

U. S. DEPARTMENT OF COMMERCE

LUTHER H. HODGES, Secretary

WEATHER BUREAU

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STORM DATA

JULY 1964

Volume 6 No. 7



ASHEVILLE: 1964

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
ALABAMA									
Lincoln, Talladega County	9	2:30 p	short	narrow	0	0	1		Tornado
			Tornado dipped down unroofing and damaging motel.					1	units of large
Kinston, Coffee County	24	11:20a			0	2	2		Electrical
			Lightning struck garment factory causing minor damage to wiring and injuring two workers.						
Omega Community, Bullock County	31	Afternoon			1				Electrical
			Hit by lightning while riding a tractor in an open field.						
ALASKA									
			No report received by printing deadline						
ARIZONA									
Southeastern & Central Arizona	14	Evening			1	0	5	0	Thunderstorms
			Moderate to heavy thunderstorm activity caused property damage due to flooding in Tucson, Phoenix and Wickenburg. Some damage to utilities near Phoenix by wind. Heaviest property damage reported near Powderhouse Wash near Wickenburg. Cowboy and his horse were killed by lightning in Chino Valley. Crop damage unknown but not heavy.						
Tucson	22	Evening			0	0	4	0	Thunderstorm
			Thunderstorms caused local flooding. Most damage to motor vehicles caught in flooded underpasses.						
Tal-Wi-Wi	22-23				0	0	0	4	Rain
			Considerable damage to grapes by mildew following two days of rain in vineyards at Tal-Wi-Wi, west of Phoenix. Many tons of Cardinal grapes left unpicked as result of damage.						
Tucson	24	Evening			0	0	4	0	Thunderstorm
			Heaviest property damage due to flooding in southern part of town. Some damage by wind.						
Jerome and Sedona	25	Evening			0	0	4	3	Thunderstorm
			Nearly all damage in Jerome was caused by excessive water runoff. Majority of damage to highways and sidewalks. Due to hilly nature of Jerome debris from roadways washed into private property and damaged homes and businesses. Heavy rain and some hail damaged apples and peaches near Sedona.						
Southeastern part of State	29	Evening			0	0	5	0	Thunderstorms
			Moderately heavy thunderstorms scattered over the southeastern part of the State caused property damage in several towns. Heaviest damage was reported in Tucson and Douglas. Lightning caused fire in Catalina Mountains destroying summer home. Most of damage caused by flooding, but some wind damage reported in Douglas.						
Flagstaff	30	Afternoon			0	0	5	0	Rain
			Heavy rainfall associated with general thunderstorm activity over northern mountains caused property damage to homes, utilities and motor vehicles. Considerable damage to Flagstaff streets by floodwaters.						
Northeastern Phoenix	30	Evening			0	0	4	0	Rain
			Floodwaters caused damage to homes, businesses and motor vehicles in Youngtown, Sun City, Glendale, and El Mirage.						
South-Central Arizona	31	Evening			0	0	4	4	Thunderstorms
			Thunderstorms caused damage over a wide area from Tucson westward to Ajo. Most of damage in Tucson was to homes and automobiles due to flooding. Considerable damage to farmland near Gila Bend. Isolation of Papago Indians by flood waters required airlift of over one ton of food to about a dozen small villages near Sells.						
ARKANSAS									
Eureka Springs, Carroll County	1	2:00 p. to 3:15 p.	?	Small	0	0	3	0	Rain
			3.10 inches of rain between 1:30 P.M. and 5:00 P.M. put about 8 inches of water in some downtown businesses.						
Clinton area, Van Buren County	1	5:45 p. to 4:30 p.	2	440	0	0	3	0	Funnel cloud and wind
			Funnel cloud moved northeast. Wind damaged Choctaw Boat Dock on Greers Ferry Lake, 6 miles southeast of Clinton.						
Malberry area, Sebastian County	8	5:30 p. to 4:00 p.	?	?	0	0	3	0	Hail
			Hail reported up to 1 inch in diameter, 20 miles northeast of Fort Smith.						
ARKANSAS (Cont'd)									
Little Rock area, Pulaski County	8	3:30 p. to 6:00 p.	12	6 *	0	1	4	0	Wind and hail
			Thunderstorms moved southeast, wind gusts 55 mph at Adams Field at 4:27 P.M. Hail three-quarters inch in diameter reported 9 miles southwest of Adams Field. Strong winds caused man to lose control of automobile in North Little Rock on Freeway. Widespread damage to 10,000 electrical customers and trees.						
Hot Springs area, Garland County	8	8:00 p. to 8:50 p.	2	1 *	0	0	4	0	Wind and hail
			Thunderstorms moved east with wind gusts recorded at Municipal Airport to 75 mph between 8:15 and 8:30 P.M. Southern and south-west portions of city reported hail one-half inch in diameter.						
Little Rock area, Pulaski County	9	3:00 p. to 6:00 p.	40	30 *	0	0	5	0	Tornado, wind and hail
			Numerous thunderstorms over county moved south. Little Rock Air Force Base public report of small tornado at ball park with short path 3:06 P.M. to 3:10 P.M. Winds at Air Force Base 55 mph with hail one and one-half inches in diameter. Jacksonville reported hail one to one and one-half inches in diameter over 20 square mile area. Tornado reported 10 miles west of Little Rock at 2:55 P.M., small with short path of 1 mile, causing minor damage. Little Rock received wind gusts to 66 mph at 3:20 P.M., extensive damage to electrical service, comparable to April, 1961.						
England area, Lonoke County	9	3:50 P. to 4:45 p.	10	6 *	0	0	5	0	Wind and rain
			Thunderstorms moved southeast with winds estimated over 70 mph. Extensive damage to property and power facilities.						
Pine Bluff area, Jefferson County	9	4:00 p. to 5:00 p.	20	10 *	0	1	4	4	Wind
			Thunderstorms moved southeast. Winds 74 mph at Grider Field at 4:12 P.M. with some damage to airplanes. Extensive damage to electrical facilities. Person injured at Altheimer, northeast of Pine Bluff. Altheimer had damage to property and pecan orchards.						
Malvern area, Hot Spring County	9	4:00 p. to 6:00 p.	30	20 *	0	0	5	0	Wind and lightning
			Most of county hit by thunderstorms. Described as worst storm in 19 years for interruption of electric power and damage to power lines. Only 500 county customers had power for a time. Power from Carpenter Dam (Lake Hamilton) was cut off from Pine Bluff by lightning.						
Ozark area, Franklin County	9	5:30 p. to 5:55 p.	1/2	200	0	0	4	0	Tornado
			Tornado reported 1 1/2 miles northwest of Branch, located 15 miles southeast of Ozark. Tornado moved northwest on a farm causing minor property damages. Report of short, small tornadoes at Greenwood in Sebastian County and Mt. Magazine in Logan County between 5:00 P.M. and 6:00 P.M.						
Hughes area, St. Francis County	11	10:15 p.	?	?	1	0	4	0	Wind
			Thunderstorms moved into area with gusts estimated to 75 mph. House blown down and catching on fire, man trapped inside became a casualty. Power facilities damaged.						
Danville area, Yell County	21	Afternoon	?	?	0	1	0	0	Lightning
			Girl injured by lightning. Lightning struck her home as she had her hand on the water faucet at Dutch Creek, west of Danville.						
Gurdon area, Clark County	23	12 Noon	?	?	0	1	0	0	Lightning
			Man injured by lightning.						
Hot Springs area, Garland County	24	12 Noon	10	5 *	0	1	3	0	Wind and rain
			Thunderstorms moved over area causing minor property damage. Man injured as result of losing control of his truck in rainstorm in the Lake Hamilton area.						
Blytheville area, Mississippi County	28	11:25 p.	Short	Small	0	0	0	0	Funnel cloud
			Funnel cloud reported 10 miles south of Blytheville.						
CALIFORNIA									
None reported									
COLORADO									
Arapahoe County	2	Noon			0	0	3		Tornado
			A tornado took the roof off a 100 foot new barn and sheared off a power pole on a farm 1/2 mile west of Byers.						

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

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					KILLED	INJURED	PROPERTY	CROPS	
COLORADO (Cont'd)									
Denver Area	4	Afternoon			0	1			Lightning
Several men were knocked down by a bolt of lightning while they were playing golf at a Golf Course in Arapahoe County. They got up and ran for shelter when one of them was struck by a second bolt. He suffered burns and shock. Lightning started several small fires in the forest in Gilpin County.									
Extreme Northeastern Colorado	6	Evening			0	1	3	4	Lightning and hail
Lightning struck and injured a farmer while he was loading alfalfa bales on a truck, on a farm northwest of Jules. He suffered shock and burns. Hail caused extensive damage to crops and buildings in the Otis-Holyoke areas. Some roofs and windows were damaged.									
El Paso County	7				0	1			Lightning
Lightning struck a man while he was collecting cattle in a pasture. He was numb from the waist down and had a severe headache. Two calves were killed and 18 knocked down by the bolt. At least six fires were started by lightning in the forest area west of Colorado Springs.									
Yuma	8				0	0	4		Lightning
Lightning struck and burned the Methodist Parsonage in Yuma.									
Buena Vista	24	2:30PM			0	0	4		Flooding
A sudden deluge of rain in a normally dry upper gulch, sent an 8 - 10 foot wall of water on a picnic site near Ruby mountain 6 miles south of Buena Vista. A new sedan was washed down the gulch and deposited in the Arkansas River. A camper and a panel truck were covered with mud, water and debris.									
Lincoln County	25	Noon			1	0			Lightning
Lightning struck and killed a man while he was herding sheep on a ranch 13 miles southeast of Limon.									
Denver	29	3:48P							Hail
Lowry Field reported hail 3/4 inch in diameter.									
CONNECTICUT									
None reported									
DELAWARE									
Wilmington	3	3:00PM			0	0	?	0	Lightning
Fire, believed to have been caused by lightning, severely damaged four-story apartment; seventy-five persons, many of whom were elderly, were made homeless.									
Selbyville-Frankfurt area	11	4:00-5:00PM			0	0	0	4	Hail
About 300 acres of corn and soybeans were shredded in the Selbyville area and about 1500 acres of the same crops were torn up near Frankfurt. No hailstone size was given but an observer stated that the hail covered ground so that looked like a light covering of snow.									
FLORIDA									
Plant City Hillsborough Co.	2	1:40 pm	Short Narrow		0	6	4		Tornado
Storm struck trailer park in Antioch community									
West Palm Beach Palm Beach Co.	3								Waterspout
Key West Monroe Co.	6	7:40 am							Funnel Cloud
Daytona Beach Volusia Co.	6	8:15 am							Funnel Cloud
Belle Glade Palm Beach Co.	6	1:37 pm							Funnel Cloud
Miami Dade Co.	9	9:35 am							Waterspout
Ocala Marion Co.	10	Afternoon			1	0			Lightning
Tree trimmer killed by lightning while working									
Tallahassee Leon Co.	10	2:05 pm							Funnel Cloud
Miami Dade Co.	12	9:28 am							Funnel Cloud
Jacksonville Duval Co.	13	1:15 pm							Funnel Cloud
Fort Myers Lee Co.	20	5:20 pm							Funnel Cloud
St. Petersburg Pinellas Co.	21	1:30 pm							Funnel Cloud
Merritt Island Brevard Co.	23	Afternoon			0	2			Lightning
Lightning injured two construction workers									
Haines City Polk Co.	29				1	0			Lightning
Lightning killed worker in citrus grove.									
Fort Myers Lee Co.	30	5:18 pm							Funnel Cloud
Ft. Lauderdale Broward Co.	31	8:52 am							Funnel Cloud
FLORIDA (Cont'd)									
Miami, 50 NW Everglades area	31	11:30 am			0	0	0	0	Tornado
Funnel cloud touched ground briefly in an uninhabited area in the Everglades about 50 miles northwest of Miami									
GEORGIA									
Near Chatsworth Murray County	9	9:00 a	Short Narrow		0	0	4	3	Tornado
Violent storm, believed a small tornado, demolished one mobile home and heavily damaged two others. A farm horse and outbuilding were also damaged and some crop damage was reported.									
Fitzgerald Ben Hill County	10	4:30 p			0	5	4	0	Wind
Sudden windstorm collapsed a cotton gin that was being repaired. Five workmen were injured.									
Athens Area	17-18				1	0	5	0	Rain
Almost continuous rain from late on the 17th through the 18th - extremely heavy at times - caused extensive damage to streets, culverts, yards and basements. One man drowned when his car ran off a bridge that was covered with water.									
Savannah	17-22				0	0	5	0	Rain
Heavy rains on six consecutive days caused recurrent flooding of streets and some residential areas, with resultant heavy damage to property. More than an inch of rain fell on each of the days and over 2 inches fell on five days for a six day total of 13.71 inches. July total rainfall of 20.10 inches was the largest for any July and the third largest for any month.									
Conyers Area Rockdale County	20	early a m			0	0	5	0	Rain
Extremely heavy rains in a five square mile area in and around Conyers caused heavy damage to roads, bridges, farm land and other property. Seven bridges and culverts were washed out and a fish hatchery was completely destroyed when inundated by water from a broken dam. Some homes were flooded.									
Columbus	21	6-9 p			0	0	5	0	Rain
Heavy rains flooded many streets and some homes and businesses. 35 families were evacuated by boat from flooded or threatened homes.									
Atlanta and North Georgia	22	p m			0	0	5	0	Rain and Electrical
Thunderstorm dumped .85 inches of rain on Atlanta Airport in 13 minutes and nearly two inches in two hours, with heavier amounts falling in some areas. Streets were flooded and extensive wash-outs occurred in several places. Houses were flooded in several sections. Heavy rains caused flash flooding in other north Georgia communities. Streets and roads were heavily damaged in the Dawsonville area. Lightning damaged utility lines and many residents reported damage to appliances.									
Fulton County	24	8:30 p							Funnel Cloud
Reported northwest of Fulton County Airport.									
La Grange Troup County	31	3:00 p			0	1	4	0	Thunderstorm
Trees were uprooted, utility lines downed and roofs damaged by high winds and a woman was injured slightly when lightning struck her home. Heavy rains accompanied storm.									
Rome, Floyd County	31	5:00 p			0	2	3	0	Thunderstorm
Two people were injured by lightning and several fires were started as a violent thunderstorm hit the area. A rash of automobile accidents during the storm resulted in several injuries. Hail, an inch in diameter, fell three miles south of Rome.									
HAWAII									
None reported									
IDAHO									
Northern Counties	8	Through-out day							Wind & Hail
Small steel barn leveled by "twister" 3 mi. SE of Cottonwood Wed. morning. Hail in same area did spotty damage to crops. Late in the afternoon many large trees were blown down and several cars received minor damage in the upper St. Joe River area. In the Sandpoint area strong winds during the night blew down many trees in the city and did considerable damage to telephone and electric power installations east of the city.									
North-central Area	14	Late afternoon							Thunderstorms
Wind and lightning combined to damage power transmission facilities in area from Kamiah to Lewiston and north to Kendrick area. Most of Lewiston area without power for four hours. Registered cow and calf killed by lightning near Southwick. Slide near Lenore blocked highway for 2 1/2 hours.									
Power County	14	Mid-afternoon			1 1/2	2			Hail
Storm started in mid-afternoon 12 mi. NW of American Falls and moved northeastward. Hailstones up to half inch in diameter pelted area for 5 to 10 minutes, damaging crops on 28 to 30 farms. Total farmland affected estimated in "thousands of acres". Damage to potatoes ran as high as 50 to 60%, beet tops were shredded and grain losses were severe.									
North-Central area	15	Morning							Wind and Rain
Two barns leveled by wind south and southeast of Cottonwood about 8:30 AM. Another barn blown down and windmill badly damaged 6 mi. west. Heavy rains caused numerous slides and some flooding from Lewiston to Lenore, where for the second time in two days U. S. 12									

See reference notes at end of table.

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					KILLED	INJURED	PROPERTY	CROPS	
IDAHO (Cont'd)									
		was blocked, this time for two hours by debris up to 19 ft. in depth. Considerable damage was caused by local flooding in furniture department and store in Lewiston. At Weather Bureau Airport Station 0.35 inch of rain fell in 5 min., 0.66 in 30 min., and 1.09 in 24 hours. Lightning caused hundreds of power outages, some lasting 9 hours, and damage to telephone lines was fairly heavy throughout the area.							
Moscow	17	10 P.M.							Hail Hailstones, some up to 1 inch in diameter, pelted Moscow lawns and streets for about 5 minutes.
Southwestern Counties and Salmon (near)	29	Evening			3	?	?		Wind Strong winds struck large area extending from vicinity of Marsing northward to upper Weiser River Valley. Wind damage to hops was heavy in Wilder area. Extensive restringing of broken wires and torn vines was necessary and crop loss was estimated at \$70 to \$100 per acre. Structural damage to residences resulted in more than 25 insurance claims. One mobile home was blown over and rolled down a 100-ft. embankment, injuring both occupants who required hospitalization. At Cambridge one man was injured by a small tree broken by the wind. Damage to power and telephone lines was extensive. Near Salmon trees were blown down and at North Fork landing strip a plane was badly damaged when one of the ropes holding it broke.
Much of State	30	Afternoon							Thunderstorms Flash floods tearing down a small creek near Riggs covered U.S. 95 with mud, sand and rocks to a depth of 15 ft. for a distance of nearly 400 ft. North-south traffic was halted for many hours. A slide near Culesac blocked the Camas Prairie R.R. Power County was hit by hail for the second time this month when a storm struck just south of American Falls and moved to the northeast, covering a strip about 1 1/2 miles wide and 20 miles long. About 25 farms were affected with potato damage on 900 acres running 12 to 55% and damage to 2000 acres of wheat estimated at 5% to total loss. No estimates were made on sugar beets. At Mountain Home a section of cement block wall, 10 ft. high and 60 ft. long, was toppled by the wind.
ILLINOIS									
West Frankfort	3	6:45p			0	0	*3	C	Hail, wind Frankfort Heights and east side of West Frankfort were damaged by very localized storm. Broken limbs damaged power lines and hail from 3/4" to 1 1/2" diameter covered ground in some sections.
McLeansboro	7	5:14-6p			0	0	*4	C	Hail, wind, heavy rain Trees, power lines, small buildings and windows were damaged by wind and hail with some local flooding. 2.29" of rain fell in 46 minutes with hail 3/4" to 1" in diameter in McLeansboro. Hail as large as "tangerines" damaged crops and buildings northwest of city.
Champaign County	8	12:52p			0	0	0	0	Funnel clouds A funnel cloud was first sighted near south city limits of Champaign, moving eastward. Two simultaneous funnel clouds were then observed by several residents of St. Joseph and numerous persons south of St. Joseph. Observers agreed that visible funnel remained aloft but a "whirlwind" on the ground below could be seen to pick up cornstalks and wheat straw. No actual damage occurred although an indicated path of bent cornstalks, straw piled in fences and hanging from power lines, and a few broken limbs, was traceable for nearly a mile. Path started 1/2 mile south of St. Joseph and went east.
Northeast Illinois	18	early am			2	0	*5	C	Rain, lightning wind, flooding Severe storms hit northeast Illinois, largely from Cook County north, shortly after midnight of 17th. Power failures resulted from falling limbs and lightning and several buildings were struck by lightning. Two boys were found dead in bed after lightning struck and set fire to house in Zion. Heavy rains continued after daylight with 12-hour amounts generally near 3" and often more than 5". Local flooding in many areas. Ten foot waves capsized sailboats as Coast Guard rescued more than 50 boaters between Waukegan and Michigan City, Indiana.
Central Illinois	18	6-8p			0	0	*4	C	Wind, hail Atlanta had severe local storm with buildings, trees, and power lines damaged about 6 p.m. Peoria had hail to 3/4" diameter at 7:50 p.m. and lesser damage occurred through much of central Illinois.
Elizabethtown	18	lp			0	0	*4	C	Wind, hail, rain 1.81" of rain fell in less than one hour from two separate storms. Hail fell in a variety of shapes with diameters mostly near 3/4". Hail and wind damaged trees, roofs, gardens and a few fields of corn.
INDIANA									
Huntingburg	3				0	0	4	0	Wind, rain, lightning, hail
Princeton	7	6:55 p.	3	50	0	2	4	0	Tornado Several houses were partly damaged and two greenhouses had many panes of glass broken. Tornado first touched three miles west of Princeton and travelled northeastward.
Marion County, North	14	4:42 p.			0	0	0	0	Funnel cloud
Dubois County	17	afternoon			0	1	4	0	Wind
Indianapolis	21	2 p.			2	0	3	0	Lightning Lightning struck a small building in which two boys had taken refuge from the storm.
Ft. Wayne	22	4 p.			0	0	4	0	Hail, wind Quarter-inch hail and scattered property damage.
IOWA									
Oakland	1	1:00 p					4		Hailstorm
Cass County	3	12:20 a	20				5	5	Hailstorm 2 1/2 inch hail at Lyman, hail and wind at Griswold. About 40% damage due to wind.
Shelby County	3	1:00 a					4	4	Windstorm
SNE Boone	7	6:30 a	2	100			4	4	Tornado
Winterset	7	7:00 a							Funnel cloud
Ottumwa	7	8:00 a							Funnel cloud
SE Iowa	7	8:00 a					1	5	5 Windstorm Much damage in area bounded by Des Moines, Wapello, Iowa and Scott Counties.
New London	7	8:30 a					1		Lightning
Jackson & Clinton Counties	8	6:00 p	6	3500			5	5	Windstorm
Dana	9	11:30 a							Funnel cloud
Dana	9	11:30 a					5	5	Hailstorm 2500 acres severely damaged. About 15 sq. miles surrounding with scattered damage.
Webster City	9	1:45 p					5	5	Hailstorm
Ringgold & Union Counties	9	2:30 p	4	4000			5	5	Hailstorm
Northern Winnebago County	9	5:30 p	15	4000			5	5	Hailstorm
Sioux City	9	9:40 p					5	5	Hailstorm Most damaging hail storm at Sioux City since 1956. Hail 2 3/4 inch diameter. \$450,000 property damage in Sioux City. \$180,000 crop loss.
S Crawford and N Shelby Counties	10	7:00 a	10	2500			5	5	Hailstorm
SSE Clarion	10	4:00 p	3	3500			4	5	Hailstorm
Greene County	11	2:45 p							Funnel cloud Pilot report: 500 ft. above ground, moved northeast.
Ft. Dodge	22	4:00 p					5	4	Windstorm
Gruver	22	2:45 p					5	5	Windstorm Hail reported south of Gruver. 40% damage from hail.
Sioux City	30	4:00 a					5		Lightning
KANSAS									
Northeast Corner	1	Afternoon and Evening							Hail, wind
									Golf ball sized hail was reported 9 miles NE of Topeka at 4:09 p. Golf gusts to 70 mph hit locally in Kansas City
Northeast and Central Kansas	3						3	*6	C Hail, wind An especially severe hail storm occurred over portions of northeast and central Kansas causing heavy damage to crops, buildings, automobiles, etc. Two persons were injured by hail and one injury resulted from strong winds. Wind damage to crops and buildings was relatively minor. One strip of hail extended from south of

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					KILLED	INURED	PROPERTY	CROPS		
KANSAS (Cont'd) North and Central (Cont'd.)									Centralia and just east of Marysville to Manhattan with the largest stones of golf ball size or larger. Some irregular stones near Marysville measured 3 inches in diameter and other localities had stones of baseball size. Another area extended from northern Ottawa County southward into McPherson County with the largest stones of the size of baseballs. Severe hail also occurred in other localities of Northeast Kansas. Garden crops near Silver Lake were wiped out with hail up to 1-1/4 inch in diameter, and heavy, large hail fell 5 to 6 miles west of White City.	
Western Kansas	4	Day							Dust Strong southerly winds caused considerable blowing dust reducing visibility to as low as 1/2 mile.	
Central Kansas	7	Evening			1				Wind	
Northwest Kansas	10	Afternoon and Evening					5	C	Wind, Hail, Rain	
									Rawlins, Thomas, DeSatur, Norton and Graham Counties reported the heaviest damage. Hail was 1 inch in diameter in several localities, including Menlo, and as big as golf balls near New Alamo. An unofficial report of 8 inches of rain in approximately 30 minutes was received from just east of Menlo. Local flooding occurred in the wake of heavy thundershowers over the area.	
Norton County	10	Afternoon							Tornado	
									A tornado occurred in open country west of Norton.	
Saline, Rice, and McPherson Counties	10	Afternoon and Evening					4	C	Hail, lightning, wind	
									Damage was to crops, gardens, buildings, telephone lines, etc. A barn near Chase was destroyed by a fire set by lightning.	
Sherman and Cheyenne Counties	16	Afternoon			1		4		Hail, lightning, rain	
									Hail up to about 6/10 inch in diameter fell near Bird City and a man was injured by lightning near Goddard. Heavy rains in a few areas caused local flash flooding but little damage.	
Scott County	22	7:00 p.					4		Lightning	
									Power lines were hit by lightning causing \$10,000 damage to the power equipment.	
Ellsworth County	25	3:45 p.			6				Dust	
									A seven car collision 11 miles west of Ellsworth in a local dust storm resulted in injury to 6 persons.	
Johnson County	25	Afternoon							Hail	
									Hail approximately 1 inch in diameter was reported at Overland Park.	
North central and Southeast Kansas	26	Afternoon and Evening					4		Lightning	
									Lightning strikes were reported in Smith, Osborne, Washington, Cloud, Gray, Allen and Wilson Counties causing several buildings to burn and minor other damage.	
Scattered Counties	27-28	Night of 27th					5		Lightning	
									Lightning caused damage in Comanche, Mitchell, Osage, Miami, Johnson and Logan Counties. A grain elevator at Spring Hill burned causing an estimated \$75,000 damage.	
Harvey County	29						4		Lightning	
									A farm home and its contents were destroyed 4-1/2 miles south of Newton.	
<u>SPECIAL HAIL SUMMARY</u>										
									Hail Loss Clearing House reports indicate hail was especially severe as follows:	
	1								Smith and Jewell Counties	
	3								About 1/2 of the counties in the northeast quarter of Kansas suffered some damage.	
	4								Doniphan County	
	7								Marshall County	
KENTUCKY Central	7				0	0	0	0	C	Electrical, wind, rain
										Scattered thunderstorms occurred over the central area extending from the Ohio River in the north to the Tennessee border in the south. At least one residence was damaged by fire set by lightning; a motel unit and garage burned; at least one barn burned. Wind downed trees, utility lines, antennas, and damaged some buildings and crops. Heavy rain was responsible for some damage, flooding some basements and business locations in at least one location.
Mason County	9	3:05 a.			0	0	0	0	C	Wind, rain, hail
										In the Maysville area high winds leveled a barn, downed trees, partially unroofed houses, and damaged other property.
Greenup County	21	5:15 p.	4	500	0	1	4	0		Wind, rain, lightning
										A thunderstorm moved across the Ohio River southward into the city of Greenup. Wind downed a number of trees and damaged property. Falling trees damaged a number of buildings, several cars, and utility lines. One person was cut by falling glass from a window. The Ohio River became very rough immediately preceding the storm; several boats were damaged and one was sunk.
Christian County	24	2:40 p.			0	1				Lightning
										In Hopkinsville a young woman was treated at a hospital after she apparently was struck by lightning while washing clothes. After treatment, she was released from the hospital.
<u>LOUISIANA</u>										
Lake Pontchartrain	1	11:09 a.					11	SE		Funnel cloud aloft
										Pilot reported funnel cloud 11 SE New Orleans International Airport
Acadia Parish	2	Between 8:00 and 8:30 a.			0	2	4	0		Wind from east
										2 SW Church Point: during rain, sudden winds picked up 10x45 ft. house trailer from cement blocks, flipped it over four times, moving it about 25 yards. Two of the eight occupants injured.
Ouachita Parish	9	8:00 p.								Funnel cloud
										Monroe: public reported funnel cloud.
Richland Parish	12	Before 5:25 p.								Turbulence aloft
										Pilot of C-185 reported extreme turbulence in squall line 30 E Monroe (32.5°N Lat., 91.5°W Long.), also 1/4-inch hail.
Terrebonne Parish	14	Before Noon								Funnel cloud
										WSW Schriever (Lat. 29.8°N, Long. 91.0°W), pilot reported funnel cloud, dissipated after moving downward; no confirmation that it touched ground.
Southeast Division	19	1:44 p.-3:51 p.								Funnel cloud aloft
										PLAQUEMINES PARISH: 1:44 p., pilot reported funnel cloud 50 SE New Orleans International Airport. JEFFERSON PARISH: 3:47 p.-3:51 p., Weather Bureau Airport Station observed funnel cloud aloft to NW of New Orleans International Airport and rain showers to W and to NW, moving northward. Station heard thunder, recorded trace precipitation.
Orleans Parish	27	10:30 a.			1	0	0	0		Lightning
										During Lakefront thunderstorm, an elderly man was killed by lightning while standing under a tree which was hit by two lightning bolts; his clothing was burned and shredded.
Vermilion Parish	27	4:38 p.								Funnel cloud
										Pilot reported funnel cloud at White Lake.
Cameron Parish	31	1:00 p.								Funnel cloud
										18 SE Lake Charles: Funnel cloud reported by pilot. Hook observed on radar.
<u>MAINE</u>										
Cumberland and York Cos.	1	Early evening			0	0	3	3		Electrical, hail
										Extensive damage caused by lightning and hail. A number of lightning strikes touched off several minor fires. Numerous gardens damaged by hail. At Sebago Lake, a severe thunderstorm was attended by heavy rain followed by heavy hail. Hailstones averaged 3/4 inch in diameter and largest stones up to 1 1/2 inches in diameter.
Central, southern	22	PM			0	2	4	3		Electrical, wind, rain, hail
										Many losses from lightning strikes and local damage by wind, heavy rain, and hail. Section of rail track washed out at Hallowell. Golfball size hail reported at Raymond. Two slight injuries by lightning.
State										Thunderstorms were unusually frequent in July. Some stations recorded as many as 11 days with thunder. Hail fell on at least 4 days.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
MARYLAND Cecil and Harford Counties	3-4	11:00PM-2:00AM			0	0	4	0	Lightning
									Lightning struck at least four buildings, damaging two and destroying two by fire. The most serious loss was that of a residence, valued at \$6000.
East-central Dorchester County	22-23	11:30PM-05:30AM			0	0	3	3	Heavy rain
									Center of heavy rain was Church Creek Fire Station where amount of 6.35 inches was measured. Nearby Weather Bureau reported 3.92 inches at Cambridge 4W. Very little damage, including that to crops, was noted.
Cumberland	17	6:30PM			0	0	?	?	Lightning
									Several buildings were struck and damaged by lightning during brief but violent storm. One of these was the control room of a steel mill; this placed 50 men out of work for about a week.
Harford and Cecil Counties	29	8:00-10:00PM			0	0	4	0	Lightning
									At least three places were struck by lightning. The worst damage occurred when a barn, containing a large amount of grain, a truck and farm equipment, caught fire and was destroyed.
MASSACHUSETTS Statewide	1				2	4	5	4	Electrical, wind, rain, hail
									Widespread thunderstorm activity was most severe in eastern parts of state. Damage resulting from numerous lightning strikes, including fires, accounted for most of the losses. In the Greater Boston area alone, more than 100 homes and other buildings were struck. Wind felled trees damaged homes and automobiles and took down utility wires. Power and phone services were disrupted in many communities. Locally heavy rains washed out some fields, gardens and roads and flooded streets, underpasses and cellars. In Arlington a man was electrocuted by a downed live wire. Lightning struck and killed a man in Lynn. Four other persons were injured either by direct lightning strikes or near misses. All casualties occurred in the Greater Boston area. Numerous local occurrences of hail shredded plants and damaged surfaces of buildings and automobiles. The storm at North Truro was described as one of the most severe thunderstorms in many years. An unconfirmed waterspout was reported to have occurred off North Quincy.
Western sections	2-3	During night			0	0	4	0	Electrical, wind, rain
									Fallen trees, scattered branches, broken power lines and water-carved gullies in the morning of the 3d evidenced the severe electrical storm and heavy showers that struck during the night. A severe local wind storm in Deerfield tore into a hill pulling the tops off some trees and uprooting others, damaging about 35 to 40 trees before jumping over the hill and across a river. On the opposite shore, the wind tore up a row of trees which lined the bank. This storm may have been a small tornado but evidence is insufficient to so classify it. Torrential rains in local areas caused storm drains to clog creating flooded streets and underpasses and cellars.
Fenwick to Marshfield	4	About 1:30 p.	6(?)	Narrow	0	0	5	4	Tornado, hail
									Narrow and skipping path of destruction east-northeastward through Fenwick, Duxbury, and Marshfield. Buildings, trees, and utility lines damaged or destroyed. Accompanying hail fell in a path a mile or more wide with stones up to more than 2 inches in diameter. Much crop injury. Scattered thunderstorms elsewhere in south-eastern Mass. and on Cape Cod caused minor local damage and some washouts from very heavy rain.
Eastern	8	Early P.M.			0	2	3	2	Electrical, hail
									Two workmen injured by lightning; one home damaged. Minor local flash flooding of streets by accompanying rain. Golfball sized hail reported at Leicester at about 1:30 P.M.
Central	22	P.M.			0	0	4	0	Electrical, rain
									Locally heavy rains in the central and northern Connecticut Valley area caused washouts and flash flooding. Nearly two inches of rain was reported at Northampton in two hours, flooding streets. Lightning damage mostly minor.
Plymouth	23	11:30 A.			0	2	3	0	Electrical
									Two in house injured when lightning struck.
Western and North Central	29	P.M.			0	3	5	3	Electrical, wind, rain, hail
									Severe local thunderstorms caused local flooding and washing rains in several communities. Lightning damaged buildings and utility lines in many areas and inflicted three very minor injuries in Athol. Hail also fell in many communities and at Chester reached 3/4 inch diameter. Widespread were losses due to winds which felled trees and branches, causing widespread utility outages. Cheshire was particularly hard hit, with direct wind damage to buildings. There, some aspects were suggestive of a small tornado.
Shelburne Falls	29	About 3:15 P.M.	0.1	10	0	0	2	0	Tornado
									Narrow funnel dipped briefly to ground and uprooted five trees. Moved to Southeast.
MASSACHUSETTS Orange-Athol	29	About 3:45 P.M.		Narrow	0	0	4	0	Tornado
									Skipping evident as damage paths up to a half mile in length were a part of a several mile overall track from Orange to Athol, in an easterly direction. Buildings "exploded." Vacuum was felt by occupants as a window was sucked from a home. Funnel reported seen
State									Thunderstorms were unusually frequent in July. Thunder was heard as many as 9 days at one station. Hail fell on at least 5 days.
MICHIGAN All Lower Michigan	2	12:30 p. 11:00 p.					2	5	Thunderstorms with high winds heavy rains, and lightning
									High winds up to 60 mph caused heavy damage throughout the area. Numerous trees were blown down with resultant damage to homes, buildings and cars. Several house trailers blown over and damaged. Power service disrupted to hundreds of homes and buildings due to the storms. New houses under construction in the Ann Arbor area had heavy wind damage. Group of 15 men struck by lightning on golf course at Charlotte. Two of the men were injured and hospitalized. Light airplane on the ground capsized by high winds and damaged.
Iron Mountain	2	1:30 p. 4:30 p.						4	Heavy rains
									Heavy excessive rains flooded basements, streets and roads with resultant damage.
Lachine	2	3:00 p.						4	C Thunderstorms with heavy rains, hail, high winds and lightning
									Hail covered the ground from 4 to 6 inches in depth. Observers on the scene reported the hail filled 3 foot deep ditches. Farm crops of beans, wheat, and hay were destroyed by the storm. High winds damaged several barns and buildings. House trailer blown over and wrecked. Light airplane flipped over on its back and heavily damaged. Numerous TV antennas blown down or destroyed. General area within 2 mile radius of the junction of state highways M32 and M65 received the most damage.
St Clair	3	1:15 p.						4	C High winds, hail, and heavy rains
									High winds damaged numerous homes and buildings. Many trees blown down with resultant damage to cars and buildings. Window breakage damage also reported due to high winds. Golf ball size hail reported. Six thousand bushel apple crop destroyed by the storm on the W. Patterson Orchard.
Mackinaw City	6	3:15 p.				1	3		High winds
									Woman injured when high winds capsized her house trailer. Several buildings received damage due to high winds in the area.
Southern and Central Lower Michigan	7	6:30 a. 7:30 a.						5	Thunderstorms with high winds, lightning and heavy rains
									Excessive rains flooded numerous streets, roads and highways and basements with heavy damage reported. Power lines severed by the storms disrupted service to hundreds of homes and buildings. High winds toppled numerous trees with damage reported to buildings and cars. Several lightning induced fires caused damage to buildings and contents.
Grand Blanc	11	6:50 p.							Hail
									One and three fourths inch size hail reported at Grand Blanc which is 10 miles southeast of Flint.
All Lower Michigan	20	2:00 p. 8:00 p.						5	C Thunderstorms with hail, high winds, heavy rains and lightning
									Heavy rains in excess of 4 inches in some areas flooded basements and caused numerous washouts on roads and streets with heavy damage reported. Numerous lightning induced fires caused heavy damage to homes, buildings and contents. Heavy rains and hail damaged farm crops. High winds felled many trees with resultant damage to homes, buildings and cars. Power service disrupted to hundreds of homes and buildings throughout the area due to high winds and lightning cutting the power lines.
Fraser	20	6:30 p.				1	1		Electrical
									Two men received injuries when struck by lightning while playing golf. One man died day later from the lightning injury.
Hubbard Lake	20	7:15 p. ?			?	0	0	4	Tornado
									Tornado struck small area on the north end of Hubbard Lake in Alcona County. Roof was blown off cottage.
Hubbard Lake	20	7:15 p. ?			?	0	0	4	Tornado
									Chimney of same cottage also blown down. Nearby village firehall building damaged. Two boat houses blown down by the tornadoic winds. Both the boats and hoists within the two buildings were heavily damaged. Occupants of a nearby cottage observed the funnel cloud.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
MICHIGAN (Cont'd)									
Flint	20	8:00 p.							Funnel aloft
		Funnel cloud aloft	observed	10 miles					northeast of Flint.
St. Joseph, Cass, Kalamazoo and Ottawa Counties	22	2:00 p. 10:00 p.					5		Thunderstorms with lightning, high winds, hail and heavy rains
		Heavy damage reported due to flooding of roads due to excessive rains. Lightning destroyed bowling alley building and contents in Comstock Township near Kalamazoo with estimated damage of 100 thousand dollars. Power service disrupted to hundreds of homes and buildings throughout the area due to the storms. Fire caused by lightning destroyed large modern farm barn and contents of hay near Coopersville with estimated damage at 10 thousand dollars.							
Calumet	24	2:00 p.							Funnels aloft
		Several funnels aloft	sighted by Air Force						B-52 about 30 miles northeast of Calumet.
Southern Oakland County	25	3:00 p. 7:00 p.					5		Thunderstorms with high winds, lightning, hail and heavy rains
		Hail caused considerable damage to roofs of buildings, homes and cars. High winds toppled numerous trees, knocked down power lines and ripped the roofs off of two buildings. Heavy rains flooded streets, roads and basements with resultant heavy damage. High winds blew down the wall of two story building under construction. Power service disrupted for two hours in Royal Oak due to the storm.							
All Lower Michigan	28	1:00 p. 9:00 p.					5	C	Thunderstorms with high winds, lightning, hail and heavy rains
		Heavy rains flooded streets, roads and basements with considerable damage reported. Numerous wind felled trees caused heavy damage to buildings, homes, and cars. High winds destroyed many cherry trees in the orchards in the vicinity of Manistee. Hail and heavy rains caused crop damage. High winds damaged many small boats docked on inland lakes. Lightning and high winds severed power lines which disrupted service to thousands homes and buildings throughout the area. Homes and buildings were damaged by lightning induced fires. Wheat field crop burned and destroyed by lightning caused fire.							
Rogers City	28	8:00 p.							Waterspout
		Water spout observed on Lake Huron	by personnel of the U. S. Coast Guard.						
Rogers City	28	8:15 p.	1/4	135	0	1	4		Tornado
		Tornado struck Hoeft State Park camping area which is 4 miles northwest of Rogers City in Presque Isle County. Numerous trees were blown and toppled alongside camping tents and trailers of the 50 families in the camp site area. Tornadoic winds blew down the tents and caused extensive damage to various camping equipment which was blown and tossed about the area. Estimated damage in excess of 5 thousand dollars. One man received slight cut on the scalp which was the only injury.							
MINNESOTA									
Cosmos and Paynesville	9	1:15 p.			0	0	0	4	Hail
Litchfield, Meeker County		Hail 1/4 to 1 inch diameter did spotted damage to 6-section area between Paynesville and Litchfield and a 1 by 2 square mile area south of Cosmos.							
Olivia SW, Renville County	9	5:00 p.							Funnel cloud aloft
		Pilot reported funnel cloud aloft.							
Pipestone County	9	5:00 p.	1	1/2	0	0	0	4	Hail
		Hail up to two inches in diameter damaged crops in 12 sections.							
Austin 8S, Mower County	9	7:00 p.	(?)	(?)	0	0	0	0	Tornado
		Tornado touched down briefly in open field but caused no damage.							
Watowan, Blue Earth and Faribault Counties	10	6:00 p.			0	0	0	4	Hail, heavy rain
		Marble sized hail stripped crops on numerous farms. Heavy rain accompanied hail with a reported 2.30 inches falling in 40 minutes at Madelia (Watowan County). Hardest hit hail areas were Madelia 3/4 South and just south of Eshon (Faribault County) where hail accumulated to a depth of 4 inches.							
North St. Paul, Ramsey County	11	3:30 p.			0	1	0	0	Electrical
		Youth knocked unconscious by lightning strike while standing near a tree. Injuries minor.							
Mower and Fillmore Counties	28	Early Morning			0	0	0	4	Hail, heavy rain
		Hail damaged 50% of crops 8 miles north of Le Roy and a 2 mile by 1/2 mile long area northwest of Grand Meadow in Mower County. Light hail near Spring Valley and Ostrander, Fillmore County. Greatest overnight rainfall 5.10 inches at Spring Valley. Flash flooding restricted to culverts and eroded highway shoulders.							
St. Charles 6NW, Olmsted County	28	2:30 a.			0	0	4	4	Hail, electrical
		Hail damaged crops in the Dover area. Barn destroyed by fire caused by lightning near St. Charles.							
MISSISSIPPI									
Hancock County	3	6:00 p.			0	0	3	0	Funnel cloud aloft, wind
		Driver on Highway 90, near 503 junction, reported an ill-defined funnel cloud aloft to N. Just S of Kiln, at about dusk, wind swept roof and porch off home.							
Bolivar County	8	7:04 p. 7:10 p.	1-1/2	300-600	0	0	4	0	Tornado
		Black, fast moving clouds with one funnel approached from WNW. Funnel remained about 200 feet aloft but dipped down on outskirts of Alligator, looked like blue smoke rolling on the ground; then moved SE toward Highway 61 before lifting from ground. Accompanied by sudden peculiar keening, moaning sound of about two minutes duration. Homes, stores, and farm dwellings damaged; some trees blown down. Water damage minimized since only 0.2-inch rain followed. At 7:10 p., hail averaging 1/4 inch diameter partly covered 500-yard area in Alligator.							
Lee County	12	12:45 a.	1/4	?	0	0	4	C	Wind
		Storm, with strong winds, moving from SW toward NE, moved Guntown house 3 - 6 feet from foundation; damaged some buildings and flattened near 100 acres of "near shoulder high" corn; trees uprooted in scattered areas.							
Coahoma County	21	6:25 p.							Funnel clouds aloft
		Pilot reported several funnel clouds about 50 SSW Memphis (Lat. 34.3°N, Long. 90.5°W), area of Jonestown. Mississippi Highway Patrol reported lots of thunder and lightning but very little wind, and no damage at Jonestown.							
Tippah County	17	9:00 p.			1	40	3	0	Wind
		Rain began shortly after 8:00 p.; the wind rose and collapsed a tent under which 900 people were assembled in Tippah County Fairgrounds, Ripley; about 40 persons injured, and a 12-year old girl was killed, reportedly electrocuted as falling tent broke off wiring used to light the tent.							
MISSOURI									
Sedalia, Pettis County	1	early afternoon						4	Thunderstorm
		Wind damage to power and telephone lines, trees and homes. About three inches of rain fell in an hour causing local flash flooding.							
St. Joseph, Buchanan County	1	2:00 p.m.						4	Thunderstorm
		Power lines and many trees down. An airplane at the Rosecrans field was torn from its moorings.							
Kansas City, Jackson County	1							5	Thunderstorm
		Many homes without electricity for 21 hours because of wind damage to power lines.							
Sedalia, Pettis County	2	during night						4	Thunderstorm
		Wind damage to partially completed shopping center building.							
Boonville, Cooper County	2	10:00 p.m.	4	3000				5	Thunderstorm
		Heavy hail and wind damage to corn and soybeans.							
Montgomery City, Montgomery County	2	evening						5	Thunderstorm
		Wind damage to power and telephone lines and trees.							
Bowling Green, Pike County	2	6:00 - 7:00 p.m.						4	Thunderstorm
		Wind and lightning damage to electric power lines reported to be the worst since 1949.							
Princeton, Mercer County	7	early morning						4	Thunderstorm
		Wind damage to power and telephone lines, trees and homes.							
	10	3:00 p.m.	4	5000				5	Thunderstorm
		Heavy hail damage to about 6000 acres of cotton, corn and soybeans. The hail storm lasted about 15 minutes. Toward the end, the hail stones were flat and jagged. Some damage to homes.							
Fulton, S,SW Callaway County	11	6:30-7:30 p.m.							minor Thunderstorm
		4.00 to 5.50 inches of rain fell in 3 hours causing flash flooding.							
Auxvasse (2-1/2 W) Callaway County	20	4:00 p.m.	1/2					1	minor Tornado
		A house trailer blown over, injuring one occupant. Barn blown over.							
Crocker, Pulaski County	21	5:00 p.m.			150				minor Tornado
		Trees stripped of leaves, twisted and down in several directions.							
West Plains, Howell County (12 mi.E)	21	3:30 p.m.			1			4	Thunderstorm
		A 12-year-old boy killed by lightning. Many telephone lines down.							
Joplin, Newton County	26	4:45 a.m.						4	Tornado
		Hotel roof blown off and fifteen cars damaged.							
Berne, Stoddard County	29	1:15 p.m.							Funnel Aloft

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					KILLED	INJURED	PROPERTY	CROPS	
MONTANA									
Fairfield, Teton County	2	4 P.M.	25	30	0	0	0	0	Tornado
	There was at least one funnel, and it is believed to have touched ground 5 times. Large cottonwood trees and power poles were twisted off.								
Central Montana	2	Evening	?	?	0	0	0	4	Hail, Thunderstorms
	Numerous hail and thunderstorms occurred throughout Teton, Chouteau, Judith Basin, and Fergus Counties. Hailstones were golf ball size some areas.								
Great Falls, Cascade County	4	Evening	?	?	0	2	0	0	Lightning
	Two young boys were struck and injured by lightning while shooting fireworks.								
Northeastern Montana	4	Early Morning	?	?	0	0	4	5	Hail, High wind, Thunderstorms
	There were several storms throughout the area with greatest damage in the Circle-Brockway area (McCone County). Other areas receiving extensive damage were northern Valley, Daniels, and northern Richland Counties. Hailstones of 2-inch diameter were reported. Scattered storms were reported in the area on July 5. \$40,000 property damage from wind.								
Southern Liberty, Southwestern Hill, and Northern Chouteau Counties	9	Evening	50	*30	0	0	4	5	Hail, Heavy rain
	Hail damage was heaviest in northern Chouteau County. Damage was also reported in other areas of the three counties, but damage was not so severe.								
Heron, Sanders County	17	Evening	?	?	0	1	2	0	Lightning
	Lightning struck and set fire to a store. A second strike injured a man under the store fighting the fire.								
Broadus 16 miles north Powder River County	18	1 P.M.	?	100	0	0	3	3	Tornado and Hail
	Damage to crops was from hail.								
North-central Montana	18	Afternoon & Evening	?	?	0	0	3	5	Hail
	Hailstorms were reported from eastern Glacier, through Toole, northern Liberty, and northwest Hill Counties. Damage ranged from very light to total in some fields.								
Northeast Valley County	18	5 P.M.	18	*6	0	0	3	5	Hail
	Area of storm was from Baylor to Richland. One to two inches of rain fell during storm. Some hailstones 1-3/4 inch diameter.								
Ryegate (12 miles south), Golden Valley County	19	3 P.M.	16	*6	0	0	0	4	Hail
	Hailstones up to 2 inches in diameter.								
Volborg, Custer County	19	Evening	40	*10	0	0	4	5	Hail
	The storm was in the Volborg, Coalwood, Olive, and Powderville areas of southern Custer and northern Powder River Counties. Hailstones up to two inches diameter.								
Suffolk (6 miles west), Fergus County	20	9:30 P.M.	2	880	0	0	3	3	Tornado
	The tornado took 5 grain bins out of a row of 7 leaving one at each end. The bins were carried over a small steel building, power and telephone lines, and set down on the other side of a barbed wire fence.								
NEBRASKA									
Southeastern Nebraska	1	5 p - 7:30 p	30	20	0	0	0	5	Hail
	Several strips in Hamilton, Clay, Fillmore, and York counties. Heaviest damage in a 3 mile by 8 mile area just south of Aurora, and in a 3/4 by 2 1/2 mile strip starting about 4 miles east of Benedict. Stones generally about 1/2 inch diameter, a few to two inches.								
Norfolk Vicinity	2	9 p	?	?	0	0	5	0	Damaging winds
	Damage to trees, buildings and outdoor movie screen.								
5 Miles South Hoskins	2	9:15 p	Short	Narrow	0	0	4	0	Tornado
South of Arthur	3	Afternoon	4	?	0	0	4	4	Hail
	Small hail driven by high winds with severe damage to alfalfa.								
Richardson County	4	5 a	12	Narrow	0	0	0	4	Hail
	Stones up to 2 1/2 inches in diameter destroyed corn and alfalfa crops.								
Dakota and Dixon Counties	5	2:30 a	16	5*	0	0	4	4	Hail
	Ponca, Hubbard, Waterbury areas. Stones ranged from 3/8" to 1" in diameter.								
Stapleton	5	7:30 p	Spot	Spot	0	1	0	0	Lightning
	Woman injured while opening fence gate.								
NEBRASKA (Cont'd)									
Northwest of Alliance	6	6 - 7 p	35	Narrow	0	0	0	4	Hail
	Light winds, small stones gave little property damage. Crop loss was high in center of storm.								
South Central to East Central Nebraska	6-7	11:30 p - 4:00 a	170	40	0	0	6	6	Damaging Winds
	Widespread windstorms began in Phelps and Buffalo Counties about midnight and moved eastward and east-northeastward reaching a lobe from northern Lancaster to southern Dodge counties by 4:00 a. Wind gusts in excess of 90 MPH were measured at Hastings and Grand Island and reached 115 MPH at Kearney. Extensive damage to trees, roofs, plate glass windows, and power lines. A number of buildings were demolished by the winds; rumors of tornadoes could not be substantiated. Sorghum and corn crops were damaged by leaf stripping and stalk breakage. In the most severe areas a count showed 70% of corn stalks broken.								
Daves County	7	5 p	20	Narrow	0	0	0	4	Hail
	Whitney to Ida area. Mostly small stones and strong winds.								
North Central Nebraska	7	5 p - 8:30 p	80	20*	0	0	4	5	Hail
	Several strips of hail ranging up to 4 miles wide and 10 miles long occurred from eastern Cherry and Brown Counties to central Custer and Valley counties. Stones were mostly 3/4" to 1 1/4" diameter but ranged up to 2 1/2 inches. Strong winds increased the damage. Crop loss was complete in the center of the hail strips, and there was considerable roof and window damage. Hail covered the ground two to three inches deep.								
Near Horace	7	8:40 p	?	?	0	0	0	0	Tornado
	Touched down in open country.								
Near Maxwell	7	10:10 p	?	?	0	0	0	0	Tornado
	Touched down in open country.								
Logan County	10	9:08 a	Spot	Spot	1	0	0	0	Lightning
	Lightning struck ranch home 33 miles northeast of Stapleton killing woman inside the house.								
50 W North Platte	10	3:25 p	?	?	0	0	0	4	Hail
	Hail 3/4 inch diameter.								
Northwestern Box Butte County	17	?	?	?	0	0	0	4	Hail
	Farm home damaged about midnight.								
Near Scottsbluff	17	2:20 p	Short	Narrow	0	0	0	0	Tornado
	Touched down in open country.								
Near Baldem	25	7:00 p	2	2*	0	0	0	4	Hail
	Stones up to 1 inch diameter.								
West of Chadron	27	6:30 p	?	?	0	0	4	4	Hail
	Oats, corn and sorghum crops destroyed. Wheat harvest had been completed. Roof and window damage.								
7 Miles SSW of Heringford	29	5:45 p	Short	Narrow	0	0	4	0	Tornado
	Touched down briefly destroying farm buildings.								
Valentine	30	00:03 a	?	?	0	0	?	?	Hail
	Hail stones 3/4 inch diameter.								
NEVADA									
	No report received by printing deadline								
NEW HAMPSHIRE									
State	2 & 3				0	0	4	3	Electrical, wind, hail, rain
	Thunderstorms on both days caused considerable damage from numerous lightning strikes, high winds, hail and heavy rain. Many driveways, dirt roads and ditches were washed out and trees and branches were strewn over the area. Hail damaged some crops and gardens. Hail diameter reached 1 inch at Benton and exceeded 1 inch at Northwood on July 3.								
Seabrook Beach	19	3:10 p.			1	0	0	0	Electrical
	One killed by lightning. Other southern New Hampshire areas experienced minor local damages from lightning, wind, or washing rains. At Suncook, 1.55 inches of rain fell in 40 minutes.								
State	22	P.M.			0	0	4	0	Electrical, wind, rain
	Local thunderstorms caused scattered damage, mainly in the northern and central portions. Lightning burned a barn at Meridith. Winds caused local damage in many areas and was described as a "near tornado" at Jefferson. Heavy rain caused flash flooding, most damaging at Littleton when many store basements and streets were flooded. A landslide blocked rail tracks near Meridith.								
State									Thunderstorms were unusually frequent in July. Some stations recording as many as 13 days with thunder. Hail was reported on 5 days in the state, at up to 3 days at a given station.
NEW JERSEY									
	None reported								

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
NEW MEXICO Silver City, Grant County	14	Night							Hail
									Hail from 1/2 to 3/4 inch in diameter.
Albuquerque, Bernalillo County	19	6:00 p.m.			1				Lightning
									Violent thunderstorm with lightning striking and killing one man working on tree.
NEW YORK Southern Tier and East Central	1-3	p.m. to p.m.			2	4	5		Electrical, wind
									A stationary front affecting the southern half of the state for three days caused a series of severe electrical storms. From near Lake Erie eastward to the Mohawk and mid-Hudson Valley. Two boys were killed and 2 companions injured by lightning at Rosendale, Ulster County; others injured included man at Kenmore, Erie County and man at Oneonta. Home destroyed by lightning fire near Syracuse, while homes were variously damaged and burned near Jamestown, Ithaca and in the Buffalo and eastern Mohawk Valley areas. Barns, containing hay and implements, were destroyed by fires near Oneonta, Otsego County, Delhi, Delaware County, Casserage, Allegany County and Lockport, Niagara County. High winds and lightning caused scattered power failures and damage to trees; hail reported in east central sections but damage minor. Heavy rains on 3rd caused extensive street flooding in Utica area.
Chenango and Orange Counties	10	late p.m.					4		Electrical
									Lightning bolts struck homes at Greene, Chenango County and Newburgh, Orange County, causing extensive fire damage in each case. Lightning also caused extensive power failures in eastern Orange County.
Central and Eastern	12	p.m.					4		Electrical
									Electrical storms in afternoon and evening resulted in scattered lightning fires. Dairy barn destroyed at Westerville, Oneida County, while homes at Constantia, Otsego County and near Kingston, Ulster County sustained extensive damage. Lightning also disrupted power in vicinity of Lake Oneida.
Jefferson and Rensselaer Counties	19	a.m. to early p.m.					4		Electrical
									Thunderstorms scattered over the state resulted in destruction of property by lightning-caused fires. Large dairy barn with contents of hay and farm implements destroyed in early morning hours at Theresa, Jefferson County. Drive-in theatre screen wrecked by bolt near Troy, Rensselaer County, where several houses and sheds also variously damaged by fires.
State, except extreme west	21-23	p.m. to p.m.			1	5	5		Electrical, wind, hail, rain
									Numerous severe thunderstorms with occasional high winds, hail and heavy rain hit wide areas of state except the extreme western counties during a 48-hour period. Two dairy barns, including 3 cows, machinery and hay, destroyed by lightning-caused fires near Malone, Franklin County; 3 additional cattle killed by bolt in same county. Dairy barn with 3000 bales of hay lost in fire near Troupsburg, Steuben County. Lightning fires caused moderate to extensive damage to store at Cherry Valley, Otsego County, school in Albany and several homes in widely scattered areas. Wind destroyed drive-in theatre screen at Hornell, Steuben County, while heavy rain caused collapse of cellar wall in Rochester area. Man injured by lightning bolt at Oneonta. Wind toppled trees and bolts caused numerous power failures from Geneva area in west central to upper Hudson Valley on 21st and 22nd and in lower Hudson Valley on 23rd. On 21st hail and wind ravaged several hundred acres of onions and potatoes in Canastota area of Madison County and a gladiolus farm near Gloverville, Fulton County.
Saratoga Lake, Saratoga County	23	3:40 p.m. s.d.t.					3		Waterspout
									Waterspout, described as a grey funnel, moved from northeast to southwest across Saratoga Lake. At point of landfall trees defoliated and limbs broken, while home damaged by a 15-minute deluge of falling water from waterspout, shortly after maximum winds. No additional funnel activity reported inland from lake. Thunderstorm activity did not occur.
Peekskill (near), Westchester County	23	6 p.m. s.d.t.							Funnel cloud
									Pilot reported funnel cloud east of Bear Mountain, a few miles north of Peekskill. Check by State Police could not confirm funnel touching ground. However, trees and limbs downed in many sections from Poughkeepsie southward into northern Westchester County, probably result of severe thunderstorm activity in lower Hudson Valley afternoon and evening of 23rd.
Lewis County	29	a.m.					4		Electrical
									Lightning bolt killed 9 cows huddled under a tree, near Copenhagen. Home heavily damaged by lightning fire at Lowville.
Hoosick Falls, Rensselaer County	29	2:30 p.m. s.d.t.					5		Wind, hail, rain
									Preceded by torrential rain and dime-size hail, very strong winds caused immense damage to trees and buildings in the village of
NEW YORK (Cont'd)									
Hudson and Eastern Mohawk Valleys and Long Island	29	p.m.					1	5	Wind, electrical, rain
									Severe thunderstorms occurring in early afternoon in upper Hudson and eastern Mohawk Valleys spread to lower Hudson Valley and Long Island by evening. Yacht Club in Rensselaer unroofed with automobile and other property battered by falling debris. Boat-house near Broadalbin, Fulton County, partially unroofed, boats scattered and lawn furniture blown around. Six cars smashed by falling trees in Schoenectady; 3 aircraft blown and overturned with one demolished at Milton, Saratoga County; 2 barns flattened by wind at Mechanicville. Trees and power lines downed over wide area of east central counties as far west as Delaware and Schoharie Counties; similar wind damage in Rockland and Westchester County areas of lower Hudson Valley, especially at Tarrytown. Lightning-caused fires destroyed two barns in vicinity of Saratoga Springs and Schaghticoke and also storage shed at Canajoharie; 4 cows killed by bolt in northern Delaware County. Man injured by bolt at Roslyn, Long Island. Lightning fired two homes in Suffolk County as heavy rains caused extensive flooding of low areas of Long Island.
NORTH CAROLINA									
Alamance County	3	6 pm					4	0	Wind, Electrical
									Heavy thunderstorm. High winds blew down trees, broke several plate glass windows and damaged buildings in Burlington. Lightning disrupted power and telephone transmission.
Brunswick, Hertford, Wake Counties	4	aftn					3	4	Hail, Electrical
									Thunderstorms in three different areas. Hail damaged tobacco in Brunswick and Hertford Counties; lightning struck house near Wake Forest.
Lee and Richmond Counties	9	aftn					3	4	Hail
									About 4 sq. mi. of Lee County affected in early afternoon, and another similar area around 5 p.m. Small area of Richmond County also affected by late afternoon storm. Tobacco damaged.
Person, Richmond, Scotland, Stanly and Surry Counties	10	8-9 pm			0	4	4	4	Hail, Electrical
									Hail damaged tobacco in several widely separated areas, and lightning struck at numerous points causing varied damage. Four persons hospitalized when lightning struck church in Scotland County; one person lost an eye from flying debris.
Caswell, Granville and Person Counties	12	5-5:30pm	15	50	0	1	5	4	Tornado
									Tornado struck Yanceyville near center of Caswell County and followed a skipping path northeastward through Semora and across the Person County line about three miles south of the Virginia border. Funnel cloud seen at Yanceyville. Demolished several buildings in Yanceyville and Semora, and blew down tobacco crop and trees several areas between. One person injured in Yanceyville. Possible additional tornadoes, as minor wind damage was noted along a path from Blanche (five miles north of Yanceyville) northeastward to near the Virginia border; also from near the center of the southern border of Person County northeastward across Granville County to near Kerr Lake. A tornado was also reported nearby in Virginia earlier in the afternoon.
Johnston and Person Counties	12	4-5 pm					2	4	Hail
									Hail damaged tobacco several small areas, and did slight damage to a few roofs in Person County.
Guilford, New Hanover, Onslow and Randolph Counties	13	3-5 pm					4	0	Wind, Electrical
									Thunderstorms in several areas caused locally damaging winds. Trees blown down, buildings unroofed. Lightning set fire to a building in Wilmington.
Columbus County	14	7 pm					4	0	Wind
									Sudden squalls of wind with rain blew down trees in two different areas of county. Roofs damaged; auto crushed by falling tree.
Jones, New Hanover, Richmond and Stanly Counties	15	aftn					4	5	Hail, Electrical
									Hail damaged tobacco in Jones and Richmond Counties. Lightning struck several homes in various areas, and killed four dairy cattle in Stanly County.
Alexander, Anson, Avery, Jones, Lee, Madison, Moore, Richmond and Rutherford Counties	16	aftn			0	2	4	5	Hail, Electrical
									Hail damaged tobacco and fruit crops in many areas. Lightning struck several houses; killed a cow, and injured a woman and child who were feeding the animal, in Rutherford County.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
NORTH CAROLINA (Cont'd)									
Hertford and Yancey Counties	17	5-6 pm			1	3	3	0	Electrical, Rain, Hail
									Youth killed by lightning and three companions injured as they worked in field near Ahoaside. An auto accident killing three was also attributed by the press to weather conditions. Hail damaged tobacco over a small area of Yancey County.
Davie and Robeson Counties	19	6-7 pm			0	1	3	0	Electrical
									Lightning struck and seriously injured woman using telephone near Mocksville. Also struck car and caused accident near Red Springs.
Cleveland County	22						5	0	Rain
									Cleveland Mills power dam near Lawndale washed out when four inch rain climaxed several consecutive days of wet weather.
Pasquotank County	23	8:18 am							Funnels aloft
									Pilot reported two funnels seen five miles west of Elizabeth City.
Haywood and Jackson Counties	24	4:15 pm					4	4	Hail, Rain, Wind, Electrical
									Heavy thunderstorm caused power failure, flooded streets, storm sewers and basements. Wind blew down trees. Hail damaged commercial vegetables and tobacco crop both counties.
Davie County	26				0	1	0	3	Rain
									Flash flood washed car off bridge. Car lost, woman driver injured.
Burke, Caldwell, Cleveland, Davidson, Iredell, Mecklenburg, Rockingham, Stokes and Vance Counties	29	4-7 pm			0	3	5	5	Hail, Wind, Electrical
									Hail damaged crops several areas, principally tobacco in Stokes and Vance Counties. Trees blown down; power and telephone lines damaged by both wind and lightning. Two men burned when lightning struck transformer at Lenoir. Woman injured in Statesville when tree fell on auto.
Gaston, Mecklenburg, Rowan and Warren Counties	30	3-6 pm					4	4	Hail, Rain, Electrical
									Hail damaged tobacco in Warren County and cotton in Mecklenburg. Rain caused flash floods damaging homes in Charlotte. Lightning damaged power facilities and mill equipment in Gaston and Rowan Counties.
NORTH DAKOTA									See data at end of table
OHIO									
Napoleon	15	3:30 PM	3	*1	0	0	0	3	Hailstorm
									Considerable damage was done to soybeans, corn, and other crops by a hailstorm south of Napoleon. Its path extended from the Maumee River near Round Bottom to the Five-Corners area.
La Due Reservoir Grange Co.	21	Afternoon			1	0			Lightning
									A man was killed by lightning while fishing from a boat.
Akron	21	3-4 PM			3	6	0	C	Heavy Rain
									Flash flooding resulted from a heavy, localized thunderstorm rain on Akron's north side. Up to 3 inches is reported to have fallen in a short time. Many cars were inundated on a parking lot; and foundations under several buildings were undermined. An over-taxed main storm sewer under Tallmadge Pkwy burst, allowing a large section of the street to collapse. A car fell 40 feet into the hole, killing one occupant. Two men were also drowned while trying to rescue the girl.
Akron	21	Afternoon							Large Hail
									Hailstones, estimated to be over 1 1/2 inches in diameter, were reported to have fallen in connection with the flood-producing thunderstorm mentioned above.
Cleveland	28	Afternoon			1	0			Lightning
									A small boy was struck by lightning while playing in the back yard of his home.
									Other thunderstorms occurring during the same afternoon in north-eastern Ohio were responsible for moderate wind damage to trees and property. For example, at Girard, structural damage to the City Sewage Disposal Plant was estimated at \$40,000; and in Mount Vernon a 2-car garage was demolished and numerous trees were blown down.
OKLAHOMA									
Northern McIntosh County	1	9:10a.-11:40a.			0	0	0	0	Rain
									Thunderstorms of about 25 miles in diameter drifted slowly south-eastward across the area with drenching rains totaling 4.25 inches during 3 1/2 hours at Checotah.
OKLAHOMA (Cont'd)									
Guymon, Texas County	4	6:32p.-7:10p.			0	0	4	0	Wind and hail
									High winds destroyed a T-hanger at Guymon Airport and caused minor damage to one plane. Gusting winds measured up to 35 MPH and marble-size hail covering up to 90% of the ground over a 2 1/2 square mile area damaged several hundred roofs. The storm caused over 300 telephone outages as rains totaled 1.74 inches. Winds totaled 30% of \$35,000 damage and hail 70%.
Southern Bryan County	8	Afternoon			1	0	0	0	Heat
									A man was found dead in a field near his home from a heart attack resulting from heat exhaustion as afternoon temperature hit 102° at Durant.
Heavener, LeFlore County	8	6:24p.	Short	Narrow	0	0	0	0	Hail
									A few hail up to 1 1/4-inch size fell briefly over the city during an hour and fifteen minute rainstorm which totaled 1.19 inches.
Dustin, near, Hughes County	9	5:35p.	2	*1/2	0	0	4	3	Wind
									Locally damaging winds from a heavy thunderstorm moved northeastward across two farmsteads 1 1/2 miles south of Dustin. Nine high voltage line transmission structures were toppled and some crops destroyed.
Osage and Tulsa Counties	9	5:55p.-6:30p.	7	*3	0	0	5	4	Tornado and winds
									A severe thunderstorm caused considerable wind damage as it moved from 5 miles southwest of Skiatook to 1 mile northeast of town with winds estimated from 70 to 80 MPH. Several persons saw a tornado within the storm that struck the ground several times along the path and demolished a large barn, bent a flag pole nearly to the ground, and heavily damaged a barn, outbuildings, and roofs. Many large trees were blown over and downed power lines caused electrical outages up to 25 hours. Several pecan groves were heavily damaged. Tornado damage 35% of \$70,000 total, and wind 65%.
Chickasha, near, Grady County	25	2:28p.			0	0			Funnel aloft
									A funnel aloft was sighted 10 miles south of Chickasha and was moving north-northwest.
Taloga, near, Dewey County	25	About 3:10p.	1	500	0	0	3	0	Tornado
									A small tornado is believed to have touched down briefly 8 miles west-northwest of Taloga and damaged a power transmission line.
Jefferson County	25, 26	Afternoon 25th, Afternoon 26th			0	0	1	1	Electrical and wind
									Lightning set scattered grass fires east of Waurika on both days. An estimated 1,000 acres were burned over on 12 different ranches with one receiving loss of about 400 acres. There were 3 such additional range fires north and northwest of Ringling on the 26th.
Muskogee, Muskogee County	26	3:30p.-4:00p.	1/2	700	0	0	5	1	Wind and hail
									High straight winds heavily damaged a 10-block area in the east part of downtown Muskogee with lighter wind damage indicated over much of the City. Some hail fell with stones reported up to 1-inch size. Many downed trees blocked streets and cut power lines to cause general power interruptions up to 5 hours. Five business firms lost considerable roofing or entire roofs, one garage was blown down on a car while 26 other autos received damage from flying debris and gravel, one small warehouse was demolished, signs and fences were blown over, and 5 major firms or office buildings sustained heavy window damage. Storm movement was generally towards the northwest.
Tulsa County	26	4:30p.-5:00p.	3	100-300	0	1	5	1	Funnel aloft and winds
									A heavy thunderstorm moved along an "S"-curve path from the south-east to the northwest across a rural area between the north side of Tulsa and Collinsville. Very strong plus winds under the storm caused major damage to 5 homes and blew 4 of them off their foundations. Trees, a barn, and several houses showed signs of being topped by a funnel aloft that was sighted by 2 individuals. A total of ten barns or outbuildings received major damage and one man was injured when his trailer home was killed into a pond and demolished. Other wind damage was concentrated in the south and east parts of Tulsa where roofs received minor damage and power lines were knocked down in 25 locations. Winds up to 51 MPH were observed at Tulsa Weather Bureau Airport Station with gusts estimated up to 66 MPH at 4:45 PM.
Oklahoma City, Oklahoma County	28	3:55p.	1/4	50	0	0	4	0	Tornado and wind
									A small tornado was sighted lowering to the ground in the 4100 block of S. W. 20th street where it was then obscured in a blinding rainstorm. The storm moved 4 blocks east-southeast across

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

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					KILLED	INJURED	PROPERTY	CROPS	
SOUTH CAROLINA (Cont'd)									
Myrtle Beach, off shore, Horry County	10	Before 6:20 p			0	0	0	0	Funnel cloud
		Moved west, did not touch water.							
Blacksburg, 4 mi. NW, Cherokee County	15	4:30 p	1	100	0	0	4	0	Tornado observed.
		Moved SW to NE accompanied by small hail, funnel.							
Greer, Greenville County	15	Late afternoon			0	0	4	0	Electrical
		One residence destroyed, two severely damaged by fire.							
Blacksburg, 4 mi. NW, Cherokee County	15	4:30 p	1	100	0	0	4	0	Tornado
		Rising noise like airplane - funnel dipping, moving SW to NE, curved path.							
Columbia, 25 mi. E, Richland County	15	8:15 p			0	0	0	0	Funnel cloud
		Motorist reported funnel aloft.							
Charleston, 24 mi. N, Charleston County	18	5:08 p			0	0	0	0	Funnel cloud
Anderson, Anderson County	18-19	24 hrs. ending 1 am, 19th			0	0	Minor	0	Rainstorm
		Heavy 24-hour rainfall of about 7 inches, caused temporary evacuation of 35 to 40 residents in one neighborhood.							
Wilmington, Fairfield County	18-19	7:00 am - 18th - 7:00 am - 19th			0	0	4	0	Rainstorm
		Heavy rain collected on a flat roof caused its collapse, causing substantial damage.							
Southern South Carolina and other scattered areas.	20-21	Intermittent			2	0	4	4	Rainstorm
		Extremely heavy and locally record-breaking rains in the Charleston, Beaufort and Jasper County areas, caused substantial flooding and washouts of roads and local damage to crops. The community of Frogmore reported a 24-hour rain of 11.49 inches. One fatality occurred from drowning and one from lightning.							
Myrtle Beach, 17 mi. E, Horry County	21	10:00 a			0	0	0	0	Waterspout
		Pilot observed.							
Spartanburg, 55 mi. W, Pickens County	24	5:00 p			0	0	0	0	Funnel clouds
		Two funnel clouds were seen by pilot.							
Fort Jackson, Richland County	24	3:00 p			0	28	0	0	Electrical
		Scattered, minor casualties - a few requiring treatment for brief period.							
SOUTH DAKOTA									
Tyndall and vicinity	4	5:55 - 6:10 p	7	*2			3	4	Hail
		Hail averaged 1/2 inch with 2 inches deep. Storm moved from W to E. Path was from Tyndall to 2 miles N and then about 7 miles E.							
Aberdeen and vicinity	5	About 11:30 a.					7	7	Hail
		Hail size from 3/4 to 1 1/2 inch.							
Near Martin	7	3:30 - 3:50 p	9	*2 1/2			3	5	Hail
		Hail averaged 1/2 inch with 2 inches deep. Many fields had 85-100% crop loss.							
Alexandria to Hurley	7	6:30 - 7:30 p	35	*1/2-2			3	5	Hail and Wind
		Hail averaged 3/4 inch with largest 3 inches. Storm moved from NW to SE.							
Flandreau and vicinity	9	About 3:00 a.					4	5	Hail and Wind
		Winds estimated up to 100 MPH damaged or destroyed many buildings. Hail driven by the wind caused considerable crop damage.							
Parts of Hand, Jerauld, Aurora, Davison, Douglas, Charles Mix, Hutchinson and Bon Homme Counties	9-10	7:30 p - 6:00 a.					5	6	Hail and Wind
		Apparently 3 separate storms occurred during the period in this area. Hail and wind caused extensive damage to crops. Wind destroyed or damaged many structures.							
Near Hayti	10	PM			0	0	0	0	2 Tornadoes
		One tornado touched down in field and the other in a lake with no damage reported. Water was seen to have been drawn from the lake.							
10 SE Britton	10	11:00 a.					3		Tornado
		Tornado passed through farm yard destroying a barn.							
75 SSW Pierre	10	1:40 p.							Funnel cloud
Newell	19	11:00 p.	4	?					Hail
		Hail ranged from walnut to hen egg size with damage extending from 1 mile N to 3 miles S of Newell. Crops and gardens were destroyed and buildings damaged.							
Western 2/3 of Edmunds County	21-22	11:00 p - 12:30 a.	30	*15			4	4	Hail, Wind and Lightning
		Heaviest damage to windrowed grain and haystacks. Lightning killed 10 cattle and burned some haystacks. Wind estimated up to 90 MPH.							
SOUTH DAKOTA (Cont'd)									
Roscoe	21	11:00 p.							2 Funnel clouds
		Funnel clouds observed during lightning.							
32 N Huron	23	4:30 p.					4		Tornado
		Tornado moved from SW to NE destroying several farm buildings.							
Frankfort - Doland Area	23	4:30 - 5:00 p.					5	4	Hail and Wind
		Wind caused extensive destruction and damage to buildings in area. Wind blown hail caused considerable crop damage. Wind estimated up to 70 MPH.							
Murdo and vicinity	23	5:30 - 6:05 p.					5	4	Hail
		Hail ranged up to golf ball size. Buildings, gardens and spring crops were destroyed or damaged.							
Philip Airport	26	6:30 p.						4	Tornado
		Tornado destroyed 2 hangers and damaged several airplanes.							
Western Sully County into Northern Hyde County	26	8:30 - 9:15					4	5	Hail and Wind
		Extensive damage caused by wind and hail to windrowed grain. Wind destroyed many farm buildings.							
TENNESSEE									
Giles County near Pulaski	7	1:00 p.			0	1	0	0	Lightning
		A 9-year old boy was injured and burned by lightning.							
Hamilton County near Chattanooga	8	6:00 a.			0	0	5	0	Lightning
		Lightning damage to homes in Shepherd Hills Community in early morning thunderstorm.							
Haywood County	10	1:00 p.			0	0	4	0	Hail and wind
		Pidgeon-egg size hail (2 inches deep) caused heavy losses to several hundred acres west of Brownsville and some wind damage to the City of Brownsville.							
Shelby County	11	10:00 p.			0	0	5	0	Tornado, wind and flooding
		Winds to 72 mph at Memphis Airport, rainfall of 2.91 inches and a small tornado in the southern portion of Shelby County did considerable property damage.							
Henry County near Paris	14	PM			0	3	0	0	Lightning
		Shock and bruises to three members of a family.							
Franklin County	15	2:00 p.			1	0	0	0	Lightning
		A telephone worker was killed by lightning in the Sinking Cove Community.							
Putnam County	23	PM			0	0	0	4	Hail and strong winds
		One of the most destructive storms in the southern portion of Putnam County within two years. Heavy fruit and tobacco losses.							
Memphis	29	3:30 p.			0	0	5	0	Lightning
		75% fire loss to the \$300,000 Shadowlawn Elementary School in the Ellendale Community.							
TEXAS									
3 E George West Live Oak Co.	1	6:30 p - 7:00 p	6	1000	0	0	3	4	Tornado
		A tornado moved across farm land near George West, cutting a path of destruction about 1000 yards wide through maize and corn fields. Property damage consisted of two windmills destroyed, some electrical wiring blown down, and a few trees uprooted. Considerable damage resulted to maize and corn.							
Rotan Fisher Co.	1	6:30 p - 7:10 p	20	*3	0	0	3	5	Wind, hail
		Wind and hail caused extensive damage to cotton and other crops in an area about 20 miles long beginning northeast of Rotan and extending across the northwest central part of Fisher County to southwest of Roby. Cotton was completely destroyed where the hail was the heaviest. In Rotan, several plate glass windows were blown out by the wind and flat roofs were damaged by the hail. Hailstones averaged about one-half inch in diameter with largest stones about one inch. Hail covered the ground to a depth of 2 to 3 inches in places. Winds were estimated at 50 to 60 miles per hour. Hail damage to crops was estimated at \$300,000. Hail damage to property was estimated at \$2000, and wind damage to property estimated at \$2000. About three inches of rain accompanied the storm.							
Kent, Stonewall Counties	1	evening	?	?	0	0	?	?	Hailstorm
		Hail caused extensive damage to crops along the Kent and Stonewall County line. In the path of the hail were the Kissick, Byrd, Spicer, Stansland, and several other farms.							
Bowie Montague Co.	2	morning	?	?	0	1	?	0	Lightning
		One man was injured, at least one bull was killed, and damage was done to electrical equipment in a severe electrical storm. H. B. Neely was burned across the midsection by a bolt that struck. He was leaning across his kitchen sink, with his hand on the hydrant, when the lightning struck, knocking him across the room and causing a wound across his abdomen which required six stitches to close.							
7 W Pecos Reeves Co.	7	6:45 p	?	?	0	0	3	0	Tornado
		A tornado ripped up 26 utility poles seven miles west of Pecos. Damage was estimated at \$3,300. Heavy rain, up to 3.4 inches fell in a very short period of time.							

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JULY 1964

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					KILLED	INJURED	PROPERTY	CROPS	
TEXAS (Cont'd)									
5 WNW Corpus Christi Nueces Co.	16	9:05 a-9:10 a							Funnel aloft
									Funnel observed by Weather Bureau personnel from airport. Highway patrol unit following the cloud estimated bottom of the funnel to be 700 to 800 feet above the ground one-half mile north of Violet, Texas.
E Robstown Nueces Co.	17	11:43 a-11:44 a	short narrow	0	0	0	0		Tornado, funnels aloft
									A small tornado touched ground briefly just east of Robstown but did not cause any damage. Two other funnels remained aloft, and were observed between Odem and Fortland at about the same time as the tornado. The storm moved from southeast toward the northwest.
Wadsworth Matagorda Co.	18	9:15 a	**500 ?	0	0	?	0		Tornado
									A small tornado touched ground for 500 yards through the Wadsworth Community in Matagorda County. The tornado snapped off a tree, tore part of a roof off a barn and moved a heavy cow shed about 50 feet. A piece of sheet iron was blown from underneath about 200 pounds of concrete blocks. Miraculously, the tornado missed the homes in the community and no one was injured.
12 E Laredo Webb Co.	19	2:45 p							Funnel aloft
5 SSE Nederland Jefferson Co.	20	12:20 p							Funnel aloft
Near Colorado City Mitchell Co.	22	5:15 p-5:35 p	2	200	0	0	4	7	Tornado, hail, funnels aloft
									A tornado struck in farming area just north of Colorado City. Roofs of several farm buildings were blown off and field crops were damaged by hail. Property damage resulting from the tornado was estimated at \$10,000. Two other funnels were sighted in the area, but these did not touch ground. The storm moved from south-southwest toward the north-northeast.
New Home Hockley Co.	23	afternoon	?	?	0	0	?	?	Hailstorm
									Hail severely damaged cotton crops in the New Home Community near Ropesville.
Trinity, near Trinity Co.	25	4:00 p	?	?	0	0	?	?	Tornado
									A small tornado touched ground on the Joe B. Martin farm on the Weldon Road near Trinity completely destroying a new barn. The roaring noise associated with the tornado was described by witnesses as sounding "like a big freight train."
12 E Albany Shackelford Co.	25	6:00 p-6:45 p							Two funnels aloft
									Two funnels were observed aloft near the Ilex Community.
Breckenridge Stephens Co.	25	evening							Two funnels aloft
									Two funnels aloft were sighted in the vicinity of Breckenridge.
SW Era Cooke Co.	27	afternoon	?	?	0	0	?	?	Tornado
									A small tornado dipped to earth just southwest of Era. The roof of a barn on the W. W. Hickerson farm was blown off and gates were blown down.
12 SSE Nederland Jefferson Co.	27	12:20 p-12:31 p							Waterspout
									A funnel cloud south-southeast of the Weather Bureau Airport Station at Nederland developed into a waterspout over Sabine Lake.
N Mertzon Irion Co.	27	?	?	?	0	1	?	?	Tornado, wind
									A small tornado touched ground north of Mertzon. One woman was hospitalized for cuts and bruises when a transom blew in and struck her. In Mertzon, strong winds blew the roof off one garage and several plate glass windows were blown out.
Lindsay Cooke Co.	29	5:00 p-5:15 p	short narrow	0	0	3	0		Tornado
									A small tornado dipped to earth on the Frank Popp farm near Lindsay, destroying a barn and ripping shingles off the Popp home.
UTAH									No report received by printing deadline
VERMONT									
Rutland and Windsor Cos.	1				0	0	4	3	Electrical, hail, wind
									Hail occurrence concentrated in area from Danby to Clarendon, and up to 1/2 inch diameter. Falling trees took utility wires down in scattered areas. South of White River Jct. traffic was tied up when a falling tree left electric wires dangling in the highway. West of Rutland lightning touched off a blaze that destroyed 2 acres of woodland.
State	2-3				0	0	4	3	Electrical, hail, wind
									Thunderstorms on both days caused damage from numerous lightning strikes, hail, and high winds. Hail up to 1.5 inches diameter fell at McIndoes Falls and Peacham and very large hail also fell at Huntington Center on July 3. Many windows were broken.
East Albany	19	Early A.M.			0	0	3	0	Electrical
									Eleven cows killed by lightning,
VERMONT (Cont'd)									
Albany, Craftsbury	21	P.M.			0	0	3	4	Electrical, wind, hail
									Large acreage of potatoes destroyed by hail.
Marshfield	22	4:15 P.M.			0	0	3	2	Wind
									Severe local wind flattened crops and felled trees and utility lines.
Southern	29	P.M.			0	0	4	0	Electrical, wind, hail, rain
									Lightning and wind damaged buildings and trees and caused many utility failures. Hail was reported the size of eggs at Stamford. Some washouts were caused by heavy local rains. In Bennington, near the New York State border, a concrete block garage was demolished when the roof sailed away and the three walls all fell outward. This appeared to be the end of a damage path extending from Hoosick Falls, N. Y. Tornadoic action is suspected. No funnel report or other conclusive evidence was obtained from the Vermont side.
State									Thunderstorms were unusually frequent in July. One station had thunder on 14 days. Hail also was unusually frequent, with at least 10 days of occurrence. Individual stations had up to three hail days in the month.
U. S. VIRGIN IS.									None reported
VIRGINIA									
Pittsylvania County	12	2 P	5	100	0	0	?	?	Tornado
									The tornado was observed in open country and described as a whirling black cloud moving northward near Pittsville. A garage was damaged, a truck was overturned, a house was moved from its foundation, and a stable was scattered over two hundred yards.
Martinsville Henry County	12	2:15 P	2	50	0	3	5		Tornado and rain
									A small tornado moved in a northeasterly direction northwest of the city during early afternoon. Roofs were blown off or partially damaged at several homes, two churches, and two commercial buildings. One roof, which was hurled about one hundred and fifty yards after it was torn from the house, struck and damaged a school building. Three persons were injured, but not seriously. Some water damage was reported from heavy rain accompanying the storm.
WASHINGTON									None reported
WEST VIRGINIA									
Beckley	1	afternoon			0	0	2	0	Lightning
Weirton Heights	9	8:30 p.m.			0	0	2	0	Lightning
Clarksburg	9	evening			0	0	2	0	Lightning
WISCONSIN									
Madford 2 1/2 NW	6	6:15 AM			0	2	3	0	Tornado
									Touched down several times destroying barn.
Washington County	6	9:30 AM			0	0			Tornado
									Touched down at least twice in town of Jackson. Funnel sighted between Wautoma and Hancock earlier.
Western Counties	8	evening	35		3	5			Hail
									Hail up to 1 3/4" diameter. Began in LaCrosse County, traveled southward across Vernon County and ended in northern Crawford County near Fairview. Path was near Coon Valley, Budd and Rising Sun. Path in LaCrosse 1 mile wide.
LaCrosse 15E	10	6:00 PM			0	0	3		Hail
									Hail up to 1 1/4" in diameter.
Southern and Eastern Counties	17	Late afternoon & evening			1	0	5		Thunderstorms
									Hardest hit was Milwaukee area. Twenty-four hour rain falls exceeded 7 inches at several stations. Funnel cloud reported in southern Racine County.
Rice Lake	18	early evening			0	0			Hail
									3/4" hail.
LaCrosse	18	1:30 PM			0	0	4		Hail
									Hail up to 2 1/2" diameter in east central portion of city. Path about 1 mile wide and 2 miles long.
Union Grove	21	3:17 PM			0	0			Hail
									Hail up to 1 1/4" diameter.
Milwaukee 15NW	22	early afternoon			0	0			Hail
									Hail up to 1 3/4" diameter, 3" rain.
North Central and Northeastern Counties	24	evening			0	1	4		Thunderstorms
									Woman struck by lightning, 7 miles west of Rhinelander. Damaging winds, lightning, hail, rain.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JULY 1964

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
WISCONSIN (Cont'd) Southern 2/3 of State	27	Late Afternoon Hardest hit was at Appleton at 4:00 PM			0	0	5		Thunderstorms Hail 1 3/4" in diameter
Lake Winnebago	27	4:15 PM Over Lake Winnebago near High Cliff.			0	0			Water Spout
Houlton	28	7:15 PM Funnel touched down.			0	1	3	0	Tornado
Eau Claire	28	12:20 PM Hail diameter greater than 2 inches on south side of Eau Claire.			0	0	5		Hail
Statewide	28	Southern half of state hardest hit. Winds measured at 72 mph at Camp Douglas before anemometer blew away. Hail, lightning.			0	0	5		Thunderstorms Damage from wind.
WYOMING									
Newcastle 20 W	2	Afternoon Tornado destroyed 53-foot trailer house and did damage to other ranch buildings. No one was at the Harry Borgiali ranch at the time.			0	0	4	0	Tornado
Cheyenne	7	4:25 p. Hail up to 1 1/2 inches fell at the Cheyenne airport. No damage was reported.			0	0	0	0	Hail
Carpenter to Burns	8	8:00 p. - 9:00 p. 1/4 to 3/4 inch hail totally destroyed crops and did damage to farm buildings - area covered 50 square miles from 11 miles north of Burns to 3 miles east of Carpenter, averaging 7000 yards across. Most of the crop damage was between Burns and Carpenter.	23	7000	0	0	4	5	Hail
Cheyenne 40 ESE	14	2:28 p. Radar reported a funnel cloud aloft, no reports of it touching the ground.							Funnel aloft
NORTH DAKOTA									
Southwestern part of state	4	Afternoon 125 Hailstorm entered North Dakota west of Alexander then followed a path to Watford City, Dickinson, Mott and Elgin. Hailstones up to 4" in diameter.	*10		0	0	4	6	Hailstorm
Newtown to Raub	4	Afternoon 40 Hailstones reported to be golf ball size.	*6		0	0	3	4	Hailstorm
Gwinner to Lidgerwood	5	Night 30 High winds knocked down or severely damaged 60 barns.			0	0	5	3	Windstorm
Devils Lake	10	2:00 PM			0	0			Funnel cloud
Fargo	10	2:20 PM			0	0			Funnel Cloud
Williston	11	4:28 PM			0	0			Funnel Cloud
Cando to Hampden	16	4:00 PM Golf ball size hail	35	*2	0	0	0	3	Hailstorm
Woodworth	19	5:45 PM Few hailstones of baseball size.			0	0			Hailstorm
Flasher	21	6:30 PM Tornado touched down 10 miles southwest of Flasher.			0	0			Tornado
Bismarck	21	Hail up to 1 1/4 inches			0	0			Hailstorm 12 miles east-northeast of Bismarck.
Maddock	26	5:00 PM Tornado touched down in a field near Maddock.			0	0			Tornado
Finley	26	9:30 PM Tornado touched down 3 miles west of Finley.			0	0	0	0	Tornado
Minot	27	9:15 PM Winds up to 100 miles per hour and hail up to 1 inch caused extensive property damage to the city of Minot.			0	0	6	3	Windstorm and hailstorm

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

- ° Includes crop damage.
- C Crop damage.
- * Miles instead of yards.
- ** Yards instead of miles.
- † Storm damages are placed in categories varying from 1 to 9 as follows:
 - 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5,000,000
 - 7 \$5,000,000 to \$50,000,000
 - 8 \$50,000,000 to \$500,000,000
 - 9 \$500,000,000 to \$5,000,000,000.

Note: This publication contains our best information on storms but, due to the difficulties inherent in collection of this type of data, it is not all-inclusive. Delayed data and corrections will be carried in the June and December issues of this publication.

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