

U. S. DEPARTMENT OF COMMERCE
JOHN T. CONNOR, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
WEATHER BUREAU

STORM DATA

SEPTEMBER 1965

Volume 7 No. 9



ASHEVILLE: 1965

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1965

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS ESTIMATED DAMAGE				CHARACTER OF STORM	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							KILLED	INJURED	PROPERTY	CROPS				
ALABAMA										FLORIDA (Cont'd.)												
Mobile and Baldwin Counties	9-10					0	0	5	5	Hurricane	Southern Peninsula Keys and Gulf Coast (Cont'd.)	9-10	4:30 AM	until 7:10 AM	10	10	0	0	0	0	that the strong winds were from the northwest at an estimated 140 mph. The passage of the storm center across the upper Keys produced strong onshore winds and abnormally high tides and wave action all along the southeast coast and southward. The Keys, especially the middle and upper Keys, were subjected to two storm driven tidal surges; the northerly winds in advance of the storm center produced flooding by the waters of Florida Bay and the southerly winds following the storm center brought inundation from the Atlantic and Florida Straits. On the western Keys tides were mostly 5 to 7 feet MSL with debris lines extending to 8 to 9 feet MSL. Flooding on the upper Keys was extensive and water reached depths of several feet in many areas, covering highways and first floors of buildings. Tides reached 6.1 feet MLW along the Miami Beach oceanfront and rising waters flooded extensive sections of Bay Biscayne, covering virtually all the island. In south Dade county, virtually all the land south of Homestead Air Force Base and east of U. S. Highway #1 was covered with water. The area west of U. S. #1 was similarly flooded northward to within 3 miles of Florida City. On Miami Beach, most of the streets facing the ocean or Biscayne Bay were under water. On the west side of Biscayne Bay, rising waters reached into the first floor of some buildings near Biscayne Boulevard and Bayshore Drive. Winds over the middle and upper Keys and the southern peninsula south of a line from about Fort Lauderdale to Everglades City reached 100 mph or higher in gusts. Sustained winds in excess of 100 mph were noted at almost all points between Big Pine Key and Homestead. Total storm damages, including agricultural losses, were estimated near \$120 million. The major portion of the total damage occurred in the east coastal areas south of Palm Beach county and on the Keys and was, in large measure, the result of the high tides and salt water flooding. There were 5 known fatalities. Three additional persons are missing in the Gulf of Mexico and presumed lost, making the death toll total 8 in Florida.	
Theodore, Mobile County	9-10	midnight	?	?	0	0	0	0	0	Tornado	Marathon Monroe Co.	8-5	5:45 am	?	?	0	0	?	?	Tornado	Storm occurred in connection with hurricane Betsy and was observed moving from west to east along the Gulf side of the island.	
Cullman, Cullman County	11-10	8 p.m.	3	narrow	0	0	3	4	4	Tornado	Big Pine Key Monroe Co.	8-4	4:00 pm	?	?	0	0	?	?	Tornado	Storm moved east-northeastward in connection with hurricane Betsy	
South Alabama, Mainly Mobile, Baldwin and Monroe Counties	29-30	night and morning			0	0	7	5	5	Rain	Ft. Walton Beach Okaloosa Co.	9-4	4:05 pm								Waterspout	
Centenary Community, Crenshaw County	29-30	9:30 pm	short	narrow	0	0	4	0	0	Tornado	Daytona Beach Volusia Co.	27-3	3:25 pm									Funnel Cloud
ALASKA										GEORGIA												
None reported										Atlanta Airport 20 Miles West												
Arizona	2	1:00 p.			0	0	0	0	0	Hail	Tampa Hillsborough Co.	28-4	4:08 pm									Funnel Cloud
Tuba City	2	1:00 p.			0	0	0	0	0	Hail	Carrabelle Franklin Co.	29-10	10:40 am									Waterspout
Stanton	2	3:00 p.			0	0	2	0	0	Hail	Gulf Breeze Escambia Co.	29-9	9:24 pm									Wind
ARKANSAS										Strong winds, possibly tornadic, unroofed one residence and downed power lines in a small area.												
El Dorado area, Union County	21	Afternoon	Short	Narrow	0	0	3	0	0	Tornado	MISSISSIPPI											
Batesville area, Independence County	21	Night	1	Narrow	0	0	4	0	0	Tornado	Tornado reported touching the ground. No reports of damage received.											
CALIFORNIA										HAWAII												
Central California	16-17				0	0	6	5	5	North wind	Oahu	10-10	noon-4:00 p.			0	0	4	0			Electrical
Imperial	18	1:55 p.m.			0	0	0	0	0	Funnel cloud	Twenty-two separate lightning strikes from an electrical storm, described as one of the most severe ever experienced in Hawaii, knocked out power lines in many areas of Honolulu and rural Oahu.											
Los Angeles	18	2:30 p.m.			0	0	0	0	0	Heavy rain	Honolulu, Oahu	21-21	5:27 p.-5:38 p.			0	0	0	0			Funnel aloft
COLORADO										Sighted 15 miles N of the Airport Station.												
See data at end of table										Several waterspouts and funnel clouds observed by aircraft about 6 miles NNE of the Kaneohe Marine Corps Air Station. One funnel cloud moved inshore nearly directly over the station.												
CONNECTICUT										NEW YORK												
No report received by printing headline										Kaneohe, Oahu												
Delaware	24	2:00 P & 6:00 P			0	2	4	0	0	Wind, lightning, rain	Honolulu, Oahu	22-22	2:00 p.-5:00 p.			0	0	0	0			Waterspout
New Castle County	24	2:00 P & 6:00 P			0	2	4	0	0	Wind, lightning, rain	Brief but violent thunderstorms battered and drenched parts of Wilmington and county. Trees were downed, power service interrupted and trailers overturned. Minor lightning injury and damage and flooding were also reported.											
FLORIDA										FLORIDA												
Southern Peninsula, Keys and Gulf Coast	7-9				8	?	6	0	0	Hurricane Betsy	Honolulu, Oahu	25-25	6:05 p.-6:10 p.			0	0	0	0			Waterspout
Hurricane Betsy moved into the extreme south Florida area early on the 8th, moved across the upper Keys, through Florida Bay and into the Gulf of Mexico north of Key West and then across the Gulf of Mexico toward New Orleans. The lowest pressure reported in the Florida area was at Tavernier, 28.12 inches at 6:00 AM on the 8th. The Tavernier observer also reported he was in the eye of the										Sighted 15 miles SE of the Airport Station. After withdrawing from the sea surface, the spout remained visible as a funnel aloft until 6:30 p.m.												

See reference notes at end of table.

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					KILLED	INJURED	PROPERTY	CROPS		
HAWAII (Cont'd.) Kona area, Hawaii	25	3:30 p.- 6:30 p.			0	0	4	C	Rain	
			Four inches of rain within two hours or less at the 3000-foot level sent water cascading downslope between Captain Cook and Kainaliu, doing approximately \$6800 of damage to coffee and other crops and \$8600 to pavements and homes.							
IDAHO			None reported							
ILLINOIS										
Savanna	4	5:15p					4	0	Funnel cloud	
			Funnel cloud first sighted over Mississippi River and remained aloft but was sufficiently close to ground to induce winds which caused considerable damage to roofs, trees, utility poles and glass. Funnel returned to clouds immediately east of town. Report from WEAS RFD.							
Monroe County	4	7:24p	1 1/2	100	0	0	3	0	Tornado	
			Tornado moved through generally open country but was probably not in continuous contact with ground. Major damage to one farmstead two miles west of Fuels. From report by WEAS STL.							
Southern Illinois	11- 12				0	0	*3	C	Local flooding	
			Decadent "Betsy" brought heavy rain to extreme southern Illinois. Heaviest rain was on 11th although some rain began late on 10th and continued at times on 12th. Amounts were generally 3" to 6" in 24-hours.							
Central Illinois	14- 15	aftn & night			0	0	*6	C	Wind, hail, rain, lightning	
			Two squall lines with severe thunderstorms, hail, heavy rain, and a few tornadoes (see below) moved eastward across central Illinois during the afternoon and night. The afternoon storms were most destructive. Hail was frequent, from 1/2" diameter to baseball size. High wind damaged buildings and crops in areas not directly hit by tornadoes. Crop-hail damage was especially high in Ford, Iroquois, Vermilion, McLean, Livingston, Peoria, Woodford, and Tapewell Counties. Small business Administration designated Ford, Peoria, Tazewell, and Woodford Counties disaster areas due to building damage. Local flooding occurred in many places with 3" to 5" of rain common. Hopedon measured 3" in one hour.							
Peoria	14	2:40p	5	200	0	30	*6	C	Tornado, rain	
			Tornado first struck near Norwood Grade School northwest of Peoria and moved east-southeast across town. Three persons were hospitalized and others less seriously injured. Major damage to school, three industrial buildings, stock yards, and three homes with many other buildings and utility lines damaged. Path was evident although ground contact was not continuous. Heavy rain caused local flooding and further damaged building contents.							
Gibson City	14	4:15p	12	75	0	2	*5	C	Tornado, hail, lightning, rain	
			Although tornado had gone aloft at time, damage was greatest in Gibson City due to heavier concentration of buildings and trees. Two brief touchdowns were evident west of city but path was mostly through open farmland. West-east line of damage from 10 miles west to two miles east of Gibson City. Farm buildings west of city showed considerable direct wind damage. Most damage inside city was result of broken trees, hail and heavy rain. Three house trailers were overturned and one motel unroofed. Twenty-one empty freight cars were overturned west of town. There were at least two periods of hail. Larger stones were dislodged with rough projections from flat sides and up to 3" in diameter. Wind and hail damage about one mile either side of path center with crop damage extensive. Micro-barograph trace at Gibson City, estimated to have been almost directly under storm center, showed a sharp drop of 0.1" followed by a rapid rise of 0.08". A few minutes later an almost instantaneous drop of 0.13" was followed by an abrupt rise of 0.21".							
Iroquois County	14	6:35p	1	50	0	2	*4	C	Tornado, hail, lightning, rain	
			One house and several outbuildings were destroyed and others damaged at several farmsteads along west-east path just west of Danforth. Tornado is believed to have touched only briefly. Other damage to buildings and crops in area due to wind, lightning, hail and heavy rain.							
Central Illinois	15- 16	night			0	0	*4	C	Local flooding	
			The second heavy rain within 48 hours in this area brought small streams out of their banks. Griggsville, Mackinaw, Jacksonville, and Bluffs each received approximately 5" in 12 hours and 48-hour totals in central Illinois were frequently 5" to 6 1/2".							
ILLINOIS (Cont'd.) Champaign County	22	4:11p- 5:26p						1	0	Funnel cloud
			Funnel cloud was watched for several minutes by FAA tower personnel and many ground observers. Sheet metal top was carried off an empty wire crib as funnel passed directly overhead. First sighted 3 1/2 miles northwest of Champaign Airport (CMI) and went back into clouds 6 or 8 miles southwest of Rantoul (RAN). Movement was toward north-northeast.							
INDIANA										
Lafayette, 6 miles southwest to Jefferson	14	E.S.T. 7:03 p.- 9:30 p.	3	400	0	0	5	5	Tornado, wind, hail, rain	
			High winds and one or two tornadoes did considerable damage to crops and buildings from Shadeland to Jefferson, Indiana. By 6:33 p.m. cumulonimbus clouds with mammatus structure were passing over Lafayette and western skies were darkening. At 7:35 p.m. hail one inch in diameter pelleted eastern Lafayette. Strong winds preceded the hail and deroofed a house at Shadeland, 6 miles southwest of Lafayette. Shortly afterwards another line of thunderstorms moved in from the west. Most evidence indicates that at least one tornado touched ground around 8:15 p.m., two miles northwest of Fickle, and then moved in an easterly direction almost to Jefferson. The path is ill defined but the appearance of destroyed buildings indicates the presence of one or two tornadoes. Many barns were wrecked and debris was blown great distances straggling out east-northeastward from the original location. The high ratio of barns damaged as compared to house damage was unusual. The tornado or tornadoes apparently stayed above ground much of the time. A large area of about 4 miles wide and 12 miles long had severe damage to crops from straight winds travelling southeastward. The accompanying heavy rains and hail beat many fields of corn and soybeans to the ground. The American Red Cross reported that fifteen homes had major damage and 25 had minor damage. There were 71 farm buildings damaged; half of these were destroyed. Much livestock was lost but the people took adequate shelter and injuries were minor.							
Camden, 2 miles west, Carroll County	14	Evening	?	?	0	0	3	3	Tornado	
			House, barn, crops and power lines damaged.							
Hamlet, Starke County	14	Evening	?	?	0	0	5	3	Tornado	
			Three farms were severely damaged west of Hamlet.							
Marion, 4 miles northwest	14	10:00 p.	1	900	0	0	4	3	Wind	
			High winds caused heavy damage to a set of farm buildings. Lesser loss occurred 1/2 mile to the west.							
Warsaw, Kosciusko County	14	10:24 p.	?	?	0	0	3	0	Tornado	
			Some property damaged and car moved into field.							
Fort Wayne	14	Evening	?	?	0	3	4	0	Wind	
			Severe thunderstorm winds damaged a home.							
South Bend, 17 miles east-southeast	20	7:28 p.	?	?	0	0	0	0	Funnel clouds (2)	
IOWA										
Jefferson	6	11:30 p							Tornado funnel	
10E Denison	7	12:10 a	1	100				4	Tornado	
			Struck farmstead south of Vail.							
Turin	9	12:30 p	1	100				4	4	Tornado
2S Castana	9	1:00 p	15	100				5	5	Tornado
			Noved NE from 2S Castana to 3N of Ute.							
SW of Cresco	9	1:30 p								Tornado funnel
			Two funnels observed.							
S of Cresco	9	1:45 p	3	3400				5	5	Windstorm
Lime Springs	9	1:45 p	1	50				4	4	Tornado
Decorah	9	1:50 p						4	4	Windstorm
Mason City	9	4:30 p					1			Lightning
Brighton	14	11:30 a						4	4	Hailstorm
Mediapolis and Kingston	14	12:50 p						5	5	Hailstorm
			Wind damage 40% of loss.							
Clear Lake	14	1:20 p						3	3	Hailstorm
			Hail to 1 1/4 inch diameter.							
Mason City	14	1:27 p						4		Hailstorm
10W Buffalo Center	14	1:30 p						4		Hailstorm
Burlington	14	4:00 p					1	5	4	Windstorm
4S Waterloo	14	5:05 p								Tornado funnel
5N Ames	16	11:00 p	1/2	100				4	4	Tornado

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					KILLED	INJURED	PROPERTY	CROPS	
IOWA (Cont'd.) Wayne, Lucas, Monroe & Appanoose Counties	18	3:00 p				5	5		Windstorm
Davenport	18	3:15 p			1	4			Windstorm
Forest City	19	7:30 a			1				Lightning
Osceola	20	6:30 p	10	9000			5	5	Windstorm
Osceola	20	6:30 p	2	150			5	5	Tornado
Albia	20	6:45 p			1	4	4		Windstorm
Sigourney	20	7:15 p	1	100		4	5	4	Tornado
7NW Iowa City	20	8:00 p				4			Windstorm
Davis County	20	8:00 p	8	150			5	5	Tornado Moved NE from near West Grove to NE of Drakesville.
Ringgold County	20	8:15 p					5	5	Windstorm Lightning losses about \$4,000.
Johnson County	20-21						5	5	Heavy rain \$300,000 damage from highway and bridge washouts.
Fort Dodge	27	p.m.				1			Lightning
12S Spencer	28	11:45 a							Tornado funnel
Fort Dodge	28	5:00 p				2			Lightning
KANSAS									
Thomas, Logan, and Gove Counties	3	7:00 - 9:00 p.	40	4	0	0	3	4	Hail
									Hail damage in an area from 2 miles north of Fage City to 2 miles south of Monument, thence southeastward to near Gove. Hail stones up to 2-3/4" in diameter reported.
Decatur and Norton Counties	3	Evening	?	?	0	0	4	4	Hail, rain
									Hail stones up to 1" in diameter occurred. Flash flooding in Oberlin caused damage to some residences.
Smith, Jewell, Osborne, and Mitchell Counties	3	Evening	?	?	0	0	4	4	Lightning, Hail
									Hail up to 2-3/4" in diameter fell north of Dispatch. A lightning-caused fire destroyed a home near Glen Elder and lightning caused damage at Alton.
Sedgwick County	3	8:00 - 8:15 p.	1/2	400	0	27	6	0	Tornado
									A tornado touched down briefly at several points in the southeastern and eastern portions of Wichita. Storm moved northeast and the tornado struck again in the northeastern part of Wichita, causing extensive damage to residences.
Southeastern, East-central Kansas	3-4	Night of 3-4	?	?	1	7	6	3	Lightning, hail wind, rain
									Lightning damage occurred in Cowley, Coffey, Anderson, Franklin, Johnson, Wilson, Miami and Woodson Counties. One man in Douglas and 6 people in Gataqua County were injured by lightning. Hail up to 2-1/2" in diameter caused an estimated \$1,000,000 damage to property in the Sureka area. Wind damage occurred in the Eldorado and Wichita areas. Torrential rains caused flash flooding damage in Eldorado, north of Wellsville, and over portions of Douglas and Miami Counties. A flash flood caused one death.
Neosho County	4	12:25 a.							Funnel aloft
									Funnel cloud observed south of Chanute.
Harper County	5	6:15 p.	Short	?	0	0	0	0	Tornado
									Tornado touched down briefly 10 miles south of Anthony.
Harper County	5	8:34 - 8:43 p.							Funnel aloft
									Funnel aloft sighted northeast of Attila.
Doniphan County	7-8	Night of 7-8	?	?	0	0	5	4	Rain
									Torrential rains, estimated over 10" in some localities, caused considerable inundation of crop land and flash flooding. The storm was most severe from Sparks to the Nebraska line. Crop damage was estimated at \$25,000 and damage to roads, bridges, etc. was approximately \$40,000.
Central, North-eastern Kansas	9-10	Afternoon of 9; night of 9-10	?	?	1	0	4	0	Wind, lightning, funnel aloft
									About \$15,000 wind damage occurred in Dickinson, Clay, and Brown Counties. A funnel aloft was sighted at Hiawatha at 5:30 p. Approximately \$16,000 lightning damage occurred in the area from Rice and McPherson Counties northeastward to Clay, Riley and Nemaha Counties.
KANSAS (Cont'd.)									
Nemaha County	13	4:00 p.	?	?	0	1	0	0	Lightning
									A woman was injured by lightning at Sabetha.
Brown County	13	Late afternoon	?	?	0	0	?	?	Hail
									Hail stones up to 3/4" in diameter occurred at Horton at 5:45 p. Hail covered the ground in the Fairview area.
Atchison County	13	About 6:20 p.	?	?	0	0	4	0	Tornado
									A tornado skipped through Atchison, causing considerable damage.
Atchison County	13	Evening	?	?	0	0	5	4	Hail, wind
									Extremely strong winds caused widespread damage in Atchison and vicinity. Hail stones up to 1-3/4" in diameter damaged gardens, buildings and signs in that area.
Crawford, Wilson, and Bourbon Counties	15	Early afternoon	?	?	0	1	4	0	Lightning
									Lightning caused damage at scattered locations in the three counties. A man was injured at Pittsburg.
Doniphan County	20	Near mid-afternoon	?	?	0	0	4	0	Tornado
									A tornado hit a farm east of Fanning.
Sumner County	20	5:18 p.	10	?	0	0	0	0	Tornado
									Tornado touched down 12 miles south-southwest of Wellington and lifted off the ground 2 miles south of that city.
Sedgwick, Butler, and Marion Counties	20	6:22-7:12 p.	45	?	0	0	4	0	Tornado
									Tornado was first spotted 2 miles south of Mc Connel Air Force Base. It moved north-northeastward to 5 miles north of Benton at 6:52 p.m. and at 7:12 p.m. it was about 6 miles west-northwest of Burns. It apparently lifted off the ground south-southwest of Florence. This tornado was not on the ground continuously.
Sedgwick County	20	7:34 p.	Short	?	0	0	0	0	Tornado
									Tornado sighted near Plainview at 7:34 p.m. It became a funnel aloft about 7:47 p.m. northeast of Mc Connel Air Force Base.
Sedgwick, Butler Counties	20	evening							Funnels aloft
									Two funnels aloft occurred near Benton about 7:00 p.m. and 2 were reported near El Dorado in the early evening.
Franklin County	20	about 9:45 p.	?	?	0	0	5	0	Tornado
									A tornado skipped through Wellsville on a northeasterly path.
Montgomery County	20	Night of 20-21			0	0	4	0	Lightning
									A lightning-caused fire destroyed a home northeast of Havana.
South-central, East-central, Central, and Northeast Kansas	20-21	Late a.m. of 20th; early on 21st	?	?	0	13	6	0	Wind, rain, lightning
									An area of severe storms, which were first observed in south-central Kansas, spread eastward and northeastward, causing widespread damage. Damage from strong winds was estimated to be over \$200,000 in the Wichita area and about \$100,000 in the vicinity of Stanley. Heavy rains caused considerable flash flooding, soil erosion, and inundation of crop fields over northeastern and east-central Kansas during the night of September 20-21.
McPherson, Reno Counties	22	afternoon							Funnels aloft
									A funnel aloft was seen in the area from 5 miles southeast to 10 miles east of McPherson during the period 2:00-2:30 p.m. Three or 4 funnels were sighted in the Hutchinson-McPherson area from 2:35-3:20 p.m., and one was observed just west of Haven about 3:30 p.m.
Linn County	27	Evening	?	?	0	2	3	0	Wind
									Two persons were injured in a windstorm near Parker.
KENTUCKY									
Blue Grass	11	5 p.						4	C Hail, wind, rain
									In the southeastern Blue Grass, tobacco still in the fields and other crops were damaged in Madison county; hailstones dented some 35 mobile homes and some roofs were damaged by wind. In nearby Montgomery county, wind was responsible for downed trees and for some crop damage.

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					KILLED	INJURED	PROPERTY	CROPS		
LOUISIANA Calcasieu Parish	1	4:20 p.							Funnel cloud aloft	
		Pilot reported funnel cloud			12	SW	Lake Charles.			
Calcasieu Parish	5	4:25 p.-4:30 p.							Funnel cloud aloft	
		Funnel cloud aloft reported			8	SW	Lake Charles.			
State	8-10				58	Over	17,500	9	7	Hurricane BETSY
		<p>By 10 a. CST, Sept. 8, Hurricane Betsy had passed the Florida Keys and was in the Gulf of Mexico. Its forward speed accelerated as it moved NW. Louisiana offshore oil companies battened down, floating equipment was sent ashore, and about 3,000 men were evacuated by helicopter and boat. On Sept. 9, the hurricane turned towards the NW. Coastal parishes which had not already issued evacuation orders did so, and over 90 per cent of the SE coastal area evacuated. Damaging winds and heavy rains preceded the center, which crossed the coast about 10 p. just southwest of Grand Isle, where the lowest barometer reading was 28.00 in., and a tide of 8.8 ft. m.s.l. occurred. Most of the Louisiana coastal area to the E of Grand Isle experienced tides of 10 to 12 ft., reaching up to 15 ft. locally in some areas. Betsy moved NW, with the center passing over Houma between midnight and 1 a., Sept. 10. The lowest pressure reading at Houma was 28.00 in., and surface winds gusted to over 130 m.p.h. Near 4 a., Betsy passed 20 mi. W of Baton Rouge, where gusts up to 92 m.p.h. were reported. As its forward speed decreased, the winds diminished, and at 7 a. were 75 m.p.h. in squalls. The storm then turned N and continued to weaken; by 10 a. it was 50 mi. NE of Alexandria; at 2:30 p. it passed to the W of Monroe, then veered through eastern Arkansas. Overall damages totaled the highest in Louisiana history; it was the greatest insured property loss in the United States. The Red Cross estimated over 17,500 injured or ill, 679 hospitalized, and 58 dead, with 41 of the deaths in Orleans Parish. In all, about 160,000 families suffered losses, nearly two-thirds of them in Orleans Parish. More than 22,000 dwellings were destroyed or suffered major damage, with three-fifths of them in Orleans Parish. Over 380,000 telephones were affected, about three-fifths of these were in New Orleans. From the southeastern coast northward to past Baton Rouge, about 50 per cent of the area had no electricity, and in New Orleans about 90 per cent of the electric service was knocked out, and 168,000 customers were without electricity. Cities and towns up to 70 miles inland were staggered by the storm. The heavy damages resulted from extreme winds, high tides, and flooding, particularly in and near the New Orleans and Baton Rouge metropolitan areas. Stores, offices, homes, docks, shipping, and utility and oil companies suffered damage varying from moderate to severe over a wide area. In many sections the wind and rain combined to do considerable damage to standing crops; the greatest crop loss was to sugar cane, cotton, and pecans.</p>								
Caddo Parish	17	4:00 p.			0	0	?	0	0	Wind
		Wind gusts to 66 m.p.h. reported at Shreveport.								
Coastal	21-22				0	0	?	0	0	High tide
		<p>Strong southerly winds produced high tides. Cameron Parish: Sheriff reported tides two to three ft. above normal. Some streets flooded near Cameron waterfront. Jefferson Parish, south of Westwego: Water pressure from extremely high tide in Bayou Segnette caused soft levee soil to slide on drainage canal side late Tuesday or early Wednesday, leaving in a 200 ft. stretch three or four gaps through which water from the Bayou flowed into the canal. Breaks plugged by sandbagging, new levee built around break.</p>								
Claiborne Parish	22	Morning			0	0	?	?	?	Wind
		Wind damage several places near Houma to S and E, several homes damaged, some trees blown down, two barns demolished.								
Gulf of Mexico	24	8:25 a.								Waterspout
		Pilot reported funnel shaped cloud			20	SE	Grand Isle.			
Southeast Division	28-29				0	0	?	0	0	Tropical Storm DEBBIE
		<p>In the offshore area, oil workers secured rigs in advance of the storm. Some inundation around Lake Borgne southward to the mouth of the Mississippi River as tides rose generally from two to four ft. Lower portions of St. Bernard Parish evacuated to Chalmette and Violet. Highways east of New Orleans were closed for an extended period.</p>								
MAINE										
Coastal and eastern	1-2	P.M. and night			0	0	4	0	0	Wind, rain
		<p>Widespread but mostly minor damage from falling trees and limbs. Some utility failures reported. Mostly minor damage to boats, lobster pots, and coastal installations. Some locally washing and flooding rain.</p>								
Limestone	21	2:30 p.m.	Short Narrow		0	0	3	0	0	Tornado
		Demolished one building. Path easterly.								
MARYLAND										
MASSACHUSETTS										
State	1-2	P.M. and night			0	1	4	0	0	Wind, rain
		<p>Woman injured when felled by wind gust in North Cambridge. Trees and limbs blown down onto utility wires causing outages in many communities, most numerous in eastern portion of state. Heavy rain snarled traffic. Minor wind damage to boats at anchor in coastal harbors.</p>								
MASSACHUSETTS (cont'd.)										
Holyoke	24-25	Night			0	0	4	0	0	Rain
		Road washouts and heavy local erosion from heavy rain.								
MICHIGAN										
Battle Creek	1	11:25 a.								Hail
		<p>Three fourths inch size hail reported at Coldwater Lake which is 30 miles south-southeast of Battle Creek.</p>								
Southwestern Lower Michigan	4	4:00 p. - 11:00 p.						5		Thunderstorms with high winds and heavy rains
		<p>Numerous wind felled trees damaged dwellings, buildings, and cars. Several large modern farm barns and contents were damaged by high winds. Small boats and docks on inland lakes damaged due to the high winds. Power service was disrupted to hundreds of dwellings and homes due to the storms. Heavy rains caused flood damage to streets, roads, buildings, homes and contents.</p>								
Grand Haven	4	4:15 p.							7	Funnel aloft
		Funnel aloft reported								7 miles south of Grand Haven.
Kent City	4	8:34 p.							3	Funnel aloft
		Funnel aloft observed								3 miles north of Kent City.
Nunica in Ottawa County	4	8:40 p.	4	?	0	0	4	0	4	C Tornado
		<p>Tornado estimated to have first touched down 7 miles east-southeast of Grand Haven then moved 4 miles north-northeastward to the vicinity of Nunica about 8 miles east of Grand Haven. A pickle factory building, a large barn and a silo were completely destroyed by the tornado. A number of buildings and dwellings along the path of the tornado were damaged. Trees were uprooted and felled by the high winds. Debris from the destroyed buildings was carried aloft for 2 1/2 miles. Total damage estimated to be 25 thousand dollars.</p>								
Ravenna in Muskegon County	4	8:45 p.	?	?	0	0	4	0	4	Tornado
		<p>Tornado touched down 1/2 mile south and 3 1/2 miles west of Ravenna where it destroyed a farm barn. Debris from the demolished barn carried 1/2 mile north. Trees in the vicinity were stripped of their leaves and upper branches.</p>								
Kent, Ottawa, and Muskegon Counties	9	5:00a. - 8:00a.							5	Heavy rains
		<p>Heavy rainfall up to 3 inches caused considerable flood damage to buildings and dwellings under construction, streets, roads, buildings, homes and contents. Traffic was stalled on some of the streets and highways due to the high water with resultant water damage to numerous cars.</p>								
West Central Lower Michigan	9	6:00 p. - 11:00 p.							5	Thunderstorms with heavy rains, high winds, and lightning
		<p>High winds destroyed large warehouse building near Montague with the damage estimated at 75 thousand dollars. Wind felled trees, caused considerable damage to buildings, homes and cars. Heavy rains caused flood to streets, roads, buildings, homes and contents. Lightning induced fires damaged several buildings, homes and contents. Power service was disrupted in the area due to the storms.</p>								
Hart	9	7:43 p.								Funnel aloft
		Funnel aloft reported								12 miles southwest of Hart.
Southern Lower Michigan	14	4:00 p. - 11:00 p.						1	5	Thunderstorms with heavy rains, high winds, and lightning
		<p>Numerous buildings and dwellings were damaged by the high winds. Wind felled trees caused considerable damage to buildings, homes and cars. Small boats and docks on inland lakes were damaged by high winds. Heavy rains caused flood damage to streets, roads, buildings, homes and contents. Lightning induced fire destroyed large modern farm barn near Millington. Man injured when his moving car was struck by wind felled tree near Hartford. Power service was disrupted to hundreds of homes due to the storms. Lightning induced fires damaged several homes, buildings and contents. One and one half inch size hail reported in the Lansing area. Heavy rains caused damage to roads and streets.</p>								
South Central and Southeastern Lower Michigan	22	10:00 a. - 1:30 p.						5	5	Thunderstorms with high winds, and heavy rains
		<p>High winds up to 70 mph caused heavy damage to buildings and dwellings. Hangar roof at Marshall airport damaged by high winds. Woman injured when high winds upended and capsized her moving car near Marshall. High winds damaged numerous mobile homes, small boats and docks on the inland lakes. Wind felled trees damaged buildings, homes and cars. Woman and her three children were injured when high winds capsized their trailer home near Durand. House demolished by high winds near Gageton in Tuscola County. Power service was disrupted to hundreds of homes due to the storms. Heavy rains caused damage to the streets and roads.</p>								

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1965

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.) Duck Lake in northeastern Calhoun County	22	11:30 a.					4		Waterspout
									Waterspout on Duck Lake lifted a pontoon boat high into the air which then demolished upon falling back into the water. Waterspout then moved onto the shore where it demolished a cottage, caused major damage to 2 cottages and minor damage to 6 cottages. Total damage was estimated at 15 thousand dollars.
MINNESOTA St. Francis (near), Anoka County	17	4:45-5:00p	5	100	0	0	4	3	Tornado
									A small tornado first observed 4 miles south of village moved toward northeast touching down a number of times.
North St. Paul, Ramsey County	30	11:30a			2	0	2	0	Lightning
									Lightning apparently followed along a tree, grounded on a nearby cement mixer and killed 2 men who were in contact with the machine.
Most of state	26	early am			0	0	0	8	Freeze
									An early season hard freeze covered most of state causing among other things a loss of about 23.5 million bushels of corn and 10 million bushels of soybeans. USDA Statistical Reporting Service estimates only 10% of soybeans and 50% of corn fully mature. Temperatures below 32 degrees north of line from Fairmont to Rochester to Winona. Temperatures below 25 degrees north of line from Pipestone to Vesta to Alexandria to Long Prairie to Buffalo to Cambridge. Temperatures below 20 degrees in some areas of northern and central districts.
MISSISSIPPI Pascagoula	4	Early Morning			0	0	4	0	Flood and Lightning
									Several firemen knocked from their bunks when lightning struck the fire station. Several homes and automobiles flooded due to early morning thunderstorms with locally over 4 inches rain combined with abnormal high tide.
Mississippi Sound	4	Afternoon			0	1	0	0	Lightning
									Man struck by lightning and knocked overboard near Horn Island during sailboat race.
DeSoto County	7				0	0	4	0	Windstorm
									Houses on highway 301 almost completely destroyed by falling tree and windstorm.
South and West Mississippi	9-10				0	0	7	7	Hurricane Betsy
									As Hurricane Betsy approached the Louisiana Coast over 40,000 residents evacuated the low lying areas of the Mississippi Gulf Coast. Although the Center of Betsy passed West of Mississippi through Eastern Louisiana and Arkansas, she produced high tides, strong winds and heavy rain over the Gulf Coast and Western Mississippi. Tides along Gulf Coast ranged from 7 ft. near the Alabama line to locally 15 ft. near the Louisiana line. Winds ranged from 45 to 60 mph at Pascagoula to over 100 mph at Bay St. Louis. Most of the property damage was due to high tides and waves associated with strong winds along the Gulf Coast. Strong winds and heavy rain caused most of the crop damage in South and West sections. Harrison, Hancock, and Jackson Counties suffered most of the damage. Over 25,000 people were affected by power losses, 22,500 telephones were out of service, 136 telephone circuits were out, and 5 telephone exchanges were isolated.
Six miles west of Walnut 4 1/2 miles northwest of Tupelo	10	1830C			0	0	3	0	Tornado
									Small tornado damaged 1 dwelling house and 2 cabins. Area of coverage approximately 1/2 acre.
Magee	10				0	0	3	0	Tornado
									Small tornado damaged several buildings fronting on U. S. Highway 49.
Biloxi	12	0535 - 0543C							Funnel Cloud Aloft
									Funnel Cloud Aloft observed for 8 minutes before it dissipated.
MISSOURI Festus-Crystal City, Jefferson County	4	7:30 PM	4	750					Tornado
									Funnel observed just east of Highway 41, south of Festus-Crystal City. Heavy damage to farm buildings and trees.
Eldon, Miller County	13	9:30 - 10:45 PM							Thunderstorm
									Buildings bordering Highway 54 in Eldon flooded. 3.65 inches of rain fell in 75 minutes.
Dixon, Pulaski County	13	11:00 PM							Thunderstorm
									Several houses, business buildings damaged by wind.
Platte-Buchanan-Clay Counties	13	late afternoon, evening			1	5	6		Thunderstorm
									A woman was cut by flying glass when hail broke a window in her home. Hailstones completely covered the ground in parts of northern Platte County and southern Buchanan County. In Liberty, 3" 1/4 stones fell, covering ground to 12-inch depth. Cattle were killed by hailstones, heavy damage to cars, roofs and windows. Some odd-shaped stones 6-7 inches long and 3 inches thick reported near Liberty.
MISSOURI (Cont'd.) Fulton, Callaway County	14	6:40 PM							Funnel Aloft
									Reported between Fulton-Kingdom City.
Bethany (1 E) Harrison County	18	5:00 PM							Tornado
									Funnel touched ground briefly 1 mile east of Bethany on Highway 136. Residents heard a roaring noise. Trees were twisted and sections of a tin roof were carried 1/2 mile north of where the storm hit. Vegetation east of a farm house was twisted in the opposite direction of vegetation on the southwest side of the house.
St. Joseph, Buchanan County	20	afternoon			2	5			Thunderstorm
									Heavy damage to homes and business buildings. Some evidence of funnel activity, by witnesses who heard "a noise like a freight train", but no direct evidence of funnel touching ground. Severe thunderstorm, with sky very dark.
Tina, Carroll County	20	late evening					4		Tornado
									Storm first hit 1 mile west of Highway 65 just north of the Tina junction. It continued on the ground to near Tina. Damage to barns, homes and trees.
Kirkville, Adair County	20	00:30 AM					4		Tornado
									Funnel touched briefly in northeast section of Kirkville. Witness reports hearing a "rumbling noise". Damage to homes, trees, power lines.
West Central Missouri	20	6:30 - 8:00 PM					3		Tornado
									Funnel cloud observed at 6:30 PM west of Concordia in Lafayette County. Funnel touched ground south of Alma. Damage reported near Highway 23 and on the southeast edge of Alma. At 6:50 PM a barn was demolished northeast of Alma. The storm moved northeastward, with path of damage north of Blackburn, south of Grand Pass and near Malta Bend, in Saline County. At 7:30 PM the tornado was sighted 5 miles east of Miami, and at 8:00 PM some evidence of tornado damage 5 miles northwest Keytesville, in Chariton County. (Also, some evidence of storm 2 miles northeast of Indian Grove, Chariton County).
Butler, Bates County	20	2:00 AM					3		Tornado
									Witness heard a "terrible roar". Definite path of damage from the 300 block of South Broadway to East Ft. Scott Street. Trees uprooted and vegetables found pulled out by their roots and blown around the area.
Bethany 1-1/2 W Harrison County	20	6:00 PM					3		Tornado
									Damage to trees and farm buildings.
Kansas City - Lees Summit, Jackson County	20	evening	1-1/2	30			5		Tornado
									Widespread thunderstorm damage in the metropolitan Kansas City area. Power and Light Company reports indicate this one of the most damaging storms. (to their facilities). Evidence of tornadic activity at 10:30 PM in Lees Summit area reported by skilled Weather Bureau meteorologist. A willow tree in a yard northeast of this man's home was badly twisted, and limbs from the tree found on a house southwest of the tree. A steel fence post bent to a 70 degree angle. Cottonwood limbs carried 1/2 mile by the wind. Some evidence of tornadic activity at Amco Steel Plant in east part of Kansas City. Damage along a 150 foot path included two box cars blown over. A 24-inch water line moved off its supports. 7000 square feet of roof blown off.
Bloomfield, Stoddard County	20	6:15 - 6:20 AM	1/2	300					Tornado
									Touched ground briefly in western part of Bloomfield. Definite path of damage to trees, buildings.
MONTANA NEBRASKA South-Central Nebraska	3	8 p - 9 p	70	1	0	0	4	0	Damaging winds
									High winds from thunderstorms resulted in building damage in scattered areas from Harlan to Mickelle County.
Northwestern Nebraska	15 - 16				0	0	3	4	Heavy snow
									Heavy snowfall in northwestern corner of State. Ft. Robinson received 18" of snow to set a new September record for the State. Considerable tree breakage from weight of snow. Some crop loss.
NEVADA NEW HAMPSHIRE NEW JERSEY									None reported

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1965

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			
NEW MEXICO Lincoln County	7	Evening			0	0	4	0	Heavy rains		
	Rains to unofficial 3 inches resulted in \$15,000 damage to roads and culverts from flash flooding in Huidose and Hondo Valley area.										
Las Vegas, San Miguel County	8	5:00 a.m.			0	0	4	0	Lightning		
	Lumber mill destroyed by lightning caused fire. \$20,000 damage.										
Zuni, McKinley County	18	Afternoon			0	0	0	0	Wind		
	Gusty winds to 75 miles per hour at 12:09 p.m. and 71 miles per hour at 4:00 p.m. at Zuni Airport.										
Clayton, Union County	18	6:00 p.m.	5	100	0	0	4	0	Tornado		
	Two ranch homes, fencing, water tower, out-buildings, damaged by tornado moving toward north. First ranch about 7 miles southwest of Clayton, and second, about 4 miles southwest of Clayton. Minor field crop damage; total damage \$5000.										
NEW YORK Coastal	1	all day				1	4		Wind		
	Winds gusting to 60 mph buffeted Long Island, New York City and Westchester County areas with scattered damage and adverse effects. Power failures affected several thousand homes in Richmond, Nassau and Suffolk Counties. Blowing dust from grass turf farm at Riverhead, Suffolk caused discomfort and minor damage to nearby homes, stores etc. Scores of small boats sunk or driven ashore on Long Island. Boy injured at World's Fair by falling aluminum canopy dislodged by high winds; some autos and buildings damaged by falling limbs.										
Hartfield(near Mayville), Chatauqua County	9	4:45 p.m.	1/4	100			4		Tornado		
	Second tornado of 1965 in this county of southwestern New York struck farm located in northwest portion of same. Two-story barn unroofed, garage flattened and part of roof and front porch of house torn off. Beams and roof from barn and porch chairs found several blocks away. Witnesses described "fast moving black cloud approaching from the west" and "existing and whirling of debris in the air". Storm, moving from west to east, lasted less than five minutes. There was no rain.										
Albany and Rensselaer Counties	10	evening					4		Electrical, wind, hail		
	Severe localized thunderstorms struck sections of adjoining Albany and Rensselaer Counties. High winds partially unroofed insurance company building, shattered plate glass windows, downed power lines trees and limbs in suburban areas from northwest to southeast of Albany. Hail up to golf ball size reported at East Greenbush. Barn burned from lightning fire. Little or no storm effects in northern suburbs.										
Western	20	p.m.					4		Electrical, wind		
	Electrical storms, accompanied by locally damaging winds, occurred in Finger Lakes region from Steuben and Livingston to Schuyler and Tompkins Counties. Small boats sunk on Conesus Lake and 7 cows killed by lightning near village of Conesus, Livingston County. Winds caused considerable damage to trees, limbs and roofs in localized area of Canisteo, Steuben County. Scattered damage to power lines, buildings and trees reported eastward to Ithaca and Watkins Glen area.										
NORTH CAROLINA Wake County	11	5 pm					4	0	Electrical		
	Tobacco storage barn struck and burned by lightning near Zebulon.										
Mecklenburg County	12	8:30 pm	1/4	70	0	0	4	0	Small Tornado		
	Storm struck a northern suburb of Charlotte, apparently moving from northwest toward southeast. Destroyed a carport and damaged two homes. Moved a steel trailer 125 feet. Twisted trees off above ground and carried tops away. Roaring sound heard. Rain fell, but no thunder or lightning noted.										
Haywood County	15	9-11 pm					4	0	Rain		
	Flash flood in and near Waynesville caused washouts and flooded basements.										
NORTH DAKOTA Emmons County	3	evening					3		Thunderstorm, heavy rain, hail		
	Storm moved from southwest to northeast. One inch of rain occurred at Linton. Heavy hail caused damage to corn and garden crops.										
Jamestown	3	11:25 pm							High wind, thunderstorm		
	Gusts to 65 mph were recorded.										
Bottineau County	3	night							Heavy rain		
	one and one-half inches of rain were reported.										
Barnes County	4	1:00 am	1/2	500			4		Tornado, hail, rain lightning		
	Several buildings were damaged about 20 miles north of Valley City. Rain up to 2 inches fell with some hail. Lightning struck a house.										
NORTH DAKOTA (Cont'd.) Walsh County	14	early morning							Heavy rain		
	Nearly 2 inches rain were recorded at Grafton.										
McLean and Mercer County	29						4		Severe Windstorm		
	On the south shore of Lake Harrison, west of Riverdale a number of barges were torn loose from their moorings and many small boats were damaged and swamped. A marina building was destroyed.										
OHIO OKLAHOMA Saddle Mountain, Kiowa County	3	About 3:30p.					0	1	0	0	Electrical
	A rancher was stunned by lightning which struck nearby while he was repairing a pasture fence.										
Canadian and Kingfisher Counties	3	4:10p.-5:10p.	40	*5-10	0	0	4	3			Wind and hail
	A damaging thunderstorm moved northeastward from El Reno across the Cashion area to the west side of Guthrie. Winds estimated to 80 miles per hour on the southeast side of El Reno knocked out some windows, unroofed and blew down a brick garage. Three hangars at Mustang Airport lost large sections of metal roofing and a trailer house was damaged by debris. Hail over these areas varied from 3/4 to 1.5-inch size and covered the ground to the north of El Reno where some damage to milo, maize, and cotton was reported. Wind toppled 14 power poles near Cashion and nearly a mile of downed lines caused service outages to 400 families. The wind damage path ended 4 miles west of Guthrie with roofing blown from many homes, windows knocked out, farm buildings damaged and a big barn blown down.										
Lindsay, Garvin County	3	6:30p.-6:35p.	7	7	0	0	7	7			Hail
	Hailstorm moving northeastward pelted the Lindsay area with hail mostly 3/4 to 1.5-inch size causing only a small amount of damage. Some stones up to 2.3-inch size reported in Murray-Hill and Black Addition areas of City.										
Jackson, Greer, and Harmon Counties	5	3:00p.-5:00p.			1	0	3	4			Rain, electrical, and funnel aloft
	A large, heavy thunderstorm moved northward across the areas of Martha, Blair and Hester with heavy washing rains causing damage to fields and crops. Unofficial rainfall measurements at Blair indicated 4.5 inches of rain fell in approximately one hour. Water rose over curbs and backed up to front porches. A 16-year-old boy was killed by lightning while irrigating on a farm 4 miles west-southwest of Blair. Strong gusty winds caused extensive damage at the Blair Farmers Co-op Gin, demolished a trailer house, and damaged several business buildings and roofs. Heavy rain also fell along the west border of Greer County where unofficial amounts of 3.5 to 5.0 inches were reported in the Russell and Reed communities. A funnel aloft was sighted in this storm as it moved through the rural area 7 miles northwest of Mangum.										
Carter, near, Beckham County	5	Evening	1	*1	0	0	0	7			Hail
	Hail of 3/4-inch size fell along a northward path centered 3 miles east of Carter causing 75 percent crop loss on one farm.										
Burns Flat, near, Washita County	5	9:20p.	7	7	0	0	0	0			Wind
	Wind gusts up to 60 miles per hour were observed at Clinton-Sherman Air Force Base during a thunderstorm.										
Ottawa County	13	6:00p.-7:00p.	15	*10	0	0	4	0			Wind
	Damaging wind over the western half of the County uprooted many trees at Afton and near Miami. Heaviest damage at Afton included partially unroofed homes, several cars damaged by downed trees, porch torn from a home, dugouts blown away at the Little League Park, a demolished barn and garage along with many power lines and television antennas blown down in the area.										
Southwest, West-Central Central and Northeast Divisions of Oklahoma	18-21	3:00a.-18th - 7:00a., 21st	250	*80	0	0	6	6			Rain
	Very heavy rains caused expensive local flash-flooding and considerable property loss as a result of the two cold fronts and a squall line that moved slowly across Oklahoma during the period. Heaviest rains lasting two to three days began in the southwest counties and worked into the central and northeast counties. Intense rains totaling from 6 to 9 inches fell along an 80-mile wide belt centered along a line through Jackson, Logan and Osage Counties. Wettest area with amounts of 10 to 12 inches extended across northern Kiowa and Caddo Counties and southern Washita and Canadian Counties. Greatest recorded amount fell in the ARS Chickasha Network in the northern part of Caddo County where gage number 4 (located 3 miles east-southeast of Hintop) recorded a total of 12.76 inches, of which 8.83 inches fell in 5 hours following 6:45p. on the 20th and was preceded by 3.93 inches on the 19th. The heavy rains and quick runoff resulting in local flash-flooding totaled nearly 3.4 million in damages. Property damage of 83 percent occurred to County and State roads and bridges, State highways and private property. Crop damage of 17 percent was mostly										

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SEPTEMBER 1965

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	
OKLAHOMA (Cont'd.)									
Oklahoma City, Oklahoma County	19	7:30a.	1.3	30	0	0	4	0	Tornado
									to cotton and seeded grain where minor soil washing occurred or where terraces broke or waterways washed across fields. Some cattle were also lost. Major damages occurred in the Counties of Logan, Canadian, Kingfisher, Caddo, Washita, Kiowa and Jackson. Damage from local flooding 50 percent of 3.4 million total, rain 49 percent and wind 1 percent. (Additional details on river and flood conditions are available in "Climatological Data, National Summary" for September 1965.)
									A small tornado skipped northeastward across the northwest edge of the City's downtown business section just above rooftop level and touched down briefly three times causing light damage. First brief touch-down was near SW 3rd and Douglas where a roof was damaged on a produce stall at the Public Market. Several city policemen saw the tornado hit in a parking lot just west of the Police Station at 200 N. Shartel where debris and flying gravel broke windows and pitted paint on 12 automobiles. It last struck at NW 5th and Hudson where a Firestone store and several adjacent buildings were damaged. The store had its roof raised approximately six inches and debris was found between the roof and the girders supporting the roof. Roofing material sucked from the metal roof was littered over surrounding blocks and roof gravel pitted windows on the 4th, 5th, and 6th floors of a high-rise apartment building.
Del City, Oklahoma County	19	7:45a.-7:50a.	0.6	25	0	0	3	0	Tornado
									A small tornado dipped out of the clouds at SE 20th and Bryan Ave. and moved northeasterly at rooftop level to the 3700 block of NE 15th before disappearing. Damage was limited to downed trees and electric lines, patio roofs, school buses and a few automobiles while boards, toys, and other debris were observed swirling through the air.
Strong City, near, Roger Mills County	20	5:00p.-5:15p.	?	?	0	0	0	0	Tornado
									A tornado was observed on the ground intermittently about 5 miles as it moved northeast. No damage reported.
Dewey County	20	5:00p., 5:30p.			0	0	?	0	2 Tornadoes
									Tornado number 1 was sighted on the ground twice near Rhea and slight damage was reported to a barn and vacant house. Dust and debris was swirled into the air as it moved northeasterly. Tornado number 2 was sighted on the ground in open country for five minutes about six miles southwest of Taloga. It moved 1/2 mile northeast along a 100-yard-wide path.
Hydro, Blaine County	20	Evening	?	?	0	0	0	0	Hail
									Hail up to 1.5-inch size reported in City during heavy rain storm. No damage reported.
Garfield and Kay Counties	20	7:15 p.-7:32p.			0	0	?	?	Wind
									Intense thunderstorm produced gusty winds up to 68 miles per hour at Enid and Ponca City about 7:25p., while the Civil Defense reported winds of 70-90 miles per hour west of Elbowell around 7:37p. Some scattered tree damage was reported, lines downed, and an airplane was blown loose and damaged at Woodring Airport, Enid.
Mountain View, near, Kiowa County	20	7:36p.	3	200-400	0	0	4	4	Hail
									Damaging hail averaging 1.3-inch size with largest stones 1.5 x 4 inches moved east-northeast across a rural area 3 miles west of Mountain View. Up to 20 percent of the ground was covered.
Southeast Division of Oklahoma	21-22	4:00a., 21st - 7:00a., 22nd	120	*90	0	0	0	0	Rain
									Heavy rains fell over the southeast corner counties with amounts varying from 4.50 inches at Idabel to 6.88 inches at Kiamichi Tower. The heavy rains ran streams near capacity but no flooding was reported.
OREGON									None reported
PACIFIC AREA									
Canton Island	11	5:30 p.			0	0	0	0	Funnel aloft
									Well defined funnel cloud observed SW of station. It dissipated within 5 minutes.
Guam	13	5:30 a.-9:00 a.			0	0	0	0	C Rain
									Flash floods triggered by heavy rains from Tropical Storm Virginia, which passed about 95 NNE of Guam, inundated houses, fields and highways. In Dededo Village, 10 miles SW of Anderson AFB, a large number of homes were evacuated. 3.43 inches fell in a single hour (exceeding the previous record), 5.81 inches in 3 hours and 6.52 inches in 4 hours.
PENNSYLVANIA									
Norristown Area	1	2:30 P.M.			1				Thunderstorm
									One man was electrocuted when he touched a barbed wire fence, onto which a 2400-volt power line had fallen due to the downing of a tree during the storm.
PENNSYLVANIA (Cont'd.)									
Erie Area	16	5:30 A.M.					4		Wind
									The 45 mph winds downed a number of trees and utility lines, broke several store windows, and damaged some roofs.
Wilkes-Barre - Scranton Area	18	7:00 P.M.					3		Thunderstorm
									Lightning struck several buildings causing minor fires, while strong winds damaged several house roofs and downed a number of trees and utility lines. A large tent at a local fair was also blown down by the strong wind.
Near Sharon	19	Afternoon					4		Thunderstorm
									Lightning fired a barn, while high winds downed utility lines.
Mifflinburg	23						4		Thunderstorm
									A lightning-induced fire at a furniture factory resulted in \$30,000. damage to building and contents.
Southeastern Counties	24				2	3			Thunderstorms
									Lightning struck several buildings causing some minor damage. A pony was struck and killed by lightning near Lansdale. Strong winds downed a number of trees and utility lines. In Chester, two persons were injured when a large plate glass store window was blown out by the wind.
PUERTO RICO	23	1500	1	12	0	0	3	0	Tornado
									A small tornado which originated as a water spout off the beach of Barrio Guanajibo in Mayaguez moved inland causing damages to several houses, a garage, a store and numerous trees in front of the local baseball park. The storm had one funnel which remained aloft and lasted about 8 minutes.
	23	1800			2	0	4	3	Heavy Rains
									Heavy rains in western and south-eastern Puerto Rico caused local rivers to overflow resulting in two drownings and considerable water damage. In Mayaguez, on the west coast, the Yaguez River overflowed its banks driving about 50 people from their homes in the low-lying areas of Balboa, Mayaguez Beach, Ensanche Vivaldi and Tras Talleres. Waters were from four to five feet deep in these sectors. Most of the Crop damage occurred in the Lejas area. In south-eastern Puerto Rico one man was drowned crossing a rising stream off the Maunabo River in Barrio Talante. Another man drowned in Yabucoa attempting to cross a swollen stream.
RHODE ISLAND									No report received by printing deadline
SOUTH CAROLINA									
Columbia and vicinity	2	a.m.			0	0	3	0	Heavy rain
Richland and Lexington Counties									Localized heavy rain produced new rainfall totals for 2, 3 and 6-hour periods for September. Weather Bureau records for Columbia date back to 1887. In addition to the usual flooding damages, water seeping in to telephone cables rendered thousands of phones useless.
SOUTH DAKOTA									None reported
TENNESSEE									
Gibson County	1	1:00a.			0	0	3	0	Windstorm
									A windstorm, which might have been a small tornado reported 15 miles southeast of Milan. Damage to roofs of three houses and church.
Memphis, Shelby County	1	a.m.			0	0	4	0	Windstorm
									Thunderstorm winds damaged roofs of several houses, a building and uprooted trees in scattered sections of the city.
Montgomery County	1	2:00a.			0	0	?	0	Windstorm
West Tennessee	11-12				0	0	4	0	C Rain, wind
									Moderate to heavy rains, totaling 3 to 6 inches, with winds near 10 mph in gusts, reported as the remains of Hurricane Betsy passed through West Tennessee. Rains were generally beneficial in providing needed soil moisture, although some localized flooding was reported.
Nashville, Davidson County	15	12 Noon	?	?	0	0	0	0	Hail
									Small hail fell in various parts of the city. No damage reported.
Rockwood, Roane County	15	p.m.			0	0	3	0	Lightning
									House and contents destroyed by fire.
Clarksville, Montgomery County	16	2:00a.			0	0	4	0	Thunderstorm
									Wind damage to outdoor movie screen, power lines and falling tree limbs on parked automobiles.

See reference notes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1965

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			
TENNESSEE (Cont'd.)											
Donaldson, Davidson County	16	Noon			0	0	3	0	Lightning		
House in Hermitage Hills section struck by lightning. Fire and water damage estimated at \$4,000.											
Jonesboro, Washington County	16	3:15p.			0	0	3	0	Lightning		
Lightning is suspected to have caused fire which destroyed barn stored with hay.											
Spring City, Rhea County	16	5:00p.			0	0	4	0	Lightning		
One house destroyed by fire, another damaged.											
TEXAS											
Fort Aransas San Patricio	1	11:20 a							Waterspout		
Port O'Connor Calhoun Co.	1	11:30 a							Waterspout		
Near Corpus Christi Nueces Co.	2	9:25 a							Waterspout		
A waterspout was observed four miles south-southeast of the Naval Air Station.											
Darrouzett Lipscomb Co.	2	6:55 p-7:05 p	?	?	0	0	?	?	Hailstorm		
Hail damaged roofs and broke a few window panes in Darrouzett. Largest stones were 1 3/4 inches in diameter.											
Littlefield Lamb Co.	6		?	?	0	0	?	?	Windstorm		
Thunderstorm winds demolished a large metal building in Littlefield and hurled parts of it an eighth of a mile. The building was torn from its foundation. Many windows of 14 school buses stored inside the building were broken. Some signs were knocked down and some roofs damaged in other parts of Littlefield.											
Corpus Christi Bay Nueces Co.	8	8:24 a							Waterspout		
A waterspout was observed 13 miles northeast of the Naval Air Station.											
5 NW Odessa Ector Co.	10	2:25 p							Funnel aloft		
Peggy Community Atascosa Co.	18	2:00 p	1 1/2	3/4	0	0	4	0	Tornado		
A tornado cut a path of destruction about one and one-half miles long and one-half mile wide through the sparsely-settled Peggy community, wrecking farm buildings, snapping utility poles and uprooting trees. Peggy is a farming community about eight miles southeast of Campbellton. Hard-hit by the tornado was the Edgar Kellner farm where a 40 x 60 foot implement shed was demolished. Parts of the building and much of its contents were scattered over 20 acres of a plowed field. Large, cresseted posts, on which the structure was framed, were pulled straight up and out of the heavy black soil. Not a shingle was lifted from the Kellner home which was only about 50 feet from the implement shed. Total damage was estimated at \$5000.											
3 S Wolfcorth Lubbock Co.	18	7:50 p-8:45 p							Funnel aloft		
Near Perryton Ochiltree Co.	20	night	?	?	0	0	?	?	Hailstorm		
Hailstones up to 1 3/4 inches in diameter battered roofs and broke window panes in the Lake Fryer and Wolf Creek communities near Perryton.											
8 SE Vidor Orange Co.	21	9:04 a							Funnel aloft		
A large funnel aloft formed, dissipated, and reformed several times but did not touch ground.											
5 E Dallas Dallas Co.	21	6:10 p							Funnel aloft		
Dryden Terrell Co.	21	6:00 p-6:15 p	10	?	0	2	5	?	Tornado, hail		
A tornado damaged 23 houses in Dryden, every one in the town proper. Dryden is a community of about 50 persons, 20 miles southeast of Sanderson. One home was completely demolished; however it was vacant. Seven suffered moderate damage; 11 had small, and four major damage. These houses were valued at less than \$3,000. Three service stations were damaged; the Dryden Mercantile Store suffered roof damage; and the Harold Corporation warehouse was completely destroyed. About 15 utility poles were blown down, and one Southern Pacific freight car overturned. Two men received minor injuries from large jagged hailstones that fell about three miles north of Dryden. Total tornado damage was estimated at \$75,000.											
6 N Longview Upshur Co.	22	3:55 a	?	100	0	0	4	0	Tornado		
A tornado cut a 100-yard swath through the Judson-Seven Pines area north of Longview inflicting approximately \$50,000 damage. Two 100-foot steel derricks on the T. C. Hresley lease of the Sun Oil Company were twisted into a mass of junk. A field office, or "doghouse," as it is commonly termed in the oil industry, was scattered for miles. Trees, outbuildings, and a 60-foot TV antenna on the Clyde Arthur place were heavily damaged. The W. M. Brady home located on the Hartly Road was heavily damaged when huge tree limbs fell on the roof. A witness described the noise of the tornado as that of "a thousand freight trains."											
Near Magnolia Montgomery Co.	22	11:30 a	?	?	0	0	?	0	Tornado		
A tornado touched ground on the Lester Goodson J3 Ranch between Magnolia and Pinehurst. One metal horse barn was completely destroyed and the roof of the main ranch house received considerable damage. The roof of the barn was lifted in one piece and dropped in a pasture about 50 yards away. Two-by-four timbers were driven into the ground like spears. The tornado moved from southwest to northeast.											
UTAH											
Northern Utah counties and Zion National Park	5	Afternoon and night					1	10	5	4	Lightning, hail, heavy rain, and local flooding
Severe thunderstorm activity swept across many sections of the state Sunday afternoon and evening leaving death and destruction in their wake. Near Moon Lake in Duchesne County, a 13-year-old girl was killed instantly by a bolt of lightning which stunned her parents. Sunday night lightning struck the roof of a Catholic convent in Ogden and started a fire that resulted in over \$100,000 damage to the building. Lightning damage to power lines ran into the thousands of dollars. In Cache County, lightning caused fires, destroyed barns, and stored crops while hail seriously damaged fruit crops along the Wasatch Mountain Bench farmlands. Local floods hit southern Salt Lake County and a flash flood in the famed Zion Narrows in Zion National Park marooned 45 hikers for over 24 hours. Several of the hikers were injured but all made their way to safety when the water finally receded.											
Most of the state	16 thru 19						?	0	4	6	Snow and freezing temperatures
One of the earliest heavy snow storms of history swept across the state on the 16th and 17th. Snow was damp and heavy and did a great deal of damage to power lines, trees, and shrubs which were in full leaf this early in the season. The snowstorm was followed by record breaking low temperatures which destroyed crops which had not had time to mature due to the unusually cold summer growing season. Damage to crops by the freezing temperatures was estimated at over a million dollars in northern Utah alone.											
VERMONT											
None reported											
U.S. VIRGIN IS.											
None reported											
VIRGINIA											
None reported											
WASHINGTON											
None reported											
WEST VIRGINIA											
Beckley and vicinity	16	6:40 p.m.			0	0	2	0	0	0	Lightning
Lightning knocked out an underground cable and doused the runway lights at Beckley airport as winds reached 70 mph. 3/4 inch hail was reported 20 miles west of Beckley.											
Welch	16	5:15 p.m.			0	0	2	0	0	0	Lightning
Lightning struck a power transformer and interrupted service for about 30 minutes.											
Pocahontas County	16	Evening			0	0	4	0	0	0	Flash flood
Road damage from thunderstorms' rainfall estimated at \$21,500											
Charleston	24	8-9:00 a.m.			0	0	2	0	0	0	Windstorm and Thunderstorm
Trees and power lines were knocked down and a camp trailer blown over by winds up to 43 mph. Minor street flooding delayed morning traffic.											
WISCONSIN											
Southern portion of State	9	Evening			0	0	5	0	0	0	Tornado, Funnel
A series of very severe thunderstorms crossed the southern third of the State moving ENE. Most severe activity concentrated along a line from the southwestern corner of the State to Port Washington. A small tornado was reported 1/2 mile north of Shopshire in Rock County at 7:40 PM damaging a barn. Funnel clouds reported in Walworth, Ozaukee, Milwaukee, Washington and Monroe Counties. Communities with wind damage include Oconomowoc, Hartland and Menomonsee Falls.											
Fox River Valley	19	3 PM			0	0	5	0	0	0	Wind
Severe squall line with roll cloud did extensive wind damage in Neenah-Menasha and Kaukauna.											
Southern and Central Counties					0	0	6	7	0	0	Rain, Lightning
Record rainfall amounts of 10 to 15 inches during the month caused severe losses to canners and farmers, and to contractors. Some minor flooding along Kickapoo River. Many flash floods and land slides and severe erosion throughout area. Numerous fires and livestock losses blamed on lightning.											
WYOMING											
All of Wyoming	15, 16, 17	Evening of 15th			0	0	6	0	0	0	Severe early cold and heavy snow.
A cold wave moved over the state the evening of the 15th and caused considerable damage to crops, trees, power and phone lines, stopped much of the transportation by closing roads, caused an estimated 5% shrinkage in marketable livestock, and a few death losses in livestock. Temperatures dropped quite low for so early in the season and the heavy (18" - 20") band of snow from the southwest part of the state to the northeast part was by far the heaviest so early in the season.											

See reference notes at end of table.

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SEPTEMBER 1965

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					KILLED	INJURED	PROPERTY	CROPS	
COLORADO									
Alamosa County	2	1:00PM			0	0	0	0	Funnel cloud
		A funnel cloud was sighted NW of Alamosa.							
Craig, Moffat County	6	Afternoon			0	0	"h	C	Wind, rain and hail
		Rain and hail accompanied by high gusty wind, damaged roofs, windows, power lines, signs, trees and crops.							
Otero County	8	1:51PM			0	0	0	0	Tornado
		A pilot reported a funnel cloud touching ground 30 miles NW of Lamar.							
Southeastern Colo.	18	Evening			0	0	"h	C	Wind
		At 8:20PM, wind blew over a trailer house in north La Junta, injuring the two occupants. At 10:00PM, high gusty winds damaged farm buildings and equipment and damaged crops and trees in the Las Animas vicinity.							
Montezuma and La Plata Counties	27	5:30PM			0	0	h		Wind
		Strong gusty winds in two storms, damaged property in the Cortez, Mancos and Durango areas. Power lines, buildings and trees were damaged.							

* Miles instead of yards.

° Includes crop damage.

C Crop damage.

† 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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