# Storm Data and Unusual Weather Phenomena - August 2017

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

## OKLAHOMA, Panhandle

**TEXAS COUNTY --- 10.6 NE EVA [36.92, -101.78]**

| | | | |
|---|---|---|---|
| | 08/10/17 21:10 CST | 0 | Thunderstorm Wind (MG 64 kt) |
| | 08/10/17 21:10 CST | 0 | Source: Mesonet |

**TEXAS COUNTY --- 0.9 NW (GUY)GUYMON MUNI ARP [36.69, -101.51]**

| | | | |
|---|---|---|---|
| | 08/10/17 21:40 CST | 0 | Thunderstorm Wind (MG 53 kt) |
| | 08/10/17 21:40 CST | 0 | Source: ASOS |

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

| | | | |
|---|---|---|---|
| | 08/10/17 21:55 CST | 0 | Thunderstorm Wind (MG 50 kt) |
| | 08/10/17 21:55 CST | 0 | Source: Mesonet |

**BEAVER COUNTY --- SLAPOUT [36.62, -100.12]**

| | | | |
|---|---|---|---|
| | 08/10/17 21:59 CST | 0 | Hail (1.50 in) |
| | 08/10/17 21:59 CST | 0 | Source: Public |

Reported by viewer to local media.

**The first round of weather early in the morning on the 10th produced flash flooding reports in Armstrong and Randall counties. With PWAT values in the 75th percentile based off climatology upper air obs, the atmosphere was very moist to support heavy rainfall. Residual outflow boundaries across the western TX Panhandle generated storms later in the afternoon on the 10th with SBCAPE of around 1500 J/kg and MUCAPE of 2000 J/kg with effective shear of 30-35 kts. This allowed some storms to develop with one report of half dollar size hail along with nickel size hail reported. In this same atmosphere to the north across the OK Panhandle, convection that developed across SE Colorado moved south and produced hail and severe wind gusts across the OK Panhandle the evening of the 10th.**

**TEXAS COUNTY --- 10.6 NE EVA [36.92, -101.78]**

| | | | |
|---|---|---|---|
| | 08/17/17 19:00 CST | 0 | Thunderstorm Wind (MG 53 kt) |
| | 08/17/17 19:00 CST | 0 | Source: Mesonet |

**TEXAS COUNTY --- 1.5 NNE GUYMON [36.70, -101.47]**

| | | | |
|---|---|---|---|
| | 08/17/17 19:34 CST | 0 | Thunderstorm Wind (MG 54 kt) |
| | 08/17/17 19:34 CST | 0 | Source: Broadcast Media |

**TEXAS COUNTY --- 1.4 N GUYMON [36.70, -101.48]**

| | | | |
|---|---|---|---|
| | 08/17/17 19:35 CST | 0 | Hail (0.88 in) |
| | 08/17/17 19:35 CST | 0 | Source: Emergency Manager |

**TEXAS COUNTY --- 1.4 N GUYMON [36.70, -101.48]**

| | | | |
|---|---|---|---|
| | 08/17/17 19:35 CST | 0 | Thunderstorm Wind (EG 56 kt) |
| | 08/17/17 19:35 CST | 0 | Source: Emergency Manager |

Estimated wind gust of 65 MPH by Emergency Manager.

**CIMARRON COUNTY --- 3.0 SSE BOISE CITY [36.69, -102.50]**

| | | | |
|---|---|---|---|
| | 08/18/17 00:15 CST | 0 | Thunderstorm Wind (MG 51 kt) |
| | 08/18/17 00:15 CST | 0 | Source: Mesonet |

**A total of 2 rounds of severe weather moved through the northern TX and OK panhandles on the evening of the 17th through the early morning hours on the 18th. The first round of severe weather was out ahead of a shortwave trough moving SE out of northern Colorado. Out ahead of the trough, strong upper level omega values provided good lift in the atmosphere. in-conjunction, a low level ridge east of the Panhandles allowed SE winds to advect sufficient low level moisture ahead of the shortwave trough. This produced SBCAPE of around 4000 J/kg, MUCAPE of around 2500 J/Kg and effective shear of 35-50 kts. This was an environment for supercell to develop and maintain themselves, especially on the onset of the precipitation. The first round of supercells moves east across the Panhandles producing gusty winds and large hail. The second round of storms started early in the morning of the 18th as a second line segment moved south into western OK panhandle. This was associated with the trough axis moving over the OK Panhandle providing very good divergence aloft. However, the time of day limited CAPE, but enough shear and divergence aloft developed a second line of storms with damaging wind reports.**

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|---|---|---|---|---|
| **TEXAS COUNTY --- 10.6 NE EVA [36.92, -101.78]** | | | | |
| | 08/27/17 18:50 CST | | 0 | Thunderstorm Wind (MG 64 kt) |
| | 08/27/17 18:50 CST | | 0 | Source: Mesonet |
| **TEXAS COUNTY --- 0.9 NW TEXHOMA [36.51, -101.79]** | | | | |
| | 08/27/17 19:45 CST | | 0 | Hail (0.88 in) |
| | 08/27/17 19:45 CST | | 0 | Source: Law Enforcement |

Mostly dime size hail with a few nickels. Max wind gusts were 50 MPH.

**The environment for the storms that transpired on the 27th were in a high CAPE, low shear environment. A large upper level anti-cyclonic flow across the inter-mountain west. The main linear complex moving SE through Kansas earlier in the day on the east side of the large anti-cyclone along a cold front was the main lift axis for storm development. However, residual outflow from convection moving southwest from thew main complex in KS moved toward our region ahead of the front into an environment with good mid level lapse rates and good SBCAPE resulted in left moving convection through parts of the central and western Panhandles into the late evening hours. Convection that regenerated in SW Kansas eventually formed a bowed segment and severe wind gusts were reported. The line segments eventually became disorganized as the event went further into the evening moving further SW into the SW TX Panhandle.**

## TEXAS, North Panhandle

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|---|---|---|---|---|
| **CARSON COUNTY --- 0.6 E SKELLYTOWN [35.57, -101.17]** | | | | |
| | 08/05/17 18:35 CST | | 0 | Thunderstorm Wind (EG 56 kt) |
| | 08/05/17 18:35 CST | | 0 | Source: Law Enforcement |

Carson county sheriff called to report damage from the thunderstorms that had moved over the area . Fences blow over and debris had been tossed around.

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|---|---|---|---|---|
| **GRAY COUNTY --- 0.7 S PAMPA LEFORS ARPT [35.61, -101.00]** | | | | |
| | 08/05/17 18:50 CST | | 0 | Thunderstorm Wind (MG 58 kt) |
| | 08/05/17 18:50 CST | | 0 | Source: AWOS |

Pampa AWOS showed a 67 mph wind gust. Also received media report that power was out in parts of the city.

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|---|---|---|---|---|
| **GRAY COUNTY --- 1.5 NNE PAMPA [35.55, -100.96]** | | | | |
| | 08/05/17 18:50 CST | | 0 | Thunderstorm Wind (EG 78 kt) |
| | 08/05/17 18:50 CST | | 0 | Source: NWS Storm Survey |

Two separate microbursts were observed with thunderstorms in the Skellytown and Pampa areas on Saturday evening . In Skellytown, 21 power poles were snapped with an additional 50 poles snapped in the northwest and northern parts of the city of Pampa. Numerous trees were uprooted or snapped and portions of roof coverings were removed from several homes. A large RV was also overturned. After talking with county EM's and gathering other reports, winds of 90 MPH were estimated to be the cause of the damage.

| | | | | |
|---|---|---|---|---|
| **ARMSTRONG COUNTY --- 2.6 ESE CLAUDE [35.10, -101.33]** | | | | |
| | 08/05/17 19:35 CST | | 0 | Thunderstorm Wind (EG 52 kt) |
| | 08/05/17 19:35 CST | | 0 | Source: Law Enforcement |

Just east of Claude on hwy 287 a couple of semi-trucks had jackknifed due to strong winds from a thunderstorm.

**A complex of storms first developed across eastern NM/SE Colorado and moved SE into the Panhandles region. An embedded disturbance in the mean zonal 700-500 hPa flow helped to trigger convection. As the main convection moved into the western TX Panhandle, a residual boundary draped across the western TX Panhandle helped to develop a line of cellular convection. With SBCAPE and MUCAPE around 2,000 J/kg and forecast vertical profiles showed an inverted-v sounding indicated good mid layer dry air to mix down strong winds aloft along with steep mid level lapse rates. This resulted in several severe wind reports along with 2 documented microbursts in the TX Panhandle.**

| | | | | |
|---|---|---|---|---|
| **ARMSTRONG COUNTY --- 4.9 S WASHBURN [35.11, -101.60], 5.7 SSW WASHBURN [35.10, -101.60], 5.6 S WASHBURN [35.10, -101.59], 5.1 S WASHBURN [35.11, -101.59]** | | | | |
| | 08/10/17 07:06 CST | | 0 | Flash Flood (due to Heavy Rain) |
| | 08/10/17 07:06 CST | | 0 | Source: Law Enforcement |

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

Flooding has been reported on county road 2 and fm 1151.

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**RANDALL COUNTY --- 5.3 SW AMARILLO [35.15, -101.89], 5.5 SW AMARILLO [35.15, -101.89], 5.1 SW AMARILLO [35.15, -101.88], 4.9 SW AMARILLO [35.15, -101.88]**

| | | | |
|---|---|---|---|
| | 08/10/17 07:19 CST | 0 | Flash Flood (due to Heavy Rain) |
| | 08/10/17 07:19 CST | 0 | Source: NWS Employee |

Interstate 27 closed with traffic being diverted to the access roads. Flooding has also been reported in low spots on interstate 40 through town as well as most underpasses in downtown Amarillo.

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**OLDHAM COUNTY --- 6.2 S BOYS RANCH [35.44, -102.26]**

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|---|---|---|---|
| | 08/10/17 18:20 CST | 0 | Hail (1.25 in) |
| | 08/10/17 18:20 CST | 0 | Source: Storm Chaser |

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**HARTLEY COUNTY --- 3.8 SSE CHANNING [35.63, -102.30]**

| | | | |
|---|---|---|---|
| | 08/10/17 19:37 CST | 0 | Hail (0.88 in) |
| | 08/10/17 19:37 CST | 0 | Source: Storm Chaser |

**The first round of weather early in the morning on the 10th produced flash flooding reports in Armstrong and Randall counties. With PWAT values in the 75th percentile based off climatology upper air obs, the atmosphere was very moist to support heavy rainfall. Residual outflow boundaries across the western TX Panhandle generated storms later in the afternoon on the 10th with SBCAPE of around 1500 J/kg and MUCAPE of 2000 J/kg with effective shear of 30-35 kts. This allowed some storms to develop with one report of half dollar size hail along with nickel size hail reported.**

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**DALLAM COUNTY --- 6.1 SE TEXLINE [36.32, -102.94]**

| | | | |
|---|---|---|---|
| | 08/13/17 16:26 CST | 0 | Thunderstorm Wind (EG 52 kt) |
| | 08/13/17 16:26 CST | 0 | Source: Trained Spotter |

Trained spotter estimated wind gust of 60 MPH.

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

| | | | |
|---|---|---|---|
| | 08/13/17 16:44 CST | 0 | Hail (0.75 in) |
| | 08/13/17 16:44 CST | 0 | Source: Trained Spotter |

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**DALLAM COUNTY --- 5.3 ESE WARE [36.14, -102.62]**

| | | | |
|---|---|---|---|
| | 08/13/17 17:07 CST | 0 | Thunderstorm Wind (EG 61 kt) |
| | 08/13/17 17:07 CST | 0 | Source: Trained Spotter |

Estimated wind gust of 70 MPH.

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**DALLAM COUNTY --- 7.8 W DALHART [36.06, -102.66]**

| | | | |
|---|---|---|---|
| | 08/13/17 17:18 CST | 0 | Thunderstorm Wind (EG 61 kt) |
| | 08/13/17 17:18 CST | 0 | Source: Emergency Manager |

Five power poles down in a row.

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**HARTLEY COUNTY --- 0.7 S DALHART [36.06, -102.52]**

| | | | |
|---|---|---|---|
| | 08/13/17 17:24 CST | 0 | Thunderstorm Wind (EG 52 kt) |
| | 08/13/17 17:24 CST | 0 | Source: Emergency Manager |

Tree limbs down reported in Dalhart.

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

| | | | |
|---|---|---|---|
| | 08/13/17 17:25 CST | 0 | Thunderstorm Wind (EG 61 kt) |
| | 08/13/17 17:25 CST | 0 | Source: Emergency Manager |

Extensive damage to hangars and airplanes were flipped over.

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

| | | | |
|---|---|---|---|
| | 08/13/17 17:25 CST | 0 | Thunderstorm Wind (MG 64 kt) |
| | 08/13/17 17:25 CST | 0 | Source: ASOS |

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|---|---|---|---|---|
| **HARTLEY COUNTY --- 0.7 N HARTLEY [35.89, -102.40]** | | | | |
| | 08/13/17 17:48 CST | | 0 | Thunderstorm Wind (EG 56 kt) |
| | 08/13/17 17:48 CST | | 0 | Source: Public |
| Wind damage at a gas station in the town of Hartley. | | | | |
| **OLDHAM COUNTY --- 1.1 W BOYS RANCH [35.53, -102.27]** | | | | |
| | 08/13/17 17:48 CST | | 0 | Thunderstorm Wind (MG 51 kt) |
| | 08/13/17 17:48 CST | | 0 | Source: Mesonet |
| **MOORE COUNTY --- 0.7 N DUMAS [35.86, -101.97]** | | | | |
| | 08/13/17 17:53 CST | | 0 | Hail (1.25 in) |
| | 08/13/17 17:53 CST | | 0 | Source: Amateur Radio |
| Hail the size of quarters to half dollars falling with moderate to heavy rain and winds 20 to 40 mph. | | | | |
| **MOORE COUNTY --- 4.8 N DUMAS [35.92, -101.97]** | | | | |
| | 08/13/17 18:10 CST | | 0 | Hail (2.00 in) |
| | 08/13/17 18:10 CST | | 0 | Source: Public |
| Picture of 2 inch hail submitted from social media 4 miles north of Dumas. | | | | |
| **DALLAM COUNTY --- 2.6 WSW DALHART [36.05, -102.56], 3.2 SSW DALHART [36.03, -102.55]** | | | | |
| | 08/13/17 18:20 CST | | 0 | Thunderstorm Wind (EG 96 kt) |
| | 08/13/17 18:32 CST | | 0 | Source: NWS Storm Survey |
| A significant downburst wind event occurred west and southwest of Dalhart , TX on Sunday evening. The downburst was associated with an RFD of a supercell thunderstorm. Damage from the downburst was initially observed at the Twisted Elms Golf Course were several trees were uprooted and many large branches were downed, including some onto power lines. Damage at the golf course was estimated at 75-85 MPH. The damage continued to the southeast were several power poles were blown down. Severe straight line damaged peaked at the airport where a 74 MPH wind was observed with even some of NWS ASOS equipment was damaged afterwards by flying debris from airport hangers up to half a mile away . Several small planes and a pop-up camper were flipped and thrown up to 50 yards. Damage at the airport was estimated to be from 100 to 110 MPH winds, which is equivalent of a high end EF-1 tornado. | | | | |
| **POTTER COUNTY --- 6.9 N (AMA)AMARILLO INTL A [35.32, -101.71], 6.9 N (AMA)AMARILLO INTL A [35.32, -101.71]** | | | | |
| | 08/13/17 19:00 CST | | 0 | Tornado (EF0, L: 0.09 mi , W: 20 yd) |
| | 08/13/17 19:01 CST | | 0 | Source: Storm Chaser |
| Brief tornado lasted about one minute. | | | | |
| **POTTER COUNTY --- 4.0 ENE (AMA)AMARILLO INTL A [35.25, -101.66]** | | | | |
| | 08/13/17 19:11 CST | | 0 | Thunderstorm Wind (MG 68 kt) |
| | 08/13/17 19:11 CST | | 0 | Source: Broadcast Media |
| **POTTER COUNTY --- (AMA)AMARILLO INTL A [35.22, -101.72]** | | | | |
| | 08/13/17 19:12 CST | | 0 | Thunderstorm Wind (MG 54 kt) |
| | 08/13/17 19:12 CST | | 0 | Source: ASOS |
| **DEAF SMITH COUNTY --- 1.8 WNW HEREFORD [34.83, -102.43]** | | | | |
| | 08/13/17 20:25 CST | | 0 | Thunderstorm Wind (MG 57 kt) |
| | 08/13/17 20:25 CST | | 0 | Source: Mesonet |

**Mid to upper level northwesterly flow helped to move storms into the Panhandles region. With SBCAPE of 3000-4000 J/Kg in the western TX Panhandles, in-conjunction with 30-40 kts of effective shear, an established 850-700 surface trough over eastern NM advecting surface moisture northward downstream of its axis, along with around 200 m2/s2 of effective helicity provided an initial environment of supercell development on the onset of the convection before an MCS eventually developed and moved SE across the remainder of the TX Panhandle. Some cells across the central TX Panhandle did develop before being part of the southward moving MCS from the western TX Panhandle which one cell did produce a short lived weak tornado. Overall, several reports early on of large hail and damaging winds were reported, especially across the western TX Panhandle.**

# Storm Data and Unusual Weather Phenomena - August 2017

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|---|---|---|---|---|
| **HARTLEY COUNTY --- 0.7 N (DHT)DALHART MUNI AR [36.03, -102.55]** | | | | |
| | 08/14/17 19:28 CST | | 0 | Thunderstorm Wind (MG 52 kt) |
| | 08/14/17 19:28 CST | | 0 | Source: ASOS |
| **OLDHAM COUNTY --- 0.9 SE VEGA [35.24, -102.42]** | | | | |
| | 08/14/17 20:44 CST | | 0 | Thunderstorm Wind (MG 52 kt) |
| | 08/14/17 20:44 CST | | 0 | Source: Broadcast Media |

**A similar synoptic setup in comparison for the event that took place the day before on the 13th. West-northwest flow established across the region at the mid levels carried convection southeastward from NM. However, on this day, the lower levels were not as conducive for convection. With a large cap in place, along with limited effective shear, storms that developed west of the region quickly moved east and formed a line of convection along the established localized outflow boundary. A few severe wind gusts were reported as the line moved southeast across the western TX Panhandle.**

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|---|---|---|---|---|
| **SHERMAN COUNTY --- 20.9 E LAUTZ [36.17, -101.66]** | | | | |
| | 08/17/17 17:27 CST | | 0 | Hail (1.75 in) |
| | 08/17/17 17:27 CST | | 0 | Source: Trained Spotter |
| **HUTCHINSON COUNTY --- 6.6 NW PRINGLE [36.02, -101.53]** | | | | |
| | 08/17/17 18:35 CST | | 0 | Hail (1.50 in) |
| | 08/17/17 18:35 CST | | 0 | Source: Storm Chaser |
| **RANDALL COUNTY --- 0.9 NW LAKE TANGLEWOOD [35.07, -101.79]** | | | | |
| | 08/17/17 18:59 CST | | 0 | Thunderstorm Wind (EG 52 kt) |
| | 08/17/17 18:59 CST | | 0 | Source: NWS Employee |

NWS Employee estimated a 60 MPH wind gust.

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|---|---|---|---|---|
| **OCHILTREE COUNTY --- 13.1 SE FARNSWORTH [36.15, -100.80]** | | | | |
| | 08/17/17 22:25 CST | | 0 | Hail (0.88 in) |
| | 08/17/17 22:25 CST | | 0 | Source: Trained Spotter |
| **OCHILTREE COUNTY --- 13.1 SE FARNSWORTH [36.15, -100.80]** | | | | |
| | 08/17/17 22:25 CST | | 0 | Thunderstorm Wind (EG 52 kt) |
| | 08/17/17 22:25 CST | | 0 | Source: Trained Spotter |

Measured wind gust of 60 MPH by trained spotter.

| | | | | |
|---|---|---|---|---|
| **HEMPHILL COUNTY --- 5.8 ENE CANADIAN [35.92, -100.28]** | | | | |
| | 08/17/17 23:18 CST | | 0 | Thunderstorm Wind (MG 50 kt) |
| | 08/17/17 23:18 CST | | 0 | Source: Mesonet |

**A total of 2 rounds of severe weather moved through the northern TX and OK panhandles on the evening of the 17th through the early morning hours on the 18th. The first round of severe weather was out ahead of a shortwave trough moving SE out of northern Colorado. Out ahead of the trough, strong upper level omega values provided good lift in the atmosphere. in-conjunction, a low level ridge east of the Panhandles allowed SE winds to advect sufficient low level moisture ahead of the shortwave trough. This produced SBCAPE of around 4000 J/kg, MUCAPE of around 2500 J/Kg and effective shear of 35-50 kts. This was an environment for supercell to develop and maintain themselves, especially on the onset of the precipitation. The first round of supercells moves east across the Panhandles producing gusty winds and large hail. The second round of storms started early in the morning of the 18th as a second line segment moved south into western OK panhandle. This was associated with the trough axis moving over the OK Panhandle providing very good divergence aloft. However, the time of day limited CAPE, but enough shear and divergence aloft developed a second line of storms with damaging wind reports.**

| | | | | |
|---|---|---|---|---|
| **DALLAM COUNTY --- 4.5 E DALHART [36.06, -102.44]** | | | | |
| | 08/27/17 20:15 CST | | 0 | Thunderstorm Wind (EG 61 kt) |
| | 08/27/17 20:15 CST | | 0 | Source: Trained Spotter |

A few tree limbs 9 to 16 inches in diameter were blown down.

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

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|---|---|---|---|---|
| | 08/27/17 20:27 CST | | 0 | Thunderstorm Wind (MG 55 kt) |
| | 08/27/17 20:27 CST | | 0 | Source: ASOS |
| **MOORE COUNTY --- 9.6 SW DUMAS MUNI ARPT [35.75, -102.14]** | | | | |
| | 08/27/17 20:46 CST | | 0 | Thunderstorm Wind (MG 54 kt) |
| | 08/27/17 20:46 CST | | 0 | Source: Broadcast Media |
| **OLDHAM COUNTY --- 1.1 W BOYS RANCH [35.53, -102.27]** | | | | |
| | 08/27/17 21:10 CST | | 0 | Thunderstorm Wind (MG 51 kt) |
| | 08/27/17 21:10 CST | | 0 | Source: Mesonet |

**The environment for the storms that transpired on the 27th were in a high CAPE, low shear environment. A large upper level anti-cyclonic flow across the inter-mountain west. The main linear complex moving SE through Kansas earlier in the day on the east side of the large anti-cyclone along a cold front was the main lift axis for storm development. However, residual outflow from convection moving southwest from thew main complex in KS moved toward our region ahead of the front into an environment with good mid level lapse rates and good SBCAPE resulted in left moving convection through parts of the central and western Panhandles into the late evening hours. Convection that regenerated in SW Kansas eventually formed a bowed segment and severe wind gusts were reported. The line segments eventually became disorganized as the event went further into the evening moving further SW into the SW TX Panhandle.**