

Storm Data and Unusual Weather Phenomena - June 2013

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

TEXAS, South Panhandle

(TX-Z021) PARMER, (TX-Z022) CASTRO, (TX-Z023) SWISHER, (TX-Z024) BRISCOE, (TX-Z025) HALL, (TX-Z026) CHILDRESS, (TX-Z027) BAILEY, (TX-Z028) LAMB, (TX-Z029) HALE, (TX-Z030) FLOYD, (TX-Z031) MOTLEY, (TX-Z032) COTTLE, (TX-Z033) COCHRAN, (TX-Z034) HOCKLEY, (TX-Z035) LUBBOCK, (TX-Z036) CROSBY, (TX-Z037) DICKENS, (TX-Z038) KING, (TX-Z039) YOAKUM, (TX-Z040) TERRY, (TX-Z041) LYNN, (TX-Z042) GARZA, (TX-Z043) KENT, (TX-Z044) STONEWALL

| | | |
|--------------------|-------|---------|
| 06/01/13 00:00 CST | 0 | Drought |
| 06/30/13 23:59 CST | 0.10B | |

Drought conditions improved one category from extreme (D3) and exceptional (D4) levels over parts of the western South Plains, northern Rolling Plains, and the far southeast Texas Panhandle. Severe (D2) levels were concentrated primarily in Briscoe, Hall, Motley, Cottle, and Yoakum Counties. The remainder of the region remained largely unchanged at D4 levels.

Multiple episodes of beneficial rainfall in June provided some relief from the extreme and exceptional drought in places; however, the majority of the South Plains and Rolling Plains struggled to reach or exceed their average monthly rainfall. In Lubbock, monthly rainfall ended up 1.37 inches below normal whereas Childress was just 0.62 inches shy of normal. The bulk of the rain fell during the first three weeks of June with high temperatures faring near or below seasonable levels. By the final week of June, a very hot and dry pattern emerged with widespread triple digit heat and low humidities. June is typically the wettest month in this region and is a pivotal time for cotton farmers as they weigh the option to replace struggling cotton with grain crops, or persist with their current spread at the risk of significant loss from persistent drought. Keetch-Byram Drought Indices were lowest in Hall and adjacent counties with values of 0 to 400. Much of the Rolling Plains ended June with KBDI values around 400, whereas locations on the Caprock ranged between 500 and 700.

Unfortunately, in some portions of the South Plains and northern Rolling Plains where heavy rains did fall (most notably on June 5th, 17th and 19th), moderate to severe damage to crops resulted from excessive runoff and soil erosion. A hailstorm with torrential rain on June 5th in Bailey and Lamb Counties proved particularly devastating as nearly 6000 acres of cotton were deemed a total loss. In southeast Lubbock County, a hailstorm with flooding rains on the 17th destroyed an estimated 28,000 acres of cotton. In the Rolling Plains, wheat harvests varied drastically by county with yields reported between 0 and 45 bushels per acre.

Economic losses due to drought through June since the drought began were estimated near \$2.8 billion.

YOAKUM COUNTY --- 2.4 NNW ALLRED [33.01, -102.94]

| | | |
|--------------------|---|------------------------------|
| 06/03/13 00:35 CST | 0 | Thunderstorm Wind (MG 54 kt) |
| 06/03/13 00:40 CST | 0 | Source: Mesonet |

Measured by a Texas Tech University West Texas mesonet station located 7WNW of Denver City at 1240 CST. This mesonet also recorded a gust to 58 mph at 1235 CST.

(TX-Z021) PARMER, (TX-Z022) CASTRO, (TX-Z023) SWISHER, (TX-Z024) BRISCOE, (TX-Z035) LUBBOCK

| | | |
|--------------------|---|-----------------------|
| 06/03/13 01:30 CST | 0 | High Wind (MAX 60 kt) |
| 06/03/13 05:10 CST | 0 | |

During the pre-dawn hours, a slowly-decaying mesoscale convective system (MCS) moved eastward out of the western South Plains and far southwest Texas Panhandle. A lone severe storm developed within this MCS over western Yoakum County and produced a severe wind gust; however, the strongest winds actually developed along the back edge of this MCS in response to a strong wake low structure. This process resulted in several hours of sustained winds ranging between 35 and 50 mph, with multiple severe wind gusts including two peak gusts of 69 mph as measured at both Silverton and near Kress. Nearly five hours after the first severe wind gust, portions of the city of Lubbock experienced high winds and isolated wind damage from decaying showers. Much of this damage consisted of broken tree branches and limbs, however a NWS employee observed one 20-foot tree uprooted near Elgin Ave. Lubbock Power and Light reported multiple minor power outages concentrated in central Lubbock.

PARMER COUNTY --- 2.0 NE FRIONA [34.65, -102.71]

| | | |
|--------------------|---|------------------------------|
| 06/05/13 19:15 CST | 0 | Thunderstorm Wind (MG 55 kt) |
| 06/05/13 19:30 CST | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site near Friona reported a 63 mph wind gust.

PARMER COUNTY --- FRIONA [34.63, -102.73]

| | | |
|--------------------|-----|-------------------------|
| 06/05/13 19:28 CST | 50K | Hail (2.75 in) |
| 06/05/13 19:54 CST | 0 | Source: Law Enforcement |

Trained spotters, law enforcement, and the public reported a swath of hail ranging in sizes from golf balls to baseballs in the town of Friona. The large, wind-driven hail caused damage to several vehicles including a police cruiser in Friona.

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| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|--|--------------------|-------------------|---------------------|------------------------------|
| PARMER COUNTY --- FARWELL [34.38, -103.03] | | | | |
| | 06/05/13 19:49 CST | | 0 | Thunderstorm Wind (EG 61 kt) |
| | 06/05/13 19:49 CST | | 0 | Source: Public |
| The public estimated winds to 70 mph along with penny size hail as limbs were ripped from trees. | | | | |
| COCHRAN COUNTY --- 1.0 ENE MORTON [33.73, -102.75] | | | | |
| | 06/05/13 20:20 CST | | 0 | Thunderstorm Wind (MG 63 kt) |
| | 06/05/13 21:05 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas mesonet site near Morton reported several severe wind gusts, peaking at 72 mph. | | | | |
| LAMB COUNTY --- 3.0 W SPRINGLAKE [34.23, -102.35] | | | | |
| | 06/05/13 20:22 CST | | 0 | Hail (2.00 in) |
| | 06/05/13 20:22 CST | | 0 | Source: Trained Spotter |
| A trained storm spotter reported hen egg size hail near Springlake. No damage was reported. | | | | |
| BAILEY COUNTY --- 2.0 SSW MULESHOE [34.19, -102.74] | | | | |
| | 06/05/13 20:45 CST | | 0 | Thunderstorm Wind (MG 52 kt) |
| | 06/05/13 20:45 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas mesonet site near Muleshoe reported a wind gust to 60 mph. | | | | |
| YOAKUM COUNTY --- 3.0 N PLAINS [33.22, -102.83] | | | | |
| | 06/05/13 20:50 CST | | 0 | Thunderstorm Wind (MG 60 kt) |
| | 06/05/13 21:30 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas mesonet site near Plains measured a peak wind gust to 69 mph. | | | | |
| HOCKLEY COUNTY --- 4.0 S LEVELLAND [33.52, -102.37] | | | | |
| | 06/05/13 21:00 CST | | 0 | Thunderstorm Wind (MG 66 kt) |
| | 06/05/13 21:05 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas mesonet site south of Levelland measured wind gusts up to 76 mph. | | | | |
| HOCKLEY COUNTY --- 6.0 SSW ANTON [33.74, -102.21] | | | | |
| | 06/05/13 21:00 CST | | 0 | Thunderstorm Wind (MG 65 kt) |
| | 06/05/13 21:11 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas mesonet site and the fire department in Anton recorded wind gusts up to 70 mph. | | | | |
| (TX-Z028) LAMB, (TX-Z033) COCHRAN, (TX-Z034) HOCKLEY, (TX-Z035) LUBBOCK, (TX-Z039) YOAKUM, (TX-Z041) LYNN | | | | |
| | 06/05/13 21:05 CST | | 0 | High Wind (MAX 65 kt) |
| | 06/05/13 23:00 CST | | 0 | |
| LUBBOCK COUNTY --- 0.9 SW REESE VLG [33.59, -102.03] | | | | |
| | 06/05/13 21:10 CST | | 0 | Thunderstorm Wind (MG 70 kt) |
| | 06/05/13 21:35 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas mesonet site in Reese Center recorded wind gusts up to 81 mph. | | | | |
| HOCKLEY COUNTY --- 4.0 NE ROPESVILLE [33.46, -102.10] | | | | |
| | 06/05/13 21:15 CST | | 5K | Thunderstorm Wind (EG 56 kt) |
| | 06/05/13 21:15 CST | | 0 | Source: NWS Employee |
| A NWS employee reported several power poles snapped along Highway 62 northeast of Ropesville. | | | | |
| YOAKUM COUNTY --- 7.0 WNW DENVER CITY [33.01, -102.96] | | | | |

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|----------|--------------------|-------------------|---------------------|------------------------------|
| | 06/05/13 21:15 CST | | 0 | Thunderstorm Wind (MG 52 kt) |
| | 06/05/13 21:15 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site near Denver City measured a wind gust to 60 mph.

LUBBOCK COUNTY --- 6.0 SSW WOLFFORTH [33.42, -102.06]

| | | | | |
|--|--------------------|--|---|------------------------------|
| | 06/05/13 21:20 CST | | 0 | Thunderstorm Wind (MG 73 kt) |
| | 06/05/13 21:40 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site near Wolfforth recorded wind gusts up to 84 mph.

LAMB COUNTY --- 6.0 S OLTON [34.09, -102.13]

| | | | | |
|--|--------------------|--|---|------------------------------|
| | 06/05/13 21:25 CST | | 0 | Thunderstorm Wind (MG 50 kt) |
| | 06/05/13 21:25 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site near Olton measured a wind gust of 58 mph.

LUBBOCK COUNTY --- 4.0 WSW (LBB)LUBBOCK INTL AR [33.64, -101.88], 3.5 S LUBBOCK [33.53, -101.86]

| | | | | |
|--|--------------------|--|-------|------------------------------|
| | 06/05/13 21:30 CST | | 0.40B | Thunderstorm Wind (MG 63 kt) |
| | 06/05/13 21:41 CST | | 0.10M | Source: NWS Storm Survey |

An official NWS storm damage survey, along with trained spotters, police department officials, the Automated Surface Observing System, and equipment at the NWS, confirmed severe wind gusts ahead of a squall line moving through Lubbock. Gusts up to 72 mph were recorded as the line caused considerable damage and downed numerous trees, snapped almost 100 power poles, blew out several windows, and inflicted substantial damage to roofs, windows, vehicles, and structures. At the Motor Inns of America hotel in north Lubbock, downburst winds completely stripped a large section of the roof from the building forcing residents to evacuate. Fortunately, there were no serious injuries reported. Those buildings that suffered broken windows or damaged roofs also received various degrees of water damage to walls, carpets, and personal belongings. Nearly 30,000 customers lost power in the city of Lubbock.

HOCKLEY COUNTY --- 6.0 SSW ANTON [33.74, -102.21]

| | | | | |
|--|--------------------|--|---|------------------------------|
| | 06/05/13 21:40 CST | | 0 | Thunderstorm Wind (MG 65 kt) |
| | 06/05/13 22:45 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site near Anton measured several severe wind gusts, peaking at 75 mph.

LUBBOCK COUNTY --- 3.5 N POSEY [33.53, -101.69], 0.8 E SLATON [33.43, -101.64]

| | | | | |
|--|--------------------|--|-----|------------------------------|
| | 06/05/13 21:50 CST | | 1M | Thunderstorm Wind (MG 71 kt) |
| | 06/05/13 22:00 CST | | 10K | Source: NWS Storm Survey |

An official NWS storm damage survey confirmed significant wind driven damage from near Buffalo Springs Lake and Ransom Canyon down into Slaton. Several trees and power lines and poles were downed, along with rail cars being piled on top of one another in Slaton. The Texas Tech University West Texas mesonet site northeast of Slaton measured an 82 mph gust as the line of storms passed through, while the NWS storm survey estimated wind gusts of near 90 mph associated with some of the damage.

CROSBY COUNTY --- LORENZO [33.67, -101.53]

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|--|--------------------|--|-----|------------------------------|
| | 06/05/13 21:55 CST | | 25K | Thunderstorm Wind (EG 70 kt) |
| | 06/05/13 22:00 CST | | 0 | Source: Mesonet |

A meteorologist with the Texas Tech University West Texas mesonet group reported a wind gust to 80 mph in Lorenzo. Additionally, a roof was torn off of a warehouse in Lorenzo.

LYNN COUNTY --- 3.0 NNE TAHOKA [33.22, -101.76]

| | | | | |
|--|--------------------|--|---|------------------------------|
| | 06/05/13 22:00 CST | | 0 | Thunderstorm Wind (MG 54 kt) |
| | 06/05/13 22:00 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site in Tahoka measured a 62 mph wind gust.

LUBBOCK COUNTY --- 0.9 SW REESE VLG [33.59, -102.03]

| | | | | |
|--|--------------------|--|---|------------------------------|
| | 06/05/13 22:10 CST | | 0 | Thunderstorm Wind (MG 61 kt) |
| | 06/05/13 22:55 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site in Reese Center measured wind gusts up to 70 mph.

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| CROSBY COUNTY --- 6.2 NNE KALGARY [33.48, -101.10] | | | | |
| | 06/05/13 22:27 CST | | 0 | Hail (1.00 in) |
| | 06/05/13 23:00 CST | | 0 | Source: Law Enforcement |

Law enforcement personnel reported quarter size hail near White River Lake. No damage was reported.

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|--|--------------------|--|---|------------------------------|
| GARZA COUNTY --- 8.6 ENE JUSTICEBURG [33.07, -101.06] | | | | |
| | 06/05/13 22:40 CST | | 0 | Thunderstorm Wind (MG 54 kt) |
| | 06/05/13 22:40 CST | | 0 | Source: Mesonet |

A Texas Tech University West Texas mesonet site near Lake Alan Henry recorded a 62 mph wind gust.

An area of thunderstorms developed as a result of upslope flow across the higher terrain of New Mexico during the mid to late afternoon hours, before morphing into a well-organized mesoscale convective complex into the late afternoon and evening. This complex raced southeast into the far southwest Texas panhandle and much of the South Plains, producing wind gusts near 90 mph and hail up to the size of baseballs. Several dozen reports of damage were received, including downed trees and power lines as well as broken windshields and damage to structures. By far, the most significant and widespread property damage was focused in northern Lubbock where some buildings lost roofs and thousands of windows were cracked or shattered. An electrical utility company stated that the number and severity of power outages in Lubbock alone had not been this extensive since the city was struck by the 1970 F5 tornado. In the wake of these destructive storms, high winds with frequent gusts of 50 to 70 mph were noted over much of the South Plains for up to an hour in duration. Total damages from this storm could exceed \$500 million.



Damage at a railroad yard in Slaton, with rail cars piled on top of each other in the top image. Photo courtesy of NWS employees during official storm damage survey.

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| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|--|--------------------|-------------------|---------------------|--------------------------------|
| HALL COUNTY --- 5.0 N TURKEY [34.47, -100.88], 9.0 N TURKEY [34.53, -100.88] | | | | |
| | 06/16/13 19:10 CST | | 0 | Hail (2.50 in) |
| | 06/16/13 19:20 CST | | 0 | Source: NWS Employee |
| A NWS employee reported golf ball size hail along Highway 70 north of Turkey. Farther south, a storm chaser estimated tennis ball size hail along the same highway as this hailswath moved south. | | | | |
| BRISCOE COUNTY --- 3.7 ENE QUITAQUE [34.39, -100.99] | | | | |
| | 06/16/13 20:00 CST | | 0 | Thunderstorm Wind (EG 52 kt) |
| | 06/16/13 20:00 CST | | 0 | Source: Fire Department/Rescue |
| Fire rescue officials reported a large tree uprooted between Quitaque and Turkey. | | | | |
| MOTLEY COUNTY --- 8.0 N MATADOR [34.14, -100.82] | | | | |
| | 06/16/13 21:00 CST | | 15K | Hail (1.00 in) |
| | 06/16/13 21:00 CST | | 0 | Source: Fire Department/Rescue |
| A local fire department official observed quarter size hail north of Matador. Additionally, damage to trees and roofs were reported on the north side of Matador. | | | | |
| MOTLEY COUNTY --- 3.0 N ROARING SPGS [33.94, -100.85] | | | | |
| | 06/16/13 21:25 CST | | 0 | Thunderstorm Wind (MG 52 kt) |
| | 06/16/13 21:25 CST | | 0 | Source: Mesonet |
| The Texas Tech University West Texas Mesonet site in Roaring Springs measured a 60 mph wind gust. | | | | |
| CASTRO COUNTY --- 2.0 NE DIMMITT [34.57, -102.30] | | | | |
| | 06/16/13 23:50 CST | | 0 | Thunderstorm Wind (MG 50 kt) |
| | 06/16/13 23:50 CST | | 0 | Source: Mesonet |
| The Texas Tech University West Texas Mesonet site in Dimmitt measured a 58 mph gust. | | | | |
| SWISHER COUNTY --- 0.9 NW HAPPY [34.74, -101.86] | | | | |
| | 06/17/13 00:50 CST | | 1K | Thunderstorm Wind (EG 52 kt) |
| | 06/17/13 00:50 CST | | 0 | Source: Public |
| A citizen reported a carport blown off from a residence and into a neighboring yard. | | | | |
| PARMER COUNTY --- 6.7 ENE BLACK [34.73, -102.52] | | | | |
| | 06/17/13 01:03 CST | | 5K | Thunderstorm Wind (EG 87 kt) |
| | 06/17/13 01:03 CST | | 0 | Source: Emergency Manager |
| A local Emergency Manager relayed a report from a train crew in Summerfield - 47 train cars derailed with 42 being blown over by severe thunderstorm outflow winds. No cargo spilled and no injuries were reported. | | | | |
| CHILDRESS COUNTY --- CHILDRESS MUNI ARPT [34.43, -100.30] | | | | |
| | 06/17/13 01:42 CST | | 0 | Thunderstorm Wind (MG 58 kt) |
| | 06/17/13 01:53 CST | | 0 | Source: ASOS |
| The Automated Surface Observing System at the Childress Municipal Airport recorded wind gusts up to 67 mph for about a ten minute duration. | | | | |
| <p>Early this evening, a large supercell thunderstorm turned southward and moved across Briscoe, Hall and Motley Counties accompanied by very large hail up to tennis ball size and damaging straight-line winds. By late this night, scattered strong and severe storms organized farther west near the Texas and New Mexico state line and quickly flourished into a damaging squall line that raced east-southeast across the southern Texas Panhandle. Several reports of severe winds accompanied this squall line from Parmer County east to Childress County - the most severe of which involved 47 freight train cars derailling in far northeast Parmer County from winds determined to be as high as 100 mph.</p> | | | | |
| LUBBOCK COUNTY --- 0.6 W NEW DEAL [33.73, -101.84], 0.2 SW BURRIS [33.53, -101.78] | | | | |
| | 06/17/13 16:38 CST | | 50K | Hail (4.50 in) |
| | 06/17/13 17:19 CST | | 14M | Source: Public |

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|---|-----------|-------------------|---------------------|------------------------|
| <p>A hailswath consisting of large to occasionally giant hail accompanied a slow-moving supercell from near New Deal southward to east Lubbock and to Highway 84 near Loop 289. Initially, baseball size hail was observed on FM Road 1294 one mile east of Interstate 27 near New Deal. The largest hail of approximately softball size fell in northeast Lubbock along East 13th Street around 5:15 pm CST. As this supercell continued southward, the large hail diminished to golf ball and then quarter size. Fortunately, the majority of the large hail fell over sparsely populated sections of east Lubbock; however, vehicles traveling along the east end of Loop 289 did suffer various degrees of body and glass damage. Total property damage from hail is estimated at \$50,000. The greatest blow was dealt to area cotton crops primarily in southeast Lubbock County where hail and torrential rains destroyed an estimated 28,000 acres according to the Texas A&M AgriLife Extension Service. The value of cotton loss is estimated at \$14M.</p> | | | | |

LUBBOCK COUNTY --- 0.9 NE WOLFFORTH [33.51, -102.01], 1.1 W WOODROW [33.45, -101.84]

| | | |
|--------------------|---|------------------------------|
| 06/17/13 17:51 CST | 0 | Thunderstorm Wind (MG 56 kt) |
| 06/17/13 18:06 CST | 0 | Source: Trained Spotter |

A swath of winds measured as high as 65 mph spread across southwest Lubbock County accompanied by blowing dust. No reports or evidence of damage accompanied these winds.

LYNN COUNTY --- 4.9 NW WILSON [33.37, -101.79]

| | | |
|--------------------|---|-------------------------|
| 06/17/13 18:24 CST | 0 | Hail (2.25 in) |
| 06/17/13 18:24 CST | 0 | Source: Trained Spotter |

A trained spotter measured 2.25 inch diameter hail about five miles northwest of Wilson. No known damage accompanied the hail.

LUBBOCK COUNTY --- 1.3 W LUBBOCK AIRPARK [33.48, -101.84], 1.6 W LUBBOCK AIRPARK [33.48, -101.85], 1.9 WNW LUBBOCK AIRPARK [33.49, -101.85], 1.6 NW LUBBOCK AIRPARK [33.49, -101.84]

| | | |
|--------------------|---|---------------------------|
| 06/17/13 18:28 CST | 0 | Flood (due to Heavy Rain) |
| 06/17/13 19:30 CST | 0 | Source: Trained Spotter |

A trained spotter reported minor flooding of Highway 87 frontage road at 114th Street.

LUBBOCK COUNTY --- 1.6 NNE DOUD [33.59, -101.92], 1.6 NNE DOUD [33.59, -101.92], 1.6 NNE DOUD [33.59, -101.92], 1.6 NNE DOUD [33.59, -101.92]

| | | |
|--------------------|---|---------------------------|
| 06/17/13 18:40 CST | 0 | Flood (due to Heavy Rain) |
| 06/17/13 19:40 CST | 0 | Source: Trained Spotter |

A trained spotter reported minor street flooding at the intersection of 4th Street and Slide Road.

COCHRAN COUNTY --- 0.6 W MORTON COCHRAN CO AR [33.73, -102.74]

| | | |
|--------------------|---|------------------------------|
| 06/17/13 18:45 CST | 0 | Thunderstorm Wind (MG 50 kt) |
| 06/17/13 18:45 CST | 0 | Source: Mesonet |

Measured by a Texas Tech University West Texas Mesonet station near Morton.

LYNN COUNTY --- 1.5 SSW TAHOKA [33.16, -101.79]

| | | |
|--------------------|---|-----------------------|
| 06/17/13 19:02 CST | 0 | Hail (1.00 in) |
| 06/17/13 19:02 CST | 0 | Source: COOP Observer |

Hail of quarter size was relayed by a NWS CO-OP observer. No damage was reported.

PARMER COUNTY --- 0.6 E BOVINA [34.52, -102.89]

| | | |
|--------------------|---|------------------------------|
| 06/17/13 19:15 CST | 0 | Thunderstorm Wind (EG 52 kt) |
| 06/17/13 19:15 CST | 0 | Source: Law Enforcement |

Law enforcement personnel estimated winds of 60 mph in Bovina.

LYNN COUNTY --- 0.7 N O'DONNELL [32.98, -101.83]

| | | |
|--------------------|---|------------------------------|
| 06/17/13 19:30 CST | 0 | Thunderstorm Wind (MG 64 kt) |
| 06/17/13 19:30 CST | 0 | Source: Mesonet |

Measured by a Texas Tech University West Texas Mesonet station near O'Donnell.

LYNN COUNTY --- 1.5 SSW TAHOKA T BAR ARPT [33.16, -101.83], 1.5 SSW TAHOKA [33.16, -101.79], 0.6 SW TAHOKA [33.17, -101.79], 0.6 SW TAHOKA T BAR ARPT [33.17, -101.83]

| | | |
|--------------------|----|---------------------------|
| 06/17/13 19:46 CST | 2K | Flood (due to Heavy Rain) |
| 06/17/13 21:00 CST | 0 | Source: Trained Spotter |

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|---|--------------------|-------------------|---------------------|------------------------------|
| A section of Highway 380 just west of Tahoka was covered by about 2 to 3 feet of water rendering two cars disabled. Minor flooding of streets was reported in Tahoka. | | | | |
| GARZA COUNTY --- 5.1 SSW GRAHAM CHAPEL [33.08, -101.50] | | | | |
| | 06/17/13 20:15 CST | | 0 | Thunderstorm Wind (MG 51 kt) |
| | 06/17/13 20:15 CST | | 0 | Source: Mesonet |

Measured by a Texas Tech University West Texas Mesonet station near Graham.

Late this afternoon, a slow-moving supercell thunderstorm formed near New Deal along a stationary front and tracked southward for the next 3.5 hours before finally dissipating near O'Donnell. Numerous reports of large to giant hail accompanied this storm with some hailstones as large as softballs as reported in northeast Lubbock. This supercell also produced localized flooding along its path and wiped out an estimated \$14M worth of cotton in southeast Lubbock County. Farther west, an expansive line of storms exiting New Mexico pushed east early this evening and were responsible for creating scattered severe wind gusts over the portions of the South Plains. Multiple roadways accrued standing water with two cars rendered disabled by high water in Tahoka at the US Highway 87 underpass.



Giant hail near softball size that fell in northeast Lubbock from a slow-moving supercell thunderstorm. Photo courtesy of KJTV news.

| | | | | |
|---|--------------------|--|---|----------------|
| HALL COUNTY --- 2.0 NE LAKEVIEW [34.69, -100.68] | | | | |
| | 06/19/13 07:30 CST | | 0 | Heavy Rain |
| | 06/19/13 08:15 CST | | 0 | Source: Public |

The public measured 2.7 inches of rain in 45 minutes about two miles northeast of Lakeview.

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|---|--------------------|-------------------|---------------------|---------------------------------|
| HALL COUNTY --- MEMPHIS [34.72, -100.53] | | | | |
| | 06/19/13 07:30 CST | | 0 | Heavy Rain |
| | 06/19/13 10:30 CST | | 0 | Source: Trained Spotter |
| A trained spotter measured 3.5 inches of rain in Memphis. | | | | |
| HALL COUNTY --- 4.1 N ELI [34.74, -100.61], 1.2 W BRICE [34.70, -100.90], 2.4 SSE TAMPICO [34.45, -100.72], 3.1 S ESTELLINE [34.50, -100.43] | | | | |
| | 06/19/13 08:00 CST | | 0 | Flash Flood (due to Heavy Rain) |
| | 06/19/13 10:30 CST | | 0 | Source: Public |
| Widespread flash flooding was reported by several sources in northern Hall County. The Hall County Sheriff's Office and public reported widespread flash flooding in north-central Hall County from torrential rain. A resident in Lakeview measured 2.7 inches of rain in just 45 minutes, and a total rainfall of 3.5 inches was measured in Memphis. Rapid runoff resulted in flooding of Highway 256 from Lesley east to Lakeview, and to 5.5 miles southwest of Memphis. This highway was reported as being impassable in Lesley. The cluster of storms responsible for this flooding earlier produced five-minute rainfall rates measured as high as 0.72 inches by a Texas Tech University West Texas Mesonet located two miles southwest of Clarendon. Damage to roads, property, or some area crops are unknown. | | | | |
| BRISCOE COUNTY --- 5.6 NNW QUITAQUE [34.45, -101.07] | | | | |
| | 06/19/13 08:20 CST | | 0 | Heavy Rain |
| | 06/19/13 11:00 CST | | 0 | Source: COOP Observer |
| A cooperative weather observer measured 4.02 inches of rain. The duration of rainfall was estimated from radar and West Texas Mesonet data. | | | | |
| BRISCOE COUNTY --- 0.5 E GASOLINE [34.33, -100.99], 7.1 N QUITAQUE [34.47, -101.05], 1.2 NE SILVERTON [34.48, -101.29], 6.1 E WHITELEY [34.34, -101.22] | | | | |
| | 06/19/13 09:25 CST | | 5K | Flash Flood (due to Heavy Rain) |
| | 06/19/13 12:30 CST | | 0 | Source: Law Enforcement |
| Torrential rainfall rates produced 1.92 inches of rain in nearly 30 minutes at Caprock Canyons State Park. Additional rainfall from training thunderstorms this morning resulted in a storm total rainfall of 4.02 inches at the park. Similar to a flash flood in the park in September of 2012, the bridge crossing the South Prong of the Little Red River was inundated by floodwaters laden with debris and subsequently lost large sections of asphalt road. Elsewhere in Briscoe County, a rock slide occurred along Highway 256 east of Silverton and Farm-to-Market Road 599 in Gasoline was under water. | | | | |
| BRISCOE COUNTY --- 0.6 W QUITAQUE [34.37, -101.06] | | | | |
| | 06/19/13 09:50 CST | | 10K | Thunderstorm Wind (EG 61 kt) |
| | 06/19/13 09:50 CST | | 0 | Source: Emergency Manager |
| An emergency manager reported wind damage just west of Quitaque with wind gusts estimated to 70 mph. Along with area roofs being damaged, some mobile homes were shifted from their foundation and tree limbs up to eight inches in diameter were snapped. In Quitaque, winds of similar magnitude removed the top of the town's old water tower. | | | | |
| MOTLEY COUNTY --- 0.9 NW FLOMOT [34.23, -100.99] | | | | |
| | 06/19/13 10:07 CST | | 20K | Thunderstorm Wind (EG 61 kt) |
| | 06/19/13 10:07 CST | | 0 | Source: Law Enforcement |
| Law enforcement reported numerous trees and one power line down in the Flomot area. Also, an estimated 25 center pivot irrigation systems were overturned and damaged nearby. | | | | |
| COTTLE COUNTY --- 2.3 SW LAZARE [34.29, -100.03], 7.3 ESE BAKER [34.15, -100.01], 5.7 SSW CEE VEE [34.14, -100.48], 4.5 NNW CEE VEE [34.28, -100.48] | | | | |
| | 06/19/13 10:10 CST | | 0 | Flash Flood (due to Heavy Rain) |
| | 06/19/13 13:00 CST | | 0 | Source: Law Enforcement |
| Torrential rainfall inundated several roads in northern Cottle County for at least two hours. The worst flooding was observed in and around Cee Vee where law enforcement reported all roads as impassable. Road flooding elsewhere was less severe, but still an inconvenience to motorists particularly along Highway 83 and Farm-to-Market Road 104. No known damage occurred to the road surfaces. | | | | |
| HALL COUNTY --- 3.1 WNW TURKEY [34.42, -100.93], 3.9 SW TURKEY [34.36, -100.93], 4.0 E TURKEY [34.39, -100.81], 5.0 WSW TAMPICO [34.46, -100.81] | | | | |
| | 06/19/13 10:15 CST | | 0 | Flash Flood (due to Heavy Rain) |
| | 06/19/13 13:00 CST | | 0 | Source: Law Enforcement |

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

Law enforcement reported flooding along Main Street in Turkey. Sections of rural roads outside the city also had various degrees of flooding. No known flood damage was reported in Turkey.

MOTLEY COUNTY --- 5.0 ENE NORTHFIELD [34.31, -100.52], 7.1 NNW FLOMOT [34.31, -101.04], 7.7 SSW FLOMOT [34.12, -101.04], 12.0 SSE NORTHFIELD [34.12, -100.52]

| | | | | |
|--|--------------------|---|---|---------------------------------|
| | 06/19/13 11:00 CST | 0 | 0 | Flash Flood (due to Heavy Rain) |
| | 06/19/13 14:00 CST | 0 | 0 | Source: Law Enforcement |

Law enforcement reported that all roads in northern Motley County had some degree of flooding. Torrential rainfall created several mud and debris flows that in some cases deposited in excess of one foot of mud along sections of roads. No known damage occurred to any of the road surfaces.

During the morning hours, a complex of thunderstorms propagated slowly southward from the eastern Panhandle into the Rolling Plains. Several of these storms were strong to severe, and one storm produced straight-line wind damage in Quitaque, including lifting the top of the town water tower off. However, the more widespread impact was very heavy rainfall that produced flash flooding over a large chunk of the southeast Panhandle into the northern Rolling Plains. Caprock Canyons State Park recorded 4.02 inches of rainfall, which fell at torrential rates measured as high as 12 inches per hour for a brief period. The extreme rainfall rates led to large amounts of runoff and widespread flooding. A road in the state park was flooded in two locations when the South Prong of the Little Red River became swollen. In addition, numerous other roadways were flooded across Briscoe, Hall, southwest Childress, and northern Cottle Counties. The flooding gradually subsided by the early afternoon hours after storms exited to the southeast. This morning complex of storms produced a large outflow boundary that surged westward onto the Caprock by midday and helped fuel the development of more severe weather later this afternoon. This latter severe weather summary can be found in the following event entry for this date.

HOCKLEY COUNTY --- 5.4 WSW COBLE [33.58, -102.59]

| | | | | |
|--|--------------------|---|---|-------------------------|
| | 06/19/13 16:03 CST | 0 | 0 | Hail (1.00 in) |
| | 06/19/13 16:03 CST | 0 | 0 | Source: Trained Spotter |

A SKYWARN spotter estimated quarter size hail two miles southeast of Whiteface. No damage was reported.

HOCKLEY COUNTY --- 4.9 NNW SUNDOWN [33.51, -102.54], 4.5 WNW CLAUENE [33.50, -102.45]

| | | | | |
|--|--------------------|-----|---|----------------------|
| | 06/19/13 16:30 CST | 25K | 0 | Hail (3.10 in) |
| | 06/19/13 16:58 CST | 0 | 0 | Source: NWS Employee |

A NWS employee and storm chaser observed hail of tennis ball size to just over three inches in diameter. The most destructive hailswath occurred from about five miles northwest of Sundown to four miles north-northeast of Sundown. Video indicated the very large hail fell for nearly six minutes at one location. Vehicles and buildings throughout the hailswath sustained various degrees of damage.

HOCKLEY COUNTY --- 4.1 WNW SUNDOWN [33.48, -102.56], 4.2 SW COBLE [33.55, -102.55]

| | | | | |
|--|--------------------|-----|---|---------------------------------------|
| | 06/19/13 16:32 CST | 50K | 0 | Tornado (EF2, L: 5.20 mi , W: 350 yd) |
| | 06/19/13 16:52 CST | 0 | 0 | Source: NWS Storm Survey |

A supercell thunderstorm spawned an EF-2 tornado in far southwest Hockley County resulting in damage to oil field equipment, outbuildings, power poles, and storage tanks. Although the parent storm moved very slowly east throughout the tornado's life, a strong rear flank downdraft and occluding mesocyclone caused the tornado to veer sharply northward early in its life. This tornado began about 4 miles west-northwest of Sundown and moved northward for just over 5 miles in length before ending about 4.2 miles southeast of Whiteface. Photos and video from a storm chaser captured the evolution of this tornado. The tornado began as a compact debris cloud that became weak and diffuse just minutes before a narrow, fully condensed tornado emerged within wrapping rain curtains. At this point, a satellite funnel was observed along the periphery of the tornado, but this funnel is not believed to have become tornadic. After being largely obscured in rain for nearly five minutes, the tornado re-emerged as a fully condensed cone shape just before crossing FM Road 1585 and finally dissipating north of the road. The end time of the tornado was approximated from NWS Lubbock radar data. A NWS storm survey discovered scattered damage throughout portions of the tornado's track - the most intense of which was rated EF-2 over the southern portion of its path. Specifically, in excess of one dozen power poles were snapped at their base and a free-standing metal tower at a well site was bent. In a surrounding field, a wide swath of mesquite trees with branches of 1 to 3 inches in diameter were sheared off. This damage suggested maximum wind speeds were likely around 115 mph. Farther north at the abandoned Oxy facility located on FM 1585 west of Sampson Post Road, a large portion of a metal roof was removed and a nearby metal building was shifted off its foundation. Also, a large tree on the property was uprooted. This portion of damage was rated EF-0. North of the Oxy facility, EF-0 damage was noted to two fiberglass tank batteries with the top of one completely removed. The NWS in Lubbock would like to thank Hockley County emergency management for assisting with this storm survey.

BAILEY COUNTY --- 0.6 W MULESHOE [34.22, -102.74]

| | | | | |
|--|--------------------|---|---|-------------------------|
| | 06/19/13 17:18 CST | 0 | 0 | Hail (1.00 in) |
| | 06/19/13 17:18 CST | 0 | 0 | Source: Law Enforcement |

Law enforcement personnel estimated quarter size hail on Farm-to-Market Road 1731 about one mile southwest of Muleshoe. No damage was reported.

After the morning complex of storms and associated flash flooding northeast of the South Plains, an outflow boundary from these storms surged west onto the Caprock ahead of strong easterly winds and widespread blowing dust. This dust became thick enough to

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

reduce visibilities occasionally below 1/4 mile in some areas. By mid-afternoon, a lone supercell storm developed along this boundary in southeast Cochran County and later produced a 20-minute EF-2 tornado in southwest Hockley County. Although this tornado remained over mostly undeveloped land, some oil field equipment, metal buildings, and power poles were heavily damaged or destroyed. The parent supercell also produced very large hail slightly larger than three inches in diameter that damaged some homes and vehicles. Farther west, scattered storms exited east-central New Mexico and produced a few instances of sub-severe wind gusts in Parmer and Bailey Counties along with marginally severe hail near Muleshoe. As these storms continued east and moved into more stable air behind the outflow boundary, they quickly weakened but still managed to generate locally heavy rainfall.



EF-2 tornado about to cross FM Road 1585 northwest of Sundown, TX. This tornado moved north for the majority of its 20-minute life, while the parent supercell drifted east. Photo by Bruce Haynie.

PARMER COUNTY --- 1.1 E LAZBUDDIE [34.38, -102.60]

| | | | |
|--------------------|---|--|------------------------------|
| 06/20/13 17:34 CST | 0 | | Thunderstorm Wind (MG 55 kt) |
| 06/20/13 17:34 CST | 0 | | Source: Broadcast Media |

A local broadcast media outlet relayed a report from a schoolnet weather station in Lazbuddie of a 63 mph wind gust.

CASTRO COUNTY --- 2.0 NE DIMMITT [34.57, -102.30]

| | | | |
|--------------------|---|--|------------------------------|
| 06/20/13 17:55 CST | 0 | | Thunderstorm Wind (MG 56 kt) |
| 06/20/13 18:00 CST | 0 | | Source: Mesonet |

A Texas Tech University West Texas Mesonet station in Dimmitt recorded a 65 mph wind gust.

PARMER COUNTY --- 2.0 NE FRIONA [34.65, -102.71]

| | | | |
|--------------------|---|--|------------------------------|
| 06/20/13 18:10 CST | 0 | | Thunderstorm Wind (MG 51 kt) |
| 06/20/13 18:10 CST | 0 | | Source: Mesonet |

A Texas Tech University West Texas Mesonet site in Friona measured a 59 mph wind gust.

Storm Data and Unusual Weather Phenomena - June 2013

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|--|--------------------|-------------------|---------------------|--------------------------------|
| HALE COUNTY --- 1.0 S PLAINVIEW [34.19, -101.70] | | | | |
| | 06/20/13 18:55 CST | | 0 | Thunderstorm Wind (MG 53 kt) |
| | 06/20/13 18:55 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas Mesonet station in Plainview recorded a 61 mph wind gust. | | | | |
| (TX-Z028) LAMB | | | | |
| | 06/20/13 23:15 CST | | 0 | High Wind (MAX 51 kt) |
| | 06/20/13 23:15 CST | | 0 | |
| Storms developed during the early evening in a moist and unstable airmass. A surface trough positioned near the Texas and New Mexico state line served as the lifting mechanism for these storms, which produced wind gusts up to 65 mph. Following this initial activity, a wake low developed. This feature kept gusty conditions in place across the far southern panhandle and northern South Plains into the early overnight hours. | | | | |
| HOCKLEY COUNTY --- 1.0 N SMYER [33.59, -102.17] | | | | |
| | 06/21/13 19:21 CST | | 0 | Hail (1.00 in) |
| | 06/21/13 19:21 CST | | 0 | Source: Trained Spotter |
| A Skywarn spotter reported quarter size hail near Smyer. | | | | |
| PARMER COUNTY --- 2.0 NE FRIONA [34.65, -102.71] | | | | |
| | 06/21/13 19:25 CST | | 0 | Thunderstorm Wind (MG 55 kt) |
| | 06/21/13 19:25 CST | | 0 | Source: Mesonet |
| A Texas Tech University West Texas Mesonet site in Friona measured a 63 mph wind gust. | | | | |
| YOAKUM COUNTY --- 0.6 E BRONCO [33.25, -103.04] | | | | |
| | 06/21/13 19:35 CST | | 0 | Hail (1.00 in) |
| | 06/21/13 19:35 CST | | 0 | Source: Trained Spotter |
| A trained spotter reported quarter size hail near Bronco. | | | | |
| TERRY COUNTY --- 0.6 E BROWNFIELD [33.18, -102.27] | | | | |
| | 06/21/13 21:22 CST | | 0 | Hail (1.25 in) |
| | 06/21/13 21:34 CST | | 0 | Source: Emergency Manager |
| An Emergency Manager and public citizens observed quarter to half dollar size hail in Brownfield. | | | | |
| Scattered storms developed during the early evening hours along a surface trough axis positioned near the Texas and New Mexico state line. These storms moved and continued to develop into the South Plains and extreme southwestern Texas panhandle as a low level jet developed and increased storm scale organization. Hail up to half dollar size was reported along with wind gusts of 60 to 65 mph. | | | | |
| LUBBOCK COUNTY --- 0.6 E ABERNATHY [33.83, -101.84] | | | | |
| | 06/29/13 08:00 CST | | 3K | Thunderstorm Wind (EG 56 kt) |
| | 06/29/13 08:00 CST | | 0 | Source: Department of Highways |
| Severe thunderstorm winds of at least 60 mph overturned a tractor-trailer on Interstate 27 in Abernathy near mile marker 21. The driver was unharmed. | | | | |
| PARMER COUNTY --- 1.3 WNW FRIONA BENDER ARPK [34.66, -102.70] | | | | |
| | 06/29/13 18:40 CST | | 0 | Thunderstorm Wind (MG 53 kt) |
| | 06/29/13 18:40 CST | | 0 | Source: Mesonet |
| Measured by a Texas Tech University West Texas Mesonet station near Friona. | | | | |
| PARMER COUNTY --- 0.9 NE FRIONA [34.64, -102.72] | | | | |
| | 06/29/13 18:49 CST | | 0 | Hail (1.00 in) |
| | 06/29/13 18:49 CST | | 0 | Source: Public |
| The public estimated quarter size hail in Friona. No damage was reported. | | | | |

Storm Data and Unusual Weather Phenomena - June 2013

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|--|--------------------|-------------------|---------------------|------------------------------|
| <hr/> | | | | |
| LYNN COUNTY --- 0.7 N O'DONNELL [32.98, -101.83] | 06/29/13 22:45 CST | | 0 | Thunderstorm Wind (MG 51 kt) |
| | 06/29/13 22:45 CST | | 0 | Source: Mesonet |

Measured by a Texas Tech University West Texas Mesonet station near O'Donnell.

An unseasonably cool and unstable weather pattern supported three rounds of strong and severe thunderstorms this day. The first severe storm developed early in the morning in southern Hale County and moved south accompanied by wind gusts of at least 50 to 60 mph. A tractor-trailer traveling southbound on Interstate 27 in Abernathy was toppled by these winds; however, no injuries occurred. Although this storm weakened as it moved south into the city of Lubbock, winds at the Lubbock International Airport still peaked at 56 mph resulting in occasionally thick blowing dust along the gust front. By mid-evening, a lone supercell thunderstorm developed in Deaf Smith County and proceeded to drift southwest into Parmer and Castro Counties. This supercell produced marginally severe hail and wind gusts as high as 61 mph in and near Friona before later weakening. By late evening, a small complex of thunderstorms developed over the western South Plains and wandered southeast through the night resulting in one severe wind gust in southern Lynn County.