

## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>OKLAHOMA, Western, Central and Southeast</b>				
<b>(OK-Z004) HARPER, (OK-Z005) WOODS, (OK-Z006) ALFALFA, (OK-Z009) ELLIS, (OK-Z010) WOODWARD, (OK-Z011) MAJOR</b>				
	08/01/09 00:00 CST	0		Drought
	08/24/09 23:59 CST	0		
<p>D2 drought developed over parts of northwest Oklahoma because of a stretch of low-precipitation days in June into mid July. The very dry conditions of June and part of July, a large scale pattern change allowed for more chances of precipitation beginning in mid-July and continuing into August. The most substantial rainfall occurred south and east of northwest Oklahoma, although northwest was not completely dry. More substantial rainfall through the month alleviated the D2 drought by late in August. Monetary damage estimates were unavailable.</p>				
<b>(OK-Z015) DEWEY, (OK-Z017) BLAINE</b>				
	08/01/09 00:00 CST	0		Drought
	08/03/09 23:59 CST	0		
<p>Dry conditions from June into the first half of July allowed for D2 conditions to develop briefly over Dewey and Blaine counties. However, a large scale pattern shift allowed for more chances of precipitation beginning in mid July and continuing through August. By August 5, the D2 drought had shifted north and west of the two counties. Monetary damage estimates were not available for any damage.</p>				
<b>WOODS COUNTY --- 2.0 S DACOMA [36.63, -98.56]</b>				
	08/02/09 23:00 CST	0		Hail (1.25 in)
	08/02/09 23:02 CST	0		Source: Emergency Manager
<p>The hail covered the ground.</p>				
<b>MAJOR COUNTY --- 1.0 SSW ORIENTA [36.35, -98.48]</b>				
	08/02/09 23:30 CST	0		Thunderstorm Wind (EG 56 kt)
	08/02/09 23:32 CST	0		Source: COOP Observer
<p>A 10-inch diameter tree limb was blown down. Gutters were also blown off a house. Monetary damages were estimated.</p>				
<b>KINGFISHER COUNTY --- LOYAL [35.97, -98.12]</b>				
	08/03/09 01:10 CST	0		Hail (1.00 in)
	08/03/09 01:11 CST	0		Source: Public
<b>CANADIAN COUNTY --- OKARCHE [35.73, -97.98]</b>				
	08/03/09 01:15 CST	0		Thunderstorm Wind (MG 53 kt)
	08/03/09 01:15 CST	0		Source: Trained Spotter
<b>(OK-Z010) WOODWARD</b>				
	08/03/09 01:20 CST	0		High Wind (MAX 50 kt)
	08/03/09 01:20 CST	0		
<b>KINGFISHER COUNTY --- 4.0 W CASHION [35.80, -97.75]</b>				
	08/03/09 01:55 CST	0		Hail (0.75 in)
	08/03/09 01:56 CST	0		Source: Fire Department/Rescue
<p>Storms developed over western Kansas and southeast Colorado late in the day, and moved southeast toward Oklahoma after sunset. The thunderstorms were able to maintain themselves, as a weak shortwave moved southeast and a low-level jet developed over western Oklahoma. Additional thunderstorms developed farther east into parts of northern Oklahoma. The entire complex moved southeast through the early morning hours, with mainly heavy rainfall, small hail, and gusty winds mainly reported along its path. Reports were mainly below severe limits, although some thunderstorms briefly became severe, with hail up to quarter size and winds near 60 mph.</p>				
<b>ATOKA COUNTY --- CANEY [34.23, -96.21], 4.9 W ATOKA [34.39, -96.22]</b>				
	08/05/09 13:30 CST	0		Thunderstorm Wind (EG 65 kt)
	08/05/09 13:35 CST	0		Source: Law Enforcement

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Numerous power lines and trees were blown down. Several houses sustained major damage, including roofs being blown off. The damage was reported from five miles west of Atoka, east into the Atoka and Caney areas. Sporadic damage was also reported throughout the rest of the county. Monetary damage estimates were unavailable.				

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**JOHNSTON COUNTY --- MILBURN [34.24, -96.55]**

08/05/09 13:30 CST			0	Thunderstorm Wind (EG 56 kt)
08/05/09 13:30 CST			0	Source: Emergency Manager

Several large trees were blown down, some of them blocking roadways. One tree fell on a house. Monetary damage estimates were unavailable.

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**JOHNSTON COUNTY --- BROMIDE [34.42, -96.50]**

08/05/09 13:45 CST			1K	Thunderstorm Wind (EG 61 kt)
08/05/09 13:47 CST			0	Source: Public

A two-foot diameter trees was blown down. Monetary damages were estimated.

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**JOHNSTON COUNTY --- 4.7 E REAGAN [34.35, -96.64]**

08/05/09 14:00 CST			10K	Thunderstorm Wind (EG 61 kt)
08/05/09 14:02 CST			0	Source: Public

Several power lines were blown down near the junction of Highway 7 and US 377. Monetary damages were estimated.

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**JOHNSTON COUNTY --- TISHOMINGO [34.23, -96.68]**

08/05/09 14:00 CST			4K	Thunderstorm Wind (EG 61 kt)
08/05/09 14:02 CST			0	Source: Law Enforcement

Two trees and a power line were blown down. Monetary damages were estimated.

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**OKLAHOMA COUNTY --- 4.3 SSE NICOMA PARK [35.43, -97.30]**

08/05/09 14:20 CST			8K	Thunderstorm Wind (EG 56 kt)
08/05/09 14:22 CST			0	Source: Fire Department/Rescue

A couple of power poles were blown down near SE 35th street and Hiwassee Road. Monetary damages were estimated.

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**MARSHALL COUNTY --- 1.0 NNW KINGSTON [34.01, -96.73]**

08/05/09 14:45 CST			0	Thunderstorm Wind (EG 61 kt)
08/05/09 14:47 CST			0	Source: Emergency Manager

Four utility poles/power lines were downed on Bounds Road. A large tree fell onto a house, and several small outbuildings were also destroyed. Monetary damage estimates were not available.

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**BRYAN COUNTY --- 3.4 W MEAD [34.00, -96.57]**

08/05/09 14:47 CST			0	Thunderstorm Wind (EG 61 kt)
08/05/09 14:49 CST			0	Source: Broadcast Media

Large trees were snapped or downed at Johnson Creek Park on the east side of Lake Texoma. Monetary damage estimates were not available.

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**MARSHALL COUNTY --- 2.3 WSW MCBRIDE [33.93, -96.68]**

08/05/09 14:50 CST			0	Thunderstorm Wind (EG 61 kt)
08/05/09 14:52 CST			0	Source: Broadcast Media

Four boathouses and numerous boats were heavily damaged at the Soldier Creek Marina. Numerous landing docks were damaged as well. Monetary damage estimates were not available.

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**CARTER COUNTY --- SPRINGER [34.31, -97.14]**

08/05/09 15:15 CST			5K	Thunderstorm Wind (EG 56 kt)
08/05/09 15:17 CST			0	Source: Broadcast Media

Several trees were blown down. Monetary damages were estimated.

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**STEPHENS COUNTY --- 1.0 N VELMA [34.47, -97.67]**

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	08/05/09 16:05 CST		0	Hail (1.00 in)
	08/05/09 16:05 CST		0	Source: Amateur Radio
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<b>STEPHENS COUNTY --- VELMA [34.46, -97.67]</b>				
	08/05/09 16:10 CST		0	Hail (1.75 in)
	08/05/09 16:10 CST		0	Source: Emergency Manager
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<b>STEPHENS COUNTY --- VELMA [34.46, -97.67]</b>				
	08/05/09 16:10 CST		0	Thunderstorm Wind (EG 52 kt)
	08/05/09 16:10 CST		0	Source: Emergency Manager
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Golf ball-size hail was also reported in Velma.				
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<b>JEFFERSON COUNTY --- RINGLING [34.18, -97.59]</b>				
	08/05/09 16:45 CST		50K	Lightning
	08/05/09 16:45 CST		0	Source: Amateur Radio
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A house caught fire after being struck by lightning. Monetary damage estimates were not available.				
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<b>JOHNSTON COUNTY --- 3.0 NE TISHOMINGO [34.26, -96.64]</b>				
	08/05/09 21:00 CST		5K	Thunderstorm Wind (EG 56 kt)
	08/05/09 21:02 CST		0	Source: Emergency Manager
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Minor damage occurred to a roof. Monetary damages were estimated.				
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<b>JOHNSTON COUNTY --- 0.7 NNW TISHOMINGO [34.24, -96.69]</b>				
	08/05/09 21:07 CST		0	Thunderstorm Wind (EG 56 kt)
	08/05/09 21:09 CST		0	Source: Emergency Manager
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A tree was blown onto a bridge. The bridge did not sustain any damage. Monetary damages were estimated.				
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<b>OKLAHOMA COUNTY --- 3.2 WNW VALLEY BROOK [35.42, -97.53]</b>				
	08/05/09 21:39 CST		0	Hail (1.75 in)
	08/05/09 21:39 CST		0	Source: Law Enforcement
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The hail was reported near the corner of SW 44th and Western Avenue.				
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<b>OKLAHOMA COUNTY --- 2.4 W VALLEY BROOK [35.41, -97.52]</b>				
	08/05/09 21:43 CST		0	Hail (1.00 in)
	08/05/09 21:43 CST		0	Source: Law Enforcement
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The hail was reported near the corner of SW 59th and Walker Avenue.				
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<b>OKLAHOMA COUNTY --- 2.2 ENE (OKC)WILL ROGERS APT [35.41, -97.57]</b>				
	08/05/09 21:50 CST		0	Hail (1.00 in)
	08/05/09 21:50 CST		0	Source: Law Enforcement
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The hail was reported SW 59th Street and May Avenue.				
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<b>CANADIAN COUNTY --- MUSTANG [35.39, -97.72]</b>				
	08/05/09 22:12 CST		0	Hail (0.88 in)
	08/05/09 22:12 CST		0	Source: Emergency Manager
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The hail was reported on the west side of town.				
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<b>CANADIAN COUNTY --- MUSTANG [35.39, -97.72]</b>				
	08/05/09 22:15 CST		0	Hail (1.75 in)
	08/05/09 22:15 CST		0	Source: Law Enforcement
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The hail was reported at the Mustang police station.				

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>CLEVELAND COUNTY --- 2.0 S NORMAN [35.19, -97.44]</b>				
	08/05/09 22:32 CST		0	Hail (0.75 in)
	08/05/09 22:32 CST		0	Source: Other Federal Agency
The hail was reported by an off-duty NSSL employee.				
<p><b>A remnant cold front/outflow boundary moved into Oklahoma during the early morning hours and was located from northwest into southeast Oklahoma. Instability along and near the front allowed for showers and thunderstorms to develop by late morning, and continue through the afternoon. Very heavy rainfall accompanied the thunderstorms, but as the thunderstorms became more intense, large hail and damaging winds were reported. The thunderstorms moved into northern Texas by late evening.</b></p>				
<b>ALFALFA COUNTY --- 1.0 W BURLINGTON [36.90, -98.44]</b>				
	08/10/09 13:10 CST		0	Hail (0.88 in)
	08/10/09 13:10 CST		0	Source: Public
Winds of 60 mph were also estimated at this location.				
<b>ALFALFA COUNTY --- 1.0 W BURLINGTON [36.90, -98.44]</b>				
	08/10/09 13:10 CST		0	Thunderstorm Wind (EG 52 kt)
	08/10/09 13:10 CST		0	Source: Public
Nickel-size hail was also reported at this location.				
<b>ALFALFA COUNTY --- CHEROKEE [36.75, -98.35]</b>				
	08/10/09 13:49 CST		0	Hail (0.88 in)
	08/10/09 13:49 CST		0	Source: Law Enforcement
<b>ALFALFA COUNTY --- 1.0 SSW CHEROKEE [36.74, -98.36]</b>				
	08/10/09 13:50 CST		0	Thunderstorm Wind (MG 51 kt)
	08/10/09 13:50 CST		0	Source: Mesonet
<b>ALFALFA COUNTY --- 1.0 SSW CHEROKEE [36.74, -98.36]</b>				
	08/10/09 14:05 CST		0	Thunderstorm Wind (MG 63 kt)
	08/10/09 14:05 CST		0	Source: Mesonet
<b>GARFIELD COUNTY --- (END)VANCE AFB ENID [36.34, -97.92]</b>				
	08/10/09 15:05 CST		0	Thunderstorm Wind (MG 62 kt)
	08/10/09 15:05 CST		0	Source: ASOS
<b>GARFIELD COUNTY --- (END)VANCE AFB ENID [36.34, -97.92]</b>				
	08/10/09 16:10 CST		0	Thunderstorm Wind (MG 56 kt)
	08/10/09 16:10 CST		0	Source: ASOS
<b>LOGAN COUNTY --- 1.0 SE MULHALL [36.05, -97.39]</b>				
	08/10/09 16:37 CST		0	Thunderstorm Wind (EG 56 kt)
	08/10/09 16:37 CST		0	Source: COOP Observer
The observer also measured 1.24 inches of rainfall with the thunderstorm.				
<b>PAYNE COUNTY --- (SWO)STILLWATER AIRPORT [36.16, -97.09]</b>				
	08/10/09 16:40 CST		0	Thunderstorm Wind (MG 51 kt)
	08/10/09 16:40 CST		0	Source: ASOS
<b>PAYNE COUNTY --- 1.0 NE STILLWATER [36.13, -97.05]</b>				
	08/10/09 16:40 CST		7K	Thunderstorm Wind (EG 61 kt)
	08/10/09 16:42 CST		0	Source: Trained Spotter

A billboard and power pole were blown to the ground. Monetary damages were estimated.

## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>PAYNE COUNTY --- STILLWATER [36.12, -97.06]</b>				
	08/10/09 16:40 CST		10K	Thunderstorm Wind (EG 56 kt)
	08/10/09 16:40 CST		0	Source: Emergency Manager
Several 10-15 inch diameter tree limbs were downed, some of them falling on top of power lines. At least 6,200 people were without power for around an hour. Monetary damages were estimated.				
<b>HARPER COUNTY --- 2.0 SSW BUFFALO [36.80, -99.64]</b>				
	08/10/09 17:15 CST		5K	Thunderstorm Wind (EG 52 kt)
	08/10/09 17:15 CST		0	Source: COOP Observer
Shingles were blown of the roof of the Coop observer's house. Monetary damages were estimated.				
<b>WOODWARD COUNTY --- 17.6 N MOORELAND ARPT [36.73, -99.13]</b>				
	08/10/09 17:45 CST		0	Thunderstorm Wind (MG 64 kt)
	08/10/09 17:45 CST		0	Source: Mesonet
<b>WOODWARD COUNTY --- 17.6 N MOORELAND ARPT [36.73, -99.13]</b>				
	08/10/09 17:55 CST		0	Thunderstorm Wind (MG 52 kt)
	08/10/09 17:55 CST		0	Source: Mesonet
<b>MAJOR COUNTY --- 4.0 E MENO [36.38, -98.11]</b>				
	08/10/09 19:05 CST		0	Thunderstorm Wind (MG 53 kt)
	08/10/09 19:05 CST		0	Source: Mesonet
Thunderstorms developed ahead of a cold front and near an outflow boundary that was left over from thunderstorms that occurred earlier in the day. Instability and wind shear were sufficient near these boundaries for the thunderstorms to become severe. The thunderstorms developed into several small complexes, with strong winds and heavy rains the main threats. Some damage was reported with the high winds, especially in the Payne and Harper counties.				
<b>GARFIELD COUNTY --- WAUKOMIS [36.28, -97.90]</b>				
	08/16/09 18:17 CST		0	Hail (0.88 in)
	08/16/09 18:17 CST		0	Source: Public
<b>ALFALFA COUNTY --- GOLTRY [36.53, -98.15]</b>				
	08/16/09 18:25 CST		0	Hail (1.00 in)
	08/16/09 18:25 CST		0	Source: Public
The winds were also estimated at 60 to 70 mph.				
<b>ALFALFA COUNTY --- GOLTRY [36.53, -98.15]</b>				
	08/16/09 18:35 CST		0	Thunderstorm Wind (EG 61 kt)
	08/16/09 18:37 CST		0	Source: Emergency Manager
Several tree limbs and power lines were downed, and several structures reported minor roof damage. Monetary damage estimates were not available.				
<b>GARFIELD COUNTY --- 4.0 W HILLSDALE [36.56, -98.06]</b>				
	08/16/09 18:41 CST		0	Hail (1.25 in)
	08/16/09 18:41 CST		0	Source: Public
<b>GRANT COUNTY --- JEFFERSON [36.72, -97.79]</b>				
	08/16/09 19:07 CST		0	Hail (0.75 in)
	08/16/09 19:07 CST		0	Source: COOP Observer
<b>GARFIELD COUNTY --- CARRIER [36.48, -98.02], KREMLIN [36.55, -97.83]</b>				
	08/16/09 19:40 CST		10K	Thunderstorm Wind (EG 56 kt)
	08/16/09 19:42 CST		0	Source: Emergency Manager
Several power lines from Carrier to Kremlin were downed by the strong winds. Monetary damages were estimated.				

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<b>KAY COUNTY --- 3.0 N BRAMAN [36.96, -97.33]</b>				
	08/16/09 19:45 CST		0	Hail (0.75 in)
	08/16/09 19:45 CST		0	Source: Public
<b>GARFIELD COUNTY --- 6.0 N ENID [36.49, -97.88]</b>				
	08/16/09 19:55 CST		0	Hail (1.00 in)
	08/16/09 19:55 CST		0	Source: Emergency Manager
<b>GARFIELD COUNTY --- 6.0 N ENID [36.49, -97.88]</b>				
	08/16/09 19:55 CST		0	Thunderstorm Wind (EG 75 kt)
	08/16/09 19:57 CST		0	Source: Emergency Manager
No damage was reported with the wind gust.				
<b>GARFIELD COUNTY --- CARRIER [36.48, -98.02]</b>				
	08/16/09 20:28 CST		0	Hail (1.00 in)
	08/16/09 20:28 CST		0	Source: Emergency Manager
<b>GARFIELD COUNTY --- CARRIER [36.48, -98.02], 3.3 N NORTH ENID [36.49, -97.87], 0.6 N NORTH ENID [36.45, -97.87], 2.7 S CARRIER [36.44, -98.02]</b>				
	08/16/09 20:32 CST		0	Flash Flood (due to Heavy Rain)
	08/16/09 23:00 CST		0	Source: Law Enforcement
Portions of Highway 45 and 81, as well as numerous county roads north and west of Enid, were closed due to high water. Some of the roads remained through the morning hours.				
<b>A cold front moved into northwest Oklahoma during the morning and early afternoon hours before becoming stationary. Thunderstorms developed over mainly northern Oklahoma early in the evening, as a weaker cap and more favorable wind shear were located. Farther west, a stronger cap mitigated the chances for development. The activity remained over mainly north central Oklahoma through mid evening, with movement northeast into Kansas. Besides large hail and strong winds, heavy rainfall was also a threat, as places in Garfield county reporting water over several roadways.</b>				
<b>BLAINE COUNTY --- ROMAN NOSE ST PARK [35.93, -98.43]</b>				
	08/17/09 17:43 CST		0	Hail (1.00 in)
	08/17/09 17:43 CST		0	Source: Park/Forest Service
<b>GRANT COUNTY --- NASH [36.67, -98.05]</b>				
	08/17/09 18:25 CST		0	Hail (1.00 in)
	08/17/09 18:25 CST		0	Source: Public
<b>CUSTER COUNTY --- 5.0 SW BUTLER [35.59, -99.25]</b>				
	08/17/09 19:05 CST		0	Thunderstorm Wind (MG 52 kt)
	08/17/09 19:05 CST		0	Source: Mesonet
<b>KAY COUNTY --- BLACKWELL [36.80, -97.28]</b>				
	08/17/09 19:05 CST		0	Hail (0.88 in)
	08/17/09 19:05 CST		0	Source: Emergency Manager
<b>WASHITA COUNTY --- 4.0 WNW BESSIE [35.40, -99.06]</b>				
	08/17/09 19:30 CST		0	Thunderstorm Wind (MG 50 kt)
	08/17/09 19:30 CST		0	Source: Mesonet
<b>BLAINE COUNTY --- 3.0 E GREENFIELD [35.73, -98.33]</b>				
	08/17/09 19:45 CST		0	Hail (0.75 in)
	08/17/09 19:45 CST		0	Source: Public
<b>GRANT COUNTY --- 3.4 SSW MEDFORD [36.77, -97.76], 3.0 SW MEDFORD [36.78, -97.77], 2.7 N MEDFORD [36.85, -97.73], 0.6 NNE MEDFORD [36.82, -97.73]</b>				

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	08/17/09 19:45 CST		0	Flash Flood (due to Heavy Rain)
	08/17/09 21:45 CST		0	Source: Law Enforcement

Flash flooding was reported near the One Oak Plant, two to three miles southwest of Medford on Highway 81. Additional flooding was reported on CR M and M.

**CUSTER COUNTY --- 4.0 WSW WEATHERFORD [35.51, -98.77]**

08/17/09 19:55 CST	0	Thunderstorm Wind (MG 50 kt)
08/17/09 19:55 CST	0	Source: Mesonet

**CADDO COUNTY --- 7.0 W HINTON [35.47, -98.48]**

08/17/09 20:30 CST	0	Thunderstorm Wind (MG 54 kt)
08/17/09 20:35 CST	0	Source: Mesonet

A wind gust of 58 mph was measured at 2130 cdt, another gust of 62 mph was measured at 2135 cdt, and another gust to 66 mph was measured at 2140 cdt.

**GRANT COUNTY --- 6.0 N LAMONT [36.78, -97.56]**

08/17/09 20:35 CST	0	Hail (1.25 in)
08/17/09 20:35 CST	0	Source: Public

**CANADIAN COUNTY --- 9.4 WSW CALUMET [35.56, -98.28]**

08/17/09 20:40 CST	0	Thunderstorm Wind (EG 61 kt)
08/17/09 20:40 CST	0	Source: Amateur Radio

A tractor trailer was blown over on eastbound Highway 281, three miles northwest of Interstate 40, off of exit 108. Significant tree damage was also reported at this location. Monetary damage estimates were not available.

**CADDO COUNTY --- 3.1 ESE BRIDGEPORT [35.53, -98.33]**

08/17/09 20:45 CST	0	Thunderstorm Wind (EG 61 kt)
08/17/09 20:47 CST	0	Source: Amateur Radio

A tractor trailer was blown over on Interstate 40 near mile marker 103. Tree damage was also reported at this location. Monetary damage estimates were not available.

**KAY COUNTY --- 2.9 NW BLACKWELL [36.83, -97.32], 2.5 WSW BLACKWELL [36.78, -97.32], 1.4 SSE BLACKWELL [36.78, -97.27], 1.8 N BLACKWELL [36.83, -97.28]**

08/17/09 22:00 CST	0	Flash Flood (due to Heavy Rain)
08/18/09 01:00 CST	0	Source: Emergency Manager

Several streets in Blackwell were closed due to water running over top of them. Several county roads west of town were also impassable.

**KAY COUNTY --- 1.8 NNE PONCA CITY [36.72, -97.07], 0.9 S PONCA CITY [36.69, -97.08]**

08/17/09 22:45 CST	0.90M	Thunderstorm Wind (EG 65 kt)
08/17/09 22:47 CST	0	Source: County Official

Widespread wind damage was reported over the southeast parts of Ponca City. The damage area was from S. 8th to S. 13th from South Ave north about 4 to 5 blocks. Numerous trees and power lines were blown down. Several houses reported at least minor damage, with one home blown off its foundation and losing its roof. Monetary damage is estimated based on figures from Ponca City Emergency Management.

**GARFIELD COUNTY --- 3.9 SW KREMLIN [36.51, -97.87], 4.1 ESE CARRIER [36.46, -97.95], 0.6 NNW NORTH ENID [36.45, -97.87], 2.3 NE NORTH ENID [36.46, -97.84]**

08/18/09 00:00 CST	0	Flash Flood (due to Heavy Rain)
08/18/09 03:30 CST	0	Source: Emergency Manager

Highways 45 and 81, north and west of Enid, were closed due to water running over top of them. Several county roads were also closed in these areas due to high water.

A stationary frontal boundary was located from the Texas panhandle, into west central and central Oklahoma Oklahoma during the late afternoon hours. Very unstable air was in place along and south of the boundary. Thunderstorms developed over the Texas panhandle and developed eastward along the boundary. The combination of the very unstable air and decent vertical wind shear allowed for some of the thunderstorms to become better organized, with severe weather reported over parts of west central into central Oklahoma. Later in the evening, additional thunderstorms developed north of the boundary as the low-level jet developed. Severe weather was

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reported over parts of northern Oklahoma, mainly in the form of strong winds and very heavy rainfall.				
<b>ELLIS COUNTY --- (GAG)GAGE AIRPORT [36.30, -99.78]</b>				
	08/18/09 21:50 CST		0	Thunderstorm Wind (MG 57 kt)
	08/18/09 21:50 CST		0	Source: ASOS
<b>BECKHAM COUNTY --- 4.0 ESE ERICK [35.19, -99.80]</b>				
	08/18/09 22:40 CST		0	Thunderstorm Wind (MG 56 kt)
	08/18/09 22:40 CST		0	Source: Mesonet
<b>GREER COUNTY --- 5.0 SE MANGUM [34.83, -99.44]</b>				
	08/18/09 23:15 CST		0	Thunderstorm Wind (MG 53 kt)
	08/18/09 23:15 CST		0	Source: Mesonet
<b>CUSTER COUNTY --- 4.0 WSW WEATHERFORD [35.51, -98.77]</b>				
	08/18/09 23:20 CST		0	Thunderstorm Wind (MG 50 kt)
	08/18/09 23:20 CST		0	Source: Mesonet
<b>GREER COUNTY --- 5.0 SE MANGUM [34.83, -99.44]</b>				
	08/18/09 23:20 CST		0	Thunderstorm Wind (MG 52 kt)
	08/18/09 23:20 CST		0	Source: Mesonet
<b>KIOWA COUNTY --- 4.0 SE HOBART [34.99, -99.05]</b>				
	08/18/09 23:35 CST		0	Thunderstorm Wind (MG 59 kt)
	08/18/09 23:35 CST		0	Source: Mesonet
<b>CADDO COUNTY --- 7.0 W HINTON [35.47, -98.48]</b>				
	08/18/09 23:50 CST		0	Thunderstorm Wind (MG 52 kt)
	08/18/09 23:50 CST		0	Source: Mesonet
<b>CADDO COUNTY --- 2.0 W CYRIL [34.90, -98.24]</b>				
	08/19/09 00:22 CST		0	Thunderstorm Wind (MG 56 kt)
	08/19/09 00:22 CST		0	Source: Amateur Radio
<b>COMANCHE COUNTY --- 3.0 W MEDICINE PARK [34.73, -98.55]</b>				
	08/19/09 00:30 CST		0	Thunderstorm Wind (MG 56 kt)
	08/19/09 00:30 CST		0	Source: Mesonet
<b>CLEVELAND COUNTY --- 1.0 N NORMAN [35.23, -97.44]</b>				
	08/19/09 01:05 CST		0	Thunderstorm Wind (EG 52 kt)
	08/19/09 01:05 CST		0	Source: NWS Employee
No damage was reported with the wind gust.				
<p>An well-defined upper level disturbance moved east into the southern plains during the late afternoon and early evening hours. Thunderstorms developed over the panhandles and southwest Kansas and congealed into a complex as it moved into western Oklahoma. Thunderstorms were able to sustain themselves as the low-level jet developed by mid evening. Thunderstorms earlier in the day stabilized the atmosphere, with cut down on storm intensity during the late evening. However, strong winds were reported over several locations as the thunderstorms moved into eastern Oklahoma by the late night hours. The strongest winds were reported in Kiowa county, where a gust of 68 was measured. No damage was reported with the thunderstorms.</p>				
<b>HARPER COUNTY --- 12.5 S SELMAN [36.62, -99.45]</b>				
	08/19/09 19:40 CST		0	Hail (2.75 in)
	08/19/09 19:50 CST		0	Source: Trained Spotter
A car windshield was busted out by the hail. The hail, up to baseball size, lasted for several minutes. Monetary damages were estimated.				
<b>WOODWARD COUNTY --- 2.1 W WOODWARD [36.43, -99.43]</b>				



## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	08/19/09 20:34 CST		0	Hail (0.88 in)
	08/19/09 20:34 CST		0	Source: Trained Spotter

The hail was reported near 38th Street and Oklahoma Avenue.

### WOODWARD COUNTY --- 0.5 W WOODWARD [36.43, -99.40]

	08/19/09 20:43 CST		0	Hail (1.00 in)
	08/19/09 20:43 CST		0	Source: Trained Spotter

The hail was reported on 15th Street, a quarter of a mile south of Oklahoma Avenue.

### WOODWARD COUNTY --- 1.0 S WOODWARD [36.42, -99.39]

	08/19/09 20:43 CST		0	Hail (1.00 in)
	08/19/09 20:43 CST		0	Source: Emergency Manager

The hail was reported one mile south of the Highway 412/270 interchange.

### WOODWARD COUNTY --- 3.4 SE WOODWARD [36.39, -99.35]

	08/19/09 20:55 CST		0	Hail (0.75 in)
	08/19/09 20:55 CST		0	Source: Trained Spotter

The hail was reported near the junction of Highways 270 and 34.

### LINCOLN COUNTY --- 6.4 NW CARNEY [35.89, -97.09]

	08/19/09 23:03 CST		70K	Thunderstorm Wind (EG 61 kt)
	08/19/09 23:06 CST		0	Source: County Official

Significant damage was reported to two mobile homes, approximately four miles west and one mile north of the Highway 177 and 105 interchange. Monetary damages were estimated.

### WOODWARD COUNTY --- MOORELAND [36.44, -99.21]

	08/20/09 03:15 CST		0	Hail (0.75 in)
	08/20/09 03:15 CST		0	Source: Public

### DEWEY COUNTY --- 1.0 N HUCMAC [36.07, -98.79]

	08/20/09 04:10 CST		0	Thunderstorm Wind (EG 52 kt)
	08/20/09 04:10 CST		0	Source: Amateur Radio

No damage was reported with the wind gust.

### MAJOR COUNTY --- 6.0 WSW FAIRVIEW [36.24, -98.58]

	08/20/09 04:10 CST		0	Hail (0.88 in)
	08/20/09 04:10 CST		0	Source: Public

### BLAINE COUNTY --- OKEENE [36.12, -98.32]

	08/20/09 04:30 CST		0	Hail (0.75 in)
	08/20/09 04:30 CST		0	Source: COOP Observer

### KINGFISHER COUNTY --- 3.0 E LOYAL [35.97, -98.07]

	08/20/09 05:05 CST		0	Hail (1.75 in)
	08/20/09 05:05 CST		0	Source: Public

An outflow boundary generated by thunderstorms earlier in the day, moved slowly north through central into northern Oklahoma. At the same time, a strong cold front moved south through Kansas, eventually moving into Oklahoma during the late evening hours. A strong cap was in place through much of the afternoon, but thunderstorms were eventually able to develop over northwest Oklahoma by early evening. Additional thunderstorms developed near this area and moved east through northern central Oklahoma. With the help of a strengthening low-level jet, even more thunderstorms developed into central Oklahoma by late evening into the early morning hours. Most of the activity moved into eastern Oklahoma, but redevelopment further west continued until close to sunrise as the front moved southeast into a very unstable airmass. Most of the thunderstorms produced large hail, with sporadic areas of strong winds. Minor damage was reported with the large hail and winds.

## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>JOHNSTON COUNTY --- 6.0 N MANNSVILLE [34.28, -96.88]</b>				
	08/20/09 14:05 CST		0	Hail (1.25 in)
	08/20/09 14:05 CST		0	Source: Trained Spotter
Thunderstorms developed over southern Oklahoma ahead of a surface cold front that was moving southeast. Enough instability existed for a thunderstorm to become severe over Carter, Johnston, and Marshall counties. Half-dollar size hail was reported north of Mannsville.				
<b>DEWEY COUNTY --- SEILING [36.15, -98.92]</b>				
	08/26/09 15:55 CST		0	Hail (1.75 in)
	08/26/09 15:55 CST		0	Source: Fire Department/Rescue
Quarter to golf ball-size hail was reported.				
<b>DEWEY COUNTY --- SEILING [36.15, -98.92]</b>				
	08/26/09 16:00 CST		0	Hail (2.00 in)
	08/26/09 16:00 CST		0	Source: Broadcast Media
The hail was reported by KWTW-9.				
<b>STEPHENS COUNTY --- 2.0 E MARLOW [34.65, -97.92]</b>				
	08/26/09 16:10 CST		2K	Thunderstorm Wind (EG 56 kt)
	08/26/09 16:12 CST		0	Source: Amateur Radio
A large tree was blown down in the Clear Creak Area. Monetary damages were estimated.				
<b>STEPHENS COUNTY --- MARLOW [34.65, -97.96]</b>				
	08/26/09 16:10 CST		10K	Thunderstorm Wind (EG 56 kt)
	08/26/09 16:12 CST		0	Source: Amateur Radio
Several large tree branches and power lines were downed throughout the time. Monetary damages were estimated.				
<b>BECKHAM COUNTY --- 2.0 S SAYRE [35.27, -99.64]</b>				
	08/26/09 16:47 CST		0	Thunderstorm Wind (EG 56 kt)
	08/26/09 16:49 CST		0	Source: Emergency Manager
Shingles were blown off of a hotel, located of exit 20 on Interstate 40. Monetary damages were estimated.				
<b>CANADIAN COUNTY --- 8.0 W OKARCHE [35.73, -98.12]</b>				
	08/26/09 17:30 CST		0	Thunderstorm Wind (EG 56 kt)
	08/26/09 17:30 CST		0	Source: Trained Spotter
No damage was reported with the wind gust.				
<b>ALFALFA COUNTY --- 5.1 W GREAT SALT PLAINS LAKE DAM [36.74, -98.23]</b>				
	08/26/09 17:50 CST		0	Hail (1.00 in)
	08/26/09 17:50 CST		0	Source: Public
<b>WASHITA COUNTY --- 1.0 W CORDELL [35.29, -99.01]</b>				
	08/26/09 18:00 CST		0	Hail (1.50 in)
	08/26/09 18:00 CST		0	Source: Fire Department/Rescue
<b>GARFIELD COUNTY --- 4.0 NW NORTH ENID [36.48, -97.92]</b>				
	08/26/09 18:11 CST		0	Hail (1.00 in)
	08/26/09 18:11 CST		0	Source: Emergency Manager
The hail was reported one and a half miles west of Midway.				
<b>KINGFISHER COUNTY --- 3.0 ESE KINGFISHER [35.84, -97.88]</b>				

## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	08/26/09 18:20 CST		15K	Thunderstorm Wind (EG 61 kt)
	08/26/09 18:22 CST		0	Source: Emergency Manager
A roof was blown off of a house. Monetary damages were estimated.				
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<b>GRANT COUNTY --- 1.0 SW MEDFORD [36.80, -97.74]</b>				
	08/26/09 19:00 CST		0	Thunderstorm Wind (MG 55 kt)
	08/26/09 19:00 CST		0	Source: Mesonet
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<b>GARFIELD COUNTY --- 6.0 SSW DRUMMOND [36.22, -98.08]</b>				
	08/26/09 19:26 CST		0	Hail (1.75 in)
	08/26/09 19:26 CST		0	Source: Public
<hr/>				
<b>LOGAN COUNTY --- 1.0 SE MULHALL [36.05, -97.39]</b>				
	08/26/09 20:00 CST		0	Thunderstorm Wind (EG 52 kt)
	08/26/09 20:00 CST		0	Source: COOP Observer
No damage was reported with the wind gust.				
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<b>GRADY COUNTY --- 2.0 SSW MINCO [35.28, -97.95]</b>				
	08/26/09 20:05 CST		0	Thunderstorm Wind (MG 56 kt)
	08/26/09 20:05 CST		0	Source: Mesonet
<hr/>				
<b>MCCLAIN COUNTY --- NEWCASTLE [35.25, -97.60]</b>				
	08/26/09 21:00 CST		0	Thunderstorm Wind (EG 52 kt)
	08/26/09 21:00 CST		0	Source: Public
No damage was reported with the wind gust.				
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<b>MCCLAIN COUNTY --- 5.0 SSE NEWCASTLE [35.18, -97.57]</b>				
	08/26/09 21:06 CST		0	Thunderstorm Wind (EG 56 kt)
	08/26/09 21:06 CST		0	Source: Trained Spotter
The wind gust was reported near Highway 9 and May Avenue.				
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<b>CLEVELAND COUNTY --- 1.0 W MOORE [35.34, -97.51]</b>				
	08/26/09 21:10 CST		0	Thunderstorm Wind (EG 52 kt)
	08/26/09 21:10 CST		0	Source: Public
No damage was reported with the wind gust.				
<hr/>				
<b>CLEVELAND COUNTY --- 1.5 SE NORMAN [35.20, -97.42]</b>				
	08/26/09 21:25 CST		0	Thunderstorm Wind (MG 51 kt)
	08/26/09 21:25 CST		0	Source: Trained Spotter
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<b>CADDO COUNTY --- 5.0 S CARNEGIE [35.03, -98.60]</b>				
	08/26/09 22:00 CST		0	Hail (1.00 in)
	08/26/09 22:00 CST		0	Source: Public
<hr/>				
<b>POTTAWATOMIE COUNTY --- 5.0 S MACOMB [35.08, -97.01]</b>				
	08/26/09 22:20 CST		5K	Thunderstorm Wind (EG 56 kt)
	08/26/09 22:22 CST		0	Source: Post Office
Up to 18-inch tree limbs were blown down. Monetary damages were estimated.				
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<b>CADDO COUNTY --- 4.0 NNW FT COBB [35.15, -98.47]</b>				
	08/26/09 22:30 CST		0	Thunderstorm Wind (MG 66 kt)
	08/26/09 22:35 CST		0	Source: Mesonet
Another wind gust of 61 mph was measured at 2330 CDT.				

## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>CADDO COUNTY --- 4.0 SSE WASHITA [35.04, -98.32]</b>				
	08/26/09 22:50 CST		0	Hail (1.00 in)
	08/26/09 22:50 CST		0	Source: Emergency Manager

The hail was reported by the Caddo Nation emergency manager at Highway 9 and county road 2620.

<b>GRADY COUNTY --- 3.7 ENE NORGE [35.01, -97.94]</b>				
	08/26/09 23:15 CST		0	Thunderstorm Wind (MG 63 kt)
	08/26/09 23:15 CST		0	Source: Mesonet

Thunderstorms developed during heating of the afternoon over parts of Southern Oklahoma. Temperatures reached into the 90s, making temperature-dew point spreads on the order of 30-40 degrees. Instability was minimal, but a few thunderstorms were able to produce very strong winds, causing some minor damage in Stephens county.

At the same time, numerous thunderstorms developed ahead of a cold front that moved into northwest Oklahoma during the afternoon hours of the 26th. These thunderstorms developed through the evening hours, with the aid of convergence along the front, and lift associated with an upper level storm system moving through the central plains. The thunderstorms formed into several complexes due to the presence of numerous outflow boundaries. Surface moisture and instability along and just behind the front were sufficient for the thunderstorms to become severe. The thunderstorms moved off to the east with strong winds and large hail reported. A landspout developed over southwest Kingfisher county, remaining nearly stationary for over 10 minutes. No damage was reported with the landspout.

### TEXAS, Western North

<b>CLAY COUNTY --- HENRIETTA [33.82, -98.19]</b>				
	08/05/09 17:58 CST		0	Hail (0.88 in)
	08/05/09 17:58 CST		0	Source: Emergency Manager

<b>CLAY COUNTY --- 2.0 SE HENRIETTA [33.80, -98.17]</b>				
	08/05/09 18:04 CST		0	Hail (0.88 in)
	08/05/09 18:04 CST		0	Source: Emergency Manager

<b>CLAY COUNTY --- 1.0 S HENRIETTA [33.81, -98.19]</b>				
	08/05/09 18:12 CST		0	Hail (1.00 in)
	08/05/09 18:12 CST		0	Source: Emergency Manager

<b>CLAY COUNTY --- 1.0 S HENRIETTA [33.81, -98.19]</b>				
	08/05/09 18:15 CST		5K	Thunderstorm Wind (EG 56 kt)
	08/05/09 18:15 CST		0	Source: Emergency Manager

A large sign and tree limbs were blown down. Quarter-size hail was also reported at this locations. Monetary damages were estimated.

<b>WICHITA COUNTY --- 3.0 E KAMAY [33.86, -98.76]</b>				
	08/05/09 18:35 CST		0	Hail (1.75 in)
	08/05/09 18:35 CST		0	Source: Trained Spotter

<b>BAYLOR COUNTY --- SEYMOUR [33.59, -99.26]</b>				
	08/05/09 19:45 CST		0	Thunderstorm Wind (EG 56 kt)
	08/05/09 19:45 CST		0	Source: Newspaper

Several tree limbs were downed, with some of them falling on power lines. A large cottonwood tree was blown down on top of a house, causing damage to the roof. A non-anchored, large culvert was also blown down on top of a fence. Very little rain occurred with the thunderstorm. Monetary damage estimates were not available.

An outflow boundary moved south into southern Oklahoma, with thunderstorms developed along and ahead of it. The thunderstorms moved south into parts of northern Texas by early evening. Severe weather was reported over parts of Clay, Baylor, and Wichita counties, mainly in the form large hail, although some high winds were reported west of Henrietta and in Seymour.

<b>BAYLOR COUNTY --- SEYMOUR [33.59, -99.26]</b>				
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## Storm Data and Unusual Weather Phenomena - August 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	08/05/09 19:45 CST		0	Thunderstorm Wind (EG 56 kt)
	08/05/09 19:47 CST		0	Source: Newspaper

Several tree limbs were downed, with some of them falling on power lines. A large cottonwood tree was blown down on top of a house, causing damage to the roof. A non-anchored, large culvert was also blown down on top of a fence. Very little rain occurred with the thunderstorm. Monetary damage estimates were not available.

**Strong to severe thunderstorms developed over Oklahoma and moved south into parts of northern Texas. The thunderstorms weakened as they moved south during the early to mid evening hours, but a thunderstorm near Seymour produced localized wind data, causing some damage before the thunderstorm dissipated.**