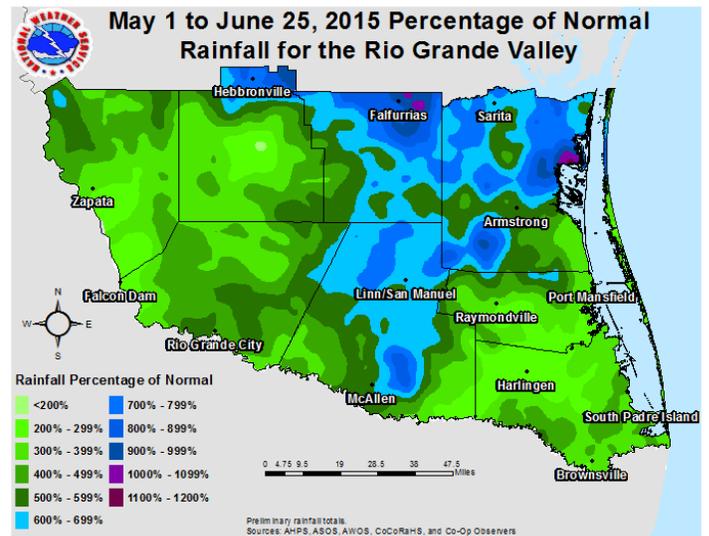
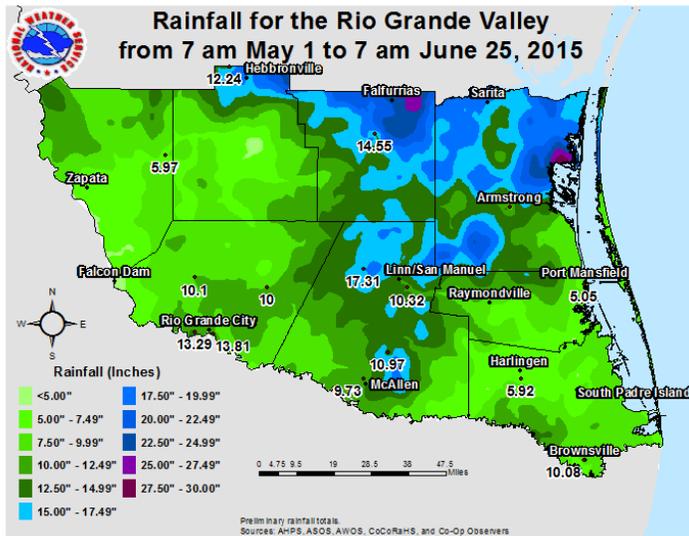
Average Rainfall:
7 to 9 Inches West
8 to 10 inches Each

Dry Weather Ahead for the Rio Grande Valley? El Niño, “La Canícula” Suggest More Sunshine, Little Late Summer Rain

September Remains a “Wild Card”; Late Eye on the Southwest Gulf

After a record-setting spring, and likely a record-setting June for some areas of Texas including the Rio Grande Valley after a [busy week of rain in mid-June 2015](#), the heart of summer may spell a change in the pattern to one with few thunderstorm days and more of the typical searing heat the Rio Grande Valley is known for, along with periodic gusty south to southeast winds. Ample soil moisture to start July will help keep temperatures in line (near already hot averages in the mid to high 90s by afternoon and mid to high 70s by daybreak), but the high sun angle and the more persistent direct sunlight may dry things out rather rapidly, potentially setting the stage for another hotter than average August which has been the rule every year since 2008, when Dolly’s leftover moisture along with other rain events in August held temperatures below average.

The drying of the Valley and Deep South Texas will be welcomed by many at first, particularly in Hidalgo, Brooks, and Kenedy County, where rainfall since the start of May in flooded or high water areas has been four to eight times the 1981-2010 average – or ten to more than twenty inches above, and in some cases equal to the annual average, in May and June alone (below).



Above: Left – May through late June observed rainfall; Right – Percentage of the 1981-2010 average rain for the period listed. Areas in dark blue and purple are generally higher than the full year average, and occurred in less than two months.

Should the dry weather prevail deep into August, there could be an increasing threat for the rapid spread of wildfire (should one start) if temperature, wind, and relative humidity combine to produce dangerous conditions. Those conditions would be compounded by very high “fuel loading” from the excessive grass/rangeland and brush growth, unless tended to.

The forecast for late August and September – the final third of the three month period – has the lowest confidence; typically, atmospheric flow by then favors east to southeast flow of the “wettest” air masses of the calendar year and when rainfall averages 5 to 7 inches across the region, more than twice the rain of any other 40 day period during the calendar year. A land-falling tropical cyclone in or near the Valley during this time would greatly increase rainfall and pull the seasonal average to or above normal. Should “[La Canícula](#)” remain, a drier than average September is expected. The southwest Gulf is a known “wild card” (see map below) where the combination of deep, warm waters (typical in any late summer) with clustered tropical moisture and a bi-weekly weather pattern that could differ from La Canícula could produce the next [Bret](#) (1999) or even a stronger version of [Ingrid](#) (2013).

El Niño to Blame?

As of this writing (late June), moderate El Niño conditions were well underway in the eastern/central tropical Pacific Ocean, and there were increasing signs that strong conditions (an Oceanic Niño Index of 1.5 or greater) were coming by late summer and expected to persist through the remainder of hurricane season. By late June, impressive westerly wind shear – a critical “enemy” of hurricanes – had become anchored to the western Caribbean Sea and was expected to continue into at least early July. Such wind shear is [highly correlated to moderate to strong El Niño](#) episodes and virtually guarantees fewer numbers of cyclones from the Caribbean to points well east in the Main Development Region of the tropical Atlantic. That same wind shear tends to be on the “front” side of “La Canícula” and, based on similar El Niño formation periods and intensity in the past, argues for the dry, and increasingly hot, mid to late summer.

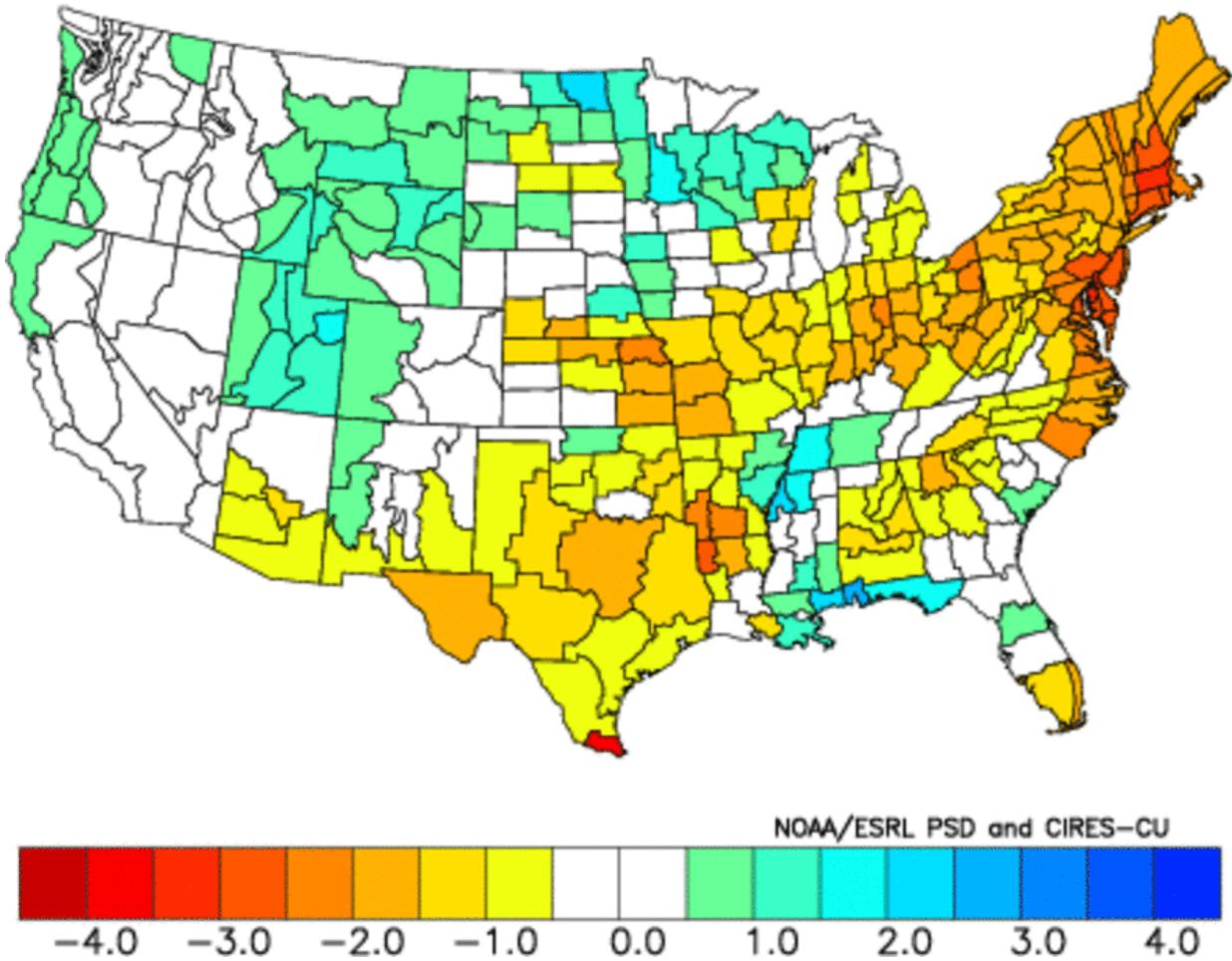
Comparative Oceanic Niño Index (ONI) since 1950

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
1957	-0.3	0	0.3	0.6	0.7	0.9	1.0	1.2	1.1	1.2	1.3	1.6
1982	0	0.1	0.2	0.5	0.6	0.7	0.8	1.0	1.5	1.9	2.1	2.1
1987	1.1	1.2	1.1	1.0	0.9	1.1	1.4	1.6	1.6	1.4	1.2	1.1
1997	-0.5	-0.4	-0.2	0.1	0.6	1.0	1.4	1.7	2.0	2.2	2.3	2.3
2002	-0.2	-0.1	0.1	0.2	0.4	0.7	0.8	0.9	1.0	1.2	1.3	1.1
2015	0.5	0.4	0.5	0.7	*1.0	*1.2	*1.4	*1.5				

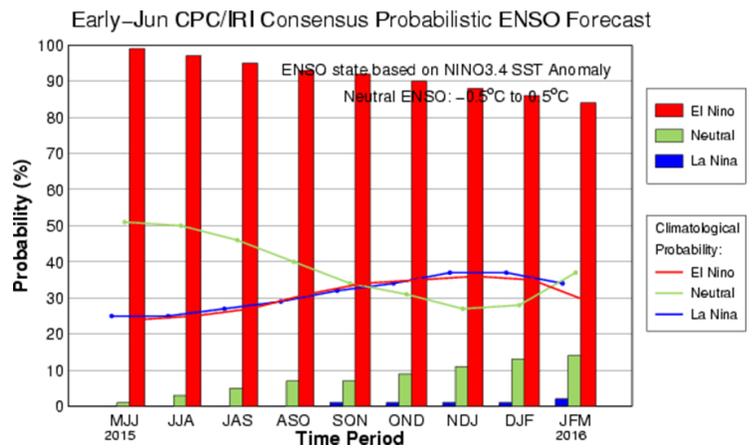
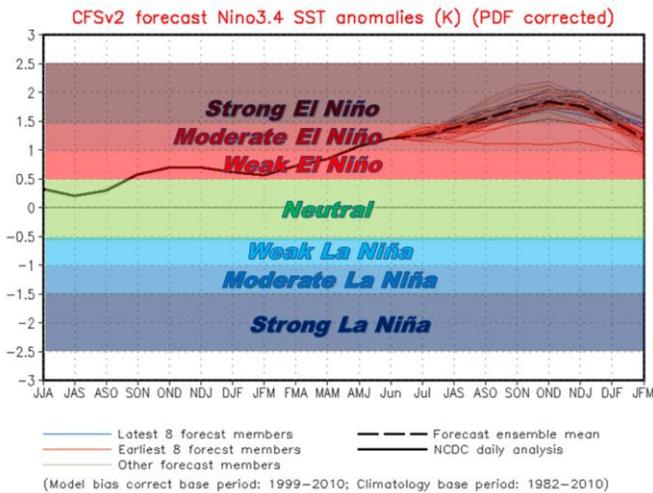
*Estimated Forecast three-month average ONI

Note: Additional Boost from the Pacific Decadal Oscillation (PDO) is Uncertain. 1957, 1987, and 1997 were moderately to strongly positive. 1982 and 2002 were mixed, leaning negative. 2015 (so far) is moderate to strongly positive.

NOAA/NCDC Climate Division Composite Precipitation Anomalies (in)
 Jul to Sep 1957, 1982, 1987, 1997, 2002
 Versus 1981–2010 Longterm Average

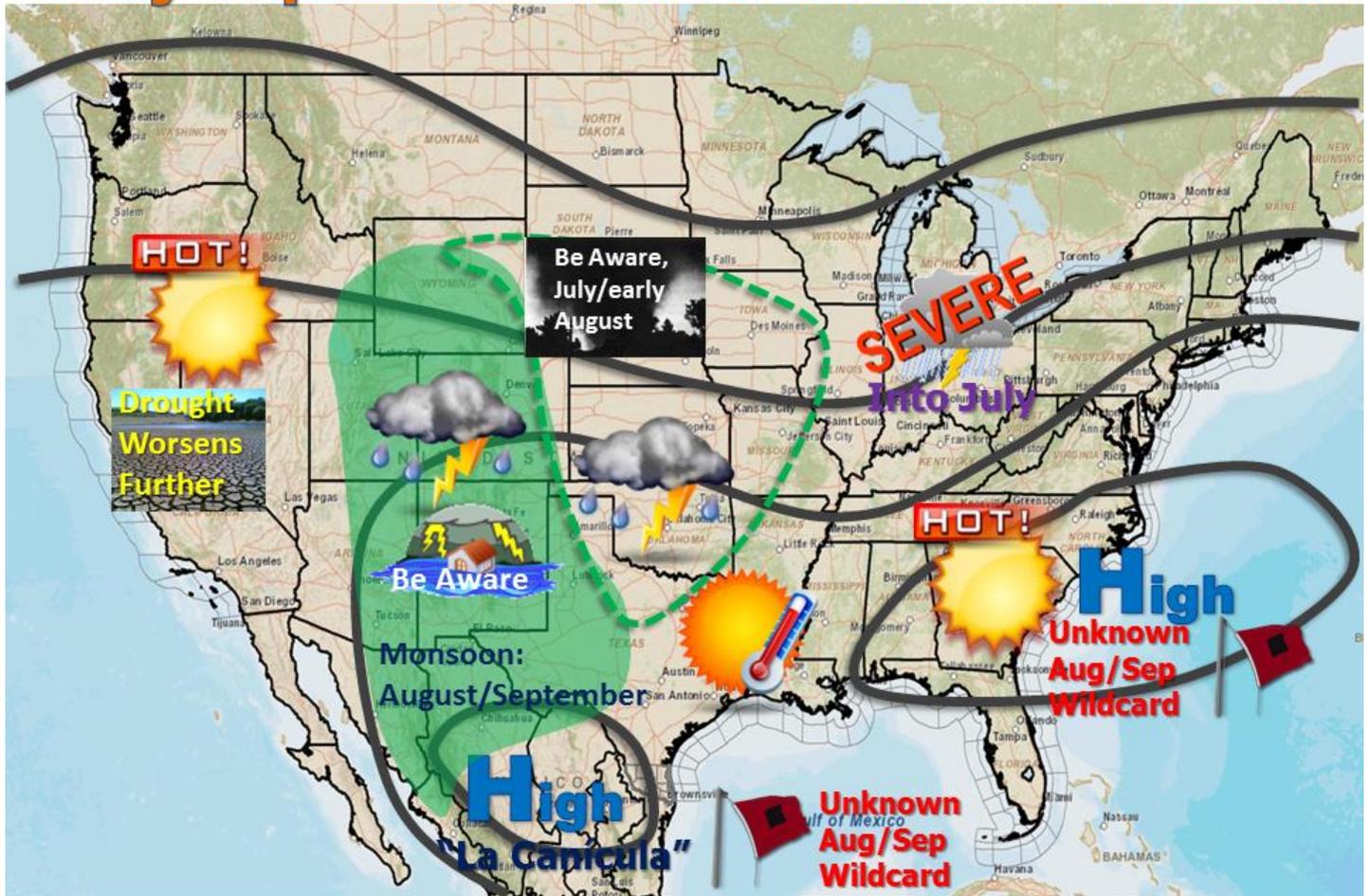


Bottom of previous page: Oceanic Niño Index (ONI) observed for 1957, 1982, 1987, 1997, and 2002, periods with similar 3-month index values and trends when compared with 2015 (observed and forecast). *Above:* Departure from 1981–2010 rainfall average of these years, combined. Note for the Rio Grande Valley, departures are 3 to 4 inches below the July–September average of 8 to 10 inches – or approximately half the expected rainfall for the late summer season.



Above left: Forecast for moderate to strong El Niño continues through end of 2015 and early 2016. Right: El Niño a near certainty through same period (85% probability or higher).

July-September 2015 Pattern Possibilities



Pattern Matters

The full U.S. late summer forecast suggests the possibility of a decent monsoon to develop across the northwest Mexico and the four corners region; enhanced by the moderate El Niño and perhaps the prolonged positive Pacific-Decadal Oscillation, flooding rains may become an issue along the front range of the Rockies at some point. A vigorous upper level pattern into July may keep the threat of dangerous thunderstorm winds, hail, and even tornadoes from the nation's breadbasket through the northeast U.S. Broad high pressure across the southeast U.S. extending through northeast Mexico would be the prevailing pattern for most of the period, but fluctuations in the eastern U.S. (Bermuda) high north and south or east and west will shift hot temperatures and precipitation potential along with it.

Preparedness, Awareness

We couldn't ship a late summer outlook without the obligatory need to remind everyone that #ItOnlyTakesOne hurricane to make a season. In 1967 – though not an El Niño summer – there were only eight named storms, five hurricanes, and one major in the Atlantic Basin. That one major was **Beulah**, and longtime Rio Grande Valley residents will never forget it. The good news? Residents will have July, and perhaps early August, to continue their preparedness activities.

- **Heat.** With plenty of moisture still to evaporate, the “feels like” temperatures for much of July have the potential to edge toward 110°F as surface dew point, a measure of moisture, could remain high especially in persistent south to southeast flow.
 - [RGV Heat Information](#)
 - [Heat Safety Tips](#)
 - [Beat the Heat, Check the Backseat!](#)

- **Rip and Longshore Currents.** Headed to the beach? Tens of thousands will be through the peak of summer. And rip/longshore currents often lurk along South Padre Island. Be ready and be safe at any time; ensure your time in the surf is safe.
 - [Rip Current Safety](#)
 - [Rip Current Safety, en Español](#)
- **Wildfire.** In case conditions dry out rapidly through July and into August, later August into September (if September somehow ends up like [2011](#)), rapid spread of wildfire could become an issue with abundant fuels available. [Be Firewise!](#)
- **Flooding Rain.** Even though the forecast is drier than it has been in months, summer is known for torrential rains that can quickly cause nuisance flooding or worse in local areas, even if the thunderstorm only covers a few miles but moves slowly or not at all. Avoid flooded roads and learn more here:
 - [Flood Safety Awareness](#)
- **Lightning.** The April through June storminess in the Rio Grande Valley has gotten many accustomed to lightning strikes, as we are well above our 2-3 strikes per square mile on average, annually. Still, summer lightning strikes, even few and far between, can be killers. Check safety tips and learn much more at <http://www.lightningsafety.noaa.gov> .