

SEPTEMBER 1979

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STORM DATA



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Daniel B. Mitchell

DIRECTOR
NATIONAL CLIMATIC CENTER

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NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

ENVIRONMENTAL DATA AND
INFORMATION SERVICE

NATIONAL CLIMATIC CENTER
ASHEVILLE, N.C.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1979

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE	CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS		
ALABAMA										
Statewide	12-13	Eve-Aftn			1	?	9	9		Hurricane Frederic
	<p>On the night of September 12-13, Hurricane Frederic struck the Mobile Bay area then weakened gradually as the storm moved northward through eastern Mississippi and western Alabama into Tennessee on the 13th. The eye of the hurricane passed over Dauphin Island and moved on shore near Bayou La Batre between 10 pm and 11 pm. The center proceeded on a north-northwest track into extreme eastern Mississippi near Lucedale, then northward near the Alabama-Mississippi border, gradually turning to a north-northeast course as it passed through northwest Alabama into Tennessee during the afternoon of the 13th.</p> <p>The entire Alabama coast experienced hurricane force winds with gusts to 145 mph recorded at the CHUN station on the Dauphin Island bridge and gusts to 137 mph at the Dauphin Island Sea Lab on the eastern end of the island. The highest observed sustained wind was 63 mph at the National Weather Service Office in Mobile, with gusts to 97 mph. The storm still maintained gusts in excess of hurricane force as the center moved northward east of Meridian, Mississippi, and gusts over 50 mph were still occurring near the center as it passed into Tennessee.</p> <p>A storm surge of 7-12 feet was recorded along the Alabama coast with the highest at Gulf Shores and along the north end of Mobile Bay. Tides of 7-10 feet occurred at Dauphin Island and 9 feet at Bayou La Batre.</p> <p>The lowest official pressure was 27.84 inches at the Dauphin Island Sea Lab. An FAA employee made an unofficial report of 27.49 inches at Grand Bay, along the path of the center, but this pressure is believed to be too low. The National Weather Service office at Meridian, Mississippi recorded a pressure of 28.85 inches, the lowest ever recorded there.</p>									
Statewide										<p>Rainfall of 8-10 inches occurred along the coast near and just west of the center. After Frederic moved inland, amounts of 3-5 inches were observed near and a little west of the storm's track through Mississippi and Alabama. Rainfall diminished eastward from the track with amounts generally less than 2 inches over eastern Alabama. Flooding associated with storm rainfall was not a significant problem with only some minor flooding in local flood prone areas.</p> <p>A number of tornadoes were reportedly spawned by the hurricane - only one confirmed.</p> <p>There was only one known death in Alabama directly resulting from the hurricane. A four year old boy was killed in Grand Bay when a mobile home turned over on him as he was trying to escape high winds with his family. The number of injuries was not determined, but most were minor.</p> <p>Damage from wind and surge was massive along the coast. Major wind damage occurred in Washington and Clarke counties as well as the coastal counties of Mobile and Baldwin. Farther inland, the principal problem was fallen trees and power poles, roof damage, and power outages.</p> <p>Total damage in Alabama is expected to exceed \$2 billion when finally assessed, ranking monetarily as the second costliest hurricane on record, exceeded only by Hurricane Agnes in 1972. Agricultural losses may exceed \$700 million, including over \$300 million in downed trees, of which about 25 percent may be salvaged. The tree loss is roughly equal to the value of the annual timber harvest. The pecan and soybean crops were extensively damaged in Mobile and Baldwin counties. Damage to homes, businesses, vehicles, roads, bridges, frozen foods, public utilities, etc., is expected to exceed \$1 billion in the coastal counties alone. With 150,000 of the 167,000 Alabama Power customers in the Mobile district without power the day after the hurricane, Frederic produced what may be the greatest damage thus far experienced by an electric utility.</p>
Clarke County	13	5:30a	1	17	0	0	4	3		Tornado
	<p>Small tornado spawned by Hurricane Frederic touched down briefly in a wooded area near Grove Hill and cut a path about one mile long and 50 feet wide. One mobile home was destroyed and many trees were uprooted.</p>									
Perry County	20	5:30p	3	25	0	2	5	5		Tornado
	<p>Tornado touched down at airport about 5 miles south of Marion, then moved southeast about 3 miles before dissipating. Two people were injured slightly. The tornado damaged a hangar and two aircraft, several houses and mobile homes, destroyed a cotton picker, uprooted most of a pecan orchard, and downed many other trees and several power lines. The Ames Bag and Packaging Company sustained major damage when the roof and three walls of one of the buildings collapsed. Damage estimates include \$30,000 at the airport, \$75,000 in the pecan grove, and \$25,000 at the packaging company.</p>									
ALASKA										
North Gulf Coast	13					2	0	4	0	High wind and rough seas
	<p>A double-centred low pressure area moved northeast in the Gulf of Alaska early on Sept. 13. Winds increased from minimum gales to full gale force on the evening of the 13th. The southeast winds built up 20-foot seas in the waters of the North Gulf Coast. A 50-foot barge with a cargo of fish was anchored a short distance up from the mouth of the Kasilik River, just west of Cape Yakataga on the evening of the 13th, seeking protection from the weather. Late in the evening, the anchors broke loose, and the barge drifted down into the Gulf of Alaska and ran aground on a sand bar just out from the river mouth. Two of the crew were washed overboard and lost in the rough seas which swept over the barge and quickly swamped it. The third crew member swam to safety.</p>									
ARIZONA										
Parker Area Yuma County	13	8:00 p.				0	0	5	4	Wind, Hail, Rain
	<p>Winds gusting to 60 m.p.h. during a severe thunderstorm did \$160,000 damage to a school roof under construction. Damaged also were trailers, roofs, sheds, power lines and trees. There was local flood damage and hail damage to lettuce crops.</p>									
Willcox Cochise County	14	Evening				0	2	4	0	Wind
	<p>Two persons were injured when a tractor-trailer rig collided with six other vehicles west of here during a severe dust storm.</p>									
Tucson Pima County	14	6:30 p.				0	3	5	0	Wind
	<p>Winds gusting to 60-70 m.p.h. during a severe thunderstorm ripped roofs off four businesses and several houses, damaged carpools, sheds, signs, trailers, downed power lines and uprooted large trees and slammed them onto houses and vehicles. Three persons were injured by flying debris. Electric power was cut off to about 8000 homes. A 250 ft. water slide, three stories high, was torn loose from its foundation and tumbled into a parking lot.</p>									
Yuma Yuma County	28	5:15-5:28 p.?				?	0	0	0	Tornado
	<p>A confirmed tornado touched down over the desert about 15 miles south-southeast of the airport.</p>									
ARKANSAS										
Near Center Ridge- Conway County	1	8:30 a.				0	0	5	0	Lightning
	<p>Lightning caused a fire which destroyed a warehouse in the Sunnyside Community near Center Ridge. Damage was estimated at 300 thousand dollars.</p>									
Crossett- Ashley County	7	Late afternoon				0	0	4	0	High Winds
	<p>Thunderstorms produced high winds which heavily damaged a hangar and two airplanes at the Crossett Airport. Damage to the planes was estimated at 3 thousand dollars, but no damage estimate for the hangar was available.</p>									
CALIFORNIA										
NORTHERN & CENTRAL										NO REPORT RECEIVED.
CALIFORNIA										
SOUTHERN										NONE REPORTED
COLORADO										
Longmont	10	EVENING				0	0	0	2	Severe thunderstorm
	<p>A severe thunderstorm dumped .85 inch of rain in a half an hour in Longmont. Hail and strong winds caused some crop damage in the area.</p>									
Northwestern Weld County	19	Evening				0	0	2	0	High winds
	<p>Strong winds around Ault caused minor damage to fences and storage sheds.</p>									

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CONNECTICUT Statewide	6	All Day			0	0	6	5	Tropical Storm David
									Passing to the west of Connecticut David brought southerly wind gusts of 70-80 MPH. Boats were blown from their moorings and smashed against sea walls. Trees were dashed to the ground sometimes crunching houses and automobiles. Electricity was shut off from several hundred thousand people. Though rainfall was much less than expected winds were higher making the overall effect of David very significant asuring it a firm place in weather records.
Statewide	14				0	0	?	?	Tropical Storm Frederick
									Much weaker than David, Frederick brought gusts of near 50 MPH and a few heavy showers. Some boats were blown from moorings and some trees were blown down.
DELAWARE Statewide	5-6				0	0	4	0	Tropical Storm
									Tropical Storm "David" moved on a north northeasterly track from western Virginia the afternoon and evening of the 5th, into eastern Pennsylvania early on the 6th. Being on the east fringe of the storm, Delaware received relatively minor damage. Property damage was light, except for a small section in the north portion of the state that experienced a tornado (covered in the following summary). Scattered tree damage occurred, along with local power outages for brief periods. Maximum wind gusts were recorded up to 45 mph and rainfall totals ranged between one and four inches. The total damage - other than that caused by the tornado - near \$7,000.
Newcastle County	5	8:45 p	2.5	200	0	5	5	0	Tornado
									Tornado associated with Tropical Storm "David" moved from the vicinity of the Delaware River into the Claymont area and continued in a southeast to northwest path to the Valley Run development on the Pennsylvania line. Roofs and porches were taken off several houses, with windows either blown inward or outward, and most trees along the path were uprooted. Many automobiles were damaged by flying debris or by being crushed against each other. One apartment was declared structurally unsound when bricks were ripped from the face of the building, windows buckled outward and a long balcony was torn off. About 5 persons were treated for mostly minor injuries caused by flying glass and debris. A loud roar was heard by witnesses as the storm passed over in a matter of seconds, however no lightning or thunder were evident. Total damage was estimated at between \$400,000 and \$500,000.
FLORIDA Oldsmar, Hillsborough County	1	5:00PM EDT	1/10	30	0	0	5	0	Tornado
									Eight barns were damaged and several windows in the grandstand were broken as a small tornado moved over Florida Downs, a thoroughbred horse racing facility northwest of Tampa. Damage was estimated at \$250,000.
Franklin County	2	9:05PM EDT			0	0	0	0	Waterspout
									A waterspout was reported 3 miles east of Alligator Point, moving west northwest at 20 MPH.
Florida Peninsula	3-4				0	?	8	7	Hurricane David
									After devastating the Dominican Republic with winds that exceeded 165 MPH, a much-weakened Hurricane David moved up the Florida east coast on Labor Day. Total damage was estimated by state officials at 96 million dollars, most of which occurred in the middle east coastal counties. Although several people died in storm related activities, no deaths were directly attributed to David in Florida. Some minor injuries resulted from the storm, mainly from flying glass.
									Crossing Andros Island late on September 2nd, David approached the Miami Metropolitan area during the early morning hours of the 3rd, took a last minute veer to the north, and made landfall at midday near Jupiter Island, a little north of Palm Beach. Minimum central pressure at landfall was 973 millibars or 28.73 inches. Moving north-northwestward at 10 to 12 MPH, David's eye passed over the coastal sections of Martin, St. Lucia, Indian River and Brevard counties, and was over the Cape Canaveral area around midnight. Continuing northward, the hurricane center moved offshore near New Smyrna Beach early on September 4th. David made landfall again near Savannah, Georgia, but the center path remained within 35 miles of the northern Florida coast until reaching the Georgia coastal waters.
									Strongest winds recorded in Florida were gusts of 95MPH at the Fort Pierce Coast Guard Station in St. Lucie County. Gusts reached 90 MPH at Patrick Air Force Base; 75 MPH at the Palm Beach International Airport; 65 MPH on Miami Beach; 55 MPH at the Daytona Beach Weather Service Office; and 45 MPH at Jacksonville's Weather Service Office. Sustained winds of 35 to 55 MPH with gusts of 75 to 85 MPH were common along the hurricane eye track.
FLORIDA (continued)									
									On Lake Okeechobee, the U.S. Corps of Engineers reported that winds reached 80 MPH at Port Mayaca dock; 70 MPH at Canal Point; and 57 MPH in Clewiston. Water levels reached 4 feet above normal in Pahokee Harbor. At one time during Labor Day afternoon, David's winds created a water level differential of over 8 feet on the north end of the lake while raising it to 17.5 feet in the Pahokee-Canal Point area.
									Tides were 3 to 5 feet above normal near the eye track and mostly 1 to 2 feet above normal elsewhere on the Florida east coast. Light to moderate beach erosion occurred along most of the coast. Severe erosion was reported in Brevard County and Southern Volusia County. On Anastasia Island, near St. Augustine, 15 foot waves eroded 12 feet of the sea-ot covered sand dunes.
									Storm rainfall was quite variable with totals mostly 6 to 9 inches near the track of the eye, with a few reports to 11 inches. Elsewhere, rainfall mainly was less than 5 inches.
									Property damage was generally light south of Palm Beach County, north of Brevard County, and over the interior of the peninsula. Near the path of the eye extensive damage occurred to roofs, signs, mobile homes, screened shelters, marinas, boats, docks, fishing piers, trees, plants, traffic signals and utility lines. Some homes, businesses and public buildings were severely damaged or destroyed, but most of the damage though widespread, was minor. Roadways near the beach were undermined at several places.
									Agricultural losses were substantial, and probably exceeded 25 million dollars. Grapefruit sustained major damage, primarily from heavy fruit droppage and wind scarring. The principal citrus damage was near the coastline, from Jupiter in Martin County to Oak Hill in Volusia County. Nursery plants sustained considerable damage near the storm track. Damage to vegetables, and to the sugar cane crop near Lake Okeechobee, was minor. Estimates of agricultural losses included 9.3 million dollars in St. Lucie County, 7.9 million in Indian River County, and 5.4 million in Martin County.
									David spawned at least 10 tornadoes in Florida, detailed below. Damage estimates for the individual tornadoes also are included in the total damage for David listed above.
Palm Beach County	3	10:35AM EDT	1/20	30	0	0	3	0	Tornado
									Hurricane David spawned a very short-lived tornado in Delray Beach. Observers reported the tornado dropped from the clouds, touched down for seconds, and returned to the clouds.
Brevard County	3	1:30PM EDT	2	40	0	0	6	0	Tornado
									About 50 mobile homes were destroyed or severely damaged by a tornado that struck the Ocean Holiday Travel Resort in Melbourne Beach. Also severely damaged was the nearby Opus 21 condominium complex. The tornado skipped across the Indian River and caused an estimated 1.5 million dollars damage at the Port Malabar Shopping Center in Palm Bay.
Vero Beach, Indian River County	3	1:25PM EDT	1/10	30	0	0	5	0	Tornado
									A tornado heavily damaged a restaurant and blew roofs off a condominium and apartment building in Vero Beach.
Cocoa, Brevard County	3	3:25PM EDT	2/10	30	0	0	5	0	Tornado
									A twister dropped from Hurricane David's clouds over Cocoa. Principal damage was to building roofs in a small area.
Brevard County	3	7:00PM EDT	1/10	30	0	0	4	0	Tornado
									A small tornado that developed within the circulation of Hurricane David was reported near Mims.
Flagler County	3	8:00PM EDT	1/10	30	0	0	3	0	Tornado
									A small tornado was reported near Bunnell.
Daytona Beach Shores	3	8:35PM EDT	1/10	30	0	0	5	0	Tornado
									Several houses were unroofed by a small tornado in Daytona Beach Shores.
Port Orange, Volusia County	3	9:00PM EDT	1/10	30	0	0	4	0	Tornado
									On Beverly Terrace in Port Orange, the roofs of several homes were damaged severely by a small tornado.
Ormond Beach, Volusia County	3	10:00PM EDT	1/10	30	0	0	5	0	Tornado
									On the approach of Hurricane David, a tornado touched down in Ormond Beach, damaging the roofs of 5 homes and damaging Osceola Elementary School.
Nassau County	4	3:50AM EDT	?	?	0	0	0	0	Tornado
									A tornado was observed 4 miles south of the Fernandina jetties. No damage was reported.
St. Petersburg, Pinellas County	6	3:15PM EDT			1	0	0	0	Lightning
									Standing alone under a large pine tree near Lealman Middle School an 11-year-old boy was killed instantly by a lightning bolt from an afternoon thunderstorm.

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FLORIDA (continued)									
Neptune Beach, Duval County	9	2:24PM			0	0	0	0	Funnel cloud
A funnel cloud was observed over the Neptune Beach area. There was no report of a touchdown or damage.									
Pasco County	12	2:45PM EDT			0	1	0	0	Lightning
A man placing sod in a New Port Richey subdivision received an electrical shock when lightning struck a nearby street light. He was treated at a hospital.									
Northwest Florida	12-13				1	?	8	6	Hurricane
Less than 10 days after Hurricane David rolled up the east coast of Florida, Hurricane Frederic caused severe damage in the western Florida Panhandle. Property damage was estimated by state official to exceed 95 million dollars.									
Moving steadily out of the southeastern Gulf of Mexico, Frederic made landfall at the Alabama-Mississippi border near 11 PM CDT September 12th, after passing directly over Dauphin Island at the mouth of Mobile Bay.									
Frederic was an intense hurricane with central pressure at landfall near 946 millibars. The lowest official pressure recorded in Florida was 986.5 millibars (29.13 inches) at the Pensacola Naval Air Station at 7:30 PM CDT September 12th. Highest wind gusts recorded were 96 MPH at the Pensacola Naval Air Station at 7:45 CDT.									
September 12th the Weather Service Office at Pensacola Municipal Airport observed gusts of 78 MPH at 8:44 PM CDT and 12:38 AM CDT September 13th.									
Tides reached 8 to 10 feet above normal at Perdido Key and at the west end of Santa Rosa Island, decreasing eastward to 3 to 4 feet above normal in the Florida Big Bend area.									
Rainfall associated with Frederic was relatively light in the Florida Panhandle. Pensacola airport recorded only 3.28 inches, with lesser amounts eastward.									
Property damage was severe in southern Escambia County, especially on Perdido Key, on western Santa Rosa Island, and in the Grand Lagoon subdivision west of Pensacola. Dozens of waterfront homes in Escambia County were totally destroyed, and hundreds severely damaged. Marinas, docks and boats sustained major damage. City officials estimated \$100,000 damage to port facilities in Pensacola.									
East of Santa Rosa Island and inland from coastal Escambia County, property damage was much lighter and mainly was confined to roofs, utility sheds, trees, shrubbery, utility lines, docks, fishing piers and benches. Some low lying beach front houses were undermined eastward to Mexico Beach in Bay County by large waves associated with Frederic. Some low portions of coastal roads and highways in the panhandle also were damaged by wave action.									
Thousands of Floridians were evacuated from Gulf front areas before Frederic arrived, and only one death was directly attributed to the storm in northwest Florida. A woman was drowned when a sailboat, seeking safe harbor, was swamped on the Intracoastal Waterway north of Perdido Key.									
Dozens of people were reported injured by the storm, but most of the injuries were minor.									
Frederic spawned several tornadoes, funnel clouds, and waterspouts in northwestern Florida, which are listed below. Damage from the twisters generally was minor and could not be differentiated from the general storm damage. Damage estimates for the individual tornadoes listed below are included in the total hurricane damage listed above.									
Ocala County	12	6:15PM CDT			0	0	0	0	Waterspouts
Two waterspouts were reported moving ashore near Destin's East Pass. They apparently caused no damage.									
Franklin County	12	7:30PM EDT			0	0	0	0	Funnel cloud.
A funnel cloud was reported near Landrk Village. No touchdown was observed and no damage reported.									
Ocala County	12	Evening	1/10	30	0	0	3	0	Tornado
A tornado touched down near Palm Boulevard in Highville. No injuries or substantial damage occurred.									
Fort Walton Beach, Okaloosa County	12	Evening	1/10	30	0	0	3	0	Tornado
A small tornado touched down briefly near St. Mary's School in Fort Walton Beach with only minor damage.									
Escambia County.	12	8:10PM CDT			0	0	0	0	Funnel cloud
The Florida Highway Patrol reported a funnel cloud near McDavid.									
Escambia County	12	8:15PM CDT	1/10	30	0	0	4	0	Tornado
A small tornado forerunning Hurricane Frederic touched down in northern Pensacola north of Burgess Road between Old and New Palafax. Damage was minor.									
Pensacola, Escambia County	12	11:50PM CDT	1/10	30	0	4	5	0	Tornado
A tornado caused 4 minor injuries and damaged the WBSR radio tower in western Pensacola.									

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FLORIDA (continued)									
Jackson County	13	4:30AM CDT	1	40	0	0	4	0	Tornado
Jackson County Civil Defense officials reported a tornado touchdown 8 miles northeast of Marianna, destroying a house and many trees. After traveling northward for 1/4 mile, it lifted and touched down 1/2 mile away, destroying a barn and numerous trees.									
Okaloosa County	21	9:00PM CDT	1/10	30	0	0	3	0	Tornado
Two homes were damaged by a small tornado that dropped down on Farmer Street in Crestview.									
Marion County	24	3:15PM EDT			0	0	0	0	Funnel cloud.
A funnel cloud was sighted 5 mi north of Bellview, moving east north-eastward. No damage was reported.									
Polk County	24	6:00PM EDT	1/10	20	0	0	3	0	Tornado
A small tornado touched down briefly west of Lake Wales, causing minor damage to an automobile repair shop and a nearby bar.									
	24	Late Afternoon			0	0	0	0	Funnel clouds
Besides the tornado listed above, four funnel clouds were sighted over Polk County between Frostproof and Haines City. Minor damage occurred with the associated thunderstorms.									
Ocala, Marion County	25	5:15PM EDT			0	1	0	0	Lightning
A 13-year-old boy walking through a wooded area during a thunderstorm was struck by lightning and knocked unconscious. He was treated at a hospital and released.									
Pinellas County	25	5:40PM EDT	1/10	30	0	0	4	0	Tornado
A small tornado dipped briefly into Shell Isle, damaged 3 houses and an automobile, and destroyed a small boat.									
Monroe County	26	5:10PM EDT			0	0	0	0	Waterspout
A waterspout was observed 5 miles southeast of Key West. It moved northwest at 10 MPH but dissipated before reaching land.									
Dade County	28	12:30PM EDT			0	0	0	0	Funnel cloud.
A funnel cloud developed in a cloud buildup near Perrine in south Dade County. It dissipated a few minutes after forming without touching the ground.									
Franklin County	28	1:20PM EDT			0	4	0	0	Lightning
Lightning struck a group of oyster boats of St. George Sound near Eastpoint, injuring 3 men and a woman. The woman was kneeling when the lightning hit her in the back and exited her body at her knees. She received third degree burns. Her husband and two men in a nearby boat were less seriously injured.									
Palm Beach County	28	1:32PM EDT			0	0	0	0	Funnel clouds
A pilot reported 3 funnel clouds over the Everglades 30 miles southwest of Palm Beach International Airport.									
Manatee County	28	6:25PM EDT			0	0	0	0	Funnel cloud
The Manatee County Sheriff's Office reported a funnel cloud between Parrish and East Ellenton, associated with a heavy thunderstorm.									
	29	3:30PM EDT	1/10	30	0	0	4	0	Tornado
Two garages and a mobile home in Trailer Estates were damaged by a small tornado.									
Volusia County	29	3:50PM EDT	2/10	30	0	0	0	0	Tornado
A small tornado touched down about 10 miles southwest of the Daytona Beach Regional Airport. The funnel was visible for 7 minutes. No significant damage occurred.									
Putnam County	29	4:15PM EDT	3/10	30	0	0	?	0	Tornado
The Putnam County Sheriff's Office reported a tornado 3 miles north of Interlachen.									
Nassau County	29	4:40PM EDT	?	?	0	0	?	0	Tornado
Nassau County Sheriff's Office reported a tornado touchdown at the intersection of U.S. 1 and Len Turner Road.									
Henry County	30	1:40PM EDT	?	?	0	0	?	?	Tornado
A pilot reported a tornado 5 miles southwest of Clewiston.									
Dade County	30	2:15PM EDT			0	0	0	0	Waterspout
The U. S. Coast Guard reported a waterspout 2 miles east of Government Cut.									

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FLORIDA (continued)									
Monroe County	30	3:50PM EDT			0	0	0	0	Funnel cloud
		A funnel cloud was reported 8 miles northwest of Key West, moving to the northeast.							
	30	6:00PM EDT			0	0	0	0	Funnel cloud
		Three funnel clouds were observed 3 miles east southeast of Key West. They moved northeastward and dissipated.							
STATEWIDE	12-30				3	3	7 ⁰	C	Heavy rain, flooding
		September 1979 was one of the wettest Septembers in history for the State of Florida. Several weather stations had record rainfalls for the month. By the 10th the water table over most of the state was at or near the surface, and each additional heavy rain caused flooding in poorly drained areas, especially urban and residential developments with drainage problems. During the last half of the month several rivers rose above flood stage, causing additional damage.							
		On September 14th, rainfall exceeded 8 inches in parts of Lee County and local amounts of 6 inches deluged Manatee County. Flooding of streets, lawns, automobiles, and low-lying residences occurred in north Fort Myers, and also in the Windsor Park Area in Manatee County.							
		On Sept. 16th, rainfall exceeded 5 inches in the Pensacola area, washing out roads, flooding streets, and hampering recovery work from Hurricane Frederic. Homes and buildings that sustained roof damage from Frederic were extensively damaged by the heavy rains.							
		Five inches of rain flooded streets and a few homes in the northern part of Port St. Joe on Sept. 16th, and also in a part of Apalachicola.							
		By September 20th, Palmetto in Manatee County had received over 20 inches of rain for the month. There was extensive flooding of low-lying streets and roads, and water reached into some residences.							
		During the latter 10 days of the month additional locally heavy rains produced serious flooding in several sections of the state. Some of the worst damage occurred in West Central Florida where Hillsborough County had over 8 million dollars damage, principally in Tampa, and in the north and northwest sections of the county. A Tampa woman died when her car was swept off a road by flood waters.							
		On September 21st, heavy rain aggravated weeks-old flooding in north Fort Myers and the areas east and south of the Lee County airport. In eastern Manatee County, 1600 people were evacuated from homes as heavy rain forced the opening of flood gates on Lake Manatee.							
		Heavy rain Sept. 22nd - 24th caused widespread flooding of streets, lowlands, and residences in Pasco County, especially Zephyrhills. Eighteen families temporarily abandoned their homes. Over the same weekend several hundred residents were forced from homes in upper Pinellas County by rains that exceeded 5 inches. Dunedin, Largo, Palm Harbor and Safety Harbor were affected, and Oak Wind apartments in Clearwater had 6 feet of flood water.							
		St. Johns County had extensive flooding of roads, yards, and farmlands by 6 inch rains September 21st - 23rd.							
		Twelve homes were flooded in the Holiday Acres section of Highlands County for an extended period during the latter part of the month.							
		On September 25th, flooding from 8 inches of rain caused millions of dollars in damage to Duval County beach communities. Two men were killed, and 3 injured. Floodwater lapped into hundreds of homes and businesses, especially in Jacksonville Beach. Damage in Jacksonville Beach alone was estimated at 4.5 million dollars. Two sailors were electrocuted when they stepped into knee-deep water that apparently had a shorted underground transformer. A companion was shocked, as were two Jacksonville Beach policemen who attempted a rescue.							
GEORGIA									
Harris County	13	3:45P	short	50	0	0	4	0	Tornado
		A mini-tornado near Cataula knocked down trees and power lines, and damaged one home extensively with minor damage to several homes and a barn.							
Harris County	13	4:45P	short	50	0	0	3	0	Tornado
		A mini-tornado in Shiloh knocked down trees including several large Oaks and lifted the roof off a mobile home.							
Spalding County	13	5:55P	short	50	0	0	2	0	Tornado
		A mini-tornado touched down briefly 8 miles west of Griffin snapping off trees and stranding them across Highway 16.							
Habersham County	13	6:00P	1	50	0	0	4	0	Tornado
		A mini-tornado in Demorest knocked down trees with one large tree falling on a commercial building and another on a mobile home doing considerable damage.							
Gwinnett County	13	9:00P					4	0	Wind
		Thunderstorm winds damaged a building under construction near Snellville.							
HAWAII									
Oahu	4	8 AM			0	0	0	0	Waterspout
		About 6 to 7 miles due south of Poai Bay. Sighted by pleasure craft.							
IDAHO									
Winchester, Lewis County	8	Night			0	0	0	?	Hail
		Hail up to 1 1/2 inch in diameter fell during a thunderstorm.							
ILLINOIS									
Northern two-thirds	Sept-ember				0	0	?	?	Dry Weather
		Very little or no rain fell over the northern two-thirds of the state during September affecting crop development and lowering the water level in reservoirs. By the end of the month, soil moisture in many areas was reported to be from 70% to 100% short. Several stations reported this to be the driest month on record.							
INDIANA									
					NONE REPORTED				
IOWA									
1 Mile SE Essex (Page County)	5	11:45P	.3	30	0	0	4	0	Tornado
		A small tornado touched down on a farm moving southeast. The tornado destroyed a barn and outbuilding and sheared the tops of two trees before lifting back into the clouds.							
Des Moines (Polk County)	5	9:00P			1	1	3	0	Lightning
		Lightning struck a tree and the tree fell on a moving vehicle. The driver was killed and the passenger injured.							
KANSAS									
Barber County	1	6:05 p	9	20	0	0	1	0	Tornado
		Tornado, in open country, was observed on the ground about 20 percent of the time from 1 1/2 miles west of Medicine Lodge to 5 miles west of Medicine Lodge. Several funnels were reported in the vicinity but no significant damage was reported.							
Butler and Cowley Counties	6	3:20 to 4:25 a			1	0	5	0	Lightning
		Thunderstorms moving south-southeast produced considerable cloud-to-ground lightning resulting in several small fires and minor home damage. In Augusta a woman was found dead in her home as the result of a lightning caused fire. 4-1/2 miles south of Udall a large barn, farm implements, and 2,000 bales of hay were destroyed by fire after a lightning strike.							
Harvey County	6	6:00 p					5	4	Wind, hail
		String gusty winds and considerable hail of 1/2 to 3/4 inches in diameter occurred as thunderstorms moved south through the southwest portion of the county. Damage was to trees, power lines, and roofs. Crop damage was to corn and milo.							
KENTUCKY									
All of Kentucky	13-14				4		7	7	Flash Flooding
		The remnants of Hurricane Frederic dumped 4 - 7 inches of rain over KY. Two people in Logan County were killed when their car was washed off a bridge they were trying to cross. In Carroll County, a 23 year old man was killed when a tow boat and barge were swept over Lock No. 1 on the Kentucky River. A 45 year old Warsaw, KY woman was drowned near Markland Dam as the strong current of the Ohio River carried her away from the spot she had been swimming in and took her over the dam. Many small bridges were washed away. Some counties reported crop losses as high as 30%. Butler, Ohio, McLean, Edmonson, Logan, Gallatin, and Simpson, Owen, Counties were declared Federal Disaster areas.							
Central and Eastern Kentucky	21				2		6	7	Flash Flooding
		A low pressure storm system formed just to north of Hurricane Henry and dumped 4 to 6 inches of rain over Central and Eastern Kentucky. An 80 year old man was killed in Mariot County when he tried to walk from his pickup to his house three-quarters of a mile away. An 18 year old Louisville man was drowned in a canoeing accident in Franklin County. Many bridges were damaged or destroyed. Thousands of acres of corn, tobacco and soybeans were destroyed.							

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1979

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		
LOUISIANA Richland Parish	1	Unknown			2	2				Lightning A 9 year old boy and a 31 year old man were killed by lightning near Delhi as they stood by a pickup truck. Two other men with them were slightly injured. The lightning first hit a nearby tree then traveled through the ground to where the victims were standing.
Livingston Parish	1	Afternoon			0	0	0	0		Heavy rain Brief heavy rains caused some street closings in Denham Springs. No evacuations necessary or buildings flooded.
Ouachita Parish	7	4:30 PM			0	0	3	0		Windstorm Thunderstorms moving through Monroe blew trees onto power lines causing power failure to about 200 homes for 1 to 2 hours.
Washington, St. Tammany, Orleans, Jefferson, St. Bernard, and Plaquemines Parishes	12-13	Evening and night			0	0	4	0		Hurricane The western fringe of Hurricane Frederic passed over these parishes with 40 to 50 mph winds. The only reported damage was primarily downed trees and signs with the most damage in Washington parish which was closest to the path of the storm.
Tangipahoa Parish	17	3:00 PM			0	0	4	0		Windstorm Winds from thunderstorms did minor damage to tin roofs, uprooted trees and moved a parked car about 50 feet all in Amite.
Cameron Parish	19	Afternoon	?	?	0	0	0	0		Tornado Sheriff Deputy's reported seeing a tornado moving across extreme eastern Cameron Parish in open fields and marshland. No damage done.
Vermillion Parish	19	8:30 PM			0	5	4	0		Windstorm Strong winds from a thunderstorm struck a lone trailer outside of Meauk. The trailer flipped over, completely destroying it, and trapping a family of five inside. All five suffered only minor injuries.
Calcasieu, Allen, and Rapides Parishes	20	Midnight thru afternoon			0	0	7	4		Flash flooding A large cluster of thunderstorms with heavy rain moved out of the Gulf northeastward across southwest and central Louisiana dumping anywhere from 10 inches to 17 inches of rain on three parishes. Extensive flash flooding took place with Lake Charles the hardest hit. Up to two feet of water reported in many homes and businesses, five feet of water in many streets. Highways in Allen and Rapides parishes were closed for a few hours. In Calcasieu parish damage estimated at \$5 million with about 600 homes and number of business flooded. In Allen parish about 300 homes along with several schools and businesses flooded, about \$7.5 million in damages. About 600 students and teachers evacuated from one school in Allen parish. In Rapides parish damage put at \$3 million with 500 homes and 6 schools flooded. Also 40 to 50 thousand acres of crops were flooded for a time. No deaths or injuries were reported. Number of people evacuated unknown.
MAINE Statewide	6	11a-6p			0	20	6	5		Wind and Heavy Rains Remnants of Hurricane David caused heavy rains which produced minor flooding of streets and basements throughout the state. Winds blew trees over and snapped tree limbs off, which severed numerous utility lines and crashed on dwellings and vehicles. There were many storm-related traffic accidents and several boats sunk or destroyed. It was roughly estimated that up to 15,000 households were affected by power outages. Peak winds reported: Lewiston-Auburn Airport - 70 mph; Portland - 45 mph. Apple orchards in York County had from 3 to 10% crop drop due to winds. Estimated 10 to 15 thousand bushels on ground, were salvaged for cider and sauce.
New Portland area, Somerset County; Waterville-Fairfield Kennebec County; Parkman, Dover-Foxcroft, Piscataquis County	14	8-10p			0	0	5	0		Severe Thunderstorms, Unconfirmed Tornado The leftovers of Hurricane Frederic spawned a squall line which produced strong winds, falling trees and snapping off limbs; in fact, cutting utility lines, and crashing on dwellings and vehicles. It flattened chain link fence at Foxcroft Academy tennis courts and five utility poles were snapped off. Peak wind was 46 mph at Waterville's LaFleur airport. About 3,000 homes were without power. Hardest hit was a two to three mile path extending from Parkman through Sangelville, Dover-Foxcroft, and through East Dover.
MARYLAND & D.C. Kenwood Beach, Calvert County	3	4:00 p-1 5:00 p			0	0	4	0		Rain Very localized severe thunderstorm dumped over 6 inches of rain in less than an hour. Flash flooding collapsed retaining walls in the community, along with washing roads out and filling basements with water. Damage was estimated at around \$30,000.

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					KILLED	INJURED	PROPERTY	CROPS		
MARYLAND & D.C. (continued) Statewide	5-6				1	17	8	6		Tropical Storm Tropical Storm "David" center moved north/northeastward out of western Virginia during the afternoon and evening hours of the 5th and reached eastern Pennsylvania early on the 6th. Damage was quite widespread and caused by wind-fallen trees, local flooding and high tides, and about a half-dozen small dornades (tornado statistics will be treated in the immediately-following summary). Baltimore County and City were particularly hard-hit, with damage there alone estimated at \$50 millions. The one fatality occurred when a Baltimore woman was drowned after being swept out of her car by surging waters on the Jones Falls Expressway, at about 12:30AM on the 6th. In the Mt. Washington section of Baltimore a wall of water 5 to 6 feet high swept through a shopping center, causing substantial losses. High water also required the evacuation of some 600 or more persons and 140,000 homes were without power for a time. In the Washington, D.C. area damage was estimated at near \$8 million, nearly \$375,000 of this property and road damage experienced by Rock Creek Park. Rainfall totals ranged between 2 and 4 inches over the eastern and western sections, while amounts were greater through the central portion. An 8-inch total was reported from Baltimore County and 8.8 inches at Thurmond, on the east slope of the Catoctin Mountains. Damage for the state was expected to run near \$66 million for property including dwellings, businesses and roads and bridges. Crop damage, especially tobacco in southern Maryland was estimated at about \$800,000.
Union Bridge, Carroll County	5	Abt Noon	0.5	15	0	0	3	0		Tornado Described as a long, narrow funnel of "smokey-white" color. It tore shingles, a storm door and T-V antenna from one home, then carried an 8 x 2-foot wading pool out of sight. Damage around \$1,000.
Crofton (nr), Anne Arundel County	5	1:55 p	2.5	50	0	1	4	0		Tornado Sighted by several persons as it moved from the vicinity of Crofton where it blew a large part of the roof off one house. Many trees were felled as it continued to bounce along touching down in sections near Cambrills and Fort Meade. Total damage estimated at \$50,000.
Kingsville (nr), Baltimore County	5	Abt 2:00p	0.5	20	0	0	5	0		Tornado This was described as a small funnel that touched down, reducing a nearly-completed \$125,000 home to rubble in a matter of seconds. An adjacent house was also damaged to the extent of \$5,500.
Clear Spring, Washington County	5	4:30 p	0.25	10	0	0	0	0		Tornado Farmer reported a cloud that looked like a tornado moving through a field. No damage was reported.
Piney Point area, St. Marys County	5	Afternoon	7	50	0	0	4	0		Tornado Small tornado apparently touched down intermittently as it moved across the southern portion of the county from Piney Point to near Bushwood. Only damage was to a barn that has blown off its foundation, and estimated at \$8,000.
Drum Point & Olivet, Calvert County	5	6:15 p	0.5	30	0	1	5	0		Tornado Tornado struck beachfront home, removed the roof, buckled two exterior walls and carried brick siding away. Man inside was slightly injured by glass splinters. One oddity: a bed in an upstairs room was turned completely over, although no other damage was done to the room. Large trees in the vicinity were downed, along with power lines, and some tobacco barns were demolished and contents ruined. Total damage estimated around \$100,000.
Port Tobacco, Charles County	5	7:30 p	0.2	15	0	0	4	0		Tornado Small tornado damaged a house, barn and an old dwelling. Loss was estimated at around \$30,000.
Bel Air vicinity, Harford County	21-22				0	0	5	0		Rain Heavy rain began the night of the 21st and continued into early morning of the 22nd, with rain totaling between 2 and 3 inches in some areas. Basement flooding of homes and water damage to local businesses estimated at about \$55,000.
Sykesville, Carroll County	28	Night			1	3	4	0		Fog Dense fog caused driver of car to become dis-oriented. He swerved his car into a driveway upon seeing the headlights of a pickup truck waiting to come out of the driveway. The car struck the pickup truck, resulting in the death of a woman passenger in the truck.

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					KILLED	INJURED	PROPERTY	CROPS	
MASSACHUSETTS Statewide	6	All Day			0	6	6	?	Tropical Storm David
									Tropical Storm David passed to the west of New England bringing gusts of 70-80 MPH. Rains of 3 inches occurred in western portions of the state, but were nearer one inch elsewhere. Three men were injured by falling trees during cleanup work and three teenagers were hurt as a falling tree hit their moving automobile. Many trees were blown down taking power lines to the ground, and many houses were damaged. Along the shore boats were blown from their moorings as anchor chains parted and anchors dragged. Though the storm caused considerable damage its effects were generally felt to be much less significant than originally feared.
Central parts	30				0	0	4	0	Lightning
									A barn was hit and subsequently burned.
MICHIGAN 3 Stonington, Delta county.	1	2:45AM			0	0	4	0	Lightning
									A bolt of lightning resulted in a fire that destroyed a summer cabin about 17 miles south of county road 513.
1 N Orleans, Ionia county.	5	6:30AM			0	2	3	0	Heavy Fog
									A two-car pile-up along fog drenched M-44 near Orleans Road. Extremely heavy fog conditions prevented a driver of a vehicle to see an attempted turn of a vehicle ahead. Driver and the passenger of the vehicle attempting to make a turn were injured.
3 1/2 NW Dansville, Ingham county.	28	7:30AM			0	9	3	0	Heavy Fog
									A collision between a van and a car on a rural fog-shrouded intersection at Howell and Hanna roads resulted in multiple injuries to occupants of the two vehicles.
MINNESOTA Duluth-Superior St. Louis and Douglas Counties	1	3:30AM			0	0	4	0	Wind Storm
									A severe thunderstorm ripped through the Twin Ports Area early Saturday morning. Traveling in a northeast direction, the storm laid a path of damage through west Superior and eastern Duluth. Most damage was done by fallen limbs and uprooted trees, causing power outages and automobile damage. Some window damage was reported in business sections of the Cities. Strongest winds were in the Bay Area, where gusts to 81 miles per hour were registered by the Coast Guard Station. A foreign ship that broke loose from its moorings, was taken to shallow water and grounded temporarily until the wind subsided. Several sailboats were also broken loose from their moorings, but no damage was reported. The peak gust at the Weather Service Office in Duluth was 85 miles per hour.
Willmar Kandiyohi County	5	12:10AM			0	0	4	0	Wind Storm/Lightning
									Considerable wind damage was reported in isolated areas of Willmar, where wind gusts exceeded 50 miles per hour during an early morning thunderstorm. The roof was blown off a double garage at the Willmar Area Vocational-Technical Institute, and roof damage was also reported at Lakeland Nursery. A nearby lumber yard also sustained damage. Minor damage, by fire due to lightning strikes, was reported in two separate incidents.
Northome Vicinity Koochiching County	16	8:00PM			0	0	4	0	Wind
									Thunderstorms and winds in excess of 50 miles an hour caused considerable damage to buildings in the Northome vicinity. Some areas were without power through the night and into the morning. Damage included the entire frame of a building under construction at Mizpa and a barn just south of Northome.
Ortonville Area Big Stone County	11	7:40PM							FUNNEL CLOUD
MISSISSIPPI All but extreme western MS.	12-13	4 p to 4 p			0	0	9	8	Hurricane Frederic
									A churn station at Dauphin Island bridge measured a peak gust of 145 mph as Hurricane Frederic moved into Mississippi and Alabama. The peak gust measured in Mississippi was 127 mph at a churn station at Ingalls Shipyard near Pascagoula. Entering the coast near the Alabama-Mississippi state line, Frederic did tremendous damage in both states. Jackson County had the greatest damage in Mississippi. It was mainly property damage but damage to forests, peach and soybean crops and power and telephone lines also was extensive. Tides were 6 to 12 feet above normal. Over 100,000 persons were evacuated from the Mississippi coastal area, mainly from Jackson County. Hurricane force winds were measured at Hattiesburg and Laurel and also at Mericah which is 140 miles from the coast. Rainfall amounts near the coast exceeded 11 inches. Some serious after effects of the storm were extensive power outages, 7 to 10 days in some locations, causing great spillage of food in addition to other inconveniences. It was necessary to ship many tons of dry ice into the area. Also, some areas had contaminated water. Hardly a structure in Jackson County escaped without at least minor damage. Hundreds of structures suffered major damage or complete destruction. No deaths or serious injuries were reported in Mississippi due to this storm. Flooding was widespread but short-lived and was only a minor problem.
Statewide	20-21				0	0	5	0	Cyclonic system, heavy rains, high winds.
									A low pressure system formed near the Texas coast on the 19th and moved northeastward through Mississippi on the 21st. It intensified as it moved and dropped from 2 1/2 to 4 1/2 inches of rain in most of the state. Several locations experienced very strong local winds which did some structural damage. A mobile home and several small structures were damaged by wind in Harrison County. In north Meridian in Lauderdale County, high winds demolished one home and damaged several others. A camper was damaged also as it was blown against a house.
MISSOURI Jackson, Johnson, and Lafayette Counties	1	7:30-9 pm			0	0	0	0	Funnel Clouds
									Hook echoes were detected by a Marshall radio station's radar near Corder in Lafayette County and by the Columbia'd radar about five miles northwest of Holden in Johnson County. Sheriff's officers in Jackson and Johnson Counties said funnel clouds had been sighted just south of Grain Valley and northeast of Holden. A Pettis County spotter reported a funnel cloud two miles north of Knob Noster in Johnson County. Another funnel cloud was reported about 9 pm about ten miles south of Whiteman Air Force Base by the air traffic control tower there.
MONTANA									NONE REPORTED
NEBRASKA Buffalo County	1	1:00 AM			0	0	0	4	Hail
									Three quarter inch hail damaged corn fields north-east of Gibbon.
Newaha County	1	Early Morning			0	0	4	0	Damaging Winds
									Thunderstorm winds damaged grain bins near Auburn.
Pierce, Madison, Boone and Platte Counties	5	4:20 PM -6:45 PM			0	0	5	7	Damaging Winds and Hail
									Hail to 2 inches in diameter driven by winds gusting 55 to 60 m.p.h. heavily damaged crops and broke windows. The winds also uprooted trees, downed power lines and damaged buildings. The storm damage was most concentrated in an area from just east of Pierce south through Norfolk, Battle Creek, Newman Grove to St. Edward.
Nerrick, Hall, Howard, Nance and Hamilton Counties	5	8:00 PM -9:00 PM			0	0	4	5	Damaging Winds
									Winds gusting 60 to 70 m.p.h. in thunderstorms downed trees and power lines, flattened crops, and caused scattered property damage. Much of the property damage was around Aurora where a camper was blown over.
Adams and Clay Counties	5	9:00 PM -9:30 PM			0	0	5	6	Damaging Winds
									Sixty to seventy m.p.h. winds in thunderstorms flattened crops, downed trees and damaged sheds and storage bins in farmsteads. Heaviest damage was around Inland and Clay Center.
Jefferson County	5	11:20 PM			0	0	4	2	Damaging Winds
									Thunderstorm winds downed trees and power lines around Fairbury.

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					KILLED	INJURED	PROPERTY	CROPS	
NEBRASKA (continued)									
Douglas and Sarpy Counties	6	12:45 AM			0	0	2	2	Hail
					One inch hail fell briefly in the southern Omaha metro area causing minor damage.				
Kimball County	7	5:05 AM			0	0	0	0	Funnel Cloud
					A funnel cloud was sighted 7 miles southeast of Kimball.				
Cherry County	7	8:30 PM			0	2	4	3	Damaging Winds and Hail
					Hail to 2 1/2 inches in diameter driven by winds over 60 m.p.h. broke numerous windows in a ranch home and stripped foliage. Men fighting a prairie fire in the area were bruised and nearly knocked out by the hail.				
Brown County	7	8:50 PM			0	0	6	7	Damaging Winds
					Winds in thunderstorms gusting 60 to 80 m.p.h. caused severe damage in the Ainsworth area. Trees and power lines were downed, crops flattened and light towers knocked down. Three aircraft and a hangar were damaged at the airport and the county fairground was destroyed. Thirty homes were damaged and three mobile homes destroyed.				
Brown County	7	9:50 PM			0	0	0	0	Funnel Cloud
					A funnel was sighted 2 miles north and west of Ainsworth.				
Brown County	7	10:00 PM			0	0	0	0	Funnel Cloud
					A funnel cloud was reported 3 miles northeast of Long Pine.				
Holt County	7	10:30 PM			0	0	4	0	Lightning
					Fire resulting from a lightning strike caused considerable damage to a home near Chambers.				
Knox and Antelope Counties	7	11:00 PM			0	3	4	2	Damaging Winds
					Strong thunderstorm winds downed trees and power lines. A mobile home 1 mile west of Niobrara was destroyed and the 3 occupants injured.				
Madison County	8	1:10 AM			0	0	?	?	Damaging Winds
					Winds gusted to 60 m.p.h. behind thunderstorms in the Norfolk area. No damage was reported.				
Howard County	8	Early Morning			0	0	5	0	Lightning
					Fire started by lightning destroyed a barn near St. Paul.				
Scottsbluff County	10	5:15 PM - 6:15 PM			0	0	4	4	Damaging Winds
					Winds gusting 55 to 60 m.p.h. in thunderstorms toppled trees, downed power lines and damaged bean crops. A roof of a farm building was damaged east of Morrill.				
McPherson County	10	10:30 PM			0	1	2	0	Lightning
					A man near Tryon was burned when lightning hit the electrical system of his home.				
NEVADA					NONE REPORTED				
NEW HAMPSHIRE									
Statewide	6	11a-5p			0	12	6°	0	Wind and Rain
					Remnants of Hurricane David caused heavy rains which produced minor flooding of streets and basements throughout the state. Winds blew trees over and snapped tree limbs off, which severed numerous utility lines and crashed on dwellings and vehicles. Also, there were numerous storm-related traffic accidents and several boats sunk or destroyed. It was roughly estimated that power outage affected 22,000 households from just a few minutes to as long as 16 hours. The worst was reported by Public Service of New Hampshire when 120 mile stretch of power lines was wiped out between Pittsburg (Coos County), NH to Canaan, VT. So many trees downed that line had to be rebuilt. Peak winds reported: Mt. Washington, elev. 6,288 ft. - 174 mph. Portsmouth (Base AFB) - 61 mph.				
NEW HAMPSHIRE (continued)									
Haverhill, Grafton Cts, Lisbon-Littleton area, Grafton County, Whitefield, Dalton Coos County	14	6:45-9p			0	2	5	0	Severe Thunderstorms with Unconfirmed Tornado
					A strong cold front, approaching from the west, collided with tropical air that was the remains of Hurricane Frederic. Line of severe thunderstorms with unconfirmed tornado collapsed the 113 year old Beall covered bridge. The Burr-Arch truss design was a 396 foot two-span bridge connecting Haverhill and South Newbury, VT. It was the second longest two-span covered bridge across the Connecticut River. It was registered as a National Historic site which had just undergone a 5-year, \$250,000 restoration. It was dedicated on July 21, 1979. A line of severe thunderstorms passing through the region lifted the bridge, whose arches alone weighed 32 tons, from its piers and tossed it 50 feet upstream. In the Lisbon-Littleton area, the storm felled trees and limbs which cut utility lines with 1500 households out of power. Lisbon Police Chief described it as "a 15-minute hurricane." Others called it "a tidal wave of wind." Peak wind on Mt. Washington was 119 mph. In Whitefield-Dalton, a helicopter pilot surveying damage felt strongly that woods damage was "unmistakably the result of a skipping twister." Trees were uprooted, snapped, twisted, and crushed as if by a giant hammer blow. At least 6 such spots were easily seen. Many trees and utility lines down.				
NEW JERSEY (Coastal Areas)									
	6	4:30a			0	1	?	?	Tropical Storm David/Tornado
					Tropical storm David gusted violently through New Jersey breaking up thousands of trees and utility lines and causing power outages to almost 500,000 households. As it pounded Southern N. J. with rains of almost 2 inches, tides were 1 1/2 feet above normal. The storm spawned at least one tornado in southern New Jersey injuring one person and destroying at least three homes. A truck driver was bruised when David's winds blew his truck over at Fogg's Truckstop just off interstate 295. The truckstop was completely blown off.				
NEW MEXICO									
					NONE REPORTED				
NEW YORK									
COASTAL									
(Extreme Southeast, Nassau, Suffolk Co.)	6	abt. 4:30a			1	?	?	?	Tropical Storm David
					Tropical Storm David lashed through the metropolitan area with gale force winds and heavy rain. Flooding resulted not from rainfall, but because of the unusually high tides brought on by the full moon at perigee. A popular opinion holds that our area was hit by one of the small tornadoes that was said to be preceding in Great Kills, Staten Island. A Brooklyn factory worker was killed by flying glass from a window blown out by a gust of wind. The area received just more than one half inch of rain in Long Island 1.29 inches in Central Park with wind at the rate of 53 miles per hour with gusts to 55 miles per hour at 0745EDT.				
NEW YORK									
CENTRAL									
CENTRAL AND LOWER HUDSON VALLEY: EASTERN CATSKILLS	6	MIDNIGHT-2 PM			0	2	6	0	TROPICAL STORM
					REMNANT HURRICANE DAVID MOVED NORTHWARD ACROSS EASTERN NEW YORK WITH AREAS OF HEAVY RAIN AND HIGH WINDS. MAJOR POWER OUTAGES WITH WINDS UP TO 60 MPH WESTCHESTER, ROCKLAND, ORANGE, AND PUTNAM COUNTIES. FULL RESTORATION OF POWER TOOK UP TO FIVE OR SIX DAYS. EXTENSIVE DAMAGE CONSTRUCTION SITE NEWBURGH. SEVERE FLASH FLOODING AT SINKHILL CREEK NEAR WOODSTOCK WITH UP TO SIX INCHES OF RAIN IN THE EASTERN CATSKILLS. AREAS OF HIGH WINDS AND HEAVY RAIN WITH SCATTERED MINOR DAMAGE NOTED THROUGH UPPER HUDSON VALLEY TO ESSEX AND CLINTON COUNTIES IN CHAMPLAIN VALLEY ENDING EARLY EVENING.				
ST. LAWRENCE COUNTY	14	1AM-4PM			0	0	?	?	REMNANT HURRICANE THUNDERSTORMS
					REMNANT HURRICANE FEDERICK MOVED NORTHWARD ACROSS LOWER GREAT LAKES RESULTING IN HEAVY RAINS WESTERN NEW YORK, EXTENDING INTO ST. LAWRENCE VALLEY. FIVE TO SEVEN INCHES RAIN IN PARTS OF ST. LAWRENCE COUNTY. ASSOCIATED COLD FRONT SUBSEQUENTLY MOVED ACROSS EASTERN NEW YORK DURING AFTERNOON AND EARLY EVENING ACCOMPANIED BY SCATTERED SEVERE THUNDERSTORMS. SCATTERED WIND DAMAGE IN CHEMUNCO, HERKIMER, AND OTSEGO COUNTIES. ALSO ESSEX AND WAPLEN COUNTIES. POWER OUTAGES IN ORANGE, ROCKLAND AND WESTCHESTER COUNTIES.				

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					KILLED	INJURED	PROPERTY	CROPS	
NEW YORK (continued)									
WESTERN									
Erie, Niagara, Orleans, Genesee, Wyoming, Chautauque & Cattaraugus Counties	9/11	Morning			0	0	7	0	Heavy Rains
The remnants of Tropical Storm Frederic brought record amounts of rainfall to western New York. Buffalo International Airport received 4.26 inches. The maximum recorded in the area was 7.10 inches at Holley in Orleans County. Most streams rose to above their flood stages. There were countless cases of basement flooding. Many roads were inundated. Schools and offices had to close. Damage to crops was very high. Many property owners who live near streams were evacuated.									
New York (Western Finger Lakes)									
Monroe & Livingston Counties	9/11	Morning			0	0	6	0	Heavy Rains
Heavy amounts of rainfall fell over the Western Finger Lakes region during the passage of the remains of Tropical Storm Frederic. Rochester Airport recorded 3.54 inches. There were many cases of basement flooding. There was flooding in poor drainage areas. Damage to onion and potato crops was very high.									
NORTH CAROLINA									
Statewide	4-5		statewide		1	?	7	6	Hurricane
Hurricane David moved north through the piedmont causing extensive local flooding; extensive tree damage; wind damaged buildings at piers along the coast; beach erosion on southern beaches; and crop damage.									
Sweet potatoes, corn, and cabbage crop damage was about \$4.7 million. \$5 to 10 million damage on the coast excluding the value of lost beaches.									
One man was killed in Charlotte when he got lost in a flooded creek. Main stream flooding on the Lumber, Cape Fear, Neuse, and Tar Rivers.									
Mountains & Piedmont	21-22				5	?	7	6	Flooding
Flash flooding and some main stream flooding occurred. Heavy rains caused flooding, mud slides, and washed out roads and bridges. Hardest hit was Mount Airy where there was over \$15 million damage.									
Cherokee County	21	5:15 pm	1/10	100	0	0	4	3	Tornado
A tornado touched down twice 2 1/2 miles south of Murphy and one mile east of town. Some roof and tree damage occurred.									
NORTH DAKOTA									
Langdon (Cavalier County)	9	4:15p CST			0	0	0	0	Hailstorm
60/ ball sized hail. No damage reported.									
Bismarck (Burleigh County)	26	4:30a CST			0	0	3	0	Lightning
Lightning strike set a garage on fire, blew apart an automatic garage door opener, and knocked out power.									
OHIO									
LORAIN COUNTY	7	1730	-	-	0	0	5	0	HIGH WINDS
A thunderstorm moved across Lorain County Airport with wind gusts to 85 MPH. Ten planes at the airport were severely damaged.									
SOUTHEAST 2/3	13th 15th				?	?	8	0	HEAVY RAIN
The remains of hurricane Frederick dumped heavy rains on the southeast 2/3 of the state. Considerable flooding occurred in that area of the state with 100 year flooding taking place in many areas 30 miles either side of a line from Cincinnati to Youngstown. Up to 8 inches of rain fell from this storm.									
OKLAHOMA									
Madford Area, Grant County	1	late evening			0	0	5	?	Windstorm
At about 8 pm, windows were blown out of a mobile home located 6 1/2 miles west of Madford. At about 8:20 pm, winds destroyed a mobile home at the Madford airport. It was not tied down and was carried about 15 feet before falling on its top. The doors of a large hangar blew off, allowing the wind to topple the roof and walls. Several aircraft were damaged. Damage was also reported at a lumber yard, greenhouse, and several small structures. Roof and tree damage was reported at Pond Creek.									
Stillwater, Payne County	1	10:00p			0	0	4	?	Windstorm
Winds of 80 to 90 mph were measured at the Municipal Airport. A total of 13 planes and several cars were damaged.									
Alfalfa County	2	12:54a-1:02a							Funnel Cloud
Observed 2 miles north of Salt Plains									
OKLAHOMA (continued)									
Near Walters, Cotton County	2	3:55a	short	narrow	0	0	2	0	Tornado
Tornado touched down in the Bradley Bridge area, west of Walters, and damaged some trees. The funnel was observed aloft to the east of Walters at 4:10 am.									
Ponca City, Kay County	6	5:55a			0	0	5	0	Lightning Strike
Lightning started a fire which heavily damaged a manufacturing company.									
OREGON									
Mt. Jefferson, Jefferson Co.	1	Afternoon			1	UNK	UNK	UNK	Lightning
Deschutes Co.	1	Afternoon			0	UNK	UNK	UNK	Wind
Douglas Co.	1,2				0	0	UNK	UNK	Heavy rain
Malheur Co.	27	Evening			0	0	UNK	UNK	Heavy rain, flash flood
PACIFIC									
NO REPORT RECEIVED									
PENNSYLVANIA									
EASTERN									
NO REPORT RECEIVED									
PENNSYLVANIA									
WESTERN									
Erie County	14	3 AM			0	0	4	0	Heavy Rain
Remnants of Hurricane Frederic spread heavy rain over the northwest corner of Pennsylvania. In Erie there was extensive flooding and damage and forcing the closing of some schools and roads as over 6 inches fell in a 2 1/2 hour period. The worst damage was the collapse of a roof at the Erie Metropolitan Transit Authority garage where 4 buses were impaired.									
PUERTO RICO									
Islandwide	4				0	0	7	0	Tropical Storm Frederic
Tropical Storm Frederic was first identified on August 30th by satellite and was upgraded to a hurricane on September 1st. It maintained minimal hurricane strength until late September 3rd when it was downgraded again to a tropical storm as it approached the Virgin Islands/Puerto Rico area. The storm entered the east coast of Puerto Rico around 8:00 AM on the 4th. Wind damage on the island was minor with the highest winds at San Juan International Airport reaching only 39 mph as the disorganized center moved across the island. The heavy rainfall associated with this storm was much more damaging than the wind velocities. The most intense rainfall occurred in the south eastern part of Puerto Rico and in general caused a repeat of the flood conditions that the area had previously suffered with the passage of Hurricane David south of the island. The highest total three-day rainfall measured at noon on the 4th, 5th and 6th was 18.07 inches at Pico del Este in the eastern Luquillo Mountains. The highest one-day total was 12.57 inches measured at 8:00 AM on the 5th at Phraiso on the south east slopes of the Luquillo Range. Heavy flooding occurred on all eastern and southeastern rivers. Rio Santiago near Naguabo had a discharge peak value equal to that of a one hundred year return period. Little or no damage occurred in the northwestern half of the island. In the south east, however, the following towns were partly inundated: Ceiba, Pajardo, Naguabo, Humacao and Yabucoa. About 6,000 persons were in shelters in this area. The most critical time was between about 5:30 PM on the 4th until about 1:00 AM on the 5th at which time the flood waters were the highest in the Humacao area. Highway 3 was damaged again by wave action just west of Naguabo. Parteras, Nuevas, Viejias and Verde Mar in Humacao were all under water. On the south coast, Juana Diaz was flooded by the Jacaguas River with 35 families evacuated from Bartios Manzanilla and Arut. Most main roads into Ponce were blocked by water and landslides. There were numerous landslides in most interior secondary roads including Road 885 out of Naguabo, Roads 908, 909, 923 and 924 out of Humacao as well as roads leading to rural communities north of Yauco.									
Vieques Passage	20	12:15 p.			0	0	0	0	Waterspout
Canovanas	29	Afternoon			0	0	3	0	Flash Flood
Heavy rains of between 2 and 4 inches in about 4 hours caused heavy runoff into Barrio San Isidro and surrounding low lying area. Fourteen houses received minor damage and twelve families were evacuated for a short period.									
RHODE ISLAND									
Statewide					0	1	5	0	Tropical Storm David
Billed the "tired" storm in this state David brought light rainfall totals and wind gusts of generally 60 MPH. About 20-40 small boats slipped their moorings and floated ashore. Only one injury resulted as a tree fell on an automobile's windshield and cut the driver's face. Northwest portions of the state sustained most damage as barns were blown down and roofs destroyed where gusts of 70-75 MPH were recorded.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1979

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	
SOUTH CAROLINA									
James Island in Charleston, S.C.	4	0930 AM	2	60	0	0	2	0	Tornado
Tornado touched down near center of island. Time on ground was very short. Minimum damage to property.									
North Litchfield Beach in Georgetown, S.C.	4	930 PM	1	66	0	0	6	0	Tornado
Tornado moved off ocean and totally destroyed 5 beach front homes; did extensive structural damage to a new condominium complex; and significant damage to 8 other homes.									
Cherry Grove area of North Myrtle Beach, S.C.	4	11:05 PM	1	58	0	0	5	0	Tornado
Tornado moved inland and caused widespread utility damage, some structural damage to buildings and roofs destroyed.									
Ocean Drive Beach Near North Myrtle Beach, S.C.	4	11:10 PM	1	96	0	0	6	0	Tornado
Tornado touched down southwest of Ocean Drive Beach; destroyed some fishing piers and produced fires that destroyed almost completed condominium complex and extensive damage to several homes and a motel.									
Windy Hill Beach Near North Myrtle Beach, S.C.	4	10:05	1	63	0	0	5	0	Tornado
Tornado moved through area and damaged or destroyed 80% of the roofs in the section of town closest to ocean. Also, three fishing piers were destroyed and a motel.									
Eastern and Central S.C.	4-5	-	-	-	0	0	7	0	Hurricane
Center of David entered S.C. near Savannah on evening of 4th and moved north-northeast across S.C. reaching N.C. early on 5th. Damage totalled 10 million dollars, mostly due to high tides, heavy beach erosion, damage from high winds, heavy rains and resultant flooding.									
SOUTH DAKOTA									
NO REPORT RECEIVED									
TENNESSEE									
Centerville, Hickman County	1	Mid-after					4		Lightning
Lightning struck a home on Grinders Switch Road during an electrical storm, and the home was totally destroyed. According to the owner, this was the third time the home had been struck since it was built in 1970.									
Newport, Cocke County	3	Early morning					4		Flash Flooding
A thundershower dropped 2.23 inches of rain in a 2-1/2 hour period early Saturday morning. The heavy rainfall caused power outages, flooded roads and basements, and forced water into several buildings in the downtown area. Water was reported 20 inches deep in the boiler room of the Newport Grammar School. Much of the flooding was a result of storm drains not being able to handle the large amount of runoff from the storm.									
West and Middle Tennessee	13-14	6 a. 13th to Noon 14th					7	7	Heavy rains, flash flooding, winds
A low pressure system which was the remnants of Hurricane Frederic tracked across Middle Tennessee on the 13th and early on the 14th, bringing heavy rains and high winds primarily to Middle Tennessee. West Tennessee caught some of the rains and winds especially in the southeast corner of West Tennessee. Most of East Tennessee escaped the affects of the storm. The low pressure center moved into Tennessee in Giles County just south of Pulaski. It moved across the state northeastward tracking close to Lewisburg, Murfreesboro, Carthage, and Celina. The heaviest rains (4 to 8 inches) fell within an area 100 miles north and west of this track. Winds with the system maintained speeds of 30 to 40 miles an hour with gusts frequently as high as 50 to 60 miles an hour. The winds together with the wet ground contributed to widespread tree damage. Rain was the biggest threat from the storm with 6 inches or higher amounts reported in at least 13 counties of Middle Tennessee. The rains forced many creeks and streams out of their banks. Flooding was described as not equalling that which occurred in May of this year. The heavy rains, however, did considerable damage to agriculture. Civil Defense estimated 1000 persons were evacuated from homes in areas where flooding occurred. Damage was extensive to bridges and roads throughout Middle Tennessee.									
Clarksville, Montgomery County	19	Morning					4		Flash flooding
Heavy rains hit the Clarksville area during the early morning hours producing flooding throughout the city. Civil Defense reported 2.62 inches of rain by 5 a. This was the same area hit one week ago with the heavy rains from the remnants of Frederic. Numerous homes were affected as well as the local hospital. Roads were made impassable by high water.									
Murfreesboro, Rutherford County	20-21	6 p. - 11 a.					5		Flash flooding
Heavy rains hit the Murfreesboro area Thursday night and Friday morning with 5 to 6 inches reported by Civil Defense. Flooding occurred at the Courthouse with extensive damage. Other buildings and residences in Murfreesboro were affected, and about 150 cars in a parking lot at Middle Tennessee State University were flooded when the rains turned the parking lot into a lake. Numerous roads were blocked due to high water.									

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	
TEXAS									
NORTHERN									
Balch Springs, Dallas County	6	8:15 p			0	0	?	?	Windstorm
Strong thunderstorm, winds downed a radio antenna and several power lines in the Balch Springs area.									
Lake Tawakoni, Hunt County	6	8:30 p			0	0	4	0	Windstorm
A severe thunderstorm resulted in considerable wind damage to the Duck Cove Marina on Lake Tawakoni, south of Quirlan. Damage occurred to one of the boat houses and to the marina itself, where the roof was blown off of the building.									
TEXAS SOUTHERN									
SEE END OF TABLE									
TEXAS WESTERN									
Fritch, Hutchinson County	2	8:30p			0	0	5	0	Windstorm
Straight-line winds estimated at 60-70 mph were received in the town of Fritch from a nearby thunderstorm. The winds caused extensive damage to windows and vegetation in the town and either damaged or destroyed four mobile homes in a mobile home park. No one was injured. Over two inches of rain was also produced by the storm and several roads were reported to be flooded briefly in the town. Small hail was also received. Damages were estimated to be \$80,000.									
Parmer, Northern Bailey Counties	3	3:00p	unk	unk	0	0	5	6	Tornado, Hailstorm
A large, severe thunderstorm developed at approximately 2:30 pm in northern Parmer County, just west of Friona. The storm began to produce hail 7 miles west of Friona about 3 pm as it moved southward. The hail damage path extended from this point southward across Bovina to Lariat. The width of the path varied from 6 miles at the northern end to nearly 15 miles at Bovina. It again tapered to 6 miles wide at Lariat and retained this width as it moved southward into Bailey County. The path terminated at Coyote Lake in north central Bailey County. The hail in Friona was reported to have been as large as golfballs, but somewhat flattened like saucers. The hail broke plate-glass windows and other windows and did considerable damage to roofs near Friona. Eight thousand (\$8,000) to 10,000 acres of cotton, soybeans and vegetables were lost with the destruction being almost total just north of Bovina. The hail was reported to have been spotty from south of Bovina to Lariat.									
McCauley, Fisher County	3	4:50p			0	0	4	0	Windstorm
In Bailey County the storm produced a tornado 5 miles northwest of Mulshoe that was spotted by Department of Public Safety personnel at 5:40 pm. No other information was given on the tornado. The storm produced hail only one-half inch in diameter, but accompanied by winds gusting to an estimated 50 to 60 mph. The combination of wind and hail was sufficient to damage between 30,000 and 50,000 acres of cotton and corn; and pile hail as deep as 3 inches in some areas. Damage was also reported to car windshields and bodies as well as roofs and windows of homes.									
Straight-line winds from a thunderstorm were reported to have destroyed a mobile home near McCauley in Fisher County. The mobile home was reported to have been on blocks and not tied down. It was blown over on its top. No estimate of the winds was available and no injuries were reported.									
UTAH									
NONE REPORTED									
VERMONT CENTRAL AND SOUTH									
	6	7AM-9PM			0	0	?	?	TROPICAL STORM
REMNANT HURRICANE DAVID MOVED NORTHEASTWARD ACROSS CENTRAL VERMONT WITH ONE AND ONE HALF TO THREE INCHES RAIN AND WINDS TO 50MPH. WIDESPREAD POWER OUTAGES BUT ONLY MINOR FLOODING. LIGHT TO MODERATE CROP DAMAGE PARTS OF CALEDONIA AND ORANGE COUNTIES. BARN FIRE DUE TO LIGHTNING NEAR BETHEL. POSSIBLE SMALL TORNADO 4:30 PM NEAR RUTLAND CAUSING SOME PROPERTY DAMAGE.									
CENTRAL AND NORTH	14	5-7 PM			0	1	?	?	THUNDERSTORMS
COLD FRONT ASSOCIATED WITH REMNANT HURRICANE FREDERICK MOVED ACROSS AREA WITH SCATTERED/SEVERE THUNDERSTORMS. BOX POWER OUTAGE IN CENTRAL VERMONT. WIND DAMAGE FAIRLY WIDESPREAD ADDISON AND ORANGE COUNTIES. MANY TREES WERE DOWNED IN CHITTENDEN AND FRANKLIN COUNTIES. 72 MPH GUST AT ST. ALBANS.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1979

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	
VIRGINIA Statewide	5-6				1	24	7	5	Tropical Storm
	<p>Tropical Storm "David" moved through the western portion of the state during the afternoon and evening of the 5th, reaching eastern Pennsylvania early on the 6th. Although average wind velocities were 45 mph in gusts, a rash of at least 8 tornadoes were responsible for over half of the total damage in the storm (tornado data will be treated in the immediately-following summary). Rainfall averaged between 2" and 4" with amounts of 6" or more reported in Amelia County and in the Norfolk area. The official observer at Big Meadows recorded 8.93" and the greatest amount - 9" - occurred at Four Mountain near Roanoke. Local flooding was fairly widespread with the most serious water damage in the following areas: Colonial Heights-Petersburg; over Rappahannock, Page, Madison and Orange Counties where flooding began about 9PM on the 5th; and in the section around Colonial Beach. One fatality and 19 injuries were attributed to tornado activity. Power outages due to the large number of fallen trees amounted to some 30,000 homes over the state. Total damage from tree fall, flooding, high tides, wind and tornadoes was figured at \$8,572,000, of which about \$5.5 million was from tornado activity. Newport News, Hampton and Fairfax City and County were especially hard-hit by tornadoes. Crop loss over the state was estimated at around \$160,000.</p> <p>Tropical Storm "David" generated at least 8 tornadoes over the extreme east portion of the state, from Newport News on the south, to Fairfax and Loudoun Counties on the north. The track of these was generally from southeast to northwest. A summary of occurrences is as follows:</p>								
Newport News vicinity	5	4:00 p	2.5	50	0	2	6	0	Tornado
	<p>Struck the James Landing section, destroying 3 homes and doing major damage to 37 others, along with less severe damage to another 36 homes. Hundreds of trees were broken off, uprooted or significantly damaged. A full-sized car was carried 40 feet and dropped upside down. Total damage: \$2,119,000.</p>								
Hampton area	5	4:20 p	0.5	30	0	9	5	0	Tornado
	<p>Moved through the Buckroe Beach community and completely destroyed one house, caused major damage to 8 others and minor damage to another 19 homes. Damage was estimated at \$450,000.</p>								
Gloucester Point, Gloucester County	5	4:30 p	0.5	20	0	0	4	0	Tornado
	<p>Small tornado damaged 19 homes to the extent of \$10,000 and also did around \$20,000 damage to property and boats as well as some damage to a marina.</p>								
Dahlgren (nr), King Georges County	5	5:15 p	2	40	0	0	5	0	Tornado
	<p>Tornado severely damaged one home and unroofed the house next door to it. The next point it touched down was around 1/4 mile northward near the Potomac River Bridge, where it flipped a truck over. Apparently the same tornado caused several boats to sink and damaged a house at Waugh Point Marina, several miles further up the river. Estimated damage: \$80,000.</p>								
Brooke (nr), Stafford County	5	5:15 p	2	30	0	0	4	0	Tornado
	<p>"Sounded like a train coming through" as it lashed several homes while bouncing along a 5-mile stretch between Brooke and Marlborough Point. Roads were blocked by battered trees. Estimate of damage: \$40,000.</p>								
Fairfax County and Fairfax City	5	6:00 p - 6:30 p	6	300	1	6	6	0	Tornado
	<p>Tornado first touched down near Groveton, where a shopping center sustained \$8,500 damage. The track was then in a skipping pattern toward the north northwest, where it next touched down at Fairfax City, doing \$150,000 damage to Woodson High School property, extensively damaged several homes, along with a newly-constructed office complex. The funnel apparently struck again in the Great Falls area where a large tree was toppled onto a house, killing a man who was caught in the debris. In all, some 90 homes were damaged, of which 17 were declared unoccupiable. Total damage including many demolished automobiles and the clean-up of trees and trees blocked roads: nearly \$2.5 million.</p>								
Loudoun County	5	6:30 p	0.5	50	0	2	5	0	Tornado
	<p>Hit in the Sugarland Run subdivision in the east portion of the county. As many as 80 homes sustained damage, with 4 of these seriously damaged. Two persons were injured by flying glass. Damage estimated at \$90,000.</p>								
Loudoun County	5	Abt 6:45p	0.5	30	0	0	5	0	Tornado
	<p>Small tornado felled a dozen heavy trees across roads, badly damaged several houses and also buried many cars under debris. Total loss estimated around \$100,000.</p>								
Stafford County	7	4:00 p			0	0	3	0	Wind, Rain
	<p>Violent localized storm was associated with the passage of a cold front. It hit the Marlborough Point and Brooke areas just two days after they suffered damage from Tropical Storm "David". Trees and power lines were downed in a brief 10-minute period, with one utility pole snapped in two. Damage was estimated at \$3,000.</p>								
VIRGINIA (continued) Southwestern and Southern portions	21- 22				0	0	7	0	Rain, Flooding
	<p>Low pressure center moved through the southeastern states to off the North Carolina-Virginia coastal section between the 21st and 23rd. Heavy rain fell over the south central counties of the state with amounts ranging between 4" and 7" from evening of the 21st to the morning of the 22nd. Flooding of small streams and rivers resulted with some 400 secondary roads closed and 8 bridges destroyed. Patrick County, in particular, suffered considerable devastation and damage in that county alone was estimated at \$10 million, of which \$800,000 was to homes - at least one house completely washed away. In Bedford and Botetourt Counties flooding began around 8PM on the 21st...while the most serious flooding along the southern central counties occurred on the 23rd. Damage over the state was estimated at over \$20 million, of which nearly \$15 million occurred in the following six counties: Carroll, Patrick, Franklin, Henry, Pittsylvania and Halifax. Of the total, some \$1,350,000 was crop damage.</p>								
East Central	30				0	0	5	4	Rain, Flooding
	<p>Rain, associated with a small low center that moved northward from the coastal Carolinas to off the Virginia coast ended one of the wettest Septembers on record. Rainfall totaled between 2 and 4 inches, with a 6-inch total at Bon Air near Richmond. Flooding of roads and low-lying areas was concentrated mainly in Chesterfield, Powhatan, Amelia and Nottoway Counties, starting late of the 30th and continuing into early morning on October 1st. Bridge and road damage in Amelia County amounted to \$20,000. Total storm damage estimated at between \$60,000 and \$80,000. Crop loss was estimated at about \$8,000.</p>								
VIRGIN ISLANDS St. Thomas, St. John, St. Croix	3-4				0	0	7	0	Tropical Storm Frederic
	<p>Hurricane Frederic weakened to tropical storm intensity after passing thru the northern Leewards as it approached the Virgin Islands late on the 3rd. The most serious wind damage reported was to the Warren E. Brown apartment complex near Bluebeard's Castle on St. Thomas where roofs were blown off three large buildings leaving about 50 families homeless. Possible tornadoic action has been reported with this event but not confirmed. In all three islands (St. Thomas, St. John, and St. Croix) there were a great number of fallen trees and downed utility lines. Flooding was more serious than with the passage of Hurricane David during the previous week due to much heavier rainfall following the passage of Frederic. In St. Thomas and St. John, up to 14 inches of rainfall were reported during the storm passage while at St. Croix up to 24 inches were recorded. In St. Thomas 4 small homes were destroyed and about 50 suffered damage. In St. Croix many people suffered damages to interior household effects from flooding in the Mon Bijou, Glynn, Paradise, Williams Delight and Frangi Pangli areas where normally dry "guts" overflowed. Water supply and sewerage problems were serious in St. Croix. Heavy damages occurred in St. Croix to culverts, bridges and heavy erosion from wave action was reported along the coast.</p>								
Off St. Thomas	17	8:50 a.			0	0	0	0	Waterspout
10 miles north St. Croix	19	2:45 p.			0	0	0	0	Waterspout
Off St. Thomas	27	5:30 p.			0	0	0	0	Waterspout
WASHINGTON Clallam County	5	2:55PM PDT							Waterspout
	<p>Waterspout first recognized approximately 8 miles northeast of Neah Bay in the Strait of Juan de Fuca by radar at Vancouver, British Columbia. Waterspout dissipated in less than 5 minutes. No damage or injuries reported.</p>								
WEST VIRGINIA Eastern Panhandle	5-	aftn and 6 morn.			1	0	3	?	Flooding
	<p>Heavy rains fell over the eastern panhandle as the remains of Hurricane David moved north through Virginia. Flooding was generally minor with some roads blocked. High winds downed some trees and power lines. A 73 year old man was killed on the afternoon of the 5th outside Capon Bridge in Hampshire county. He was believed to be crossing a small bridge near his home when flood waters washed him off.</p>								

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PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
WISCONSIN Douglas County	9-1	3:40 A							Severe Thunderstorm
									Heavy rains and high wind caused widespread damage in the Superior area. Downed trees throughout the city caused power lines to be downed and disrupted electrical service in several areas.
Chippewa County	9-1	6:30 P			2	4?			High Wind
									High winds tipped over a trailer house in Cornell. A man and his daughter were trapped inside sustaining injuries that required hospitalization.
Walworth County	9-4	4:00 P to 5:00 P							Severe Thunderstorm
									Thunderstorms containing high winds and large hail moved through Walworth County between 4:00 and 5:00 p.m. Delavan reported 50 mph winds along with golf-ball sized hail.
Douglas County	9-8	11:35 P	?	?	0	0	?	0	Tornado
									A tornado touched down briefly near Middle River, located 16 miles southeast of Superior. A machine shed and a new 90 foot barn were destroyed.
WYOMING Laramie County	9/7	11:30 p.	--	--	0	0	0	0	Tornado
									An extremely weak thunderstorm generated a large tornado east northeast of Cheyenne. The tornado was nearly six miles north of the weak cell under sunny skies! No damage was reported since the touchdown was in the open prairie.
Laramie County	9/7	12:00 p.	--	--	0	0	0	0	Tornado
									The same small rotating thunderstorm produced another weaker tornado of brief duration near the Cheyenne airfield. No damage was reported as it was confined to an open dirt field just north of the runway.
TEXAS SOUTHERN Harris Co.	1	early afternoon			3	9	6	0	Lightning
									Lightning from thunderstorms associated with Tropical Storm Elena hit the oil tanker Chevron Hawaii as it was docked in the Houston Ship Channel at the Shell refinery. The deaths, injuries, and damage were believed caused by a combination of the lightning strikes and the immediately ensuing explosion and fire. An unusual fallout of oily rain drops covered houses and lanes downwind from the fire after the dense smoke had risen and mixed into overhead storm clouds.
Jefferson Co.	1	1:30 pm			0	0	?	?	Heavy Rain
Orange Co.	1	1:30 pm			0	0	?	?	Heavy Rain
Hardin Co.	1	3:30 pm			0	0	?	?	Heavy Rain
Jasper Co.	1	4:30 pm			0	0	?	?	Heavy Rain
Newton Co.	1	4:30 pm			0	0	?	?	Heavy Rain
									Sudden rains of 4 to 6 inches fell over these counties in association with a band of bad weather well to the east of Tropical Storm Elena. Ground was already saturated and streams already swollen when the downpours hit. Quick flooding resulted in low-lying areas of all counties plus in urban areas of Jefferson and Orange counties. A number of roadways plus automobiles were flood damaged. Pine Island Bayou and smaller streams in northern Jefferson, Hardin, Jasper, and Newton counties rose out of banks by mid-afternoon flooding woods and farm lands. Extent of damages, if any, to residential areas was unknown. Flooding was less than in April.
Harris Co.	1	4:30 pm			1	0	6	?	Heavy Rain
Harris Co.	1	5:00 pm			1	0	5	?	Wind
Brazoria Co.	1	4:50 pm			0	0	4	5	Wind
Brazoria Co.	1	6:00 pm			0	0	5	5	Heavy Rain
Fort Bend Co.	1	5:30 pm			0	0	?	?	Heavy Rain
Wharton Co.	1	5:30 pm			0	0	?	?	Heavy Rain
Wharton Co.	1	6:30 pm			0	0	?	?	Wind
Galveston Co.	1	7:00 pm			0	0	6	5	Heavy Rain
									Tropical Storm Elena moved inland near Bay City and weakened as it progressed northward. A band of heavy rain containing high wind-producing thunderstorms affected areas to the east of Elena's low pressure center.
									Harris County: Steady heavy rains falling over the area first made an impact on highly urbanized downtown Houston as 3 inches of rain fell from 2:30 to 3:30 pm with totals to 4 1/2 inches by 5 pm. Hundreds of cars stalled and many were submerged as serious street flooding developed. Downtown basements, including the police station, flooded and roofs of two buildings collapsed from weight of the sudden deluge. About 45 houses received water damage when caught on flooded streets. About 20 city bus passengers were rescued when their bus began sinking after entering a flooded underpass. A 61-year old man drowned in the same underpass when his car stalled behind the bus and was subsequently covered by rising waters. Homes and businesses were reported flooded along parts of Hunting Bayou and in Keshmir Gardens. Some homes in Sagemont subdivision were flooded again before repairs had been completed from the July floods. High wind gusts caused scattered light damages over the city. However, one 24-year old man was electrocuted when he stepped into water beside a blown-down power line.

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	
TEXAS (continued) SOUTHERN									
									Brazoria County: Rains caused a number of roadways to flood and some minor residential area flooding started on the 1st. Severe thunderstorm wind gusts estimated at 50 to 70 mph damaged mobile homes near Alvin.
									Fort Bend and Wharton Counties: Heavy rains later circulated to the north and west sides of Elma causing local flooding of towns and low areas in these counties. Extent of this early flooding was not known. Minor property damage occurred later due to thunderstorm wind gusts.
									Galveston County: Rainfall totaled 4 to 7 inches over western Galveston County within several hours from the community of Alta Loma to Dickinson. Rapid pooling of waters flooded streets, roads, and some residential areas.
Refugio Co.	1	7:50 pm			0	0	?	?	Wind
Bee Co.	1	8:00 pm			0	0	?	?	Wind
Aransas Co.	1	8:30 pm			0	0	?	?	Wind
San Patricio Co.	1	8:45 pm			0	0	?	?	Wind
Live Oak Co.	1	9:15 pm			0	0	?	?	Wind
Jim Wells Co.	1	9:45 pm			0	0	?	?	Wind
									A band of severe thunderstorms developed on the far western fringes of Tropical Storm Elena's circulation. The storms moved southwestward over these counties creating localized wind gusts. Scattered light property and some crop damages were reported but extent of these damages was not known.
Matagorda Co.	2	5:30 am			0	0	?	?	Heavy Rain
Brazoria Co.	2	6:00 am			0	0	?	?	Heavy Rain
Harris Co.	2	7:15 am			0	0	?	?	Heavy Rain
									A band of heavy nocturnal rains fell from Matagorda Bay north-eastward to southern Harris County. Many areas were already flooded from the previous day's rains, and the new downpours quickly over-taxed drainage systems. Flooding was worsened along Chocolate Bayou subdivisions in Brazoria County and renewed rises began along Clear Creek in southern Harris County. In Matagorda County the worst flooding occurred along Chaney Creek near the town of Sargent with other minor flooding reported in Bay City. Rice and soybean crops reportedly suffered some damages.
Matagorda Co.	3	6:00 pm	?	?	0	0	0	0	Waterspout
									The waterspout was observed in the Gulf moving just offshore from Matagorda Peninsula at the mouth of the Colorado River.
Calhoun Co.	5	9:50 am	?	?	0	0	0	0	Waterspout
									Coast Guard personnel reported the waterspout as it remained nearly stationary just offshore from Magnolia Beach in Lavaca Bay. It caused no damage to marine interests.
Jackson Co.	6	1:00 pm							Funnel clouds
Matagorda Co.									Two funnel clouds were observed 5 miles west of Palacios moving northwest near the Matagorda-Jackson county line. They apparently never touched ground.
Nueces Co.	6	1:20 pm							Funnel cloud
									A funnel cloud near developing thundershowers remained aloft as it passed westward between Driscoll and Bishop.
Zapata Co.	6	7:00 pm			0	0	5	0	Heavy Rain
									A weak tropical disturbance set off thunderstorms in northeastern Mexico. One cluster of storms lingered over the Rio Grande and dumped 5 inches of rain on the city of Zapata between 5 and 7 pm. Sudden flash flooding occurred around the city causing damage to a few buildings and a number of automobiles as water briefly rose in urban streets.
Nueces Co.	7	3:00 pm							Funnel cloud
									Corpus Christi police observed the funnel cloud as it moved over residential areas 5 miles northwest of the airport. Neither the funnel nor associated building thunderstorms caused damage.
Surfside, Brazoria Co.	18	1:30 pm	Short	Narrow	0	0	4	0	Tornado
									A very small tornado touched ground just inland from the coast. The mini-twister slightly damaged roofs on a few homes in Surfside and reportedly produced moderate damages at one industrial establishment. This funnel was similar in size and nature to the numerous funnel clouds of the area which normally do not touch ground.
Houston, Harris Co.	18	3:50 pm	1	350	0	1	6	0	Tornado
									The strong tornado touched ground briefly twice within a mile-long swath over the west side of Houston. The tornado lasted about 3 minutes coming just after heavy rains and in the midst of lingering moderate showers. During its short life it destroyed about 10 homes, did major damage to 40, and lesser damage to 100 others and two apartment complexes in the Fishhook Memorial-Lakeside area. Subdivisions affected were Country Village, Briar Lake, and Lakeside Place. Fortunately the twister hit before the local streets were crowded with evening rush hour traffic. The injury rate was surprisingly low for the amount of damage done. Most people heard the characteristic roar seconds before the tornado hit and were able to take cover within their homes. Most damages to houses were brick walls blown inward, roofs removed, and upper stories sheared away. Many automobiles were flipped and a few

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1979

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	
TEXAS (continued)									
SOUTHERN									
Harris Co.	18	4:00 pm	Short	Narrow	0	0	5	0	Tornado
<p>became missiles which were blown into homes. The funnel seemed to be most intense on its west to east path as it touched down in the 1500 block of S. Kirkwood.</p> <p>A smaller tornado briefly touched ground to the west of the damaging Houston tornado. Point of touchdown was near Stuebner-Airline Road at Greens Road. Several mobile homes were damaged, numerous windows were blown in, house goods were pushed inward, and one automobile was reported rolled. Fortunately no significant injuries were reported.</p>									
Harris Co.	18	4:00 pm			0	0	5	?	Heavy Rain
Fort Bend Co.	18	4:00 pm			0	0	5	?	Heavy Rain
Brazoria Co.	18	5:30 pm			0	0	5	?	Heavy Rain
<p>Heavy thunderstorms persisted over southwest Harris and northeast Fort Bend counties for several hours. Wet ground allowed water to pool quickly in low areas causing some minor flood damages to residential areas in Huntington Village and Alief. Rains up to 7 inches in western Harris County fell quickly while similar amounts fell over Brazoria after a longer period of time during the day allowing water/buildup in Brazoria County to come relatively slowly. Jones Creek, Astin Bayou, and many drainage ditches overflowed doing damage. Roads suffering flood damage included county roads 523 and 322 near Freeport, State Highway 36, and many urban streets in Freeport and Angleton.</p>									
Nueces Co.	18	11:00 pm			0	1	5	?	Wind
Nueces Co.	19	3:00 am			0	0	7	6	Heavy Rain
Aransas Co.	18	11:00 pm			0	0	5	?	Wind
Aransas Co.	19	3:00 am			0	0	7	5	Heavy Rain
San Patricio Co.	18	11:00 pm			0	0	5	?	Wind
San Patricio Co.	19	3:00 am			0	0	7	6	Heavy Rain
Matagorda Co.	19	3:30 am			0	0	6	0	Heavy Rain
Brazoria Co.	19	4:30 am			0	0	7	0	Heavy Rain
Calhoun Co.	19	Noon			0	0	6	0	Heavy Rain
Jackson Co.	19	Noon			0	0	5	0	Heavy Rain
Harris Co.	19	1:00 pm			2	0	8	0	Heavy Rain
Fort Bend Co.	19	3:00 pm			0	0	?	?	Heavy Rain
Galveston Co.	19	7:00 pm			2	1	7	?	Heavy Rain
Galveston Co.	19	7:30 pm			0	0	6	0	Wind
Wharton Co.	19	7:30 pm			0	0	?	?	Heavy Rain
Chambers Co.	20	12:30 am			0	0	?	?	Heavy Rain
Montgomery Co.	20	1:30 am			0	0	6	0	Heavy Rain
Hardin Co.	20	1:30 am			0	0	4	0	Wind
Hardin Co.	20	2:30 am			0	0	5	0	Heavy Rain
Jefferson Co.	20	2:00 am			0	0	5	0	Heavy Rain
Tyler Co.	20	2:30 am			0	0	4	0	Wind
Jasper Co.	20	2:30 am			0	0	4	0	Wind
<p>An unusual non-tropical low pressure system developed on an early season cool front which had become stationary just offshore and parallel to the Texas coast. Mid and high level atmospheric moisture from Tropical Storm Henri in the southwestern Gulf of Mexico may have enhanced the heavy rainfall which the frontal low produced along the middle and upper Texas coastal plains.</p> <p>Coastal counties experienced 48 to 60 hours of rainfall with the storm ending on upper coastal areas late on the 20th. Heaviest rains began on the middle coast and moved northeastward, however, the flood producing blowpouts seemed to arrive randomly within the affected areas. Also, soil moisture varied before these rains and some counties were experiencing flooding before this system arrived. As a result, flooding conditions appeared and worsened at various times throughout the affected coastal area.</p> <p>Nueces County: Sudden downpours moved inland along the Coastal Bend area just after midnight on the 19th after steady rains of 3 inches had fallen during the previous day. By morning Corpus Christi International Airport had recorded 7.83 inches of rain. The city of Corpus Christi received the most damage in the county. Rainfall rates overwhelmed already swollen drainage facilities. Rapid ponding of water caused the flooding of streets and urban areas with 400 to 500 homes, many businesses, and possibly 300 apartment units receiving flood damage. Lakewood Village subdivision and Leathers Housing Project had a high degree of flood damage. City Hall and other buildings downtown sustained basement and low level flooding. Hundreds of automobiles suffered water damage as flooding developed in streets. Corpus Christi Beach and North Beach areas flooded badly due to the combined action of rainwater flooding and salt water flooding. Tides in Corpus Christi Bay were 5 to 6 feet above mean sea level. Many motel units, homes, cars, and campers were damaged in this vacation spot. Kennedy Causeway to Padre Island and US 181 at Nueces Bay and Park Roads 22 and 33 on Mustang Island were covered by the rain and tidal flooding. In south and west Nueces County cotton and grain crops were partially damaged.</p> <p>San Patricio County: The heavy rains totaled 13 inches at Aransas Pass from midnight to 10 am on the 19th and 18 inches for the 24 hours ending at 10 am. Ingleside had 12.25 inches for the 24 hour period. Most damage occurred near shore at Aransas Pass and Ingleside. Although fresh water flooding caused practically all damages, high tides indirectly abetted the flooding by inhibiting normal drainage. Aransas Pass had about 150 buildings damaged (75 percent of the city). In Ingleside an estimated \$8 million damage occurred to numerous houses, mobile homes, businesses, and city-owned facilities. State Highways 70 and 35 and Park Road 892 were covered by the flood waters. Ripening cotton and grains also sustained damages.</p>									

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	
TEXAS (continued)									
SOUTHERN									
<p>Aransas County: At Rockport 11.92 inches were recorded for 24 hours up to 10 am on the 19th, most rain falling overnight. Considerable flood damages occurred in Rockport, again partly due to inhibited drainage from high tides. Most businesses in the downtown area had some damage and about 2 dozen homes on the south side were flooded.</p> <p>Nueces, San Patricio, Aransas Counties: High winds associated with the low pressure area caused scattered property damage in the three counties. Gusts were measured at 53 mph in Corpus Christi and estimated at 80 mph in Aransas Pass.</p> <p>In Corpus Christi one man was reported injured when a small building collapsed during the high winds. Winds caused wave action which sank several pleasure boats and one shrimp boat at Corpus Christi Marine.</p> <p>Matagorda County: Flooding already in progress was greatly worsened by heavy rains the night of the 18th. By 8 am on the 19th some 13 inches had fallen at the town of Sargent from overnight rains. Extensive flooding developed along Cottonwood Creek in Bay City, along the extreme lower Colorado River, and along Caney Creek at Sargent. Homes and other buildings were damaged around Sargent and some possibly were flooded in Bay City. Exact damage figures were not available.</p> <p>Brazoria County: Flooding was in progress over parts of the county when intense rain hit overnight on the 18th. By 8 am on the 19th rainfall ranged from 13.29 inches at Freeport to 5 inches at inland locations of the county. Freeport eventually received 23 inches for a 48 hour total up to the 20th. Extensive flooding occurred later in the day along Mustang Bayou, Bear Creek, Chocolate Bayou, lower Oyster Creek. Many towns and subdivisions suffered flooding of homes, businesses, and cars including West Columbia, Angleton, Holiday Lake subdivision, Liverpool, Alvin, Marvel, Twin Lakes subdivision, Jerusalem community, plus many rural areas. Overall flooding was not as bad as the July 1979 flood for Brazoria County. State Highway 36 was flooded at several places. Within the county an estimated 900 homes sustained damage with most concentrated flooding reported around Liverpool. Many homes were undergoing repairs for the July flood at the time of this new inundation. Some losses occurred to rice and soybean crops over the county.</p> <p>Harris County: Rains worsened flooding already in progress over southern Harris County and created new flooding elsewhere. Flooding grew more extensive in urban areas and low places throughout the afternoon. It was about 3 am on the 20th that bayous and streams began to swell significantly out of banks. Low areas flooded early in the afternoon, however, in the Sargent subdivision and in parts of Pasadena. Urban flooding quickly developed in various subdivisions and incorporated areas including Scarsdale, Blue Bell, Homestead, Westmont, South Main-Post Oak area, West Ofen, and Sage Meadows. Rapid stream flooding early on the 20th flooded some 500 homes along Clear Creek near Scarsdale, many homes along Turkey Creek; about 50 homes near Sims Bayou; 250 homes near Cypress Creek (including worst flooding ever for parts of Windwood, Grantwood, and Inverness Forest subdivisions), 150 homes near Green Bayou; and a few homes along Vince and Little Vince Bayous in Pasadena. In northeast Harris County inflow to Lake Houston caused the lake to rise and flood parts of North Shore and Forest Cove housing areas. Flow over the lake's spillway produced flooding on the lower San Jacinto River beginning on the 20th and affecting Highland Springs, Banana Bend, and other residential areas. In Baytown evacuation of the Brownwood area was necessary soon after midnight on the 19th when high tides in Galveston Bay put water over Perimeter Drive. A total of nearly 1950 homes and hundreds of cars were flood damaged in Harris County. Some 250 homes had major to serious damages. The two deaths reported in the county occurred in separate incidents where pedestrians walking near flooded streams were somehow washed away. One man drowned in a flooded drainage ditch at Farm Road 2351 and Beamer Road and the other man was drowned in Turkey Creek.</p> <p>Calhoun and Jackson Counties: Some 6 to 10 inches of rain had accumulated over these coastal counties by evening of the 19th. By noon rains were already starting to flood many roads and low lying areas. Conditions worsened throughout the afternoon as rains did not let up. Some residences and businesses of Port Lavaca experienced serious flooding but extent of property damages was not known. In both counties many miles of roadway became submerged and suffered some damage.</p> <p>Fort Bend County: Heavy rains fell on already saturated parts of southeast Fort Bend County. Additional damages were done to rice and soybean crops already hurt by previous floods. These renewed rains sent further rises down headwaters of Oyster Creek and Mustang Bayou. Extent of damages was not determined.</p> <p>Galveston County: On the morning of the 19th some flooding of residences near Cloud Bayou at Alta Loma had begun, but it was not until evening that streams and urban areas reacted ferociously to intense rains. Some 19 inches had accumulated in Texas City over a 2 1/2 day period up to the evening of the 19th. A drainage canal leading into Moses Lake in Texas City overtopped a bridge causing a woman motorist to become stranded. Two men attempted to help the woman but were swept off the bridge and drowned. The motorist luckily escaped with only minor injuries. An estimated 1400 to 1500 homes county-wide</p>									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

SEPTEMBER 1979

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	ESTIMATED ¹ DAMAGE				CHARACTER OF STORM	PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	ESTIMATED ¹ DAMAGE				CHARACTER OF STORM
					NO. OF PERSONS	ESTIMATED ¹ DAMAGE	KILLED	INJURED							NO. OF PERSONS	ESTIMATED ¹ DAMAGE	KILLED	INJURED	
TEXAS (continued) SOUTHERN received some degree of flood damage including almost 500 homes in League City, 300 in Santa Fe, 250 in Friendswood, 200 in Dickinson, 150 at Hitchcock, and others near Clear Lake and along Highland Bayou. Parts of Interstate Hwy 45, were reported flooded as well as Texas Highway 6 at Hitchcock. Tides of 4 to 5 feet above mean sea level inhibited drainage of creeks near Galveston Bay shores. High winds gusting to 40 mph created scattered light property damage. A tug boat reportedly sank 10 miles south of Galveston during the high winds but the crew was rescued. Beach erosion caused by high wind waves was severe on the west end of Galveston Island where dunes were destroyed and several structures undermined. Wharton County: New heavy rains developed over the county late in the afternoon of the 19th and pushed daily rainfall totals over 10 inches. Serious flooding of small streams was followed by a sharp rise on the extreme lower Colorado River. Damage figures were not available. Chambers County: Heavy rains spread slowly into the county causing damage to rice and soybean crops. No significant property damages were reported. Montgomery County: Rains saturated ground and filled streams on the 18th and during the day of the 19th. Intense rains hit most of the county just after midnight leading to rapid flooding of low areas and producing sudden rises on many streams including the west fork of the San Jacinto River, Peach Creek, and Caney Creek. Rains continued until after mid day on the 20th and totaled 15.8 inches near New Caney with 8 to 12 inches elsewhere over most of the county. Besides the San Jacinto River flooding, Caney Creek and Beach Creek produced extensive flooding through woodlands and several subdivisions. Parts of Whispering Oaks subdivision also were flooded for the fifth time this year, although many homes flooded this time were standing vacant due to abandonment after previous flooding. Hardin and Jefferson Counties: A large cluster of thunderstorms dumping rainfall rates up to 5 inches per hour moved northward over these counties after midnight on the 20th. Rains on the 19th had already saturated watersheds. In Jefferson County severe street and low area flooding hit cities causing a number of automobiles to suffer water damage. Streams quickly rose out of banks and some flood damages were reported along Pine Island Bayou and Village Creek. Gale force winds associated with the low pressure center caused light damages in Jefferson County. Rice crops in Jefferson County sustained some damage from combined wind and rain effects. Hardin, Jasper, and Tyler Counties: A cluster of severe thunderstorms produced scattered roof and other property damages over these counties.																			

STORM DATA AND UNUSUAL WEATHER PHENOMENA

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	

THE FOLLOWING ARE LATE REPORTS, CORRECTIONS, AND DELETIONS:

LATE REPORTS HAWAII										
			MAY 1979							
Gahu	24	11:45 a			0	0	0	0	Funnel Cloud	Reported just south of Barbours Point.
	28	4:40 p			0	0	0	0	Waterspouts	Pilot reported two waterspouts 12 miles south of Honolulu International Airport.
HAWAII										
			JUNE 1979							NONE REPORTED
HAWAII										
Maui	2	4:40 PM			0	0	2	0	High winds	Tree limbs blown across power lines by strong gusty trade winds caused local outages in Oirida area.
IOWA										
Central and South-eastern Iowa	3	7A	0	0	0	0	5	4	Severe Thunderstorm	A number of severe thunderstorms formed in North Central Iowa and moved southeast into Central and Southeast Iowa. These storms produced winds up to 80 MPH and damaged trees which fell on power lines and cars. The Goodyear blimp was destroyed near Fairfield, Iowa from one of these storms.
1 Mile South Waukee Dallas County	10	7:25P	.1	30	0	0	2	0	Tornado	A small tornado touched down briefly at a farm house destroying 3 trees and a grain bin. The tornado moved southeast and shortly lifted back into the clouds.
Atlantic Cass County	10	9P	0	0	0	1	0	0	Lightning	A man was reaching to turn off diamond lights at a softball field when lightning struck the box and ricocheted into his neck and left side. He was unconscious for a few minutes.
3 Mile Southwest Emmetsburg, Palo Alto County	13	3:55P	0	0	0	0	0	0	Funnel Cloud	Funnel clouds moving east southeast dipping up and down for 5 minutes before dissipating back into the clouds.
8 NE Clarion, Wright County	13	6:15P	.75	60	0	0	4	4	Tornado	Tornado touched down near a farm destroying a barn and killing livestock. Tornado travelled southeast across the road damaging another farm before lifting into clouds.
Mount Vernon, Linn County	13	9:30P	.2	20	0	0	.5	0	Tornado	A small tornado touched down at the High School lifting the roof off the gymnasium, then twisted 50 feet of chain link fence and destroyed and twisted 2 or 3 trees before dissipating into the clouds.
Central and Eastern Iowa	13	3P - 14 1A	0	0	0	0	4	4	Severe Thunderstorm	A number of severe thunderstorms formed over North Central Iowa moving southeast into Central and Southeast Iowa. These storms produced 2 tornadoes, heavy rains, golf ball sized hail and 60 MPH winds. Hail damaged crops and winds broke windows and blew down trees which fell on houses, cars, and power lines.
Clarinda, Page County	15	12:15A	0	0	0	0	5	4	Severe Thunderstorm	A severe thunderstorm produced 75-80 MPH winds which heavily damaged a Drive-In Theatre Screen, blew down many trees which fell on power lines, houses and cars. A portion of the roof of an implement company building blew off. A double-wide trailer 1 mile south of Clarinda suffered severe damage.
1 Mile North Newton, Jasper County	24	7:20P	0	0	0	0	0	0	Funnel Clouds	13 funnel clouds were reported by Police. The funnels were moving east dipping up and down coming close to the ground but did not touch.
Atlantic, Cass County	27	6:30P	1	60	0	0	4	4	Tornado	A severe thunderstorm produced heavy rain and hail which heavily damaged crops. A tornado touched down after the hail ended and destroyed a barn and cut a 60 yard wide path in a cornfield before lifting back into the clouds.
3 Mile Northeast Conesville, Muscatine County	27	7-8:30P	.1	30	0	0	0	0	Tornado-5Funnel Clouds	Five funnel clouds came out of the clouds coming within 5 feet of the ground for 5 minutes but not touching. A tornado did touch down briefly doing little damage at 7:55P before lifting back into the clouds. The funnel clouds and tornado were moving southeast.
North Central, East Central and Southwest Iowa	29	5:22-6:15P	0	0	0	0	5	4	Severe Thunderstorm	Severe thunderstorms formed over many areas of the state. These storms produced golf ball sized hail which damaged crops, heavy rains and high winds which blew down trees that fell on power lines and cars. Many outbuildings on many farms were damaged.

LATE REPORTS IOWA (continued)										
			JULY 1979							
Northwest, Central and Eastern Iowa	30	12:15-6A	0	0	0	1	6	5	Severe Thunderstorm	A line of severe thunderstorms developed over Northwest Iowa and moved rapidly southeast. These storms produced 3 tornadoes (recorded separately), downburst (recorded separately) hail, high winds and heavy rains. The hail damaged crops. High winds destroyed a mobile home in Nevada (Story County) and injured its occupant. Winds also blew down trees which fell on power lines, cars and houses and blew down many crops. Heavy rains caused urban flooding in Cedar Falls and Waterloo (Black Hawk County) and in the Spencer area (Clay County).
4 Mile West Southwest Battle Creek (Iowa County) to 6 Mile South Ida Grove to 7 Mile East Kiron (Crawford County)	30	12-222A	26	100	0	0	5	5	Tornado	A rapidly moving tornado touched down destroying many corn and soybean fields. Many barns and outbuildings were also destroyed. Many trees were cut or twisted as the tornado slipped along its path moving east southeast.
Ames (Story County)	30	250A	0	0	0	0	4	0	Severe Thunderstorm (Downburst)	The downburst produced winds up to 120 MPH in a 1/2 mile long by 150 foot wide area. These winds uprooted trees which fell on power lines, houses and cars.
1 Mile North Polk City (Polk County)	30	3:15A	.2	30	0	0	4	0	Tornado	A Police Officer observed a tornado moving East Southeast, touched down briefly before lifting back into the clouds. The tornado destroyed a barn and twisted off two trees.
3 Mile East Grinnell (Powsheik County)	30	3:45A	0	0	0	0	0	0	Funnel Cloud	Funnel cloud observed moving east for 2 minutes and then dissipating into the clouds.
Lacey (Mahaska County)	30	4A	1	30	0	0	5	3	Tornado	Tornado touched down destroying barn and trees. The tornado set the roof of the barn on the ground virtually undamaged. Tornado continued east where it destroyed another barn and twisted a corn crib and sheared the tops of two trees. Most of the debris from the barn was to the east 50 yards away.
HAWAII										
Kauai	8	8:00 AM			0	0	0	0	Waterspouts	Many large waterspouts were reported about 15 miles south of Kauai.
Maui	19	6 PM			0	0	0	0	Funnel Cloud	Funnel cloud reported by pilot over Alenuihaha Channel about 35 miles southeast of Kahului. extended 200 feet below line of cumulus clouds with bases at 1400 feet.
Molokai	30	4 AM			0	0	0	0	Waterspout	Reported by pilot about 3 to 4 miles northwest of Kualapapa.
IOWA										
2 1/2 miles West of Ossian (Winneshek County)	4	6:19A	.1	30	0	0	3	0	Tornado	A small tornado touched down destroying a barn and corncrib. Two trees were twisted off. Tornado then lifted and went back into the clouds.
3 miles South of Decorah (Winneshek County)	4	6:20A	.1	30	0	1	4	0	Tornado	A small tornado touched down briefly destroying a trailer house and injuring the occupant.
1 mile East Ossian (Winneshek County)	4	6:35A	.1	30	0	0	4	0	Tornado	A small tornado touched down taking the roof a large roller rink. The tornado soon lifted back into the clouds.
1 mile West Elvira to 2 mile South Elvira (Clinton County)	5	5:25-6:20P	4	300	0	1	5	4	Tornado	Two funnel clouds joined into one tornado. The tornado damaged 5 farms and crops, killed livestock and damaged a machinery building.
Bettendorf (Scott County)	5	7:55P	1	150	0	0	5	0	Tornado	Tornado touched down damaging houses and mobile home park. Five mobile homes were destroyed and six mobile homes had major damage.
3 mile Northeast Inwood to 5 mile Southeast Inwood (Lyon County)	8	4:30A	--	--	0	0	0	6	Severe Thunderstorm (Hail)	Hail ranging from 1/2 inch to 1 inch to 5 inches deep destroyed crops in an area 2 to 3 miles wide and 3 miles long.
Hospers (Sioux County)	8	1:30A	.4	100	0	0	6	0	Tornado	Tornado moved from the Northeast to the Southwest. Over 50 homes were damaged as well as \$100,000 damage to a grain elevator.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

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	
LATE REPORTS									
IOWA (continued)									
AUGUST 1979									
Marengo (Iowa County)	8	6P	2	30	0	0	4	3	Tornado
A roof was blown off and a semi-trailer truck turned over as a tornado headed in a Northeast direction just South of Marengo. Tornado moved just Southeast of town into a cornfield before lifting and dissipating.									
Volga City (Clayton County)	9	230A	--	--	0	0	5	0	Lightning
A hardware store and a second floor apartment were destroyed when lightning hit the building and started a fire.									
Des Moines (Polk County)	19	1030A	---	---	0	2	0	0	Lightning
A man was struck by lightning in the neck while sunning a car in a parking lot. Another man working at the Iowa State Fair was also struck.									
2 mile SW Ashton (Osceola County)	19	430P	.2	30	0	0	3	0	Tornado
Tornado touched down briefly destroying machine and cattle sheds, and damaging barn. Tornado then lifted back into clouds.									
4 mile Southwest of Webster City to 2 mile East Webster City (Hamilton County)	19	632P	6	100	0	0	4	0	Tornado
A small tornado touched down, moved Northeast for 3 miles, then Southeast briefly before lifting and dissipating back into the clouds. The tornado damaged outbuildings on three farms.									
2 mile Northwest of State Center (Marshall County)	19	730A	---	---	0	0	0	0	Funnel Cloud
Funnel cloud reported moving Northeast for two minutes before lifting back into the clouds.									
3 mile South Southwest Baxter (Jasper County)	19	832P	.1	30	0	0	0	0	Tornado
Small tornado touched down briefly in an open field and then lifted. No damage reported.									
New Sharon (Mahaska County)	19	1030P	.2	60	0	0	4	0	Tornado
Tornado touched down moving East. Tornado damaged farm house and destroyed machine shed and many out buildings. The tornado then lifted and dissipated back into the clouds.									
Northwest to Central to Eastern Iowa	19	4P-202A	---	---	0	0	5	4	Severe Thunderstorm
An area of severe thunderstorms formed over Northwest Iowa and moved Southeast. These storms produced high winds, hail, tornadoes, funnel clouds (recorded separately) and heavy rain. In many locations trees were blown down which fell on power lines, cars and houses. Windows were also shattered. Heavy rains caused many streams to flood in Northeast Iowa and urban flooding in Davenport-Moline area.									
North Central Iowa	20	6P-2110A	---	---	0	0	5	4	Heavy Rain
Heavy rains of up to 9 inches flooded the already swollen Winnebago River. Twenty families were evacuated from their homes. The water damaged crops, caved in basements and flooded many other basements.									
2 mile Northwest Kellogg (Jasper County)	26	530P	5	200	0	0	4	4	Tornado
A tornado touched down moving Northeast. The tornado heavily damaged two farms and destroyed barns and outbuildings. Crops were also damaged.									
4 miles East Forest City (Winnebago County)	28	514P	1	60	0	0	3	4	Tornado
A tornado touched down and moved east skipping along a path before lifting. Some crop damage was reported.									
5 miles Northeast of Rock Falls (Cerro Gordo County)	28	545P	1	60	0	0	4	4	Tornado
A tornado touched down moving Southeast damaging three farms. The tornado destroyed many outbuildings before lifting back into the clouds.									
3 miles Southeast of Story City (Story County)	28	7-705P	3	60	0	0	0	3	Tornado
A small tornado touched down skipping along its path doing most of its damage to crops before lifting back into the clouds.									
7 miles South Glenwood (Mills County) to Taber (Fremont County) to 4 miles South Shenandoah (Page County) to Blanchard (Page County)	28	525-735P	45	400	2	14	6	6	Tornado
The tornado first touched down briefly South of Glenwood and then lifted and touched down Southwest of Randolph and stayed on the ground until 3 miles North of Northboro. The tornado then touched down again at Blanchard before leaving the State. In all 21 rural residences were destroyed along with many outbuildings. Crop damage was also severe. One man died in a destroyed semi-trailer truck that was lifted over 200 yards by the tornado. A woman died when she was on the second story of her home.									
MARYLAND									
Harford County	29	8:00p-10:00p	---	---	0	0	4	4	Wind, Lightning, Rain
Locally severe thunderstorm was responsible for tree and power line damage along with flooding of low-lying sections. Storm was particularly intense in the area between Bel Air and Level, with many describing it as the most spectacular lightning activity of the season. Falling trees damaged motor vehicles, while around a dozen traffic accidents were related to the wind and rain. Power was disrupted to more than 1,000 homes in the Churchville-Bel Air area, with crews working all night to clear roads of fallen trees. Damage was also inflicted upon local cornfields by the force of the wind. Damage estimate: Property - between \$8,000 and \$12,000 Crops - about \$5,500.									

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	
LATE REPORTS									
NEW MEXICO									
AUGUST 1979									
Near Lovington, Lea County and Near Artesia, Eddy County	1	Midnight to Sunrise	---	---	0	0	5	0	Lightning, Fire
Petroleum storage tanks ignited by lightning.									
Near Portales, Roosevelt County	2	Afternoon	---	---	0	0	?	?	Large Hail
Hail up to golfball size damaged small area of grain and cotton fields.									
Near Alamogordo, Otero County	2	3:04 p.	---	---	0	0	0	0	Tornado
Small tornado touching uninhabited desert area observed for fourteen minutes by Holloman Air Force Base meteorological personnel.									
Near Caprock, Lea County	2	4:00 p.	---	---	0	0	0	0	Tornado
Small tornado observed in open county for five or six minutes by firemarshal. No damage.									
Near Floyd, Roosevelt County	13	5:00 p.	---	---	0	0	4	0	Lightning, Fire
Lightning strike ignited barn which destroyed structure and contents of hay.									
Near Santa Fe, Santa Fe County	14	9:00 a.	---	---	0	0	0	0	Funnel Cloud
Funnel cloud reported 20 miles south of Santa Fe by pilot and airport tower controller.									
Near Albuquerque, Bernalillo County	14	12:00 N	---	---	0	0	0	0	Funnel Cloud
Funnel Cloud reported by police officers near NE Albuquerque.									
Near Alamogordo, Otero County	14	9:55 p.	---	---	0	0	0	0	Funnel Cloud
Funnel cloud reported 6 miles northwest by Holloman Air Force Base meteorological personnel.									
Las Cruces Area, Dona Ana County	14-16	Evenings and at Night	---	---	0	0	5	5	Heavy Rain, Flooding
Recurring heavy showers over three-day period caused some flooding of low areas, sandbagging, evolutions, and considerable crop damage. About 4.5 inches total rainfall at official station.									
Albuquerque Area, Bernalillo County	15	Daytime	---	---	0	0	5	?	Heavy Rain
Rain to more than an inch blocked I-40 with mudslides and damaged streets, highways, and some structures.									
Near Tucuman, Quay County	15	4:23 p.	---	---	0	0	3	0	Tornado
Small tornado touched ground briefly and severely damaged ranch outbuildings.									
Edgewood, Santa Fe Santa Fe County	16	10:45 a.	---	---	0	0	0	0	Funnel Cloud
Several reported sightings of funnel cloud near Edgewood.									
Santa Rosa, Guadalupe County	16	Daytime	---	---	0	0	3	0	Tornado
Small tornado apparently touched down briefly in Santa Rosa area. Brief heavy rain and considerable wind damage to exposed structures.									
Near Lovington, Lea County	16	11:00 p.	---	---	0	1	0	0	Lightning
Man working at tank farm injured by lightning strike.									
Albuquerque, Bernalillo County	16	Evening	---	---	1	0	3	0	Heavy Rains, Flooding
Up to two inches of rain foothill area on saturated ground caused excessive runoff and overflowing of storm drains and arroyos. Small child drowned after falling from bridge into storm drain.									
Near Organ, Dona Ana County	18	8:42 p.	---	---	0	0	0	0	Funnel Cloud
Funnel cloud reported by military observer at San Augustin Pass.									
Silver City, Grant County	19	10:00 a.	---	---	0	0	5	0	Tornado
Isolated tornado touched down briefly in suburban area. Tore off and scattered roof from one house and damaged others. Many witnesses and photographs.									
Albuquerque International Airport, Bernalillo County	19	12:28 p.	---	---	0	0	0	0	Wind
Momentary wind gust to 62 mph in thunderstorm.									
Clovis Area, Curry County	20	11:00 p.	---	---	0	0	2	3	Large Hail
Hail reported to one-inch diameter. Some crop and auto damage.									
Hagerman-Dexter Area, Chaves County	20	Afternoon	---	---	0	0	1	5	Hailstorm
Brief heavy rain and hailstorm destroyed or severely damaged 75 percent of alfalfa and cotton crop in small area.									
Loving Area, Eddy County	21	Evening	---	---	0	0	3	5	Rain, Hail, Wind
Severe thunderstorms caused almost total crop loss and considerable structural damage along two-mile-wide strip through Loving. Hail to three-foot depth in some ditches. Damage reported as worst in 15 years.									
Quay, Curry and Roosevelt Counties	26	Evening	---	---	0	0	1	5	Heavy Rain, Hail
Three- to four-inch rains caused extensive damage to grain and cotton crops. Golfball size hail reported at Ragland.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

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	
LATE REPORTS NEW MEXICO (continued)									
Carlsbad-Artesia Area, Eddy County	26	Evening			0	0	5	5	Rain, Wind, Hail, Flooding
Severe thunderstorms with rain, wind, and hail caused extensive crop and structural damage. Saturated ground from previous storms resulted in excessive runoff and some local flooding. Hail reported to be "spotty."									
Near Fort Sumner, De Baca County	27	11:30 a.			0	0	0	0	Funnel Cloud
Funnel cloud reported by police officer.									
LATE REPORTS PENNSYLVANIA (continued)									
EASTERN									
Adams and York Counties	1	2 to 4 PM EDT			0	0	4	3	Heavy Rain Electrical, Wind
Thunderstorms mostly over the southern portions of the counties caused considerable small stream, roadway and drainage flooding. Many basements were flooded. Wind gusts downed some trees and combined with the heavy rain to flatten some corn fields. Lightning strikes damaged a few buildings and started a few minor fires. Power outages were experienced by over 4,000 customers. The heaviest rainfall recorded was 2.34 inches at Gettysburg, with an unofficial 3 inches reported at Mummansburg, Adams County. The lightning fire in a house in Gettysburg caused a few thousand dollars damage to the attic. At Doertson's Airport just outside Gettysburg a tractor trailer was blown over by the wind gusts and a 600-pound glider was carried 300 ft. into a corn field along with a 200-pound concrete anchor.									
Bradford, Cumberland, Dauphin, Lebanon, York, Lancaster and Lycoming Counties	2	Noon to 5 PM EDT			0	1	4	0	Wind, Heavy Rain, Electrical
Thunderstorms moving across Eastern Pennsylvania caused damage in these counties. Heavy rain caused some roadway and other drainage flooding which washed out portions of a small bridge. Wind gusts downed many trees and tree limbs with some falling on houses and automobiles. The wind and lightning combined to cause power outages to thousands of people. Lightning strikes caused fires in a church and a home. Near Troy, in Bradford County, a camper was struck by lightning resulting in one injury.									
Hepburnville, Lycoming County	2	3 PM EDT			0	0	4	0	Tornado, FFP 100
A small tornado damaged 3 houses and a roller skating rink. The damage was mainly portions of roofs torn off, but one house had a wall pulled outward and portions torn away.									
Delaware, Montgomery, Philadelphia Counties	3	3PM to 9PM EDT			0	0	3	0	Heavy Rain
Thunderstorm downpours caused widespread roadway and drainage flooding and some small stream flooding. Some basements were flooded and numerous automobiles were stranded in water.									
Franklin, Fulton, Adams, York and Lancaster Counties	8	4AM to 6:30 AM EDT			0	0	4	0	Electrical
Lightning strikes caused several fires in these counties. The most damage was to a garage and automobiles in St. Thomas and to the attic of a home near Littlestown, both in Adams County. Lightning strikes also caused some power outages in the Harrisburg area.									
Eastern Perina.	10	1:30 PM EDT to 7:00 PM EDT			0	6*	7	0	Wind Electrical
Violent thunderstorms rushed across Eastern Pennsylvania on the afternoon of the 10th. Some of the higher wind gusts recorded were: Reading Airport 100 MPH, Harrisburg-Capital City Airport 98 MPH, Allentown Airport 59 MPH. Innumerable trees of all sizes (at least several thousand) were broken off or uprooted. The falling trees and limbs landed on automobiles, utility lines, houses and other buildings causing considerable damage. Damage to electrical lines directly from wind gusts or lightning strikes added to that by falling trees and limbs to disrupt service to 100,000 or more customers in Eastern Pennsylvania. The wind gusts caused damage to many structures across Eastern Pennsylvania, especially with roofs or portions of roofs being torn away. The most concentrated damage was in the area around Harrisburg's Capital City Airport. At the airport nearly all the buildings received some damage (including the terminal building). One hangar was almost completely destroyed and 15 aircraft were tossed around like toys. In that general area the roof of a large store was torn off, the roof of a large warehouse was badly damaged and a large tent outside a store was destroyed. In all of these cases, the merchandise inside was damaged by rainfall. The wind gusts blew over and damaged tents and									
Elizabeth Township, Lancaster County	27	5PM to 7PM EDT			0	0	3	0	Wind
Wind gust with a thunderstorm uproot and broke off trees and damaged a house.									
Lancaster, Chester, Delaware, Montgomery Counties	29	3PM to 930 PM EDT			0	2	4	0	Electrical Heavy Rain
Lightning caused damage to trees, utility lines and buildings throughout the counties. One house and a trailer home received considerable damage. Lightning strikes caused minor injuries to two women, at separate locations. Lightning also caused a fire on top of a large storage tank in a Gulf Oil Company tank farm. Heavy downpours caused some roadway and stream flooding and also some flooded basements. A driver and his automobile were washed off a bridge near New Providence, Lancaster County. Fortunately the driver was able to escape the flooding stream. One small bridge was washed away.									
PUERTO RICO									
Vieques Sound	1	2:30 p.			0	0	0	0	Waterspout
Off Culebra Island	4	3:00 p.			0	0	0	0	Waterspout
Vieques Sound	15	5:10 p.			0	0	0	0	Waterspout
Vieques Sound	20	11:30 a.			0	0	0	0	Waterspout
7 mi. west Culebra	24	4:40 p.			0	0	0	0	Waterspout
Vieques Sound	30	4:45 p.			0	0	0	0	Waterspout
TEXAS									
SOUTHERN									
Houston, Harris Co.	19	11:00 am to 2:00 pm			0	2	4	0	Lightning
A 55 year old man was struck by lightning as he mowed his lawn in north Houston. Witnesses said the man glowed due to electrical charge for a few moments. The man reportedly recovered from injuries he received. An adult woman was the second victim of the lightning storms. About 2 pm she sustained injuries when hit but details of the incident were not known. Around 1:30 pm lightning bolts set fire to an oil storage tank in northwest Houston.									
Jefferson Co.	19	Midday							Funnel cloud
The funnel remained aloft over the Port of Beaumont then dissipated									
VIRGIN ISLANDS									
Off Buck Island, St. Croix	1	5:30 p.			0	0	0	0	Waterspout
Off St. Thomas	3	4:25 p.			0	0	0	0	Waterspout
2 mi. north St. Thomas	19	5:15 p.			0	0	0	0	Waterspout
15 mi. northwest St. Croix	23	5:20 p.			0	0	0	0	Waterspout

STORM DATA AND UNUSUAL WEATHER PHENOMENA

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INURED	PROPERTY	CROPS	
LATE REPORTS									
WEST VIRGINIA									
Statewide	8	after-noon			0	1	4	?	High Winds Thunderstorms
	Heavy thunderstorms rumbled across much of the state during the afternoon with the northern half of the state hardest hit. There were numerous reports of downed trees, small hail, minor house damage and power outages. Four mobile homes were overturned in Marshall county in the Northern Panhandle with one person injured.								
Curtisville, Marion county	8	2:30pm	?	?	0	0	3	0	Tornado
	A tornado lifted the roof from a house.								
Bridgeport, Harrison county	8	3:30pm			0	0	0	0	Funnel Cloud
	A funnel cloud was sighted 3 miles southeast of Bridgeport twisting 8 to 10 tree tops in a wooded area.								
Griffithsville, Lincoln county	8	5:00pm	?	?	0	0	3	0	Tornado
	A small tornado demolished a garage.								
Jerry Run, Taylor county	8	late aftn			0	2	0	0	Lightning
	An elderly man and a teenager were struck by lightning while standing under a hay shed. Neither was injured seriously.								
Statewide	10	aftn & evening			0	0	4	?	High Winds Thunderstorms
	Thunderstorms with strong gusty winds struck much of the state. There were downed trees, small hail and numerous power outages. A roof was torn off a house just west of Charleston at 6:00pm.								
Bens Run, Tyler county	15	aftn.			0	1	2	0	High Wind
	A sudden wind gust from a thunderstorm blew a woman from her porch and down a bank. She received minor injuries with some damage to the house.								
Weirton, Hancock county	20-10pm-21	12am			0	0	6	?	Flash Flood
	Flash flooding occurred on Harmon Creek. Hardest hit were the southern end of Weirton and the small town of Colliers. Four to five feet of water covered a five block area in Weirton. About 110 homes suffered damage, six secondary roads and two small bridges washed out. Most damage to private homes and businesses.								
Mingo county	22	4-6pm			0	0	6	?	Flash Flood
	Flash flooding occurred along Mate Creek and Beech Creek as thunderstorms drenched the area. Hardest hit were the Newton, Beech Creek and Meador Hollow areas near Matewan where about 200 people were evacuated. Many others were prevented from returning home or isolated in their homes by mudslides. There was an estimated \$2 million damage to highways in the county although personal property damage was minor.								
Kenna, Jackson county	26	morning			0	0	3	0	Lightning
	Lightning killed two cows and a calf standing under a tree.								

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INURED	PROPERTY	CROPS	
CORRECTIONS									
PENNSYLVANIA									
EASTERN									
Lebanon, Berks, Lehigh and Northampton and Bucks Counties	14	2:30 PM to 4:30 PM EDT			0	1	4	0	Heavy Rain Wind Electrical
	Thunderstorms rumbling across these counties caused a good amount of localized flooding, especially in the Lebanon area. Many roadways and basements were flooded and some stream flooding occurred. The water reached four feet in depth in some locations and a number of automobiles were partly submerged. The wind gusts caused damage to trees, utility lines and buildings and turned over booths at a fair. There were considerable lightning strikes to trees, utility poles, houses and other buildings. The lightning damaged roofs in some cases, allowing rain water to get into the buildings. In Bensalem Township, Bucks County, lightning struck a large building knocking out a roof support. This caused a large portion of the roof to collapse followed by a large portion of a wall collapsing. The wind and lightning resulted in about 10,000 customers having utility service interrupted. It was also reported that 14 horses perished in a lightning-caused barn fire in Milford, Pike County. In Bucks County a Bensalem Township man was struck by lightning while playing soft ball and a series of lightning bolts carved six eight-inch deep craters on the roadway of I-95 between route 413 and route 1.								
DELETE									
NEW JERSEY									
Bucks County	14	Late Afternoon			1	?	?		Electrical Storm
	A Bensalem man was struck by lightning while playing soft ball. A building collapsed after apparently being hit by lightning and a series of lightning bolts carved six eight-inch deep craters on the roadway of I-95 between 413 and 1.								
0	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 Million								
7	\$5 Million to \$50 Million								
8	\$50 Million to \$500 Million								
9	\$500 Million to \$5 Billion								
	Note: This publication contains our best information on storms but, due to the difficulties inherent in collection of the type of data, it is not all inclusive. Late Reports and Corrections will be carried in the month following receipt of these data.								
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