Storm Data and Unusual Weather Phenomena - June 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

TEXAS, South

(TX-Z248) ZAPATA, (TX-Z249) JIM HOGG, (TX-Z250) BROOKS, (TX-Z251) KENEDY, (TX-Z252) STARR, (TX-Z253) HIDALGO, (TX-Z254) WILLACY, (TX-Z255) CAMERON, (TX-Z256) COASTAL WILLACY, (TX-Z257) COASTAL CAMERON

	06/01/11 00:00 CST	0	Drought
	06/30/11 23:59 CST	8.42M	

The combination of zero rainfall, increasingly hot temperatures, higher sun angle, frequent gusty winds, and resultant low humidity maintained/spread extreme (D3) to exceptional (D4) drought across all of Deep South Texas and the Lower Rio Grande Valley for the balance of June.

Rains arrived in the Lower Rio Grande Valley and spread a bit into the Brush Country and Rio Grande Plains on the 22nd and 23rd, but did little to dent the drought by the 28th except in local spots, particularly from eastern Hidalgo into western Cameron and western Willacy County. More prodigious rains associated with outer bands from Tropical Storm Arlene (June 30th/July 1st) would finally dent the drought in the Lower Valley to begin July.

The rains did not arrive in time to stop millions of dollars in irrigated and dryland crop loss. According to the Texas AgriLife Extension Service, more than $8.41 million in insured losses to cotton, corn, and sorghum was reported for the entire drought period, which peaked by June 21st, for much of the Rio Grande Valley (Starr, Hidalgo, and Cameron). Willacy County data are reported in a later episode; including Willacy, listed damage was just under $9 million ($8.834 million). Livestock losses were unavailable as of this writing.

Photo of burned/stunted corn field near Los Fresnos, Texas, on June 21st, 2011 - at the peak of the worst of the 2011 Drought in Cameron County.

Storm Data and Unusual Weather Phenomena - June 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
(TX-Z250) BROOKS				
	06/07/11 00:00 CST		0	Drought
	06/30/11 23:59 CST		0	

Temperatures near or just above 100 degrees, frequent gusty winds, moderate to low relative humidity quickly erased any short term drought relief provided by mid May rainfall as conditions deteriorated from Severe to Extreme across all of Brooks County for the balance of June. Locally heavy rainfall the final week of the month would bring some relief as July arrived.

(TX-Z248) ZAPATA				
	06/09/11 14:30 CST		0	Wildfire
	06/09/11 23:00 CST		0	

The combination of extremely dry soils, hot temperatures, locally gusty winds, and low humidity contributed to the rapid spread of two wildfires in Zapata County on June 9th. On the 9th, as with many days before and after, temperatures soared above 100 degrees, afternoon humidity fell below 20 percent, and winds gusted in excess of 25 mph, especially after 4 PM which is likely when each reported fire grew explosively.

(TX-Z250) BROOKS				
	06/11/11 11:00 CST		0	Wildfire
	06/12/11 20:00 CST		0	

A pair of wildfires developed and grew rapidly during the weekend of June 11th and 12th, charring more than 3,500 acres from near Encino to an area near the Encinitos/Burns Ranch area, along Farm to Market 755 near the Hidalgo County line. Extreme Drought conditions, temperatures near 100 degrees, afternoon humidity falling below 30 percent, and gusty winds to 20 to 25 mph likely contributed to the rapid spread of each fire.

(TX-Z257) COASTAL CAMERON				
	06/17/11 11:36 CST	1	0	Rip Current
	06/17/11 11:36 CST		0	

Direct Fatalities: M66IW

Persistent southeasterly flow driven by enhanced low pressure east of the Sierra Madre Mountains and High Pressure over the central Gulf of Mexico increased sustained winds and drove seas over 7 feet offshore, creating relatively rough and confused surf along South Padre Island, enhanced by the jetties at Isla Blanca Park. The current took the life of a swimmer during the afternoon of June 17th.

(TX-Z250) BROOKS				
	06/18/11 09:00 CST		0.25M	Wildfire
	06/22/11 09:30 CST		5K	

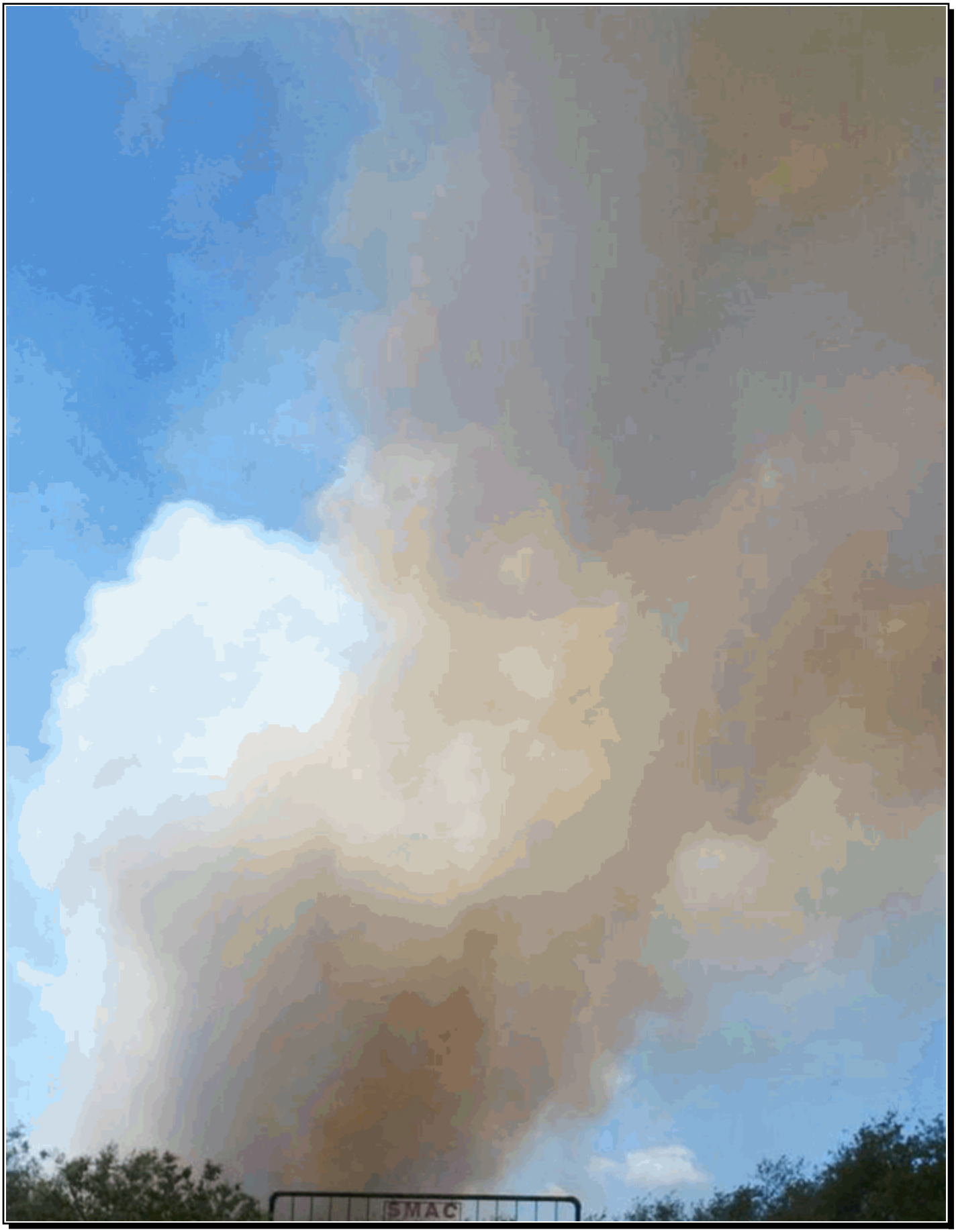
The combination of exceptional drought, very hot temperatures, afternoon humidity falling to near 25 percent, sustained 20 foot winds of 15 to 20 mph with frequent gusts between 25 and 35 mph, and most likely sparks from ranch equipment resulted in the conflagration that many feared as the record (water year since October 1st 2010) hot and dry weather worsened - and peaked - by mid June.

A massive wildfire enveloped several large ranches in northwestern Brooks County, eventually consuming at least 32,000 acres over a four day period (beginning June 18th) before some welcome moderate rain allowed a large firefighting force to contain, and control, the blaze by June 23rd. The wildfire, known as the "Smac Ranch" Fire, was larger than the massive Encinitos/Burns Ranch Fire of March 2008, which burned more than 25,000 acres.

Damage was limited to a number of deer hunting buildings and at least one cow and one deer.

Storm Data and Unusual Weather Phenomena - June 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details



Printed on: 08/12/2011

Storm Data and Unusual Weather Phenomena - June 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

Wildfire burning behind the entrance to the SMAC Ranch in northwestern Brooks County, June 18th, 2011. Photo credit: Texas Forest Service.

(TX-Z251) KENEDY, (TX-Z254) WILLACY, (TX-Z256) COASTAL WILLACY

	06/21/11 00:00 CST	0	Drought
	06/30/11 23:59 CST	0.43M	

Exceptional (D4) drought conditions spread northward and eastward into Willacy County and extreme southern portions of the King Ranch (Kenedy County) during the third week of June. Helpful rains arrived on the 22nd and 23rd, particularly in Willacy County, and would slowly begin to improve the drought situation. In Willacy County, just under $500 thousand in damage to cotton, corn, and sorghum (all dryland) was reported by the Texas AgriLife Extension Service, a result of the long period of hot, breezy to windy, and dry weather across the region.

CAMERON COUNTY --- 0.3 WSW (HRL)RIO GRANDE ARPT [26.23, -97.65]

	06/22/11 12:29 CST	0	Thunderstorm Wind (MG 57 kt)
	06/22/11 12:37 CST	0	Source: ASOS

The ASOS platform at the Harlingen Valley International Airport recorded a wind gust of 66 miles per hour as a downburst moved through during a thunderstorm during the early afternoon. No damage was reported to the tower or on the field.

HIDALGO COUNTY --- 0.8 WSW SHAYLAND [26.21, -98.29], 0.5 N WESLACO MID VLY ARPT [26.18, -97.97]

	06/22/11 12:30 CST	0	Heavy Rain
	06/22/11 14:30 CST	0	Source: ASOS

Slow moving thunderstorms, containing up to an hour and a half of torrential rains, dumped between 3 and 4 inches across the heart of populated Hidalgo County, from Mission to Weslaco, during the early and mid afternoon of June 22nd. Numerous instances of nuisance urban flooding were reported, much in the typical poor drainage locations that see flooding with any locally heavy rainfall.

Nuisance flooding of roads and ditches were reported in the typical poor drainage locations of McAllen/Pharr and Weslaco. At McAllen/Miller airport, 3.13 inches of rain fell in less than two hours before the power was knocked out due to lightning in the area. CoCoRaHS observers reported 3.08 inches and 3.18 inches in Mission and Edinburg, respectively, and nearly 3 inches (2.84) fell at the Mid Valley Airport in Weslaco.

CAMERON COUNTY --- 0.6 WNW SAN BENITO [26.13, -97.64], 1.3 NNE LA FERIA [26.17, -97.82]

	06/22/11 13:00 CST	0	Heavy Rain
	06/22/11 15:45 CST	0	Source: Emergency Manager

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

Slow moving thunderstorms, containing more than an hour of torrential rains, dumped between 3 and 5 inches in western Cameron County during the early and mid afternoon of June 22nd. Numerous instances of nuisance urban flooding were reported, much in the typical poor drainage locations that see flooding with any locally heavy rainfall.

Across the Lower Valley, nuisance flooding of roads, ditches, and even some properties occurred each afternoon. On the 22nd, locally high water was reported in La Feria, Palm Valley/Harlingen, and San Benito. An estimated 5 inches of rain flooded the Mariposa subdivision near La Feria – an area which often has poor drainage issues and suffered greatly after Hurricane Dolly. The water rose to around 2 feet in neighborhood roads, closing them but not reaching into structures. On the west side of Harlingen, CoCoRaHS observers reported between 4 and 5.27 inches of rain.

WILLACY COUNTY --- 0.7 NNW RAYMONDVILLE [26.49, -97.79], 0.8 SE SEBASTIAN [26.34, -97.79]

	06/22/11 13:00 CST	10K	Heavy Rain
	06/22/11 15:00 CST	0	Source: Emergency Manager

Slow moving thunderstorms, containing more than an hour of torrential rains, dumped between 3 and 6 inches in central Willacy County during the early and mid afternoon of June 22nd. In Raymondville, up to a foot of standing water was observed by storm spotters and the county Emergency Manager; several roads were temporarily closed due to the urban/poor drainage flooding. No water reached structures. Observed rainfall ranged from just under 3 inches on the west side of Raymondville to 6.10 inches 6 miles east of Raymondville (San Perlita). Other minor flooding was reported in Sebastian (just north of the Cameron/Willacy County line), with backyards turning to low water lakes and streets with more than a foot of water in them.

The flooding in Sebastian intensified on the 23rd, reaching into properties as poor drainage structure in town (pipe structure) could not handle the heavy rains and flooding reached into the ground floor of a number of structures in town.

WILLACY COUNTY --- 0.3 N RAYMONDVILLE [26.48, -97.78], 1.4 NNW SAN PERLITA [26.52, -97.66]

	06/22/11 13:55 CST	5K	Lightning
	06/22/11 14:15 CST	0	Source: Emergency Manager

Frequent cloud to ground lightning, particularly on the 22nd, caught a 400 barrel oil container on fire in Willacy County, and effects of another strike injured a woman attempting to enter her vehicle, all occurring around 3 PM CDT. The container fire was put out by the torrential rains; the woman was admitted to Valley Baptist Medical Center for observation.

CAMERON COUNTY --- 1.2 SW (BRO)BROWNSVILLE ARP [25.91, -97.43], 1.7 SSW BROWNSVILLE [25.90, -97.51]

	06/23/11 11:15 CST	0	Heavy Rain
	06/23/11 14:15 CST	0	Source: ASOS

Deep tropical moisture worked on boundaries left over from showers and storms on June 22nd and into the early morning of June 23rd to produce locally heavy squally rains in the City of Brownsville during the early afternoon of June 23rd, adding another 2 to 3+ inches of rain to the somewhat lesser, but notable, totals from June 22nd. Brownsville/SPI International Airport reported 3.52 inches of rain, and nearby CoCoRaHS observers recorded between 2.18 and 3.15 inches.

Urban flooding, particularly in the lower lying areas along Boca Chica Boulevard stretching downtown, developed through the afternoon before waters receded after 4 PM or so. Significant damage was not reported despite the more than one foot of standing water in city streets.

HIDALGO COUNTY --- 1.4 WNW WESLACO [26.18, -98.00], 0.8 NNE WESLACO MID VLY ARPT [26.18, -97.96], 1.4 S WESLACO MID VLY ARPT [26.15, -97.97], 1.7 SW WESLACO [26.15, -98.00]

	06/23/11 13:45 CST	25K	Flash Flood (due to Heavy Rain)
	06/23/11 15:45 CST	0	Source: Emergency Manager

The Weslaco/Donna Emergency Manager reported "extensive flooding" along both sides of Highway 83 (frontage roads along the expressway), as well as significant street flooding along Business 83 and Texas Boulevard (Farm to Market 88). Local media reports indicated more than 2 feet of water in roads, some which impacted properties in town. The flooding was caused by another round of torrential, tropical rains between 130 and 330 PM, which dropped more than 3 inches on top of the 2.84 inches which had fallen on the 22nd. More than 6 inches fell in Weslaco during the two day period.

An upper level disturbance, sandwiched between a receding upper level ridge across the southwest U.S. and another ridge across Florida and the eastern Gulf of Mexico, drew deep tropical moisture northward from the Bay of Campeche and points south. Meanwhile, a vigorous upper level disturbance across the upper midwest and associated frontal zone extending from the Great Lakes southwest into North Texas helped trigger a thunderstorm complex, which initially surge into the South Texas Plains overnight on the 21st. The complex set off boundaries which sparked intense storms along the Rio Grande and into northwest Tamaulipas and northern Nuevo Leon, México, a little after daybreak on the 22nd. By early afternoon, the combination of the disturbance, daytime heating, advancing outflow from previous storms focused on the Lower Rio Grande Valley. Intense, slow moving thunderstorms formed from Mercedes/Weslaco northeast into Santa Rosa, Harlingen, and Raymondville. The storms would gradually weaken as they edged toward Brownsville.

On the 23rd, the surface low parked across Cameron County. Old boundaries, a pesky upper disturbance, and some heating into very unstable air triggered another round of tropical torrents from late morning through late afternoon. These rains inundated parts of the

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

Lower Valley with 2 to 4 more inches of rain – some which fell in the same spots on the 22nd.

Two day rainfall totals ranged generally from 3 to 6 inches across the Lower Valley, with peak values in a swath bounded by Weslaco/Progresso northeast to Raymondville, then southeast to Brownsville. Numerous instances of nuisance flooding, worse in areas where drainage was poor or debris had not been cleared from ditches or canals, were reported through the period.

Urban flooding along 9th and Kimball in Raymondville during the mid afternoon of June 22nd. More than 3 inches of rain fell in a short time in this area. Photo credit: Willacy County SkyWarn.

(TX-Z251) KENEDY, (TX-Z254) WILLACY

	06/28/11 00:00 CST	0	Drought
	06/30/11 23:59 CST	0	

After the 2011 Drought peaked on June 21st, a weak upper level disturbance aided the development and maintenance of a squall line from central into South Texas overnight on the 21st/22nd. Boundaries from the line activated deep atmospheric moisture toward the coast and produced numerous late morning through afternoon thunderstorms which stretched into Willacy and Kenedy County on the 22nd. A few more storms would arrive on the 23rd. In all, 2 to 6 inches of rain fell across the area. Incorporated into the Drought Monitor on the 28th, these rains improved the drought by one category.

Further improvements would arrive in July after another round of heavy rainfall from the outer bands of Tropical Storm Arlene on June 30th.

CAMERON COUNTY --- 2.2 ESE (BRO)BROWNSVILLE ARP [25.91, -97.39], 1.1 SW MAUDLIN ARPT [25.96, -97.54]

	06/30/11 08:30 CST	0	Heavy Rain
	06/30/11 13:30 CST	0	Source: ASOS

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

Feeder bands associated with the fringe of Tropical Storm Arlene, which made landfall 300 miles south of Brownsville, dropped a total of 3 inches at Brownsville/South Padre Island International Airport between 7 AM and 2 PM CDT, with the heaviest rains falling from mid morning through early afternoon. Media accounts (videos and still photos) showed the typical urban flooding in low lying areas of the city, particularly from along and near Boca Chica Boulevard through Downtown. CoCoRaHS observers in and near the city recorded generally 2 1/2 to a little more than 3 inches during the same period.

HIDALGO COUNTY --- 4.2 SSE (MFE)MILLER INTL ARP [26.12, -98.19], 3.9 SSE (MFE)MILLER INTL ARP [26.12, -98.20]

	06/30/11 16:57 CST		0.50M	Tornado (EF1, L: 0.40 mi , W: 30 yd)
	06/30/11 17:04 CST	1	0	Source: NWS Storm Survey

This short-lived tornado touched down in a subdivision approximately 4 miles east-northeast of the city of Hidalgo in southern Hidalgo County. Most of the damage in this area was limited to the overturning of trampolines, the knocking down of wooden privacy fences, an outdoor storage building, and minor shingle damage to the roof of two homes. A (relatively empty) moving truck was also blown on its side in the subdivision. The tornado strengthened as it approached an import/export business on the west side of US-281. Here, an office building lost between 25% and 33% of the roof as the tornado continued moving westward. Much of the roofing material landed on a car parked behind the office building, resulting in the injury of the driver. In this area, a single-wide mobile home was heavily damaged, as well as a couple of semi trucks. Before lifting, tornadic winds knocked down several hundred feet of concrete block fencing. No damage was seen beyond this point by the National Weather Service survey crew or officials from the city of Pharr.

A series of convergent feeder bands associated with Tropical Storm Arlene, which made landfall nearly 300 miles south of the area along the northern State of Veracruz coast, dropped welcome tropical rains on the Lower Rio Grande Valley during the morning and early afternoon of June 30th, putting a definite dent into the water year (since October 1, 2010) drought in Cameron, Willacy, and eastern Hidalgo County. Overall, between 1 and 4 inches fell in the region. Much of the rain was moderate, though heavier bands created pockets of urban flooding in Cameron County.

A small but potent thunderstorm developed during the evening in very unstable air left behind by the outer bands, in extreme southern Hidalgo County. Low level wind direction and speed shear were sufficient to create a rotating cell, which developed a quick but damaging tornado around 6 PM CDT.

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

Storm Data and Unusual Weather Phenomena - June 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details

Still photograph of EF-1 tornado between Pharr and Hidalgo, with debris. Photo courtesy of KRGV Channel 5 News.