

## Storm Data and Unusual Weather Phenomena - July 2010

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

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<b>CADDO COUNTY --- 1.7 WSW BRIDGEPORT [35.54, -98.41]</b>				
	07/03/10 16:45 CST		0	Tornado (EF0, L: 0.10 mi , W: 25 yd)
	07/03/10 16:46 CST		0	Source: Broadcast Media

Several witnesses observed a small tornado near I-40 in Caddo county. The tornado moved over mainly open land with no damage reported.

**A moist, tropical air mass was in place across Oklahoma, with several days of moderate to heavy rainfall over many areas. In addition to the influx of rich, Gulf moisture, the remnants of tropical storm Alex moved over the western half of Oklahoma. Some increase in low-level wind shear moved with the precipitation, with a weak tornado developing near I-40 in Caddo county. No damage was reported with the tornado, with it dissipating shortly after developing.**

<b>KIOWA COUNTY --- 1.9 WSW HOBART [35.02, -99.13], 2.3 SSE HOBART [35.00, -99.09], 2.1 E HOBART [35.03, -99.06], 1.6 NNW HOBART [35.05, -99.11]</b>				
	07/05/10 04:10 CST		0	Flash Flood (due to Heavy Rain)
	07/05/10 07:10 CST		0	Source: Emergency Manager

Most of the streets in Hobart had to be closed due to very high water. The water was over a foot deep in places, especially along Highway 9 and Business Highway 9. Highway 9 was closed due to the high water for over 4 hours. Five high-water rescues occurred at a nursing home, and one person had to be rescued from their car. No injuries were reported with the flooding.

<b>CADDO COUNTY --- 2.4 NNW CARNEGIE [35.13, -98.62], 2.1 WSW CARNEGIE [35.09, -98.64], 0.5 SE CARNEGIE [35.09, -98.59], 2.2 NNE CARNEGIE [35.13, -98.58]</b>				
	07/05/10 07:00 CST		0	Flash Flood (due to Heavy Rain)
	07/05/10 09:00 CST		0	Source: Law Enforcement

Several streets in Carnegie had to be closed due to very high water. A native American Powwow had to be moved to higher ground.

<b>WOODWARD COUNTY --- 6.0 N WOODWARD [36.52, -99.39]</b>				
	07/05/10 14:50 CST		2K	Thunderstorm Wind (EG 56 kt)
	07/05/10 14:51 CST		0	Source: Emergency Manager

Two power poles were snapped along Highway 34. Monetary damages were estimated.

**A very moist, tropical air mass was in place over Oklahoma for several days of early July. Late on the 4th, a weak trough entered parts of southwest Oklahoma, with widespread precipitation developing along and just ahead of it. Intense rainfall developed over southwest Oklahoma, especially over Hobart early, and then east toward Caddo county later in the morning. Flash flooding quickly became a concern, as several roadways became flooded. Later in the afternoon, a stronger upper level disturbance moved across the central plains, with a weak cold front entering northwest Oklahoma. Thunderstorms developed along this boundary by mid afternoon and moved east into north-central Oklahoma. Slightly better instability allowed for some of these thunderstorms to become severe, as strong winds north of Woodward caused some minor power pole damage. The thunderstorms moved into south-central Kansas by late afternoon.**

<b>CANADIAN COUNTY --- CONCHO [35.61, -97.99]</b>				
	07/06/10 15:00 CST		0	Thunderstorm Wind (EG 56 kt)
	07/06/10 15:02 CST		0	Source: Emergency Manager

A downburst occurred at the Lucky Star Casino in Concho, causing a large tent to collapse. Several people were underneath the tent at the time of the high wind, with six of them injured. Two of those had to be taken to the hospital with mostly minor injuries. Monetary damage estimates were not available.

<b>OKLAHOMA COUNTY --- 4.3 ESE JONES [35.54, -97.22], 1.6 NW (TIK)TINKER AFB [35.43, -97.41], 2.2 WSW DEL CITY [35.44, -97.47], 1.9 S FOREST PARK [35.48, -97.44], 1.4 ESE JONES [35.56, -97.27]</b>				
	07/06/10 17:00 CST	1	0	Flash Flood (due to Heavy Rain)
	07/06/10 18:00 CST		0	Source: Emergency Manager

Several inches of rain fell into just a few hours over the southeast half of Oklahoma. Widespread flash flooding occurred, especially near creeks and streams. A few high water rescues occurred at both residences and cars as the water rose rapidly. The most significant flooding occurred near and around Lightning Creek. Several homes were flooded by the creek. Unfortunately, a 13-year old boy drowned after falling into creek near SE 40th Street and Santa Fe Avenue. No other injuries were reported. Monetary damage estimates were not available.

Direct Fatalities: M13IW

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A moist, tropical air mass continued over much of Oklahoma during the early part of July. Several days of showers and thunderstorms left behind weak boundaries that became foci for very heavy rainfall. Very little was needed for thunderstorms to develop, as the atmosphere was weakly capped and afternoon heating caused scattered precipitation to develop across the state. An area of heavy rainfall developed over parts of central Oklahoma, with the heaviest rainfall focusing on the southeast half of Oklahoma City. At least two to four inches of rainfall fell in about two hours, causing many streets to quickly become flooded. Lightning Creek, located across southern Oklahoma, became a raging river, which flooded numerous homes and stranded several cars. Water rescues took place, at both homes and automobiles. Unfortunately, a child drowned after falling into the creek.

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CADDO COUNTY --- 8.1 W BOONE [34.92, -98.60], 7.5 W BOONE [34.91, -98.59], 10.2 W BOONE [34.90, -98.64], 10.2 W BOONE [34.92, -98.64]	07/07/10 14:35 CST	0		Flash Flood (due to Heavy Rain)
	07/07/10 16:35 CST	0		Source: Law Enforcement

Water completely covered Highway 19 with several inches of water. The road had to be temporarily closed.

A moist, tropical air mass continued over Oklahoma. The high July sun angle, combined with weak convergence along residual boundaries allowed for showers and thunderstorms to develop from north-central into southwest Oklahoma. Heavy rainfall was the main threat, with flash flooding a concern once again. Some areas had received heavy rainfall from previous days, so the ground was extremely saturated at some locations. Parts of Caddo county received continued heavy rainfall, which caused flash flooding south of Carnegie. No damage was reported.

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MCCLAIN COUNTY --- 2.3 W NEWCASTLE [35.25, -97.64], 2.6 NW NEWCASTLE [35.28, -97.63], 2.2 NNE NEWCASTLE [35.28, -97.59], 0.6 SSE NEWCASTLE [35.24, -97.59]	07/08/10 17:15 CST	0		Flash Flood (due to Heavy Rain)
	07/08/10 19:15 CST	0		Source: Fire Department/Rescue

Flooding was reported along North Rockwell Avenue between NW 24th and 22nd Streets. Additional flooding was reported along the 800 block of East Fox Lane and near the Bradford housing addition. Several roads had at least two to three feet of water over top of them.

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OKLAHOMA COUNTY --- 2.6 W VALLEY BROOK [35.39, -97.53], 2.7 WSW VALLEY BROOK [35.38, -97.52], 1.3 ESE (OKC)WILL ROGERS APT [35.38, -97.58], 1.1 ENE (OKC)WILL ROGERS APT [35.39, -97.58]	07/08/10 17:30 CST	0		Flash Flood (due to Heavy Rain)
	07/08/10 19:30 CST	0		Source: Public

A small-scale, but intense band of heavy rainfall occurred over parts of southern Oklahoma City. Rainfall rates exceeding three inches per hour occurred for two to three hours, causing several streets to be flooded. Major roadways, including I-240 and I-44 had to be closed for a short period due to the high water. Lightning Creek flooded again for the 2nd time, flooding homes with up to three feet of water in some cases. Monetary damage estimates were not available.

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KIOWA COUNTY --- 0.9 SW MOUNTAIN VIEW [35.09, -98.76], 0.7 NW MOUNTAIN VIEW [35.11, -98.76], 0.6 NE MOUNTAIN VIEW [35.11, -98.74], 0.9 SE MOUNTAIN VIEW [35.09, -98.74]	07/08/10 20:00 CST	0		Flash Flood (due to Heavy Rain)
	07/08/10 22:00 CST	0		Source: Emergency Manager

Several roadways in and around Mountain View had to be closed due to high water. No damage was reported with the flash flooding.

Moist, tropical air remained in place over Oklahoma, with scattered showers and thunderstorms remaining a daily afternoon occurrence. A weak boundary stalled close to I-44 by early afternoon. The highest concentration of precipitation occurred near and southeast of this boundary, with intense rainfall rates of over two inches per hour reported at many locations. One location that received some of the heavier rainfall was south Oklahoma City. For the 2nd time in three days, a band of heavy rainfall set up over the southern portion of Oklahoma, causing a localized area of flash flooding. The rain lasted for 2 to 3 hours, and as much as 7 inches of rain was reported. Most of the roadways were quickly flooded. Creeks in the area flooded, flooding several homes with a few feet of water. The rainfall intensity and coverage decreased with the loss of daytime heating.

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GARFIELD COUNTY --- DRUMMOND [36.30, -98.04]	07/11/10 16:40 CST	0		Hail (0.88 in)
	07/11/10 16:40 CST	0		Source: Emergency Manager

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GARFIELD COUNTY --- 1.9 ENE (END)VANCE AFB ENID [36.35, -97.89]	07/11/10 16:55 CST	0		Hail (0.88 in)
	07/11/10 16:55 CST	0		Source: Emergency Manager

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DEWEY COUNTY --- CESTOS [36.14, -99.09]

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	07/11/10 17:05 CST		2K	Thunderstorm Wind (EG 56 kt)
	07/11/10 17:06 CST		0	Source: Broadcast Media

A wooden electric pole was blown over along Highway 60 between Ceiling and Vici. The report was relayed by KWTW-9. Monetary damages were estimated.

### KINGFISHER COUNTY --- 1.0 W KINGFISHER [35.86, -97.95]

07/11/10 18:00 CST	0	Thunderstorm Wind (MG 54 kt)
07/11/10 18:01 CST	0	Source: Mesonet

### CANADIAN COUNTY --- OKARCHE [35.73, -97.98]

07/11/10 18:37 CST	0	Thunderstorm Wind (MG 52 kt)
07/11/10 18:38 CST	0	Source: Storm Chaser

### CANADIAN COUNTY --- 4.7 NE PIEDMONT [35.69, -97.69]

07/11/10 19:10 CST	2K	Thunderstorm Wind (EG 56 kt)
07/11/10 19:11 CST	0	Source: Fire Department/Rescue

Power lines were blown down near 220nd Street and Morgan Road. Monetary damages were estimated.

### CANADIAN COUNTY --- EL RENO [35.53, -97.96]

07/11/10 19:26 CST	0	Thunderstorm Wind (EG 61 kt)
07/11/10 19:27 CST	0	Source: Public

Minor damage was reported to a nursing home in El Reno. Monetary damage estimates were not available.

**A weak surface boundary moved into the northwest third of Oklahoma during the afternoon of the 11th. Although winds were veered just ahead of the front, strong afternoon heating and weak convergence along the boundary allowed for thunderstorms to develop during the late afternoon hours. Marginal wind shear and instability contributed to some of the thunderstorms becoming severe. High winds were the main threat with the thunderstorms although small hail was reported with some of the stronger storms. The wind did cause some damage, although most of the damage was relatively minor.**

### CUSTER COUNTY --- BUTLER [35.64, -99.19]

07/12/10 19:15 CST	0	Thunderstorm Wind (EG 56 kt)
07/12/10 19:16 CST	0	Source: Fire Department/Rescue

Minor damage to a hay barn was reported. Monetary damage estimates were not available.

### DEWEY COUNTY --- 8.0 S TALOGA [35.92, -98.96]

07/12/10 19:18 CST	0	Hail (1.00 in)
07/12/10 19:18 CST	0	Source: Public

### ROGER MILLS COUNTY --- HAMMON [35.63, -99.38]

07/12/10 21:05 CST	0	Hail (1.00 in)
07/12/10 21:05 CST	0	Source: Public

**An upper level disturbance moved east across the central Plains, triggering showers and thunderstorms over the northern half of Oklahoma. Lift associated with the disturbance, in addition to the stronger wind speeds/shear aloft allowed for some of the thunderstorms to become severe. Marginally severe hail and strong winds were reported with the storms over Custer, Dewey, and Roger Mills counties.**

### ELLIS COUNTY --- 7.0 E ARNETT [36.14, -99.64]

07/16/10 14:55 CST	0	Thunderstorm Wind (EG 52 kt)
07/16/10 14:56 CST	0	Source: Public

No damage was reported with the wind gust.

### ROGER MILLS COUNTY --- 5.0 N ROLL [35.85, -99.71]

07/16/10 15:50 CST	0	Thunderstorm Wind (EG 52 kt)
07/16/10 15:51 CST	0	Source: Public

Pea-size hail was also reported with the wind gust.

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<b>LINCOLN COUNTY --- KENDRICK [35.79, -96.77]</b>				
	07/16/10 22:12 CST	0		Thunderstorm Wind (EG 56 kt)
	07/16/10 22:13 CST	0		Source: Law Enforcement
Power lines were blown down and awnings were blown off of numerous homes. Monetary damage estimates were not available.				
Isolated thunderstorms developed with the heating of the afternoon, with temperatures warming well into the 90s and dew point temperatures in the 60s/low70s. The thunderstorms produced strong wind gusts, especially over Roger Mills, Ellis, and Lincoln counties. Minor damage was reported with the wind gusts near Kendrick.				
<b>HARPER COUNTY --- 6.0 WNW LAVERNE [36.74, -100.00]</b>				
	07/24/10 13:35 CST	0		Hail (0.88 in)
	07/24/10 13:36 CST	0		Source: Public
A wind gust to 60 mph was also reported with the hail.				
<b>HARPER COUNTY --- 6.0 WNW LAVERNE [36.74, -100.00]</b>				
	07/24/10 13:35 CST	0		Thunderstorm Wind (EG 52 kt)
	07/24/10 13:36 CST	0		Source: Public
Nickel-size hail was also reported with the wind gust.				
Widely scattered thunderstorms developed during the afternoon hours across western Oklahoma. Due to the minimal instability, the thunderstorms mainly stayed below severe levels with very heavy rainfall the main threat. However, a thunderstorms west of Lavern briefly became severe, with a wind gust up to 60 mph and nickel-size hail reported.				
<b>ELLIS COUNTY --- 3.0 W SHATTUCK [36.27, -99.93]</b>				
	07/25/10 16:55 CST	0		Thunderstorm Wind (EG 56 kt)
	07/25/10 16:56 CST	0		Source: Emergency Manager
Thunderstorm winds knocked down a fence and damaged some trees. Monetary damage estimates were not available.				
A weak front slowly moved south through northern Oklahoma. Widespread showers and thunderstorms over western and parts of central Oklahoma during the afternoon hours. Weak instability aloft kept most of the thunderstorm activity below severe levels, although a thunderstorm west of Shattuck briefly became severe with damage reported to trees and fences.				
<b>WASHITA COUNTY --- 1.0 W BURNS FLAT [35.36, -99.20]</b>				
	07/31/10 17:48 CST	0		Thunderstorm Wind (MG 56 kt)
	07/31/10 17:49 CST	0		Source: ASOS
<b>CADDO COUNTY --- 4.0 NNW FT COBB [35.15, -98.47]</b>				
	07/31/10 19:15 CST	0		Thunderstorm Wind (MG 55 kt)
	07/31/10 19:16 CST	0		Source: Mesonet
Thunderstorms developed ahead of a weak cold front that moved into parts of western Oklahoma. The storms were mainly driven by strong afternoon heating, and aided by a weak upper level disturbance. Wind gusts to 50 mph and very heavy rainfall were the main threats, although a couple of storms briefly produced severe wind gusts over 60 mph. No damage was reported with the thunderstorms.				
<b>TEXAS, Western North</b>				
<b>FOARD COUNTY --- 0.1 W THALIA [33.98, -99.54], 1.0 E THALIA [33.98, -99.52], 1.2 NE THALIA [33.99, -99.53], 0.6 N THALIA [33.99, -99.54]</b>				
	07/08/10 09:44 CST	0		Flash Flood (due to Heavy Rain)
	07/08/10 11:15 CST	0		Source: Law Enforcement
Highway 70 had to be closed briefly 11 miles east of Crowell due to high water.				
<b>HARDEMAN COUNTY --- 0.4 N COPPER BREAKS ST PK [34.12, -99.74], 2.5 ENE COPPER BREAKS ST PK [34.12, -99.70], 3.9 E QUANAH [34.29, -99.67], 0.9 WSW QUANAH [34.30, -99.75]</b>				

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	07/08/10 10:00 CST		0	Flash Flood (due to Heavy Rain)
	07/08/10 11:15 CST		0	Source: Department of Highways

Several locations along Highway 6 south of Quanah, as well as Highway 287 east of Quanah had to be closed briefly due to high water.

**BAYLOR COUNTY --- 0.7 N SEYMOUR [33.60, -99.26], 3.1 ENE BOMARTON [33.53, -99.38], 3.6 N MILLERS CREEK RES DAM [33.49, -99.36], 4.0 E SEYMOUR [33.59, -99.19]**

	07/08/10 11:15 CST		0	Flash Flood (due to Heavy Rain)
	07/08/10 12:30 CST		0	Source: Department of Highways

Several spots along Highway 277 from Seymour toward the Baylor/Knox county line had to be closed due to high water. No damage was reported with the flooding.

**Moist, tropical air remained in place over northern Texas, with scattered showers and thunderstorms remaining a daily late morning into the afternoon occurrence. A weak boundary stalled close to I-44 by early afternoon. Weak flow aloft did not allow for much movement of any thunderstorm, and with precipitable water values well over two inches, intense rainfall occurred over many areas. Flash flooding occurred over parts of northern Texas, and several roadways had to be closed due to water over top of them. The rainfall intensity and coverage decreased with the loss of daytime heating.**

**KNOX COUNTY --- 6.3 NW KNOX CITY [33.48, -99.91], 4.8 S BENJAMIN [33.51, -99.80], RHINELAND [33.53, -99.65], 2.3 N MUNDAY [33.48, -99.63], 5.3 W KNOX CITY [33.41, -99.91]**

	07/09/10 11:00 CST		0	Flash Flood (due to Heavy Rain)
	07/09/10 13:00 CST		0	Source: Insurance Company

Local law enforcement and the Texas Department of Highways reported several roadways under water. Most low water crossings were under water, with most having to be closed for a short duration.

**Widespread showers and thunderstorms developed in a very moist, tropical air mass over northern Texas. Only weak lift was needed for precipitation development, and weak upper level winds did not allow for much movement of the storms. Rainfall rates exceeded two inches per hour in some locations, owing to precipitable water amounts of over two inches. Flash flooding was reported over Knox county during the early afternoon hours before the precipitation finally moved north of the area. Several roadways had to be closed due to water over top of them.**