Storm Data and Unusual Weather Phenomena - July 2014

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

OKLAHOMA, Panhandle

(OK-Z001) CIMARRON, (OK-Z002) TEXAS, (OK-Z003) BEAVER

	07/01/14 00:00 CST	0	Drought
	07/31/14 23:59 CST	0	

The wet summer pattern continued through July for most of the Oklahoma Panhandle, with most locations measuring at least 2 to 3 inches of rain for the month. A few parts of the Panhandle received greater than 5 inches of rain. A small portion of Texas and Beaver Counties remained in Exceptional (D4) Drought conditions through July, while the rest of the Panhandle improved to a mix of Severe (D2) Drought and Extreme (D3) Drought conditions. Guymon recorded 1.98 inches of precipitation for the month (0.68 inches below normal).

Soil moisture was rated from very short to adequate by the end of June. Crops were mostly benefiting from the rains, but were running behind in areas that were too wet or too dry. Rangeland and pasture continued to be rated mostly poor to very poor, but some rangeland was greening up. Cattle continued to improve, but herd sizes remained limited due to prolonged drought. Upper soil zones were mostly in the 20 to 40 percent full range, with a few locations much better or much worse. Deeper soil moisture was still below normal in much of the Oklahoma Panhandle. The Palmer Drought Severity Index indicated a rating of Moderate Drought conditions for the Oklahoma Panhandle. No burn bans were in effect.

Reservoirs and stream flows across the Oklahoma Panhandle were at near or below normal levels through July.

Economic losses due to the drought through July were predominately the result of supplemental watering in the driest areas and supplemental feed for cattle on drought-thinned rangeland and pastures.

(OK-Z001) CIMARRON

	07/09/14 19:20 CST	0	High Wind (MAX 56 kt)
	07/09/14 19:21 CST	0	

Convection developed along a stalled front positioned across the central Oklahoma Panhandle. Marginal instability limited the severity of storms, but a dry sub-cloud proved sufficient to produce isolated dry downbursts as storms collapsed. One such dry downburst occurred at the Oklahoma mesonet site in Kenton (Cimarron County), and was measured at 65 mph. Convection ended shortly before midnight on the 10th as the front dissipated which brought an end to the potential for dry microburst.

TEXAS COUNTY --- 10.5 SW HOUGH [36.76, -101.70], 7.0 NNW GOODWELL [36.69, -101.70]

	07/14/14 14:57 CST	0	Hail (1.00 in)
	07/14/14 14:59 CST	0	Source: Emergency Manager

A cluster of thunderstorms moved into Texas County during the early evening hours of the 14th. As storms passed west of the town of Guymon (Texas County), the County Emergency Manager reported quarter size hail (1.00 inch) 13 miles west-northwest of town (Texas County). The storms decreased in intensity after producing this hail and quickly moved into the northern Texas Panhandle .

The Oklahoma Panhandle saw a round of severe convection during the afternoon hours of the 14th. A cold front slowly moving southwestward into the Panhandle combined with a shortwave trough rounding the base of a closed low over the Great Lakes set the stage for convection to develop. The 6 PM CST upper air sounding out of Amarillo (Potter County) showed moderate CAPE of 2673 J/kg and weak deep layer shear in place across the Panhandle. Convection developed over western Kansas and southeastern Colorado and moved southward to enter the Panhandle around 1 PM CST (3 PM CST). The majority of the storms over the Oklahoma Panhandle remained sub-severe, but one storm over Texas County was able to produce quarter size hail prior to entering the Texas Panhandle.

TEXAS COUNTY --- 0.7 N OPTIMA [36.76, -101.35], 0.9 E OPTIMA [36.75, -101.33]

	07/21/14 17:19 CST	0	Hail (1.50 in)
	07/21/14 17:20 CST	0	Source: Public

Scattered thunderstorms developed over Texas County during the evening hours of the 21st. As the storms moved over the town of Optima (Texas County), a member of the public reported ping pong ball size hail (1.50 inches). After producing this hail the storms moved southeastward across the county.

TEXAS COUNTY --- 6.2 N GUYMON [36.77, -101.48], 5.6 W OPTIMA [36.76, -101.45]

	07/21/14 18:02 CST	0	Hail (1.75 in)
	07/21/14 18:03 CST	0	Source: Public

Scattered thunderstorms developed over Texas County during the evening hours of the 21st. As the storms moved over the town of Guymon (Texas County), a member of the public reported golf ball size hail (1.75 inches) 6 miles north of Guymon (Texas County). After producing this hail the storms moved southeastward across the county.

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

The combination of a weak upper trough, a surface trough over the central Oklahoma Panhandle, and a marginally unstable environment allowed convection to develop during the evening hours of the 21st. Scattered convection developed along the surface trough during the evening hours over Texas County. This convection quickly became strong to severe. After producing isolated severe hail the storms transitioned to heavy rain production and did not produce any further severe weather.

TEXAS COUNTY --- 0.7 N OPTIMA [36.76, -101.35], 0.9 NNW OPTIMA [36.76, -101.36], 0.7 NW OPTIMA [36.76, -101.36], 0.4 N OPTIMA [36.76, -101.35]

	07/21/14 18:10 CST	0	Flash Flood (due to Heavy Rain)
	07/21/14 20:00 CST	0	Source: Emergency Manager

Thunderstorms moved over the town of Optima (Texas County) during the evening hours of the 21st. These storms produced intense rainfall which led to the development of flash flooding on several roads in town as reported by the Emergency Manager. Once the storms moved east of town the flood waters receded.

Weak steering flow combined with an unstable and moist atmosphere to produce thunderstorms capable of producing intense rainfall rates. This intense rainfall caused isolated flash flooding over Texas County during the evening hours of the 21st. Flood waters quickly receded once convection moved east of the affected area.

CIMARRON COUNTY --- 6.9 SE KENTON [36.83, -102.88]

	07/29/14 23:40 CST	0	Thunderstorm Wind (MG 62 kt)
	07/29/14 23:41 CST	0	Source: Mesonet

A dissipating thunderstorm crossed the New Mexico and Oklahoma state line shortly before midnight of the 30th. This thunderstorm produced a 71 mph downburst wind which was sampled by the Oklahoma Mesonet site 5 miles southeast of Kenton (Cimarron County). After producing this gust, no further severe weather was observed.

A weak shortwave trough allowed thunderstorms to develop along the New Mexico mountains. These thunderstorms moved off the mountains and neared the Oklahoma and New Mexico state lines, and began dissipating. As the thunderstorm dissipated it produced a localized severe downburst wind. No further severe weather occurred after this downburst.

TEXAS, North Panhandle

(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z011) OLDHAM, (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

	07/01/14 00:00 CST	0	Drought
	07/31/14 23:59 CST	0	

The wet summer pattern continued through July for most of the Texas Panhandle, with most locations measuring at least 2 to 4 inches of rain for the month. Some parts of the Panhandle received greater than 6 inches of rain, or greater than twice the monthly average for July. A band of Exceptional (D4) Drought remained from Carson County northwestward to eastern Dallam County. Most of Deaf Smith County improved to Moderate (D1) Drought by the end of July. Otherwise, the remainder of the Panhandles ranged from Severe (D2) to Extreme (D3) Drought. Amarillo recorded 1.82 inches of precipitation for the month (1.02 inches below normal), Dalhart recorded 2.15 inches of precipitation (0.64 inches below normal), and Borger recorded 3.17 inches of precipitation (0.55 inches above normal).

Soil moisture was rated from short to adequate during the month. Crops were mostly benefiting from the rains, but were running behind in areas that were too wet or too dry. A dry end to the month increased drought stress on some crops. Rangeland and pasture continued to improve, but cattle herd sizes remained limited due to prolonged drought. Upper soil zones were mostly in the 10 to 30 percent full range, with a few locations much better or much worse. Deeper soil moisture was still below normal in much of the Texas Panhandle, but values were estimated to be greater than 150 percent of normal across some areas. The Palmer Drought Severity Index indicated a rating of Moderate Drought conditions for the Texas Panhandle. Countywide burn bans were supported in several counties.

Stream flows across the Texas Panhandle were near normal throughout July. The reservoirs of Lake Meredith and Palo Duro were below 4 percent capacity, and Greenbelt Lake was below 13 percent capacity. Water watches for several public water systems persisted through July while voluntary to mandatory mild water restrictions were continued.

Economic losses due to the drought through July were predominately the result of supplemental watering in the driest areas and supplemental feed for cattle on drought-thinned rangeland and pastures.

DALLAM COUNTY --- TEXLINE [36.38, -103.02]

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/14/14 15:29 CST		0	Thunderstorm Wind (EG 52 kt)
	07/14/14 15:30 CST		0	Source: Trained Spotter

A cluster of thunderstorms moved into the Texas Panhandle during the early afternoon hours of the 14th. As storms neared Texline (Dallam County), a trained storms spotter reported a 60 mph downburst in town. After producing this downburst the cluster of storms continued moving southward across the Panhandle.

DALLAM COUNTY --- 0.6 W TEXLINE [36.38, -103.03]

07/14/14 15:30 CST	0		Thunderstorm Wind (EG 56 kt)
07/14/14 15:32 CST	0		Source: Public

A cluster of thunderstorms moved into the Texas Panhandle during the early afternoon hours of the 14th. As storms neared Texline (Dallam County), a member of the public reported a downburst severely damaged a grain elevator and silo. The speed of this downburst was estimated at 65 mph. After producing this downburst the cluster of storms continued moving southward across the Panhandle.

HARTLEY COUNTY --- 0.7 N (DHT)DALHART MUNI AR [36.03, -102.55]

07/14/14 16:08 CST	0		Thunderstorm Wind (MG 50 kt)
07/14/14 16:10 CST	0		Source: ASOS

A cluster of thunderstorms moved into the Texas Panhandle during the early afternoon hours of the 14th. As storms neared the town of Dalhart (Dallam and Hartley County), the Dalhart ASOS reported a 58 MPH downburst. After producing this downburst the cluster of storms continued moving southward across the Panhandle.

HARTLEY COUNTY --- 0.7 N (DHT)DALHART MUNI AR [36.03, -102.55]

07/14/14 16:15 CST	0		Thunderstorm Wind (MG 50 kt)
07/14/14 16:16 CST	0		Source: ASOS

A cluster of thunderstorms moved into the Texas Panhandle during the early afternoon hours of the 14th. As storms neared the town of Dalhart (Dallam and Hartley County), the Dalhart ASOS reported a 58 mph downburst. After producing this downburst the cluster of storms continued moving southward across the Panhandle.

MOORE COUNTY --- 8.0 WNW FOUR WAY [35.71, -102.11]

07/14/14 16:52 CST	0		Thunderstorm Wind (MG 52 kt)
07/14/14 16:53 CST	0		Source: Broadcast Media

A cluster of thunderstorms moved into the Texas Panhandle during the early afternoon hours of the 14th. As storms neared the town of Four Way (Moore County), the KVII Schoolnet site at Middlewell Methodist Church 10 mile west-northwest of Four Way (Moore County) reported a 60 mph downburst. After producing this downburst the cluster of storms continued moving southward across the Panhandle.

RANDALL COUNTY --- 7.3 WSW AMARILLO [35.16, -101.94]

07/14/14 17:57 CST	0		Hail (1.00 in)
07/14/14 17:58 CST	0		Source: NWS Employee

The collision of two outflow boundaries caused the development of thunderstorms over the southern Texas Panhandle during the evening hours of the 14th. This allowed storms to quickly intensify to produce a mixture of heavy rain and quarter size hail (1.00 inch) near the intersection of 45 th Ave and Soncy Street on the southwest side of Amarillo (Randall County). After producing this hail the storms slowly moved southward across the southern Texas Panhandle before weakening as sunset approached.

RANDALL COUNTY --- 7.6 WSW AMARILLO [35.15, -101.94]

07/14/14 17:58 CST	0		Hail (0.75 in)
07/14/14 17:59 CST	0		Source: Emergency Manager

The collision of two outflow boundaries caused the development of thunderstorms over the southern Texas Panhandle during the evening hours of the 14th. This allowed storms to quickly intensify to produce a mixture of heavy rain and penny size hail (0.75 inch) near the intersection of Soncy Street and Hillside. After producing this hail the storms slowly moved southward across the southern Texas Panhandle before weakening as sunset approached .

RANDALL COUNTY --- 7.5 WNW TIMBERCREEK CANYON [35.11, -101.93]

07/14/14 18:00 CST	0		Hail (0.88 in)
07/14/14 18:01 CST	0		Source: Trained Spotter

The collision of two outflow boundaries caused the development of thunderstorms over the southern Texas Panhandle during the evening hours of the 14th. This allowed storms to quickly intensify to produce a mixture of heavy rain and nickel size hail (0.88 inch) as reported by a trained storm spotter. After producing this hail the storms slowly moved southward across the southern Texas Panhandle before weakening as sunset approached .

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
RANDALL COUNTY --- 8.4 WSW AMARILLO [35.14, -101.95]				
	07/14/14 18:04 CST		0	Hail (1.00 in)
	07/14/14 18:05 CST		0	Source: Public

The collision of two outflow boundaries caused the development of thunderstorms over the southern Texas Panhandle during the evening hours of the 14th. This allowed storms to quickly intensify to produce a mixture of heavy rain and quarter size hail (1.00 inch) in the Hillside Terrace Neighborhood on the southwest side of Amarillo (Randall County). After producing this hail the storms slowly moved southward across the southern Texas Panhandle before weakening as sunset approached.

DEAF SMITH COUNTY --- 9.5 WSW WALCOTT [34.89, -102.99]				
	07/14/14 18:50 CST		0	Thunderstorm Wind (MG 53 kt)
	07/14/14 18:51 CST		0	Source: Mesonet

The collision of two outflow boundaries caused the development of thunderstorms over the southern Texas Panhandle during the evening hours of the 14th. This allowed storms to quickly intensify slowly move southward across the southern Texas Panhandle . As the storms neared the town of Bootleg (Deaf Smith County), the West Texas Mesonet 11 miles west-northwest of Bootleg (Deaf Smith County) reported a 61 mph downburst. These storms weakening as sunset approached, and did not produce any further severe weather after sunset.

The Texas Panhandle saw a round of severe convection during the afternoon hours of the 14th. A cold front slowly moving southwestward into the Panhandle combined with a shortwave trough rounding the base of a closed low over the Great Lakes set the stage for convection to develop. The 6 PM CST upper air sounding out of Amarillo (Potter County) showed moderate CAPE of 2673 J/kg and weak deep layer shear in place across the Panhandle. Convection developed over western Kansas and southeastern Colorado and moved southward to enter the Panhandle around 1 PM CST (3 PM CST). While over the northern Texas Panhandle, the storms were able to produce a combination of sub-severe hail and severe wet microbursts. As the storms approached the southern Texas Panhandle, they encountered an outflow from convection over Northwest Texas. The combined forcing of the outflows allowed storms to intensify to produce both severe hail and downbursts. Storms weakened after sunset due to the loss of heating.

RANDALL COUNTY --- 9.9 W AMARILLO [35.19, -101.99], 9.1 NNW CANYON [35.10, -102.00], 5.0 SSW AMARILLO [35.14, -101.86], 3.0 W AMARILLO [35.21, -101.87]				
	07/14/14 18:31 CST		0	Flash Flood (due to Heavy Rain)
	07/14/14 21:00 CST		0	Source: NWS Employee

The convergence of two outflow boundaries over the city of Amarillo (Potter and Randall County) produced thunderstorms capable of producing very intense rainfall. These storms also moved very slowly to the south after developing which allowed for a longer residency time over the city. The intense rainfall caused flash flooding to occur across the southwest side of town. Flood waters were deep enough to come half way up the wheels of cars at the intersection of 45th Ave. and Bell Street (Randall County). This flash flooding persist for a few hours before precipitation ended then quickly receded. Storm total rainfall in these areas ranged from 1 inch to 1.5 inches.

RANDALL COUNTY --- 9.9 W AMARILLO [35.19, -101.99], 9.1 NNW CANYON [35.10, -102.00], 5.0 SSW AMARILLO [35.14, -101.86], 3.0 W AMARILLO [35.21, -101.87]				
	07/14/14 18:43 CST		0	Flash Flood (due to Heavy Rain)
	07/14/14 21:00 CST		0	Source: Amateur Radio

The convergence of two outflow boundaries over the city of Amarillo (Potter and Randall County) produced thunderstorms capable of producing very intense rainfall. These storms also moved very slowly to the south after developing which allowed for a longer residency time over the city. The intense rainfall caused flash flooding to occur across the southwest side of town. Flood waters were reported to be as deep as a foot and one half foot deep from the Bell Street exit of Interstate 40 (Potter County) to the intersection of 45 th Street and Western Street (Randall County). This flash flooding persist for a few hours before precipitation ended then quickly receded. Storm total rainfall in these areas ranged from 1 inch to 1.5 inches.

The southern Texas Panhandle saw a round of intense rainfall during the afternoon hours of the 14th. A cold front slowly moving southwestward into the Panhandle combined with a shortwave trough rounding the base of a closed low over the Great Lakes set the stage for convection to develop. The 6 PM CST upper air sounding out of Amarillo (Potter County) showed moderate CAPE of 2673 J/kg, 1.30 inches of PWAT, and weak deep layer shear in place across the Panhandle. As storms approached the southern Texas Panhandle from the north, they encountered an outflow from convection over Northwest Texas. The combined forcing of the outflows allowed storms to intensify and slowed the storm motions. The heavier rainfall and increase residence time over the area lead to widespread flash flooding. This flash flooding dissipated quickly once convection moved into Northwest Texas by 10 PM CST.

HANSFORD COUNTY --- 5.6 W GRUVER [36.27, -101.50], 5.3 WSW GRUVER [36.23, -101.48]				
	07/16/14 17:00 CST		0	Hail (1.00 in)
	07/16/14 17:05 CST		0	Source: Trained Spotter

A discrete supercell thunderstorm developed over northern Hansford County during the evening hours of the 16th. As this storm moved southeastward towards the town of Gruver (Hansford County), a trained storm spotter reported quarter size hail (1.00 inch) 5 miles west of Gruver. After producing this hail the storm continued moving southeastward across the county.

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
HANSFORD COUNTY --- 10.6 W GRUVER [36.27, -101.59], 9.8 W GRUVER [36.25, -101.57]				
	07/16/14 17:41 CST		0	Hail (1.00 in)
	07/16/14 17:42 CST		0	Source: Law Enforcement

A discrete supercell thunderstorm developed over northern Hansford County during the evening hours of the 16th. As this storm moved southeastward towards the town of Gruver (Hansford County), a local law enforcement officer reported quarter size hail (1.00 inch) 10 miles west of Gruver. After producing this hail the storm continued moving southeastward across the county.

SHERMAN COUNTY --- 21.9 E LAUTZ [36.18, -101.64]				
	07/16/14 17:55 CST		0	Hail (1.00 in)
	07/16/14 17:58 CST		0	Source: Storm Chaser

A discrete supercell thunderstorm developed over northern Sherman County during the evening hours of the 16th. As this storm moved southeastward towards the town of Gruver (Hansford County), a storm chaser reported quarter size hail (1.00 inch) 14 miles west of Gruver (Sherman County). After producing this hail the storm continued moving southeastward across the county.

SHERMAN COUNTY --- 21.9 E LAUTZ [36.18, -101.64]				
	07/16/14 17:55 CST		0	Thunderstorm Wind (EG 61 kt)
	07/16/14 17:58 CST		0	Source: Storm Chaser

A discrete supercell thunderstorm developed over northern Sherman County during the evening hours of the 16th. As this storm moved southeastward towards the town of Gruver (Hansford County), a storm chaser estimated a 70 mph wind gust 14 miles west-southwest of Gruver (Sherman County). After producing this gust the storm continued moving southeastward across the county.

SHERMAN COUNTY --- 2.5 E MALLETT [36.35, -102.05]				
	07/16/14 18:08 CST		0	Tornado (EF0, L: 0.01 mi , W: 50 yd)
	07/16/14 18:09 CST		0	Source: Trained Spotter

A discrete supercell developed over Sherman County during the evening hours of the 16th. As the storm moved near the town of Stratford (Sherman County), a trained storm spotter captured a brief tornado on video. The tornado lasted less than a minute and was estimated to have 70 mph wind speeds. The storm continued to move southward after producing this tornado. No damage was reported with this tornado.

SHERMAN COUNTY --- 1.8 ESE MALLETT [36.34, -102.07]				
	07/16/14 18:19 CST		0	Hail (1.50 in)
	07/16/14 18:21 CST		0	Source: Trained Spotter

A discrete supercell thunderstorm developed over northern Sherman County during the evening hours of the 16th. As this storm moved southeastward over the town of Stratford (Sherman County), a trained storm spotter reported ping pong ball size hail (1.50 inches). After producing this hail the storm continued moving southeastward across the county.

SHERMAN COUNTY --- 4.5 SSE MALLETT [36.29, -102.07]				
	07/16/14 18:23 CST		0	Thunderstorm Wind (EG 61 kt)
	07/16/14 18:24 CST		0	Source: Trained Spotter

A discrete supercell thunderstorm developed over northern Sherman County during the evening hours of the 16th. As this storm moved southeastward over the town of Stratford (Sherman County), a trained storm spotter reported an estimated 70 mph thunderstorm gust which downed power lines on US Highway 287 thee miles south of Stratford (Sherman County). After producing this hail the storm continued moving southeastward across the county.

SHERMAN COUNTY --- 3.7 SE MALLETT [36.31, -102.05], 3.8 SSE MALLETT [36.30, -102.07]				
	07/16/14 18:26 CST		0	Tornado (EF0, L: 1.34 mi , W: 100 yd)
	07/16/14 18:33 CST		0	Source: NWS Storm Survey

A discrete supercell developed over Sherman County during the evening hours of the 16th. The storm produced a second brief tornado on the south side of Stratford (Sherman County). A storm chaser captured multiple images of the tornado , and it caused damage to an outbuilding and downed power lines along US Highway 287. The estimated max wind was 70 mph and the storm which produced the tornado continued to move south across the county.

SHERMAN COUNTY --- 1.8 ESE MALLETT [36.34, -102.07]				
	07/16/14 18:30 CST		0	Thunderstorm Wind (EG 61 kt)
	07/16/14 18:32 CST		0	Source: Law Enforcement

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

A discrete supercell thunderstorm developed over northern Sherman County during the evening hours of the 16th. As this storm moved southeastward over the town of Stratford (Sherman County), a local law enforcement officer reported an estimated 70 mph thunderstorm gust which blew down a 20 foot tree, downed power lines, and downed fences in Stratford (Sherman County). After producing this gust the storm continued moving southeastward across the county.

MOORE COUNTY --- 4.7 W ETTER [36.03, -102.08], 5.5 SW ETTER [35.98, -102.08]

	07/16/14 19:23 CST	0	Tornado (EF0, L: 3.07 mi , W: 100 yd)
	07/16/14 19:30 CST	0	Source: Trained Spotter

A cluster of thunderstorms went through multiple mergers over Moore County during the evening hours of the 16th. One cell merger 5 miles west-southwest of the town of Cactus (Moore County) provided additional tightening of the updraft and allowed a brief tornado to form. This tornado formed over open area and caused no damage. However, multiple trained storm spotter reported the brief tornado. The estimated wind speed was 65 mph. After producing the brief tornado, the merging storms transitioned into an linear structure and moved southeastward across the southern Texas Panhandle .

MOORE COUNTY --- 4.5 W ETTER [36.02, -102.08]

	07/16/14 19:35 CST	0	Hail (1.75 in)
	07/16/14 19:36 CST	0	Source: Public

Discrete supercells began transitioning to a linear structure during the late evening hours of the 16th. As this cluster of storms neared the town of Cactus (Moore County), a member of the public 4 miles west-southwest of Cactus (Moore County) reported golf ball size hail (1.75 inches). This hail damaged corn and sorghum crops along Highway 281. After producing this hail the cluster of storms continued to move to the southeast.

MOORE COUNTY --- 1.3 ENE DUMAS MUNI ARPT [35.86, -102.00]

	07/16/14 20:11 CST	0	Thunderstorm Wind (EG 56 kt)
	07/16/14 20:12 CST	0	Source: Amateur Radio

Discrete supercells began transitioning to a linear structure during the late evening hours of the 16th. As this cluster of storms neared the town of Dumas (Moore County), an amateur radio operator 2 miles west of Dumas (Moore County) reported an estimated 65 mph thunderstorm gust. After producing this gust the cluster of storms continued to move to the southeast.

OLDHAM COUNTY --- 6.1 NE VEGA [35.31, -102.35]

	07/16/14 21:08 CST	0	Hail (1.75 in)
	07/16/14 21:10 CST	0	Source: Law Enforcement

A line of thunderstorms moved across Oldham County during the late evening hours of the 16th. As the line moved near the town of Vega (Oldham County), a local law enforcement officer 6 miles northeast of Vega (Oldham County) reported golf ball size hail (1.75 inches). After producing this hail, the line of thunderstorms continued to move to the south-southeast across the Texas Panhandle.

DEAF SMITH COUNTY --- 5.9 NW DAWN [34.99, -102.26]

	07/16/14 21:16 CST	0	Hail (1.00 in)
	07/16/14 21:17 CST	0	Source: Emergency Manager

A line of thunderstorms moved across Oldham County during the late evening hours of the 16th. As the line moved near the town of Dawn (Deaf Smith County), the County Emergency Manager reported quarter size hail (1.00 inch) 6 miles north-northwest of Dawn (Deaf Smith County). After producing this hail, the line of thunderstorms continued to move to the south-southeast across the Texas Panhandle.

Northwest flow aloft brought a round of severe convection during the evening hours of the 16th to the Texas Panhandle. As a shortwave trough moved out of Colorado, a warn front was situated across the northern and eastern Texas Panhandle. Convection developed along this front during the evening hours. The combination of marginal instability, moderate deep layer shear, and additional turning of low level winds in the vicinity of the front allowed for brief tornadoes to develop. As the evening progressed, the outflows from storms pushed the warm front southward across the Panhandle. Severe convection ended around 9 PM CST as storms transitioned to heavy rain production.

POTTER COUNTY --- 0.9 NW AMARILLO [35.21, -101.83], 1.2 NNW AMARILLO [35.22, -101.83], 1.0 NNE AMARILLO [35.21, -101.81], 0.5 NNE AMARILLO [35.21, -101.82], 0.4 SE AMARILLO [35.20, -101.81], 0.7 W AMARILLO [35.20, -101.83]

	07/16/14 21:55 CST	0	Flash Flood (due to Heavy Rain)
	07/17/14 03:00 CST	0	Source: Emergency Manager

A cluster of intense rain producing thunderstorms moved over the city of Amarillo (Potter County) for an extended period of time. This intense rain led to the development of flash flooding at the railroad crossings of 3rd Ave and 10th Ave. The flood barricades at both locations were closed to prevent motorist from driving into the flooded underpass. These flood water persisted for several hours before receding by 3 AM CST.

POTTER COUNTY --- 1.7 W AMARILLO [35.20, -101.85], 1.2 W AMARILLO [35.20, -101.84], 1.5 WSW AMARILLO [35.19, -101.84], 2.0 WSW AMARILLO [35.19, -101.85]

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/16/14 22:05 CST		0	Flash Flood (due to Heavy Rain)
	07/17/14 03:00 CST		0	Source: Emergency Manager

A cluster of intense rain producing thunderstorms moved over the city of Amarillo (Potter County) for an extended period of time. This intense rain led to the development of flash flooding at the underpass of Interstate 40 and Washington Street. The water was estimated to be around 3 feet deep. These flood waters persisted for several hours before receding by 3 AM CST.

RANDALL COUNTY --- 1.5 NNW CANYON [35.00, -101.93], 2.0 NNW CANYON [35.01, -101.93], 2.2 NNW CANYON [35.01, -101.94], 1.4 NW CANYON [34.99, -101.94], 1.1 NNW CANYON [35.00, -101.93]

07/16/14 23:10 CST	0		Flash Flood (due to Heavy Rain)
07/17/14 03:00 CST	0		Source: NWS Employee

A cluster of intense rain producing thunderstorms moved over the city of Amarillo (Potter County) for an extended period of time. This intense rain led to the development of flash flooding at the Hunsley Hills area. The flash flooding carried a large dumpster floating down the road and an unoccupied car was stranded in the water. This flood water persisted for several hours before receding by 3 AM CST.

Northwest flow aloft brought a round of convection during the evening hours of the 16th to the Texas Panhandle. As a shortwave trough moved out of Colorado, a warn front was situated across the northern and eastern Texas Panhandle. Convection developed along this front during the evening hours. This convection was able to produce intense rainfall due to climatologically high PWAT values across the Panhandle. This intense rainfall led to the development of flash flooding. The flooding continued until thunderstorms moved into western Oklahoma.

HUTCHINSON COUNTY --- 0.7 N FRITCH [35.64, -101.60], 2.3 W FRITCH [35.63, -101.64]

07/22/14 16:05 CST	0		Hail (1.00 in)
07/22/14 16:07 CST	0		Source: Broadcast Media

Discrete thunderstorms developed over Hutchinson County during the evening hours of the 22nd. As the storm moved over the town of Fritch (Hutchinson County), local broadcast media reported nickel to quarter size hail (0.88 to 1.00 inch) in town. After producing this hail the storm moved southwestward across the county.

HUTCHINSON COUNTY --- 0.7 N FRITCH [35.64, -101.60], 0.9 NW FRITCH [35.64, -101.61]

07/22/14 16:09 CST	0		Hail (1.00 in)
07/22/14 16:10 CST	0		Source: Trained Spotter

Discrete thunderstorms developed over Hutchinson County during the evening hours of the 22nd. As the storm moved over the town of Fritch (Hutchinson County), a trained storm spotter reported dime to quarter size hail (0.70 to 1.00 inch) in town. After producing this hail the storm moved southwestward across the county.

HUTCHINSON COUNTY --- 0.7 N FRITCH [35.64, -101.60], 0.8 NW FRITCH [35.64, -101.61]

07/22/14 16:14 CST	0		Hail (1.75 in)
07/22/14 16:16 CST	0		Source: Public

Discrete thunderstorms developed over Hutchinson County during the evening hours of the 22nd. As the storm moved over the town of Fritch (Hutchinson County), a member of the public reported golf ball size hail (1.75 inches) in town. After producing this hail the storm moved southwestward across the county.

HANSFORD COUNTY --- 3.9 NE GRUVER [36.31, -101.35], 3.1 NE GRUVER [36.30, -101.36]

07/22/14 17:25 CST	0		Hail (0.88 in)
07/22/14 17:26 CST	0		Source: Public

Discrete thunderstorms developed over Hansford County during the evening hours of the 22nd. As the storm moved north of the town of Gruver (Hansford County), a member of the public reported nickel size hail (0.88 inch) 5 miles northeast of Gruver (Hansford County). After producing this hail the storm moved southwestward across the county.

HANSFORD COUNTY --- 4.9 N GRUVER [36.34, -101.41]

07/22/14 17:28 CST	0		Thunderstorm Wind (EG 50 kt)
07/22/14 17:30 CST	0		Source: Public

Discrete thunderstorms developed over Hansford County during the evening hours of the 22nd. As the storm moved north of the town of Gruver (Hansford County), a member of the public reported an estimated 58 mph thunderstorms downburst which blew over a large tree 6 miles north of Gruver (Hansford County). After producing this gust the storm diminished while moving southwestward across the county.

Scattered thunderstorms developed along residual outflow boundaries during the evening hours of the 22nd. Marginal instability allowed isolated severe storms to form over the Texas Panhandle. These storms quickly diminished before 6 Pm CST.

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
DEAF SMITH COUNTY --- 4.0 SW HEREFORD [34.78, -102.45]				
	07/27/14 21:20 CST		0	Thunderstorm Wind (EG 52 kt)
	07/27/14 21:21 CST		0	Source: Public

Decaying thunderstorms moved into the southwestern Texas Panhandle during the late evening hours of the 27th. This outflow from these decaying thunderstorms blew down three utility poles and heavily damaged two tin out buildings.

A cold front moved through the southern Texas Panhandle during the day of the 27th. Thunderstorms developed along the cold front as it moved into Northwest Texas. These thunderstorms overran the front and began to decay over the southwestern Texas Panhandle. As the storms decayed they produced an outflow gust which produced damaged near Hereford (Deaf Smith County). Once these storms dissipated, no further severe report was observed.