

Storm Data and Unusual Weather Phenomena - September 2010

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

WATERS FROM BAFFIN BAY TO PT MANSFIELD TX EXT FROM 20 TO 60NM COUNTY --- 45.1 ESE S BAFFIN BAY [26.97, -96.69]				
	09/17/10 12:47 CST		0	Marine Thunderstorm Wind (MG 39 kt)
	09/17/10 13:00 CST		0	Source: Buoy

NOAA Buoy 42020 recorded peak wind gusts of 38 and 39 knots as a thunderstorm cluster crossed overhead for 13 minutes.

Upper level energy and deep tropical moisture arrived along the Lower Texas Gulf Coast on September 17th, and clusters of showers and storms produced fairly widespread rains, gusty winds, and building seas across the region over the next several days. One particularly strong cluster formed in the waters north of Port Mansfield beyond 20 nm out, and produced Gale Force wind gusts.

LAGUNA MADRE FROM PORT OF BROWNSVILLE TO ARROYO COLORADO COUNTY --- 8.6 ENE ARROYO CITY [26.26, -97.29]				
	09/19/10 12:42 CST		0	Marine Thunderstorm Wind (MG 37 kt)
	09/19/10 12:51 CST		0	Source: Buoy

The Texas Coastal Ocean Observing Network site at Realitos Peninsula recorded a peak wind gust of 37 knots at 1242 PM CST, with gusts above 35 knots continuing until an estimated 1251 PM CST before diminishing as a band of intense showers moved along the Laguna Madre.

The same combination of upper level energy with low level convergence of deep tropical moisture developed widespread showers and thunderstorms across the Lower Texas Gulf Waters between Baffin Bay and the Mouth of the Rio Grande out to 60 nm during the morning into mid afternoon of September 19th, creating average seas of at least 6 feet and persistent 20 knot or higher winds.

Several bands of showers contained winds near or just above Gale Force, including one that moved through the Lower and mid Laguna Madre between 7 and 8 AM CST, and another that crossed the area during the afternoon between 12 and 130 PM CST. Gale force gusts occurred along the Laguna near the Cameron/Willacy County line.

TEXAS, South

(TX-Z250) BROOKS, (TX-Z251) KENEDY, (TX-Z254) WILLACY, (TX-Z255) CAMERON, (TX-Z256) COASTAL WILLACY, (TX-Z257) COASTAL CAMERON				
	09/06/10 21:30 CST		14.05M	Tropical Storm
	09/07/10 04:30 CST		0	

CAMERON COUNTY --- 3.3 NW FERNANDO [26.31, -97.61], 2.0 E RIO HONDO [26.23, -97.55], 8.8 N PORT ISABEL ARPT [26.30, -97.36], 9.3 NE MONTE GRANDE [26.36, -97.41]				
	09/06/10 23:30 CST		0	Flash Flood (due to Heavy Rain)
	09/07/10 01:30 CST		10K	Source: NWS Storm Survey

Torrential and quick hitting rainfall associated with persistent feeder bands around the middle core of Tropical Storm Hermine left widespread farm/field flooding across extreme northeast Cameron County from late night into the pre dawn hours of September 7th. Bias corrected radar estimates, combined with an observed report of 7.73 inches 9.4 miles northeast of Rio Hondo, indicated 6 to 8 inches fell in the area. With most of the fields plowed over, damage from the flooding may have been minimal. However, high standing water was discovered at the edge of FM 507 just across the Willacy County line 12 to 15 hours after the worst of the rains had fallen, indicating a brief period of true flash flooding was likely.

WILLACY COUNTY --- 6.0 WSW SANTA MONICA [26.33, -97.67], 7.7 ENE SANTA MONICA [26.39, -97.46], 6.9 NE PORFIRIO [26.46, -97.51], 0.4 NW WILLAMAR [26.43, -97.67]				
	09/06/10 23:30 CST		0	Flash Flood (due to Heavy Rain)
	09/07/10 02:30 CST		10K	Source: NWS Storm Survey

Torrential and quick hitting rainfall associated with persistent feeder bands around the middle core of Tropical Storm Hermine left widespread farm/field flooding across extreme northeast Cameron County from late night into the pre dawn hours of September 7th. Bias corrected radar estimates, combined with an observed report of 7.73 inches 9.4 miles northeast of Rio Hondo, indicated 6 to 8 inches fell in the area on both sides of the northeast Cameron/southeast Willacy County line. With most of the fields plowed over, damage from the flooding may have been minimal. However, high standing water was discovered at the edge of FM 507 just in Willacy County line 12 to 15 hours after the worst of the rains had fallen, indicating a brief period of true flash flooding was likely covering some of the Farm to Market Roads, and a number of unimproved County Roads.

(TX-Z251) KENEDY				
	09/07/10 01:00 CST		0	Storm Surge/Tide
	09/07/10 06:00 CST		0	

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A persistent area of showers and thunderstorms over the extreme southwestern Gulf of Mexico east of the City of Veracruz, Mexico, during the early morning hours of Sunday, September 5th, 2010, gradually organized into Tropical Depression Number 10 shortly after sunset. Convection increased overnight on the 5th and into the early morning hours of Monday, September 6th, as the system began moving northward, and Tropical Storm Hermine was born at 4 AM CDT on the 6th. Hermine tracked steadily north-northwestward while gradually intensifying on the 6th, reaching the coast of northeastern Tamaulipas State, Mexico, about 40 miles south of Brownsville at 8:30 PM CDT with peak sustained winds estimated at 65 mph.

Hermine would track to the north-northwest at a steady 14 mph, with the center of circulation crossing the Rio Grande near Los Indios (Cameron County) at around midnight on Tuesday, September 7th. The center reached Harlingen at around 1 AM, Raymondville at around 2 AM, and progressed through the west portion of the King Ranch before exiting Deep South Texas near Falfurrias at around 5 AM. During that time, peak 1 minute sustained winds around the east periphery of the cyclone lessened only slightly, falling from 60 to 50 mph.

A swath of damaging winds and flooding rains pounded Brownsville, Harlingen, and Raymondville as the eyewall of Hermine tracked along and east of Federal Highway 77 in Cameron and Willacy Counties. Peak wind gusts reached or exceeded 70 mph, causing widespread damage to trees and power lines. Rainfall of more than 3 inches in just a few hours flooded roads and farmland, especially in a small swath from northeast Cameron County to southern Willacy County. More than 250,000 residents were impacted by the core of Hermine during the middle of the night, making for a memorable end to the Labor Day weekend. The rapid movement and small core did not allow enough water to build up to a true storm surge in Cameron and Willacy County; tide departures peaked around 1.5 feet which produced run-up to the dune line and closed the county beach access points on South Padre Island to vehicular traffic.

Hermine's near-hurricane force gust punch knocked down hundreds of tree limbs, tore off a number of roofs, blew down dozens of fences, and knocked power out to more than 55,000 area residents during the peak of the storm. In all, several millions of dollars in damage likely occurred to structures in the path of the core circulation of Hermine, including the inner "eye wall" and next level of core circulation on the east side of the center, which produced tropical storm force winds toward the coastline and into the Lower Texas Gulf waters. A federal emergency was declared for Cameron, Willacy, and Kenedy County based on initial impacts. Final damage statistics will be available later in autumn, 2010.

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Mexican Shrimp Boat "Gerardo I" beached at South Padre Island, September 7, 2010, after being unable to make it into the Brownsville Ship Channel safely while Hermine was raging the night before.

CAMERON COUNTY --- 0.8 ESE DEL MAR [26.01, -97.16], 7.7 ENE MONTE GRANDE [26.32, -97.41]

09/19/10 04:00 CST	50K	Heavy Rain
09/19/10 09:30 CST	0	Source: ASOS

Heavy rainfall associated with a slow moving convergence zone slid east from what had been a "train" of 5 to 7 inches in 5 hours a bit farther west in Cameron County (Brownsville to San Benito). Between South Padre Island and Laguna Atascosa/Arroyo City, measured and estimated 3 to 5 inches of rain produced more nuisance flooding with up to 2 feet of water covering Padre Boulevard (Town of South Padre Island), a known poorly draining road which frequently experiences minor flooding. As of this writing, no significant damage was reported from the heavy rains in these areas.

CAMERON COUNTY --- 1.0 SSE VILLA NUEVA [25.94, -97.57], 1.0 N VILLA CAVAZOS [26.03, -97.60], 1.7 SW ARROYO [26.18, -97.65], 1.3 SE FERNANDO [26.26, -97.55], 5.0 NW BAYVIEW [26.19, -97.45], 3.5 E LOS FRESNOS [26.06, -97.42], 4.2 S (BRO)BROWNSVILLE ARP [25.86, -97.41], 3.1 SSE BROWNSVILLE [25.88, -97.49]

09/19/10 05:00 CST	5M	Flash Flood (due to Heavy Rain)
09/19/10 11:00 CST	0	Source: Emergency Manager

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Upper level energy, low level convergence, and a possible overnight low level jet stream of extremely moisture laden air from the Gulf of Mexico produced prolonged torrential rains across south central Cameron County between 2 and 7 AM CST September 19th. The area shifted to the east and northeast between 7 and 8 AM CST, but not before dumping 5 to 7 inches of rain from Brownsville to San Benito and creating extensive flooding, impacting perhaps 100 or more structures, particularly in poorly draining areas.

Impacts included: Up to 60 homes with water incursion in Colonia Galaxia in West Brownsville along Military Highway; several homes with water in them in the nearby subdivision of Quail Hollow; 37 residents evacuated from 9 flooded homes in Laureles (2.5 miles northwest of Los Fresnos); several homes flooded in the Green Valley Farms area along FM 510 near San Benito, including one location where 17 small mixed-breed dogs were rescued. Dozens of roads were closed temporarily or, in some cases, through the day. Notable closures included Paredes Line Road just north of Ruben Torres in Brownsville, Pablo Kisel near the Morrison Blvd. intersection in Brownsville, FM 1575 near/at State Highway 100 in Los Fresnos, and portions of State Highway 345 between San Benito and Rio Hondo. The Frontage Road near Price Road, along Federal Highway 77 in Brownsville had 2 to 3 feet of water well after the rains ended; notable poor draining roads in downtown Brownsville had similar high water.

Though the rains ended between 8 and 9 AM CST, significant poor drainage flooding continued through 11 AM CST and pockets of flooding remained into the morning of September 20th. Dozen of pumps equipment were borrowed from Hidalgo County to assist with clearing water in poor drainage locations for the next few days.

Damage estimates will be into the \$millions [final numbers available later this autumn]. Fortunately, no fatalities or injuries were reported as a direct consequence of the rains.

Deep tropical moisture, a series of upper level disturbances, and a pronounced low level jet streak have produced three days of on and off rainfall across the Rio Grande Valley and Deep South Texas. The big hitter occurred early Sunday, September 19th, when a persistent band of tropical rains set up camp between Brownsville and the east side of Harlingen, dumping 4 to 7 inches of rain in a 3 to 5 hour span and flooding a number of communities and dozens of roads especially between Brownsville and Los Fresnos, particularly those that drain poorly. Perhaps one hundred homes from Brownsville to San Benito were flooded, with dozens of residents evacuating to shelters for several days after the rains ended and a slow drainage began.