Storm Data and Unusual Weather Phenomena - May 2009

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

NEW MEXICO, Southeast

LEA COUNTY --- HOBBS [32.70, -103.13]

	05/02/09 20:00 MST	0	Hail (1.75 in)
	05/02/09 20:02 MST	0	Source: Law Enforcement

A quasi-stationary cold front was located over the north central portion of the county warning area this day. Water vapor imagery indicated the approach of an upper level shortwave trough into the area during the evening hours from the Four Corners Region. Moderate surface based CAPE values along the front were also noted. The combination of increased surface convergence along the front, the cooling of the mid to upper levels with the shortwave trough, and increased deep layer shear resulted in one severe storm producing hail over Lea County, NM.

(NM-Z027) GUADALUPE MOUNTAINS OF EDDY COUNTY

	05/14/09 03:00 MST	0	High Wind (MAX 54 kt)
	05/14/09 04:00 MST	0	

A strong cold front moved through southeast New Mexico on this day, resulting in a tight surface pressure gradient across the region. The northeast surface winds behind this front briefly gusted to 60 mph across the Guadalupe Mountains of New Mexico.

EDDY COUNTY --- 13.4 SW LAKEWOOD [32.51, -104.55]

	05/24/09 14:30 MST	0	Hail (0.75 in)
	05/24/09 14:32 MST	0	Source: Trained Spotter

EDDY COUNTY --- 3.2 SSW (CNM)CARLSBAD ARPT [32.29, -104.28]

	05/24/09 15:56 MST	0	Hail (0.88 in)
	05/24/09 15:58 MST	0	Source: Trained Spotter

An embedded shortwave trough within the westerly mid level flow, moved across south central New Mexico. Combined with moderate surface based instability, one severe storm was able to develop over Eddy County, NM.

EDDY COUNTY --- 6.2 ENE QUEEN [32.23, -104.63]

	05/28/09 14:00 MST	0	Hail (0.75 in)
	05/28/09 14:05 MST	0	Source: Park/Forest Service

The hail covered the ground about 4 inches in depth.

EDDY COUNTY --- 10.9 ESE QUEEN [32.14, -104.56]

	05/28/09 14:44 MST	0	Hail (0.88 in)
	05/28/09 14:47 MST	0	Source: Public

A surface trough/convergence boundary draped across southeast New Mexico served as a focus for isolated severe convection on this day. Deep layer shear was enhanced during the afternoon hours as the subtropical flow aloft increased. In addition, MLCAPE values neared 1000 j/kg. These two parameters contributed to small hail reports from Eddy County New Mexico during the late afternoon hours.

TEXAS, West

(TX-Z258) GUADALUPE MOUNTAINS OF CULBERSON COUNTY

	05/02/09 15:03 MST	0	High Wind (MAX 52 kt)
	05/02/09 15:07 MST	0	

Strong mid level winds associated with a mid-level shortwave trough moving east out of the Four Corners region, mixed down to the higher terrain of West Texas during the afternoon hours.

BREWSTER COUNTY --- 20.8 ESE PANTHER JUNCTION [29.20, -102.97], 21.0 ESE PANTHER JUNCTION [29.20, -102.97], 21.1 ESE PANTHER JUNCTION [29.20, -102.97], 21.0 ESE PANTHER JUNCTION [29.20, -102.97]

	05/09/09 18:23 CST	0	Flash Flood (due to Heavy Rain)
	05/09/09 19:23 CST	0	Source: Park/Forest Service

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

The National Park Dispatch Center reported flowing water over SH 120 just north of the Rio Grande Village. Although multiple vehicles hydroplaned near this location, no accidents or injuries were reported.

Isolated convection developed along a stationary boundary near the Big Bend region of Texas. Due to the weak mid to upper level flow, slow moving storms produced very heavy rainfall and flash flooding near the southern extent of the Big Bend National Park.

REEVES COUNTY --- 3.0 E VALLEY FARM [31.27, -103.50]				
	05/10/09 19:00 CST		0	Hail (0.75 in)
	05/10/09 19:02 CST		0	Source: Law Enforcement
BREWSTER COUNTY --- 0.9 NE MARATHON [30.21, -103.24]				
	05/10/09 19:20 CST		0	Hail (0.75 in)
	05/10/09 19:24 CST		0	Source: Public
BREWSTER COUNTY --- 0.9 NE MARATHON [30.21, -103.24]				
	05/10/09 19:26 CST		0	Hail (1.75 in)
	05/10/09 19:28 CST		0	Source: Public
BREWSTER COUNTY --- 3.9 NNE MARATHON [30.25, -103.22]				
	05/10/09 19:30 CST		0	Hail (1.00 in)
	05/10/09 19:32 CST		0	Source: Trained Spotter
BREWSTER COUNTY --- 10.9 SW HAYMOND [30.02, -103.15]				
	05/10/09 19:50 CST		0	Hail (1.50 in)
	05/10/09 19:52 CST		0	Source: Trained Spotter
BREWSTER COUNTY --- 6.3 SSE MARATHON [30.12, -103.20]				
	05/10/09 19:54 CST		0	Hail (1.25 in)
	05/10/09 19:58 CST		0	Source: Trained Spotter

The hail covered the road and was about 2 inches deep.

BREWSTER COUNTY --- 25.9 ENE ALPINE TERLINGUA ARP [29.63, -103.02], 28.4 NE PANTHER JUNCTION [29.57, -102.94]				
	05/10/09 21:09 CST		88K	Thunderstorm Wind (EG 61 kt)
	05/10/09 21:30 CST		0	Source: NWS Storm Survey

A NWS Storm Survey concluded that damage was done to 44 power poles near Ranch Road 2627 in Brewster County, TX. Some of the poles were snapped 3 to 4 feet above the ground and all the poles fell to the south as the storm moved in the same direction around 20 mph. The poles were not consecutively snapped in a row. At times, there were 15 snapped...then a gap...and then more snapped as you moved southeastward down the line. Please see the attached images for a detailed look at the damage path.

Intense daytime heating over the higher terrain of west Texas resulted in isolated convection developing south of a stationary boundary over the area. Surfaced based CAPE values near 2000 j/kg and 0-6 km bulk shear magnitudes of 30 knots also resulted in supercells producing large hail and damaging winds.

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

Image showing a power pole snapped near its base along the damage path. This photo was taken by Pat Vesper, WCM WFO Midland, TX.

HOWARD COUNTY --- 2.2 NW SETTLERS ADDITION [32.25, -101.55]

05/12/09 17:28 CST	0	Hail (0.88 in)
05/12/09 17:30 CST	0	Source: Law Enforcement

SCURRY COUNTY --- 3.3 SSW KNAPP [32.61, -101.15]

05/12/09 18:06 CST	0	Hail (1.25 in)
05/12/09 18:07 CST	0	Source: COOP Observer

SCURRY COUNTY --- 1.4 S UNION [32.71, -101.00]

05/12/09 18:33 CST	0	Hail (0.88 in)
05/12/09 18:34 CST	0	Source: Public

The combination of strong daytime heating, adequate low level moisture ahead of a dryline, and a mid level shortwave trough passing over the region, resulted in several severe storms over the Permian Basin of Texas.

BREWSTER COUNTY --- 8.6 SE ALPINE [30.28, -103.57]

05/14/09 18:27 CST	0	Hail (1.00 in)
05/14/09 18:29 CST	0	Source: Trained Spotter

DAWSON COUNTY --- 0.6 W LAMESA [32.73, -101.96]

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	05/14/09 19:18 CST		0	Hail (0.75 in)
	05/14/09 19:23 CST		0	Source: Public
DAWSON COUNTY --- 0.6 W LAMESA [32.73, -101.96]				
	05/14/09 19:23 CST		0	Hail (1.75 in)
	05/14/09 19:25 CST		0	Source: Trained Spotter
DAWSON COUNTY --- 15.0 W LAMESA [32.73, -102.21]				
	05/14/09 19:45 CST		0	Hail (1.00 in)
	05/14/09 19:50 CST		0	Source: Law Enforcement
DAWSON COUNTY --- 7.0 SW LAMESA [32.66, -102.04]				
	05/14/09 19:45 CST		0	Hail (1.25 in)
	05/14/09 19:50 CST		0	Source: Trained Spotter
DAWSON COUNTY --- 7.0 SW LAMESA [32.66, -102.04]				
	05/14/09 20:03 CST		0	Hail (2.00 in)
	05/14/09 20:08 CST		0	Source: Trained Spotter
DAWSON COUNTY --- 7.0 SW LAMESA [32.66, -102.04]				
	05/14/09 20:30 CST		0	Hail (1.00 in)
	05/14/09 21:15 CST		0	Source: Trained Spotter
DAWSON COUNTY --- 7.0 SW LAMESA [32.66, -102.04]				
	05/14/09 20:46 CST		0	Hail (2.00 in)
	05/14/09 21:46 CST		0	Source: Trained Spotter
DAWSON COUNTY --- 2.1 SSW LAMESA [32.70, -101.96]				
	05/14/09 20:59 CST		0	Hail (0.88 in)
	05/14/09 21:05 CST		0	Source: Public

A cold front was draped across the region this day, with a surface low located over central portions of the Texas Permian Basin. Although bulk shear vector magnitudes were not that impressive (20-30 knots), enhanced low to mid level flow near the surface low provided enough horizontal vorticity for supercells to develop in an environment with moderate surface based CAPE values.

JEFF DAVIS COUNTY --- 17.0 E FT DAVIS [30.58, -103.59]				
	05/15/09 13:50 CST		0	Hail (1.75 in)
	05/15/09 13:54 CST		0	Source: Fire Department/Rescue
PECOS COUNTY --- 18.0 S FT STOCKTON [30.62, -102.87]				
	05/15/09 14:25 CST		0	Hail (1.00 in)
	05/15/09 14:30 CST		0	Source: Public
PECOS COUNTY --- 18.3 WNW LONGFELLOW [30.31, -102.89]				
	05/15/09 15:45 CST		0	Hail (1.00 in)
	05/15/09 15:48 CST		0	Source: Public
TERRELL COUNTY --- DRYDEN FFA SITE [30.05, -102.22]				
	05/15/09 18:12 CST		0	Thunderstorm Wind (EG 50 kt)
	05/15/09 18:13 CST		0	Source: ASOS

Convection developed ahead of an approaching mid to upper trough moving out of northern Mexico on this day. In addition to the upper level support, a cold front served as a focus for thunderstorm development. Although instability was not very impressive on this day due to extensive cloud cover, a few severe storms did produce 1 inch hail and one severe wind gust over the higher terrain of West Texas.

(TX-Z258) GUADALUPE MOUNTAINS OF CULBERSON COUNTY				
	05/16/09 04:51 MST		0	High Wind (MAX 37 kt)
	05/16/09 05:51 MST		0	

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

A strong cold front moved through the mountains of west Texas on this day, resulting in a tight surface pressure gradient across the region. The northeast surface winds behind this front were funneled through the Guadalupe Pass, resulting in sustained winds at or above 40 mph for 4 hours.

JEFF DAVIS COUNTY --- 1.4 WNW FT DAVIS [30.59, -103.90], 1.3 NNW FT DAVIS [30.60, -103.89], 1.2 NNW FT DAVIS [30.60, -103.89], 1.1 NW FT DAVIS [30.59, -103.89], 1.1 WNW FT DAVIS [30.59, -103.90], 1.5 WNW FT DAVIS [30.59, -103.90]

	05/22/09 14:45 CST	0	Flash Flood (due to Heavy Rain)
	05/22/09 16:00 CST	0	Source: Fire Department/Rescue

Several road closures were reported by the fire department in Fort Davis, TX.

Early morning soundings on this day showed deep layer moisture from Midland, TX to El Paso, TX. This, combined with a mid level trough axis near the region, resulted in heavy rainfall over the mountainous terrain of West Texas.

GAINES COUNTY --- 1.8 SE SEMINOLE [32.70, -102.63]

	05/24/09 22:13 CST	0	Hail (0.75 in)
	05/24/09 22:14 CST	0	Source: Public

An embedded shortwave trough within the westerly mid level flow, moved across south central New Mexico. Combined with moderate surface based instability, one severe storm was able to develop over Gaines County.

PECOS COUNTY --- 1.8 NW BAKERSFIELD [30.90, -102.30]

	05/25/09 13:29 CST	0	Hail (1.00 in)
	05/25/09 13:31 CST	0	Source: Trained Spotter

BORDEN COUNTY --- 3.0 NNW GAIL [32.81, -101.45]

	05/25/09 17:53 CST	0	Hail (0.88 in)
	05/25/09 17:55 CST	0	Source: Public

PRESIDIO COUNTY --- 0.9 NE PRESIDIO [29.56, -104.36]

	05/25/09 18:50 CST	0	Hail (1.00 in)
	05/25/09 18:53 CST	0	Source: COOP Observer

A weak surface low, sufficient boundary layer moisture and enhanced mid to upper level flow combined on this day resulting in scattered convection mainly over the southern CWA. This is where the greatest surface based instability was observed with daytime heating.

GLASSCOCK COUNTY --- 9.4 W LEES [32.08, -101.64]

	05/26/09 15:34 CST	0	Hail (1.00 in)
	05/26/09 15:39 CST	0	Source: Trained Spotter

HOWARD COUNTY --- 5.0 SSW SOUTH HAVEN [32.11, -101.50]

	05/26/09 15:46 CST	0	Hail (1.00 in)
	05/26/09 15:48 CST	0	Source: Trained Spotter

HOWARD COUNTY --- 2.2 W SOUTH HAVEN [32.18, -101.52]

	05/26/09 16:10 CST	0	Hail (0.75 in)
	05/26/09 16:11 CST	0	Source: Trained Spotter

HOWARD COUNTY --- 4.3 ENE LOMAX [32.14, -101.56]

	05/26/09 16:10 CST	0	Hail (1.25 in)
	05/26/09 16:13 CST	0	Source: Trained Spotter

HOWARD COUNTY --- 2.0 SE SOUTH HAVEN [32.16, -101.46]

	05/26/09 16:24 CST	0	Hail (1.25 in)
	05/26/09 16:27 CST	0	Source: Trained Spotter

HOWARD COUNTY --- KNOTT [32.40, -101.65]

	05/26/09 16:27 CST	0	Hail (1.00 in)
	05/26/09 16:28 CST	0	Source: Trained Spotter

Storm Data and Unusual Weather Phenomena - May 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
HOWARD COUNTY --- 5.0 N FAIRVIEW [32.42, -101.52]				
	05/26/09 16:56 CST		0	Hail (0.88 in)
	05/26/09 16:58 CST		0	Source: Trained Spotter
BORDEN COUNTY --- 11.8 W LAKE J B THOMAS [32.57, -101.40]				
	05/26/09 17:20 CST		0	Hail (1.25 in)
	05/26/09 17:23 CST		0	Source: Trained Spotter
SCURRY COUNTY --- FRANKLIN CENTER [32.73, -101.03]				
	05/26/09 17:42 CST		0	Hail (0.88 in)
	05/26/09 17:43 CST		0	Source: Fire Department/Rescue

Surface convergence along a cold front over the central CWA, combined with daytime heating and an upper level trough progressing eastward out of New Mexico, resulted in convection developing during the afternoon and evening hours over southwest Texas.

BREWSTER COUNTY --- 15.7 SSE ALPINE [30.16, -103.57]				
	05/27/09 16:06 CST		0	Hail (0.88 in)
	05/27/09 16:08 CST		0	Source: Public
BREWSTER COUNTY --- 0.6 W ALPINE [30.37, -103.68]				
	05/27/09 16:30 CST		0	Hail (1.00 in)
	05/27/09 17:25 CST		0	Source: COOP Observer
BREWSTER COUNTY --- 0.7 S ALPINE [30.36, -103.67]				
	05/27/09 17:13 CST		0	Hail (2.00 in)
	05/27/09 17:18 CST		0	Source: Public

During this day, convection initiated over the higher terrain of West Texas along a stalled late season cold front oriented east to west. The deep layer shear was not that great initially, but increased later in the day as a weak mid level speed max associated with an embedded shortwave trough passed near the Big Bend of Texas. This, combined with moderate surface based instability and moisture advection from an 850 mb jet, resulted in isolated severe storms over southwest Texas.

BREWSTER COUNTY --- 0.7 S ALPINE [30.36, -103.67]				
	05/28/09 15:05 CST		0	Hail (0.88 in)
	05/28/09 15:08 CST		0	Source: Public
PECOS COUNTY --- 18.3 WNW LONGFELLOW [30.31, -102.89]				
	05/28/09 16:52 CST		0	Hail (0.88 in)
	05/28/09 16:55 CST		0	Source: Public
WINKLER COUNTY --- 0.7 N WINK [31.76, -103.15]				
	05/28/09 17:34 CST		0	Hail (1.75 in)
	05/28/09 17:36 CST		0	Source: Law Enforcement

Upslope flow, a weak subtropical shortwave trough and deep moisture in place allowed for convection to develop this day over portions of southwest Texas. The 0-6 km bulk shear was near 35-45 knots during the afternoon and MLCAPE values were estimated near 1000-1500 j/kg across the area of interest. These two factors, along with increasingly veering profiles, resulted in a couple of severe hail reports.

PECOS COUNTY --- 1.7 NNW FT STOCKTON [30.90, -102.88], 2.0 SE FT STOCKTON ARPT FST [30.90, -102.89], 2.1 W FT STOCKTON [30.88, -102.90], 0.7 WSW FT STOCKTON [30.88, -102.88], 0.7 NNE FT STOCKTON [30.89, -102.86], 1.6 N FT STOCKTON [30.90, -102.87]				
	05/30/09 15:33 CST		5K	Flash Flood (due to Heavy Rain)
	05/30/09 16:00 CST		0	Source: Law Enforcement

The local law enforcement reported roads were impassible at 1530 CST due to high water and a motorist was stranded at Nelson and 1st Street. The motorist was not injured. In addition, the public reported standing water depths of 1 foot and multiple softball fields covered with water in Fort Stockton at 1536 CST.

A mid-level shortwave trough moved into southwest Texas on this day and when combined with persistent moist upslope flow, resulted in thunderstorm development across southwest Texas. Weak flow through the middle column of the atmosphere resulted in

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slow moving storms. In addition, precipitable water values were above normal for late May. One storm located over Fort Stockton, TX produced flash flooding during the late afternoon hours.

GAINES COUNTY --- 2.1 S SEMINOLE [32.69, -102.65]				
	05/31/09 20:22 CST		0	Hail (0.88 in)
	05/31/09 20:23 CST		0	Source: Trained Spotter
GLASSCOCK COUNTY --- 6.2 ENE ST LAWRENCE [31.70, -101.40]				
	05/31/09 21:05 CST		0	Hail (0.88 in)
	05/31/09 21:07 CST		0	Source: Trained Spotter
REAGAN COUNTY --- 10.9 NNW STILES [31.55, -101.64]				
	05/31/09 22:10 CST		0	Hail (1.00 in)
	05/31/09 22:12 CST		0	Source: Law Enforcement
REAGAN COUNTY --- 9.9 NNE STILES [31.53, -101.51]				
	05/31/09 22:24 CST		0	Hail (0.88 in)
	05/31/09 22:26 CST		0	Source: Trained Spotter

Although the deep layer shear this day was relatively weak compared to the previous days, there was plenty of boundary layer moisture/instability to work with. Steep mid-level lapse rates and low wet bulb zero heights also resulted in increased hail threats from any storms that developed within a theta-e ridge axis positioned over the east central CWA.