



TEXAS CoCoRaHS OBSERVER

Winter 2015-2016



"Because every drop counts, as do all Zeros."

Welcome to the Texas CoCoRaHS Observer newslet- ter.

The purpose of this newsletter is to keep observers informed of the latest news, events and happenings related to the CoCoRaHS program here in Texas, as well as news about the latest weather patterns affecting each region of Texas.

If you have questions, comments or suggestions, feel free to contact us via the emails listed on the back page.

NOW is the time of year we ask our CoCoRaHS Observers to reach out and try to recruit 1 person to join the network during our Spring Recruiting Drive.

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tornado outbreak

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A combination of factors evolved during the early evening hours of December 26, 2015 over N TX to produce one of the most devastating winter time tornado outbreaks in modern times in Texas.

Several supercell thunderstorms produced 12 tornadoes across North Texas, with the most significant affecting the higher population areas of eastern Dallas County and into Rockwall and southeast Collin County.

There were 11 fatalities associated with the tornadoes including 8 in the city of Garland and 5 at the interchange of I-30 and TX 190-George Bush Turnpike, where vehicles were swept off the highway. Cell phone video of the tornado crossing I-30 indicated that motorists traveling in both directions of I-30 appeared largely unaware of the approaching tornado and drove directly into the large circulation. The 11 fatalities on December 26th makes it the most fatal outbreak of tornadoes in north Texas since 10 were killed in a tornado in Dallas County in 1957 and 34 fatalities in an outbreak in May of 1927 in Dallas and Collin Counties.

The EF4 tornado in Garland was the strongest December tornado on record since an EF4 tornado struck in Alabama on December 16th, 2000. An estimated 1,100 structures were damaged significantly on that day.

Rowlett/Garland/Sunnyvale Tornado:

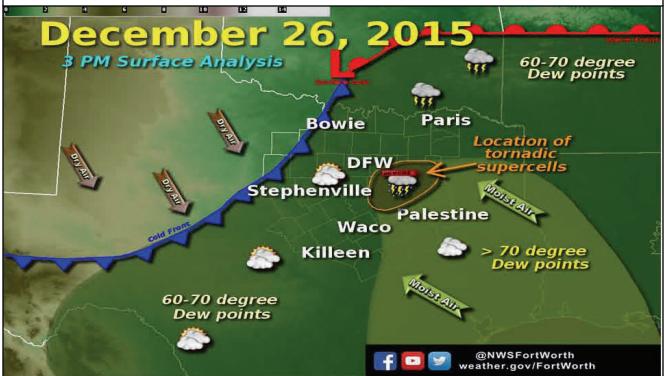
The tornado developed at 6:45pm southwest of Sunnyvale and tracked NNE through Garland, Rowlett and the western shores of Lake Ray Hubbard. The track was 13 miles long with EF-3 (winds 136-165 mph) rated damage in Rowlett and EF-4 (166-200mph) rated damage in Garland and a path width of 550 yards. This tornado resulted in 8 fatal — CONTINUED PAGE 2 —>

Deadly tornadoes hit North Texas



Above: the devastating Rowlett-Garland tornado, looking across Lake Ray Hubbard from Rockwall.

Below: The weather set-up on December 26th that led to the deadly tornado outbreak



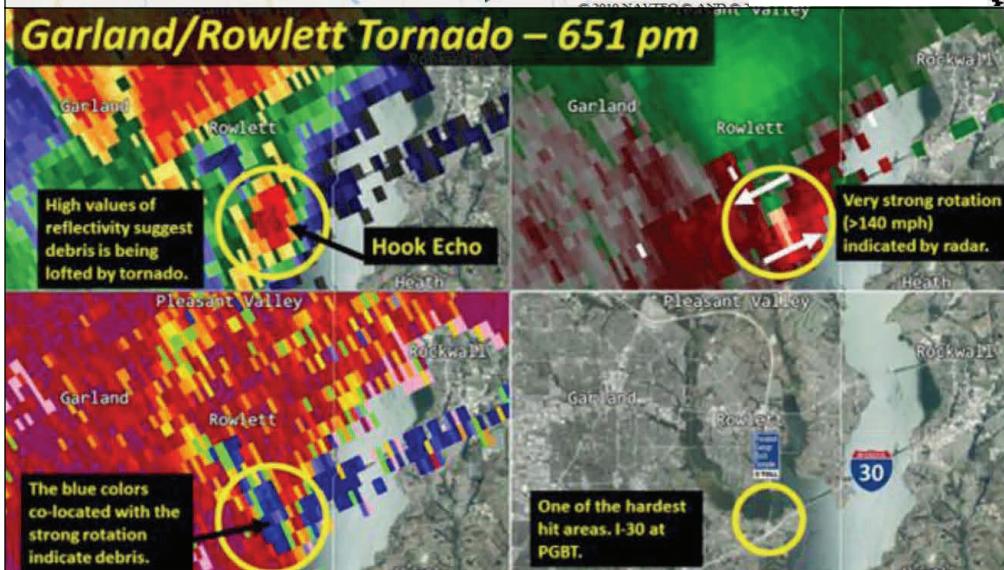
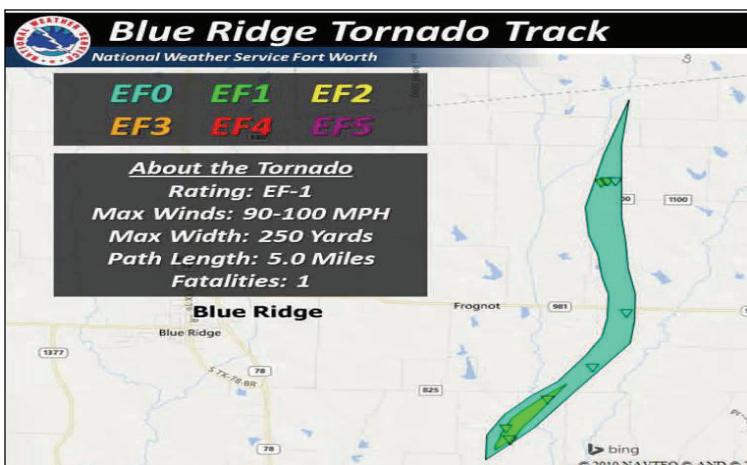
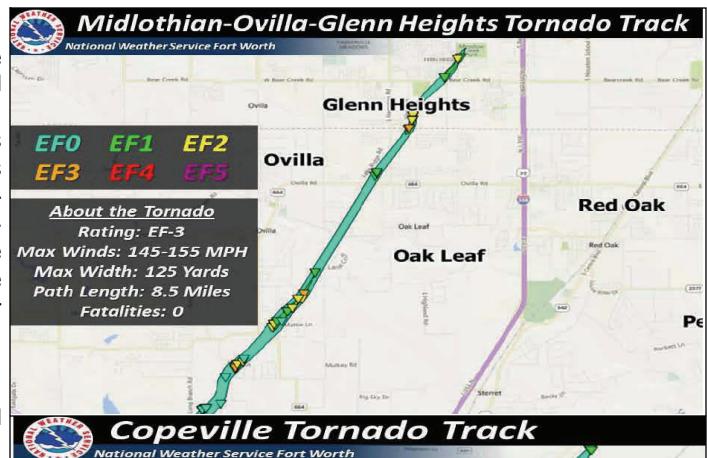
Tornado outbreak hits North Texas during Christmas Holiday

TORNADOES from Page 1—>

Copeville Tornado

This tornado developed from the Rowlett supercell and formed around 7:28pm near Copeville. The damage path was 5.5 miles long and 200 yards wide and was rated an EF-2. There were 2 fatalities with this tornado. This tornado was produced from the same supercell that produced the Garland/Rowlett tornado after crossing Lake Ray Hubbard.

The strongest tornado in Dallas County since 1994.



Above: map showing locations of all the tornado warnings that were issued by the National Weather Service Fort Worth-Dallas on December 26th.

Left: Radar images of the Garland-Rowlett tornado showing the hook-echo signature, rotation of the winds and the area of debris that is being lifted into the atmosphere by the tornado.

—Immediate left: map showing one of the hardest hit areas.

Blizzard buries parts of the Panhandle

A very large and intense upper level storm system approaching West Texas combined with cold air and amazing amounts of moisture for late December to bring widespread high-impact winter weather to the region over the Christmas Holiday Weekend. After a mild and dry Christmas day, a strong cold front moved through early on the 26th. Northerly winds increased throughout the day carrying in much colder air, with temperatures gradually falling to and below the freezing mark through late Saturday afternoon and evening. By the evening hours, wind gusts of 55 to 65 mph were common, making conditions quite unpleasant as wind chill readings dipped into the single digits and teens.

In addition to the cold and wind, precipitation blossoming in eastern New Mexico quickly spread into the South Plains Saturday evening. There was enough instability for lightning and thunder to also mix in as freezing rain and sleet gradually changed to snow from west-to-east across much of the Caprock through the evening and overnight hours.

The thunder sleet and snow made for an impressive weather display, but it made for challenging driving conditions. In fact, where the precipitation changed over to snow, blizzard conditions with near zero visibility quickly developed as the snow was tossed about by the strong winds. The strong winds and snow also conspired to build large snow drifts, particularly downwind of large open fetches. Further east in the Rolling Plains, freezing rain and sleet were the primary mode, though some snow did eventually fall too.

On the warm side of the storm parts of North Texas (near Dallas) experienced killer tornadoes Saturday evening. Thankfully, West Texas didn't see any tornadoes, but the strong winds and freezing rain and sleet and snow did make travel very difficult to impossible, and it did cause its own share of damage.

After a brief lull in the wintry precipitation early Sunday another wave of sleet and snow pivoted around the north side of the upper level storm system and over the South Plains region.

This next round of sleet and snow came in heavy bursts late Sunday afternoon and evening, and accounted for a good chunk of the sleet and snow for the South Plains into the Rolling Plains, whereas the bulk of the heavy snow around Friona and Muleshoe fell late Saturday night into early Sunday. Conditions further deteriorated as the falling and blowing and drifting snow really piled up. Many roads became impassable as winds refused to let up and drifts continued to grow.

The powerful winter storm finally moved off to the east early Monday (28 December) and gave way to lighter winds and a return to sunshine. This allowed people to assess the damage, both literally and figuratively, and begin the digging out process.

A preliminary tally of the sleet and snow totals for the South Plains region can be viewed below. Keep in mind that exact measurements were nearly impossible given the extensive blowing and drifting, so these should be viewed as best estimates. Regardless, the amounts were certainly impressive.

In fact, Lubbock International Airport officially measured 11.2 inches of sleet and snow over the duration of the winter storm from December 26th through the 27th. This impressive tally ranked as the third highest snow event at the airport, and was the highest since the all-time record of 16.9 inches in 1983.

Historic Snowfall Comparisons

NWS Lubbock

TOP TEN SNOW EVENTS AT LUBBOCK

Rank	Year	Inches
1	1983	16.9
2	1961	12.1
3	2015	11.2
4	1980	10.8
5	1980	10.6
6	1969	10.3
7	1956	10.0
8	1942	9.5
9	1978	8.8
10	1983	8.1

December 26th-27th Blizzard Snow Totals

NWS Lubbock

* Preliminary

 Abernathy	5"	 Lake A. Henry	5"	
 Aspermont	1"	 Levelland	12"	
 Brownfield	6"	 Lubbock	11"	
 Childress	4"	 Matador	6"	
 Crosbyton	4"	 Morton	6"	
 Denver City	11"	 Muleshoe	8"	
 Floydada	3"	 Olton	7"	
 Friona	20"	 Plainview	10"	
 Hart	9"	 Post	7"	
 Lamesa	6"	 Tahoka	8"	

Issued: 10 PM CDT Mar 20 2015



Left: Drifting snow, estimated at 8 to 10 feet in Friona, Texas on December 27, 2015. Photo from News Channel 10 Amarillo/NWS Lubbock.

Right: More photos of ice and blizzard conditions in Lubbock on December 27th, 2015. This is the same system that brought deadly tornadoes to North Texas the previous day.

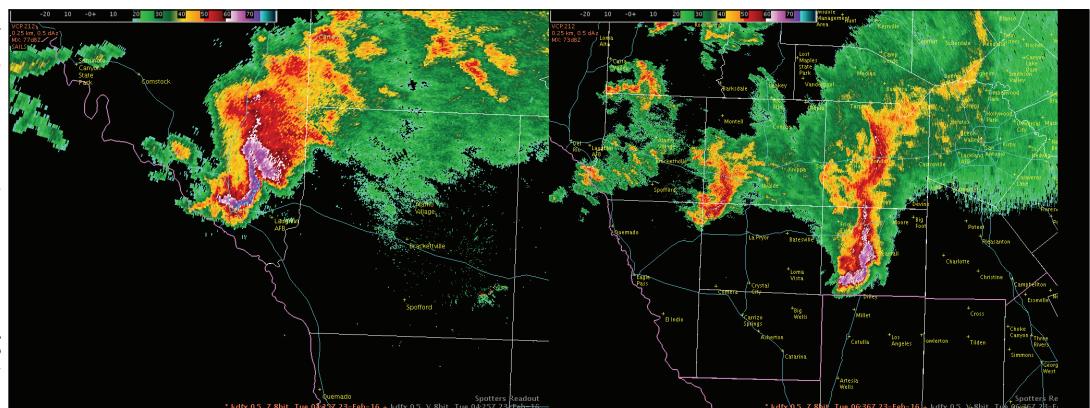


Severe Thunderstorms hit Rio Grande Plains

An active weather pattern took shape on February 23 and resulted in severe thunderstorms with large hail and damaging winds across portions of south central Texas. A strong upper level trough combined with a cold front and plenty of low level moisture combined to produce thunderstorm development beginning late in the evening on February 22 across southwest Texas. Storms quickly became organized as they moved into south central Texas, with the strongest storm producing wind gusts near 60 MPH and golf ball size hail from near Del Rio to Bracketville along Highway 90. The particular cell also resulted in windows being broken in homes and cars along with widespread power outages. As a result of the power outages, the Del Rio/San Felipe Independent School District cancelled classes on February 23.

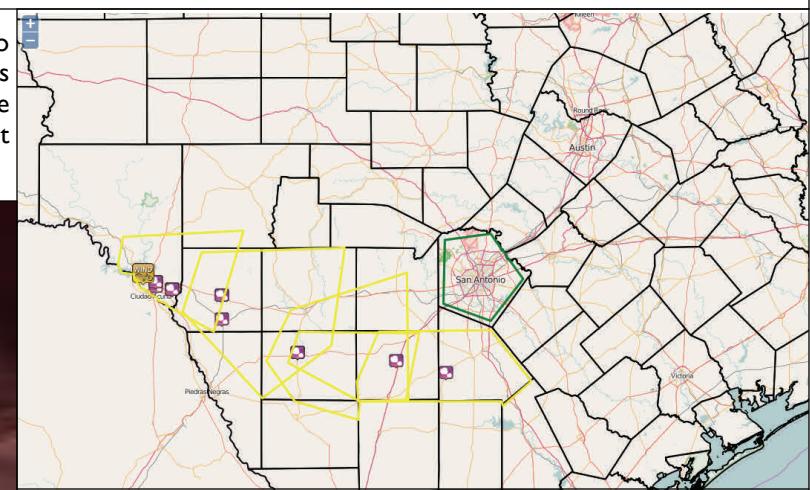


Hailstorm buries Del Rio under several inches of hail on February 22nd/23rd, stranding cars.
Photos from: KABB-TV FOX San Antonio (top); Del Rio News-Herald (bottom)

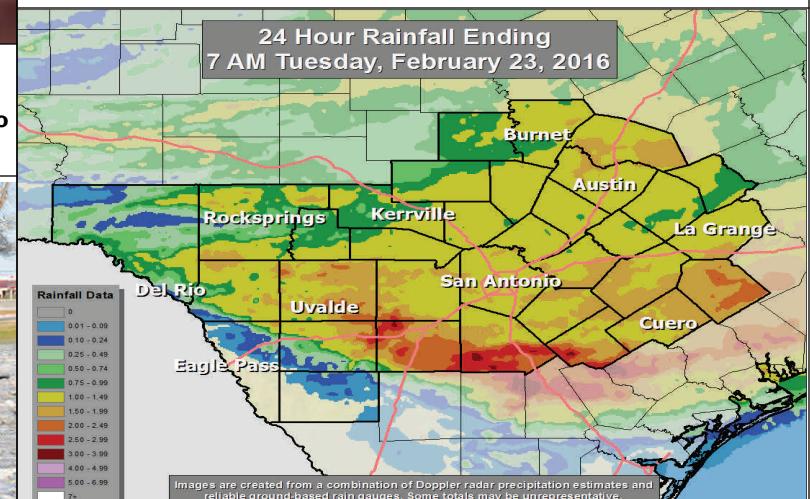


Left: Radar image from February 22nd, 10:25PM of severe thunderstorm as it passes through the Del Rio area. Ping pong ball size hail was falling 2 miles north of Del Rio at the time.

Right: Radar image from February 23rd, 12:36AM as the storm passes through Frio County. Hail the size of quarters was falling in Pearsall.



A total of 5 Severe Thunderstorm Warnings were issued on the evening of February 22nd and into the early morning hours of February 23rd.

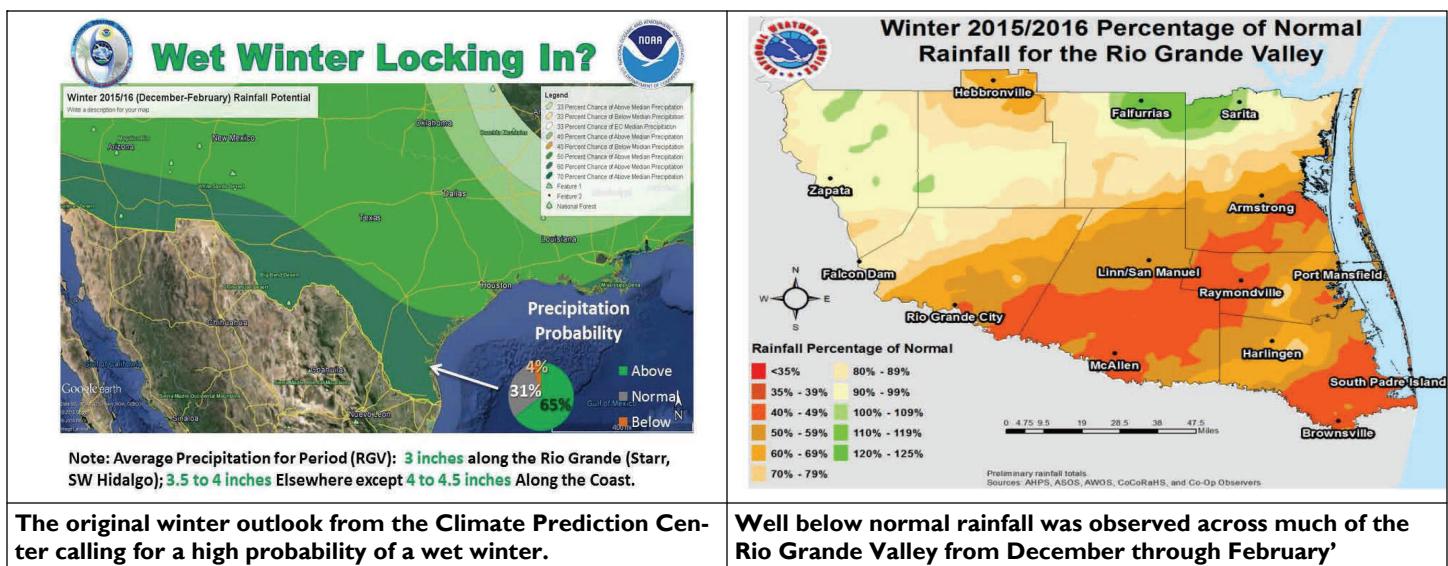


Rainfall totals from the February 22nd/23rd severe weather event. The heaviest rains occurred in areas south of San Antonio in Frio and Atascosa County

Rio Grande Valley dry....El Niño's failure to wet rain gauges

So much for the winter (December-February) 2015/16 forecast.

Despite one of the strongest El Niño's on record, the conventional wisdom for a wet and cool winter across the Rio Grande Valley was turned upside down, as the atmosphere had other things in mind. The minuscule 4 percent forecast for below normal rainfall was exactly what occurred. For many, this was a welcome change from the gloomy expectations, especially in January and February. Strings of "Chamber of Commerce" days with abundant sunshine and mild to warm temperatures brought locals outdoors, made conditions ideal for weekend festivals, and justified why "Winter Texans" travel to the Valley from the northern Great Plains and Canadian Prairies. Winter vegetables, such as cabbage and carrots planted in moist soil in late autumn produced a bumper crop by February. The dry weather also had a downside: Virtually no rain from January 2nd through the end of February combined with a stretch of twenty days from late January through mid-February when humidity across the upper Valley/ranchlands fell below 20 percent on a whopping sixteen of twenty afternoons to return moderate drought to parts of Hidalgo and Starr County, and turn grasses, scrub brush, and small tree limbs "crispy". The combination of dry "fuels", periodic gusty winds, and very low humidity rapidly increased the threat of rapid spread for any wildfires. Fortunately, no large wildfires were observed.



How It Happened

Winter 2015/16 evolved from a summery start to a spring middle and end, with only a brief period of winter chill, Valley style, as the calendar turned from 2015 to 2016. December's "feel" picked up where October and November left off: Above-normal warmth and plenty of humidity kept air conditioners humming, as Valley temperatures ended up among the top ten warmest all-time and peaked Christmas week, as Santa needed his surfboard rather than a sleigh. The atmospheric storm track stayed just north of the region, as soaking rains and dangerous thunderstorms marched across central and north Texas into the southeast U.S. and Florida. The high humidity and frequent cloud cover kept soil moisture provided by autumn's rains locked in.

Cooler temperatures finally arrived just after Christmas, and the season's only true wet, cold, and miserable event occurred from New Year's Eve through January 2nd and dumped monthly to thrice monthly rains from the Lower Valley to the King Ranch. Thereafter, a "speedy" atmospheric pattern developed, with systems riding the jet stream from northern California through the central Great Plains, briefly dipping into the southeast U.S. before heading off the eastern seaboard. This pattern brought surface low pressure systems quickly through the southern and central plains and into the southeast U.S. and Ohio Valley before lifting northeast along or off of the eastern seaboard. While tropical moisture was pulled into most areas east of the Mississippi River, bringing a host of winter and spring weather which ranged from snow and ice to tornadoes and floods, air flow south of the storm track brought dry air from southern California east through Arizona, New Mexico, and most of Texas. The dry weather - sometimes cooled with a touch of Canadian or northern Rocky Mountain air - brought several chilly daybreaks to the Valley; three light freezes occurred in late January and early February across the ranchlands from Zapata through the King Ranch. ****Continued on Page 6—>**

Why El Niño failed to deliver rainfall

Why It Happened

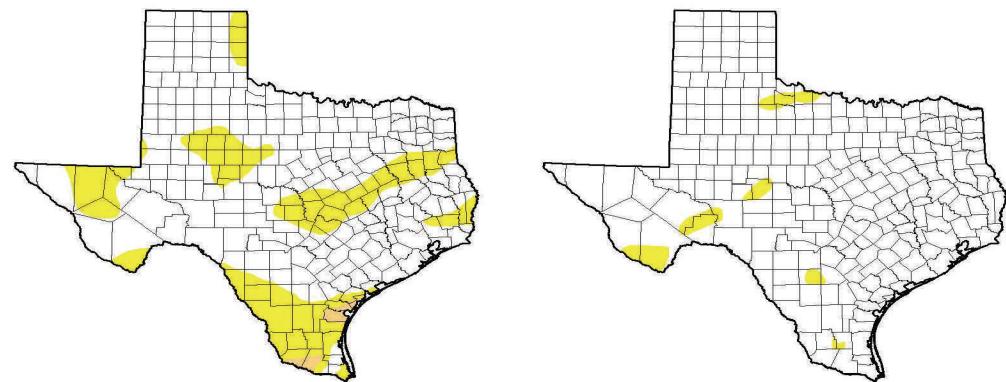
In the simplest of terms, it was the atmospheric storm track. The strength of the upper level high pressure ridge west of southern California and Baja California for January and February displaced low pressure systems farther north than would typically be expected in an El Niño winter, allowing dry air to move from below the ridge through the southern Rockies and Mexican Sierra Madres. The dry air was enhanced by "downsloping" east of the mountains, wiping out any opportunity for an influx of tropical moisture necessary to produce sufficient rains. Such moisture was available farther east, when just enough southerly flow from the Gulf of Mexico and Caribbean sea was pulled into each system as they crossed the southeast U.S.

So, why was the high pressure ridge west of California and Baja California strong enough in January and February 2016 to cause a chain reaction downstream, leading to a failed forecast? This is a question that future research may uncover. One reason could be a pool of warmer than average water west of the U.S. and Mexico, which was cooler than average the last time a moderate or greater El Niño was present in winter (2010). Another reason may be the persistence of a strong positive North Atlantic Oscillation teleconnection – a "puzzle piece" that can sometimes be related to increased values of the atmospheric pressure and may have helped nudge the storm track farther north. During the 2009/2010 moderate El Niño, the North Atlantic Oscillation was negative. Each of these reasons may themselves be related! In fact, there are indications that the lack of a sharp difference in the eastern Pacific sea surface temperature anomalies from the El Niño region through the waters west of California may have altered the expected energy from the tropics that would otherwise have created impulses that would have merged into the subtropics and brought the expected rainfall from southern California through Texas.

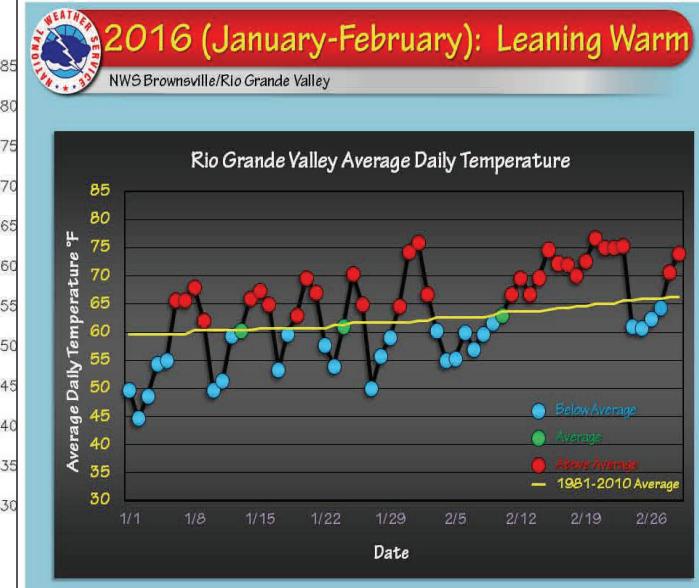
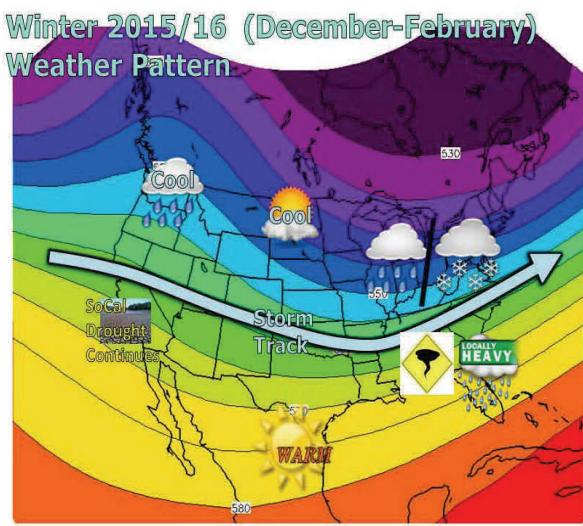
No matter the reason, Winter 2015/16 showed that seasonal forecasting can still create humbling outcomes. El Niño's "800 pound gorilla" didn't consider the other monkeys in the room, each carrying a wrench. ☺

Below: the slight shift of the storm track (light blue arrow) northward was one factor in keeping the rain away from the southwest United States, from southern California to Texas, for most of winter 2015-2016

Below right: The roller-coaster of above-average to below -average temperatures across the Rio Grande Valley during January and February.



Above: **Left** – Texas Drought Monitor, March 1, 2016. **Right**: Texas Drought Monitor, December 1, 2015. Note the expansion of the abnormally dry (yellow) area, and the moderate drought (tan/light brown) areas, particularly across south Texas. Not exactly how the winter 2015/2016 forecast was drawn up!



CoCoRaHS Tips and Training Section

Understanding the Difference between Precipitation and Condensation

Question: *Which one does CoCoRaHS measure and what is the difference?*

Answer:

Dew, fog, fog mist, and frost are a process of condensation of water vapor changing from a vapor phase to a liquid phase which is deposited on surfaces such as a rain gauge. CoCoRaHS doesn't measure dew or water deposited from fog or frost.

Precipitation is a process of a liquid or solid phase aqueous particles that originate in the atmosphere such as a cloud and fall to the earth's surface as rain, hail, sleet, and snow. CoCoRaHS measures rain, hail, sleet, and snow.

Note: CoCoRaHS also does measure evapotranspiration which requires a separate gauge to measure. This can be viewed as the opposite of condensation in a way but also takes rainfall into the gauge measuring process.

Do I report morning dew that has collected in my rain gauge?



Photo: Tanya Phillips

Answer: No. Dew is not precipitation, but you may note the dew in the comments

If you do observe condensation in your gauge please don't enter the amount in the precipitation box. Instead mention the amount you observed in the daily comments as being dew, fog deposit, or frost. Enter zero for your observation on that day. Make sure you empty this amount so it doesn't get recorded as extra rainfall if it happens to rain before the next day's observation. Usually condensation amounts will be 0.03" or lower in your gauge.

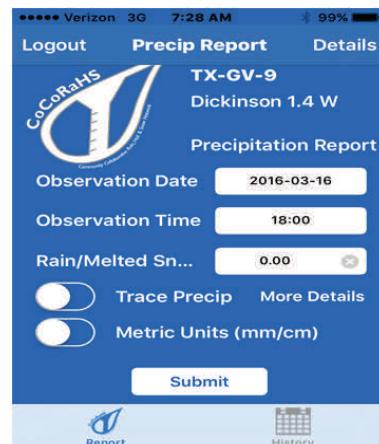
Hopefully this brief description will help in understanding of how to correctly take CoCoRaHS daily measurements.

NOW is the time of year we ask our CoCoRaHS Observers to reach out and try to recruit 1 person to join the network during our Spring Recruiting Drive.

Tips Section: CoCoRaHS Mobile App Information

Multi-day Accumulations report is not available using the CoCoRaHS Mobile App.

The CoCoRaHS mobile app is a convenient way to enter your observation - to a point. There is currently no option to submit a multi-day report via the app. Observers who want to submit a multi-day report must go to the web site to submit the report.



Rainfall Observers Needed in Texas

NOW is the time of year we ask our CoCoRaHS Observers to reach out and try to recruit 1 person to join the network during our Spring Recruiting Drive. Texas needs observers to record and enter their measurements online each day to help meteorologists, hydrologists and others get a better picture of rainfall distribution and patterns. In addition to observers CoCoRaHS needs county coordinators across the state of Texas in all regions. County coordinators recruit and train new observers, provide support for volunteers, and many other responsibilities.

Many agencies rely on precipitation data collected by CoCoRaHS during and after rainfall and flood events to determine where the most rain has fallen and where the potential for flooding is greatest. CoCoRaHS volunteer precipitation reports help fill in the gaps between official rainfall data collection sites in our state. Weather hobbyists and those citizens who keep daily rainfall totals-- such as gardeners-- are strongly encouraged to join CoCoRaHS. Amateur radio operators and Skywarn spotters are also encouraged to join CoCoRaHS. See page 10-11 —>

CoCoRaHS Weather Talk Schedule

In December 2011 CoCoRaHS kicked off a new and exciting monthly Webinar series called **CoCoRaHS WxTalk** (wx is shorthand for weather). CoCoRaHS WxTalk consists of a series of monthly one-hour interactive Webinars featuring engaging experts in the fields of atmospheric science, climatology and other pertinent disciplines. These easy to follow presentations are live and approximately sixty minutes long. The audience is given the chance to submit questions which the experts answer live on the air.

Topics have included: Snow, Satellites, Hurricanes, Lightning, Clouds, Tornadoes, Flash Floods, Fire Weather,

Weather History, Radar and How to become a Meteorologist, just to name a few.

There are many exciting Webinars on the agenda in the months ahead, so please tell your friends to join us. All WxTalk Webinars are free and most are recorded for later viewing.

Thursday, March 24, 2016 - 12PM CT

The Day in the life of a TV Meteorologist
Alan Sealls
Chief Meteorologist, WKRG
Mobile, AL



Thursday, April 21, 2016 - 12PM CT

The Climate and Weather of the Mid-western United States
Mike Timlin
Midwest Regional Climate Center
Champaign, IL

Tips Section: Data Record Keeping Form

CoCoRaHS 12 Month Daily Report Form

Station Number: _____

Normal Obs Time: _____

Station Name: _____

Day	Jan	Feb	Mar	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec
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Total												

*Try to check your gauge each day at the same time.

*Use back of page for comments of weather, (i.e. Jan 4. Blizzard)

*If precipitation was noted, but less than 0.01", record "T" for trace.

Wanted: CoCoRaHS County Coordinators

Texas CoCoRaHS Counties by Region Without a County Coordinator

CoCoRaHS is recruiting observer/ volunteers to be county coordinators. See if your county needs a coordinator and then look over the responsibilities for a coordinator on the next page. If you would like to be a county coordinator please contact the Texas state coordinator at Texas.CoCoRaHS@austin.rr.com

Amarillo	Lubbock	Midland/Odessa	El Paso	Abilene/San Angelo	Wichita Falls
Armstrong	Bailey	Andrews	El Paso	Brown	Baylor
Carson	Briscoe	Borden	Hudspeth	Coleman	Foard
Collingsworth	Castro	Brewster		Coke	Hardeman
Deaf Smith	Childress	Crane		Concho	Knox
Donley	Cochran	Culberson		Crockett	Wilbarger
Gray	Crosby	Dawson		Fisher	
Hansford	Cottle	Ector		Haskell	
Hartley	Floyd	Gaines		Iron	
Hemphill	Garza	Glasscock		Jones	
Hutchinson	Hale	Howard		Mason	
Lipscomb	Hall	Jeff Davis		McCulloch	
Moore	Hockley	Loving		Menard	
Ochiltree	Kent	Martin		Nolan	
Oldham	King	Mitchell		San Saba	
Potter	Lamb	Pecos		Schleicher	
Randall	Lubbock	Presidio		Shackelford	
Roberts	Lynn	Reagan		Sterling	
Sherman	Motley	Reeves		Sutton	
Wheeler	Parmer	Scurry		Taylor	
	Stonewall	Terrell		Throckmorton	
	Swisher	Upton			
	Terry	Ward			
	Yoakum	Winkler			
Corpus Christi/ Victoria/ Laredo	Austin/San Antonio/ Del Rio	Dallas/Ft. Worth Waco/Temple	Brownsville/ McAllen		
Bee	Bastrop	Anderson	Brooks		
Duval	Bandera	Cooke	Cameron		
La Salle	Bexar	Coryell	Jim Hogg		
Live Oak	Caldwell	Falls	Kenedy		
McMullen	Dimmit	Fannin	Starr		
Refugio	Frio	Freestone	Willacy		
	Medina	Hamilton	Zapata		
	Uvalde	Henderson			
	Val Verde	Hill			
	Zavala	Jack			
		Lampasas			
		Leon			
		Limestone			
		Mills			
		Palo Pinto			
		Parker			
		Robertson			
		Somervell			
		Stephens			
		Wise			
		Young			
Beaumont/ Golden Triangle	Bryan/ College Station/ Brazos Valley	Longview/Kilgore/ Tyler/East/NE Texas	Houston/ Galveston		
Jasper	Brazos	Cass	Brazoria		
Newton	Burleson	Marion	Chambers		
	Grimes	Panola	Fort Bend		
	Houston	Sabine	Harris		
	Madison	San Augustine	Jackson		
	Trinity	Shelby	Matagorda		
	Walker		Montgomery		
	Washington		San Jacinto		

Wanted: CoCoRaHS County Coordinators

HELP WANTED CoCoRaHS Local County Coordinators

Local Coordinators help support CoCoRaHS in the following ways...

- Provide support for volunteer observers in their county. Also follow-up with new observers making sure that they have what they need to get started (especially correct rain gauge, proper sighting (good location).
- Become familiar with the CoCoRaHS Web site and learn how to use the functions to access information.
- Help organize (set-up, schedule, publicize) and attend local training sessions as needed (leading if you feel comfortable). Notify CoCoRaHS Headquarters and invite a trainer.
- Help recruit new volunteers (individual and targeted) through local press releases, through contacts with local service organizations or through other creative means.

Other opportunities, if you are willing:

- Help volunteers with the installation of their equipment if they are unable to do so.
- Help volunteers who do not have internet access or slow access by entering their data, or recruiting a reliable assistant to do so.

And if you're really, really willing:

- Help find a teammate to work with you.
- Check data routinely. Spot errors. Contact observers verifying questionable data.
- Organize social events and volunteer appreciation.
- Represent the needs of your volunteers to CoCoRaHS State and Regional Coordinator
- Be aware of spatial distribution of active stations—recruit new or reactivate older stations to maintain or attain good coverage within your area..
- Share info about CoCoRaHS with potential users who might benefit from the data.

You are one of our most valuable resources and we truly appreciate your time and efforts

NOW is the time of year we ask our CoCoRaHS Observers to reach out and try to recruit 1 person to join the network during our Spring Recruiting Drive.

Houston-Galveston Region Rain and Climate Summary

Winter 2015-2016 CoCoRaHS Houston/Galveston Region Rainfall							
County Rainfall Average and County Station Rainfall Maximum Total in inches per month							
County	December		January		February		Winter Total
	AVG.	MAX.		AVG.	MAX.		3-Month Rain Total
Austin	4.11	5.47		1.44	1.95		2.03
Brazoria	2.55	2.88		3.39	4.24		1.94
Chambers	3.05	"		4.53	"		1.52
Colorado	3.86	5.79		1.18	1.56		2.19
Fort Bend	4.08	5.25		2.68	3.80		1.97
Galveston	3.41	4.79		3.80	4.40		1.51
Harris	3.99	5.72		2.91	4.07		1.93
Jackson	1.98	"		1.73	"		2.35
Liberty	5.71	"		2.56	2.58		1.83
Matagorda	1.41	"		3.65	"		1.36
Montgomery	4.82	6.68		2.27	3.11		2.06
Polk	5.62	6.10		3.61	4.16		2.37
San Jacinto	4.39	4.56		3.70	4.11		2.03
Waller	3.80	"		1.68	"		2.55
Wharton	2.01	2.43		1.88	2.78		1.49
Region Totals	3.81	6.68		2.78	4.40		1.94
							3.23
							8.53
Rainfall of several NWS first order sites in the region							
	December		January		February		3-Month Rain Total
Hou. Bush	5.21		2.16		1.95		9.32
Galveston	3.49		3.07		0.89		7.45
Hou. Hobby	3.49		2.51		1.66		7.66
Dickinson FO	2.69		3.17		1.58		7.44
Conroe	3.79		2.54		1.53		7.86
Tomball	4.16		2.46		2.24		8.86
Sugarland	4.31		2.38		1.64		8.33
Station avg.'s	3.88		2.61		1.64		8.13

Houston/Galveston Region 2015-16 Winter Climate Summaries

December:

Temperatures for the month were from 4 to 6.5 degrees above normal for the entire region. Double digit above normal daily average temperatures was experienced from the 21st to the 26nd with several record high maximum temperatures and record high minimum temperatures being set from the 23rd to the 27th. There were many sites across the region that didn't have any freezing temperatures for the month. Rainfall was near normal over central sections of the region while the southeast counties and coastal areas had below normal rainfall. The only sections with above normal rainfall were the far northern and northeastern counties.

January:

The month had near normal temperatures and rainfall generally drier than normal across the region. Rainfall deficits for the month ranged from 1 to 2.50 inches below normal to start the year. The first freeze for the winter season came late for many locations across the region. Even areas that had freezing temperatures were just below freezing a few degrees for a short period of time on the coldest nights. The month ended very quiet from a storm perspective being in a strong El Nino pattern in the Pacific Ocean.

February:

February was a very dry month until an upper level system and cold front brought some much needed rainfall to the region on the 22nd and 23rd. Even with widespread rainfall across the region of 1-2 inches the entire region was much below normal on rainfall. Abnormally Dry (DO) conditions had returned on the Drought Monitor maps a week before the rains came. With the dry conditions temperatures were from 2 to 4 degrees above normal for daily average temperatures. Clear to partly cloudy skies prevailed for the month. Several days toward the end of the month had very windy conditions.

December 2015-February 2016 Rainfall Totals

NWS EL PASO REGION

TX-EP-16	El Paso 6.0 N	2.41"
TX-EP-17	El Paso 3.3 ENE	2.49"
TX-EP-36	El Paso 9.1 W	1.31"
TX-EP-37	Socorro 3.5 NW	2.12"
TX-EP-40	El Paso 10.7 E	1.59"
TX-EP-44	El Paso 3.8 SSW	1.65"
TX-EP-47	FMSM McKelligon	1.51"
TX-EP-49	FMSM Tom Mays	1.65"
TX-EP-53	UTEP EHS	1.73"
TX-EP-55	El Paso 6.2 W	0.93"
TX-EP-56	El Paso 5.1 SW	0.91"
TX-EP-58	El Paso 5.1 WSW	1.16"
TX-EP-64	El Paso 2.3 SSW	2.17"
TX-EP-70	El Paso 11.2 WNW	1.75"
TX-EP-75	El Paso 1.7 W	1.46"
TX-EP-88	Anthony 1.0 ENE	1.45"
TX-EP-92	Horizon City 1.9 NNW	1.24"
TX-EP-111	El Paso 6.9 WNW	1.60"
TX-HDS-4	Allamoore 4.2 SW	0.17"
TX-HDS-9	Dell City 1.4 SW	0.47"
TX-HDS-24	Frenchman Canyon	0.73"
TX-HDS-25	Acala 2.4 NW	0.70"
TX-HDS-29	Dean Walker Ranch	0.70"

NWS MIDLAND-ODESSA REGION

TX-MDL-6	Midland 3.0 WSW	2.00"
TX-MDL-10	Midland 1.7 NW	2.17"
TX-MDL-18	Midland 12.1 S	1.46"
TX-MDL-25	Odessa 4.8 ENE	2.08"
TX-MDL-28	Midland 0.8 SE	0.59"
TX-MDL-33	Midland 2.1 W	1.12"
TX-MDL-36	Midland 5.8 SSE	1.84"
TX-MDL-38	Midland 9.3 SW	1.34"
TX-EC-2	Odessa 8.3 WSW	1.16"
TX-PS-1	Marfa 1.0 NNE	0.19"
TX-BRS-1	Alpine 7.9 SE	1.11"
TX-BRS-11	Terlingua 3.4 NNW	0.58"
TX-BRS-18	Terlingua 11.1 NE	0.70"
TX-BRS-21	Alpine 0.7 WSW	0.78"
TX-BRS-23	Alpine 49.6 SSE	0.35"
TX-PC-2	Iraan 11.0 WSW	1.20"
TX-PC-11	McCamey 10.5 S	2.24"
TX-CLB-3	Van Horn 6.0 ENE	0.19"
TX-GN-1	Seminole 0.7 W	0.42"
TX-JD-5	Fort Davis 1.7 SSE	0.42"
TX-TL-1	Dryden 17.7 NE	1.27"

NWS RIO GRANDE VALLEY REGION

TX-CMR-1	Rancho Viejo 0.7 E	1.42"
TX-CMR-8	Brownsville 6.4 SE	2.14"
TX-CMR-13	Brownsville 2.2 W	1.88"
TX-CMR-16	Brownsville 3.5 N	2.15"
TX-CMR-21	Los Fresnos 0.3 NE	2.22"
TX-CMR-23	Brownsville 1.9 ESE	10.18"
TX-CMR-35	Rio Hondo 9.4 NE	2.41"
TX-CMR-43	Brownsville 4.1 ENE	1.45"
TX-CMR-51	Brownsville 0.1 SSE	2.14"
TX-CMR-61	Brownsville 6.4 WNW	1.96"
TX-CMR-90	Brownsville 1.5 WNW	2.30"
TX-CMR-85	Harlingen 0.4 N	2.09"
TX-CMR-93	Harlingen 4.4 W	2.14"
TX-CMR-96	San Benito 6.3 ENE	2.53"
TX-CMR-97	Rio Hondo 7.9 E	2.53"
TX-CMR-98	Brownsville 4.3 NW	2.14"
TX-CMR-100	Harlingen 6.2 WSW	1.84"
TX-CMR-101	San Benito 0.9 SSE	2.88"
TX-HDL-5	La Joya 11.1 N	1.51"
TX-HDL-9	Mission 1.9 ENE	1.45"
TX-HDL-21	McAllen 2.4 NE	1.44"
TX-HDL-32	Linn 8.4 WNW	1.95"
TX-HDL-34	Mission 3.1 NE	1.24 "
TX-ST-1	Rio Grande City 2.8 W	1.40"
TX-ST-2	Rio Grande City 17.7 NE	1.42"
TX-ST-5	Roma 0.6 ESE	0.90"
TX-BRK-3	Falfurrias 8.9 SSW	3.27"
TX-BRK-4	Falfurrias 6.2 E	3.34"

NWS AMARILLO REGION

TX-BKK-5	Falfurrias 0.4 WNW	1.63"
TX-DL-1	Texline 0.3 WNW	0.70"
TX-DS-3	Vega 12.5 SE	0.52"
TX-HMP-1	Briscoe 8.1 NNE	2.02"
TX-PT-4	Amarillo 5.3 E	1.06"
TX-PT-10	Amarillo 5.0 W	0.79"
TX-RD-13	Canyon 0.5 NW	1.12"
TX-RD-14	Amarillo 4.5 SE	0.75"
TX-RD-22	Canyon 1.9 WNW	1.16"
TX-RD-24	Amarillo 13.6 WSW	0.48"
TX-RD-25	Amarillo 4.8 WSW	1.98"
TX-SR-1	Stratford 0.5 ESE	1.39"

NWS LUBBOCK REGION

TX-BRC-2	Caprock Canyon Hdqs	2.04"
TX-CHD-3	Childress 0.4 WNW	1.20"
TX-DK-1	Dickens 2.3 SW	2.46"
TX-FL-2	South Plains 2.0 ENE	2.07"
TX-HLE-9	Abernathy 0.2 NNE	2.10"
TX-HCK-3	Roundup 0.4 SW	2.04"
TX-HCK-4	Anton 5.3 SSE	0.27"
TX-LB-1	Littlefield 5.9 S	0.82"
TX-LK-1	Woodrow 2.8 W	0.69"
TX-LK-6	Lubbock 6.1 SW	1.56"
TX-LK-7	Lubbock 6.7 SW	1.64"
TX-LK-14	Lubbock 5.3 SSW	2.53"
TX-LK-19	Shallowater 0.4 ESE	1.36"
TX-LK-21	Lubbock 3.1 S	3.31"
TX-LK-22	Lubbock Int'l Airport	0.10"
TX-LK-24	Ransom Canyon 0.4 ENE	2.85"
TX-LK-39	Lubbock 5.7 SW	2.01 "
TX-LK-46	Shallowater 1.2 SSE	1.84"
TX-LK-48	Lubbock 13.2 N	0.81"
TX-LK-51	Slide 0.6 SSW	3.26"
TX-LK-56	Lubbock 3.8 WSW	0.00"
TX-LK-59	Wolforth 4.6 S	2.56"
TX-LK-64	Lubbock 3.5 W	1.79"
TX-LK-72	Lubbock 5.2 SW	1.89"
TX-LK-74	Lubbock 7.2 S	2.89"
TX-YK-1	Denver City 0.2 E	0.10"

NWS NORMAN REGION (TX SITES ONLY)

TX-FD-1	Crowell 10.5 E	5.34"
TX-HRD-2	Quanah 0.1 NW	3.04"
TX-KX-1	Truscott 2.7 NW	4.79"
TX-KX-2	Benjamin 0.2 SE	4.03"
TX-WT-8	Wichita Falls 2.2 S	4.59"
TX-WT-13	Wichita Falls 3.4 SSW	5.21"
TX-WT-14	Kadane Corner 1.0 SSW	4.77"
TX-WT-15	Wichita Falls 7.2 WSW	5.13"

NWS SAN ANGELO REGION

TX-BRN-2	Brownwood 6.7 ENE	3.09"
TX-CLN-1	Cisco 10.5 NW	3.14"
TX-CLN-5	Cross Plains 6.5 WNW	3.17"
TX-CLN-7	Clyde 3.2 W	2.44"
TX-CLM-3	Coleman 14.7 NNW	2.94"
TX-CNC-1	Eden 2.5 SSW	2.73"
TX-CRK-3	Ozona 26.8 SW	2.12"
TX-CRK-12	Ozona 20.9 SSW	3.33"
TX-CRK-16	Ozona 20.3 SSW	4.25"
TX-CRK-24	Ozona 19.6 S	2.51"
TX-FS-6	Hamlin 7.3 WSW	2.79"
TX-JO-3	Stamford 0.2 ESE	4.14"
TX-JO-4	Stamford 2.4 E	3.18"
TX-JO-5	Abilene 13.0 NNW	2.78"
TX-JO-9	Merkel 8.5 ENE	3.63"
TX-KM-2	Junction 11.6 ENE	2.16"
TX-MSN-6	Mason 17.3 ESE	3.50"
TX-MSN-8	Mason 0.4 W	3.01"
TX-MSN-9	Mason 8.3 W	1.20"
TX-MSN-10	Mason 0.6 SSE	1.64
TX-MCC-9	Brady 8.1 NNE	4.11"
TX-SS-1	San Saba 7.3 ENE	4.39"
TX-SS-3	San Saba 1.5 E	2.10"

NWS SHREVEPORT REGION (NE TEXAS)

TX-TF-6	Albany 7.2 NW	1.90"
TX-TF-7	Albany 11.9 WNW	1.97"
TX-TF-11	Albany 6.8 SE	2.70"
TX-TF-13	Moran 7.3 N	2.94"
TX-TF-14	Sterling City 0.7 NE	1.78"
TX-TF-15	Sonora 0.8 ESE	1.80"
TX-TF-16	Knickerbocker 3.2 SW	2.68"
TX-TF-17	San Angelo 3.8 W	2.86"
TX-TF-18	San Angelo 2.2 WSW	3.31"
TX-TF-19	San Angelo 5.6 SSW	3.34"
TX-TF-20	San Angelo 3.9 SW	3.20"
TX-TF-21	San Angelo 5.5 SSW	1.47"
TX-TF-22	Miles 6.5 SSE	2.59"
TX-TF-23	San Angelo 5.3 WSW	3.43"
TX-TF-24	Merkel 5.8 SW	3.29"
TX-TY-5	Abilene 3.3 SW	2.71"
TX-TY-7	Abilene 7.3 SSW	3.06"
TX-TY-9	Abilene 7.8 SSE	3.40"
TX-TY-13	Abilene 5.8 SSW	3.38"

NWS LAKE CHARLES REGION (SE TEXAS ONLY)

TX-HRN-1	Lumberton 1.2 WNW	11.69"
TX-HRN-2	Kountze 10.6 SSW	10.07"

TX-JS-2	Jasper 6.7 W	9.89"
TX-JS-3	Kirbyville 1.5 SE	12.44"

TX-JJ-5	Beaumont 1.1 ENE	7.83"
TX-JJ-7	Beaumont 1.8 SW	8.72"

TX-JJ-9	Beaumont 3.3 SW	10.04"
TX-JJ-11	Beaumont 4.6 S	9.15"

TX-NW-2	Burkeville 11.2 NNE	11.30"
TX-OR-1	Bridge City 1.3 NW	11.40"

TX-OR-4	Orange 2.1 SE	8.46"
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NWS CORPUS CHRISTI REGION

TX-AR-3	Rockport 2.1 NNW	3.23"
TX-AR-5	Rockport 0.6 N	2.97"
TX-AR-6	Rockport 3.0 NNW	3.20"
TX-AR-7	Rockport 1.3 WSW	2.76"
TX-AR-8	Aransas Pass 6.1 NNW	3.42"
TX-BEE-10	Beeville 4.5 NW	7.05"
TX-BEE-18	Beeville 9.0 S	5.09"
TX-CLH-9	Seadrift 0.6 E	5.85"
TX-CLH-15	Seadrift 4.9 ENE	6.42"
TX-DV-1	Hebronville 13.6 E	2.30"
TX-DV-7	San Diego 0.7 SW	0.30"

December 2015–February 2016 Rainfall Totals

TX-GD-3	Goliad 2.4 SE	7.68"	TX-BEL-25	Killeen 2.9 SSW	4.76"	TX-FA-1	Marlin 0.9 ESE	7.85"
TX-GD-4	Goliad 14.5 WNW	8.03"	TX-BEL-27	Troy 3.1 SE	5.47"	TX-FA-6	Lott 7.2 WSW	5.69"
TX-GD-12	Goliad 11.5 N	8.36"	TX-BEL-28	Temple 4.7 W	4.29"	TX-FN-2	Ravenna 1.7 SE	11.57"
TX-GD-15	Weser 1.9 NW	5.76"	TX-BEL-37	Salado 1.0 WSW	4.57"	TX-FT-1	Oakwood 4.2 NE	10.92"
TX-GD-16	Beeville 12.6 NNE	6.97"	TX-BEL-38	Belton 6.4 S	4.31"	TX-GA-5	Van Alstyne 0.2 E	10.02"
TX-GD-22	Victoria 15.0 WSW	8.17"	TX-BEL-39	Temple 6.2 NNE	5.35"	TX-GA-7	Denison 0.8 ENE	11.56"
TX-GD-27	Goliad 6.5 WNW	5.69"	TX-BEL-40	Belton 1.6 W	4.99"	TX-GA-10	Sadler 3.2 N	10.70"
TX-GD-28	Goliad 10.4 NE	6.69"	TX-BEL-43	Belton 4.4 WNW	5.78"	TX-GA-15	Gordonville 3.3 NNW	12.12"
TX-JW-3	Orange Grove 8.1 WNW	2.97"	TX-BSQ-2	Kopperl 5.2 WNW	5.51"	TX-GA-16	Pottsboro 0.8 NW	8.76"
TX-JW-5	Orange Grove 4.3 SW	2.18"	TX-BSQ-3	Kopperl 6.7 NW	5.02"	TX-GA-19	Sherman 3.6 NW	10.33"
TX-KL-2	Kingsville 6.5 SSE	4.43"	TX-BSQ-4	Meridian 12.3 WSW	4.98"	TX-GA-20	Sherman 5.1 WSW	10.08"
TX-KL-11	Kingsville 0.6 E	1.91"	TX-CLL-8	Plano 2.4 WSW	10.45"	TX-HND-3	Payne Springs 0.2 N	10.25"
TX-LS-4	Artesia Wells 1.1 W	1.71"	TX-CLL-11	McKinney 3.1 SW	10.99"	TX-HND-5	Athens 10.1 SSW	12.65"
TX-LS-5	Cotulla 1.6 NE	2.12"	TX-CLL-13	Celina 7.3 NE	9.51"	TX-HLL-1	Aquila 1.3 NNE	2.31"
TX-LS-9	Cotulla 9.7 NNE	3.04"	TX-CLL-18	Plano 5.3 W	7.31"	TX-HDD-2	Granbury 3.5 NNW	7.06"
TX-LO-5	Choke Canyon Dam N	7.38"	TX-CLL-20	Lowry Crossing 0.3 SSE	10.84"	TX-HDD-6	Granbury 3.9 SSW	5.85"
TX-LO-9	George West 2.7 NNW	5.41"	TX-CLL-30	Anna 3.7 SSW	12.35"	TX-HPK-1	Cumby 5.6 SSE	13.27"
TX-LO-11	George West 2.9 E	4.41"	TX-CLL-33	Richardson 2.2 NW	11.20"	TX-HPK-2	Cumby 1.5 N	13.43"
TX-LO-12	George West 8.0 NE	6.65"	TX-CLL-40	Frisco 1.9 N	9.04"	TX-JC-2	Perrin 3.0 ENE	4.43"
TX-LO-14	Sandia 5.1 NNW	2.87"	TX-CLL-44	Murphy 0.9 SSW	9.94"	TX-JN-2	Burleson 1.1 NW	7.01"
TX-LO-16	George West 11.3 S	3.38"	TX-CLL-45	McKinney 7.3 NE	11.06"	TX-JN-12	Joshua 5.2 WSW	6.03"
TX-MCM-4	Tilden 16.0 NNW	3.56"	TX-CLL-57	Anna 0.3 SW	11.93"	TX-JN-14	Cleburne 0.9 SSE	5.93"
TX-MCM-5	Cross 1.7 NNW	6.67"	TX-CLL-60	Lavon 0.7 NNW	8.97"	TX-JN-16	Cleburne 5.8 E	7.01"
TX-NU-4	Corpus Christi 8.0 WNW	3.24"	TX-CLL-63	Wylie 0.9 S	9.29"	TX-JN-18	Burleson 0.7 W	8.28"
TX-NU-7	Corpus Christi 9.0 SSE	2.52"	TX-CLL-67	Princeton 2.0 SSE	11.68"	TX-JN-19	Cleburne 4.8 NNE	5.89"
TX-NU-9	Corpus Christi 6.4 WSW	3.52"	TX-CLL-68	Wylie 1.6 SSE	7.68"	TX-KF-10	Terrell 8.2 SSW	9.38"
TX-NU-10	Flour Bluff 1.6 SW	3.16"	TX-CLL-69	Sachse 1.0 NE	10.77"	TX-KF-11	Kaufmann 2.9 S	10.49"
TX-NU-12	Orange Grove 4.5 SE	3.60"	TX-CMN-3	Comanche 12.2 NW	2.96"	TX-KF-12	Terrell 1.8 NW	15.50"
TX-NU-13	Bishop 0.4 ENE	1.36"	TX-CMN-6	Gustine 9.8 E	3.78"	TX-KF-16	Grays Prairie 4.6 S	10.78"
TX-NU-15	Corpus Christi 9.1 NW	2.89"	TX-CRL-3	Kempner 6.7 ENE	4.18"	TX-KF-17	Kaufman 2.4 ESE	9.73"
TX-NU-38	Corpus Christi 4.8 W	3.56"	TX-CRL-4	Gatesville 12.0 SE	5.37"	TX-KF-20	Cottonwood 1.3 NE	9.14"
TX-NU-40	Corpus Christi 6.5 WSW	2.99"	TX-DA-3	Univ Park 3.1 WNW	9.57"	TX-LM-2	Paris 4.5 NNE	13.79"
TX-NU-45	Corpus Christi 6.7 WSW	3.16"	TX-DA-4	Rowlett 2.3 NW	11.65"	TX-LP-2	Lampasas 2.7 ENE	3.89"
TX-NU-52	Corpus Christi 4.8 SSE	3.27"	TX-DA-13	Dallas 7.2 SW	11.45"	TX-LT-2	Mexia 9.4 SSE	10.22"
TX-NU-56	Corpus Christi 4.0 S	2.25"	TX-DA-16	Duncanville 1.7 NNW	8.57"	TX-LT-4	Mexia 5.9 S	10.08"
TX-NU-57	Corpus Christi 7.2 WSW	3.17"	TX-DA-17	Mesquite 5.1 NW	9.11"	TX-LT-5	Thorton 4.0 SE	10.79"
TX-NU-61	Corpus Christi 6.9 SE	2.87"	TX-DA-35	Richardson 2.4 WSW	10.96"	TX-MCL-7	Lorena 5.5 NW	5.88"
TX-RF-2	Austwell 0.3 ESE	5.52"	TX-DA-48	Dallas 2.1 NNE	9.83"	TX-MCL-10	Waco 1.4 S	7.74"
TX-RF-5	Austwell 0.2 ESE	3.01"	TX-DA-50	Cedar Hill 1.4 N	8.43"	TX-MCL-13	Hewitt 1.4 NNW	7.07"
TX-RF-8	Refugio 1.0 NNW	4.74"	TX-DA-52	Mesquite 2.4 W	9.60"	TX-MCL-14	Waco 1.9 SW	7.07"
TX-SP-18	Portland 1.3 NW	2.77"	TX-DA-53	Dallas 2.7 WNW	10.35"	TX-MCL-17	China Spring 2.9 NNW	6.24"
TX-SP-22	Ingleside 0.6 W	0.06"	TX-DA-58	Garland 2.6 S	9.95"	TX-MCL-18	Lorena 5.2 NW	6.06"
TX-VC-4	Victoria 1.3 E	7.63"	TX-DA-63	DeSoto 2.2 ENE	9.83"	TX-MCL-21	Waco 1.3 NNW	1.98"
TX-VC-17	Victoria 2.1 NNW	6.88"	TX-DA-65	Garland 3.6 NNW	10.82"	TX-MCL-26	Waco 7.7 ESE	3.76"
TX-VC-20	Victoria 9.7 ESE	6.13"	TX-DA-69	Mesquite 3.7 N	9.64"	TX-MCL-33	Waco 3.1 SSW	7.10"
TX-VC-21	Victoria 14.0 SW	6.87"	TX-DA-70	Mesquite 2.3 N	8.95"	TX-MCL-35	Waco 3.3 SE	3.53"
TX-VC-22	Victoria 12.1 W	6.16"	TX-DA-72	Sachse 0.8 S	8.11"	TX-MLM-1	Thorndale 8.8 N	5.29"
TX-VC-26	Victoria 3.8 NW	6.48"	TX-DA-73	Sachse 0.4 NE	12.21"	TX-MLM-9	Rockdale 4.2 NNE	5.60"
TX-VC-27	Victoria 0.4 NNW	5.21"	TX-DN-1	Shady Shores 3.9 N	9.51"	TX-MLM-10	Thorndale 4.7 E	5.08"
TX-VC-29	Victoria 9.5 WSW	7.56"	TX-DN-3	Sanger 5.4 NW	9.26"	TX-MLM-12	Cameron 5.7 NW	5.92"
TX-VC-34	Victoria 6.4 SSW	6.33"	TX-DN-8	Flower Mound 2.3 NE	8.27"	TX-MLM-16	Milano 4.3 SE	7.76"
TX-VC-35	Victoria 2.7 NNW	4.84"	TX-DN-9	Celina 4.4 WSW	9.41"	TX-MLM-18	Gause 2.8 NNW	9.21"
TX-VC-37	Inez 1.1 SSE	6.69"	TX-DN-15	Sanger 1.8 WSW	9.24"	TX-MLS-2	Mullin 3.9 WSW	3.31"
TX-VC-39	Victoria 0.4 SE	8.03"	TX-DN-21	Lincoln Park 0.8 ENE	7.64"	TX-NV-3	Kerens 3.4 NW	12.17"
TX-VC-44	Victoria 1.2 NNE	6.68"	TX-DN-32	Oak Point 1.4 NNW	9.38"	TX-NV-4	Powell 1.0 SW	12.05"
TX-WB-2	Laredo 1.8 SSE	2.03"	TX-DN-36	Roanoke 1.6 W	6.87"	TX-NV-5	Blooming Grove 2.4 SW	9.33"
TX-WB-4	Las Tiendas Ranch	3.21"	TX-DN-37	Carrollton 2.0 NNE	7.61"	TX-NV-6	Corsicana 4.3 WSW	10.77"
TX-WB-6	Laredo 2.4 S	1.97"	TX-DN-43	Argyle 1.6 NNW	9.04"	TX-PP-2	Graford 8.1 ENE	4.14"
TX-WB-9	El Cenizo 8.8 E	0.81"	TX-DN-44	Flower Mound 1.4 SSE	10.32"	TX-PR-5	Dennis 1.4 SW	4.44"
TX-WB-12	Laredo 1.8 N	2.30"	TX-DN-49	Southlake 3.2 NNW	7.50"	TX-PR-11	Aledo 2.9 SW	6.12"
TX-WB-22	Laredo 23.7 NE	2.24"	TX-ES-2	Cisco 4.1 N	3.27"	TX-PR-18	Aledo 1.8 SSW	6.07"
TX-WB-23	Freer 29.5 WSW	1.98"	TX-EL-6	Red Oak 2.0 SSE	9.10"	TX-PR-19	Weatherford 5.7 NNW	4.29"
TX-WB-27	Laredo 2.0 NNE	2.07"	TX-EL-7	Pecan Hill 2.7 WSW	8.50"	TX-RN-2	Point 3.7 ESE	12.89"
TX-WB-38	Laredo Centeno Elem	1.78"	TX-EL-10	Ovilla 2.6 S	8.15"	TX-RK-6	Rockwall 3.1 SSW	7.51"
TX-WB-47	Laredo 2.5 N	2.04"	TX-EL-13	Maypearl 0.6 WSW	7.47"	TX-RK-9	Rockwall 3.1 NNW	8.60"
			TX-EL-14	Oak Leaf 0.8 WSW	8.37"	TX-RK-10	Rockwall 1.6 NNE	8.42"
			TX-EL-18	Midlothian 5.2 SE	6.88"	TX-SO-3	Glen Rose 5.1 SSW	5.29"
				Ovilla 1.2 SSE	6.16"	TX-TN-23	Grapevine 3.6 SW	15.34"
				Ennis 11.6 NNE	10.94"	TX-TN-25	Blue Mound 2.3 ENE	7.78"
				Waxahachie 1.2 ESE	8.34"	TX-TN-39	Fort Worth 5.4 SSW	7.32"
				Midlothian 5.2 SSW	7.14"	TX-TN-55	Fort Worth 11.8 NW	5.41"
				Ennis 10.0 NE	11.11"	TX-TN-56	Benbrook 0.6 E	7.15"
				Midlothian 2.8 E	6.85"	TX-TN-57	Benbrook 2.1 N	7.04"
				Midlothian 6.2 S	7.13"	TX-TN-61	Mansfield 2.6 NNE	7.13"
				Stephenville 1.2 NW	3.99"	TX-TN-62	N. Richland Hills 1.9 NE	9.10"
				Stephenville 2.6 NNW	4.15"	TX-TN-70	Hurst 0.8 W	8.77"
				Bluff Dale 3.7 SSE	4.17"	TX-TN-74	Richland Hills 0.5 W	9.08"

NWS DALLAS-FT. WORTH REGION

TX-AN-6	Palestine 3.9 WNW	11.19"	TX-EL-19	Ovilla 1.2 SSE	6.16"	TX-TN-23	Grapevine 3.6 SW	15.34"
TX-BEL-1	Temple 8.5 SE	5.87"	TX-EL-22	Ennis 11.6 NNE	10.94"	TX-TN-25	Blue Mound 2.3 ENE	7.78"
TX-BEL-5	Harker Heights 1.7 NW	4.31"	TX-EL-24	Waxahachie 1.2 ESE	8.34"	TX-TN-39	Fort Worth 5.4 SSW	7.32"
TX-BEL-8	Belton 3.9 N	5.13"	TX-EL-25	Midlothian 5.2 SSW	7.14"	TX-TN-55	Fort Worth 11.8 NW	5.41"
TX-BEL-9	Belton 5.4 NW	5.98"	TX-EL-29	Ennis 10.0 NE	11.11"	TX-TN-56	Benbrook 0.6 E	7.15"
TX-BEL-10	Salado 1.5 S	4.32"	TX-EL-34	Midlothian 2.8 E	6.85"	TX-TN-57	Benbrook 2.1 N	7.04"
TX-BEL-16	Temple 4.7 S	5.45"	TX-EL-37	Midlothian 6.2 S	7.13"	TX-TN-61	Mansfield 2.6 NNE	7.13"
TX-BEL-21	Temple 8.1 SE	5.80"	TX-ER-1	Stephenville 1.2 NW	3.99"	TX-TN-62	N. Richland Hills 1.9 NE	9.10"
TX-BEL-23	Belton 0.4 E	4.71"	TX-ER-4	Stephenville 2.6 NNW	4.15"	TX-TN-70	Hurst 0.8 W	8.77"
TX-BEL-24	Belton 2.3 NNW	4.75"	TX-ER-5	Bluff Dale 3.7 SSE	4.17"	TX-TN-74	Richland Hills 0.5 W	9.08"

December 2015–February 2016 Rainfall Totals

NWS DALLAS-FT. WORTH REGION (CONT.)

TX-TN-87	Eagle Mountain 2.4 SSW	8.01"
TX-TN-92	Bedford 0.6 NNE	7.78"
TX-TN-102	Fort Worth 4.0 SW	6.92"
TX-TN-106	Haslet 2.2 S	7.94"
TX-TN-109	Kennedale 0.6 SE	9.50"
TX-TN-115	Haslet 3.7 WNW	7.50"
TX-TN-125	Arlington 3.8 NNE	8.48"
TX-VZ-2	Canton 4.6 SSW	14.04"
TX-VZ-9	Van 2.4 WNW	14.31"
TX-VZ-11	Ben Wheeler 3.9 ESE	16.49"
TX-VZ-19	Van 1.3 W	14.22"
TX-VZ-21	Canton 6.1 N	15.83"
TX-VZ-28	Wills Point 4.4 NNW	14.03"
TX-VZ-30	Murchison 7.7 NNE	16.61"
TX-WS-13	Paradise 6.6 SW	5.50"
TX-WS-15	Runaway Bay 0.7 SSW	5.88"
TX-WS-16	Decatur 4.1 W	4.55"

TX-BXR-221

Selma 3.9 WNW	4.56"	TX-GP-62	New Braunfels 2.4 S	4.08"
Castle Hills 1.9 NE	4.43"	TX-GP-64	Seguin 7.6 N	4.59"
Leon Valley 2.7 WSW	4.93"	TX-GP-79	Staples 1.2 NW	4.00"
Converse 1.8 S	5.45"	TX-GP-91	Cibolo 0.5 NW	5.02"
Castroville 7.09 NE	4.70"	TX-GP-93	New Braunfels 5.4 ESE	3.84"
Windcrest 1.7 E	4.05"	TX-GP-99	Seguin 2.7 ESE	4.82"
San Antonio 10.9 WNW	2.57"	TX-HYS-1	San Marcos 5.8 N	4.87"
Cross Mountain 2.1 N	3.54"	TX-HYS-3	Wimberley 4.4 E	5.15"
San Antonio 13.0 W	4.62"	TX-HYS-7	Dripping Springs 4.3 E	4.52"
Elmendorf 0.8 NNE	5.68"	TX-HYS-17	Dripping Springs 8.4 W	4.43"
Helotes 1.9 SSW	3.93"	TX-HYS-19	San Marcos 2.9 WNW	4.99"
Johnson City 2.2 N	3.33"	TX-HYS-28	Manchaca 2.1 ENE	5.70"
Blanco 8.8 ENE	4.03"	TX-HYS-49	Dripping Springs 6.2 WSW	5.18"
Blanco 1.8 ESE	4.22"	TX-HYS-53	Dripping Springs 4.1 SSW	4.44"
Johnson City 7.9 WNW	3.30"	TX-HYS-54	Wimberley 5.2 WNW	4.82"
Blanco 7.2 SE	4.43"	TX-HYS-55	Mountain City 6.7 WNW	5.03"
Marble Falls 2.7 SE	3.34"	TX-HYS-56	Driftwood 2.8 NNW	4.58"
Marble Falls 0.7 NW	3.25"	TX-HYS-60	Driftwood 5.0 S	5.58"
Burnet 4.2 W	3.99"	TX-HYS-61	San Marcos 8.1 W	5.08"
Marble Falls 5.8 NNW	3.03"	TX-HYS-63	Dripping Springs 1.7 NW	4.03"
Marble Falls 3.4 NW	4.90"	TX-HYS-65	San Marcos 6.3 WSW	5.42"
Burnet 6.1 WNW	3.66"	TX-HYS-74	San Marcos 1.8 SSW	4.26"
Spicewood 2.6 ESE	4.05"	TX-HYS-88	Dripping Springs 3.8 ESE	3.53"
Granite Shoals 1.6 E	3.30"	TX-HYS-91	Wimberley 4.6 WNW	4.96"
Marble Falls 0.4 W	4.38"	TX-HYS-113	Woodcreek 0.5 SSW	4.99"
Bertram 9.1 SSW	3.55"	TX-HYS-117	Kyle 7.8 ENE	3.68"
Spicewood 2.5 ENE	4.60"	TX-HYS-124	San Marcos 2.3 WNW	4.55"
Meadowlakes 0.4 NNE	3.22"	TX-HYS-128	Kyle 2.8 SSW	4.80"
Lockhart 5.2 S	4.48"	TX-HYS-131	Buda 0.7 SW	4.15"
Maxwell 1.5 NE	4.14"	TX-HYS-133	Wimberley 3.6 ENE	5.14"
Dale 7.3 SE	5.28"	TX-KS-3	Karnes City 12.6 WSW	6.51"
Lockhart 4.3 NW	4.77"	TX-KS-9	Gillett 1.6 WNW	5.89"
Luling 4.4 NNW	4.91"	TX-KN-2	Boerne 4.3 NE	4.00"
New Braunfels 3.1 WNW	4.56"	TX-KN-4	Boerne 5.1 NNW	4.23"
New Braunfels 2.4 SSW	4.29"	TX-KN-5	Kendalia 5.2 SSW	4.50"
Spring Branch 5.6 SSE	4.42"	TX-KN-8	Fair Oaks Ranch 2.2 NNW	3.81
Timberwood Park 7.7 ENE	4.61"	TX-KN-10	Boerne 6.0 WSW	5.08"
Canyon Lake 2.5 W	4.63"	TX-KN-12	Boerne 4.0 WSW	4.47"
Bulverde 4.3 ESE	3.69"	TX-KN-15	Kendalia 5.4 S	3.94"
New Braunfels 5.9 NW	4.86"	TX-KN-18	Comfort 11.5 ENE	3.74"
New Braunfels 5.5 WNW	5.36"	TX-KN-28	Boerne 8.5 NNW	3.98"
Canyon Lake 2.8 N	5.28"	TX-KN-42	Boerne 5.2 ENE	4.58"
Canyon Lake 8.1 NW	3.91"	TX-KN-50	Sisterdale 1.7 SE	2.81"
Bulverde 4.2 ENE	3.93"	TX-KN-60	Boerne 8.4 ENE	3.97"
New Braunfels 1.5 NNW	3.75"	TX-KN-61	Boerne 12.4 N	4.20"
New Braunfels 10.0 W	5.28"	TX-KN-66	Comfort 7.0 ENE	3.75"
New Braunfels 1.5 NNW	4.48"	TX-KN-99	Pipe Creek 5.5 NNE	2.41"
Garden Ridge 3.7 NW	4.94"	TX-KR-3	Ingram 4.4 NW	4.16"
New Braunfels 9.9 WNW	5.23"	TX-KR-20	Kerrville 1.1 SSW	4.23"
Cuero 7.3 SSW	5.21"	TX-KR-30	Ingram 10.2 NW	3.80"
Yoakum 6.2 WNW	6.95"	TX-KR-50	Ingram 3.1 NW	4.09"
Cuero 2.5 ESE	6.34"	TX-KR-52	Center Point 2.2 NNE	4.03"
Carrizo Springs 3.0 NNE	1.75"	TX-KR-54	Center Point 0.5 SE	4.78"
Rocksprings 5.4 NW	3.57"	TX-KR-57	Ingram 3.8 W	4.49"
Rocksprings 8.5 WSW	2.84"	TX-KR-63	Kerrville 4.8 WSW	4.66"
Rocksprings 11.8 ENE	3.06"	TX-KR-65	Comfort 4.4 W	4.21"
Rocksprings 18.4 WNW	3.68"	TX-KR-78	Kerrville 0.9 N	3.83"
Smithville 6.6 SE	6.51"	TX-KR-79	Kerrville 6.3 SW	4.59"
LaGrange 10.2 NW	3.96"	TX-LV-2	Hallettsville 17.1 SE	7.13"
Fayetteville 1.0 SW	8.95"	TX-LV-4	Shiner 1.9 E	8.42"
LaGrange 4.5 SW	6.82"	TX-LV-5	Hallettsville 13.4 SE	9.21"
Muldoon 4.4 SE	6.80"	TX-LV-20	Yoakum 6.2 NNE	7.69"
West Point 0.8 NE	6.09"	TX-LV-21	Hallettsville 8.0 SSE	7.77"
Pearshall 21.1 WNW	4.91"	TX-LV-26	Shiner 4.1 NE	7.57"
Stonewall 2.3 ENE	3.53"	TX-LV-27	Moulton 6.9 SE	7.93"
Fredericksburg 12.2 W	3.57"	TX-LE-12	Lexington 2.7 SSE	7.13"
Fredericksburg 1.3 SW	3.75"	TX-LE-13	Lexington 8.8 SW	6.02"
Willow City 4.3 W	3.81"	TX-LE-15	Lexington 2.3 SSW	6.69"
Fredericksburg 11.4 NE	3.60"	TX-LL-7	Horseshoe Bay 2.7 S	3.51"
Willow City 4.2 W	3.57"	TX-LL-23	Kingsland 0.5 S	3.38"
Fredericksburg 8.3 SSW	3.96"	TX-LL-26	Llano 0.5 ESE	3.27"
Fredericksburg 0.5 SW	3.36"	TX-MDN-2	Castroville 7.0 NNE	4.44"
Gonzales 4.5 SSE	6.82"	TX-MDN-3	Hondo 8.7 E	4.06"
Gonzales 4.4 NNW	5.79"	TX-MDN-11	Castroville 0.3 WNW	4.85"
Gonzales 0.6 S	6.35"	TX-MDN-18	Hondo 8.8 E	3.64"
New Berlin 6.7 SE	4.64"	TX-MDN-21	D'Hanis 3.5 WSW	4.09"
Kingsbury 0.5 S	4.80"	TX-MDN-22	Hondo 6.9 SSE	4.56"
Schertz 2.2 N	4.94"	TX-MDN-23	Devine 0.4 S	5.86"

Hollywood Park 4.5 NE	3.27"	TX-GP-29
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December 2015–February 2016 Rainfall Totals

TX-MDN-24	Hondo 8.7 ENE	3.70"	TX-TV-255	Austin 9.0 SW	3.78"	TX-WM-209	Georgetown 5.0 NNW	3.97"
TX-MDN-25	Rio Medina 5.5 NNW	3.36"	TX-TV-256	Tanglewood Forest 1.1 S	4.24"	TX-WO-5	Floresville 8.1 NNW	6.08"
TX-MDN-27	Mico 5.0 E	4.33"	TX-TV-267	Pflugerville 2.2 ENE	4.77"	TX-WO-10	Elmendorf 5.6 ENE	6.81"
TX-MDN-31	Devine 6.7 NNE	5.66"	TX-TV-268	Tanglewood Frt 0.5 SSW	5.32"	TX-WO-14	St. Hedwig 4.9 S	6.22"
TX-MDN-33	Hondo 3.4 S	4.00	TX-TV-271	Pflugerville 3.1 ENE	4.26"	TX-WO-26	Stockdale 6.4 N	5.31"
TX-MDN-41	D'Hanis 2.4 NNE	4.03"	TX-UV-17	Utopia 2.0 W	4.42"	TX-WO-30	Adkins 6.4 SSE	7.19"
TX-MDN-44	Natalia 5.4 SSE	6.34"	TX-UV-19	Camp Wood 5.02 SSE	4.05"	TX-WO-39	Floresville 9.4 NW	6.64"
TX-RL-8	Leakey 1.5 ENE	2.91"	TX-UV-29	Knippa 1.8 NW	3.12"	TX-WO-43	La Vernia 6.3 S	5.96"
TX-RL-16	Leakey 14.0 NW	3.66"	TX-UV-30	Sabinal 0.5 NNE	3.66"	TX-WO-45	La Vernia 3.6 SSW	6.42"
TX-RL-17	Camp Wood 6.5 NE	3.69"	TX-VV-3	Del Rio 5.7 NW	2.95"	TX-ZV-15	Crystal City 0.5 ESE	2.25"
TX-TV-1	Austin 10.0 NNW	4.38"	TX-VV-9	Comstock 29.7 NW	2.10"	TX-ZV-17	Crystal City 0.5 S	2.35"
TX-TV-9	West Lake Hills 2.4 NNW	3.77"	TX-VV-14	Langtry 10.6 W	1.48"	TX-ZV-18	Crystal City 0.8 SW	2.25"
TX-TV-10	Austin 1.7 NNW	4.55"	TX-VV-15	Comstock 8.5 WNW	0.65"	TX-ZV-19	Crystal City 0.7 WNW	2.45"
TX-TV-14	Austin 2.9 NW	4.53"	TX-VV-16	Del Rio 7.8 NNW	2.02"	TX-ZV-20	Crystal City 9.2 E	1.85"
TX-TV-19	Lago Vista 3.7 ESE	4.48"	TX-WM-1	Georgetown 1.2 W	4.00"			
TX-TV-21	Jonestown 2.6 E	4.74"	TX-WM-8	Taylor 0.9 NNW	5.06"			
TX-TV-27	Leander 1.9 WSW	3.61"	TX-WM-10	Georgetown 5.5 NNW	3.75"			
TX-TV-30	Anderson Mill 2.2 S	4.43"	TX-WM-16	Cedar Park 2.7 SSW	3.37"			
TX-TV-34	Sunset Valley 0.7 SE	4.35"	TX-WM-22	Liberty Hill 0.6 NNW	3.73"			
TX-TV-35	Pflugerville 0.6 ENE	4.56"	TX-WM-26	Georgetown 4.7 NNE	3.76"			
TX-TV-43	Pflugerville 2.6 N	4.88"	TX-WM-35	Bertram 6.4 ESE	2.89"			
TX-TV-44	Austin 1.0 N	4.77"	TX-WM-39	Round Rock 1.0 S	4.08"			
TX-TV-47	Austin 4.7 E (Jordan Pk)	5.58"	TX-WM-41	Cedar Park 1.0 ESE	4.62"			
TX-TV-49	Wells Branch 4.2 S	3.67"	TX-WM-44	Jollyville 1.2 WNW	4.81"			
TX-TV-52	Oak Hill 1.1 WSW	4.35"	TX-WM-46	Brushy Creek 2.4 SW	3.40"			
TX-TV-53	Austin 4.2 NW	5.12"	TX-WM-55	Anderson Mill 1.1 ENE	3.95"			
TX-TV-59	Tanglewood Forest 0.6 NE	4.68"	TX-WM-58	Andice 1.6 SW	3.15"			
TX-TV-60	Tanglewood Forest 3.5 NW	3.33"	TX-WM-61	Anderson Mill 1.4 NW	5.12"			
TX-TV-68	Jollyville 1.6 SSE	5.03"	TX-WM-64	Cedar Park 1.7 S	2.83"			
TX-TV-87	Austin 3.9 NNE	4.48"	TX-WM-68	Georgetown 4.5 SSE	5.56"			
TX-TV-96	Tanglewood Forest 2.9 E	4.86"	TX-WM-71	Georgetown 5.8 SE	6.18"			
TX-TV-99	Bee Cave 2.5 ENE	4.88"	TX-WM-74	Georgetown 3.0 ESE	5.20"			
TX-TV-111	Austin 10.8 WSW	3.95"	TX-WM-96	Georgetown 4.6 NNW	4.15"			
TX-TV-117	Austin 5.9 NW	4.74"	TX-WM-98	Cedar Park 3.0 S	4.60"			
TX-TV-118	Austin 4.5 ENE	5.57"	TX-WM-102	Round Rock 3.4 E	4.83"			
TX-TV-122	Austin 5.6 WSW	4.71"	TX-WM-110	Liberty Hill 4.3 ENE	3.73"			
TX-TV-125	Manor 5.5 SSE	1.47"	TX-WM-113	Jarrell 4.4 W	3.92"			
TX-TV-135	Creedmoor 1.5 NNW	2.44"	TX-WM-115	Georgetown 7.4 WSW	4.20"			
TX-TV-141	Lago Vista 1.5 SW	4.00"	TX-WM-118	Brushy Creek 2.3 SW	4.09"			
TX-TV-149	Austin 2.9 NNW	4.66"	TX-WM-119	Bartlett 5.0 W	4.91"			
TX-TV-160	Rollingwood 2.8 SW	4.20"	TX-WM-129	Thrall 7.9 SSE	5.51"			
TX-TV-163	Pflugerville 2.5 NNE	2.72"	TX-WM-135	Georgetown 8.9 E	5.18"			
TX-TV-164	Austin 4.1 SW	4.05"	TX-WM-142	Leander 3.4 NNE	3.46"			
TX-TV-165	Austin 5.7 SSW	4.45"	TX-WM-149	Coupland 6.5 ESE	5.47"			
TX-TV-171	Austin 3.7 SSW	2.72"	TX-WM-156	Georgetown 4.9 NW	4.18"			
TX-TV-175	San Leanna 0.1 SSE	5.51"	TX-WM-161	Taylor 2.4 S	5.10"			
TX-TV-176	Austin 2.4 N (Allandale)	3.77"	TX-WM-162	Liberty Hill 1.2 N	3.14"			
TX-TV-195	Austin 3.6 SW	1.36"	TX-WM-166	Cedar Park 2.4 WNW	2.83"			
TX-TV-200	Lakeway 3.5 ENE	3.22"	TX-WM-168	Cedar Park 1.3 S	5.00"			
TX-TV-208	Pflugerville 3.3 E	4.84"	TX-WM-175	Georgetown 6.7 NW	4.55"			
TX-TV-218	Onion Creek 3.2 ENE	4.69"	TX-WM-183	Georgetown 6.6 NW	3.96"			
TX-TV-219	Austin 7.9 N	4.60"	TX-WM-195	Round Rock 1.6 WSW	4.61"			
TX-TV-228	Austin 9.8 WSW	4.49"	TX-WM-201	Georgetown 6.1 NW	4.21"			
TX-TV-236	Austin 9.2 NNE	5.25"	TX-WM-202	Georgetown 1.4 SE	4.39"			
TX-TV-238	Austin 5.5 SSE	4.45"	TX-WM-203	Georgetown 5.3 NNW	3.95"			
TX-TV-242	Austin 5.5 N	4.55"	TX-WM-208	Round Rock 4.6 E	4.71"			

BRYAN/COLLEGE STATION REGION

TX-BZS-40	College Station 6.4 ENE	11.51"
TX-BZS-77	Bryan 2.9 ESE	11.94"
TX-BZS-88	Bryan 3.5 NNW	11.06"
TX-BZS-92	College Station 1.6 S	9.27"
TX-BZS-94	Bryan 2.7 NNW	3.16"
TX-HST-3	Crockett 1.8 NNE	7.57"
TX-TT-3	Trinity 5.1 NW	11.31"
TX-WK-3	Huntsville 11.5 SW	10.02"
TX-WK-5	Huntsville 2.8 WSW	11.26"
TX-WK-12	Huntsville 3.6 NNW	11.23"
TX-WK-13	Huntsville 4.8 NNW	11.11"
TX-WK-15	Dodge 1.6 S	9.52"
TX-WK-18	Huntsville 1.3 SSE	12.43"
TX-WK-20	Huntsville 2.8 SE	11.98"
TX-WK-21	Riverside 2.0 WNW	10.82"
TX-WA-1	Burton 6.9 SSW	9.78"
TX-WA-3	Hempstead 10.0 NNW	8.90"
TX-WA-5	Brenham 7.2 SW	10.52"
TX-WA-6	Brenham 8.0 E	9.60"
TX-WA-9	Chappell Hill 1.0 NW	10.03"
TX-WA-10	Chappell Hill 1.8 N	7.58"
TX-WA-12	Washington 3.1 SSW	8.73"
TX-WA-14	Washington 8.6 SSW	14.29"
TX-WA-15	Carmine 3.1 WNW	11.86"
TX-WA-17	Brenham 9.9 N	11.46"
TX-WA-18	Brenham 1.4 NNW	11.09"

Rainfall totals include data from 7:00AM December 1st, 2015 and ending at approximately 7:00AM March 1, 2016.

NOTE: due to the large number of CoCoRaHS stations in Texas, not all are included in this report. However....all reports are greatly appreciated and used by the National Weather Service.

NOW is the time of year we ask our CoCoRaHS Observers to reach out and try to recruit 1 person to join the network during our Spring Recruiting Drive.

 	<h2>Texas CoCoRaHS</h2>		
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