

U. S. DEPARTMENT OF COMMERCE

LUTHER H. HODGES, Secretary

WEATHER BUREAU

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STORM DATA

AUGUST 1963

Volume 5 No. 8



ASHEVILLE: 1963

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1963

PLACE	DATE	TIME	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
ALABAMA									
Dothan, Houston County	7	7:30-9:00 p.m.			0	1	5		Electrical
	One	person injured while touching a fence, Warehouse destroyed by fire caused by lightning.							
Anniston, Calhoun County	13	Afternoon			0	1	3		Electrical
	One	person hospitalized when lightning struck home.							
ALASKA									
Southwestern Mainland and Cook Inlet	2-4	10 PM of 2nd to mid 4th	?	?	1	?	?	1	Windstorm and rough sea
	<p>During August 2 a weakening low moving across the lower Yukon Valley left a somewhat stationary front extending in a general west-southwesterly direction from the Norton Sound area. By early morning of the following day a wave development along this front led to the formation of a new low pressure system which deepened and moved rather rapidly into the lower Kuskokwim Valley. By late afternoon the increased pressure gradient, combined with a cold front, which extended along the Alaska Peninsula, brought strong, gusty winds over a wide area of Southwestern Alaska and through the Cook Inlet area.</p> <p>At King Salmon winds associated with the system showed increased speeds after 10 PM of Aug. 2 with gusts reaching near 50 mph before midnight. On Aug. 3 gusts continued here with frequent peaks near 50 mph. The windiness spread into the Cook Inlet area with peak gusts of about 40 mph at Kenai from the south-southwest around 3:00 AM; 35 mph at Anchorage International Airport at 4:32 AM and gusts near 30 mph at Homer about 5:00 AM. Wind speeds and gustiness in the open Cook Inlet undoubtedly were in excess of those recorded at these three stations. Variations in wind direction, together with strong gusts and an incoming high tide of 28 feet all contributed to the development of extremely rough wave action over the Inlet.</p> <p>A scow caught in the rough sea some 3 miles west of Point MacKenzie (across Cook Inlet west of Anchorage) about 4 AM. One of the two on board escaped but the other fisherman lost his life in the storm after clinging to a floating keg for at least two hours. This mishap appears to have occurred just about the time the maximum gusts were being recorded at Kenai.</p>								
	See data at end of table								
ARIZONA									
ARKANSAS									
Osceola area, Mississippi County	2	2:30 p. to 3:30 p.	15	* 3	0	0	4	4	Hail, rain and wind
	Strong surface winds caused considerable damage as storm moved from southwest part of county over about 5,000 acres. One-half inch hail also damaged crops.								
Warren area, Bradley County	8	1:30 p. to 2:00 p.	1/2	440	1	0	0	0	Wind
	One man in logging crew died as a result of a tree being blown on him.								
Ashdown, Little River County	13	6:30 p. (*)	(?)	(?)	1	0	0	0	Electrical
	Area of thunderstorms moving east along a cold front. One boy fatally struck by a bolt of lightning.								
Pleasant Valley area, Faulkner County	26	4:00 p. to 5:00 p.	8	* 3	0	0	4	3	Electrical and wind
	Wind caused property damage as thunderstorms moved southeast. Three cows killed by lightning.								
Osceola area, Mississippi County	28	2:45 p. to 3:30 p.	16	* 5	0	0	5	4	Hail, rain and wind
	Thunderstorms moved northeast with major damage due to wind.								
CALIFORNIA									
Western Mojave Desert	7-8				0	0	5	0	Heavy rain
	Rains washed out roads and flooded homes and businesses; utilities disrupted.								
Wlishire Peak (15 E Redlands)	15				0	0	4	5	Heavy rain
	Rain washed out roads, flooded buildings, and covered farmland with rocks and mud.								
COLORADO									
Southern Weld to El Paso Counties	3	Afternoon			0	0	*4	C	Thunderstorms
	General thunderstorms became locally severe in scattered localities just east of the mountains. Heavy rain with wind and some hail, damaged farm buildings and crops and caused flood damage to roads, dams and buildings northwest of Keenesburg. Near Colorado Springs, a mountain road was washed out by heavy rain in places, stranding tourists. Heavy rain in the Parker area caused Cherry Creek to overflow and did damage to roads.								
Central Colorado	4	Afternoon & evening			0	0	*4	C	Thunderstorms
	Severe thunderstorms affected localities over a wide area from the eastern edge of the mountains to Grand Junction, and unusually heavy rains fell in some mountain areas. Heavy rain with hail and								
COLORADO (Cont'd)									
	wind damaged crops in the Berthoud area. Heavy rains in canyons above Idaho Springs caused rock and mud slides which closed Highways 6 and 40 for a time. A number of other mountain highways were closed by rock and mud slides. Heavy rain in several areas of Mesa County damaged roads, bridges and buildings. In Grand Junction, business buildings and homes were damaged by overflow of heavy rain.								
Eastern Colorado	6	Evening			0	2	4		Rain & lightning
	Scattered heavy rains caused local flooding in several areas. A young girl in Pueblo and a man near Platteau in northeastern Colorado suffered shock and small burns from lightning. Lightning also damaged buildings and stacked feed at scattered locations. Some flooding occurred in Metropolitan Denver and Limon area from heavy rain.								
Southeast Colorado	11	4:15 PM			0	0			Funnel cloud
	A funnel cloud was sighted between Las Animas and Lamar moving westward in open country. No damage reported.								
Colorado Springs area	15	Afternoon			0	0	4		Heavy rain
	Heavy rain in the Colorado Springs-Manitou area damaged buildings, power equipment, streets and roads. Rainfall was estimated up to 4 inches in parts of the area.								
Denver & Arapahoe Counties	17	1:30 PM			0	0	4		Heavy rain & lightning
	Heavy rain in southeast Denver, Englewood and Littleton caused flooding of basements and streets. Lightning caused power failures. The hardest hit areas were the 4500 to the 4800 blocks from South Logan to South Delaware streets. A 12 year old boy was swept into a conduit by a 3 foot high breast of water. He was carried 126 feet through the waterway and came out unhurt. Cherry Creek Dam received over 3 inches of rain.								
Western Colorado	31	Evening			0	0	4		Heavy rain
	Heavy rain in Ruby Canyon west of Grand Junction damaged irrigation canals and washed out a section of track of the railroad, which caused the derailment of an engine and 2 passenger coaches. Flooding occurred at several localities in the Delta-Panama area. At Glenwood Springs, basements were flooded, and debris was washed into town from the adjacent canyons.								
CONNECTICUT									
Norfolk, Colebrook, Canaan, Winsted, W. Hartland, E. Hartland; Litchfield County	11	7:30 p - 9:30 p			0	0	0	4	Hail.
	Hail up to 1 inch in diameter accompanied several violent thunderstorms.								
DELAWARE									
Northern and Central Areas	1	Afternoon			1	0	5	0	Thunderstorms with heavy rain, lightning, and hail.
	Heavy rainfall flooded intersections, basements and yards, submerged vehicles and caused thousands of dollars of damage. Unofficial estimates indicate rainfall may have been over 3 inches in Wilmington which had most damage. Flash floods reported in a number of localities. Gusts ripped off a roof and caved in a wall of a Wilmington Warehouse. Minor lightning damage. Wires down in many locations. Hail the size of marbles reported in Wilmington.								
Dover	20	Early Morning			0	0	3	0	Thunderstorm
	A farm worker in Kent County was killed by lightning. Lightning struck City's main power plant and disrupted service for 50 minutes. Other scattered areas were out of service longer because of local troubles from storm.								
Northern	22	Afternoon			0	0	3	0	Thunderstorm with high winds and lightning.
	Trees uprooted. Four buildings struck by lightning. Power service interrupted for 300 customers by falling trees and branches.								
FLORIDA									
Scottsboro Brevard Co.	1	2:20 pm			1	0			Lightning
	Lightning killed tractor operator in an Orange Grove								
Jacksonville Duval Co.	1	2:30 pm			1	0			Lightning
	Lightning killed Golf Course groundskeeper while mowing grounds								
Winter Haven Polk Co.	1	Afternoon			0	0			Funnel Cloud
	Cloud remained aloft but strong surface winds uprooted several trees in area								
Indiantown Martin Co.	2	4:00 pm			0	0	2	0	Tornado
	Tornado cloud touched ground briefly causing minor damage								
Lake Kerr Marion Co.	8	Afternoon			0	0	2	0	Tornado
	short narrow Waterspout over Lake Kerr came ashore causing minor damage to two residences								
Oak Hill Volusia Co.	9	3:25 pm			0	0	2	0	Tornado
	Funnel Cloud dipped to ground briefly causing minor damages								

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1963

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					KILLED	INJURED	PROPERTY	CROPS		
FLORIDA (Cont'd)										
Coastal Sections of Dade and Palm Beach Counties	11	Afternoon			0	2	4		Wind	
	Strong winds accompanying line of thunderstorms which moved across area during afternoon. Several trailer homes damaged in West Hollywood area. Several light aircraft destroyed and others damaged at Lantana Airport.									
St. Petersburg Pinellas Co.	13	8:10 pm	4	100	0	0	4		Tornado	
	Tornado moved from WSW to ENE. Storm first seen as waterspout in Gulf of Mexico. Waterspout came ashore near Madiera Beach, damaging residences along storm path.									
Tampa Hillsborough Co.	16	9:45 am			0	0	0		Waterspout	
Tampa Hillsborough	18	5:30 pm			0	0	0		Waterspout	
Large Pinellas Co.	21	1:45 pm	1	25	0	0	4		Tornado	
	Tornado struck Starkey School inflicting considerable damage. Five nearby houses deroofed. Storm moved from South to North.									
St. Petersburg Pinellas Co.	22	2:00 pm	short narrow	0	0	3			Tornado	
	Funnel cloud touched down briefly causing minor damage to several residences. Storm moved from Southwest to Northeast.									
Ft. Myers Lee Co.	27	Afternoon			0	0	0		Waterspout	
GEORGIA										
Bainbridge, Decatur County	8	2:30 p			0	0	4	0	Wind	
	A sudden windstorm unroofed a sausage plant and damaged some inside equipment. An adjacent home and an automobile were also damaged.									
Coweta, DeKalb and Fulton Counties	13	pm			0	0	4	0	Wind	
	A commercial garage was unroofed near Newman in Coweta County and numerous trees were uprooted in parts of Atlanta and DeKalb County. Telephone and electric service was interrupted for several hours in some areas and numerous awnings and TV antennas were damaged.									
Forsyth, Monroe County	20	pm			0	0	4	0	Wind and rain	
	Roofs of several buildings were damaged and many trees were uprooted in and around Forsyth. Power lines were knocked down in several areas and some streets were flooded when more than two inches of rain fell within an hour.									
HAWAII										
Oahu	15	4:33 p							Waterspout	
	Waterspout observed 42 mi. west of Honolulu.									
Kauai	16	10:02 a. and 10:18 a.							Waterspout	
	Waterspout observed approximately 5 mi. southwest of Lihue at 10:02 a.m. Another waterspout (possibly the same one) reported 11 mi. south-southwest of Lihue at 10:18 a.m.									
IDAHO										
Jerome & Minidoka Counties	3	1:30 to 2:15 PM			2		6		Rain, hail, wind lightning	
	Storm hit first near Hazelton and moved northeastward to Minidoka County line. Conical hailstones 3/4 inch long reported. On many farms losses estimated at about 2/3 of grain crop, almost 100% of beans and peas, with lesser amounts of damage to sugar beets and potatoes. More than 8000 acres hit. Unofficial report of 1.45 inches of rain; some local flooding. Man and boy injured when struck by lightning. Morning of same day fire started by lightning destroyed haystack, cow sheds and granary 1 1/2 mi. N of Acequia.									
Southern Sections	9	Late forenoon					4		Thunderstorms	
	Numerous thunderstorms were reported throughout to eve. southern Idaho. Heavy downpour, beginning 11:30 AM, on headwaters of Slate Creek near Clayton, Custer County, produced flash flood at Slate Creek Hot Springs early afternoon, damaging trailers of 3 camping parties, washing out bath house at Hot Springs and 1/8 mile of road downstream. Lightning caused fire that destroyed 100 tons of baled hay south of Hansen at 2:05 PM. Wind and lightning knocked out power to 4000 homes, toppled fences, street barricades and trees, and caused minor flooding in Boise about 5 PM. 0.31 inch of rain fell in 5 minutes, 0.44 inch in 10 minutes and 0.59 inch in 15 minutes at Boise Air Terminal.									
Twin Falls, Jerome & Minidoka Counties	10	Afternoon					6		Wind, hail, rain	
	20 to 30% damage to grain was reported vicinity of Castleford, while north of the Snake River, in an area about 40 miles long and up to 2 miles wide, extensive crop damage (nearly total on some fields) was reported. Storms moved from SW to NE with most damage reported south and east of Hazelton.									
ILLINOIS										
Northeastern Illinois	2	6a-9a			0	0	05	0	Wind, hail, local flooding, lightning	
	Two thunderstorm lines passed across northeastern Illinois with greatest damage to northwestern suburbs of Chicago. Trees were uprooted, windows broken, power lines downed with local flooding of basements and vaults.									
Winnebago County	2	4:30p			0	0	1	3	Hail	
	Hail 1 inch in diameter covered ground 10 ENE of Rockford.									
ILLINOIS (Cont'd)										
Chicago vicinity	16	11p			0	0	?	?	Hail	
	Hail reported in and around Chicago with 3/4 to 1 inch diameter at Berwyn shortly before midnight.									
INDIANA										
Northern Indiana	2-3	7 p. to 7 a.			0	1	5	0	Lightning, wind	
	Lightning injured a boy at Osceola and damaged several buildings in a wide area. Some utility lines were struck by winds, falling trees, and lightning.									
Decatur County	3	evening			0	0	4	4	Wind, lightning, hail	
	Lightning and resulting fire destroyed a home in Greensburg. Wind unroofed a barn and blew down trees three miles northwest of Greensburg. Marble sized hail damaged crops in a strip 15 miles long and one mile wide starting 5 miles west of Greensburg. Path was eastward.									
IOWA										
Cedar Rapids	2	9:30 p					4	4	Windstorm	
Newhall	2	10:00 p					4	4	Windstorm	
Waverly	2	10:45 p							Funnel	
Perry	5-6	10:00 p					1	5	4	Heavy rains
3NE Denver	27	4:00 p						5		Lightning
KANSAS										
Northern Coffey County	5	Near 3:00 p.								Severe wind
	Locally severe winds broke high voltage lines 5 miles east of Lebo. Also some trees and roof damage over northern part of county was reported.									
Sherman County	5	6:20 p.								Hail
	Hailstones 1/2 inch in diameter fell for a few minutes at the Goodland Airport.									
Southeast Kansas	6	4:30 p.	15							Small tornado, severe wind, heavy rain
	A small tornado left intermittent damage from near New Albany to Buffalo in Wilson County. Also severe winds unroofed buildings, broke transmission lines, damaged trees and crops over Chautauque, Elk, Woodson, Montgomery and Neosho counties. Heavy 3 to 4 inch local rains damaged the contents of unroofed buildings.									
Kingman County	6	5:00 p.								Small tornado
	A small tornado struck near Kingman, damaging transmission lines and unroofing a farm building.									
McPherson County	9	1:00 a.-2:00 a.								Severe electrical
	Numerous lightning strikes with local damage to house wiring. Several buildings in town were materially damaged. A large barn and shed west of town were destroyed by lightning.									
Horton and Phillips Counties	11	Afternoon								Heavy rain, electrical
	Heavy 4 to 6 inch rains resulted in flash flooding over parts of these counties. Highways were closed and some bridges torn out. Fields were washed badly in some areas. Occasional damage resulted from several sharp bolts of lightning.									
Southeast Counties	12	4:00 p-6:00 p.								Heavy rain, high wind, hail, electrical
	A thunderstorm centered over Fort Scott left scattered damages over several southeast counties. In Bourbon County 60-mile winds and marble-sized hail damaged crops, roofs, windows, automobiles, TV antennas and communication lines. Flash flooding resulted from the 5 inches of rain in 1 1/2 hours. Some lightning damage was reported.									
Cowley and Sumner Counties	17	Afternoon and evening								Wind and electrical
	A heavy thunderstorm moved across these counties late in the afternoon and evening, striking Finfield about 4:00 p. A number of buildings were struck by lightning and a large rural church completely burned. Small buildings were overturned and transmission lines tangled by high winds.									
Jackson County	23	3:30 p.								Severe winds
	High winds over the eastern part of the county caused minor damages generally. The most severe damages were about 7 miles northeast of Holton where a barn was washed in, a cattle shed unroofed and a house twisted on its foundation.									

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					KILLED	INJURED	PROPERTY	CROPS							KILLED	INJURED	PROPERTY	CROPS					
KANSAS (Cont'd) Morton County	28	2:00 p.							Hail and severe winds	MARYLAND (Cont'd) Northern Area	3	Evening and night			0	0	3	0	Thunderstorms				
									A thunderstorm beginning about 2:00 p. brought widespread hail over the southern part of the county. Some stones were an inch or more in diameter and covered the ground locally several inches deep. Winds were up to 75 mph with gusts to 100 mph. Two small airplanes were demolished at the Elkhart airport.										Nine Holstein heifers were killed by lightning at Farmington. Modern barn at McHenry was struck by lightning but little damage to barn and none of 50 Holstein cows injured. High wind collapsed steel framework of a building being constructed in Stony River area.				
Stevens County	31	Night							Heavy rain	Northern and Central Areas	13-14	Evening and early morning			3	0	4	0	Thunderstorms with hard rain, high winds and lightning				
									Flash flooding from 5 to 11 inches of rain was reported in and east of Hugoton. Highway 270 was closed east of Hugoton. Basements were filled with water in lower areas. On one farm of 320 acres only 80 acres were not covered with flood waters the next morning.											Winds knocked out electric power and telephone lines especially in Prince Georges and Montgomery counties. A 40-foot elevator used in construction work blown over at Frostburg. Trees blown down, causing damage to homes and autos, minor flooding reported in Baltimore and Washington metropolitan areas. Minor damage by lightning also reported. Three men killed in 2-car collision in heavy rain near Frederick.			
KENTUCKY										Northern and Central Areas	19	Evening and night			2	0	4	0	Thunderstorms with heavy rain, high winds and lightning				
Woodford County Versailles Area	28	4 p.m.			1	1			Lightning										In Baltimore area trees were knocked down, roads and basements flooded, minor lightning damage reported; also two traffic deaths were blamed on storm when car skidded and struck a pole, killing occupants. At Washington, D. C. heavy rainfall of 2 1/2 inches in a 3-hour period caused traffic tieups and interruptions in power service. Two barns in Prince Georges County and one barn in Frederick County were destroyed by fire attributed to lightning. Power service interrupted in many communities. Wind damage reported in Washington and Garrett Counties.				
Daviess County Dundee Area	28					1			Lightning	Northern and Central Areas	20	Evening and night			0	0	5	0	Thunderstorms with heavy rain and lightning				
									A man was struck by lightning while sitting on the front porch of his home.										In Washington, D. C. metropolitan area, storm swamped cars, flooded roads, homes and basements, disrupted communications and power service. A 2-day total of over 6 inches rainfall recorded. Both Prince Georges and Montgomery Counties had severe damage. Seabrook Acres, the worst hit of Prince Georges communities had flooded basements and homes, and swamped automobiles. In Washington County several dirt roads were washed out and heavy cable and line damage was reported. Minor lightning damage in widely scattered areas. Hail reported in Montgomery County.				
LOUISIANA										MASSACHUSETTS													
Rapides Parish, Kingsville	8	Afternoon			0	1	2	0	Lightning	Taunton	2	6:15 p.			0	0	0	0	Collar cloud				
									Woman, while attempting to cover furniture in yard, knocked unconscious, 30-40 minutes, by lightning bolt, which set fire to furniture and split tree close by.										Rotary collar cloud estimated 2 miles diameter moved southeastward at about 1000 feet above the ground. A faster whirl was organized inside but no funnel cloud dipped down. However a mild vortex reached the ground as shown by small trees whipped in circular fashion as it passed. No damage. No rain at time but heavy rain and some hail fell to the north of path.				
Natchitoches Parish, 3 W Colfax	9	p.m.			0	1	0	0	Lightning	Florence-Hadley-Norhampton area, Hampshire County	7	5-6 p.			0	0	3	5	Hail, wind, local flooding				
									Men with ditch blade on shoulder, beneath beech tree, hit by lightning; badly injured.										Hail, marble sized with some nearly 3/4 inch in diameter heavily damaged tobacco and other crops. Wind felled trees and wires. Flash floods covered Route 9 up to one foot deep in spots and excessive rain washed soils. Total rainfall estimated two to three inches in Hadley area.				
State	16								Unusual cold	Bridgewater-Brockton-Easton area, Bristol and Plymouth Counties	8	About 4 p.			0	0	3	0	Electrical, wind, rain, hail				
									Lowest August 1963 temperatures generally occurred this date with minimums from middle 60's to low 50's. The 62 °F. at Lake Charles was its lowest August temperature since 1940, when 61 °F. occurred on the 21st. Jennings, with 59 °F., tied its previous 65-year lowest August temperature.										A number of homes were struck by lightning with mostly minor damage. Lightning and wind felled trees and limbs and broke utility lines. Torrential rains flooded streets for a time. Odd shaped hail was described as oval, with a thin brim, and dented on one side.				
Orleans Parish, New Orleans	21	11:15 a.			0	1	0	0	Lightning	Much of State	11	P.M.			0	1	4	0	Electrical, hail				
									During baseball game at St. Patrick Park, thundercloud passed over, but before the rain fell, lightning struck ground and seriously injured an eight-year old boy chasing a fly ball.										Slight lightning injury at North Adams when a boy's hair was singed. Numerous minor lightning damages and resultant power outages, including service to over 3000 homes in the Taunton area. Major losses were a large dairy barn at Harvard and a home at Amesbury. Hail of 1/2 inch diameter at Fall River.				
Jefferson Parish	30	2:40 p.-2:52 p.							Waterspout	Martha's Vineyard, Nantucket, and Cape Cod and adjacent portion of south-eastern Mass.	13	P.M.			1	3	4	0	Electrical, wind, rain				
									In vicinity to S of Grand Isle, followed by heavy rains and lightning.										Many lightning strikes with widespread minor damage. Considerable loss to electronic gear on Nantucket. Southerly gale winds in afternoon brought high storm surge tides reported up to three feet or more above normal in some south shore areas, with the excess recorded as 135 feet at Woods Hole. One killed by power line blown down. Two injured in wind tossed boats and another suffered head injury by wind blown door. Many trees and signs felled. Shingles blown from roofs. Peak wind velocity near 7 P.M. Gusts to 70 m.p.h. reported at Falmouth. Many boats broke from moorings and were damaged. War and wharf building damaged at Provincetown when struck by disabled boat. Storm rainfall mostly one to three inches with excessive rates of fall during evening. Considerable local flooding resulted.				
MAINE										Fitchburg	23	3-4 p.			0	0	4	0	Electrical, rain				
Southwest portion	4	Evening			0	0	4	0	Electrical, wind, rain										Rash of fires and other lightning damage. Many utility outages. Local flooding and washing rain. Washed dirt, rocks and other debris blocked many streets.				
									Local small fires and other lightning damage, with five persons receiving shocks but no injuries. A large barn was destroyed in Prospect, from a lightning fire. Trees and limbs blew down cutting power and phone lines and damaging homes and an auto. Flash flooding from short period excessive rain caused some washing of soil and in Bridgton some flooding of the business area.														
Southern portion	14	Morning			0	0	4	3	Electrical, wind, rain														
									Considerable loss from fires set by lightning. Many trees and limbs blown down, causing utility outages. A falling tree in Augusta damaged autos. Locally heavy rains flooded streets and washed out land and roads. The Augusta Sewerage District reported that rainfall of such intensity might be expected to average only once in 25 years. Some damage by wind and rain to apples and vegetables.														
Kennebec Co.	31	2-3 p.			0	0	3	3	Electrical, hail														
									Scattered lightning and hail damage. Hailstones up to about 3/4 inch diameter.														
MARYLAND																							
Eastern and Central Areas	1	Afternoon and evening			3	1	5	0	Thunderstorms with high winds, heavy rain, lightning and hail.														
									In Baltimore area two drowned when storm swamped their boat in Back River, one boy killed by lightning while helping his father and friend to unlock truck. Some streets flooded, one home damaged by lightning, gusts estimated up to 50MPH downed many trees and power and telephone lines, heavy rains up to 2 inches in some areas caused flash floods, water in one street in Dundalk 4 feet deep. Thirteen purebred Holstein cows were killed at Rising Sun. In Charles County a freakish wind storm about 5PM caused considerable damage, barns and trees were blown down, electric and telephone lines were downed, minor injuries reported. Large hay shed, machinery and 20 tons of hay were destroyed by lightning in Carroll County. Hail estimated at 1 to 1 inch fell in north Baltimore area including Dundalk; at Parkville hail up to 1 inch in diameter fell for about 15 minutes.														

See reference notes at end of table.

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MASSACHUSETTS (Cont'd)									
Plymouth	31	3:55 p.			0	0	0	0	Electrical
			Lightning hit a main distribution center and cut power from much of Plymouth County, affecting 34,000 customers.						
MICHIGAN									
Eastern shore of southern Lake Michigan	2	10:30 a.							Seiche
			Seiche of two and half feet observed on Lake Michigan at St. Joseph and South Haven.						
Southwestern and south central lower Michigan	2-3	3:00 p. 2nd 6:00 a. 3rd					4		Thunderstorms with high winds, heavy rains and lightning
			High winds felled numerous trees with resultant damage to homes, buildings and cars plus many small buildings were damaged and blown down. Heavy rains in excess of three inches flooded streets, roads and basements of homes and stores with heavy damage reported. Lightning induced fires damaged several homes and buildings. Power service was disrupted to numerous homes in the area due to high winds and lightning.						
Van Buren County	9	8:00 a.					4	C	Thunderstorms with high winds, heavy rains and hail.
			Mostly, in the vicinity of Lawton numerous wind felled trees damaged homes, cars and buildings. Heavy rains flooded scores of basements of stores and homes at Lawton with heavy damage reported to contents. Roads and streets flooded in the area. Hail caused heavy damage to grape and orchard crops throughout mile and half path in the vicinity of Lawton.						
Mecosta County	16	Evening					2		Lightning
			Man and wife received minor burns when struck by lightning while inside their summer screen house near Titus.						
Genesee County	17	1:00 a.					4		Electrical
			Lightning induced fire destroyed large modern farm barn and contents in Argentine Township with estimated damage of 32 thousand dollars.						
MINNESOTA									
Traverse, Big Stone Counties	1	11:30 p.			0	0	0	4	Hail
			Hail damaged crops in 50 sections extending from southwestern Traverse County to southeastern Big Stone County.						
Dakota, Winona County	2	1:00 a.			0	0	4	0	Wind, electrical, funnel cloud aloft
			Winds, reaching 97 mph in gusts at the La Crosse Airport Station, damaged trees, buildings and power lines in the Winona-Lamotte area. A farmer sighted a funnel cloud aloft near Lamotte. A barn near Dakota was set fire by lightning and destroyed.						
Minneapolis-St. Paul, Hennepin-Ransley Counties	2	2:30 a.	*900	60	0	1	4	0	Tornado
			Tornado touched down briefly in south central Minneapolis damaging roofs, breaking windows, twisting and falling trees. Numerous cars smashed by falling trees. A terrific roar at height of storm heard by residents in the vicinity. Elsewhere in the metropolitan area trees blown down and one man injured slightly by flying glass.						
Polk and Mahonem Counties	4	Late afternoon and evening			0	0	0	5	Hail
			Hail up to 1/2 inch in diameter damaged crops. Storm moved south-eastward generally on a line from and east of Beltrami, Polk County to Beju, Mahonem County.						
Renville County	7	2:00 a.			0	0	0	6	Hail
			Hail from 1/2 to 1 1/2 inches in diameter damaged crops in a 2 mile strip running from 2 miles west of Danube to the Minnesota River. In many areas ground completely covered with hail with accumulations near 2 inches.						
Pope and Swift Counties	7	4:30 a.			0	0	0	4	Hail
			Scattered hail, with some stones 1 inch in diameter, did light damage to crops in parts of several sections.						
Blue Earth and Faribault Counties	7	2:30 p.			0	0	0	4	Hail
			Hail damaged crops in a one square mile area near Brush Creek in Blue Earth County and also in parts of Faribault County.						
Martin County	7	5:45 p.			0	0	0	4	Hail
			Hail up to one inch in diameter damaged corn and beans in the north central part of the county.						
Western Minnesota	8	9:00 p.			0	0	?	?	Hail
			Hail damaged crops in 12 western counties. Dollar loss not determined.						
Minneapolis-St. Paul, Hennepin-Ransley Counties	8	11:30 p.			0	1	4	0	Wind, electrical
			Wind, with gusts reported at 111 mph, blew down hundreds of trees causing damage to power lines and automobiles in the metropolitan area. One person injured by flying glass. Several homes in Minneapolis set afire by lightning strikes. Damage reported as light. Falling high voltage electric lines set fire to several cars. Cost of storm cleanup in St. Paul estimated at \$30,000.						
MINNESOTA (Cont'd)									
East Central Minnesota	11	10:30 p.			0	0	4	5	Hail, heavy rain, wind
			A series of thunderstorms moving southeastward from western Morrison County through Anoka County accompanied by wind, hail and heavy rain caused damage to crops, trees, buildings and power lines. Hail stones reported up to 1/2 inches in diameter. Rain unofficially 5 inches in the Swanville area flooded basements and damaged crops. Heaviest official rainfall was 4.22 inches at Milaca, Mille Lacs County. Wind damage greatest Santiago area, Sherburne County.						
Wabasha County	16	5:40 p.			0	0	0	4	Hail
			Hail up to 3 inches in diameter damaged crops in an area extending from Hammond to 2 miles north of Elgin.						
Ely 20 N, St. Louis County	22	11:30 a.			1	0			Electrical
			Man in a canoe struck and killed by lightning.						
St. Cloud 6NE, Benton County	22	4:55 p - 5:01 p							Funnel cloud aloft
			Funnel cloud, not touching ground, observed by Weather Bureau employees northeast of St. Cloud Airport.						
Clara City, Chippewa County	27	2:00 a.			0	0	4	0	Heavy rain
			Rainfall unofficially measured at over 5 inches at Clara City flooded basements in homes and business establishments. Greatest damage was to stored merchandise.						
MISSISSIPPI									
Warren County, Vicksburg	14	6:00 a. - 9:00 a.			0	0	4	0	Heavy rain
			Local heavy rain: 1.36 in. in 20 minutes; 2.87 in. in one hour; 4.07 in. in two hours broke 70-year August two-hour record, but all-month two-hour record was 4.17 in. on February 17, 1927.						
Central and Northern portion	15-16	a.m.							Unusual cold
			Lowest August 1963 temperatures on 15th and/or 16th, with most readings in the 50's. Number of stations reported all-time low temperature for date.						
Warren County	22	Near 5:30 p.			0	0	4	0	Wind
			Wind gusts downtown Vicksburg estimated 55-60 m.p.h.; apparently stronger other sections. Thunderstorm squall principally damaging telephone and power lines, TV aerials, roofs, etc.						
Jones County, Laurel	29	Shortly after-noon			1	1	3	0	Lightning
			Lightning killed man sitting in metal chair beneath tree in Rainey Community; son knocked unconscious; son's wife and small boy stand-nearby were both knocked to ground. Other lightning ignited fire in building; many homes reported appliance trouble, burned bulbs, power shortage, etc.						
MISSOURI									
Barton County	6	6:00-7:00 PM					4		Thunderstorm
			Several homes and farm buildings set on fire by lightning.						
Southeast Madison County	12	6:00 PM	2	100			4		Tornado
			Observer reported a "roaring train" sound as storm approached. House twisted off its foundation and carried 15 feet away.						
MONTANA									
Sidney, Fairview, Sioux Pass, Richland County	1	Afternoon	40	*1-3	0	1	6	6	Hail, Wind, and Thunderstorm
			The storm covered an area from the north side of Sidney northward to Sioux Pass and Fairview. Damage from hail was especially heavy to crops ready to harvest. Telephone and power lines were broken by wind. Most severe damage was in the Sioux Pass-Fairview area. A 17-year old boy was injured when a granary was blown on him. Hailstones were up to the size of lemons. Wind gusts were estimated at 120 miles per hour. The storm moved eastward into North Dakota.						
Anaconda (East of) Deer Lodge County	6	Morning	?	?	0	0	4	0	Lightning
			Lightning set a fire which destroyed three ranch buildings and 56 prize sheep.						
Richland and Eastern Roosevelt Counties	8	Evening	?	?	0	0	4	5	Hail, rain, high wind
			Most of the damage from these storms was between Crane and Sidney, Richland County where there was considerable damage to telephone and power lines. The Mountain States Telephone Company reported 1.45 poles down in one-three mile strip. There was considerable crop damage around Bainville, Roosevelt County. Hailstones were the size of golf balls.						

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1963

PLACE	DATE	TIME	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE	CHARACTER OF STORM	
					KILLED	INJURED	PROPERTY	CROPS			
MONTANA (Cont'd) Garfield, Phillips, and Yellowstone Counties	19	Afternoon and Evening			0	0	3	4	Lightning	Lightning strike while he was irrigating cotton. Poncho and rubber hip boots shredded and body knocked into irrigation ditch.	
										Lightning-set fires burned over 1500 acres of stubble and range land in Yellowstone and 20,000 acres of range land in Phillips Counties. In Garfield County, and estimated 400 to 500 men and women were fighting range fires throughout the night. A number of forest and range fires were reported in other parts of the State.	
Glacier and Toole Counties	19	Afternoon			0	0	0	4	Hail	Flash flood, heavy rain	
										There were scattered reports of hail damage throughout the two counties, but damage was not too severe. It was estimated there was damage to about 1000 acres of grain around Car Bank.	
Valley and McCone Counties	20	Afternoon and Evening			0	0	2	5	Hail and thunderstorms	Brief but intense rains brought from one to three and one-half inches of rain, with from about 0.50 to 3.00 inches in one-half hour, over most of the city and surrounding area. Damage to city streets, bridge structures, Embudo Dam, and municipal facilities, \$38,000. Damage to homes and businesses, \$500,000. Flooding affected 1,250 families, 200 persons evacuated, primarily in northern valley areas, but some along northeast arroyos. Fifteen homes destroyed; 150 homes had major damage; and 1,000 homes had minor damage.	
										A number of hail and thunderstorms were reported in the two counties with some heavy crop damage north of Ophelia, Valley County. One farm home near Brockway was damaged by lightning.	
Carter, Daniels, Roosevelt and Yellowstone Counties	20	Morning and Evening			0	0	7	7	Lightning	Lightning	
										A number of lightning fires were set in this area of the State. In northern Carter County, 20 sections of grazing land were burned. A number of forest fires were reported in other areas.	
Northern Montana from Flathead County eastward	25	Afternoon			0	1	4	6	Hail, thunderstorms, rain, wind	Lightning	
										Hailstorms were reported all along the northern tier of counties. Damage was heavy local areas. Roy, Fergus County, received the most severe damage from hail and rain. Near Ollmont, Toole County, a man was severely burned by lightning.	
Red Lodge, Carbon County	25	10:30 AM	?	?	0	2	0	0	Lightning	Tornado, Funnel Cloud	
										A lightning strike from a local thunderstorm severely injured a woman golfer. A second woman was injured but less seriously from the same lightning strike.	
NEBRASKA Omaha	1	4:00 a.	Spot	Spot	0	0	5	0	Lightning	Lightning	
										Lightning fire destroyed a large church.	
Morrill County	16	7:00 p.	17	4*	0	0	0	6	Hail	Tornado	
										Approximately 75% crop loss across a strip 3 miles wide and 6 miles long in the irrigated "Dutch Flats" area.	
Southwest of Ord	27	5:30 p.	8	1/2	0	0	4	5	Hail and Tornado	Lightning	
										Hail caused crop damage in an 8-mile strip in southwestern Valley County. Property damage was caused by a narrow tornado that set down for a short time on a farmstead about 10 miles southwest of Ord.	
Near Tilden	27	7:15 p.	Spot	Spot	0	2	0	0	Lightning	Thunderstorms, hail, wind, lightning	
										Two occupants of an automobile were injured as they drove under a power line. Lightning struck the line and the auto.	
Western Custer County	30	3-5 p.	18	2*	0	0	3	5	Hail & high winds	Torrential rain	
										Hailstones up to 1" diameter were washed into ditches. Drifts up to 4' high resulted. Several fields were destroyed. Wind damaged several farm buildings.	
NEVADA	None reported										
NEW HAMPSHIRE Nashua	7	6-6:30 p.			0	0	3	0	Electrical, wind, flooding, hail	Thunderstorms, hail, wind, lightning	
										Though but little rain fell at the nearby weather station, torrential rains caused washing and flooding in sections of Nashua. Some streets and cellars were flooded. Lightning and wind hit trees and phone and power lines and caused small fires. Little or no hail damage.	
Troy	13	1:15 p.	2	15	0	0	5	0	Tornado	Thunderstorms, hail, wind, lightning	
										Funnel touched ground several times along wandering path in general north-northeastward direction. Much damage to the Troy Town Hall. Other buildings exploded. Trees and chimneys toppled, with utility outages.	
Littleton	23	3 p.	2	Narrow	0	0	3	0	Wind, hail	Thunderstorms, hail, wind, lightning	
										Trees felled and a barn roof torn away by wind. Hail up to about 1 inch diameter stripped leaves from trees.	
NEW JERSEY	None reported										
NEW MEXICO Malaga, Eddy County	1	Morning							Lightning	Lightning	
										One man killed by lightning strike while he was irrigating cotton. Poncho and rubber hip boots shredded and body knocked into irrigation ditch.	
Albuquerque, Bernalillo County	10	6:00 p.					20	6	Flash flood, heavy rain	Lightning	
										Brief but intense rains brought from one to three and one-half inches of rain, with from about 0.50 to 3.00 inches in one-half hour, over most of the city and surrounding area. Damage to city streets, bridge structures, Embudo Dam, and municipal facilities, \$38,000. Damage to homes and businesses, \$500,000. Flooding affected 1,250 families, 200 persons evacuated, primarily in northern valley areas, but some along northeast arroyos. Fifteen homes destroyed; 150 homes had major damage; and 1,000 homes had minor damage.	
San Miguel County	12	11:15 a.					1	1	Lightning	Lightning	
										Front fisherman in Pecos River near Cowles killed by lightning. Companion knocked unconscious and teeth chipped.	
Hernandez, Rio Arriba	12	5:30 p.					1		Lightning	Lightning	
										Lightning shock killed one woman in hay field.	
Los Alamos, Los Alamos County	15	12:30 p.					3		Lightning	Lightning	
										Three men working in culvert construction knocked down, two unconscious. One received 1st and 2nd degree burns on foot and leg.	
Nageezi, San Juan County	26						1		Lightning	Lightning	
										Lightning struck tree, traveled along radioaerial to hogan, killing 7-year old girl in or near hogan.	
Albuquerque, Bernalillo County	29	4:00 p.						5	Flash flood, heavy rain	Lightning	
										Heavy rains in the northern part of the city and northward caused flooding in the north valley and damaged highway crossings of arroyos. \$100,000 damage.	
Dalles, Valencia County	30	11:14 a.	Short Narrow						Tornado, Funnel Cloud	Lightning	
										Tornado, 1 mile south Dalles, on open range with no damage. Moved west to east, weaving, touched ground for about 2 minutes. Heavy rain. Funnel cloud not quite touching ground visible about 30 miles south-southwest Albuquerque Airport, very small and retreated in few minutes.	
Lovington, Lea County	31	6:15 p.	Short Narrow				3		Tornado	Lightning	
										Blue-greenish funnel cloud moved from the south traveling about 200 feet in the air. Tail detached from main funnel, damaging 6 mobile homes. Damage total \$2,000.	
NEW YORK Southern Tier counties and extreme Southeast	1	late afternoon					1	2	5	Thunderstorms, hail, wind, lightning	
										Main damage due to winds of 50 to 75 mph in some instances in the scattered severe thunderstorms. Trees uprooted, limbs and wires down, lightning-caused fires destroyed several barns. At Holmesville, Chenango County, a 10-year old girl was crushed to death when high winds flattened a barn. Two men were injured by lightning striking a fence. Unusually severe thunderstorms with damaging winds in the Newburgh area.	
Watertown area	4	early morning hours					1	4	Thunderstorms, high wind, heavy rain	Thunderstorms, hail, wind, lightning	
										Severe thunderstorms, high winds with torrential brief downpour of rain, severe lightning. Communication and power lines knocked out. Elderly woman burned to death in lightning-caused fire of dwelling and barn.	
Buffalo and Niagara Frontier area	7	early morning hours						7	Torrential rain	Thunderstorms, hail, wind, lightning	
										Torrential rainfall (3.88 inches) in a few hours; reported in press as most violent in history. Widespread flooding with near disaster conditions. 30 to 40 thousand homes were damaged by the 5-hour storm. Damage estimates to homes near 28 million. Approximately 7 million dollars damage to streets, sidewalks and buildings. Near 50 million dollars damage in entire area.	
NORTH CAROLINA Cumberland, Greene Counties	1	night					0	0	3	4	Electrical, Hail
										Lightning burned barn and contents. Hail damaged corn and soybeans.	
Alamance, Henderson, Johnston, Mecklenburg, Nash, Polk, Surry, Wayne, Wilson, Yadkin Counties	7	after & evening					0	1	5	5	Electrical, Hail, Wind
										Woman in Johnston County struck by lightning and hospitalized. Hail damaged tobacco in Surry and Yadkin. Numerous cases of minor damage to houses, power and telephone lines from lightning and from trees blown down.	

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1963

PLACE	DATE	TIME	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
NORTH CAROLINA (Cont'd) South Coast	8	2-5 am			0	0	4	0	Electrical, Wind
									Severe local thunderstorms at several points caused minor damage to beach cottages and amusement facilities.
Jones County	10	aftn			0	2	0	0	Electrical
									Two men working on tobacco harvester injured when lightning struck machine.
Bertie, Cleveland, Cumberland, Duplin, Edgecombe, Granville, Martin, Nash, Pender, Pitt, Vance Counties	13	Late aftn			0	0	5	5	Electrical, Wind, Hail
									Thirteen cows killed by lightning as they stood under tree; several fires started by lightning. Wind blew down trees and disrupted power and telephone service; destroyed one home and several outbuildings in different places. Hail damaged crops in several areas.
Onslow County	17	12 Noon			0	0	0	0	Waterspout
									Waterspout about 500 feet high reported two miles southeast of Swansboro by U. S. Coast Guard.
Cabarrus, Caswell, Davidson, Guilford, Iredell, Johnston, Mecklenburg, Rutherford Counties	19	3-5 pm			0	0	5	4	Electrical, Wind, Hail
									Lightning started several fires and blew out a number of transformers. Wind blew down trees on power and telephone lines, overturned house trailer, damaged roofs. One small airplane was blown over and damaged. Tobacco crop in several areas damaged by hail.
Alamance, Cabarrus, Harnett, Lee, Person, Vance Counties	20	aftn			0	0	3	5	Electrical, Hail, Wind
									Hail and wind beat tobacco off stalks in Harnett, Person and Vance. Scattered cases of minor structural damage from wind and lightning.
Wilson County	21	aftn			0	1	3	0	Electrical
									Man struck by lightning and knocked unconscious while standing under farm shelter. Home struck and damaged by lightning.
Alleghany, McDowell Counties	22	4-5 pm			0	1	3	0	Electrical
									Lightning struck two homes, caused minor damage. Woman in one was injured, hospitalized several days.
NORTH DAKOTA									See data at end of table
OHIO									None reported
OKLAHOMA									
Bengal, Latimer County	6	2:45p.-4:00p.	?	?	0	0	?	?	Hail
									Hail up to 3/4-inch size fell during a heavy thunderstorm, and was accompanied by 2.00 inches of rain.
Washington County	6	7:40p.-9:00p.			0	2	4	0	Electrical
									Heavy thunderstorm was accompanied by considerable lightning across area which injured two women at Copan. One woman had her ear burned while talking on the telephone when the line was hit. A second woman was hospitalized from lightning burns on her left arm, side and leg when she touched an electrical box. Other lightning destroyed a television set in a home at Dewey. Extensive lightning at Bartlesville burned out two primary feeder lines and two residential transformers which caused 900 electricity outages, while damaged telephone lines caused 75 outages. Other rural lines also were knocked out between Cabelata and Ramona.
Ardmore, near, Carter County	7	3:30 p.			0	0	4	0	Wind
									High winds during a local thunderstorm in the vicinity of Ardmore Airport north of the City unroofed a hangar and a barracks building and blew out a plate glass window in a service station.
Stillwater, Payne County	9	5:20p.-6:10p.	10	2,000	0	3	5	0	Tornado, wind, and rain
									Violent thunderstorm hit just north of Stillwater Municipal Airport and caused heavy wind damage along a south-southeast path across the City. One man at the airport sighted a funnel aloft several times as it neared from the north in the blinding rain. This tornado is believed to have struck at roof-top level with a hangar roof blown northwest and other debris blown in all directions. Winds recorded at Airport held between 92 and 115 MPH for eight minutes with a peak gust of 138 MPH. A Cessna 140 was torn loose from its chain moorings and destroyed, while several nearby cars received broken windows. Heaviest damage was at Oklahoma State University Campus where hard straight winds peeled the tar and rock-chip roofing from six two-story student apartment buildings and damaged four other units. Other campus damage included the destruction of a 100-foot steel feeding barn and a 10- x 50-foot trailer home, while dormitories received minor damage and 130 automobiles in the housing area received broken windows. Three persons were injured from flying glass and wind-blown doors. Other wind damage was noted city-wide from felled power and phone lines, uprooted trees, broken limbs, twisted signs and television antennas, broken windows, and a destroyed warehouse. Rainfall during the brief storm measured 1.25 inches two miles east of the City, and an unofficial 2.4 inches near the Airport. Damage from tornado 10% of \$122,000 total, wind 8%, and rain 5%.
OKLAHOMA (Cont'd) Southwest to North-Central Counties	12-13	4:00p., 12th - 4:00a., 13th			0	0	4	3	Electrical and wind
									Widespread electrical storms caused general damages from Kiowa and Comanche Counties to Noble and Payne Counties. Most communities received power and telephone outages from downed lines and poles and damaged transformers. Heavier losses in Kingfisher-Hennessey-Dover area of Kingfisher County where a few farm buildings were leveled and 30 poles were blown down by straight winds estimated at 80 MPH; 20 transformers were also damaged. One hay barn and contents burned by lightning 16 miles north-northwest of Clinton in Custer County. Several homes were damaged and buildings burned in the Perry area of Noble County along with several power poles snapped off. Rain of 3.5 inches unofficially reported 8 miles east-southeast of Perry. Pasture of 50 acres burned off from lightning and three main power lines were cut in Mountain View, Kiowa County. Considerable power outages also at Altus, Lawton, and Duncan from burned power lines. Two horses killed by lightning strike two miles west of Cushing, Payne County. Damage from electrical about 70% and wind 30%.
Orlando, near, Noble County	12	8:45 p.			0	0	0	0	2 Funnels aloft
									Storm observer located two miles north of City watched a funnel aloft as it formed and dropped half way to the ground. It moved east for 30 seconds before pulling back into the cloud. The City Fire Chief was then summoned and both men watched a second funnel aloft form in the same area and move east for a few moments before disappearing into the clouds again. No damages observed, but loud roaring heard in cloud.
Miami, near, Ottawa County	12	About 9:00p.			0	0	0	0	3 Funnels Aloft
									Civil Defense Weather-Watch Team positioned several miles southeast of Miami observed three funnels aloft which moved south-southeast without touching the ground. No damage reported.
Tulsa County	12-13	10:00p., 12th - 2:00a., 13th			0	0	4	0	Electrical
									Heavy lightning damage resulted from about 20 hoses hit in Sand-springs where all types of electrical equipment was damaged. One home had a television antenna hit with a bolt that did heavy damage as it traveled down through the two-story house, tearing up ceilings, walls and floors as it went. Heavy lightning in Tulsa knocked out 21 power transformers.
Bartshorne 1S, Pittsburg County	15	12:30p.	1	12	0	0	2	0	Wind
									Large dust devil lifted small hay barn off the ground momentarily. One side of roof was torn off, seven tons of hay in the barn were scattered, and some farm equipment was damaged. Dust devil moved southeast and disappeared into a nearby woods.
Rocky, near, Washita County	18	About 8:30a.			1	0	0	0	Electrical
									A hitchhiker was killed by lightning while he was seeking shelter under a tree along highway US 183, 3.5 miles north of Rocky.
Canadian and Oklahoma Counties	24	Afternoon			0	0	4	0	Wind and electrical
									A dust devil hit a 50-foot house trailer under tow along Interstate Highway 40 about five miles west of El Reno late in the afternoon. The trailer turned over and suffered extensive damage. A thunderstorm with high winds estimated up to 60 MPH hit the northwest part of Oklahoma City near Bethany and knocked down the framework of a house under construction and three power poles, and ripped off patio roofs and canopies. Lightning damaged one home and a tree. Flying pieces from the tree knocked windows out of four other nearby homes. Wind 90% of total, and electrical 10%.
Altus area, Jackson County	28	2:38p.-2:48p.	1	400	0	0	5	0	Wind
									Damaging straight winds developed from a violent thunderstorm which swept east-southeast across the Plaza Shopping area on the north side of Altus. Ninety percent of damage resulted in a two-block area with nearly 300 insurance damage claims filed. The plex wind caved in the glass front of a supermarket and damaged its roof along with those stores on each side. Two trailer houses were demolished with two others overturned. One trailer was blown 50 feet over a row of used automobiles in a lot and landed atop a second row. Thirteen automobiles were damaged and five were destroyed along with a vacation house on display at the Center. Several other businesses received broken windows, loss of roofing, or damage from a shifted roof. One home lost its darpert and utility room roof, while other damage was noted from a crumpled 113-foot radio antenna, downed electrical and telephone lines, and uprooted or broken trees and shrubs which were reported from most sections of the City. A lesser windstorm hit at Blair, a few miles to the north, where two barns were destroyed, a garage was demolished when it was blown into and caved in the side of a small home, several television antennas were blown over, including a tower, and two businesses received broken plate glass windows. Strongest recorded wind during the storm was 4 MPH reported at the Altus Air Force Base which is located several miles to the southeast of the storm area.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1963

PLACE	DATE	TIME	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
OKLAHOMA (Cont'd) Texas and Beaver Counties	28	2:45p.-5:00p.	40	*5	0	0	?	?	Wind and hail
									Heavy damaging winds and hail during a frontal passage occurred along a path from south of Hooker through Adams in Texas County and on through Boyd, Balko and Elmwood in Beaver County. Heavy hail was reported south and southeast of Hooker while the wind unroofed the Adams school and heavily damaged school property. Scattered damage was reported along path to the east-southeast with one farm south of Beaver reporting the destruction of a newly built roundtop barn which was struck over a quarter-mile area.
Mouser area, Texas County	31	Late p.m.			0	0	?	?	Rain
									Unofficial six-inch rains in the area provided most water in Wild Horse Lake in past 25 years. Damage to roads, maize fields, and yards.
OREGON Sherman, Morrow, Umatilla Counties	12	4-8 p.			0	0	4	4	Hail, Rain, Wind, Lightning
									Hail battered several thousand acres of grain with reports of stones up to an inch in diameter and depths piling up to as much as six inches in most severe part of storm. Locally heavy rains totaling over 2 inches at the storm center were unofficially observed in Sherman County. Flooding and erosion washed away or destroyed farm roads, equipment and buildings. Wind blew down large number of trees in Boardman area. A number of grass fires started by lightning but total area burned over not serious. Most of storm damage caused by hail and rain.
PACIFIC AREA			None reported						
PENNSYLVANIA State-wide	1	Afternoon & Night			2		5	3	Thunderstorms
									Thunderstorms which struck the entire State, took the lives of two persons and caused considerable property damage. A Tamaqua man was struck and killed by lightning, while in the garden near his home. A man was killed in Chester County when his airplane crashed after being hit by lightning which tore off the wing of his plane. Numerous barns throughout the State were fired by lightning, while some areas reported hail the size of walnuts and golf balls. Several orchard peach crops were severely damaged in Adams County by the hail. Strong winds damaged a number of house roofs, while flash-flooding of low-lying areas occurred in Chester County from heavy rain.
Glassport-Carnegie- Clariton Area	3	9:30 P.M.			2	70	7		Twister & Thunderstorm
									Many buildings, houses, and business places were partially, and some completely, wrecked by the storm. A roller skating rink collapsed, in which several persons were skating at the time. A three-story, frame hotel in Glassport also collapsed killing two of the residents. Several steel company buildings were destroyed or unroofed by the strong winds which were recorded at 89 mph. Strong wind unroofed a number of homes and downed many trees and utility lines. An estimated \$1,000,000. damage to two hangars and planes was caused by the wind at the Allegheny County airport.
Butler & Northern Allegheny Counties	17	Afternoon & Evening					4	3	Thunderstorm
									Lightning fired several barns and damaged several other buildings, while strong winds damaged a number of house roofs and moved several garages several feet off their foundations. Hail to golf ball size ruined some crops.
PUERTO RICO	28-29				0	0	6 ^c	C	Flood
									The passage of an Easterly Wave the afternoon of August 27th brought heavy rainfall to the south coast of Puerto Rico, through August 28th. Seven to eight inches fall over the higher elevations of the south central portion of the island within 4 to 6 hours the morning of the 28th. As the soil was already saturated by rains earlier in the week, almost all of the runoff immediately entered the streams draining the southern slopes, and the Portuguese, Tollabon, and Coñas Rivers were at flood stage by 1:00 AM on the 28th. By 7:00 AM all rivers and streams from Ynco to Aguirre were over their banks and inundated the surrounding areas. Roads were impassable, bridges washed out, and the Tollabon river cut a new river bed near Peñuelas and destroyed 150 houses and several bridges. Damage to sugar cane fields, and pastures were inundated and conditions were classified as serious. More than 500 families were evacuated from south coast communities.
RHODE ISLAND			None reported						
SOUTH CAROLINA Kershaw, Kershaw County	7	6:20 pm			0	0	4	0	Lightning
									Mount Galvary Presbyterian Church destroyed by fire from lightning.
Northwestern South Carolina	13	6:00 pm to about 8:30 pm			0	0	4	0	Thunderstorm
									A severe thundersquall accompanied by damaging wind and lightning and two small confirmed tornadoes moved east-southeastward from Anderson County to near Columbia. Effect from the tornadoes are listed below separately.
SOUTH CAROLINA (cont'd) Due West, Abbeville County	13	6:20 pm	1-2	10	0	0	3	0	Tornado
									Moved from northwest to southeast barely missing populated sections.
Donaldsonville Air Force Base, Greenville County	13	6:38	(see below)		0	0	(None reported)		Tornado
									Two funnels were seen, one reaching the ground, moving east-northeast. Radar picked it up about the same time. It was tracked about two minutes.
Butaw Springs, Orange- burg County	20	1:30 pm-1:50 pm	1/2	300	0	0	4	0	Tornado
									Small tornado dipped out of thunderstorm, moved northeastward over Lake Marion, making noise like jets. Four Wildlife buildings were damaged and one was destroyed.
Walterboro, Colleton County	27	afternoon			1	0	0	0	Lightning
Florence, 8 miles south, Florence County	30	Evening			0	2	0	0	Lightning
SOUTH DAKOTA			See data at end of table						
TENNESSEE Knoxville, Knox County	4	Afternoon			0	0	4	0	Wind and lightning
									Thunderstorms in the Fountain City, Inskip, Lonsdale and West Knoxville areas, caused damage to trees, utilities and a house which was set on fire by lightning. Three youths were struck by lightning, one knocked down, while playing ball at Lonsdale Park, but escaped injury.
East and Middle Tennessee	7	Afternoon			0	0	5	3	Wind, lightning, rain, and hail
									Heavy thunderstorms caused scattered light to heavy damage to trees, utilities, buildings, merchandise, roofs, TV antennas, a TVA power substation, a light plane, tobacco and other crops. Greatest damage was in Middle East Tennessee. About 40% of damage due to wind, 50% to lightning, 5% to rain and 5% to hail.
Middle and Northwest Tennessee	28-29	Night			0	0	4	3	Wind, rain, and Lightning
									Heavy thunderstorms moved southeastward across the area with torrential rains of up to 8.3 inches at Shelbyville TVA station. Damage was scattered and heaviest in Middle Tennessee. Homes and business buildings in some low-lying areas were flooded, a radio station was unroofed and the tower blown down in Murfreesboro, and utilities were damaged in numerous locations. Also damaged were trees, roads and crops.
TEXAS 5 NW Cleburne Johnson County	8	3:00 p	?	?	0	0	4	0	Tornado
									A small tornado touched ground about five miles northwest of Cleburne. Several barns on dairy farms along the path of the storm were either demolished or badly damaged.
Fort Worth Tarrant County	8	night			0	1	0	0	Lightning
									A four-year-old boy was critically injured when struck by lightning while standing in his front yard. The top of the child's head was scorched by the lightning.
S. Mexia Limestone County	13	3:20 p	?	?	0	0	?	?	Tornado
									A small tornado touched ground south of Mexia, destroying a small oil field storage tank, and breaking off a power pole.
Hurst Tarrant County	13	night			0	1	0	0	Lightning
									A five-year-old boy was struck by lightning but not believed critically injured. Zippers on the child's clothing were melted by the bolt.
Fort Worth Tarrant County	15	evening			0	1	0	0	Lightning
									A four-year-old boy was critically injured when struck by lightning as he and his six-year-old brother stood on the driveway of their father's home. The older boy escaped injury. This was the third small child to be struck by lightning in the Fort Worth area within a week.
W Sierra Blanca Hudspeth County	19	5:30 a	?	?	0	0	?	?	Flooding
									Seven diesel-electric locomotives and 33 freight cars were derailed on the Southern Pacific Railroad main line west of Sierra Blanca when the track was undermined by flooding. The accident occurred 68 miles east of El Paso. No serious injuries were reported.
El Paso El Paso County	19	6:30 p			1	0	4	0	Flooding
									One person was drowned in El Paso when flash flood waters from a desert arroyo rushed eight feet deep down Cornelius Drive. The automobile of the victim was washed two blocks down the street. The person was washed out of the automobile by the raging torrent. The flood centered in the area near Lonsland Drive, Strickland Drive, and Pina Village below Lons Terrace. Water gushed into all but two of 20 homes in the Pina Addition. Total damage, including the cleanup following the flood was estimated at \$20,000. Only .37 inches of rainfall fell at the Weather Bureau Airport Station. An unofficial rain gage in the flood-stricken district caught 1.40 inches in 30 minutes.
Near Hereford Deaf Smith County	30	noon							Funnels Aloft
									Several funnel clouds were observed in the Hereford area. All funnels retreated back into the clouds without touching ground.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1963

PLACE	DATE	TIME	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INURED	PROPERTY	CROPS	
TEXAS (Cont'd)									
Near Waco McLennan County	30	1:59 p- 2:03 p	?	?	0	0	?	0	Tornado
									A small tornado was observed by U. S. Weather Bureau personnel about 3 miles north-northwest of the airport. The funnel was in the clear, ahead of a thunderstorm, and only the lower portion, perhaps four hundred feet, was visible. One small, old house was demolished by the tornado.
Texas City Galveston County	30	9:26 a	?	?	0	0	4	0	Tornado
									A small tornado caused minor roof damage to eight houses along three city blocks in Texas City. A very small funnel was observed moving from west to east. It dipped down for only a few minutes. Damage was estimated at about \$5000.
UTAH									
Moab City, Grand Co.	2	Unknown					4		Thunderstorms and flash floods
									A flash flood resulting from heavy thunderstorms washed out six large culverts, a sewer line and one of the two major water lines serving Moab.
Parowan, Iron County	2	Unknown					4		Thunderstorms and flash floods
									Flash flood caused by heavy thunderstorms did \$40,000 damage to highways and campground in Dry and First Left Hand Canyons.
Ephraim, Sompete Co.	9	Afternoon					3		Lightning
									Lightning killed two cows in a field but did not affect two half grown calves in vicinity of mothers.
Midvale and Salt Lake City, Salt Lake County	18						4		Hail and flood
									Heavy hail storm drifted across Salt Lake County doing heavy damage to flowers, shrubs and trees. Clogged drains and caused local flooding.
West Point, Weber Co.	19						4	3	Lightning
									A lightning caused fire destroyed a barn, killed two horses and seriously injured a third. It also destroyed an equipment shed, with a farm tractor and other farm equipment. The fire spread to hay and straw stacks destroying two crops of hay.
Duchesne, Duchesne Co.	20	2 P.M.			1	1	3	4	Hail and lightning
									A severe hail and lightning storm struck Duchesne area about 2 P.M. killing one woman and stunning her son as they drove cows along highway. Hail up to 1-1/2 inches in diameter lasted only 20 minutes, but stripped corn from stalks, clipped wheat heads off several fields and flattened several fields of alfalfa seed. Hailstones tore holes in tomatoes, broke windows and damaged neon signs.
VERMONT									None reported
U. S. VIRGIN IS.									None reported
VIRGINIA									
Fairfax County	20	7:40 PM			1		6		Heavy Rain
									Flash flooding, after a heavy downpour of nearly 4 inches, occurred in low lying sections of Alexandria near the Arlington County line. This section of the city was declared a disaster area with extensive flood damage to business and residential properties. Flood waters, chest high, tied up traffic, knocked out communication, and damaged 31 business establishments, 75 to 100 apartments in 19 buildings, and 12 single or duplex houses. Creeks overflowed and flash flooding occurred elsewhere in the county, and a man drowned at Fairfax as high waters inundated his car. Washington National Airport in the adjacent county of Arlington had operations disrupted for approximately 3 hours from heavy rains during the same evening. Rainfall amounts measured at the airport for a 6-hour period was 3.90 inches on the 20th, and for a 24-hour period 6.23 inches on the 19th and 20th.
WASHINGTON									
Entire State	11-13				3	5	5		Thunderstorms.
									Thunderstorms began in western Washington during the afternoon of the 11th spreading across the State on the 12th and 13th. West of the Cascades, power outages occurred in many areas, several residences and other buildings were damaged by lightning. A number of forest fires were started by lightning in all areas of the State. East of the Cascades, severe thunderstorm activity and hail in Spokane and Whitman counties on 12th resulted in some crop damage, soil erosion and flooding basements in a few low areas. On 13th, hail and heavy rain resulted in damage to fruit and crops near Brewster in Okanogan county and in the Dayton and Walla Walla areas of southeastern Washington. Three persons were injured slightly by lightning during the three-day period of thunderstorm activity.
WEST VIRGINIA									
Wood, Pleasants, Tyler, Wetzel, Roane and other Counties	5-4	Mid-night			0	0	6	?	Heavy showers and wind
									Railway washouts with one costly derailment south of St. Marys. Some highways blocked and rural bridges out in Roane County. Signs, limbs and a airport blown down in Wood and Pleasants counties.
WISCONSIN									
Milwaukee 12SW	1	3:30 PM							Hail
									Hail diameters up to 3/4 inch.
West Central and Southern Counties	2	Early AM					5	5	Hail, wind, lightning
									Hail with diameters up to 1 1/2 inches in northern La Crosse, southern Trempealeau, central Jackson, western Monroe, and northern Vernon counties; main damage to crops. Strong winds lashed entire area with La Crosse reporting a gust of 97 miles per hour. Numerous farm buildings struck by lightning in southern counties.
Columbia County	16	7:15 PM	6	Narrow	0	13	5	4	Tornado
									Family of 3 tornadoes traveled just south of State Highway 60 between Prairies du Sac and Lodi. Three narrow trails separated by undamaged fields; width separating outside funnels from 3 to 5 miles.
Stanley	16	Afternoon							Hail
									Hail diameters up to 1 inch.
Mauston	16	Early evening							Hail
									Hail diameters up to 2 1/2 inches.
WYOMING									
Big Horn County	14	6:00 p.			1	0	2	0	Lightning
									Shepherd and horse killed by lightning in Big Horn mountains northeast of Greybull.
Johnson County	20	afternoon			0	1	0	0	Lightning
									Man injured by lightning while leaning on truck, talking on 2-way radio at 4 Mile Ranch.
ARIZONA									
Eloy	5	6:00 p.			0	0	4	4	Wind and hail
									Strong winds damaged buildings and farm machinery and wind and hail damaged ripening cotton.
Marana Air Park	5	6:00 p.			0	0	4	0	Wind
									Strong winds destroyed building and damaged planes.
Phoenix	5	5:00 p.			0	0	5	3	Rain and wind
									Strong winds damaged roofs and power lines, but most of damage was due to flooding after heavy local rains. Many roads were washed out and about 50 automobiles were damaged by flood waters.
Anado	10	Afternoon			1	0	0	0	Lightning
									Lightning struck and killed a field worker.
Dugas (4 miles S.)	11	4:50 p.			0	0	0	0	Funnel cloud
									Funnel cloud remained aloft over mountainous terrain.
Gila Bend (5 miles W.)	13	Evening			0	0	4	4	Wind, rain, lightning
									Strong winds damaged roofs and flood waters entered houses. Lightning fire destroyed 360 tons of hay.
Phoenix	14	6:30 p.			1	0	3	0	Wind
									Woman killed by tree felled by strong wind. Winds also caused minor property damage to homes.
Glendale & Maryvale	16-17	9:00 p.			0	0	6	4	Rain
									On the evening of the 16th shortly after 9 p.m. a thunderstorm moved into the Salt River Valley and intensified over the Glendale area, where it produced precipitation of very heavy intensity shortly before midnight, lasting into the early morning hours of the 17th. The Grand Canal overflowed its banks, flooding homes and business establishments in Glendale, Maryvale, and in northwest Phoenix. The Red Cross set up an emergency unit to aid families driven from their homes by the flood waters. Two unofficial but reliable reports of more than 5 inches of precipitation were received for storm totals in the Glendale area.
Mesa and Apache Junction	16	Evening			0	0	5	0	Rain
									Heavy rain flooded homes and damaged highways.
Globe	16	Evening			0	0	5	0	Rain and wind
									Rain and wind damaged homes and business establishments.
Prescott	16	Evening			0	0	5	0	Rain
									Heavy rainstorm caused local flooding. Most property damage was to roads, highways, and other property in the Miller Valley and Prescott Heights areas.

See reference notes at end of table.

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AUGUST 1963

PLACE	DATE	TIME	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED* DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
ARIZONA (Cont'd) Prescott	19	6-10:30p.			0	0	6	3	Rain
	With the soil still wet from the storm of the 16th, additional heavy precipitation on the evening of the 19th produced rapid runoff. Damage due to flash flooding was particularly high in southwest Prescott. Flood waters washed out sewer lines so that about 75% of Prescott's sewage was carried away before reaching the disposal plant. As a result of the hazardous health situation and heavy local damage, the Governor declared Prescott a "disaster area." According to a reliable preliminary estimate, total damage to streets, sewers and private property by the combined storms of the 16th and 19th was nearly \$1,000,000.								
Tucson	21	1:30 p.			1	0	2	0	Lightning
	Lightning killed 9 year old girl and caused minor property damage to nearby buildings.								
Phoenix, Maryvale and Sunnyslope	25	9:00 p.			0	0	5	3	Wind and rain
	Strong winds unroofed buildings and damaged utilities. Heavy rain accompanied the storm in some localities, but nearly all damage was caused by wind.								
NORTH DAKOTA									
McKenzie and Dunn Counties	1	3:00PM	50	*10	0	0	4	6	Hailstorm and heavy rain
	A storm with hail the size of hen's eggs and rain up to 10 inches moved across McKenzie county ending up in Dunn County.								
Grant County Elgin to Carson	1	5:30PM	15	*4	0	0	3	5	Hailstorm
Furleigh County Menoken	1	Evening	3	*3	0	0	0	4	Hailstorm
Cass County Fargo and West Fargo	8	5:00 PM			0	5	4	0	Windstorm and Hailstorm
	High winds completely demolished five house trailers, baseball size hail reported in the vicinity.								
SOUTH DAKOTA									
Edgemont	1	P.M.			0	0	4	0	Wind
	Strong wind destroyed 2 hangars and damaged 2 planes.								
Near Ralph	8	9:30-11:30 p.	25	*4-3/4	0	0	?	5	Hail, wind
	Hail path extended from about 10 miles NE of Ralph NW into North Dakota. Most of the damage was in North Dakota. Hail stones up to 3/4 inch accompanied by strong wind. The hail skipped some areas in the path.								
Near Leola	10	3:15-3:30 p.	3	300	0	0	4	2	Tornado
	Tornado moved from SW to NE damaging 3 farmsteads and a few crops. It apparently dipped down in mostly open country.								
Britton and vicinity	26	9:00-9:30 p.	25	*1-3	0	0	5	4	Hail, wind
	Small hail driven by strong winds caused extensive damage to roofs in Britton and surrounding area. Some crops were damaged from Britton to about 25 miles west.								
Lemmon Airport	27	8:10-8:20 a.	Less than 1	*4	0	0	4	0	Wind
	Winds up to 90 m.p.h. damaged 7 "T" hangars and 5 airplanes.								

- ° 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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