

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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### OKLAHOMA, Panhandle

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**(OK-Z002) TEXAS, (OK-Z003) BEAVER**

06/01/13 00:00 CST	0	Drought
06/30/13 23:59 CST	60M	

Multiple widespread precipitation events during the month of June provided some short term relief across the Oklahoma Panhandle. The U.S. Drought Monitor showed slight improvement across half of the Oklahoma Panhandle for the month. Cimarron County and the western half of Texas County remain in the Exception (D4) drought rating while the eastern half of Texas County and all of Beaver County have improved to the Extreme (D3) drought rating. Guymon recorded near average precipitation for the month of June with 2.93 inches of precipitation (0.01 inch below normal). Temperatures across the Oklahoma Panhandle for the month ranged from 3 to 6 degrees above normal which continues one of the hottest and driest multi-year periods out of the last 119 years of records.

The widespread precipitation has provided short-term improvement in upper zone soils however, this precipitation has had little to no impact on deep soil moisture. The limited deep soil moisture impacted farmers as summer crops have entered peak water demand and require additional supplemental watering without the deeper moisture to tap into. The Palmer Drought Severity Index for the month of June continued to so a degradation of conditions across the Panhandle with the entire Panhandle now rated as Extreme Drought. Water watches remain in effect for several public water systems through June while voluntary to mandatory water restrictions have been enacted.

Economic losses due to the drought through June were estimated near \$5 million (D2)/\$15 million (D3)/\$25 million (D4) a county, and were predominately the result for poor growth of corn and cotton, heavy supplemental watering, reduction of cattle herd sizes, and supplemental feed for cattle in pastures and rangeland.

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**TEXAS COUNTY --- 0.5 NW GUYMON [36.69, -101.49], 0.8 N GUYMON [36.69, -101.48]**

06/03/13 17:25 CST	0	Hail (1.00 in)
06/03/13 17:28 CST	0	Source: Public

A discrete thunderstorm developed southwest of the city of Guymon (Texas County) during the early evening hours of the 3rd. As the thunderstorm moved to the northeast it intensified and produced quarter (1 inch) size hail over the city of Guymon (Texas County). Upon reaching the northeast site of the city the thunderstorm weakened due to having its inflow cut off by another thunderstorm developing south of the city. No further reports of hail were given in association to this thunderstorm.

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**TEXAS COUNTY --- 1.2 NNW GUYMON [36.70, -101.49], 1.6 N GUYMON [36.70, -101.48]**

06/03/13 17:46 CST	0	Hail (0.88 in)
06/03/13 17:49 CST	0	Source: Public

A thunderstorm developed south of Guymon (Texas County) during the early evening hours of the 3rd. This thunderstorm cut off the inflow for another thunderstorm which produced quarter (1 inch) size hail over the city. As this thunderstorm moved north of the city and continued to strengthened it produced nickel (0.88 inch) size hail one mile north of the center of town. The storm continued to move to the northeast.

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**TEXAS COUNTY --- 0.9 SW HOOKER [36.86, -101.23]**

06/03/13 18:20 CST	0	Thunderstorm Wind (MG 50 kt)
06/03/13 18:21 CST	0	Source: Mesonet

A thunderstorm developed south of Guymon (Texas County) during the early evening hours of the 3rd. This thunderstorm cut off the inflow for another thunderstorm which produced quarter (1 inch) size hail over the city. This thunderstorm took an northeastern tack as it intensified over Guymon (Texas County). As this thunderstorm moved over the Oklahoma Mesonet site 1 mile west of Hooker (Texas County) it produced a 58 mph gust. After producing this gust the storm began to weaken and would later merge with another thunderstorm over Beaver County.

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**BEAVER COUNTY --- 2.7 SE BOYD [36.67, -100.79], 1.9 WNW BALKO [36.64, -100.71]**

06/03/13 18:56 CST	0	Hail (1.00 in)
06/03/13 18:59 CST	0	Source: Emergency Manager

A thunderstorm developed over western Beaver County during the evening hours of the 3rd. The thunderstorm would take a east-southeast track across the county as it increased in strength. The Beaver County Emergency Manager reported quarter (1 inch) size hail with this storm 4 miles north-northeast of Bryan's Corner (Beaver County). After producing this hail, this thunderstorm became stationary as it merged with another thunderstorm and intensified.

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**BEAVER COUNTY --- 1.3 WSW BRYANS CORNER [36.61, -100.84]**

06/03/13 19:42 CST	0	Thunderstorm Wind (EG 61 kt)
06/03/13 19:44 CST	0	Source: Trained Spotter

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>A thunderstorm developed over western Beaver County during the evening hours of the 3rd. The thunderstorm would take a east-southeast track across the county as it increased in strength. After producing hail north-northeast of Byran's Corner, this thunderstorm became stationary as it merged with another thunderstorm and intensified. The thunderstorm then began moving to the south-southeast once again, and produced a downburst 1 mile west-southwest of Bryan's Corner (Beaver County). The Beaver County Emergency Manager reported that the downburst blew a telephone pole down. The thunderstorm quickly moved out of the county and into the northeastern Texas Panhandle.</p>				
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<b>BEAVER COUNTY --- 3.0 NW LOGAN [36.60, -100.26]</b>				
	06/03/13 19:55 CST	0		Thunderstorm Wind (MG 56 kt)
	06/03/13 19:56 CST	0		Source: Mesonet
<p>A thunderstorm developed over western Beaver County during the evening hours of the 3rd. The thunderstorm would take a east-southeast track across the county as it increased in strength. After producing hail north-northeast of Byran's Corner, this thunderstorm became stationary as it merged with another thunderstorm and intensified. The thunderstorm then began moving to the south-southeast once again, and produced a downburst 8 miles west of Slapout (Beaver County). This downburst was measured by the Slapout (Beaver County) Oklahoma Mesonet site to be 65 mph. The thunderstorm quickly moved out of the county and into the northeastern Texas Panhandle.</p>				
<p><b>Severe weather developed over the eastern Oklahoma Panhandle during the evening hours of the 3rd. The rapid succession of two weak mid-level shortwave troughs across the Central Plains provided the large scale lift needed for storm development. At the surface, a warm front had moved north across the Southern Plains earlier in the day as a surface trough developed across the New Mexico Eastern Plains. As the first shortwave moved across the western Oklahoma Panhandle, scattered thunderstorms developed across the central and eastern Oklahoma Panhandle. These thunderstorms would produce a mix of sub-severe and severe size hail. As thunderstorms persisted into the late evening hours, thunderstorms moved into the eastern Oklahoma Panhandle, and transitioned from hail producers to damaging wind producers. During this same time the individual thunderstorms merged into a line and moved to the southeast. This line caused several reports of thunderstorm wind damage across Beaver County. By 9 PM CST, the shortwave that caused the storms to develop had moved into eastern Kansas and sent the associated thunderstorms into western Oklahoma.</b></p>				
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<b>CIMARRON COUNTY --- 0.6 W BOISE CITY [36.73, -102.53], 0.2 ENE BOISE CITY [36.73, -102.52]</b>				
	06/04/13 19:25 CST	0		Hail (1.00 in)
	06/04/13 19:27 CST	0		Source: Trained Spotter
<p>A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Boise City (Cimarron County), a trained storm spotter 1 mile west of Boise City (Cimarron County) reported quarter size hail (1.00 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.</p>				
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<b>CIMARRON COUNTY --- 0.6 W BOISE CITY [36.73, -102.53], 0.2 E BOISE CITY [36.73, -102.52]</b>				
	06/04/13 19:27 CST	0		Hail (1.50 in)
	06/04/13 19:29 CST	0		Source: Trained Spotter
<p>A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Boise City (Cimarron County), a trained storm spotter 1 mile west of Boise City (Cimarron County) reported ping pong ball size hail (1.50 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.</p>				
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<b>CIMARRON COUNTY --- 0.9 NW BOISE CITY [36.74, -102.53], 0.8 NNE BOISE CITY [36.74, -102.52]</b>				
	06/04/13 19:35 CST	0		Hail (1.75 in)
	06/04/13 19:38 CST	0		Source: Public
<p>A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Boise City (Cimarron County), a member of the public 1 mile west-northwest of Boise City (Cimarron County) reported golf ball size hail (1.75 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.</p>				
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<b>CIMARRON COUNTY --- 5.2 SE BOISE CITY [36.68, -102.45], 6.1 SE BOISE CITY [36.68, -102.43]</b>				
	06/04/13 19:44 CST	0		Hail (1.75 in)
	06/04/13 19:46 CST	0		Source: Trained Spotter
<p>A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Boise City (Cimarron County), a trained storm spotter 5 miles southeast of Boise City (Cimarron County) reported golf ball size hail (1.75 inches). After producing this hail the supercell continued moving to the east across the southern portion of the county.</p>				
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<b>CIMARRON COUNTY --- 10.4 SE BOISE CITY [36.63, -102.38], 11.4 SE BOISE CITY [36.63, -102.36]</b>				

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/04/13 19:45 CST		0	Hail (1.50 in)
	06/04/13 19:47 CST		0	Source: Trained Spotter

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Boise City (Cimarron County), a trained storm spotter 10 miles southeast of Boise City (Cimarron County) reported ping pong ball size hail (1.50 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.

**CIMARRON COUNTY --- 2.2 W GRIGGS [36.60, -102.16], 0.5 W GRIGGS [36.60, -102.13]**

06/04/13 20:25 CST	0	Hail (1.00 in)
06/04/13 20:28 CST	0	Source: Fire Department/Rescue

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Griggs (Cimarron County), the Griggs Fire Department 2 miles west of Griggs (Cimarron County) reported quarter size hail (1.00 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.

**CIMARRON COUNTY --- 5.0 W GRIGGS [36.60, -102.21]**

06/04/13 20:30 CST	0	Thunderstorm Wind (EG 52 kt)
06/04/13 20:33 CST	0	Source: Trained Spotter

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east into the western Oklahoma Panhandle. As it moved into the Oklahoma Panhandle it intensified as a result of a more unstable environment. As this thunderstorm neared Griggs (Cimarron County), a trained spotter 5 miles west of Griggs (Cimarron County) reported a 60 mph wind gust from this thunderstorm. After producing this gust the supercell continued moving to the east across the southern portion of the county.

**TEXAS COUNTY --- 0.9 NW TEXHOMA [36.51, -101.79], 0.8 NNE TEXHOMA [36.51, -101.78]**

06/04/13 21:05 CST	0	Hail (1.50 in)
06/04/13 21:07 CST	0	Source: Public

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east across the western Oklahoma Panhandle. As this thunderstorm neared Texhoma (Texas County), a member of the public in Texhoma (Texas County) reported ping pong ball size hail (1.50 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.

**TEXAS COUNTY --- 5.4 ENE HOUGH [36.90, -101.48]**

06/04/13 21:05 CST	0	Thunderstorm Wind (EG 56 kt)
06/04/13 21:07 CST	0	Source: Trained Spotter

A line of thunderstorms developed over southeastern Colorado and moved to the southeast into the northern portion of the Oklahoma Panhandle counties. Upon entering the Panhandle the line took a left turn and began moving to the east. As the line moved near Guymon (Texas County), a trained storm spotter 15 miles north of Guymon (Texas Panhandle) reported a 65 mph thunderstorm gust. The line of thunderstorms continued moving to the east across the northern portion of the county after producing this gust.

**TEXAS COUNTY --- 1.5 NNE TEXHOMA [36.52, -101.77], 2.1 NE TEXHOMA [36.52, -101.75]**

06/04/13 21:11 CST	0	Hail (1.00 in)
06/04/13 21:13 CST	0	Source: Trained Spotter

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east across the western Oklahoma Panhandle. As this thunderstorm neared Texhoma (Texas County), a trained storm spotter one mile northeast of Texhoma (Texas County) reported quarter size hail (1.00 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.

**TEXAS COUNTY --- 0.7 S GOODWELL [36.59, -101.63], 4.7 E GOODWELL [36.59, -101.55]**

06/04/13 21:15 CST	0	Hail (1.00 in)
06/04/13 21:18 CST	0	Source: Trained Spotter

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east across the western Oklahoma Panhandle. As this thunderstorm neared Goodwell (Texas County), trained storm spotter in Goodwell (Texas County) reported quarter size hail (1.00 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.

**TEXAS COUNTY --- 8.9 W HITCHLAND [36.51, -101.48], 7.8 W HITCHLAND [36.51, -101.46]**

06/04/13 21:40 CST	0	Hail (1.25 in)
06/04/13 21:43 CST	0	Source: Trained Spotter

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A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved to the east across the western Oklahoma Panhandle. As this thunderstorm neared Texhoma (Texas County), a trained storm spotter 12 miles south of Guymon (Texas County) reported half dollar size hail (1.25 inch). After producing this hail the supercell continued moving to the east across the southern portion of the county.

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**TEXAS COUNTY --- 0.9 SE HOOKER [36.86, -101.21], 4.5 W BAKER [36.86, -101.10]**

06/04/13 21:41 CST		0		Hail (1.00 in)
06/04/13 21:44 CST		0		Source: Trained Spotter

A line of thunderstorms developed over southeastern Colorado and moved to the southeast into the northern portion of the Oklahoma Panhandle counties. Upon entering the Panhandle the line took a left turn and began moving to the east. As the line moved near Hooker (Texas County), a trained storm spotter in Hooker (Texas Panhandle) reported quarter size hail (1.00 inch). The line of thunderstorms continued moving to the east across the northern portion of the county after producing this hail.

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**BEAVER COUNTY --- 7.0 N FLORIS [36.97, -100.72]**

06/04/13 22:04 CST		0		Thunderstorm Wind (EG 52 kt)
06/04/13 22:08 CST		0		Source: Public

A line of thunderstorms developed over southeastern Colorado and moved to the southeast into the northern portion of the Oklahoma Panhandle counties. Upon entering the Panhandle the line took a left turn and began moving to the east. As the line moved near Floris (Beaver County), a member of the public 7 miles north of Floris (Beaver Panhandle) reported a 60 mph thunderstorm gust. The line of thunderstorms continued moving to the east across the northern portion of the county after producing this gust.

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**CIMARRON COUNTY --- 4.5 E FELT [36.58, -102.70], 7.0 ESE FELT [36.55, -102.66]**

06/05/13 01:55 CST		0		Hail (1.25 in)
06/05/13 01:58 CST		0		Source: Public

A discrete thunderstorm developed over northeast New Mexico and moved southeastward into the western Oklahoma Panhandle. as the thunderstorm neared Boise City (Cimarron County) reported half dollar size hail (1.25 inches) 15 miles southwest of Boise City (Cimarron County). The thunderstorm that produced this hail quickly moved into the northwestern Texas Panhandle.

**A vigorous upper level low over the northern High Plains during the evening hours of the 4th helped to spark thunderstorms across the Oklahoma Panhandle. Discrete thunderstorms developed along a surface trough across Colorado and northeast New Mexico. These thunderstorms moved eastward and entered the western Oklahoma Panhandle around the 6 PM CST hour. Higher instability and stronger deep layer shear provided an optimal environment for these storms to strengthen as they slowly progressed further into the Panhandle. Around 8:30 PM CST, a discrete supercell over southeast Colorado took a hard right turn to the southeast. As it moved towards the Oklahoma Panhandle, it underwent a transition from a discrete cell to a linear structure. Upon entering the central Oklahoma Panhandle, this line briefly merged with a discrete cell that was moving eastward across the southern portions of the Oklahoma Panhandle counties near the town of Guymon (Texas County). After this brief merger, both complexes continued to move across the Oklahoma Panhandle, and once again merged upon entering western Oklahoma by midnight of the 5th. At the same time these storms were exiting the Oklahoma Panhandle, another line of storms formed across the western Oklahoma Panhandle. These storms moved to the south quickly, and entered the northern Texas Panhandle shortly before 3 AM CST on the 5th.**

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**BEAVER COUNTY --- 1.9 S ELMWOOD [36.59, -100.52], 2.9 S ELMWOOD [36.58, -100.52]**

06/04/13 23:00 CST		0		Heavy Rain
06/05/13 01:00 CST		0		Source: Emergency Manager

A line of thunderstorms moved across Beaver County during the late evening hours of the 4th. This line produced heavy rain across the county. The Beaver County Emergency Manager reported that Highway 23 south of Elmwood (Beaver County) was flooded at low spots in the road. After the line of thunderstorms moved into western Oklahoma the flood water receded. No swift water rescues or stranded motorist were reported in association to this flooding.

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**BEAVER COUNTY --- 7.0 SE ELMWOOD [36.55, -100.43], 8.4 SE ELMWOOD [36.53, -100.41]**

06/04/13 23:00 CST		0		Heavy Rain
06/05/13 01:00 CST		0		Source: Emergency Manager

A line of thunderstorms moved across Beaver County during the late evening hours of the 4th. This line produced heavy rain across the county. The Beaver County Emergency Manager reported minor flooding southeast of Elmwood (Beaver County). After the line of thunderstorms moved into western Oklahoma the flood water receded. No swift water rescues or stranded motorist were reported in association to this flooding.

**A vigorous upper level low over the northern High Plains during the evening hours of the 4th helped to spark thunderstorms across the Oklahoma Panhandle. These thunderstorms formed into a line and moved across the Oklahoma Panhandle. While over Beaver County, these storms were able to tap into additional moisture being transported from the Gulf of Mexico by low level winds. This allowed the storms to produce heavy rain over the county. Minor flooding was reported across Beaver County by the county emergency manager. The line of thunderstorms continued moving to the east and entered western Oklahoma by midnight on the 5th which allowed minor flooding to diminish across the county.**

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<b>CIMARRON COUNTY --- 4.3 WNW WHEELLESS [36.74, -102.97], 2.8 SE WHEELLESS [36.69, -102.87]</b>				
	06/07/13 16:20 CST		0	Heavy Rain
	06/07/13 17:20 CST		0	Source: Trained Spotter
<p>A discrete thunderstorm that moved out of northeastern New Mexico and into the western Oklahoma Panhandle. A trained spotter 2 miles west of Wheelless (Cimarron County) reported 1.10 inches of heavy rain in one hour as the thunderstorm moved overhead. This thunderstorm quickly moved into the northwestern Texas Panhandle. No flooding issues were reported in association with this heavy rain.</p> <p><b>The Oklahoma Panhandle was firmly locked in northwest flow aloft on the 7th. This type of weather pattern favors the development of precipitation across the Panhandle as it allows weak shortwave troughs to dive southeastward from the Continental Divide into the Southern Plains. The large scale lift provided by one such shortwave during the afternoon hours of the 7th worked in tandem with weak steering flow to produce localized heavy rain across the western Oklahoma Panhandle. However, the south-southeast storm motions with storms that developed across the western Oklahoma Panhandle quickly caused storms to move south of the Panhandle by 6 PM.</b></p>				
<b>BEAVER COUNTY --- 1.6 NW FORGAN [36.92, -100.55], 0.9 NW FORGAN [36.91, -100.54]</b>				
	06/08/13 17:43 CST		0	Hail (1.00 in)
	06/08/13 17:45 CST		0	Source: Trained Spotter
<p>A discrete thunderstorm developed along a slow moving cold front over southern Kansas. As the thunderstorm moved to the south-southeast into the Oklahoma Panhandle the thunderstorm began to weaken. As the thunderstorm moved over the city of Forgan (Beaver County), a trained storm spotter reported quarter (1.00 inch) size hail. No reports of damage were relayed with this report.</p>				
<b>BEAVER COUNTY --- 0.3 W BEAVER [36.82, -100.53], 1.2 SSE BEAVER [36.80, -100.51]</b>				
	06/08/13 18:00 CST		0	Hail (1.75 in)
	06/08/13 18:02 CST		0	Source: Public
<p>A discrete thunderstorm developed along a slow moving cold front over southern Kansas. As the thunderstorm moved to the south-southeast into the Oklahoma Panhandle the thunderstorm began to weaken. After moving over the city of Forgan (Beaver County), the thunderstorm began strengthening as it approached the city of Beaver (Beaver County). While over the city, a member of the public reported golfball size hail (1.75 inches) at their residence.</p>				
<b>BEAVER COUNTY --- 0.3 WSW BEAVER [36.82, -100.53], 1.0 SSE BEAVER [36.81, -100.52]</b>				
	06/08/13 18:15 CST		0	Hail (1.00 in)
	06/08/13 18:18 CST		0	Source: Trained Spotter
<p>A discrete thunderstorm developed along a slow moving cold front over southern Kansas. As the thunderstorm moved to the south-southeast into the Oklahoma Panhandle the thunderstorm began to weaken. After moving over the city of Forgan (Beaver County), the thunderstorm began strengthening as it approached the city of Beaver (Beaver County). While over the city, a trained storm spotter reported quarter size hail (1.00 inch) at their residence.</p>				
<b>BEAVER COUNTY --- 2.6 WSW FLORIS [36.85, -100.74], 6.8 SSE FLORIS [36.78, -100.65]</b>				
	06/08/13 18:15 CST		0	Hail (1.75 in)
	06/08/13 18:16 CST		0	Source: Law Enforcement
<p>A discrete thunderstorm developed along a slow moving cold front over southern Kansas. As the thunderstorm moved to the south-southeast into the Oklahoma Panhandle the thunderstorm began to weaken. After moving over the city of Forgan (Beaver County), the thunderstorm began strengthening as it approached the city of Beaver (Beaver County). A sheriff's deputy 10 miles west of Beaver (Beaver County) reported golfball size hail (1.75 inches). The thunderstorm continued moving to the south-southeast across the county.</p>				
<b>BEAVER COUNTY --- 3.6 ENE BALKO [36.65, -100.62], 4.2 E BALKO [36.64, -100.61]</b>				
	06/08/13 18:26 CST		0	Hail (1.75 in)
	06/08/13 18:29 CST		0	Source: Emergency Manager
<p>A discrete thunderstorm developed along a slow moving cold front over southern Kansas. As the thunderstorm moved to the south-southeast into the Oklahoma Panhandle the thunderstorm began to weaken. After moving over the city of Forgan (Beaver County), the thunderstorm began strengthening as it approached the city of Beaver (Beaver County). The Beaver County Emergency Manager reported golfball size hail (1.75 inches) 13 miles south-southwest of Beaver (Beaver County). The thunderstorm continued moving to the south-southeast across the county.</p>				
<b>BEAVER COUNTY --- 1.5 SSE BEAVER [36.80, -100.51], 2.5 SSE BEAVER [36.79, -100.50]</b>				
	06/08/13 18:35 CST		0	Hail (1.00 in)
	06/08/13 18:37 CST		0	Source: Public

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A discrete thunderstorm developed along a slow moving cold front over southern Kansas. As the thunderstorm moved to the south-southeast into the Oklahoma Panhandle the thunderstorm began to weaken. After moving over the city of Forgan (Beaver County), the thunderstorm began strengthening as it approached the city of Beaver (Beaver County). A member of the public 1 mile southeast of Beaver (Beaver County) reported quarter size hail (1.00 inch). The thunderstorm continued moving to the south-southeast across the county.

**The combination of a surface cold front and weak upper level shortwave initiated showers and thunderstorms across the eastern Oklahoma Panhandle during the evening hours of the 8th. At 3 PM CST, the surface cold front had begun to slow as it moved into the western Oklahoma Panhandle. The lift provided by the front had proved sufficient in initiating scattered thunderstorms along the front from northern Kansas to the southwestern Texas Panhandle. However, it was not until the mid-level shortwave approached the area around 6 PM CST that these thunderstorms strengthened sufficiently to produce severe level hail over the eastern Oklahoma Panhandle. By this time, the cold front was stretched from the north central Oklahoma Panhandle to the northwest corner of the Texas Panhandle. As the evening hours progressed, the surface cold front stalled across the eastern Oklahoma Panhandle however, thunderstorms were able to advance to the south-southeast out of the Oklahoma Panhandle by 7 PM CST.**

**TEXAS COUNTY --- 3.3 ESE HOUGH [36.86, -101.51], 5.7 ESE HOUGH [36.83, -101.48]**

06/16/13 20:18 CST	0	Hail (1.00 in)
06/16/13 20:20 CST	0	Source: Trained Spotter

A line of thunderstorms developed across the Central Plains and moved southeastward into the Oklahoma Panhandle during the evening hours of the 16th. As an embedded thunderstorm within the line moved towards the city of Guymon (Texas County), a trained storm spotter 10 miles north of Guymon (Texas County) reported quarter size hail (1.00 inch). The line of thunderstorms preceded across the Oklahoma Panhandle before exiting shortly before midnight on the 17th.

**TEXAS COUNTY --- 3.0 N HOOKER [36.91, -101.23], 1.4 ENE HOOKER [36.88, -101.20]**

06/16/13 20:30 CST	0	Hail (1.00 in)
06/16/13 20:33 CST	0	Source: Trained Spotter

A line of thunderstorms developed across the Central Plains and moved southeastward into the Oklahoma Panhandle during the evening hours of the 16th. As an embedded thunderstorm within the line moved towards the city of Guymon (Texas County), a trained storm spotter 2 miles north of Hooker (Texas County) reported quarter size hail (1.00 inch). The line of thunderstorms preceded across the Oklahoma Panhandle before exiting shortly before midnight on the 17th.

**TEXAS COUNTY --- 2.8 NNW (GUY)GUYMON MUNI ARP [36.72, -101.52], 0.7 N (GUY)GUYMON MUNI ARP [36.69, -101.50]**

06/16/13 20:53 CST	0	Hail (1.00 in)
06/16/13 20:55 CST	0	Source: Trained Spotter

A line of thunderstorms developed across the Central Plains and moved southeastward into the Oklahoma Panhandle during the evening hours of the 16th. As an embedded thunderstorm within the line moved towards the city of Guymon (Texas County), a trained storm spotter 1 mile west of Guymon (Texas County) reported quarter size hail (1.00 inch). The line of thunderstorms preceded across the Oklahoma Panhandle before exiting shortly before midnight on the 17th.

**TEXAS COUNTY --- 0.7 N GUYMON [36.69, -101.48], 4.6 SE GUYMON [36.63, -101.43]**

06/16/13 21:00 CST	0	Hail (1.50 in)
06/16/13 21:03 CST	0	Source: Public

A line of thunderstorms developed across the Central Plains and moved southeastward into the Oklahoma Panhandle during the evening hours of the 16th. As an embedded thunderstorm within the line moved over the city of Guymon (Texas County), a member of the public reported ping pong ball size hail (1.50 inches). The line of thunderstorms preceded across the Oklahoma Panhandle before exiting shortly before midnight on the 17th.

**A weak upper level wave helped to spark thunderstorms along a surface trough across the eastern New Mexico Plains and into the Central Plains during the evening hours of the 16th. The thunderstorms that developed along the surface trough across the Central Plains formed into a linear structure due to higher instability and stronger deep layer shear. This line moved across the central and eastern portions of the Oklahoma Panhandle and produced a combination of severe hail and heavy rain. Thunderstorms moved to the southeast across the Panhandle and entered western Oklahoma shortly before midnight of the 17th.**

**BEAVER COUNTY --- 3.8 S BEAVER [36.77, -100.51], BRYANS CORNER [36.62, -100.82]**

06/16/13 21:31 CST	0	Heavy Rain
06/16/13 23:30 CST	0	Source: Emergency Manager

A line of thunderstorms moved across the Oklahoma Panhandle during the evening hours on the 16th in response to the passage of a weak upper level wave. These thunderstorms produced periods of heavy rain which lead to minor flooding across Beaver County. The Beaver County Emergency Manager reported low lying areas from Beaver to Elmwood to Bryans Corner had filled with water. No roads were reported to be impacted by this nuisance flooding. After the line of thunderstorms moved to the southeast of the eastern Oklahoma Panhandle the flood waters receded.

**A series of weak upper level waves provided the upper level support for showers and thunderstorms to develop during the morning**

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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and evening hours of the 16th. These storms caused brief periods of heavy rain to the Texas and Oklahoma Panhandle which lead to minor flooding of flood prone areas.

**TEXAS COUNTY --- 0.7 N ADAMS [36.76, -101.08], 0.4 NE ADAMS [36.75, -101.07]**

06/19/13 00:05 CST	0	Hail (1.00 in)
06/19/13 00:07 CST	0	Source: Emergency Manager

Scattered thunderstorms moved into the central Oklahoma Panhandle around the midnight hour of the 19th. One of the embedded storms quickly intensified near the town of Adams (Texas County). The intensification was short lived and the storm collapsed over the city. The Texas County Emergency Manager reported quarter size hail (1.00 inch) as the storm collapsed. No damage was relayed with this report.

**TEXAS COUNTY --- ADAMS [36.75, -101.08]**

06/19/13 00:05 CST	0	Thunderstorm Wind (EG 52 kt)
06/19/13 00:07 CST	0	Source: Emergency Manager

Scattered thunderstorms moved into the central Oklahoma Panhandle around the midnight hour of the 19th. One of the embedded storms quickly intensified near the town of Adams (Texas County). The intensification was short lived and the storm collapsed over the city. The Texas County Emergency Manager reported an estimated 60 mph gust as the storm collapsed. No damage was relayed with this report.

The combination of an upper level short wave and a stationary boundary lead to severe weather over the Oklahoma Panhandle from the late night hours of the 18th into the early morning hours of the 19th. Scattered thunderstorms developed along a stationary boundary in southeastern Colorado during the late night hours of the 18th. These thunderstorms moved to the east-southeast off of the boundary and entered the western Oklahoma and northwestern Texas Panhandle around 9 PM CST. A thunderstorms quickly intensified as it moved into the central Oklahoma Panhandle due to a slightly more unstable atmosphere. This storm produced sub-severe hail and an isolated downburst around the midnight hour of the 19th. After this brief intensification, the storm quickly decayed as it moved into the northeastern Texas Panhandle.

**BEAVER COUNTY --- 3.0 NW LOGAN [36.60, -100.26]**

06/27/13 18:20 CST	0	Thunderstorm Wind (MG 56 kt)
06/27/13 18:21 CST	0	Source: Mesonet

Two discrete thunderstorms merged over the eastern Oklahoma Panhandle during the evening hours of the 27th. This caused a brief intensification before the thunderstorm collapsed upon it's own updraft. This produced a 64 mph downburst at the Oklahoma Mesonet site 8 miles west of Slapout (Beaver County).

Scattered thunderstorms developed along a southward advancing cold front during the late night hours of the 27th and the early morning hours of the 28th. Thunderstorm development across the Oklahoma Panhandle was heavily dependent on the forcing provided by the front due to weak deep layer shear and marginal unstable environment in place at the time. Given this environment, long lived severe thunderstorms were unlikely and the primary hazard would be damaging winds as thunderstorm updrafts collapsed. While the vast majority of thunderstorms that formed were not able to strengthen enough to produce a severe level downburst, and cell merger over Beaver County was able to produce one such gust before the cold front pushed thunderstorms into the northern Texas Panhandle.

### TEXAS, North Panhandle

<b>(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z011) OLDDHAM, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z016) DEAF SMITH, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH</b>		
06/01/13 00:00 CST	0	Drought
06/30/13 23:59 CST	0.32B	

Multiple widespread precipitation events during the month of June provided some short term relief across the Texas Panhandle. Drought conditions for the majority of the Texas Panhandle showed a one category improvement according to the U.S. Drought Monitor. Exceptional (D4) drought persists across the northwestern Texas Panhandle with Extreme (D3) drought affecting the majority of the remainder or the Panhandle. Severe (D2) drought affects Gray County and portions of other counties across the eastern Texas Panhandle.

Even though June brought multiple widespread precipitation events, all of the climatic sites across the Texas Panhandle fell short of reaching average precipitation totals for the month. Amarillo recorded 2.80 inches of precipitation for June (0.36 below normal), Dalhart recorded 0.63 inches of precipitation (1.67 inches below normal), and Borger recorded 2.17 inches of precipitation (1.00 inches below normal). Temperatures across the Texas Panhandle for the month ranged from 3 to 6 degrees above normal which continues one of the hottest and driest multi-year periods out of the last 119 years of records.

Countywide burn bans remain in effect for all of the Texas Panhandle except for Hansford, Hutchinson, Hemphill, Oldham, Carson, Gray,

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**Deaf Smith, Donley, and Collingsworth.**

The widespread precipitation has provided short-term improvement in upper zone soils however, this precipitation has had little to no impact on deep soil moisture. The limited deep soil moisture impacted farmers as summer crops have entered peak water demand and require additional supplemental watering without the deeper moisture to tap into. Ranchers have been forced to thin herds once again due to poor foliage growth and the burden of supplemental feeding as observed by the Texas Crop and Weather Report. The Palmer Drought Severity Index for the month of June remained steady state with the Texas High Plains persisting in the Extreme Drought rating.

Reservoirs and stream flows across the Panhandles have remained at below normal levels. The reservoirs of Palo Duro and Greenbelt Lake are both below 14 percent capacity with Lake Meredith at zero percent capacity. Water watches for several public water systems persisted through June while voluntary to mandatory mild water restrictions have been enacted.

Economic losses due to the drought through June were estimated near \$5 million (D2)/\$15 million (D3)/\$25 million (D4) a county, and were predominately the result for poor growth of corn and cotton, heavy supplemental watering, reduction of cattle herd sizes, and supplemental feed for cattle in pastures and rangeland.

**OCHILTREE COUNTY --- 5.7 ENE TWICHELL [36.47, -100.63]**

06/03/13 19:41 CST	0	Thunderstorm Wind (EG 56 kt)
06/03/13 19:42 CST	0	Source: Law Enforcement

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm approached Booker it produced a downburst. The Ochiltree County Sheriff's Office reported that power poles and power lines were blown down 1 mile north of Huntoon (Ochiltree County). This thunderstorm would continue a southeastern track across the county.

**OCHILTREE COUNTY --- 9.7 ENE TWICHELL [36.46, -100.55]**

06/03/13 19:43 CST	0	Thunderstorm Wind (EG 56 kt)
06/03/13 19:44 CST	0	Source: Fire Department/Rescue

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm approached Booker it produced a downburst. The Booker Fire Department (Lipscomb County) reported that a 20 foot by 30 foot pole barn was turn upside down 1 mile northwest of Booker (Ochiltree County). This thunderstorm would continue a southeastern track across the county.

**LIPSCOMB COUNTY --- 0.9 NE BOOKER [36.46, -100.52]**

06/03/13 19:45 CST	0	Thunderstorm Wind (EG 56 kt)
06/03/13 19:46 CST	0	Source: Fire Department/Rescue

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm approached Booker (Lipscomb County) it produced a downburst. The Booker Fire Department reported a center pivot irrigation system on the northeast side of town had been blown over. This thunderstorm would continue a southeastern track across the county.

**LIPSCOMB COUNTY --- 0.9 NW BOOKER [36.46, -100.54]**

06/03/13 19:45 CST	0	Thunderstorm Wind (EG 56 kt)
06/03/13 19:46 CST	0	Source: Public

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm approached Booker (Lipscomb County) it produced a downburst. A member of the public reported that an 18 inch diameter tree branch had been broken off a tree at their residence (Lipscomb County). This thunderstorm would continue a southeastern track across the county.

**LIPSCOMB COUNTY --- 3.5 S BOOKER [36.40, -100.54]**

06/03/13 19:48 CST	0	Thunderstorm Wind (EG 52 kt)
06/03/13 19:49 CST	0	Source: Fire Department/Rescue

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm moved south of Booker (Lipscomb County) it produced a downburst. The Booker Fire Department (Lipscomb County) reported a 28 foot camper trailer had been rolled over by the wind. The camper broke apart as it rolled over. This thunderstorm would continue a southeastern track across the county.

**LIPSCOMB COUNTY --- 6.9 S BOOKER [36.35, -100.54]**

06/03/13 19:52 CST	0	Thunderstorm Wind (EG 52 kt)
06/03/13 19:53 CST	0	Source: Fire Department/Rescue

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm moved south of Booker (Lipscomb County) it produced a downburst. The Booker Fire Department (Lipscomb County) reported a 4 to 6 inch tree limb was broken off of an healthy tree 7 miles south of Booker (Lipscomb County). This thunderstorm would continue a southeastern track across the county.

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**LIPSCOMB COUNTY --- 2.8 NNW DARROUZETT [36.46, -100.35], 2.0 NNE DARROUZETT [36.45, -100.30]**

	06/03/13 20:13 CST	0		Hail (1.50 in)
	06/03/13 20:16 CST	0		Source: Emergency Manager

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm approached Darrouzett (Lipscomb County) a sheriff's deputy reported golfball (1.75 inch) hail on Farm-to-Market Road 2248 one mile north-northeast of Darrouzett (Lipscomb County). This thunderstorm would continue a southeastern track across the county.

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**LIPSCOMB COUNTY --- 0.7 S FOLLETT [36.42, -100.13]**

	06/03/13 20:30 CST	0		Thunderstorm Wind (EG 50 kt)
	06/03/13 20:32 CST	0		Source: Trained Spotter

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm moved across the city of Follett (Lipscomb County) it produced an isolated downburst. A trained storm spotter reported shingles blown off the roof and portions of a wooden fence blown down one mile south-southeast of Follett (Lipscomb). This thunderstorm would continue a southeastern track across the county.

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**LIPSCOMB COUNTY --- 2.0 WNW FOLLETT [36.44, -100.17], 0.4 ESE FOLLETT [36.43, -100.12]**

	06/03/13 20:30 CST	0		Hail (0.75 in)
	06/03/13 20:33 CST	0		Source: Trained Spotter

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm moved over the city of Follett (Lipscomb County) a trained storm spotter reported penny (0.75 inch) size hail. This thunderstorm would continue a southeastern track across the county.

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**LIPSCOMB COUNTY --- 3.3 WSW DARROUZETT [36.40, -100.37], 3.6 SSE DARROUZETT [36.38, -100.30]**

	06/03/13 20:30 CST	0		Hail (1.75 in)
	06/04/13 20:33 CST	0		Source: Trained Spotter

A thunderstorm that developed over western Beaver County during the evening hours of the 3rd took a southeast track into the northeastern Texas Panhandle. As the thunderstorm moved across Darrouzett (Lipscomb County) a trained storm spotter reported golfball (1.75 inch) hail on Farm-to-Market Road 2172 four miles south of Darrouzett (Lipscomb County). This thunderstorm would continue a southeastern track across the county.

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**LIPSCOMB COUNTY --- 1.6 WNW BOOKER [36.46, -100.56], 0.8 NNE BOOKER [36.46, -100.52]**

	06/03/13 23:28 CST	0		Hail (1.75 in)
	06/03/13 23:30 CST	0		Source: Trained Spotter

A line of thunderstorms developed across the northeastern Texas Panhandle shortly after 11 PM CST on the 3rd. This line quickly strengthened as it moved to the east. While this line was over Booker (Lipscomb County) a trained storm spotter reported golfball (1.75 inches) on Farm-to-Market Road 1265. This line continued to move to the east across the Panhandle and entered western Oklahoma shortly after midnight on the 4th.

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**LIPSCOMB COUNTY --- 0.6 N BOOKER [36.46, -100.53], 0.9 NE BOOKER [36.46, -100.52]**

	06/03/13 23:38 CST	0		Hail (0.75 in)
	06/03/13 23:40 CST	0		Source: Fire Department/Rescue

A line of thunderstorms developed across the northeastern Texas Panhandle shortly after 11 PM CST on the 3rd. This line quickly strengthened as it moved to the east. As this line moved east of Booker (Lipscomb County) the Booker Fire Chief reported penny (0.75 inches) and frequent lightning. The lightning caused power to flicker a couple times at the fire house. This line continued to move to the east across the Panhandle and entered western Oklahoma shortly after midnight on the 4th.

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**LIPSCOMB COUNTY --- 8.3 SW LIPSCOMB [36.16, -100.39]**

	06/03/13 23:55 CST	0		Thunderstorm Wind (EG 50 kt)
	06/03/13 23:56 CST	0		Source: Fire Department/Rescue

A line of thunderstorms developed across the northeastern Texas Panhandle shortly after 11 PM CST on the 3rd. This line quickly strengthened as it moved to the east. While this line was over Lipscomb (Lipscomb County) the Booker Fire Chief reported that a downburst had blown over outhouse buildings in the Wolf Creek Area (Lipscomb County). This line continued to move to the east across the Panhandle and entered western Oklahoma shortly after midnight on the 4th.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>ARMSTRONG COUNTY --- 15.2 S GOODNIGHT [34.81, -101.18]</b>				
	06/04/13 01:51 CST		0	Thunderstorm Wind (MG 55 kt)
	06/04/13 01:52 CST		0	Source: Broadcast Media

A discrete thunderstorm developed across the southwestern Texas Panhandle during the early morning hours of the 4th. This storm moved to the east across the southern Texas Panhandle. As the storm reached Armstrong County, the thunderstorm encountered an outflow from a line of thunderstorms across the northeastern Texas Panhandle. This caused the thunderstorm to briefly strengthen and produced a 63 mph downburst which was measured by the KVII schoolnet site 15 miles south of Goodnight (Armstrong County). After producing this gust the thunderstorm weakened and moved to the south. This further southern position placed it south of the Texas Panhandle.

Severe weather developed over the Texas Panhandle during the evening hours of the 3rd which continued into the early morning hours of the 4th. The rapid succession of two weak mid-level shortwave troughs across the Central Plains provided the large scale lift needed for storm development. At the surface, a warm front had moved north across the Southern Plains earlier in the day as a surface trough developed across the New Mexico Eastern Plains. As the first shortwave moved across the western Oklahoma Panhandle, scattered thunderstorms developed across the central and eastern Oklahoma Panhandle. As these thunderstorms persisted into the late evening hours, thunderstorms moved into the northeastern Texas Panhandle, and transitioned from hail producers to damaging wind producers. During this same time the individual thunderstorms merged into a line and moved to the southeast. This line caused several reports of thunderstorm wind damage across the northeastern Texas Panhandle. By 9 PM CST, the first of two shortwaves had moved into eastern Kansas and sent the associated thunderstorms into western Oklahoma.

Shortly after 11 PM CST, the second shortwave moved across southeastern Colorado and caused a redevelopment of thunderstorms across the Texas Panhandle. This second wave of thunderstorms was fueled by two additional factors: the transport of moisture into the Panhandle from the low level jet and a residual surface boundary situated from southwest to northeast across the Texas Panhandle. Scattered thunderstorms across the northeastern Texas Panhandle quickly formed into a line while a discrete thunderstorm developed over Deaf Smith County. Prior to forming into a line across the northeast, scattered thunderstorms across the northeast would initially produce hail but once formed into a line would transition to producing damaging wind. These thunderstorms took a southeast track which took them into western Oklahoma by midnight of the 4th. The discrete thunderstorm over Deaf Smith County slowly intensified as it moved eastward across the southern Texas Panhandle. As it moved over Armstrong County, it encountered an outflow boundary which caused a brief intensification and a shift in the storm track to the south. The shift in the track took the thunderstorm south of the Texas Panhandle and it remained south of the area before moving into southwestern Oklahoma.

<b>OCHILTREE COUNTY --- 0.7 S PERRYTON [36.39, -100.80], 1.7 ESE PERRYTON MUNI ARPT [36.39, -100.72]</b>				
	06/04/13 22:52 CST		0	Hail (0.75 in)
	06/04/13 22:54 CST		0	Source: Law Enforcement

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved across the southern portions of the Oklahoma Panhandle counties. As this thunderstorm neared Perrytown (Ochiltree County), the thunderstorm drifted into the northern Texas Panhandle. The Perryton Police Department reported penny size hail (0.75 inch) in the town of Perryton (Ochiltree County). After producing this hail the supercell continued moving to the east across the northern portions of the northern Texas Panhandle counties.

<b>LIPSCOMB COUNTY --- 0.9 NW BOOKER [36.46, -100.54], 5.8 E BOOKER [36.46, -100.43]</b>				
	06/04/13 23:10 CST		0	Hail (0.88 in)
	06/04/13 23:13 CST		0	Source: Fire Department/Rescue

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved across the northern portions of the northern Texas Panhandle counties. As this thunderstorm neared Booker (Lipscomb County), the Booker Fire Department reported nickel size hail (0.88 inch) in the town of Booker (Lipscomb County). After producing this hail the supercell continued moving to the east across the northern Texas Panhandle.

<b>OCHILTREE COUNTY --- 7.7 ENE TWICHELL [36.47, -100.59], 12.3 E TWICHELL [36.46, -100.50]</b>				
	06/04/13 23:12 CST		0	Hail (0.88 in)
	06/04/13 23:15 CST		0	Source: Trained Spotter

A discrete supercell thunderstorm developed over the northeastern New Mexico Plains and moved across the northern portions of the northern Texas Panhandle counties. As this thunderstorm neared Booker (Lipscomb County), a trained storm spotter reported nickel size hail (0.88 inch) 3 miles west-northwest of Booker (Ochiltree County). After producing this hail the supercell continued moving to the east across the northern Texas Panhandle.

<b>LIPSCOMB COUNTY --- 0.9 NW BOOKER [36.46, -100.54]</b>				
	06/05/13 01:27 CST		0	Hail (1.00 in)
	06/05/13 01:29 CST		0	Source: Fire Department/Rescue

A line of thunderstorms developed along residual outflows across the northern Texas Panhandle. As this line moved over Lipscomb County, the Booker Fire Department reported quarter size hail (1.00 inch) in the town of Booker (Lipscomb County). This line of storms quickly moved eastward into western Oklahoma.

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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A line of thunderstorms moved across the Oklahoma Panhandle during the late evening hours of the 4th. This line gradually shifted southward as it moved across the Panhandle, and briefly entered the northeastern Texas Panhandle before moving into western Oklahoma. While over the northeastern Texas Panhandle this line produced isolated reports of hail over Lipscomb and Ochiltree Counties. Another line of thunderstorms developed across the northeastern Texas Panhandle along residual outflows from the previous line of storms. These storms briefly intensified while moving to the east, and produced severe level hail over Lipscomb County. After this brief intensification the storms moved into western Oklahoma.

**DEAF SMITH COUNTY --- 1.1 E WALCOTT [34.93, -102.81]**

06/05/13 18:50 CST		0		Thunderstorm Wind (MG 51 kt)
06/05/13 18:52 CST		0		Source: Broadcast Media

A line of thunderstorms moved across the southwestern Texas Panhandle during the evening hours of the 5th. This line took on a classic bow echo signature and produced a 59 mph wind gust at the KVII schoolnet site at Walcott School 7 miles north of Bootleg (Deaf Smith County). The line continued to move to the south-southeast across the county.

**DEAF SMITH COUNTY --- BOOTLEG [34.83, -102.81], 0.4 SE BOOTLEG [34.83, -102.81]**

06/05/13 19:07 CST		0		Hail (1.75 in)
06/05/13 19:09 CST		0		Source: Trained Spotter

A line of thunderstorms moved across the southwestern Texas Panhandle during the evening hours of the 5th. This line took on a classic bow echo signature, and golf ball size hail (1.75 inches) in the city of Bootleg (Deaf Smith County). The line continued to move to the south-southeast across the county, and quickly moved into northwest Texas.

**A line of thunderstorms developed across the central portions of the New Mexico Eastern Plains during the evening hours of the 5th. As the line of thunderstorms moved into the southern Texas Panhandle, it took on a classic bow echo appearance and strengthened. The line produced a combination of damaging wind and large hail as it moved across Deaf Smith County. The line quickly moved into northwest Texas by 8 PM CST.**

**HANSFORD COUNTY --- 3.5 S SPEARMAN [36.15, -101.19], 2.6 SE SPEARMAN [36.17, -101.17]**

06/07/13 14:30 CST		0		Hail (1.00 in)
06/07/13 14:32 CST		0		Source: Public

Scattered thunderstorms developed over the northern Texas Panhandle during the early afternoon hours of the 7th. One such storm developed over Hansford County and moved to the southwest. This thunderstorm merged with another thunderstorm that was moving to the northeast. The merger caused a brief intensification near the town of Spearman (Hansford County), and a member of the public reported quarter size hail (1.00 inch) at their residence four miles south of Spearman (Hansford County). The thunderstorm began to weaken after producing this hail, and continued to move southwest across the county.

**SHERMAN COUNTY --- 2.7 NE MALLETT [36.38, -102.07], 2.5 W STRATFORD [36.42, -102.12]**

06/07/13 17:09 CST		0		Hail (0.88 in)
06/07/13 17:11 CST		0		Source: Storm Chaser

Northwestward merging thunderstorms were developing across Sherman County during the late afternoon hours of the 7th. A storm chaser reported nickel size hail (0.88 inch) with one such merger 3 miles to the north of the town of Stratford (Sherman County). After producing this hail the merged thunderstorms changed direction and began moving to the southeast.

**HUTCHINSON COUNTY --- 12.3 ENE BORGER [35.72, -101.17], 16.6 E BORGER [35.68, -101.09]**

06/07/13 18:18 CST		0		Hail (1.75 in)
06/07/13 18:20 CST		0		Source: Public

Northwestward merging thunderstorms over Sherman County developed into a single thunderstorm which switched directions and began moving to the southeast. This change in direction took the merged thunderstorm into Hutchinson County. A member of the public reported golf ball size hail (1.75 inches) at their residence 10 miles north of the town of Skellytown (Hutchinson County). After producing this hail the thunderstorm maintained a southeastward motion across the county.

**HUTCHINSON COUNTY --- 11.8 E BORGER [35.66, -101.17], 15.1 E BORGER [35.64, -101.11]**

06/07/13 18:23 CST		0		Hail (1.75 in)
06/07/13 18:25 CST		0		Source: Fire Department/Rescue

Northwestward merging thunderstorms over Sherman County developed into a single thunderstorm which switched directions and began moving to the southeast. This change in direction took the merged thunderstorm into Hutchinson County. The Skellytown Fire Department reported golf ball size hail (1.75 inches) 6 miles north of the town of Skellytown (Hutchinson County). After producing this hail the thunderstorm maintained a southeastward motion across the county.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>HUTCHINSON COUNTY --- 10.5 ESE BORGER [35.63, -101.20], 15.7 ESE BORGER [35.60, -101.11]</b>				
	06/07/13 18:50 CST		0	Hail (1.75 in)
	06/08/13 18:52 CST		0	Source: Emergency Manager

Northwestward merging thunderstorms over Sherman County developed into a single thunderstorm which switched directions and began moving to the southeast. This change in direction took the merged thunderstorm into Hutchinson County. The Hutchinson County Emergency Manager reported golf ball size hail (1.75 inches) accumulating on the ground 4 miles north-northwest of the town of Skellytown (Hutchinson County). After producing this hail the thunderstorm maintained a southeastward motion across the county.

<b>MOORE COUNTY --- 0.9 NE DUMAS MUNI ARPT [35.86, -102.01]</b>				
	06/07/13 19:55 CST		0	Thunderstorm Wind (MG 70 kt)
	06/07/13 19:57 CST		0	Source: AWOS

A line of thunderstorms developed across the western half of the Texas Panhandle and moved to the south. As this line moved over across Moore County, the Dumas (Moore County) AWOS reported an 81 mph thunderstorm wind gust. The line that produced this gust continued to move to the south across the western Texas Panhandle.

<b>MOORE COUNTY --- 0.9 NE DUMAS MUNI ARPT [35.86, -102.01]</b>				
	06/07/13 20:06 CST		0	Thunderstorm Wind (MG 53 kt)
	06/07/13 20:07 CST		0	Source: AWOS

A line of thunderstorms developed across the western half of the Texas Panhandle and moved to the south. As this line moved over across Moore County, the Dumas (Moore County) AWOS reported an 61 mph thunderstorm wind gust. The line that produced this gust continued to move to the south across the western Texas Panhandle.

<b>MOORE COUNTY --- 0.9 NE DUMAS MUNI ARPT [35.86, -102.01]</b>				
	06/07/13 20:15 CST		0	Thunderstorm Wind (MG 53 kt)
	06/07/13 20:16 CST		0	Source: AWOS

A line of thunderstorms developed across the western half of the Texas Panhandle and moved to the south. As this line moved over across Moore County, the Dumas (Moore County) AWOS reported an 61 mph thunderstorm wind gust. The line that produced this gust continued to move to the south across the western Texas Panhandle.

**The Texas Panhandle was firmly locked in northwest flow aloft on the 7th. This type of weather pattern favors the development of precipitation across the Panhandle as it allows weak shortwave troughs to dive southeastward from the Continental Divide into the Southern Plains. The large scale lift provided by one such shortwave during the afternoon hours of the 7th coupled with marginal elevated instability to develop scattered thunderstorms across the northern Texas Panhandle. Initially these storms were near stationary due to weak mid-level steering winds. However, elevated instability values were high enough to produce an isolated severe thunderstorm. As the 6 PM CST hour approached, scattered thunderstorms began moving to the southeast as the shortwave approached and steering flow strengthened. Discrete thunderstorms across the eastern half of the Texas Panhandle increased in intensity while moving to the southeast as they moved into areas of slightly higher instability values. These thunderstorms produced varying sizes of hail and heavy rain before diminishing around the 7 PM CST hour. Discrete thunderstorms over the western half of the Texas Panhandle began merging into a line while moving to the south-southeast. Once congealed into a linear structure, these thunderstorms moved across the western half of the Texas Panhandle producing damaging wind gusts and heavy rain. These thunderstorms quickly diminished after 10 PM CST as the upper level shortwave which initiated these storms moved into central Texas.**

<b>HANSFORD COUNTY --- SPEARMAN [36.20, -101.20], 1.3 SE SPEARMAN [36.19, -101.19]</b>				
	06/07/13 16:00 CST		0	Heavy Rain
	06/07/13 17:00 CST		0	Source: Law Enforcement

Merging thunderstorms moved over the town of Spearman (Hansford County) during the afternoon hours of the 7th. The heavy rain produced from these storms caused minor street flooding across the town. No reports of swift water rescues or stranded vehicles were reported in association with this flooding. As the thunderstorms moved southeastward away from the town, the minor flooding quickly receded.

<b>ROBERTS COUNTY --- 27.7 NNW CODMAN [35.99, -100.99], 20.2 NNW CODMAN [35.91, -100.88]</b>				
	06/07/13 18:00 CST		0	Heavy Rain
	06/07/13 19:30 CST		0	Source: Trained Spotter

A thunderstorm moved across northern Roberts County during the late evening hours of the 7th. A trained storm spotter reported 2.27 inches of rain at K-Bar Ranch (Roberts County). This heavy rain caused minor flooding of creeks that have not had water in the for the past 5 to 6 years. after the thunderstorm that produced this heavy rain moved out of the area the minor flooding receded. No swift water rescues or stranded motorist were reported in association to this flooding.

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>HANSFORD COUNTY --- 0.7 W GRUVER [36.27, -101.41], 1.0 S GRUVER [36.26, -101.40]</b>				
	06/07/13 19:30 CST		0	Heavy Rain
	06/07/13 21:30 CST		0	Source: Public
Residual showers moved over Hansford County during the late evening hours of the 7th. A member of the public in Gruver (Hansford County) reported three inches of rain and standing water in pastures and fields. Minor flooding of streets made travel difficult across town. However, no swift water or stranded motorist were reported in association with this minor flooding.				
<b>HUTCHINSON COUNTY --- 1.0 SSW HUTCHINSON CO ARPT [35.69, -101.41], 1.7 S BORGER [35.65, -101.38]</b>				
	06/07/13 20:00 CST		0	Heavy Rain
	06/07/13 22:00 CST		0	Source: Law Enforcement
A line of thunderstorms moved across the western Texas Panhandle during the late evening hours of the 7th. This line produced heavy rain across Hutchinson County which caused minor flooding of roads across the northern portion of the county including Highway 207. As the line of thunderstorms moved into the southwestern Texas Panhandle, minor road flooding receded. No swift water rescues or stranded motorist were reported in association with this flooding.				
<b>POTTER COUNTY --- 7.0 N AMARILLO [35.30, -101.82], 2.4 E AMARILLO [35.20, -101.78]</b>				
	06/07/13 21:00 CST		0	Heavy Rain
	06/07/13 23:50 CST		0	Source: Public
A line of thunderstorms moved across the southern Texas Panhandles during the late night hours of the 7th. This line produced heavy rain which lead to minor flooding of roads in Amarillo (Potter and Randall County). A member of the public reported standing water on Highway 287 near River Road. after this line moved through the standing water quickly receded. No swift water rescues or stranded motorist were reported in association with this minor flooding.				
<b>RANDALL COUNTY --- 5.0 WSW AMARILLO [35.17, -101.90], 3.5 NW TIMBERCREEK CANYON [35.09, -101.86]</b>				
	06/07/13 21:00 CST		0	Heavy Rain
	06/07/13 23:50 CST		0	Source: Law Enforcement
A line of thunderstorms moved across the southern Texas Panhandles during the late night hours of the 7th. This line produced heavy rain which lead to minor flooding of roads in Amarillo (Potter and Randall County). Local law enforcement reported typical flooding at the intersections of Sleepy Hollow and 45th, and Bell and 45th. After this line moved through the minor flooding quickly receded. No swift water rescues or stranded motorist were reported in association with this minor flooding.				
<p><b>The Texas Panhandle was firmly locked in northwest flow aloft on the 7th. This type of weather pattern favors the development of precipitation across the Panhandle as it allows weak shortwave troughs to dive southeastward from the Continental Divide into the Southern Plains. The large scale lift provided by one such shortwave during the afternoon hours of the 7th worked in tandem with weak steering flow during the afternoon and increasing PWAT values during the evening hours to produce localized heavy rain across the Texas Panhandle. Scattered, near stationary, discrete thunderstorms developed over the northern Texas Panhandle due to weak steering flow during the afternoon hours of the 7th. These storms were able to generate moderate rain amounts due to being over the same location for an extended period of time. As the hours progressed into the evening, low level winds transported gulf moisture into the southern Texas Panhandle which fueled, in the form of increased PWAT values, a line of thunderstorms moving south-southeastward across the western half of the Panhandle. While these storms moved quickly across the area, the ample supply of moisture allowed these thunderstorms to efficiently produce heavy rain. All precipitation ended across the Texas Panhandle by 10 PM due to the upper level support for these storms moving into central Texas.</b></p>				
<b>OCHILTREE COUNTY --- 9.2 ENE TWICHELL [36.46, -100.56], 9.1 ENE TWICHELL [36.46, -100.56]</b>				
	06/08/13 19:00 CST		0	Hail (1.00 in)
	06/08/13 19:02 CST		0	Source: Trained Spotter
A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A trained storm spotter 1 mile west of Booker (Ochiltree County) reported quarter size hail (1 inch). The storm that produced this hail continued moving to the south across the county after producing this hail.				
<b>LIPSCOMB COUNTY --- 3.8 SW DARROUZETT [36.39, -100.37], 7.0 SSW DARROUZETT [36.34, -100.37]</b>				
	06/08/13 19:06 CST		0	Hail (0.88 in)
	06/08/13 19:09 CST		0	Source: Trained Spotter
A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A trained storm spotter 6 miles south-southwest of Lipscomb (Lipscomb County) reported nickel size hail (0.88 inches). The storm that produced this hail continued moving to the south across the county after producing this hail.				
<b>HANSFORD COUNTY --- 4.9 N SPEARMAN [36.27, -101.19]</b>				

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/08/13 19:15 CST		0	Thunderstorm Wind (EG 52 kt)
	06/08/13 19:17 CST		0	Source: Public
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. While 5 miles north of Spearman, a downburst was produced from the thunderstorm which blew a roof off of a barn and blew over a center pivot sprinkler system. The storm that produced this downburst continued moving to the south across the county.</p>				
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<b>MOORE COUNTY --- 5.0 W SUNRAY [36.03, -101.82], 5.0 W SUNRAY [36.02, -101.82]</b>				
	06/08/13 19:18 CST		0	Hail (1.75 in)
	06/08/13 19:20 CST		0	Source: Law Enforcement
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. While over the city of Sunray (Moore County), the Moore County Sheriff's office reported golfball size hail (1.75 inches) in the city. The storm that produced this hail continued moving to the south across the county after producing this hail.</p>				
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<b>MOORE COUNTY --- 7.8 SW SUNRAY [35.93, -101.82], 8.2 SW SUNRAY [35.93, -101.82]</b>				
	06/08/13 19:24 CST		0	Hail (1.50 in)
	06/08/13 19:26 CST		0	Source: Law Enforcement
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. The Moore County Sheriff's Office reported half dollar size hail (1.50 inches) 6 miles south of Sunray (Moore County). The storm that produced this hail continued moving to the south across the county after producing this hail.</p>				
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<b>HEMPHILL COUNTY --- 6.0 NNE CANADIAN [35.98, -100.34]</b>				
	06/08/13 19:49 CST		0	Thunderstorm Wind (EG 61 kt)
	06/08/13 19:50 CST		0	Source: Trained Spotter
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A trained storm spotter 5 miles west-southwest of Glazier (Hemphill County) reported a 70 mph downburst. The storm that produced this downburst continued moving to the south across the county.</p>				
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<b>HEMPHILL COUNTY --- 0.7 S CANADIAN HEMPHILL AR [35.89, -100.40]</b>				
	06/08/13 19:55 CST		0	Thunderstorm Wind (MG 51 kt)
	06/08/13 19:56 CST		0	Source: AWOS
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A downburst occurred 2 miles southwest of Canadian (Hemphill County). The downburst was measured by the Canadian AWOS to be 59 mph. The storm that produced this downburst continued moving to the south across the county.</p>				
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<b>HUTCHINSON COUNTY --- 1.1 N FRITCH [35.65, -101.60], 0.4 NNE FRITCH [35.64, -101.60]</b>				
	06/08/13 20:19 CST		0	Hail (1.00 in)
	06/08/13 20:21 CST		0	Source: Trained Spotter
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A trained storm spotter in Fritch (Hutchinson County) reported quarter size hail (1 inch) over the city. The storm that produced this hail continued moving to the south across the county after producing this hail.</p>				
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<b>POTTER COUNTY --- 16.5 E VALLE DE ORO [35.49, -101.82], 16.4 E VALLE DE ORO [35.47, -101.82]</b>				
	06/08/13 20:38 CST		0	Hail (1.00 in)
	06/08/13 20:40 CST		0	Source: Public
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A member of the public 19 miles north of Amarillo (Potter County) reported quarter size hail (1 inch). The storm that produced this hail continued moving to the south across the county after producing this hail.</p>				
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<b>POTTER COUNTY --- 7.1 N AMARILLO [35.30, -101.82], 6.8 N AMARILLO [35.30, -101.82]</b>				
	06/08/13 20:39 CST		0	Hail (0.88 in)
	06/08/13 20:41 CST		0	Source: Broadcast Media
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. The broadcast media reported nickel size hail (0.88 inch) 7 miles north of Amarillo (Potter County). The storm weakened after producing this hail.</p>				
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<b>WHEELER COUNTY --- 1.5 SSW ALLISON [35.58, -100.11]</b>				

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/08/13 20:40 CST		0	Thunderstorm Wind (EG 52 kt)
	06/08/13 20:41 CST		0	Source: Law Enforcement
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the Texas Panhandle. A Wheeler County Sheriff's Deputy reported a 60 mph downburst 10 miles east of Briscoe (Wheeler County). The storm that produced this hail continued moving to the south across the county after producing this hail.</p>				
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<b>WHEELER COUNTY --- 2.1 NNW NEW MOBEETIE [35.56, -100.44]</b>				
	06/08/13 21:05 CST		0	Thunderstorm Wind (EG 52 kt)
	06/08/13 21:06 CST		0	Source: Fire Department/Rescue
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the Texas Panhandle. A member of the Mobeetie Fire Department reported a 60 mph downburst 2 miles north of New Mobeetie. The storm that produced this downburst continued moving to the south across the county.</p>				
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<b>WHEELER COUNTY --- 0.6 W NEW MOBEETIE [35.53, -100.44]</b>				
	06/08/13 21:10 CST		0	Thunderstorm Wind (EG 56 kt)
	06/08/13 21:11 CST		0	Source: Trained Spotter
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. A trained storm spotter in New Mobeetie (Wheeler County) reported several tree limbs up to 12 inches in diameter blown down at a school on 5th Street (Wheeler County). The storm that produced this damage continued moving to the south across the county.</p>				
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<b>COLLINGSWORTH COUNTY --- 1.8 ENE WELLINGTON [34.86, -100.19]</b>				
	06/08/13 21:50 CST		0	Thunderstorm Wind (EG 52 kt)
	06/08/13 21:51 CST		0	Source: Amateur Radio
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. An amateur Radio operator reported that a cotton module truck was blown over by a downburst 2 miles east-northeast of Wellington (Collingsworth County). The storm that produced this damage continued moving to the south across the county.</p>				
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<b>GRAY COUNTY --- 2.4 E PAMPA [35.54, -100.93], 2.4 ENE PAMPA [35.55, -100.93]</b>				
	06/08/13 22:40 CST		0	Hail (1.00 in)
	06/08/13 22:41 CST		0	Source: Public
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the Texas Panhandle. A member of the public reported quarter size hail (1 inch) 2 miles east-southeast. The storm that produced this hail continued moving to the south across the county.</p>				
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<b>GRAY COUNTY --- 3.0 NE PAMPA [35.56, -100.93], 2.6 ENE PAMPA [35.55, -100.93]</b>				
	06/08/13 22:45 CST		0	Hail (1.00 in)
	06/08/13 22:46 CST		0	Source: Trained Spotter
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the Texas Panhandle. A trained storm spotter 2 miles east of Pampa (Gray County) reported quarter size hail (1 inch). The storm that produced this hail continued moving to the south across the county.</p>				
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<b>CARSON COUNTY --- 0.6 WNW PANTEX [35.33, -101.58], 1.4 SSW PANTEX [35.31, -101.58]</b>				
	06/08/13 23:30 CST		0	Hail (0.75 in)
	06/08/13 23:31 CST		0	Source: Other Federal Agency
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the northern Texas Panhandle. Penny size hail (0.75 inches) was reported by Pantex officials (Carson County). The storm that produced this hail continued moving to the south across the county.</p>				
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<b>CARSON COUNTY --- 8.1 ESE PANHANDLE [35.32, -101.24], 8.6 ESE PANHANDLE [35.30, -101.24]</b>				
	06/08/13 23:44 CST		0	Hail (0.88 in)
	06/08/13 23:45 CST		0	Source: Trained Spotter
<p>A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the Texas Panhandle. A trained storm spotter reported nickel size hail (0.88 inch) on Farm-to-Market Road 2880 9 miles south-southwest of White Deer (Carson County). The storm that produced this hail continued moving to the south across the county after producing this hail.</p>				
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<b>CARSON COUNTY --- 7.3 SSE PANTEX [35.24, -101.51], 7.3 W CONWAY [35.22, -101.51]</b>				

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/08/13 23:45 CST		0	Hail (1.75 in)
	06/08/13 23:46 CST		0	Source: Law Enforcement

A cluster of thunderstorms developed along a stalling cold front during the evening hours of the 8th. This cluster of thunderstorms moved to the south across the Texas Panhandle. A Carson County Sheriff's Deputy reported golfball size hail (1.75 inches) at the intersection of Highway 70 and Interstate 40. The storm that produced this hail continued moving to the south across the county.

**The combination of a surface cold front and weak upper level shortwave initiated showers and thunderstorms across the Texas Panhandle during the evening hours of the 8th. At 3 PM CST, the surface cold front had begun to slow as it moved into the western Oklahoma Panhandle. The lift provided by the front had proved sufficient in initiating scattered thunderstorms along the front from northern Kansas to the southwestern Texas Panhandle. By 6PM CST, the cold front was stretched from the eastern Oklahoma Panhandle to the northwest corner of the Texas Panhandle. As the evening hours advanced, a combination of discrete and linear thunderstorms developed across the eastern Oklahoma and northern Texas Panhandle. These thunderstorms stayed along the front while intensifying then advanced to the south-southeast ahead of the front once becoming outflow driven. Thunderstorms continued to move to the south-southeast until exiting the southern Texas Panhandle shortly before midnight on the 9th.**

### DALLAM COUNTY --- 4.5 E DALHART [36.06, -102.44]

06/15/13 18:32 CST	0	Thunderstorm Wind (EG 52 kt)
06/15/13 18:34 CST	0	Source: Public

An embedded thunderstorm with a line of storms collapsed east of the town of Dalhart (Dallam County). A member of the public reported 4 miles east of Dalhart (Dallam County) blew tree limbs between one and three inches of a Chinese Elm down. The line of thunderstorms continued moving to the east-southeast after producing this downburst.

### DALLAM COUNTY --- 4.5 E DALHART [36.06, -102.44]

06/15/13 18:40 CST	0	Thunderstorm Wind (EG 52 kt)
06/15/13 18:42 CST	0	Source: Public

An embedded thunderstorm with a line of storms collapsed east of the town of Dalhart (Dallam County). A member of the public reported 4 miles east of Dalhart (Dallam County) estimated a 60 mph downburst. The line of thunderstorms continued moving to the east-southeast after producing this downburst.

**Scattered thunderstorms developed along a surface trough across the northwestern Texas Panhandle during the evening hours of the 15th. As these thunderstorms moved across Dallam County, embedded thunderstorms within the line collapsed and produced localized downbursts. As the line moved east-southeastward into the Texas Panhandle the nocturnal inversion began strengthening which caused these thunderstorms diminished by 8 PM CST.**

### HANSFORD COUNTY --- 19.0 SE SPEARMAN [36.01, -100.96], 22.4 SE SPEARMAN [35.95, -100.94]

06/16/13 05:30 CST	0	Heavy Rain
06/16/13 08:30 CST	0	Source: Public

A brief period of training thunderstorms moved over Roberts County during the early morning hours of the 16th. Localized flooding occurred southeast of the town of Spearman (Roberts County) due to these thunderstorms moving over the same location over a small period of time. A member of the public reported that rural roads and low water crossings near his location, 19 miles to the southeast of Spearman, had become impassable. Some ponding of water on his property was also reported. This minor flooding receded with a few hours after precipitation moved south of this location.

### POTTER COUNTY --- (AMA)AMARILLO INTL A [35.22, -101.72], 6.7 SSW AMARILLO [35.12, -101.88]

06/16/13 23:00 CST	0	Heavy Rain
06/17/13 01:36 CST	0	Source: Broadcast Media

A line of thunderstorm developed over the southern Texas Panhandle during the late night hours of the 16th and persisted into the early morning hours of the 17th. This line of thunderstorms produced a period of heavy rain over the city of Amarillo (Randall and Potter County). A member of the local television station KFDA reported that over the period of an hour 0.97 inches of rain fell at the station in downtown Amarillo (Potter County). This heavy rain led to minor flooding of streets in the southern portion of the city (Randall County). The flooding subsided after 1 AM CST.

### RANDALL COUNTY --- 6.3 NW TIMBERCREEK CANYON [35.11, -101.90], 0.8 NNW AMARILLO [35.21, -101.82]

06/16/13 23:00 CST	0	Heavy Rain
06/17/13 01:36 CST	0	Source: Broadcast Media

A line of thunderstorm developed over the southern Texas Panhandle during the late night hours of the 16th and persisted into the early morning hours of the 17th. This line of thunderstorms produced a period of heavy rain over the city of Amarillo (Randall and Potter County). A member of the local television station KFDA reported that over the period of an hour 0.97 inches of rain fell at the station in downtown Amarillo (Potter County). This heavy rain led to minor flooding of streets in the southern portion of the city (Randall County). The flooding subsided after 1 AM CST.

**A series of weak upper level waves provided the upper level support for showers and thunderstorms to develop during the morning and evening hours of the 16th. These storms caused brief periods of heavy rain to the Texas and Oklahoma Panhandle which lead to**

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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minor flooding of flood prone areas.

**CARSON COUNTY --- 4.7 ENE MASTERSON [35.44, -101.54], 5.7 NE PANTEX [35.40, -101.51]**

06/16/13 16:43 CST	0	Hail (1.00 in)
06/16/13 16:45 CST	0	Source: Trained Spotter

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th. One of these thunderstorms developed over northern Carson County and moved to the south-southeast across the county. A trained storm spotter 7 miles north-northeast of Pantex reported quarter size hail (1.00 inch) as the thunderstorm moved overhead. The thunderstorm continued to move to the south-southeast across the county after producing this hail.

**CARSON COUNTY --- 2.3 NE CONWAY [35.23, -101.36], 1.9 E CONWAY [35.20, -101.35]**

06/16/13 17:38 CST	0	Hail (1.50 in)
06/16/13 17:40 CST	0	Source: Trained Spotter

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th. One of these thunderstorms developed over northern Carson County and moved to the south-southeast across the county. A trained storm spotter 2 miles east of Conway (Carson County) reported ping pong size hail (1.50 inches) as the thunderstorm moved overhead. The thunderstorm continued to move to the south-southeast across the county after producing this hail.

**ARMSTRONG COUNTY --- 5.8 ENE CLAUDE [35.15, -101.27], 4.5 NW GOODNIGHT [35.08, -101.25]**

06/16/13 17:51 CST	0	Hail (1.75 in)
06/16/13 17:53 CST	0	Source: Trained Spotter

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th. One of these thunderstorms developed over northern Carson County and moved to the south-southeast across the county. A trained storm spotter 6 miles east Claude (Carson County) reported golfball size hail (1.75 inches) as the thunderstorm moved overhead. The thunderstorm continued to move to the south-southeast across the county after producing this hail.

**ARMSTRONG COUNTY --- 7.1 N GOODNIGHT [35.13, -101.20], 4.5 NNE GOODNIGHT [35.09, -101.17]**

06/16/13 18:10 CST	0	Hail (2.75 in)
06/16/13 18:13 CST	0	Source: Law Enforcement

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th. One of these thunderstorms developed over northern Carson County and moved to the south-southeast across the county. An Armstrong County Sheriff's Deputy near the intersection of Farm-to-Market Road and Farm-to-Market Road 294 (Armstrong County) reported baseball size hail (2.75 inches) as the thunderstorm moved overhead. The thunderstorm continued to move to the south-southeast across the county after producing this hail.

**ARMSTRONG COUNTY --- 1.8 N GOODNIGHT [35.06, -101.20], 1.9 SE GOODNIGHT [35.01, -101.18]**

06/16/13 18:17 CST	0	Hail (1.50 in)
06/16/13 18:19 CST	0	Source: Storm Chaser

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th. One of these thunderstorms developed over northern Carson County and moved to the south-southeast into Armstrong County. A storm chaser in Goodnight (Armstrong County) reported ping pong ball size hail (1.50 inches) as the thunderstorm moved overhead. The thunderstorm continued to move to the south-southeast across the county after producing this hail.

**DONLEY COUNTY --- 4.3 SSW HOWARDWICK [35.01, -100.95], 0.6 W CLARENDON [34.93, -100.91]**

06/16/13 18:21 CST	0	Hail (1.00 in)
06/16/13 18:23 CST	0	Source: Storm Chaser

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th. One of these thunderstorms developed over northern Carson County and moved to the south-southeast across the southern Texas Panhandle. While the thunderstorm moved over Donley County, a storm chaser three miles northwest of Clarendon (Donley County) reported quarter size hail (1.00 inch) accumulating on Highway 287. The thunderstorm continued to move to the south-southeast across the county after producing this hail.

**DONLEY COUNTY --- 4.0 NNW CLARENDON [34.99, -100.92], 1.6 ESE CLARENDON [34.92, -100.88]**

06/16/13 18:24 CST	0	Hail (1.00 in)
06/16/13 18:27 CST	0	Source: Public

Discrete thunderstorms developed over the southern Texas Panhandle during the evening hours of the 16th and moved to the south-southeast across the Texas Panhandle. One of these thunderstorms moved over the city of Clarendon (Donley County). While over the city, a member of the public reported quarter size hail (1.00 inches). The thunderstorm continued to move to the south-southeast across the county after producing this hail.

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>OCHILTREE COUNTY --- 16.3 SE PERRYTON MUNI ARPT [36.22, -100.55], 20.2 SE PERRYTON MUNI ARPT [36.18, -100.51]</b>				
	06/16/13 18:35 CST		0	Hail (1.00 in)
	06/16/13 18:37 CST		0	Source: Trained Spotter
A line of thunderstorms moved out of the eastern Oklahoma Panhandle during the evening hours of the 16th. As this line moved across the northeastern Texas Panhandle, a trained storm spotter near the intersection of County Roads U and 23 reported quarter size hail (1.00 inches). The line of storms that produced this hail continued to move southeastward across the northeast Texas Panhandle before entering western Oklahoma by 8 PM CST.				
<b>RANDALL COUNTY --- 2.4 NNE UMBARGER [34.98, -102.08]</b>				
	06/16/13 23:38 CST		0	Thunderstorm Wind (MG 52 kt)
	06/16/13 23:40 CST		0	Source: Broadcast Media
A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved close to the town of Umbarger (Randall County), the KVII Schoolnet site at Brandt Farms (Randall County) measured a 60 mph downdraft gust. The line quickly moved to the southeast after producing this gust.				
<b>RANDALL COUNTY --- 9.0 S CANYON [34.85, -101.92]</b>				
	06/16/13 23:40 CST		20K	Thunderstorm Wind (EG 56 kt)
	06/16/13 23:42 CST		0	Source: Broadcast Media
A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved over the town of Canyon (Randall County), KVII reported a trampoline was tossed over a house and impaled the roof of the house. The downdraft gust that caused this damage was estimated to be near 65 mph. The line continued to move to the southeast after producing this gust.				
<b>RANDALL COUNTY --- 0.9 NW CANYON [34.99, -101.93]</b>				
	06/16/13 23:44 CST		0	Thunderstorm Wind (EG 65 kt)
	06/16/13 23:45 CST		0	Source: Trained Spotter
A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved over the town of Canyon (Randall County), an estimated 75 mph downdraft gust broke numerous tree limbs up to 10 inches in diameter off in the Hunsley neighborhood. Some roads became briefly block due to the shear number of tree limbs on the road. Road crews quickly cleared these roadways, and normal traffic flow was restored. The line continued to move to the southeast after producing this gust.				
<b>RANDALL COUNTY --- 2.0 N CANYON [35.01, -101.92]</b>				
	06/16/13 23:44 CST		0	Thunderstorm Wind (MG 63 kt)
	06/16/13 23:46 CST		0	Source: Broadcast Media
A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved over the town of Canyon (Randall County), the KVII Schoolnet site at Canyon Hills Church of Christ (Randall County) measured a 73 mph downdraft gust. The line continued to move to the southeast after producing this gust.				
<b>RANDALL COUNTY --- CANYON [34.98, -101.92]</b>				
	06/16/13 23:44 CST		0	Thunderstorm Wind (EG 70 kt)
	06/16/13 23:46 CST		0	Source: State Official
A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved over the town of Canyon (Randall County), an estimated 80 mph downdraft gust produced damage across the West Texas A&M campus (Randall County) as reported by campus officials. Multiple tree limbs up to 6 inches were blown down, and damage was reported to some roofs, the baseball scoreboard, and fences. Secondary water damage was also reported to buildings that sustained roof damage. The line continued to move to the southeast after producing this gust.				
<b>RANDALL COUNTY --- CANYON [34.98, -101.92]</b>				
	06/16/13 23:50 CST		0	Thunderstorm Wind (MG 52 kt)
	06/16/13 23:51 CST		0	Source: Broadcast Media
A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved over the town of Canyon (Randall County), the KVII Schoolnet site at Canyon Junior High School (Randall County) measured a 60 mph downdraft gust. The line continued to move to the southeast after producing this gust.				
<b>ARMSTRONG COUNTY --- 10.7 SSW GOODNIGHT [34.88, -101.25]</b>				

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/17/13 00:46 CST		0	Thunderstorm Wind (MG 52 kt)
	06/17/13 00:48 CST		0	Source: Broadcast Media

A line of thunderstorms developed over the southern Texas Panhandle during the late night hours of the 16th. This line quickly showed indications that damaging winds would be the primary hazard. As the line moved across Armstrong County, the KVII Schoolnet site at Palo Duro (Armstrong County) measured a 60 mph downdraft gust. The line continued to move to the southeast after producing this gust, but weakened to the point of not producing any further damaging wind gusts.

**A weak upper level wave helped to spark a line of thunderstorms along a surface trough across the eastern New Mexico Plains and into the Central Plains during the evening hours of the 16th. A few isolated storms developed across the southern Texas Panhandle ahead of the main line of storms and moved to the southeast. These discrete thunderstorms brought primarily severe hail to the Texas Panhandle. The thunderstorms that developed along the surface trough formed into a broken linear structure due to areas of higher instability and stronger deep layer shear. The linear structure made the primary hazard for these storms damaging winds. A line of thunderstorms which moved through the southern Texas Panhandle during the overnight hours of the 16th and into the early morning hours of the 17th took on a classic bow echo signature. As a result, severe wind damage was noted in southern Randall County where the bow echo signature first developed. Thunderstorms moved to the southeast across the Panhandles before entering northwest Texas by 2 AM CST.**

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DEAF SMITH COUNTY --- 9.5 WSW WALCOTT [34.89, -102.99]				
	06/17/13 19:21 CST		0	Thunderstorm Wind (MG 52 kt)
	06/17/13 19:23 CST		0	Source: Mesonet

Scattered thunderstorms over Deaf Smith County merged and intensified during the evening hours of the 17th. This intensification was brief, and as the merged thunderstorm diminished, a localized downburst of 60 mph was measured by the West Texas Mesonet 11 miles west-northwest of Bootleg (Deaf Smith County).

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DEAF SMITH COUNTY --- 9.5 WSW WALCOTT [34.89, -102.99]				
	06/17/13 19:25 CST		0	Thunderstorm Wind (MG 50 kt)
	06/17/13 19:27 CST		0	Source: Mesonet

Scattered thunderstorms over Deaf Smith County merged and intensified during the evening hours of the 17th. This intensification was brief, and as the merged thunderstorm diminished, a localized downburst of 58 mph was measured by the West Texas Mesonet 11 miles west-northwest of Bootleg (Deaf Smith County).

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DEAF SMITH COUNTY --- BOOTLEG [34.83, -102.81]				
	06/17/13 20:03 CST		0	Thunderstorm Wind (MG 61 kt)
	06/17/13 20:05 CST		0	Source: Mesonet

Scattered thunderstorms over Deaf Smith County merged and intensified during the evening hours of the 17th. This intensification was brief, and as the merged thunderstorm diminished, a localized downburst of 70 mph was measured by the RAWS site in Bootleg (Deaf Smith County).

**Scattered thunderstorms developed over the New Mexico Eastern Plains during the evening hours of the 17th. These thunderstorms moved eastward and entered the western Texas Panhandle around the 7 PM CST hour. Thunderstorms over the northwestern Texas Panhandle quickly diminished due to weaker instability than across the southwestern Texas Panhandle. The thunderstorms over the southwestern Texas Panhandle began merging and moving to the southeast. The storm mergers caused brief intensifications before diminishing. As the storms diminished, localized downbursts were reported across Deaf Smith County. Thunderstorms quickly moved to the southeast and exited the southern Texas Panhandle.**

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DEAF SMITH COUNTY --- 1.9 NW BOOTLEG [34.85, -102.83], 2.8 ESE BOOTLEG [34.82, -102.76]				
	06/17/13 19:45 CST		0	Heavy Rain
	06/17/13 21:00 CST		0	Source: Public

Diminishing thunderstorms over Deaf Smith County produced locally heavy rain during the evening hours of the 17th. A member of the public 2 miles west of Bootleg (Deaf Smith County) reported 4 inches of rain and minor flooding of roads. Once these thunderstorms moved out of the county the minor flooding quickly receded. No swift water rescues or stranded motorist were reported in association with this heavy rain.

**Scattered thunderstorms developed over the New Mexico Eastern Plains during the evening hours of the 17th. These thunderstorms moved eastward and entered the western Texas Panhandle around the 7 PM CST hour. The thunderstorms over the southwestern Texas Panhandle began merging and moving to the southeast. The storm mergers caused brief intensifications before diminishing. As these thunderstorms diminished, localized heavy rain was reported in Deaf Smith County. The heavy rain caused brief minor flooding which receded quickly once thunderstorms moved out of the area.**

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SHERMAN COUNTY --- 11.4 NE LAUTZ [36.34, -101.89]				
	06/18/13 23:07 CST		0	Thunderstorm Wind (EG 52 kt)
	06/18/13 23:08 CST		0	Source: Trained Spotter

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>Scattered thunderstorms moved into the northern Texas Panhandle during the late night hours of the 18th. A thunderstorm produced a downburst 10 miles east of the town of Stratford (Sherman County). A storm spotter in this location reported he was almost blown off the road by the gust and estimated the winds to be 60 mph.</p>				
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<b>LIPSCOMB COUNTY --- 5.7 WNW DARROUZETT [36.45, -100.42]</b>				
	06/19/13 03:50 CST		0	Thunderstorm Wind (EG 61 kt)
	06/19/13 03:52 CST		0	Source: Broadcast Media
<p>A discrete thunderstorm moved into Lipscomb County from the north-northwest. As it moved across the county it briefly intensified as it moved near the town of Darrouzett (Lipscomb County), before collapsing. As it collapsed, it produced a downburst that blew down 10 power poles 5 miles west of the city. This caused power outages in Darrouzett, Follett, Higgins, and Booker (Lipscomb County) that lasted well into the afternoon hours of the 19th as reported by Xcel Energy.</p>				
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<b>CARSON COUNTY --- 1.9 SSW SKELLYTOWN [35.54, -101.19], 4.7 SSE SKELLYTOWN [35.51, -101.15]</b>				
	06/19/13 05:13 CST		0	Hail (1.75 in)
	06/19/13 05:15 CST		0	Source: Trained Spotter
<p>A discrete supercell moved southeastward across Carson County during the morning hours of the 19th. As the storm moved south of Skellytown (Carson County) it produced golfball size hail (1.75 inches). The thunderstorm weakened slightly after producing this hail, and continued to move across the county to the southeast.</p>				
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<b>CARSON COUNTY --- 0.6 E SKELLYTOWN [35.57, -101.17]</b>				
	06/19/13 05:20 CST		0.20K	Thunderstorm Wind (EG 50 kt)
	06/19/13 05:22 CST		0	Source: Public
<p>A discrete thunderstorm moved southeastward across Carson County during the morning hours of the 19th. The outflow from this storm lifted a trampoline in Skellytown (Carson County), and lofted it into a tree. The thunderstorm continued moving to the southeast after producing this outflow.</p>				
<p><b>The combination of an upper level short wave, high pwat values, and slow storm motions lead to severe weather and flash flooding across the Oklahoma and Texas Panhandles from the late night hours of the 18th through the late morning hours of the 19th.</b></p>				
<p>Scattered thunderstorms developed along a stationary boundary in southeastern Colorado during the late night hours of the 18th. These thunderstorms moved to the east-southeast off of the boundary and entered the western Oklahoma and northwestern Texas Panhandle around 9 PM CST. Thunderstorms slowly intensified as they moved into the more unstable portions of the Panhandles and began producing isolated downbursts after 11 PM CST. These thunderstorms blew power poles down which caused power outages for several communities across Lipscomb County. Scattered thunderstorms continued moving to the east-southeast 2 AM CST on the 19th. After this point a series of training thunderstorm developed from the central Oklahoma Panhandle into the south central Texas Panhandle. These thunderstorms produced isolated downburst and hail along this line until 8 AM CST. Lightning from these thunderstorms caused a brief power outage for 3,056 Xcel Energy customers on the southeast side of Amarillo (Randall County).</p>				
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<b>CARSON COUNTY --- 3.0 S SKELLYTOWN [35.53, -101.18]</b>				
	06/19/13 03:35 CST		0	Heavy Rain
	06/19/13 05:20 CST		0	Source: Broadcast Media
<p>Training thunderstorms brought heavy rain to the Texas Panhandle during the morning hours of the 19th. The KVII Schoolnet site 3 miles south of Skellytown reported 1.66 inches of storm total rain.</p>				
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<b>CARSON COUNTY --- SKELLYTOWN [35.57, -101.18]</b>				
	06/19/13 03:50 CST		0	Heavy Rain
	06/19/13 05:20 CST		0	Source: Broadcast Media
<p>Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. A KAMR rain gage in Skellytown (Carson County) recorded a storm total amount of 1.22 inches.</p>				
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<b>HUTCHINSON COUNTY --- 1.0 WNW STINNETT [35.83, -101.47]</b>				
	06/19/13 04:00 CST		0	Heavy Rain
	06/19/13 06:05 CST		0	Source: Broadcast Media
<p>Training thunderstorms brought heavy rain to Hutchinson County during the morning hours of the 19th. The KVII Schoolnet site 1 mile west northwest of Stinnett (Hutchinson County) reported 2.48 inches of storm total rain.</p>				
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<b>GRAY COUNTY --- 11.5 W ALANREED [35.19, -100.93]</b>				

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/19/13 05:38 CST		0	Heavy Rain
	06/19/13 07:15 CST		0	Source: COOP Observer

Training thunderstorms brought heavy rain to Gray County during the morning hours of the 19th. The National Weather Service Cooperative Observer in Jericho reported a storm total rain amount of 2.20 inches.

### ARMSTRONG COUNTY --- CLAUDE [35.12, -101.37]

	06/19/13 06:23 CST		0	Heavy Rain
	06/19/13 07:47 CST		0	Source: Broadcast Media

Training thunderstorm brought heavy rain to Armstrong County during the morning hours of the 19th. The KVII Schoolnet site at Claude High School (Armstrong County) reported a storm total of 1.00 inch.

### CARSON COUNTY --- PANTEX [35.33, -101.57]

	06/19/13 08:00 CST		0	Heavy Rain
	06/19/13 09:40 CST		0	Source: Other Federal Agency

Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. Pantex officials reported 3.00 inches of storm total rain.

### DONLEY COUNTY --- CLARENDON [34.93, -100.90]

	06/19/13 08:00 CST		0	Heavy Rain
	06/19/13 09:00 CST		0	Source: COOP Observer

Training thunderstorms brought heavy rain to Donley County during the morning hours on the 19th. The National Weather Service Cooperative Observer in Clarendon reported 2.5 inches of storm total rain.

### CARSON COUNTY --- PANHANDLE [35.35, -101.38]

	06/19/13 09:00 CST		0	Heavy Rain
	06/19/13 10:48 CST		0	Source: Public

Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. A member of the public reported a storm total of 2.54 inches in Panhandle (Carson County).

**The combination of an upper level short wave, high pwtat values, and slow storm motions lead to flash flooding across the Texas Panhandle during the morning hours of the 19th .**

**Training thunderstorms produced several hours of heavy rain across the Texas Panhandle. Several locations received between 1 and 2 inches with a reported maximum of 3 inches in Clarendon (Donley County). While most locations only saw minor flooding of flood prone areas, some locations saw heavy rain at rates approaching 2.5 inches per hour which lead to flash flooding. Donley County saw the majority of the heavy rain due to it was the location that saw the most training of thunderstorms. Drainage from this heavy rain produced a 2 foot rise on Greenbelt Lake (Donley County) which has been below 15 percent capacity for the past several months.**

### DONLEY COUNTY --- 4.3 NW CLARENDON [34.97, -100.96], 4.6 NW CLARENDON [34.97, -100.96], 4.4 NW CLARENDON [34.98, -100.95], 3.7 NW CLARENDON [34.96, -100.95]

	06/19/13 07:16 CST		0	Flash Flood (due to Heavy Rain)
	06/19/13 10:30 CST		0	Source: Law Enforcement

Training thunderstorms brought heavy rain to Donley County during the morning hours of the 19th. This heavy rain produced flash flooding which swept one car off of Highway 287 northwest of Clarendon (Donley County). No injuries were relayed with this report.

### DONLEY COUNTY --- 0.9 NNE CLARENDON [34.94, -100.89], 0.9 NE CLARENDON [34.94, -100.89], 0.7 NNE CLARENDON [34.94, -100.89], 0.7 NNE CLARENDON [34.94, -100.90]

	06/19/13 07:25 CST		0	Flash Flood (due to Heavy Rain)
	06/19/13 10:34 CST		0	Source: Trained Spotter

Training thunderstorms brough heavy rain to Donley County during the morning hours of the 19th. This heavy rain produced flash flooding in the town of Clarendon (Donley County) which swept a police vehicle from the road at the intersection of Koogle Street and Highway 287. The officer was pulling out of a parking lot and was unable to see a ditch which was filled with water. As the vehicle tires began to dip into the ditch, the officer attempted to prevent the vehicle from going into the ditch but the fast moving flood water swept the vehicle into the ditch. The officer was able to escape the vehilce uninjured and unassisted. Once the water receded, the vehicle was removed from the ditch.

### CARSON COUNTY --- 2.8 N PANHANDLE [35.39, -101.38], 3.3 N PANHANDLE [35.40, -101.37], 3.5 N PANHANDLE [35.40, -101.39], 2.9 N PANHANDLE [35.39, -101.39]

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/19/13 07:30 CST		0	Flash Flood (due to Heavy Rain)
	06/19/13 10:07 CST		0	Source: Public

Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. This heavy rain caused flash flooding which stranded a motorist 3 miles north of Panhandle on Farm-to-Market Road 207 three miles north of Panhandle (Carson County). The flood water was reported to be 3 to 4 feet deep where the vehicle came to a rest. No injuries to the motorist were reported.

**CARSON COUNTY --- 4.5 W PANHANDLE [35.35, -101.46], 5.0 ENE PANTEX [35.35, -101.48], 5.4 ENE PANTEX [35.36, -101.48], 4.8 W PANHANDLE [35.36, -101.46]**

06/19/13 08:45 CST	0	Flash Flood (due to Heavy Rain)
06/19/13 10:56 CST	0	Source: Emergency Manager

Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. This heavy rain caused flash flooding which swept a vehicle off of County Road 293 between County Roads J and H. A high water rescue was performed and the occupants in the vehicle were rescued uninjured.

**CARSON COUNTY --- 4.0 NNE WHITE DEER [35.49, -101.16], 4.5 SSE WHITE DEER [35.37, -101.16], 4.3 S WHITE DEER [35.37, -101.18], 3.7 N WHITE DEER [35.48, -101.18]**

06/19/13 09:00 CST	0	Flash Flood (due to Heavy Rain)
06/19/13 10:41 CST	0	Source: Emergency Manager

Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. This heavy rain produced flash flooding in spots on County Road 294 between County Roads 13 and 21. No injuries or swift water rescues were reported with this flooding.

**ARMSTRONG COUNTY --- 1.2 SSE CLAUDE [35.11, -101.36], 1.1 SSE CLAUDE [35.11, -101.36], 1.0 SE CLAUDE [35.11, -101.36], 1.1 SE CLAUDE [35.11, -101.36]**

06/19/13 09:30 CST	0	Flash Flood (due to Heavy Rain)
06/19/13 11:07 CST	0	Source: Emergency Manager

Training thunderstorms brought heavy rain to Armstrong County during the morning hours of the 19th. This heavy rain caused flash flooding in Claude (Carson County). Water covered intersections of Andrus Street and 5th as well as Goodnight Street and 2nd Street. No swift water rescues or injuries were reported in association with this flooding.

**ARMSTRONG COUNTY --- 3.0 SSE CLAUDE [35.08, -101.36], 2.9 S CLAUDE [35.08, -101.37], 3.4 S CLAUDE [35.07, -101.37], 3.4 S CLAUDE [35.07, -101.36]**

06/19/13 09:30 CST	0	Flash Flood (due to Heavy Rain)
06/19/13 11:07 CST	0	Source: Emergency Manager

Training thunderstorms brought heavy rain to Armstrong County during the morning hours of the 19th. This heavy rain produced flash flooding in the city of Claude (Armstrong County). Flood waters completely covered Highway 207 near the Hotel Road exit. No injuries or swift water rescues were reported in association with this flooding.

**DONLEY COUNTY --- 3.2 NNW CLARENDON [34.97, -100.93], 3.2 NNW CLARENDON [34.97, -100.92], 2.5 NW CLARENDON [34.96, -100.93], 2.7 NW CLARENDON [34.96, -100.93]**

06/19/13 09:39 CST	0	Flash Flood (due to Heavy Rain)
06/19/13 11:16 CST	0	Source: Department of Highways

Training thunderstorms brought heavy rain to Donley County during the morning hours of the 19th. This heavy rain caused flash flooding on Farm-to-Market Road 3257 up to three feet deep. This road was closed due to this flooding. No swift water rescues or injuries were reported in association with this flooding.

**CARSON COUNTY --- 5.3 ENE PANTEX [35.36, -101.48], 4.9 ENE PANTEX [35.35, -101.49], 4.2 W PANHANDLE [35.35, -101.45], 4.3 WNW PANHANDLE [35.36, -101.45]**

06/19/13 10:10 CST	0	Flash Flood (due to Heavy Rain)
06/19/13 11:30 CST	0	Source: Department of Highways

Training thunderstorms brought heavy rain to Carson County during the morning hours of the 19th. This heavy rain caused flash flooding on County Road 293 between County Roads J and H. This portion of County Road 293 was closed due to the flood waters. No injuries or swift water rescues were reported in association with this flooding.

**The combination of an upper level short wave, high pwtat values, and slow storm motions lead to flash flooding across the Texas Panhandle during the morning hours of the 19th .**

**Training thunderstorms produced several hours of heavy rain across the Texas Panhandle. Several locations received between 1 and 2**

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inches with a reported maximum of 3 inches in Clarendon (Donley County). While most locations only saw minor flooding of flood prone areas, some locations saw heavy rain at rates approaching 2.5 inches per hour which lead to flash flooding. Donley County saw the majority of the heavy rain due to it was the location that saw the most training of thunderstorms. Drainage from this heavy rain produced a 2 foot rise on Greenbelt Lake (Donley County) which has been below 15 percent capacity for the past several months.

**DEAF SMITH COUNTY --- 5.1 SSE HEREFORD [34.76, -102.35], 4.7 S HEREFORD MUNI ARPT [34.78, -102.33]**

06/20/13 18:05 CST		0		Hail (1.00 in)
06/20/13 18:06 CST		0		Source: Fire Department/Rescue

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and entered the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Deaf Smith County, the Hereford Fire Department reported quarter size hail (1.00 inch) 5 miles southeast of Hereford (Deaf Smith County). The thunderstorm continued to move to the northeast across the county after producing this hail.

**DEAF SMITH COUNTY --- 0.9 NW HEREFORD MUNI ARPT [34.86, -102.33]**

06/20/13 18:15 CST		0		Thunderstorm Wind (MG 51 kt)
06/20/13 18:18 CST		0		Source: AWOS

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and entered the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Deaf Smith County, the Hereford AWOS recorded a 59 mph downburst 5 miles east-northeast of Hereford (Deaf Smith County). The thunderstorm continued to move to the northeast across the county after producing this downburst.

**RANDALL COUNTY --- 8.7 NNW CANYON [35.09, -101.98], 9.3 NNW CANYON [35.11, -101.98]**

06/20/13 18:30 CST		0		Hail (1.25 in)
06/20/13 18:32 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and entered the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported half dollar size hail (1.25 inches) 9 miles north-northwest of Canyon (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail.

**DEAF SMITH COUNTY --- 2.8 NNW DAWN [34.96, -102.21]**

06/20/13 18:37 CST		0		Thunderstorm Wind (MG 70 kt)
06/20/13 18:39 CST		0		Source: Broadcast Media

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and entered the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Deaf Smith County, the KVII Schoolnet site at G and C Hydro Farms (Deaf Smith County) reported an 81 mph downburst. The thunderstorm continued to move to the northeast across the county after producing this downburst.

**RANDALL COUNTY --- 7.2 SW AMARILLO [35.13, -101.91], 6.8 SW AMARILLO [35.13, -101.91]**

06/20/13 18:40 CST		0		Hail (1.25 in)
06/20/13 18:42 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported half dollar size hail (1.25 inches) eight miles northwest of Timbercreek Canyon (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**RANDALL COUNTY --- 5.5 NW UMBARGER [35.01, -102.16], 7.3 NNW UMBARGER [35.05, -102.14]**

06/20/13 18:41 CST		0		Hail (1.00 in)
06/20/13 18:42 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) eight miles north of Canyon (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**RANDALL COUNTY --- 6.5 WNW TIMBERCREEK CANYON [35.09, -101.92], 6.7 NW TIMBERCREEK CANYON [35.11, -101.92]**

06/20/13 18:41 CST		0		Hail (1.00 in)
06/20/13 18:43 CST		0		Source: Public

## Storm Data and Unusual Weather Phenomena - June 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) eight miles north of Canyon (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 7.2 SW AMARILLO [35.13, -101.91], 6.8 SW AMARILLO [35.13, -101.91]</b>				
	06/20/13 18:43 CST	0		Hail (1.00 in)
	06/20/13 18:45 CST	0		Source: NWS Employee
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, an National Weather Service employee reported quarter size hail (1.00 inch) seven miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 10.3 N UMBARGER [35.10, -102.07], 12.2 NNE UMBARGER [35.12, -102.05]</b>				
	06/20/13 18:45 CST	0		Hail (1.00 in)
	06/20/13 18:47 CST	0		Source: Public
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) six miles south of Bushland (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 5.5 WSW AMARILLO [35.16, -101.91], 5.4 WSW AMARILLO [35.16, -101.90]</b>				
	06/20/13 18:45 CST	0		Hail (1.00 in)
	06/20/13 18:47 CST	0		Source: NWS Employee
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a National Weather Service employee reported quarter size hail (1.25 inches) at the intersection of 45th Ave and Bell Street (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 7.1 SW AMARILLO [35.13, -101.91], 6.9 SW AMARILLO [35.13, -101.91]</b>				
	06/20/13 18:45 CST	0		Hail (1.50 in)
	06/20/13 18:47 CST	0		Source: Broadcast Media
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported ping pong ball size hail (1.50 inches) seven miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 8.1 NNE UMBARGER [35.05, -102.03], 8.6 NW CANYON [35.08, -102.01]</b>				
	06/20/13 18:45 CST	0		Hail (1.00 in)
	06/20/13 18:47 CST	0		Source: Public
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) eight miles south-southeast of Bushland (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 9.4 NNE UMBARGER [35.08, -102.06], 10.4 NNE UMBARGER [35.10, -102.06]</b>				
	06/20/13 18:45 CST	0		Hail (1.50 in)
	06/20/13 18:48 CST	0		Source: Public
An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported ping pong ball size hail (1.50 inches) seven miles south of Bushland (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				
<b>RANDALL COUNTY --- 6.8 SW AMARILLO [35.13, -101.90], 6.5 SW AMARILLO [35.13, -101.90]</b>				
	06/20/13 18:46 CST	0		Hail (1.50 in)
	06/20/13 18:48 CST	0		Source: Trained Spotter

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An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a trained storm spotter reported ping pong ball size hail (1.50 inches) at the intersection of Bell Street and Arden Road (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 5.5 SW AMARILLO [35.15, -101.89], 5.3 SW AMARILLO [35.15, -101.89]**

06/20/13 18:48 CST		0		Hail (0.88 in)
06/20/13 18:50 CST		0		Source: NWS Employee

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a National Weather Service employee reported nickel size hail (0.88 inch) six miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 6.0 SW AMARILLO [35.14, -101.89], 5.5 SW AMARILLO [35.14, -101.89]**

06/20/13 18:50 CST		0		Hail (1.00 in)
06/20/13 18:53 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) 6 miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 6.1 SW AMARILLO [35.14, -101.90], 5.8 SW AMARILLO [35.15, -101.90]**

06/20/13 18:50 CST		0		Hail (1.25 in)
06/20/13 18:53 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported half dollar size hail (1.25 inches) 6 miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 6.8 SW AMARILLO [35.13, -101.90], 6.5 SW AMARILLO [35.13, -101.90]**

06/20/13 18:50 CST		0		Hail (1.75 in)
06/20/13 18:52 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported golf ball size hail (1.75 inches) at the intersection of Bell Street and Arden Road (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 7.9 WSW AMARILLO [35.14, -101.94], 7.1 WSW AMARILLO [35.15, -101.93]**

06/20/13 18:50 CST		0		Hail (0.88 in)
06/20/13 18:52 CST		0		Source: NWS Employee

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a National Weather Service employee reported nickel size hail (0.88 inch) eight miles east-southeast of Bushland (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 9.7 NNW CANYON [35.11, -101.99], 9.9 WSW AMARILLO [35.13, -101.97]**

06/20/13 18:50 CST		0		Hail (1.00 in)
06/20/13 18:55 CST		0		Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) seven miles southeast of Bushland (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

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**RANDALL COUNTY --- 4.7 SW AMARILLO [35.16, -101.89], 4.2 WSW AMARILLO [35.17, -101.88]**

06/20/13 18:51 CST		0		Hail (1.00 in)
06/20/13 18:54 CST		0		Source: Public

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An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size (1.00 inch) at the intersection of 45th Ave and Western Street (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).				

**RANDALL COUNTY --- 6.2 SW AMARILLO [35.14, -101.90], 5.7 SW AMARILLO [35.15, -101.90]**

06/20/13 18:52 CST	0	Hail (1.75 in)
06/20/13 18:54 CST	0	Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported golfball size hail (1.75 inches) five miles south-southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**DEAF SMITH COUNTY --- 1.8 WNW HEREFORD [34.83, -102.43]**

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

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, the West Texas Mesonet two miles west-northwest of Hereford (Deaf Smith County) reported a 65 mph outflow gust. The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**RANDALL COUNTY --- 5.3 SW AMARILLO [35.15, -101.89], 4.8 SW AMARILLO [35.16, -101.89]**

06/20/13 18:55 CST	0	Hail (1.00 in)
06/20/13 18:57 CST	0	Source: NWS Employee

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a National Weather Service reported quarter size hail (1.00 inch) six miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**RANDALL COUNTY --- 10.6 NNE UMBARGER [35.10, -102.06], 11.8 WSW AMARILLO [35.15, -102.02]**

06/20/13 19:00 CST	0	Hail (1.00 in)
06/20/13 19:02 CST	0	Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported quarter size hail (1.00 inch) six miles south of Bushland (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**RANDALL COUNTY --- 4.7 SW AMARILLO [35.16, -101.89], 3.9 SW AMARILLO [35.17, -101.88]**

06/20/13 19:00 CST	0	Hail (0.88 in)
06/20/13 19:02 CST	0	Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported nickel size hail (0.88 inch) six miles south of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**RANDALL COUNTY --- 4.3 WSW AMARILLO [35.17, -101.89], 4.0 WSW AMARILLO [35.17, -101.88]**

06/20/13 19:06 CST	0	Hail (1.50 in)
06/20/13 19:08 CST	0	Source: Public

An embedded thunderstorm broke off from a line of storms moving across Northwest Texas. This storm moved to the northeast and moved across the southern Texas Panhandle during the evening hours of the 20th. As the thunderstorm moved across Randall County, a member of the public reported ping pong ball size hail (1.50 inches) 3 miles southwest of Amarillo (Randall County). The thunderstorm continued to move to the northeast across the county after producing this hail, before diminishing over the central portion of Amarillo (Randall County).

**A weak upper level disturbance moved across eastern New Mexico during the evening hours of the 20th. A dryline stretched across New Mexico and into the extreme western Oklahoma Panhandle and provided the surface focusing to allow a line of thunderstorms to develop across the eastern New Mexico Plains and northwest Texas. The line of thunderstorms moved to the east northeast into northwest Texas and the southern Texas Panhandle. Shortly before 6 PM CST, the northern most embedded thunderstorm in the line took a left turn to the northeast. As this happened the thunderstorm intensified and began producing severe level hail. The track took**

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the storm from Hereford (Deaf Smith County) into southwestern Amarillo (Randall County). As the thunderstorm moved over Amarillo (Randall County) it began to weaken and completely dissipated before reaching the central portion of the city.

**(TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z017) RANDALL**

06/20/13 19:30 CST			0	High Wind (MAX 70 kt)
06/20/13 22:50 CST		1	0	

A wake low developed after a left moving supercell moved across the southern Texas Panhandle during the evening hours of the 20th. This wake low caused an extremely tight surface pressure gradient that allowed several non-thunderstorm related high wind gusts across the southern Texas Panhandle. These gusts ranged from 56 mph to 72 mph, and lasted from 730 PM CST to 10:50 PM CST. One such wind gust knocked out a transmission pole which caused near 7,600 Xcel Energy customers to be without power for several hours in Amarillo (Potter and Randall County), Canyon (Randall County), and Bushland (Potter County). The winds created low visibilities on Interstate 40 which was eventually closed from Farm-to-Market Road 1912 (Potter County) to Mile marker 88 in Carson County. An estimated 60 mph gust caused power poles to be blown down on Farm-to-Market Road 2186 and Hope Road in Amarillo (Randall County) at 8:00 PM CST. An estimated 65mph wind gust caused trees to be blown onto roads in the San Jacinto neighborhood in Amarillo (Potter County) at 9:00 PM CST. An estimated 67 mph wind gust around 9:15 PM CST blew a shed into an adjacent yard on the southwest side of Amarillo (Randall County). At 10:30 PM CST, and estimated 62 mph wind gusts blew a carport over in Groom (Carson County). Another wind gust in Carson County at 10:45PM CST caused a train derailment and a rollover accident involving a semi-tractor trailer at 10:50 PM CST. The gust which caused the train derailment was estimated to be 81 mph by a National Weather Service survey team, and caused 42 cars of the train to be overturned. No injuries or hazardous material release was reported in association to the train derailment, and Burlington Northern Santa Fe (BNSF) Railway crews worked through the night and into the following morning to erect the overturned cars. The gust which caused the train derailment continued to move southeast across the county and caused a rollover accident 16 miles southeast of Panhandle (Carson County) at 10:50 PM CST. By this point the gust had diminished to 60 mph. The driver of the semi-tractor trailer was injured due to the accident and was taken to Northwest Texas Hospital in Amarillo (Potter County). After having the injuries treated, the driver was released from the hospital. By 11 PM CST, the wake low had diminished which prevented from any further high wind gusts from occurring.

The following is a listing of the highest wind gust per location across the southern Texas Panhandle by county.

Randall: 2 northeast of Lake Tanglewood 64 mph; 4 north-northwest of Lake Tanglewood 66 mph; 6 southwest of Amarillo 70 mph; 9 southwest of Amarillo 60 mph; 5 miles west-southwest of Amarillo 58 mph; 5 miles south-southwest of Amarillo 72 mph; 6 south-southwest of Amarillo 67 mph.

Potter: 6 miles east-northeast of Amarillo 61 mph; 5 miles west of Amarillo 67 mph; 2 miles west-northwest of Amarillo 65 mph; 1 miles west of Amarillo 62 mph; 6 miles west-northwest of Amarillo 62 mph; 6 miles west of Amarillo 63 mph; 3 miles northwest of Amarillo 65 mph.

Deaf Smith: 5 miles east-northeast of Hereford 69 mph.

Oldham: 2 miles east-southeast Wildorado 58 mph.

Carson: in Groom 62 mph; in Panhandle 81 mph; 16 miles southeast of Panhandle 60 mph.

**LIPSCOMB COUNTY --- 1.5 NNW DARROUZETT [36.45, -100.33]**

06/27/13 18:30 CST			0	Thunderstorm Wind (EG 52 kt)
06/27/13 18:32 CST			0	Source: Public

A thunderstorm moved out of Oklahoma along a southward moving cold front, and into the northeastern Texas Panhandle. Two thunderstorms merged and briefly intensified before collapsing. This caused a downburst in the town of Darrouzett (Lipscomb County) of 60 mph as reported by a member of the public.

**HUTCHINSON COUNTY --- 0.9 SE HUTCHINSON CO ARPT [35.69, -101.39]**

06/27/13 20:45 CST			0.25M	Thunderstorm Wind (EG 82 kt)
06/27/13 20:50 CST			0	Source: Amateur Radio

Two thunderstorms merged northwest of Borger (Hutchinson County) around the 9 PM CST hour before collapsing upon it's own updraft. This produced an estimated 94 mph microburst in Borger (Hutchinson County) which bent traffic signs, metal power lines, and blew down tree limbs 2 miles north side of Borger (Hutchinson County). The microburst wind continued to move across the town producing widespread wind damage.

**HUTCHINSON COUNTY --- 1.1 W BORGER [35.67, -101.40], 1.4 SSW BORGER [35.65, -101.39]**

06/27/13 20:45 CST			0	Thunderstorm Wind (EG 82 kt)
06/27/13 20:49 CST			0	Source: Public

Two thunderstorms merged northwest of Borger (Hutchinson County) around the 9 PM CST hour before collapsing upon it's own updraft. This produced an estimated 94 mph microburst in Borger (Hutchinson County). On the northern side of Borger (Hutchinson County), a member of the public reported a window was blown out and three wind chimes were blown away. The microburst wind continued to move across the town producing widespread wind damage.

**HUTCHINSON COUNTY --- 1.3 WSW BORGER [35.66, -101.40]**

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	06/27/13 20:45 CST		0.25M	Thunderstorm Wind (EG 82 kt)
	06/27/13 20:50 CST		0	Source: Emergency Manager

Two thunderstorms merged northwest of Borger (Hutchinson County) around the 9 PM CST hour before collapsing upon it's own updraft. This produced an estimated 94 mph microburst in Borger (Hutchinson County) which blew the roof completely off of a build in town. This microburst also bent a metal flag pole to a 45 degree angle off of the vertical, and 3 utility poles in a 10 square block in northwest Borger. The microburst wind continued to move across the town producing widespread wind damage.

### HUTCHINSON COUNTY --- 1.4 W HUTCHINSON CO ARPT [35.70, -101.43], 3.3 S BORGER [35.62, -101.37]

06/27/13 20:47 CST	0	Thunderstorm Wind (EG 82 kt)
06/27/13 20:54 CST	0	Source: NWS Storm Survey

Two thunderstorms merged northwest of Borger (Hutchinson County) around the 9 PM CST hour before collapsing upon it's own updraft. This produced an estimated 94 mph microburst in Borger (Hutchinson County). A National Weather Service damage survey reported that the microburst blew a roof off of a large metal building. Portions of this roof damaged three vehicles that were near the building. Varying degrees of roof damager were observed on several other structures, including a church. A two mile swath of damage was observed from this microburst.

### HUTCHINSON COUNTY --- 2.4 SSW BORGER [35.64, -101.40]

06/27/13 20:47 CST	0	Thunderstorm Wind (EG 52 kt)
06/27/13 20:52 CST	0	Source: Public

Two thunderstorms merged northwest of Borger (Hutchinson County) around the 9 PM CST hour before collapsing upon it's own updraft. This produced an estimated 95 mph microburst in Borger (Hutchinson County). The microburst winds slowed as reaching the southern portion of the town, and a member of the public on the south side of Borger (Hutchinson County) reported a 60 mph gust.

### HUTCHINSON COUNTY --- HUTCHINSON CO ARPT [35.70, -101.40]

06/27/13 20:47 CST	0	Thunderstorm Wind (MG 82 kt)
06/27/13 20:50 CST	0	Source: ASOS

Two thunderstorms merged northwest of Borger (Hutchinson County) around the 9 PM CST hour before collapsing upon it's own updraft. The Borger ASOS measured a 94 mph microburst in Borger (Hutchinson County). The microburst blew in the hanger doors of the airport hangers a the airport, and one hanger suffered minor roof damage. another build that had been abandoned was suffered heavy damage. The microburst wind continued to move across the town producing widespread wind damage.

### POTTER COUNTY --- 5.0 NW AMARILLO [35.26, -101.87]

06/27/13 22:35 CST	0	Thunderstorm Wind (MG 51 kt)
06/27/13 22:37 CST	0	Source: Broadcast Media

A thunderstorm collapsed on the northern side of Amarillo (Potter County) during the late night hours of the 27th. The KVII Schoolnet site at Nu Star Energy reported a 59 mph wind gust.

### RANDALL COUNTY --- 5.1 SSW AMARILLO [35.13, -101.85]

06/27/13 23:08 CST	0	Thunderstorm Wind (MG 56 kt)
06/27/13 23:10 CST	0	Source: Broadcast Media

A thunderstorm collapses over Amarillo (Randall County) during the late night hours of the 27th. The KVII Schoolnet site at Duke Electric measured a thunderstorm gust of 64 mph.

### RANDALL COUNTY --- 5.6 NNE LAKE TANGLEWOOD [35.13, -101.73]

06/27/13 23:15 CST	0	Thunderstorm Wind (EG 56 kt)
06/27/13 23:18 CST	0	Source: Public

A thunderstorm collapsed over Amarillo (Randall County) during the late night hours of the 27th. The downburst produced by this collapse damaged an outbuilding 7 miles southeast of Amarillo (Randall County).

### RANDALL COUNTY --- 2.2 NE LAKE TANGLEWOOD [35.08, -101.75]

06/27/13 23:19 CST	0	Thunderstorm Wind (MG 61 kt)
06/27/13 23:22 CST	0	Source: Broadcast Media

A thunderstorm collapsed over Amarillo (Randall County) during the late night hours of the 27th. The KVII Schoolnet site at River Falls airport (Randall County) measured a 70 mph wind gust from this collapse.

**Scattered thunderstorms developed along a southward advancing cold front during the late night hours of the 27th and the early morning hours of the 28th. Thunderstorm development across the Texas Panhandle was heavily dependent on the forcing provided by**

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the front due to the weak deep layer shear and marginally unstable environment in place at the time. Given this environment, long lived severe thunderstorms were unlikely, and the primary hazard would be damaging winds as thunderstorms merged then collapsed. This scenario proved true as a thunderstorm collapsed post-merger over Lipscomb County once the cold front pushed thunderstorms into the northern Texas Panhandle. After this merger, there was a brief two hour window where thunderstorms failed to merge along the southern moving cold front. Around 9 PM CST, a storm merger and collapse over Moore County caused widespread wind damage across the city of Borger (Moore County), and the Borger ASOS reported a 94 mph thunderstorm gust before going offline. A final thunderstorm merger and collapse occurred over Randall County before the nocturnal inversion strengthened sufficiently to overcome the forcing provided by the southward moving cold front.

**DEAF SMITH COUNTY --- 5.0 W HEREFORD [34.83, -102.49], 6.3 W HEREFORD [34.82, -102.51]**

06/29/13 18:06 CST	0	Hail (0.75 in)
06/29/13 18:08 CST	0	Source: Emergency Manager

Discrete thunderstorms developed across Deaf Smith County during the evening hours of the 29th and moved to the southwest. The Deaf Smith County Emergency Manager reports penny size hail 6 miles west of Hereford (Deaf Smith County). The thunderstorm that produced this hail continued to move to the southwest across the county until exiting the county by 7 PM CST.

**DEAF SMITH COUNTY --- 9.6 W HEREFORD [34.82, -102.57], 11.3 W HEREFORD [34.80, -102.60]**

06/29/13 18:10 CST	0	Hail (0.75 in)
06/29/13 18:12 CST	0	Source: Emergency Manager

Discrete thunderstorms developed across Deaf Smith County during the evening hours of the 29th and moved to the southwest. The Deaf Smith County Emergency Manager reports penny size hail 10 miles west of Hereford (Deaf Smith County) on Farm-to-Market Road 1058. After this hail covered the ground hail fog formed which resulted in near zero visibility on Farm-to-Market Road 1058. The thunderstorm that produced this hail continued to move to the southwest across the county until exiting the county by 7 PM CST.

**OLDHAM COUNTY --- 1.3 ENE ADRIAN [35.28, -102.66]**

06/29/13 20:53 CST	0	Thunderstorm Wind (EG 50 kt)
06/29/13 20:57 CST	0	Source: Fire Department/Rescue

A line of thunderstorms moved into the southwestern Texas Panhandle from the Eastern Plains of New Mexico during the late evening hours of the 29th. As these thunderstorms moved across Oldham County, a localized downburst occurred near the town of Adrian (Oldham County). This downburst blew a drought weakened elm tree down. The line of thunderstorms that produced this downburst quickly diminished while continuing to move eastward across the southern Texas Panhandle.

Two rounds of thunderstorms moved across the southwestern Texas Panhandle during the evening hours of the 29th. The first round was discrete thunderstorms that formed as a result a weak upper level shortwave moving southward across the Panhandle, and a locally maximum of moderate instability values across the southwestern Panhandle. The thunderstorms that developed moved to the southwest while intensifying and quickly moved into Northwest Texas. The second round was a line of thunderstorms that developed over the Eastern Plains of New Mexico which moved eastward into the Texas Panhandle. This line of thunderstorms quickly weakened while moving across the western Texas Panhandle due to a strengthening nocturnal inversion and the stabilizing effect from the earlier discrete thunderstorms.