



National Weather Service

Storm Data and Unusual Weather Phenomena



September 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
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OKLAHOMA, Western, Central and Southeast

OKZ025

Oklahoma

04 1100CST 1 0 Excessive Heat

Excessive heat and drought conditions affected western and central Oklahoma from May through early October with the most intense heat and severe drought conditions occurring from mid-June through early September across central and southern Oklahoma. The excessive heat and drought was less severe across northwest and north central Oklahoma. There were 19 fatalities and at least 3 injuries directly related to the heat. Agricultural losses are estimated at nearly 2 billion dollars for the entire state of Oklahoma. Sixty of Oklahoma's 77 counties were declared federal disaster areas.

Heat and drought conditions began in May, intensified in July and August, and diminished in September and early October. Oklahoma City experienced its 6th warmest and 16th driest May on record. Heat and drought conditions escalated after June 11th, which was the last day of widespread rainfall across western and central Oklahoma until early September. The heat and drought then ended in early October when widespread rain and cooler temperatures returned.

The first fatality directly related to the heat occurred on June 21st, when an 81 year-old woman was found dead in her house in Oklahoma City (Oklahoma County). A 76 year-old man was then found dead in his Del City (Oklahoma County) home on June 29th. The heat claimed 15 lives in July. Two persons died on the 9th. A 46 year-old man was found dead in a hotel room in Oklahoma City with no air conditioning. The temperature in the room was 115 degrees. A 73 year-old man was then found dead in his Oklahoma City home. On July 10th, a 79 year-old man was found dead in his mobile home in Mulhall (Logan County). Another heat related fatality occurred on the 11th, when a 51 year-old woman was found dead in her home in Wewoka (Seminole County).

On July 17th, in Altus (Jackson County), a 79 year-old man was found dead in his home, while on the 19th, there were 3 heat related deaths reported. The first fatality occurred to a man of unknown age. He was found dead in his vehicle in Oklahoma City. The second fatality occurred in Guthrie (Logan County) when a 55 year-old man was found dead in his house, while the 3rd fatality occurred to a 78 year-old woman when she was found dead in her Oklahoma City apartment. On July 20th, a 78 year-old woman was found dead in her Duncan (Stephens County) home, while on the 21st, another 78 year-old woman was found dead in her home, this time in Guthrie (Logan County). Two persons died in their homes from the heat on the 27th, the first, a 61 year-old man from Oklahoma City, the second, a 67 year-old man found from Cromwell (Seminole County). The last heat related fatality occurred on the 30th, when a 62 year-old woman was found dead in her Oklahoma City home.

Three heat related fatalities were reported in August. The first occurred on the 2nd when a 53 year-old man was found dead inside his Oklahoma City home. The second heat related fatality occurred on the 3rd, when an 82 year-old man was found dead inside his Oklahoma City home. The last heat related fatality in August occurred on the 5th in Gene Autry (Carter County) when a 76 year-old man was found dead inside his home. Only one heat related fatality was reported in September, and occurred on the 4th. A 76 year-old man was found dead outside of a retirement home in Oklahoma City. He was found after he went for a walk and did not return.

Only 3 heat related injuries were reported during the 5 month-long heat and drought. Three US Army troop members from Fort Sill (Comanche County) were rushed to a local hospital on July 22nd and treated for heat related injuries.

Statistics provided by the Oklahoma State Department of Agriculture indicate economic losses of approximately 2 billion dollars to Oklahoma's agriculture business. Figures were not available for individual counties. Hay and cotton crops were particularly affected. Hay producers harvested only 30 to 80 percent of the normal yield, a loss of perhaps 80 million dollars. Cotton production was reduced by about 70 percent, a loss of 38 million dollars. Other crops such as grain sorghum, peanuts and soybeans also suffered major losses. In total, crop losses across Oklahoma were near 500 million dollars, but because of the multiplying effect on the overall economy, the economic impact is closer to 2 billion dollars.

The summer of 1998 (June-August) was the 4th hottest and 5th driest on record in Oklahoma City. The drought ended gradually in September and early October, but record warm temperatures continued through September. Oklahoma City recorded an average temperature of 81.2 degrees in September, 2nd hottest September on record. The summer of 1980, considered to be the last major period of excessive heat and drought to affect central and western Oklahoma, still ranks as the hottest summer ever for Oklahoma City, however Oklahoma City did experience a drier summer in 1998 than in 1980.

M76PH

**Murray County
6 SE Sulphur**

10 1700CST 0 1 Lightning

A wildfire started by lightning burned 5000 acres. More than 12 fire departments were needed to contain the fire. One man was injured when he burned his hand on an equipment motor.

**Kay County
1.5 SW Blackwell**

21 1017CST 0 0 10K Thunderstorm Wind



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Kay County									
Blackwell	21	1020CST			0	0			Thunderstorm Wind (G52)
Blaine County									
Okeene	21	1450CST			0	0			Hail (0.75)
Major County									
5 S Isabella	21	1450CST			0	0			Hail (0.75)
Major County									
4 SE Ames	21	1504CST			0	0			Thunderstorm Wind (G61)
Major County									
3 SE Ames	21	1510CST			0	0			Hail (1.00)
Garfield County									
Enid	21	1515CST			0	0	1K		Lightning
Garfield County									
3 S Waukomis to 3 SE Waukomis	21	1540CST 1542CST	1	100	0	0	35K		Tornado (F1)
Garfield County									
Bison	21	1545CST			0	0	0.01K		Thunderstorm Wind
Garfield County									
2 SE Bison	21	1550CST			0	0			Thunderstorm Wind (G87)
Dewey County									
Seiling	21	1610CST			0	0	0.01K		Thunderstorm Wind
Kingfisher County									
12 E Hennessey	21	1610CST			0	0	0.20K		Thunderstorm Wind
Logan County									
3 SW Marshall	21	1610CST			0	0	0.01K		Thunderstorm Wind
Garfield County									
6 S Covington	21	1615CST			0	0			Hail (0.88)
Logan County									
3 SE Marshall	21	1620CST 1630CST			0	0			Thunderstorm Wind (G57)
Logan County									
9 N Crescent to 8 W Mulhall	21	1625CST 1627CST	1.5	50	0	0	1K		Tornado (F0)
Major County									
5 SE Chester	21	1625CST			0	0			Hail (0.75)
Kay County									
Blackwell	21	1630CST			0	0			Hail (1.00)
Kingfisher County									
7 NE Hennessey	21	1634CST			0	0			Hail (1.00)
Logan County									
7 W Marshall	21	1634CST			0	0			Hail (1.00)
Kay County									
Blackwell	21	1635CST 1645CST			0	0			Hail (1.75)
Blaine County									
2 W Canton	21	1645CST	0.5	50	0	0	3K		Tornado (F0)
Dewey County									
9 E Hucmac	21	1645CST	0.5	50	0	0	3K		Tornado (F0)
Blaine County									
Eagle City	21	1650CST			0	0	60K		Lightning



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OKLAHOMA, Western, Central and Southeast

Logan County Mulhall	21	1650CST			0	0			Hail (2.75)
Blaine County 5 E Canton	21	1700CST			0	0			Thunderstorm Wind (G52)
Logan County 3 SW Langston	21	1710CST			0	0	4K		Thunderstorm Wind (G69)
Major County Ringwood	21	1710CST			0	0			Thunderstorm Wind (G52)
Alfalfa County Aline	21	1715CST			0	0			Hail (0.75)
Payne County 3 NW Perkins	21	1715CST			0	0			Hail (0.75)
Payne County 3 NW Perkins	21	1715CST			0	0			Hail (0.75)
Blaine County 1 E Canton	21	1730CST			0	0			Hail (0.75)
Lincoln County 6 N Carney	21	1733CST			0	0			Hail (1.00)
Lincoln County 5 NW Tryon	21	1740CST			0	0			Hail (1.00)
Kingfisher County Loyal	21	1745CST			0	0	6.5K		Thunderstorm Wind
Kingfisher County 3 W Loyal	21	1745CST			0	0			Thunderstorm Wind (G52)
Lincoln County 3 W Tryon	21	1750CST			0	0			Hail (1.75)
Kingfisher County 1 N Loyal	21	1800CST			0	0	2K		Thunderstorm Wind
Kingfisher County Kingfisher	21	1805CST			0	0	5K		Thunderstorm Wind
Lincoln County 7 N Chandler	21	1805CST			0	0			Hail (1.75)
Kay County 5 NW Braman	21	1823CST			0	0			Thunderstorm Wind (G52)
Kay County 4 N Braman	21	1825CST			0	0			Thunderstorm Wind (G52)
Logan County 4 SW Guthrie	21	1900CST 1905CST			0	0			Thunderstorm Wind (G69)
Logan County 10 SW Guthrie to 8 SE Guthrie	21	1900CST 1920CST			0	5	3.5M		Thunderstorm Wind
Logan County Guthrie	21	1915CST			0	0	0.50K		Lightning
Logan County 5 SW Seward	21	1925CST			0	0			Hail (1.75)
Oklahoma County 3 N Arcadia	21	1925CST			0	0			Thunderstorm Wind (G61)



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OKLAHOMA, Western, Central and Southeast									
Oklahoma County 5 NE Edmond	21	1925CST			0	0			Hail (1.75)
Oklahoma County 5 NE Edmond	21	1925CST			0	0			Thunderstorm Wind (G61)
Oklahoma County Jones to 2 NE Harrah	21	1925CST 1950CST			1	10	2M		Thunderstorm Wind
		M2MH							
Oklahoma County 2 W Arcadia	21	1930CST			0	0			Hail (1.00)
Oklahoma County Oklahoma City	21	1935CST			0	0	200K		Lightning
Oklahoma County 2 NE Spencer	21	1940CST			0	0			Thunderstorm Wind (G52)
		Measured by Oklahoma Mesonet.							
Oklahoma County Edmond	21	1945CST			0	0	20K		Thunderstorm Wind
Lincoln County 3 NW Midway to 2 NW Midway	21	1950CST 1955CST			0	0	20K		Thunderstorm Wind
Oklahoma County Oklahoma City	21	1950CST			0	0			Thunderstorm Wind (G52)
Lincoln County Chandler	21	2000CST			0	0	3K		Lightning
Payne County Cushing	21	2000CST			0	0	0.10K		Thunderstorm Wind (G64)
Cleveland County 4 W Moore	21	2020CST			0	0	1.5K		Thunderstorm Wind
Cleveland County Norman	21	2020CST			0	0	1K		Thunderstorm Wind (G52)
Cleveland County Slaughterville	21	2020CST			0	0	0.50K		Lightning
Oklahoma County Tinker Afb	21	2020CST			0	0			Thunderstorm Wind (G68)
Pottawatomie County Shawnee	21	2031CST			0	3	35K		Thunderstorm Wind
Garvin County 8 E Pauls Valley	21	2140CST			0	0	22K		Thunderstorm Wind
Seminole County Wewoka	21	2150CST			0	0	2K		Thunderstorm Wind
Hughes County Holdenville	21	2155CST			0	0	2K		Thunderstorm Wind
Murray County Sulphur	21	2255CST			0	0	9K		Lightning

Severe thunderstorms developed over much of western and central Oklahoma from late morning through late evening of the 21st, and were responsible for 1 fatality and 18 injuries. Four tornadoes were also sighted. Storms first developed in Kay County during the late morning where a semi-truck was blown over 1.5 miles southwest of Blackwell near the intersection of Highway 11 and Interstate 35. Severe thunderstorms then redeveloped over Major and Blaine Counties a few hours later. As these storms moved east into Garfield County, a tornado was spotted 3 miles south of Waukomis moving east. This tornado, rated an F0, knocked down or snapped 40 to 50 power poles, damaged several outbuildings, and destroyed numerous trees. One large diesel storage tank was picked up and deposited



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OKLAHOMA, Western, Central and Southeast

one-half mile away. A pickup truck containing 2 occupants was also picked up a short distance from the road and dropped on the side of the road near a creek. Both occupants were uninjured. A semi-trailer was also blown off the highway. As the tornado dissipated, severe thunderstorm winds blew down large tree limbs in Bison, and lightning from the same complex of thunderstorms struck a house in Enid, causing a short in the wiring, which then started a small house fire. Large tree limbs were also downed in Seiling in Dewey County, while a rain gutter from a house was ripped off by the winds 12 miles east of Hennessey in Kingfisher County breaking several flower pots. Large tree limbs were also downed in the same location.

As the thunderstorms moved into Logan County, Oklahoma Mesonet measured wind gusts of 59 mph and 66 mph at 1620 CST and 1630 CST respectively 3 miles southeast of Marshall. A weak, F0 tornado was then spotted 9 miles north of Crescent, just west of State Highway 74. The tornado uprooted several trees while crossing the highway, then quickly dissipated. Another weak tornado, an F0, was spotted on the Blaine/Dewey County border 2 miles west of Canton, knocking down trees and power poles. The same thunderstorm was responsible for a lightning strike at the Old Christian Church in Eagle City in Blaine County causing a fire that destroyed the church. As these storms moved east, thunderstorm winds damaged a fence, silo, and several trees in Logan County 3 miles southwest of Langston. Several power poles were blown down 1 mile north of Loyal in Kingfisher County, while in the city of Loyal 13 power poles were snapped, and large tree limbs were blown down. Widespread wind damage occurred in the city of Kingfisher consisting of downed trees and power lines over a 12 square block area on the northwest side of the city. The garage of a house also shifted causing roof damage.

Oklahoma Mesonet measured wind gusts of 63 mph and 80 mph at 1900 CST and 1905 CST respectively 4 miles southwest of Guthrie in Logan County. Straight-line winds then produced a large swath of damage to mobile homes, house roofs, trees, power poles and power lines in a 4 by 6 mile area across southern Logan County bounded by Western Ave to the west, Interstate 35 to the east, Forest Hills Road to the north, and Waterloo Road to the south. The worst damage occurred in a 1/2 by 1 1/2 mile area near Oak Cliff. Two-hundred fifty residents were damaged. Of these, 10 homes and business building were destroyed, while 41 structures suffered major damage. One hundred sixty-one single family homes, 43 mobile homes, 7 businesses, and 1 apartment complex suffered minor structural damage. Total damage estimates were near 3.5 million dollars. Five persons were injured, consisting mostly of broken fingers and cuts. No one was seriously injured. Lightning also struck an oil tank at Pine and Industrial in Guthrie, starting a fire that was quickly extinguished.

Unusually strong straight-line winds also left a swath of damage roughly 8 miles long and 2 miles wide from just east of Jones in eastern Oklahoma County, east-southeast into extreme western Lincoln County 3 miles northeast of Harrah. A two year-old boy was killed, and ten persons were injured, 8 of which were transported to local hospitals. Damage was estimated at about 2 million dollars. Damage was intermittent from east of Jones to north of Horseshoe Lake and was limited mainly to fallen tree limbs. A more persistent area of wind damage about 1.5 miles wide was found from near Luther Road and Wilshire southeast to near the county line and Northeast 50th. Widespread tree damage occurred in this area along with structural damage to several homes. By far the most concentrated area of damage was along a half-mile wide swath from Harrah Road and 63rd extending east-southeast. Several mobile homes were completely destroyed in this area, one of which disintegrated with the frame left wrapped around a tree. All of the destroyed mobile homes were perpendicular to the wind or nearly so and thus were hit broadside by the full force of the wind. The level of damage in this swath is estimated at strong F1 suggesting that maximum winds probably were between 100 and 110 mph.

Damage in Lincoln County consisted of downed power lines, uprooted trees, and damaged outbuildings in a half-mile wide by one-mile long swath just north of Highway 62. One barn also disintegrated as it was picked up by the wind and carried nearly one-quarter of a mile. In total, 75 homes were damaged; 11 suffered major damage, and six (All mobile homes) were destroyed. Three mobile homes were found to be totally disintegrated and one other that was rolled from its foundation. Several eyewitness reports indicated that at least some of these mobile homes were airborne while or just before they were destroyed. The fatality, and most of the injuries, were residents who were in the destroyed mobile homes when the winds struck. The last report of damage in Lincoln County occurred in Chandler, where lightning struck numerous transformers and power poles, knocking out power to all of Chandler for 5 hours.

Severe thunderstorm winds also downed trees, wires, and numerous power poles all across the city of Edmond in Oklahoma County. Seven thousand residents were left without power for several hours. One tree fell on a car, and the canopy was blown off at Juffy Lube on 2nd Street, east of Bryant. Farther south and east, a tree was blown down near the Mazzio's Pizza on State Highway in Cushing in Payne County; highway signs and numerous trees were downed near Highway 44 in Cleveland County 4 miles west of Moore, and trees and power lines were blown down in Norman, also in Cleveland County. Lightning struck an oil tank battery in Slaughterville in Cleveland County, causing a fire that burned for about 1 hour before being extinguished. A mobile home was blown off its foundation and destroyed in Shawnee in Pottawatomie County. Five persons were inside the home including 3 children who were injured from minor cuts and bruises. The roof was also blown off of a boathouse at Shawnee Lake, also in Pottawatomie County. Numerous power lines were downed 8 miles east of Pauls Valley in Garvin County knocking out power to 500 residents, while a house sustained significant roof damage from strong winds. Rain poured into the house causing an estimated \$20,000 in damage. Power lines and large tree limbs were downed in Wewoka in Seminole County and Holdenville in Hughes County. Lastly, Lightning struck a tree in Sulphur in Murray County, killing 3 cows and an Angus bull standing under it.

Oklahoma County									
Midwest City	22	0600CST			0	0	10K		Lightning
Payne County									
Stillwater	22	0900CST			0	1			Lightning



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OKLAHOMA, Western, Central and Southeast

Garfield County

Carrier	22	0935CST			0	0	0.50K		Thunderstorm Wind
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Payne County

11 SW Stillwater	22	1040CST			0	0			Hail (0.75)
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Scattered thunderstorms developed over portions of central Oklahoma the morning of the 22nd. Numerous trees and power lines were downed in Carrier in Garfield County, while lightning struck 2 homes in Midwest City in Oklahoma County setting them on fire. The first home, on Ruby Lane, was struck near the front peak of the garage roof igniting a fire in the rafters. The other lightning strike occurred at a house on Godlin Road damaging the wiring which then started a fire. Lightning also struck a student at Oklahoma State University in Stillwater (Payne County), knocking him unconscious while he was standing near the skywalk of the Human Environmental Sciences building. He was transported to Stillwater Medical Center and treated, then released the next day in good condition.

Payne County

Ripley	30	1505CST			0	0			Hail (0.75)
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Payne County

Ripley	30	1505CST			0	0	0.50K		Thunderstorm Wind
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An isolated severe thunderstorm developed over Ripley in Payne County resulting in downed trees and dime size hail. A section of roof was also ripped off at the old high school gymnasium.

TEXAS, Western North

Wichita County

Burkburnett	22	1200CST			0	0	3K		Lightning
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Lightning struck and killed a 6 year old horse, and knocked all the radios off the air at the police station.