

AUGUST 1981

VOLUME 23

NUMBER 8

STORM DATA



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Daniel B. Mitchell

DIRECTOR
NATIONAL CLIMATIC CENTER

noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

ENVIRONMENTAL DATA AND
INFORMATION SERVICE

NATIONAL CLIMATIC CENTER
ASHEVILLE, N.C.

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REFERENCE NOTES

† Storm damage categories are from	*	Miles instead of yards
1 to 9 as follows:	**	Yards instead of miles
1 Less than \$50	°	Includes crop damage
2 \$50 to \$500	@	Includes heavy sleet storm
3 \$500 to \$5,000	#	Freezing drizzle and freezing rain, commonly known as glaze
4 \$5,000 to \$50,000	‡	Not received or incomplete
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		

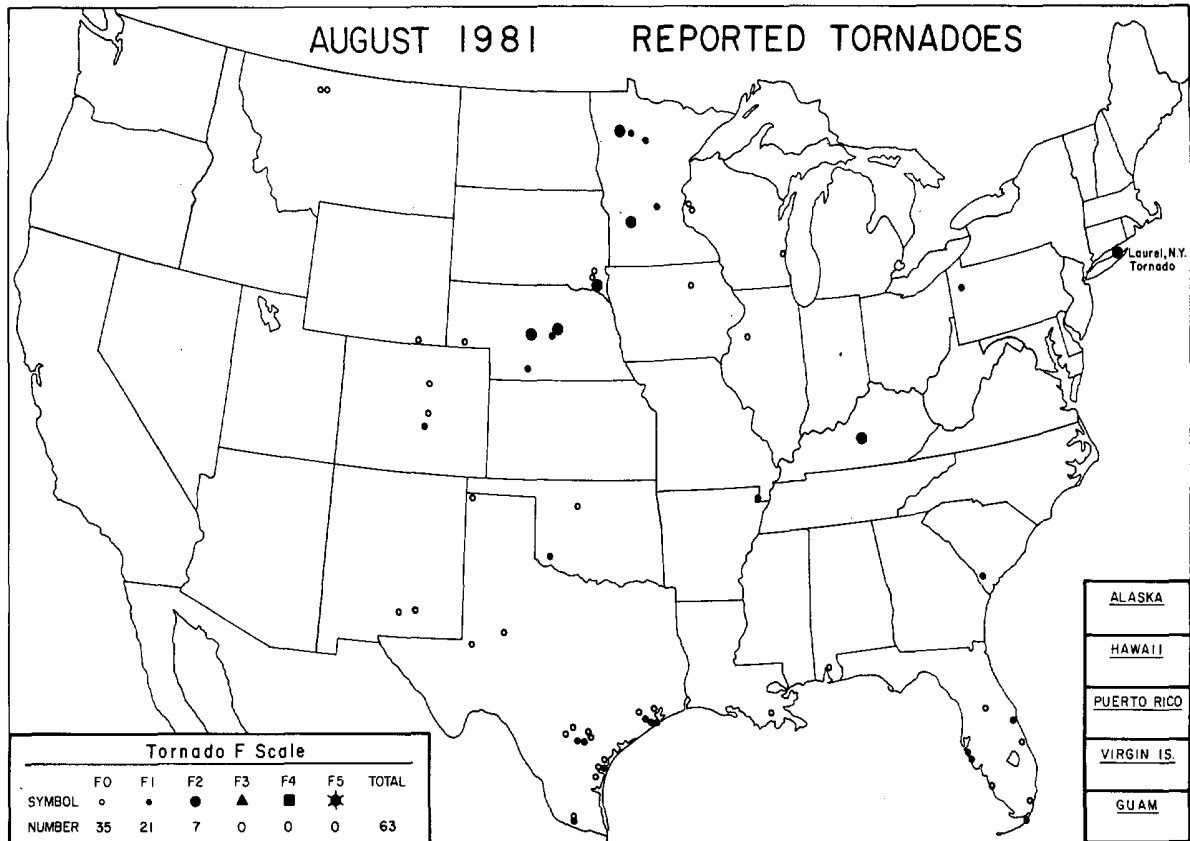
"F" SCALE DEFINITIONS

0 = 40-72	MPH	Breaks branches off trees; signboards damaged.
1 = 73-112	MPH	Peels surface off roofs; trailer houses pushed or damaged.
2 = 113-157	MPH	Tears roofs off frame houses and outbuildings; cars blown off highway.
3 = 158-206	MPH	Windows of skyscrapers smashed; frame houses destroyed; cars lifted off ground.
4 = 207-260	MPH	Skyscrapers twisted; frame houses leveled; cars blown some distance.
5 = 261-	MPH	or greater.

NOTE: This publication contains our best information on storms but, due to the difficulties inherent in collection of this type of data, it is not all-inclusive. Late Reports and Corrections will be carried quarterly.

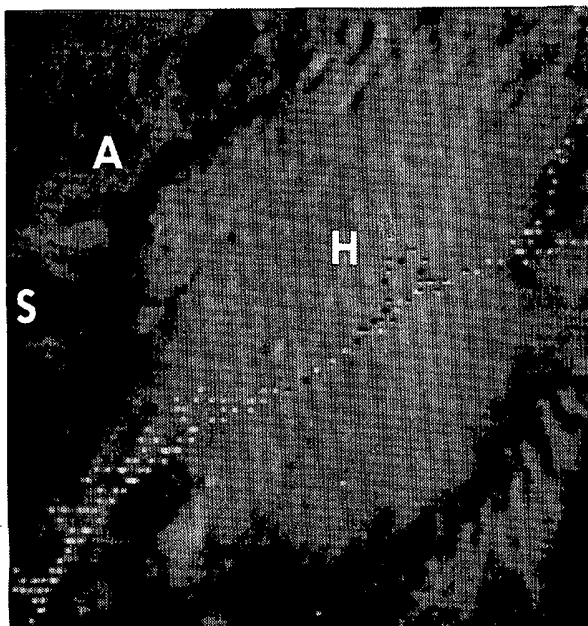
STORM DATA - (USPS 363-010) is published monthly. Subscription, pricing, and ordering information is available from: Publications Section, The National Climatic Center, Environmental Data and Information Service, NOAA, Federal Building, Asheville, NC 28801.

OUTSTANDING STORMS OF THE MONTH

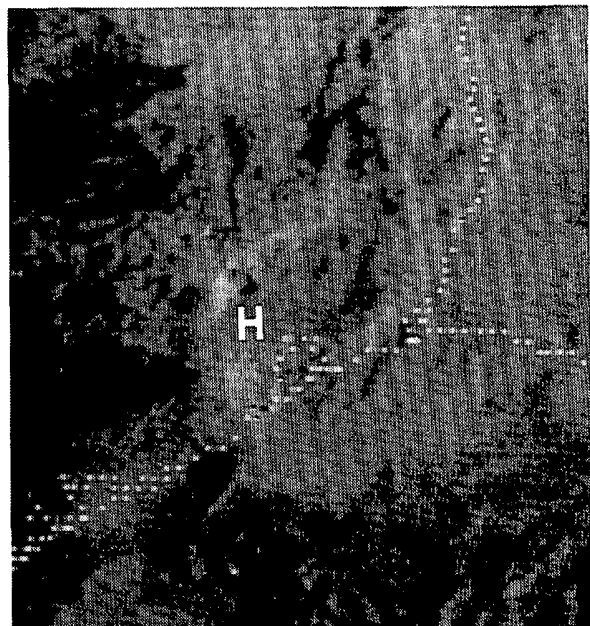


● REPORT RECEIVED					○ NO REPORT RECEIVED						
●1AL	●5CO	●10LD	●15KY	●20MI	●25NE	●30NYcoastal	●33QH	○37RI	●41TXsouthern	●45WA	●50HI
●2AZ	○6CT	●11IL	●16LA	●21MN	●26NV	●30NYcentral	●34OK	●38SC	●41TXwestern	●46WV	●51PR
●3AR	●7DE	●12IN	●17ME	●22MS	●27NH	●30NYwestern	●35OR	●39SD	●42UT	●47WI	●52VI
●4CANorthern	●8FL	●13IA	●18MD	●23MO	●28NJ	●31NC	●36PAeastern	●40TN	●43VT	●48WY	●53GU
●4CASouthern	●9GA	●14KS	○19MA	●24MT	●29NM	●32ND	●36PAwestern	●41TXnorthern	●44VA	●49AK	

1. RAINSTORM in southern Texas on August 31.

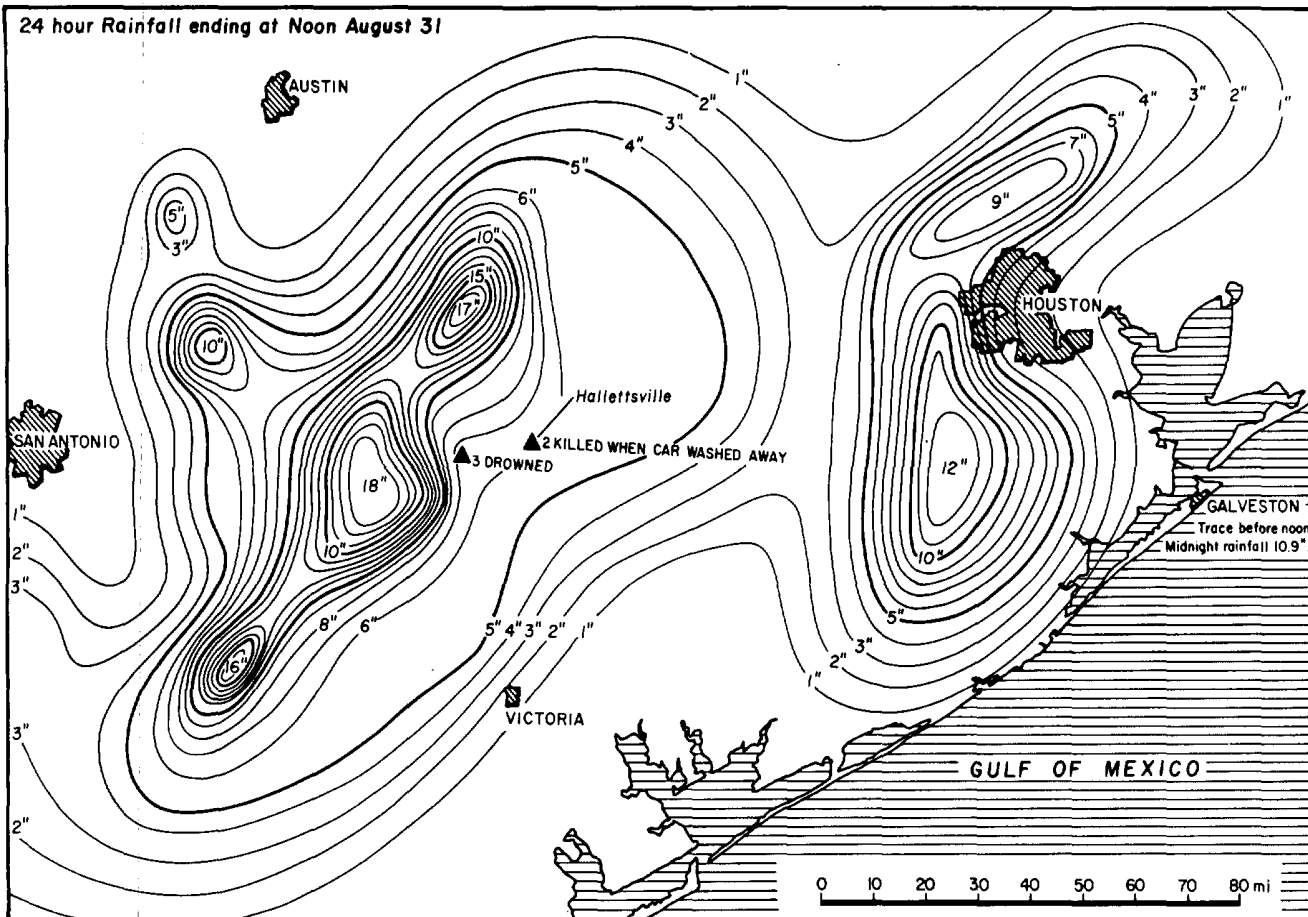


GOES East picture at 0730 CST over southern Texas. H - Houston, S - San Antonio, A - Austin.



GOES East picture at 1730 CST over Texas.

RAINSTORM in southern Texas ----- continued

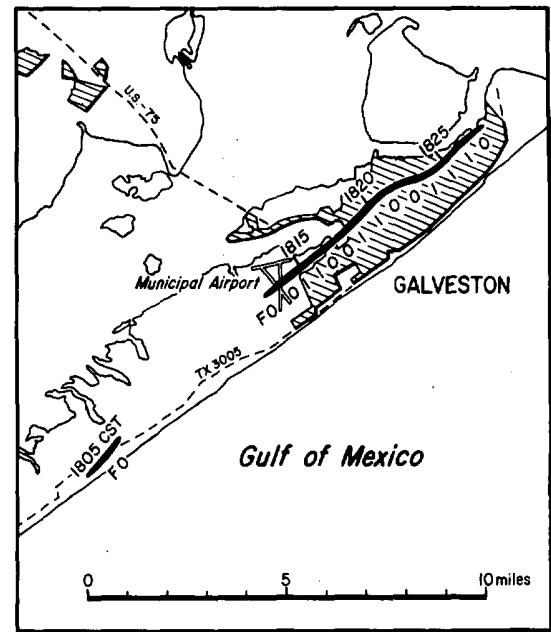
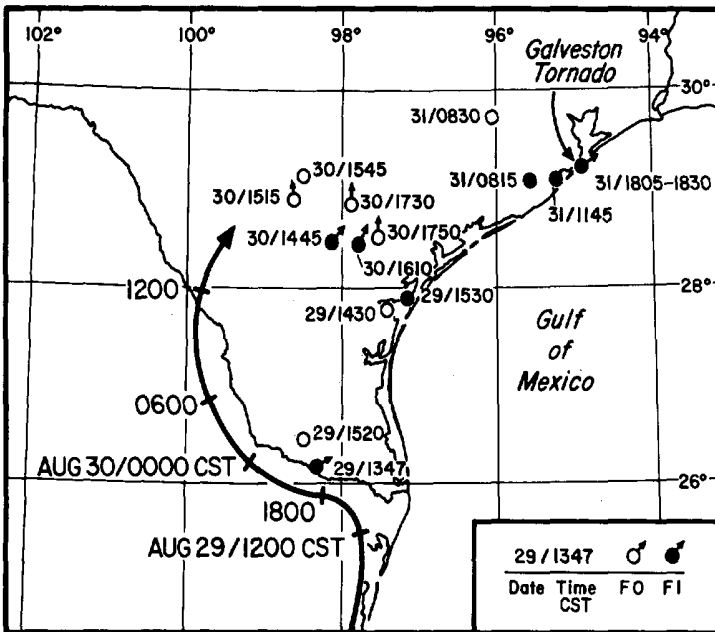


Rainfall map for the 24-hour period ending at 1200 CST on August 31. The 18" maximum is a result of an intense thunderstorm southeast of Austin at 0730 CST. The 9" maximum northwest of Houston was caused by the thunderstorm seen at 1730 CST. Information supplied by the NWSFO at San Antonio, Texas.



Picture depicting the water levels in downtown Hallettsville, Texas on August 31. Courtesy of Douglas Kubicek, Hallettsville Tribune-Herald.

2. 14 TORNADOES from the Tropical Depression of August 29 - 31.



Locations of 14 tornadoes in southern Texas, and the path of the tropical depression which spawned them. All but the Galveston Tornado were minor touchdowns of 2 miles or less.

Damage path of the Galveston Tornado. The tornado caused two injuries as it moved northeast through the city. Courtesy of the NWSFO at San Antonio, Texas.

3. TORNADO in Long Island, New York on August 5.



Damage caused by the Laurel, New York Tornado of August 5. The tornado was the strongest in recent memory on Long Island.

Left - Robert Herreros ponders over his house.

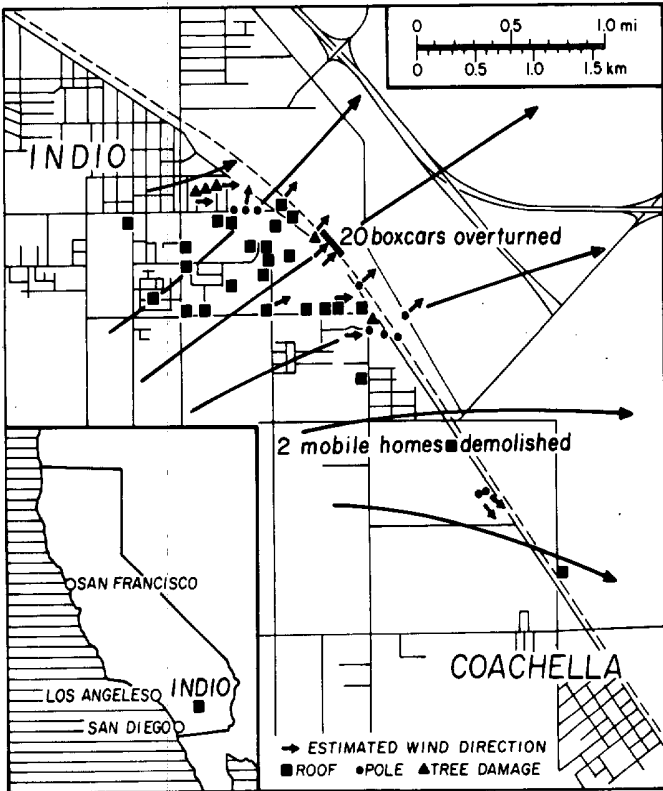
Right - Damaged house in Laurel, New York.

Courtesy of the Long Island Traveler - Watchman/Elaine Taylor.

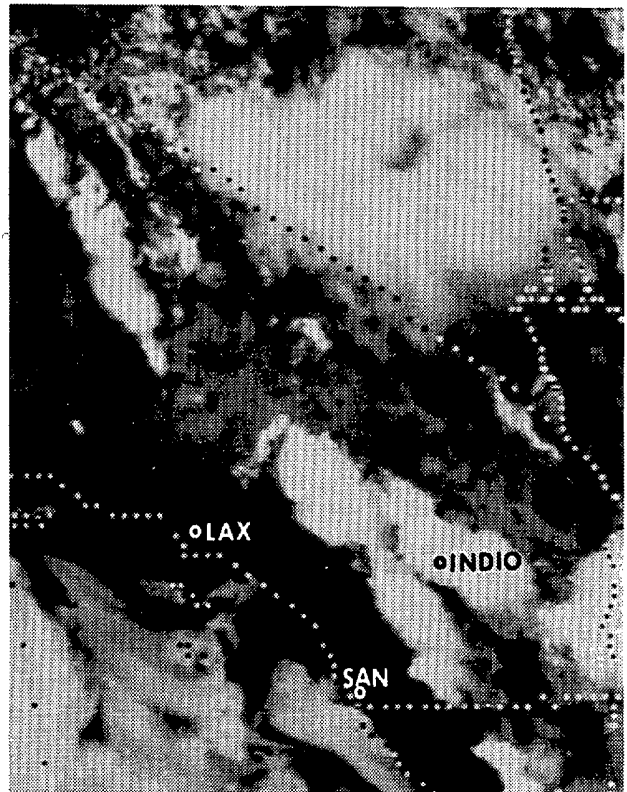
4. DOWNBURST in Indio, California on August 12.



Two of the 20 boxcars overturned in Indio at 1530 PST. Courtesy of the Daily News Indio, California. Data supplied by the NWSFO Los Angeles, Calif.

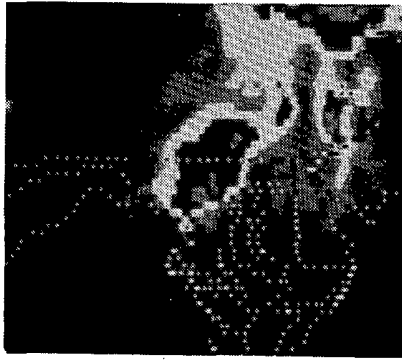


Damage map of the Indio-Coachella area. Surveyed by Mrs. Christine Mahr.



GOES West picture at 1445 PST over southern California. NESS photo.

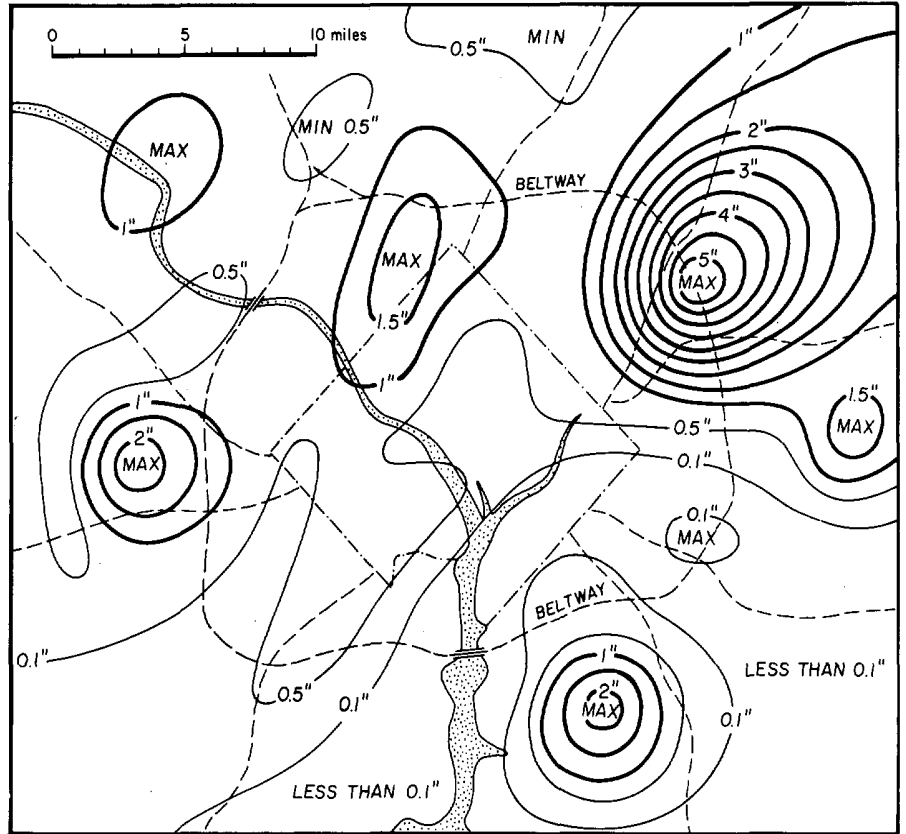
5. CONCENTRATED RAINFALL on the Washington Beltway on August 31.



0400 EST (rain started)

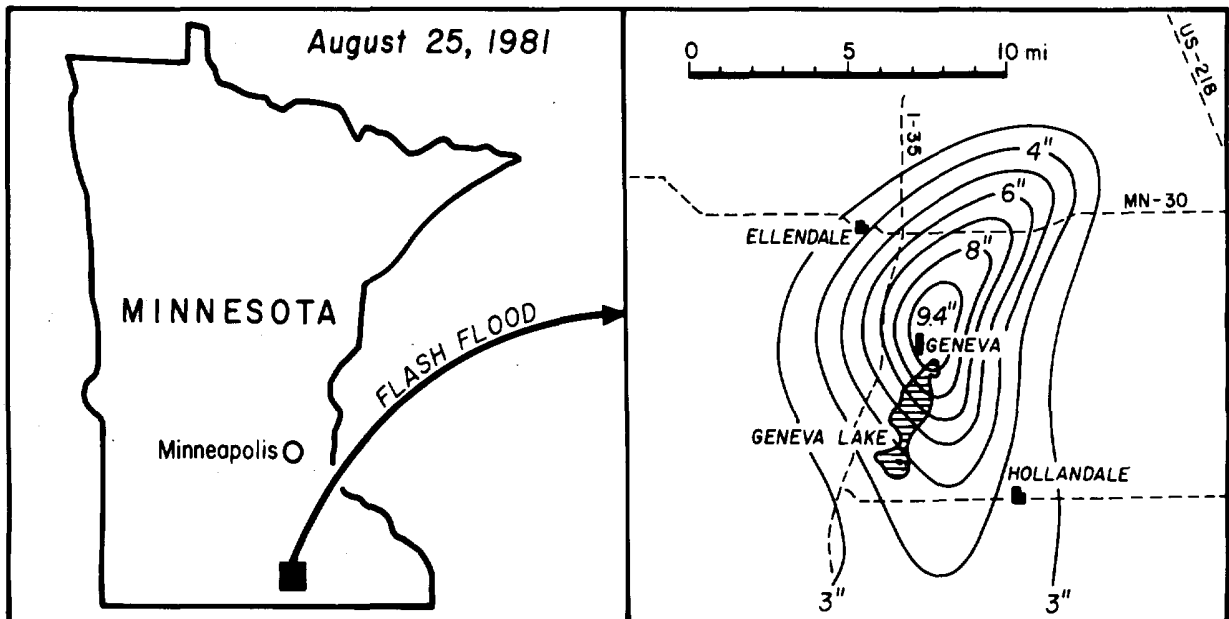


0600 EST (rain ended)



Rainfall map in the Washington D.C. area for August 31. The storm allowed some students to take a vacation from school on their first scheduled day of the fall term. Data from the Metropolitan Climatological Summaries, National Capital Area --- rainfall map plotted by Tonya James. Infrared satellite pictures from the National Earth Satellite Service.

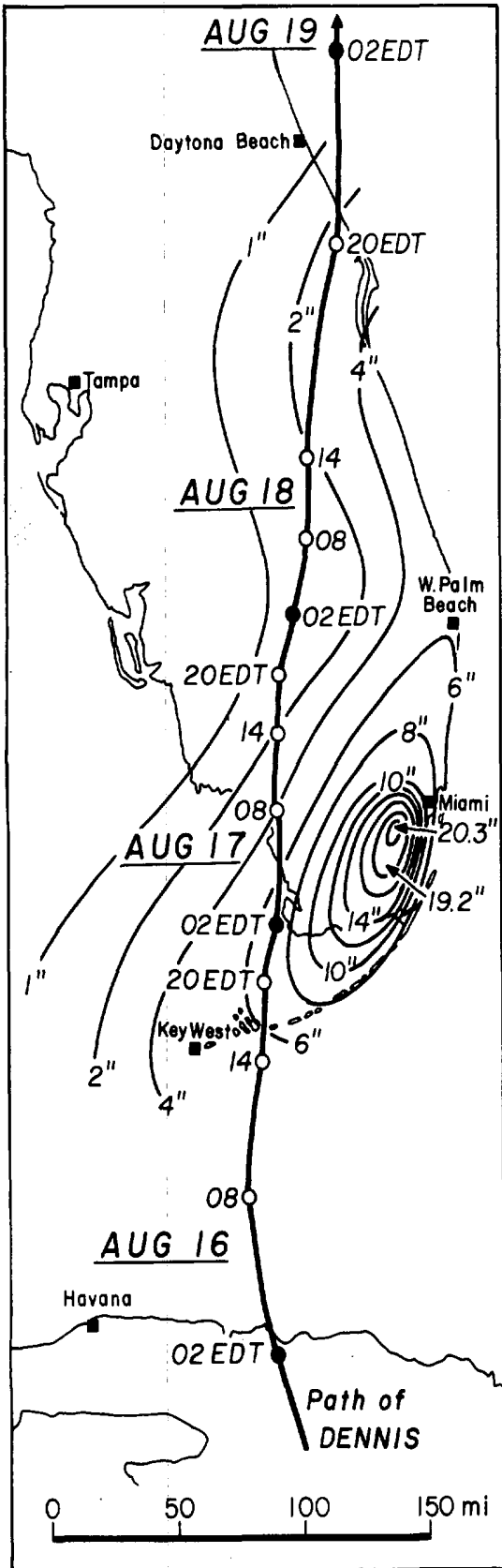
6. FLASH FLOOD in Geneva, Minnesota on August 25.



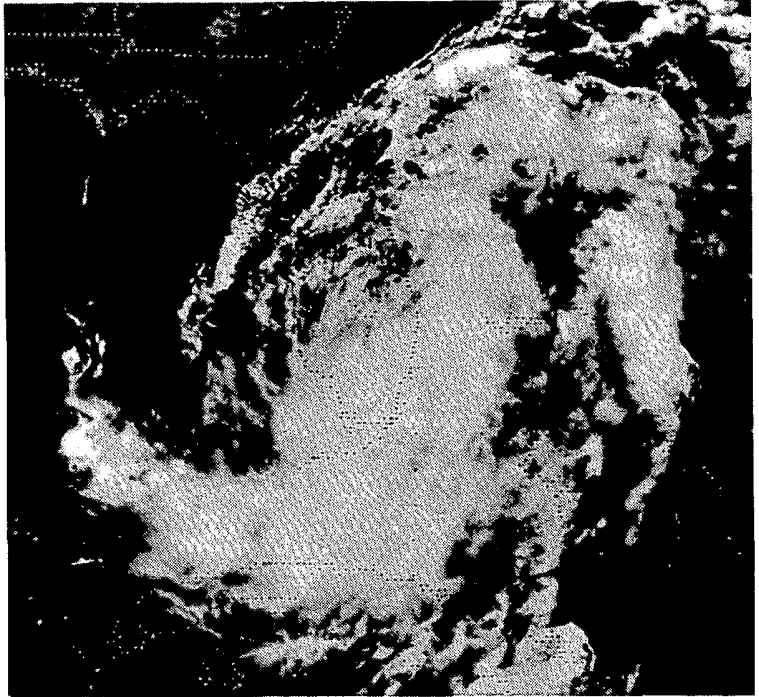
The storm began at 1845 CST and ended at midnight on August 25. Considerable damage was sustained by the potato crops in the area. Data supplied by the NWSFO at Minneapolis, Minnesota.

7. HURRICANE DENNIS and south Florida FLOOD on August 16-18

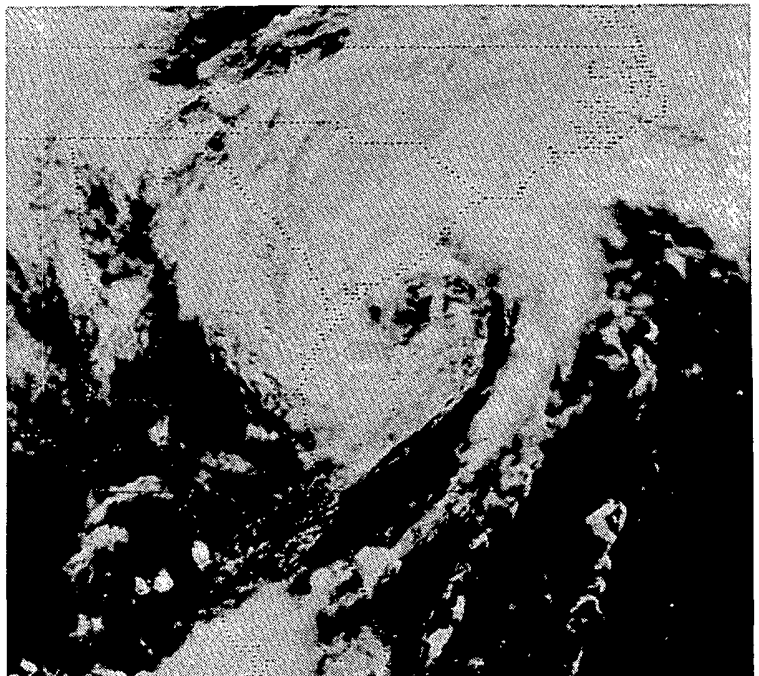
Up to 20.3" rainfall occurred in south Florida in the wake of Hurricane Dennis as shown in the total rainfall map by the National Hurricane Center. Satellite Photos from National Earth Satellite Service.



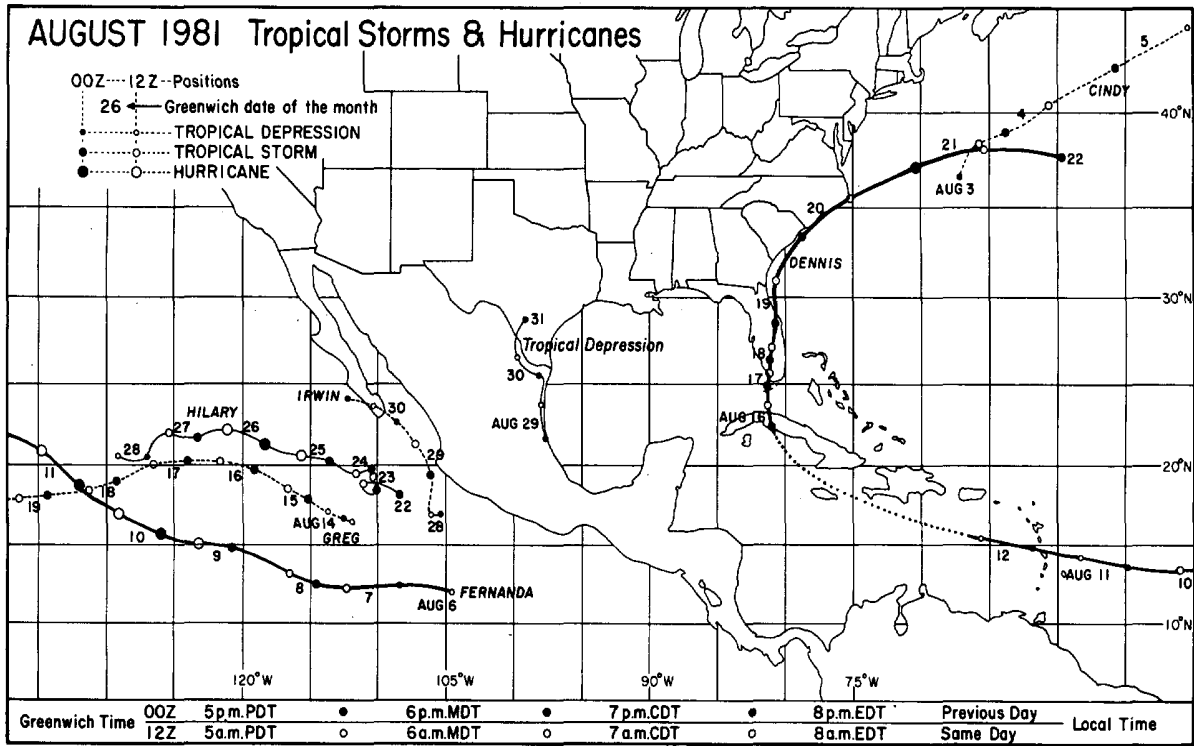
Map by Robert C. Sheets, NHC



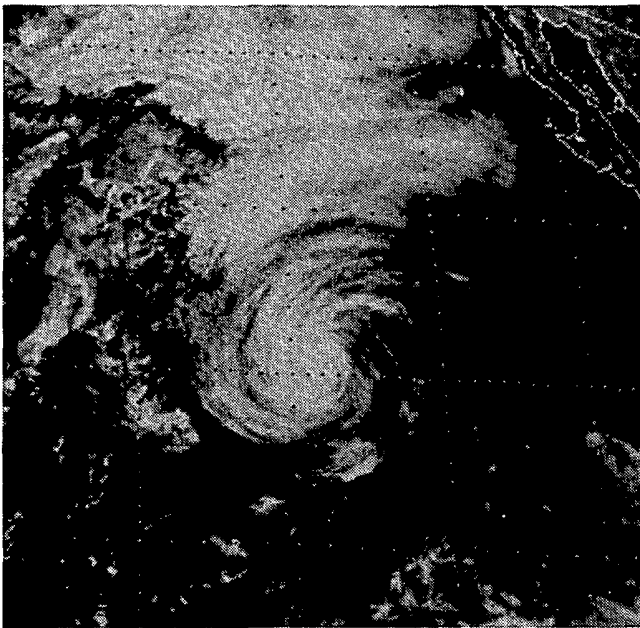
Satellite picture at 1303EDT on August 17 when heavy rainfall was in progress in south Florida.



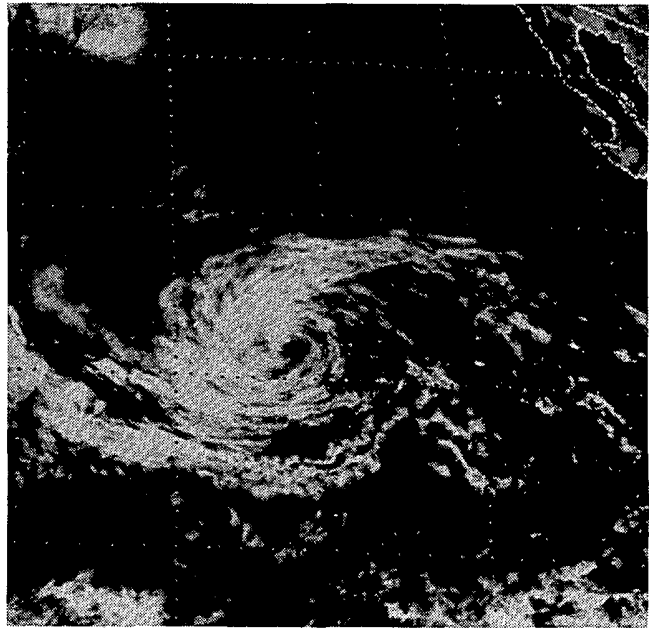
Satellite picture at 1217EDT on August 19. Dennis, accompanied by 50 mph winds, was off the coast of South Carolina moving northeast.



This map shows the paths of seven tropical depressions in August. Dennis in the Atlantic and Fernanda and Hilary in the Eastern Pacific reached hurricane strength. Dennis caused 20" rainfall and flooding in south Florida and a weak tropical depression from Mexico induced 14 tornadoes and widespread flooding in southeast Texas. Satellite photos from NWS Forecast Office, Redwood City, Calif.



Tropical storm Greg at 1615PDT on August 16. Estimated wind speed, 60mph.



Hurricane Hilary at 1115PDT (Tropical depression stage) on August 27. Estimated wind speed, 37mph.

CORRECTIONS

- An F2 tornado in Kentucky in July Tornado Map and in the Storm Description occurred on August 5 instead of July 5.
- The 4th of July waterspout photo was taken by Mr. John Coats of Slidell, La.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	

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	

1 ALABAMA

Mobile County Coastal Waters	2	1805CST			0	0	0	0	0	Waterspout
A waterspout was reported 5 miles west of Dauphin Island moving north. The waterspout apparently moved north to just off the coast, east of Bayou La Batre, Al.										
Baldwin County Coastal Waters	7	0440CST			0	0	0	0	0	Waterspout
A waterspout was reported in the Gulf of Mexico south of Gulf Shores by the Gulf Shores Police. The waterspout dissipated within a few minutes.										
Cullman area, Cullman County	7	1230CST			0	0	4	0	0	Thunderstorm
Thunderstorm winds and lightning caused extensive damage to trees, utility lines and several houses, mainly in the west Cullman area. Streets were blocked by downed trees and powerlines. Lightning struck the main police radio, knocking it out of service at the height of the storm. Lightning also set one home on fire. The fire destroyed one room of the house. A tree fell through the roof of one home. Wind equipment at the Civil Defense Office recorded a gust to 71 MPH. Marble sized hail also accompanied the thunderstorm.										
Blount County	7	1300-1320CST			0	0	0	0	0	Funnel cloud
A funnel cloud was reported over Oneonta at about 1300CST moving toward Altoona. The funnel cloud was last reported 4 miles west of Altoona at 1320CST.										
Jefferson County	7	1310CST			0	0	4	0	0	Thunderstorm
Thunderstorm winds and lightning caused numerous power outages mainly in the Homewood, Southside, Mountain Brook and Vestavia areas. Power was out to about 9,000 customers and one TV station was knocked off-the-air for about 20 minutes. This followed another thunderstorm that had crossed much of the same area around 0800CST. Damage to powerlines from this thunderstorm had not been completely repaired in some areas before the afternoon storm hit.										
Jefferson County	7	1317CST			0	0	0	0	0	Funnel cloud
Three funnel clouds reported over Cahaba Heights. A funnel cloud was reported over Bessemer a few minutes earlier headed for the Birmingham area. Pea sized hail, gusty winds and heavy rain were also reported.										
Northwest Cullman County	11	1430CST			1	0	0	0	0	Lightning
A Cullman County resident was killed by lightning in the yard of her home. The victim was found near an apple tree and officials at the scene speculated that she had been under the tree when the lightning struck. The residence is in the northwest part of Cullman County near the Cullman-Morgan County line.										
Southern Jefferson County	11	1615CST			0	0	4	0	0	Wind
Thunderstorm winds blew down trees and powerlines in the Homewood, Vestavia and Mountain Brook areas. Power service to about 10,000 homes was interrupted. A home was partially unroofed in the Homewood area, and the debris partially blocked the street. Winds gusted to 50 MPH at the National Weather Service Office on Oxmoor Road. Heavy rains and hail up to marble size accompanied the storm.										
Russell County	12	1600-1615CST			0	0	3	0	0	Hail/Wind
Golf ball sized hail beat down half an acre of corn, 2 miles south of Ladonia. Strong winds also downed utility poles, pine trees and some large oaks in the area. Golf ball sized hail was also reported in Phenix City.										
Covington County	12	1615CST			0	0	4	0	0	Lightning
Lightning caused one house fire in Opp that resulted in moderate damage. The lightning also caused scattered power outages through out the county.										
Baldwin County Coastal Waters	14	1025CST								Waterspout
A waterspout was reported between Fort Morgan and Gulf Shores.										
Marion and Fayette Counties	16	1320-1430CST			0	0	4	0	0	Wind
Thunderstorm winds caused widespread damage. Roof damage to several houses was reported along highway 17 west of Hamilton in Marion County. Trees were downed and a barn was also damaged in that area. Most of the damage in Fayette County was in the Fayette, Bluff and Concord areas. Trees and powerlines were downed and some plate glass windows blown out or broken.										
Tuscaloosa area, Tuscaloosa County	16	1330CST			0	2	5	0	0	Wind
Thunderstorm winds gusted to 58 MPH at the Tuscaloosa Airport. A small airplane was blown into a hangar while attempting to land. Both men aboard the plane were injured, one seriously. After striking the hangar, the plane was reported to have skidded almost 500 feet along the runway before colliding with two parked aircraft. Damage to the planes and hangar was estimated at about \$80,000.										
Spanish Fort, Baldwin County	18	1420CST	0.1	20	0	0	1	0	0	Tornado (F0)
A tornado touched down briefly in a grove of trees, 2 miles east of Spanish Fort.										

ALABAMA

Mobile area, Mobile County	18	1430CST			0	0	5	0	0	Wind/Lightning
A severe thunderstorm with intense lightning, blinding rain and strong winds hit the Mobile area. The lightning started numerous fires, including one when a gas storage tank was set on fire. Two tractor-trailer rigs traveling along the westbound lanes of Interstate 10 were blown on their sides. A small plane was ripped from its moorings and flipped over. A utility trailer with one man inside was blown into the Mobile River. Other workers on the scene helped the trailer occupant escape by breaking out a window in the trailer. The man was treated for a cut hand at a local hospital and released. Numerous power outages occurred. Wind gusts of 69 MPH were recorded by the Mobile Aerospace Tower at Brookley Field. Some hail also accompanied the storm.										
Glencoe, Etowah County	26	1355CST			0	0	5	0	0	Lightning
A two-story garage apartment was reported to have virtually exploded when struck by lightning. The resulting fire destroyed the structure and a tractor and two other vehicles that were inside the garage area. Three fire fighters were injured while fighting the blaze.										
Gadsden, Etowah County	27	1330CST			0	0	2	0	0	Wind/Hail
Thunderstorm winds caused tree and utility line damage. Winds to 67 MPH were recorded by the Civil Defense Office. Golf ball sized hail also occurred.										
2 ARIZONA										
Nogales (Santa Cruz Co.)	5	1600MST			0	0	5	0	0	Thunderstorm Flash Flooding
Heavy thunderstorm activity produced flash flooding on some of the streets, a trailer park and a housing complex to a depth of 2 to 3 feet. Twenty families had to be evacuated.										
Marana Air Park (Pinal Co.)	7	2340MST			0	1	0	0	0	Thunderstorm Lightning
A bolt of lightning stunned a farm worker while in his truck parked beside an irrigated cotton field.										
Mesa-Apache Jct. (Maricopa-Pinal Counties)	6-7	Evenings			0	0	5	0	0	Thunderstorm Wind
A severe thunderstorm each evening moved through the area with winds gusting to around 60 MPH. There was damage to mobile homes, signs, power lines and trees in addition to local street flooding.										
Seligman (Yavapai County)	10	Morning			0	1	0	0	0	Thunderstorm Lightning
A motorcyclist was struck by lightning while traveling on I-10 near here. The lightning passed through his body and did some heart damage and produced burns on his back and stomach.										
Kingman (Mohave Co.)	10	1930-2030MST			0	0	5	0	0	Thunderstorm Wind, Flooding
A severe thunderstorm with very heavy rain and winds gusting to 80 MPH caused damage to roofs, mobile homes, power lines and trees. Several streets and highways were closed due to flooding.										
Yuma-Somerton (Yuma Co.)	12	1700-1800MST			0	0	5	4	0	Thunderstorm Wind, Hail, Flooding
A severe thunderstorm moved through the area with very heavy rain, winds over 50 MPH and localized 1 inch diameter hail. There was damage to roofs, mobile homes, power lines, signs, and trees. Localized flooding occurred in homes, streets, and fields. There were a few lightning caused fires.										
Williams (Coconino Co.)	13	Afternoon			1	0	0	0	0	Thunderstorm Lightning
A woman was killed at Kaibab Lake, 4 miles north of here, when lightning struck her head while standing under a large pine tree. Lightning hit the tree and then a large ball of fire traveled down the trunk of the tree to the victim.										
3 ARKANSAS										
Cummins Prison - Lincoln County	3	1330CST			2	5	0	0	0	Lightning
Two prison inmates were killed and four other inmates and a prison guard were injured when lightning struck them while they were working in an okra field.										
Near Tichnor - Arkansas County	4	1545CST			1	0	0	0	0	Lightning
A thirty-eight year old man was struck and killed by lightning while standing on a barge on the Arkansas River.										
Southwest Little Rock - Pulaski County	7	1610CST								Funnel Cloud
A funnel cloud moving southward was spotted by a policeman.										

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					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	
ARKANSAS											
Hwy. 270 Near Jefferson, Grant County Line - Jefferson County	7	1707CST									Funnel Cloud A funnel cloud moving southward was sighted by storm spotter.
Near Grapevine - Grant County	7	1723CST									Funnel Cloud A funnel cloud moving southward was sighted by sheriff's deputies.
6 Miles North of Walnut Ridge - Lawrence County	15	1955CST									Funnel Cloud A funnel cloud moving southeastward was sighted by the public.
Harrison - Boone County	17	0230CST			0	0	?	0			Heavy Rain/ Flooding Heavy rains caused flooding along Crooked Creek. Official rainfall amounts noted over four inches of rain with unofficial amounts of five to seven inches. Some streets were flooded and one family had to be evacuated.
Western Little Rock - Pulaski County	24	1450CST			0	1	0	0			Lightning A woman was struck and injured by lightning in the Walton Heights area of Little Rock.
Southwestern Little Rock - Pulaski County	24	1530CST			0	1	0	0			Lightning A man was struck and injured by lightning in the County Line Road area of Little Rock.
Near Bryant - Saline County	24	1559CST			0	1	0	0			Lightning A forty-seven year old man was struck and injured by lightning as he climbed into his van.
Magnolia - Columbia County	26	1615CST			0	0	?	0			Lightning Lightning destroyed the transmitter of the KVMA-AM radio station.
4 CALIFORNIA, Northern											
Lake Isabella (Approx. 35 miles NE of Bakersfield, at the srm end of the Sierra Nevada.)	14	1500FST			0	0	0	0			Rains and Gusts Locally heavy rains and estimated wind gusts to 50 MHP.
4 CALIFORNIA, Southern											
Inyo County	12	unknown									Heavy Rain Death Valley Observer reported a flash flood had occurred near Furnace Creek. Road #178 west was closed for a time.
San Bernardino Co.	12	unknown									Heavy Rain Heavy rain caused flooding in the Yucca Valley and eastern Lucerne Valley. Extent of damage unknown.
Imperial, San Bernardino, Riverside Counties	12	Afternoon									Severe Thunderstorm A severe fast-moving thunderstorm with winds to 100 MHP moved across the eastern portion of San Bernardino, Riverside, and Imperial Counties, doing its worse damage on the south side of Indio (Riverside Co.) where it ripped 20 cars of a 100 car Southern Pacific freight train off the tracks at approximately 4:30 pm. In addition to uprooting the freight cars, roofs were ripped off several new homes and trees and power lines were toppled.
Inyo County	14	unknown									Heavy Hail Bishop weather observer reported golf ball size hail fell in the mountains near Lake Sabrina (west of Bishop). No damage reported.
5 COLORADO											
Pueblo County	2	1720MST			0	0	3	0			High winds 90 MHP winds knocked down a building in Colorado City; windows were broken and camper shells and boats were overturned.
El Paso County	2	2200-2300MST			0	0	2	0			Severe Thunderstorms Golf ball size hail fell near Monument. In Colorado Springs, three homes were damaged slightly by lightning. Up to 1.3 inches of rain fell in the city.
El Paso County	2	2244MST	0.5	15	0	0	0	0			Tornado (F0) A tornado touched down briefly just northeast of Colorado Springs.
COLORADO											
Pueblo County	5	1800MST			0	0	2	3			Hail, High Winds Golf ball size hail fell near Boone. Hail damaged beans and corn near Avondale, and high winds in that area toppled a shed.
El Paso County	5	1900-2100MST			0	1	5	0			Severe Thunderstorms Severe thunderstorms hit El Paso County from Black Forest south to Widefield. High winds and hail in Widefield uprooted trees, broke windows, and toppled power poles. In Colorado Springs, lightning strikes injured a man, damaged two homes, and burned four transformers. Black Forest was drenched with 2.78 inches of rain, and local flooding occurred throughout the area hit by the storms. Some streets in Widefield were damaged by flooding. Numerous funnel clouds were sighted in the area.
Logan, Yman, Weld Counties	6	0200-0430MST			0	1	5	5			Hail Large hail hit several places in northeast Colorado. Three and one-half inches of hail piled up at Merino, with some stones as large as baseballs. 4500 acres of crops were damaged. Many windows were broken in cars and homes as property damage amounted to \$125,000. One person was injured from flying glass, and several calves were killed. Golf ball size stones were reported in New Raymer, along with half an inch of rain in 20 minutes.
Longmont	6	1535MST			0	0	0	0			Hail 3/4 inch hail fell in Longmont.
Pueblo	6	Afternoon			0	0	6	4			Hail A severe hailstorm with stones up to golfball size hit the northern and western sections of Pueblo. Many windows were broken, and roofs of homes and cars were damaged over a large area. Total property damage was estimated at 1 million dollars. Near the city, beans, melons and corn were damaged extensively. Up to two inches of rain fell in the area.
El Paso County	6	1800MST			0	0	5	0			Flash Flood A flash flood washed out five erosion control and livestock water reservoirs just west of Black Forest, causing \$80,000 damage.
Otero County	6	1900-2000MST			0	0	4	5			Hail, High Wind Crops and farm buildings south of Rocky Ford were damaged extensively by wind and hail. 3000 acres of crops suffered 40 to 80 percent damage; farm building damage amounted to \$10,000, and a few windows were broken in homes around the area. Up to 2 1/2 inches of rain drenched the area, with hail as much as 12 inches deep.
Pueblo County	6	1900MST 1/2	15		0	0	3	0			Tornado (F1) A tornado in Pueblo West leveled a barn.
Rio Grande Cy.	7-9				0	0	3	5			Thunderstorms Heavy thunderstorms hit Rio Grande county on each of the three days. 2000 acres of crops were damaged by hail and high winds, and 78 sheep were killed. Some county roads were damaged by heavy rains.
Park County	9	Morning			2	0	0	0			Lightning Two campers were killed by lightning on the summit of Mt. Guyot, near Fairplay.
Jefferson, Douglas Counties	9	1130-1330MST			0	0	0	0			Hail 3/4 inch hail fell at Kittredge, near Evergreen in Jefferson county. About an hour later, 1 inch diameter hail was reported in southern Douglas County.
San Miguel, Montrose Cys.	9	Afternoon			0	0	3	3			Heavy rain, Hail 3/4 inch hail fell at Montrose and Norwood. Extensive flooding occured east of Montrose, and some crop and property damage was reported.
Southeastern Foothills	9	1700-1800MST			0	0	0	4			Heavy rain, Flooding Heavy rain fell at several spots in the south-eastern foothills. An inch in 20 minutes caused street flooding in Colorado Springs. The two of Penrose, between Canon City and Pueblo, was deluged with an inch and a half of rain in just 15 minutes. Heavy rain in Huerfano County caused flooding on the Cuchara River; about 100 acres of crops were damaged when the river overflowed, eroding land adjacent to it.
Chaffee County	10	1610MST			0	0	3	0			Heavy rain, Flooding A road was washed out south of Nathrop, along with a culvert.
Huerfano County	9-12				0	0	4	0			Heavy rain Repeated heavy rain caused damage to homes, vehicles, and roads at several spots in Huerfano County.
Sedgwick County	14	1845MST			0	0	3	0			Heavy rain, High wind A thunderstorm dumped up to 4 inches of rain in just 45 minutes in the town of Sedgwick, and winds of up to 80 MHP accompanied the storm. Power lines and trees were blown down, and some basements were flooded.

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					KILLED	INJURED	PROPERTY	CROPS	

COLORADO

Colorado Springs	16 0200MST	0	0	4	0	Lightning A home in Colorado Springs was struck by lightning, with damage totaling \$8,000.			
Arapahoe County	16 1455MST	1/2	20	0	0	0	0	0	Tornado (F0) A tornado touched down briefly in open country in the extreme eastern section of Aurora.
Eastern Colorado	22 1200-1600MST			0	2	3	0	Severe Thunderstorms Thunderstorms hit many areas of eastern Colorado, producing a variety of weather. Lightning injured two people in Boulder as a series of thunderstorms rolled across the northern part of the Denver Metropolitan area. At least five funnel cloud sightings were reported during these storms, including one by meteorologists at the weather service office in Denver. A quarter of an inch of rain fell in just 5 minutes at Brighton; 3/4 of an inch doused Parker in 30 minutes. Later, golf ball size hail fell to the east in Limon, and 4 inches of hail covered the ground in Monument. 60 to 70 MPH winds were reported in Colorado Springs, where lightning slightly damaged a home. Minor wind damage was reported near Boulder.	
Fremont County	26 Evening			0	0	3	3	Hail Hail up to golfball size fell in and near Penrose, damaging roofs, cars, grapes, and apples.	
Mesa County	29-30 Evening			0	0	3	0	Wind, Lightning Lightning knocked power out in a large area, and damaged several power poles. Minor wind damage was noted in Grand Junction.	
Boulder	30 1745MST			0	0	0	0	High winds 60 MPH winds were reported in Boulder.	

6 CONNECTICUT ————— NO REPORT RECEIVED

DELAWARE

Coastal Sections	20 All Day	0	0	0	0	Tropical Storm Tropical Storm "Dennis" ... before being briefly upgraded to a hurricane ... moved northeastward from the North Carolina coast, with the center some 150 miles southeast of the Delaware coastline. Northeasterly winds gusting to around 40 MPH caused some beach erosion, but no property damage was reported.			
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FLORIDA

Marion County	2 Afternoon	0	0	3	0	Funnel Clouds A funnel cloud aloft was reported 15 miles east of Ocala near Highway 40 during a thunderstorm. Strong winds accompanying the thunderstorm damaged trees, power lines, sheds, etc. ... Also marble-sized hail fell. Most of the damage was to public utilities with about \$1000 damage to private property. Another funnel cloud aloft was reported by the Fire Chief 15 miles east-southeast of Ocala near State Road 314A causing minor damage mostly to power lines.			
Monroe County	3 1401EST			0	0	0	0	Waterspout A waterspout was reported 8 miles south of Big Coppitt Key moving toward the northwest.	
Lee County	3 Late afternoon			0	0	0	0	Funnel Cloud, A funnel cloud aloft was reported over Cape Coral Lightning during a violent thunderstorm, and 3 buildings were struck by lightning. The buildings, a bowling alley and two residences, did not erupt into flames, according to the Fire Chief, but there was a great deal of smoke in each case. Local street flooding and power outages occurred. No injuries were reported.	
Manatee County	5 1810EST			0	0	0	0	Funnel clouds aloft Two funnel clouds aloft were reported 8 miles east of Bradenton.	
Escambia and Santa Rosa Counties	5 0645CST			0	0	0	0	Waterspouts Several waterspouts associated with thunderstorms were reported in the Sabine Island/Pensacola Beach area moving slowly north.	
Franklin County	5 0810EST			0	0	0	0	Waterspout The Highway Patrol reported a waterspout during a thunderstorm just offshore from the Barrier Island Resort Community on St. George Island.	
Escambia and Santa Rosa Counties	6 0800-0830CST			0	0	0	0	Funnel clouds aloft, waterspouts Several funnel clouds aloft and waterspouts were reported from Pensacola Beach to Navarre.	

FLORIDA

Dade County	10 1850EST	0	1	3	0	Lightning, During a severe thunderstorm in northeastern Dade County, one person was injured when struck aloft, wind by lightning in North Miami Beach, and a funnel cloud aloft was reported. Also, strong winds accompanying the thunderstorm blew down several trees and caused miscellaneous minor damage.			
Marion County	13 1545EST		0	2	2	0	Lightning A man and his wife were knocked to the ground and injured by flying debris when lightning struck a tree outside of an Ocala restaurant. The couple were leaving the restaurant when lightning struck a large tree in the corner of the parking lot. Police reported that debris from the tree was hot.		
Dade County	14 1240EST			0	0	0	0	Waterspouts Several waterspouts were reported off the Miami Beach area.	
Broward County	14 1604EST			0	0	0	0	Funnel cloud aloft A funnel cloud aloft was reported by the Control Tower at Ft. Lauderdale Executive Airport.	
South and East-central Florida	16-19			0	0	6	7	Tropical Storm Dennis The weather system that eventually became Hurricane Dennis was well organized as it moved off the northwestern coast of Africa on August 5, 1981. This system became a tropical depression on August 6 and was named Tropical Storm Dennis on August 7 southwest of the Cape Verde Islands far out in the Atlantic Ocean. Dennis moved westward across the Atlantic and into the Caribbean Sea during the following week, varying in intensity, ultimately moving northward over Cuba and Florida, then northeastward skirting the Carolina coasts and back out into the Atlantic. Dennis finally lost its tropical characteristics by August 22, and its remnants gradually dissipated over the north Atlantic by August 25. Dennis varied in classification during its lifetime from tropical wave to tropical depression to tropical storm, and only briefly reached hurricane status for a few hours over the Atlantic northeast of Cape Hatteras, N.C. (NOTE: Tropical Depression = 38 MPH or less; Tropical Storm = 39-73 MPH; Hurricane = 74 MPH or greater.)	
<p>Dennis was classified as a Tropical Storm, and not too well organized, during its entire passage across Florida and adjacent waters. Dennis moved very slowly, particularly over southern Florida, taking nearly three days to traverse the state. The center of Dennis moved up through the Florida Straits during Sunday, August 16, passing across the Lower Florida Keys Sunday evening and onto the lower southwest coast of the Florida Peninsula during the early morning hours of Monday, August 17. Dennis then moved very slowly north-northeastward through southern Florida finally emerging into the Atlantic again between Cape Canaveral and Daytona Beach Tuesday night and early Wednesday, August 18-19, then moving north of Florida during Wednesday morning.</p> <p>Dennis was not severe in Florida, and the worst damage by far was caused by flooding in the extreme southern sections of the state where rainfall amounts up to 20 inches were reported in parts of Dade County. Except for flood damage in the areas where excessive rainfall occurred, most of the rain was welcomed and beneficial due to drought conditions in many areas of Florida prior to the storm. It was unfortunate for south Florida that the heaviest rains missed 700-square-mile Lake Okeechobee and the Kissimmee River Basin in order to replenish the dangerously low water supply.</p> <p>Gale warnings were in effect along the entire Florida east coast and Keys at one time or another during the period from 2300EST Saturday, August 15, to 1100EST Wednesday, August 19, as Dennis moved up the state. A hurricane watch was in effect from Ft. Myers and West Palm Beach southward through the Keys from 2300EST Saturday, August 15, to 0800EST Monday, August 17.</p> <p>Since Dennis was not a well organized storm, its highest winds occurred mostly in squalls well east of the center. Wind gusts of 55 to 60 MPH were reported along the lower southeast coast Monday morning, August 17, while the storm center was over the lower southwest part of Florida Peninsula. These were the highest gusts reported anywhere in Florida during the storm period, and sustained winds were considerably lower. Because of this, wind damage was minimal around the state. Two tornadoes were reported (Plantation Key and Haulover Beach) as Dennis moved up through the Keys and Florida Bay, but no injuries or significant damage resulted. (The tornadoes are listed separately below).</p> <p>The lowest pressure in Florida, 29.47 inches, was reported as Dennis moved through Florida Bay and onshore along the lower southwest coast.</p> <p>The heaviest rainfall associated with Dennis, 10 to 20 inches, fell in extreme south Florida mostly south and east of Lake Okeechobee, with amounts between 5 and 10 inches reported along the southeast and east-central coastal strip. No excessive rainfall amounts were reported elsewhere around the state in connection with Dennis.</p>									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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		
FLORIDA										
	<p>Tides were only slightly above normal, mostly between one and three feet. Some beach erosion was reported along the east coast, but it was minor compared to the erosion that occurs during a major hurricane.</p> <p>There were no deaths in Florida directly attributable to Dennis, and no significant injuries were reported.</p> <p>The primary damage in Dennis resulted from widespread flooding which was most severe in the extreme southern part of Florida Peninsula. And of this damage to homes and crops, the biggest loss was to crops. The actual dollar damage is unknown at this time; however, preliminary estimates indicate that total damage will exceed \$15,000,000. It may be several months before the full extent of crop damage is known, since the survival of some of the groves depends upon the extent of root rot and upon how quickly fields drain. Since drainage was extremely slow in some areas, the final dollar damage amount could turn out to be considerably higher than \$15,000,000.</p> <p>The heaviest rainfall totals, around 20 inches, occurred in the southern half of Dade County. West Kendall measured 20.37 inches for the highest reported, and amounts in the 19 to 20-inch range were common all the way down through the Homestead/Florida City area. Dade's 1,000 farms on some 75,000 acres produce year-round fruits and vegetables for Florida and for many areas of the United States. Also, there are many ornamental nurseries which suffered extensive flood damage. In addition to this, flood water came into many homes and businesses in the Homestead/Florida City area and into most homes in the East Everglades area. A veteran flood control official of the South Florida Water Management District stated that he had never seen water that high in South Dade. An aerial survey indicated that a vast sheet of water averaging 6 to 24 inches deep covered an estimated 100-square-mile area along the eastern edge of the Everglades from just below South Miami to southern tip of Florida Peninsula. Water in some of the streets and lower spots was reported up to five feet deep, and transportation through the streets was by boat. Approximately 70 persons were evacuated from flooded homesites in south Dade.</p> <p>Drainage was extremely slow in some areas and on September 24, the Governor of Florida declared a state of emergency in a 7 1/2-square-mile Dade County residential area of East Everglades where standing water from Dennis remained, over a month since the 20-inch rainfall occurred. About 200 homes dot the remote, environmentally sensitive area between Southwest 112 and 168 Streets and Southwest 187 and 218 Avenues. Standing water and flooded septic tanks contaminated most wells in the area; many roads remained nearly impassable, and snakes were driven into homes by the persistent high water.</p> <p>Miscellaneous items pertaining to Dennis: 1) A 315-foot freighter was blown aground off Ft. Lauderdale; 2) 86 aircraft were evacuated from Homestead Air Force Base; 3) More than 8000 telephones, mostly south Dade, were out of service due to flooding, and it took more than one week to fix all of the phones. The telephone company reported that flood damage was estimated to \$500,000. 4) Between Noon Sunday and 0700EST Wednesday, electricity was out in about 75,000 homes and businesses in Dade, 37,500 in Broward, and 10,000 in Palm Beach Counties.</p>									
Dade County	16	1640EST	1/2	30	0	0	0	2	0	Tornado (F0)
	<p>A tornado was reported by the Florida Marine Patrol on Haulover Beach moving northwest. While the tornado reportedly was well organized, only minor damage was reported, and there were no injuries. This tornado was on the fringes of Tropical Storm Dennis which was centered over the lower Florida Keys at the time.</p>									
Monroe County	16	2302EST	1/2	30	0	0	2	0	0	Tornado (F0)
	<p>Another tornado associated with Tropical Storm Dennis was reported by Monroe County Civil Defense on Plantation Key near mile marker 89 moving northeast. Some trees were uprooted, but no injuries were reported. Dennis was centered over Florida Bay at the time near the southwest tip of Florida Peninsula.</p>									
Dade County	19	1330EST			0	0	0	0	0	Funnel clouds
	<p>Several funnel clouds aloft were reported over northwestern Dade County associated with scattered thunderstorms in the area.</p>									
Indian River County	20	1330EST	1/10	30	0	0	0	0	0	Tornado (F0)
	<p>A tornado touched down in a wooded area two miles west of Vero Beach during a severe thunderstorm. Several trees were blown down, but no other damage or injuries were reported.</p>									
Brevard County	20	1335EST	1/10	30	0	0	4	0	0	Tornado (F1)
	<p>A tornado touched down along US 1 in Rockledge during a severe thunderstorm and ripped off part of a citrus packing house roof. Damage was estimated at several thousand dollars. No injuries were reported.</p>									
FLORIDA										
Brevard County	20	1345EST			0	0	0	0	0	Funnel clouds aloft, severe thunderstorms
	<p>Two funnel clouds aloft were signed over Merritt Island during a severe thunderstorm. Widespread severe thunderstorm activity throughout the county and over much of east-central Florida resulted in locally heavy rain and street flooding in many areas.</p>									
Dade County	21	1045EST			0	0	0	0	0	Waterspout
	<p>A waterspout was reported by the Beach Patrol east of Miami Beach moving toward the north.</p>									
Alachua County	21	1445EST			0	0	0	0	0	Waterspout
	<p>A waterspout was reported over Newmans Lake in Gainesville moving toward the west.</p>									
Pinellas County	22	1050EST			0	0	0	0	0	Funnel cloud aloft
	<p>A funnel cloud aloft was sighted over Largo as thunderstorms developed over the area.</p>									
Monroe/Dade Counties	23	1637EST			0	0	0	0	0	Waterspouts
	<p>Several waterspouts associated with heavy thunderstorms in the area were reported about 5 miles north of Ocean Reef off northern Key Largo.</p>									
Manatee County	24	1730EST	1/4	50	0	0	5	0	0	Tornado (F1)
	<p>A tornado touched down at a mobile home park in southern Manatee County located west of US 41 in the Whitfield area. The tornado, associated with widespread severe thunderstorm activity in the area, damaged 29 mobile homes in about a 4-block area. Power lines and telephone lines were knocked down, and four power and light poles were snapped off. Several of the homes were heavily damaged, including five roofs blown off; however, much of the damage was to carports, awnings and porches. Several residents saw the tornado touch down. No injuries were reported.</p>									
Sarasota County	26	1420EST	1/10	50	0	0	5	0	0	Tornado (F1)
	<p>A tornado touched down near Sarasota destroying one mobile home and damaging at least five others, including several mobile homes turned over. The residents of the demolished home were out of town at the time. Witnesses reported that the home was almost blown apart, and twisted metal from the roof and living room area were scattered for about a block. No serious injuries were reported.</p> <p>The tornado was associated with a large area of thunderstorms moving through the county which also produced locally heavy rainfall, gusty winds and several funnel clouds aloft. Rainfall amounts varying from two to locally near six inches fell in about a two-hour period causing widespread street and highway flooding with water coming into some homes.</p>									
Pasco County	27	1400EST			0	0	0	0	0	Funnel clouds aloft, waterspouts
	<p>There were several reports of funnel clouds aloft over the western portions of Pasco County and waterspouts over the adjacent coastal waters.</p>									
Orange County	27	1650EST	1/10	20	0	0	3	0	0	Tornado (F0)
	<p>A small tornado touched down near Apopka just west of State Road 435 partially tearing the roof off of a mobile home and blowing down power lines. No injuries were reported.</p>									
Collier County	27	1708EST	1/10	20	0	0	3	0	0	Tornado (F0)
	<p>The County Sheriff's Office reported a tornado touchdown at the intersection of US 41 and Airport Road in Naples overturning an automobile. The tornado was associated with heavy thunderstorms in the area. No injuries were reported.</p>									
Volusia County	27	1734EST			0	0	0	0	0	Funnel cloud aloft
	<p>A funnel cloud aloft was reported about five miles south of Ne Smyrna Beach moving toward the north.</p>									
9 GEORGIA										
DeKalb County	7	1500EST			0	0	4	0	0	Wind
	<p>Strong thunderstorm winds caused damage in southeast DeKalb County. The roof was blown off a one-story medical building on Wesley Chapel Road, several trees were blown down, and a small church athletic building was heavily damaged.</p>									
Newton County	7	1548EST			0	0	4	0	0	Wind
	<p>Strong thunderstorm winds downed several large trees in the southern sections of Covington. The falling trees damaged at least two cars and two houses, and caused power outages for 600 people.</p>									
Chatham County	7	1600EST			1	0	0	0	0	Lightning
	<p>A 30-year-old Iranian student was killed by a lightning strike while jogging on Savannah Beach during a thunderstorm.</p>									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	

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	

GEORGIA

Richmond County	10	2100EST			0	0	4	0	Wind, Lightning Strong thunderstorm winds blew the roof off the Richmond Academy Field House in Augusta. Lightning strikes damaged transformers and caused power outages to about 1000 customers.
Richmond County	12	1800EST			0	0	4	0	Wind Thunderstorm winds downed several trees 5 miles northwest of the Augusta Airport. The falling trees caused minor damage to a few houses. Several TV antennas were damaged and a few small utility buildings were destroyed.

10 IDAHO

Fenn, Winoma Areas, Idaho County	14	1400PST			0	0	0	6	Hail A hail storm swept across the area during the afternoon. 40 to 100 percent of the grain crops pounded by the hail were destroyed. Estimated total damage was in excess of one million dollars.
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11 ILLINOIS

Bloomington, McLean County	5	2115CST			0	0	4	?	Wind Strong winds destroyed a machine shed near Bloomington and caused other minor property damage to the area.
McLean and Champaign Counties	9	1500-1800CST	?	?	0	0	0	?	Wind and Hail As severe thunderstorms moved into the central and eastern portions of the state, powerful winds and large hail occurred. At 3:25 pm, 3/4 of an inch of hail was reported at Bloomington, McLean County and at 4:30 pm, 3/4 of an inch of hail was reported at Padua, also in McLean County. A 54 knot gust of wind was recorded at 5:10 pm at Mohonet in Champaign County.
North portion	14	1700-2400CST			0	0	4	4	Wind Winds up to 52 knots caused scattered damage as thunderstorms moved across the northern portions of the state. High winds blew down an old barn, damaged a machine shed, and damaged machine equipment. A corn field nearby was flattened by the wind.
Oregon, Ogle County and Decatur, Macon County	25	Morning			0	0	4	0	Lightning During the morning hours lightning struck a gas stove in Oregon causing a fire in the kitchen of a home. Also during the morning, lightning struck a roof of a house in Decatur causing damage.
Galva, Henry County	25	1605CST	0.3	0.5	0	0	4	0	Tornado (FO) A tornado briefly touched down south of Galva. The funnel was first sighted at tree top level and then travelled for 4 blocks on the ground. The tornado damaged several trees and some property.
Vandalia, Fayette County	30	Evening			0	0	4	0	Lightning Lightning hit the foundation of a home in Vandalia during the late evening. A 15-foot section of the foundation was damaged and made a hole in the basement wall.
Northern two-thirds					0	4	5	4	Flooding Heavy rainfall amounts were recorded in the north and central sections during August. Some areas received up to 15 inches of rain setting new record rainfall amounts. Building and bridges were damaged and some crops were damaged as rivers and creeks once again rose about flood stage. Four people were injured in the flooding. On the 5th up to 7 inches of rain fell on parts of Macon County flooding low lying areas. On the 14th heavy rainfall flooded local areas in the northeast sections as 3 inches fell in a very short time. In Northbrook, Cook County, streets and basements were flooded. The high water in one basement caused a hot water heater to explode injuring 2 persons. In Naperville, DuPage County, flooding occurred in the morning after 3 inches fell in a half hour. Heavy rainfall amounts of 3 to 4 inches fell in the central sections. On the 31st as much as 3 inches of rain fell in Carroll County flooding basements and low-lying areas. In Collinsville, Madison County, heavy rain swept 2 boys through a drainage pipe. They suffered minor injuries. On the 27th heavy rainfall amounts in the northern part of Whiteside County caused streams to rise above flood stage. Urban flooding and flooding of low-lying areas occurred during the evening hours.

12 INDIANA

West Central Indiana Boone, Montgomery, Tippecanoe, Carroll, & Clinton Counties	80831	--	--	--	0	0	5	4	Heavy rains and flooding Thunderstorms moving through area dropped between 4 to 6 inches. Largest report was 6.26 inches at Lafayette. Numerous small streams and creeks overflowed their banks, resulting in roads being impassable and basements being flooded.
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13 IOWA

Between Hartley (O'Brien County) and Royal (Clay County)	1	1730-1830CST							Funnel Clouds Several funnel clouds sighted. No ground contact observed.
Extreme Northwest Iowa	3	1705-1940CST			0	0	0	5	Severe Thunderstorm An area of severe thunderstorms produced very heavy rain, strong winds gusting to 60 MPH and considerable pea to marble size hail. Crops in the vicinity of Melvin (Osceola County) were heavily damaged due to hail and wind. Melvin received one inch of rain in 15 minutes. Funnel clouds (recorded separately) were sighted in the Sioux City area.
Northern Fringe Area of Sioux City (Woodbury County)	3	1835CST							Funnel Cloud Funnel cloud sighted. No ground contact observed.
Sioux City (Woodbury County)	3	1840CST							Funnel Clouds Numerous sightings of funnel clouds. No ground contact observed.
Southern Muscatine and Northern Louisa Counties, Extreme Southeast Iowa	6	Approx 1900CST							Funnel Clouds (3) Funnel clouds sighted with no ground contact near Cranston (Muscatine), and Letts (Louisa) and near Grandview (Louisa).
Central Iowa	8	1825-2000CST			0	0	4	0	Severe Thunderstorm Area of severe thunderstorm produced one-half to three-quarter inch size hail in Greene County and heavy rain with strong winds gusting to 60 MPH in Polk County. Large trees were downed in West Des Moines (Polk) along with power outages and flooded streets where water was four feet deep in some areas.
Cedar, Clinton and Scott Counties in Iowa	14	Evening			0	0	4	0	Heavy Rain/ Flash and Urban flooding from 6-inch rainfall. Flooding Some bridges and roads washed out along with flooded basements.
Clinton, Iowa	14	1855CST			0	0	4	0	Severe Thunderstorm Strong winds associated with thunderstorm reached 62 MPH. Numerous trees and power lines downed. Some residences damaged by falling trees.
O'Brien and Clay Counties, Extreme Northwest Iowa	25	1445-1640CST			0	0	3	4	Severe Thunderstorm Thunderstorm produced very heavy rain, strong wind and hail. Golf ball size hail fell 4 miles north of Hartley (O'Brien) with pea to marble size hail over remainder of area. Several tree branches broken and some crop damage.
Mason City (Cerro Gordo)	26	1630-1735CST							Funnel Clouds Numerous cold air funnel clouds observed. No ground contact observed.
5 Miles Northwest of Clear Lake (Cerro Gordo)	28	2300CST							Funnel Cloud Funnel Cloud sighted. No ground contact observed.
Near Nashua (Chickasaw County)	28	1615CST	Short	?	0	0	0	0	Tornado (FO) Brief touchdown of tornado in rural area. No discernible damage.
South of Waterloo (Black Hawk County)	28	1620CST							Funnel Cloud Funnel cloud sighted. No ground contact observed.
Southeast Ringgold County	30	0430-0630CST			0	0	4	0	Severe Thunderstorm Heavy rain, strong wind and small hail damaged property and crops. A chute was torn off a silo and a roof on a barn was partially destroyed on a farm 6 miles south and 9 miles east of Mount Ayr. Some cattle were killed by lightning.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	PROPERTY	CROPS	
14 KANSAS											
Saline County	2	0000-0100CST			0	0	3	0	0	0	Wind
Thunderstorms accompanied by strong wind gusts crossed the county. The winds ripped the side of a barn near Solomon.											
Northern Shawnee & Southern Jackson Counties	3	0000-1200CST			0	0	4	4	4	4	Rain
Three to five inches of rain fell upon the already saturated area causing large runoff. Soldier Creek and many small streams went out of banks. One house and many acres of farmland were flooded. Some roadways and culverts were washed out.											
Sherman County	4	2010CST			0	0	0	0	0	0	Wind
Thunderstorm winds gusted to 60 MPH 10 miles west of Goodland.											
Concordia, Cloud County	6	0900-1000CST			0	0	3	0	0	0	Wind
A thunderstorm developed just west of Concordia and moved east across the county. Winds gusted to 60MPH at Concordia at 0912CST and left minor damage to buildings and trees.											
Reno, Sedgwick, Sumner and Cowley Counties	6	1245-1515CST	85	15	0	3	6	6	6	6	Wind, Hail
A line of severe thunderstorms packing winds greater than 80 MPH and golfball size hail moved south southeast through South Central Kansas from Hutchinson to the Oklahoma border south of Arkansas City. A woman was injured in Hutchinson when her mobile home overturned and 2 others sustained minor injuries when their mobile home near Arkansas City was wrecked. More than 100 homes sustained damage. A few were leveled and several lost their roofs. The winds snapped nearly 100 power poles, downed many trees and damaged crops.											
Wind speeds reached 68 MPH at the Wichita Airport at 1401CST and 58 MPH at McConnell Air Force Base at 1415CST. Golfball size hail fell west of Arkansas City at 1513CST.											
The worst damage occurred in a strip 2 to 4 miles wide from south of Mt. Hope through Andale and Schulte, just missing the west side of Wichita, then south southeast through Belle Plaine, Oxford and Gueda Springs.											
Atchison, Atchison County	9	1800CST			0	1	0	0	0	0	Lightning
A woman suffered first degree burns on her arm when she and a tree near her were struck by lightning.											
Marion and Southwest Morris Counties	9	Evening	20	880	0	0	4	4	4	4	Wind, Hail
A severe thunderstorm packing damaging winds and hail the size of golfballs crossed the listed counties. It laid down a damage path from near Romona to Diamond Springs. Trees were uprooted, crops shredded, and some farm outbuildings were damaged.											
Cloud County	25	0200-0300CST			0	0	0	0	0	0	Wind
A line of thunderstorms accompanied by a cold front crossed the county. The wind speed reached 58 MPH briefly at Concordia at 0250CST. No damage was reported.											
Wichita, Sedgwick County	25	1555CST			0	0	0	0	0	0	Wind
A thunderstorm wind gust reached 58 MPH at McConnell Air Force Base. It caused no damage.											
Parsons, Labette County	25	2000CST			0	0	5	0	0	0	Lightning
Lightning struck Faith United Methodist Church in Parsons. The resulting fire destroyed about 30 percent of the building.											
Rice County	30	1200-1300CST	15	400	0	0	4	0	0	0	Wind
Thunderstorm winds laid down a path of damage from northwest of Lyons eastward to Little River. Part of the roof of a mobile home was torn off in Little River and outbuildings were damaged at farmsteads along the path.											
Abilene, Dickinson County	30	2143CST			0	0	0	0	0	0	Wind
Thunderstorm wind gusts estimated at 60 MPH hit Abilene. No damage resulted.											
Barnes, Washington County	31	0045-0130CST			0	0	4	4	4	4	Wind, Hail
A thunderstorm produced strong wind gusts and golfball size hail in and around Barnes. Farm homes and outbuildings sustained minor damage.											
Kingman County	31	1645-1830CST			0	0	4	4	4	4	Wind, Hail
A cluster of thunderstorms sat nearly stationary between Kingman and Rago. Golfball size hail shattered windows and damaged roofs. Wind speeds reached an estimated 70 mph at Rago at 1810CST.											
SPECIAL HAIL SUMMARY											
Kansas-Oklahoma Hail Loss Service reports indicate hail was especially damaging to crops on the following dates in the listed counties.											
6	Nemaha										
9	Haskell, Stanton, Stevens										
15	Gray										
15 KENTUCKY											
Green, Adair Casey, Taylor	5	2000EST			0	3	4	3	3	3	Severe Thunderstorm
An isolated severe thunderstorm moved through South Central Kentucky producing the Taylor City tornado and causing wind damage to a 4 county area. Trees were downed as well as substantial power line outages. Near Mercer KY on Herrington Lake a dock was destroyed and several boats sank.											
Taylor County 3 west of Campbellsville	5	2200 EST	1	10	0	3	4	3	3	3	Tornado (F2)
A small tornado touched down briefly in Taylor County tearing roofs off a number of buildings and downing many trees. The most extensive damage occurred at Dobson Camper Sales on Highway 68, where 5 campers were severely damaged. At the Batesville Casket Company substantial damage was also reported. In addition several lines were damaged when tree limbs blew into them.											
16 LOUISIANA											
LaRose, Lafourche Parish	11	1445CST	Short	10	0	2	3	0	0	0	Tornado (F1)
A waterspout formed over the industrial canal near the shipyard in LaRose, then moved over land through the shipyard before returning to the parent cloud. Two workers were injured when the tornado slammed into a construction trailer collapsing a scaffold and sending a man to the ground with lacerations and minor fractures; another man was injured by flying debris, both were hospitalized. The tornado also tore up a large billboard after moving through the shipyard.											
Metairie, Jefferson	18	1900CST			0	0	2	0	0	0	Lightning
A lightning bolt ignited fumes from an underground storage tank vent at a service station.											
Coushatta, 36 SE of Shreveport, Red River Parish	18	1330CST			0	0	4	0	0	0	Lightning
Two oil storage tanks were ignited after being struck by lightning.											
Monroe, Ouachita Parish	25	1430CST			0	0	3	0	0	0	Lightning/Hail Heavy Rain
Lightning and high thunderstorm winds downed trees and power lines while heavy rains caused urban flooding to damage some homes. Marble-sized hail also fell during the storm.											
Caddo and Bossier Parishes	26	1600-1700CST			0	0	3	0	0	0	Lightning/Hail Severe TSTM
A line of severe thunderstorms moved east through Northwest Louisiana. Heavy rain caused urban street flooding, golfball-sized hail reported and numerous trees, powerlines and telephone lines were blown down in Shreveport and Bossier City. An oil tank caught fire at 1700CST after being struck by lightning.											
Alexandria, Rapides Parish	30	1400CST			0	0	3	0	0	0	TSTM Winds
A large billboard blew over onto a small building destroying the sign and damaging the roof of the building.											
17 MAINE											
Bangor, Penobscot County	14-16	1900EST			0	0	0	0	0	0	Heavy Rain
Heavy rain totalling 4.23 inches in 48 hours caused flooded roads within the city.											
Aroostook County	17	0845EST			0	0	7	6	6	6	Flash Floods
Heavy rain totalling nearly 7 inches extensively damaged homes, businesses, and roadways. Basements were flooded, roads were washed out, bridges swept away and rail, water and sewer systems were damaged in the Caribou-Washburn-Fort Fairfield-Limestone-Mapleton area. Families were stranded in their flood-surrounded homes. In Caribou, a house was swept away in the rush of water down Spring Brook, a small tributary to the Aroostook River. Also, a trailer park was evacuated when culverts behind Salmon Brook Dam couldn't take care of the water. U.S. Route #1 was closed when the Prestile Stream flooded and washed over the road. There was damage to the potato fields in the area of Fort Fairfield, Woodland and Nade. It was estimated that 300 acres of topsoil was washed away. Washburn lost its water supply for a period of two days due to a broken water main. Caribou reported 6.7 inches of rain which broke the record of the most precipitation in 24 hours, from one storm and for the day. Washburn reported 6.9 inches of rain.											

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1961

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	KILLED	INURED	PROPERTY	CROPS	
18 MARYLAND and D.C.													
Pocomoke City	12	Mid-Day			0	0	4	0					Rain
		Around 5 inches of rain in a 3-hour period caused many streets to be flooded for a short time. The main damage occurred at a local department store, when a large leak was caused by the weight of water on the roof.											
Prince Georges County	31	0500-0800EST			0	0	4	0					Rain
		Thunderstorm activity brought heavy rain to portions of the County, with amounts of between 4 and 5 inches reported in New Carrollton and Lanham during a 3-hour period. One Lanham family had to be evacuated when high water damaged the foundation of their home while several people were rescued from a stranded auto. In addition, many basements were flooded and some road damage reported.											
19 MASSACHUSETTS ————— NO REPORT RECEIVED													
20 MICHIGAN													
Lake Linden, Houghton County	1	1630CST			2	1							Lightning
		Man working under car and girl standing under nearby tree killed. Man standing under tree injured.											
3 miles SSE Monroe Center, Grand Traverse County	7	1430CST					1	4					Lightning
		Part of barn collapsed when struck. Man inside injured.											
5 miles W Algonac, St. Clair County	7	1450CST											Funnel Cloud
1 mile E Lakeport over Lake Huron	7	1930CST											Funnel Cloud
Near Hubbard Lake, Alpena County	8	2000CST							5				Lightning
		Sawmill destroyed by fire.											
Frankenmuth, Saginaw County	12	0400CST								5			Lightning
		Apartment building burned.											
Manistee, Manistee County	29	Afternoon								1			Lightning
		Woman in house slightly injured as lightning damaged electrical system.											
Clinton, Lenawee County	29	1830CST								1			Lightning
		Man struck while hanging on to metal chimney.											
21 MINNESOTA													
Kerkhoven (Swift Co.)	1	Morning							4	2			Wind
		High winds swept across J. Randall farm south of Kerkhoven early Saturday morning destroying several farm buildings, machinery and crops.											
New London, Spicer (Kandiyohi Co.)	1	0615CST									3		Wind
		High winds downed several trees and knocked out power lines.											
Browerville (Todd Co.)	1	0800CST	2 block area					2	1				Wind
		Strong winds damaged a two block area uprooting trees which were reported by a radio station as laid out in a northeast direction. Gardens were also flattened.											
Red Wing (Goodhue Co.)	1	1030CST								4			Lightning
		Lightning struck 17 head of cattle. Two survived.											
Ponema (Beltrami Co.)	2	1355CST	0	0	0	0	0	2	0				Hail
		Golf ball size hail reported.											
Nebish, Puposky (Beltrami Co.)	2	1416CST	3	714	0	0	2	3					Tornado (F1)
		Tornado not accompanied by only howling winds touched down in Nebish damaging a 32 acre field of corn. It then traveled into Puposky, damaging many trees and lifting the roof off a hay shed. The tornado was reported to have had three funnels and to have zig-zagged across the corn field. It was also reported as not being on the ground at all times.											
Lower Red Lake Res. (Beltrami Co.)	2	1416CST	0	0	0	0	0	0	0	0	0		Waterspout (F0)
Lake Andrusia (Beltrami Co.)	2	1442CST	0	0	0	0	0	0	0				Funnel
Bald Eagle Center (Cass Co.)	2	1530CST	1/2	400	0	0	6	0					Tornado (F1), Hail
		Tornado touched down about 9 miles east of Cass Lake. This time it was accompanied by rain, lightning and 1/2" to 3/4" hail which covered the ground in some places to a depth of one inch. Tornado hit a recreation center but most damage was done to trees.											
MINNESOTA													
Sanborn (Redwood Co.)	3	0930CST										2	Wind
		A strong wind blew down some trees and ruined a swing set.											
Beltrami (Polk Co.)	5	1333CST	0	0	0	0	0	0	0	0	0		Funnel
		Funnel sighted.											
Section 19, Sinclair Township (Clearwater Co.)	5	1530CST	3/4	10-75	0	0	3	0					Tornado (F2)
		Tornado toppled trees, decimated about 60 hay stacks on one farm, took down a TV antenna, ripped a chicken house off its foundation and swept away an out house. Ball lightning was reported entering a house in two places--one of which was through a telephone. It bounded along the piano keyboard and around the living room causing only minor damage.											
5 mi. SW of Renville (Renville Co.)	5	aft/eve	?	?	0	0	5	0					Tornado (F2)
		Tornado turned over a grain bin and destroyed a landmark log cabin. Trees were torn and twisted as well. Three separate funnels were reported in the Renville/Sacred Heart area but no tornadoes were confirmed or damage reported.											
Benedict (Cass Co.)	5	1605CST	0	0	0	0	0	0	0	0	0		Funnel
		Funnel reported east of Benedict on west shore of Leech Lake.											
5 mi. W of Greenwald (Stearns Co.)	5	1745CST					0	0	4	0			Wind
		Winds tore off the top 20 feet of a 70' silo and destroyed the silo house and pump next to the silo. The barn roof was damaged as were some trees and corn.											
Prinsburg (Kandiyohi Co.)	5	1830CST	0	0	0	0	0	0	0	0	0		Funnel
		Funnel sighted by Deputy Sheriff.											
Cosmos (Meeker Co.)	5	1840CST	0	0	0	0	0	0	0	0	0		Funnel
		Funnel sighted six miles west of Cosmos. Numerous other reports were received of funnel sightings by the public and law enforcement agencies.											
Perham Airport Inman Township (Ottertail Co.)	5	night	0	0	0	0	0	5	2				Wind
		Strong winds toppled trees damaging a mobile home, destroyed a hangar and at least severely damaged one small airplane. Also two inches of rain fell in about 45 minutes.											
Pickere Lake (Wright Co.)	5	1930CST	1/4	200	0	1	4	0					Tornado (F1)
		Small tornado crossed a lake and destroyed a cabin near South Haven.											
Floodwood-Meadows Area (St. Louis Co.)	5	2030CST	0	0	0	0	0	0	0	0	0		Rain, Wind
		Heavy rain varied from two inches at Van Buren to 5.28 inches at Elmer Township. The rain lasted for approximately one hour and was accompanied by strong winds and hail. Trees were uprooted or broken off and a power outage lasted about two hours.											
Lake Park, Marshall Lake (Becker Co.)	10	1700CST							2	4			Hail
		Rains of up to 2" in half an hour and golf ball size hail to a depth of 3" in some places caused extensive crop damage and some property damage.											
Sauk Centre (Stearns Co.)	12	?										2	Wind, Hail
		Strong winds and golf ball size hail damaged some crops.											
Thief River Falls (Pennington Co.)	21	0511CST			0	0	0	0	0	0	0		Hail
		1" hail reported but no damage was reported.											
Ellendale (Steele Co.)	25	1845CST-Midnight			0	0	4	6					Rain
		About 5 to 8 1/2 inches of rain was measured the night of the 25th into the morning of the 26th, flooding the Jimmie Olson farm 4 1/2 miles east of Ellendale. Water was 18" deep in the basement and 4 feet deep in the yard. Other minor and urban flooding was reported throughout the area. Telephone equipment was knocked out leaving Ellendale isolated in terms of telephone communications for 24 hours. In addition, Gaylord (Sibley Co.) reported 3.21" and some flooding.											
Freeborn Co.		Heavy rain fell over the northern portion of the county affecting approximately 72 sq. mi. in the Geneva, Clark's Grove and Hollendale areas. Rainfall amounts ranged from 6" to 10". Approximately 41,068 acres of crops were affected as were many farm buildings and homes. (See map in outstanding storms of the month.)											
Holdingford (Stearns Co.)	25	1345CST			0	0	2	0					Lightning
		Lightning struck a house blowing a hole in its side. No fire was started. Several residents reported damage to appliances because of the strike.											
Geneva (Freeborn Co.)	26	1245CST			0	0	0	0	0	0			Funnel
		Funnel sighted just west of Geneva.											

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					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	
MINNESOTA											
Brooks (Red Lake Co.)	31	0830CST			0	0	4	0	0	0	Wind
Strong winds raced through Brooks toppling small buildings, TV antennas and trees. One radio tower was twisted off at the base and four empty box cars were pushed about 200 yards down a track damaging a switch as it passed through. One and one-half inches of rain was received in less than one-half hour.											
22 MISSISSIPPI											
Starkville (Oktibbeha Co.)	16	1430CST			0	0	3	0	0	0	Thunderstorm, High Winds
Gusty winds from a heavy thunderstorm destroyed a prefabricated metal building used for crop growth research at the Mississippi Agriculture and Forestry Experiment Station. The winds also lifted a mobile office off its wheels.											
Magee (Simpson Co.)	17	1800CST			0	0	4	0	0	0	Lightning
Lightning struck oil storage tanks near Magee, causing explosions and fire which destroyed two of three tanks at the facility.											
18 N Gulfport (Harrison Co.)	19	1335CST			0	0	0	0	0	0	Hail
Marble size hail was reported by Harrison Co. Civil Defense.											
Forest (Scott Co.)	31	1400CST			1	0	4	0	0	0	Thunderstorm High Winds
Gusty winds during a thunderstorm blew a very large and partially rotten limb off an old oak tree, and a 15-year old boy was killed as the limb fell through his trailer home while he was watching television.											
23 MISSOURI											
Stoddard	7	2200CST			0	0	2	0	0	0	Damaging Wind
Tree limbs down and power outages at Dexter.											
Ripley	15	1800CST			0	0	1	0	0	0	Damaging Wind
Trees uprooted at Doniphan.											
Howell	15	PM			0	0	1	0	0	0	Damaging Wind
Trees uprooted at Mountain View.											
Polk	15	2030CST			0	0	3	0	0	0	Damaging Wind
Trees uprooted and telephone lines down. Damage was vicinity of Humansville.											
Jasper	25	1500CST			0	0	4	0	0	0	Damaging Wind
Tree uprooted and crashed through house at Carthage. Other trees uprooted and some power outages reported. Winds were estimated at 75 MPH.											
Holt	25	AM			0	0	1	0	0	0	Damaging Wind
Trees uprooted at Mound City											
Howell	26	AM			0	0	5	0	0	0	Lightning
36 cows killed at one farm. Loss is estimated at \$50,000.											
Dunklin	27	1030CST	1	50	0	0	4	0	0	0	Tornado (F1)
A mini-tornado touched down 1 mile southwest of Senith near route C. A trailer was lifted and turned over. Some panels were damaged.											
Ralls	30	1600CST			0	0	5	0	0	0	Damaging Wind
Two buildings destroyed and a porch blown off a house at Palmyra. Many windows broken and some trees down.											
Pulaski	31	1835CST			0	0	?	?	0	0	Large Hail
Golf ball size hail reported at Dixon. Some minor wind damage also reported to trees.											
24 MONTANA											
Dawson, Prairie, Custer, Wibaux, Fallon Counties	1&2	Evening			0	3	5	6	0	0	Wind/Hail
Hailstorms and high winds hit the 5-county area on both the 1st and 2nd. The hardest hit rural areas were around Lindsay and Bloomfield in Dawson County and Kinsey in Custer County. Hail was the size of softballs and winds of 75 MPH. Trailers and trucks were blown over in Glendive and the roof of a motel was blown off.											
Shelby, Toole County	2	Evening			0	0	0	0	0	0	Tornado (F0)
Tornado touched down briefly near the Shelby airport.											
Shelby, Toole County	2	Evening			0	0	0	0	0	0	Tornado (F0)
Tornado touched down briefly near the Shelby airport.											
MONTANA											
Hogeland-Turner Northern Blain County	4	1700-1800MST			0	0	0	6	0	0	Hail/Rain
3/4 inch hail and heavy brief rain caused 60 to 90% crop losses.											
Northern Toole County	4	Evening			0	0	0	7	0	0	Hail
One inch hail destroyed 40,000 acres of barley and wheat.											
Denton, Fergus County	4	Night			0	0	5	0	0	0	Lightning
Severe lightning storm destroyed home.											
Southern Flathead County	18	Afternoon			0	0	5	6	0	0	Wind/Hail
Strong winds and 3/4 inch hail destroyed crops south of Kalispell--near the north end of Flathead Lake.											
Deer Lodge County	18	1700MST			0	1	0	0	0	0	Lightning
One man injured by lightning while playing golf.											
Great Falls Cascade County	19	1600-1700MST			0	0	5	0	0	0	Wind
77 MPH winds with a thunderstorm did some damage in Great Falls.											
Musselshell County	21	Afternoon			1	1	0	0	0	0	Lightning
Lightning killed area rancher and injured his son while they were combining wheat.											
Butte, Silver Bow County	24	1700MST			0	0	5	0	0	0	Wind
75 MPH winds accompanied a thunderstorm across the Butte area.											
25 NEBRASKA											
Antelope County	1	0900CST			1	0	0	0	0	0	Lightning
A 17 year old girl was killed in an open field near Tilden when struck by lightning.											
Holt County	1	1300-1500CST			0	0	2	3	0	0	Flash Flooding
Heavy rains caused flooding with up to 8 inches of rain reported north of O'Neill. County roads north of O'Neill were washed out. Fields suffered soil erosion.											
Holt County	1	1300-1500CST			0	0	4	5	0	0	Hail and Lightning
Half inch hail fell in an area 3 miles wide and 6 miles long 1 mile north of O'Neill damaging crops. Hail of unknown size also broke windows at Page. In O'Neill lightning struck a house putting a hole in the roof and damaging appliances.											
Antelope County	1	1400-1500CST			0	0	3	0	0	0	Hail
Hail of unknown size broke windows at Orchard.											
Lincoln County	1	1500-1700CST			0	0	2	4	0	0	Flash Flooding
Up to 3 inches of rain caused street and basement flooding around North Platte. Crop land in the area received soil erosion.											
Platte County	1	1730-2130CST			0	0	3	0	0	0	Flash Flooding
Heavy rain in Columbus caused street flooding with some power outages.											
Dodge County	1	1900-2000CST			0	0	4	0	0	0	Flash Flooding
Rainfall of 3 to 4 inches in 45 minutes flooded streets and caused water to backup into over 100 homes in Fremont damaging contents. Cars stalled in flooded streets.											
Lancaster County	1	1900-2300CST			0	0	5	3	0	0	Flash Flooding
Five and a half inches of rain fell causing flooding in east Lincoln. Water ran 3 feet deep over many streets breaking up large chunks of asphalt. Cars were swept off streets and many basements were flooded.											
Dodge County	1	1915CST			0	0	3	2	0	0	Damaging Winds and Hail
Thunderstorm winds gusted to 55 MPH at Fremont damaging trees. Three-quarter inch hail also fell in the storm.											
Douglas and Sarpy Counties	1	2000-2100CST			0	2	2	3	0	0	Flash Flooding
Two to three inches of rain fell in less than 1 hour from Valley into the Omaha and Bellevue area. Flooding streets in some cases to a depth of 3 feet stalled cars. Two persons were shocked and slightly injured when they touched equipment at a street festival in Omaha in which the grounds flooded. Some crops out.											
Dakota County	3	1830CST			0	0	2	0	0	0	Damaging Winds
Wind gusted to around 60 MPH in a thunderstorm at South Sioux City. Minor damage reported.											
Dawes and Sheridan Counties	3	1930-2030CST			0	0	3	3	0	0	Damaging Winds and Flash Flooding
Thunderstorm winds gusted to 65 MPH at Chadron downing trees. Four inches of rain fell at Gordon flooding streets and basements.											
Rock, Brown, and Keya Paha Counties	4	1300-1630CST			0	0	4	0	0	0	Lightning
Lightning knocked out power and telephone lines in areas of these counties. Some outages lasted 24 hours.											

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					KILLED	INJURED	PROPERTY	CROPS	
NEBRASKA									
Cherry County	4	1400-1530CST			0	0	4	5	Hail and Damaging Winds
			One and a half inch hail covered the ground a 20 mile swath through the Sparks area damaging hay and some corn crops. High winds with thunderstorm downed trees and damaged a building 3 1/2 miles northeast of Valentine.						
Cherry County	4	1400-1530CST			0	0	4	3	Flash Flooding
			4.25 inches of rain fell 5 miles south of Sparks in less than 1 hour. Crops were eroded and a bridge washed out.						
Brown County	4	1500-1600CST			0	0	4	4	Damaging Winds, Hail and Flash Flooding
			High winds blew over a mobile home 2 miles west of Ainsworth. Tree limbs were also downed. Half to 1 inch hail stripped vegetation in Ainsworth while heavy rains washed out some county roads.						
Cheyenne County	4	1600CST			0	0	3	0	Damaging Winds
			Thunderstorm winds caused some property damage near Sidney.						
Loup County	4	1700-1800CST			0	0	0	4	Hail
			Hail up to 1 inch damaged crops in the north portion of the county.						
Holt County	4	1800CST			0	0	4	0	Lightning
			Lightning struck and killed 26 cows and 13 calves 23 miles south of Atkinson.						
Garfield County	4	1800-1900CST			0	0	0	4	Hail
			One inch hail damaged crops in the south portion of the county east of Burwell.						
Garfield County	4	1800-1900CST			0	0	3	4	Flash Flooding
			7 to 10 inches of rain southeast of Burwell washed out roads and flooded farm lands damaging crops.						
Garfield County	4	1830CST 1/4	60	0	0	5	0	0	Tornado (FPP 2-2)
			A tornado moving east touched down on a farm 15 miles east of Burwell destroying 2 barns and a windmill, severely damaging a house and uprooting trees.						
Valley County	4	1900-2000CST			0	0	0	5	Damaging Winds and Hail
			Thunderstorm moved from 10 miles north of Ord to near North Loup causing 40 percent damage to crops due to strong winds and hail of unknown size.						
Valley County	4	1900-2000CST			0	0	6	6	Flash Flooding
			5 to 10 inches of rain fell from north of Ord toward North Loup causing flooding. Washouts from flooding heavily damaged roads and cars stalled in high water. Soil diversions and farm dams were washed out. Soil erosion and crop damage was heavy. Highway 11 between Ord and North Loup was closed by mudslides. Nearly every home and business in Ord and North Loup received water damage.						
Valley County	4	1915CST 1/4	20	0	0	5	0	0	Tornado (FPP 1-1)
			A tornado moving south touched down 6 miles north of Ord destroying several buildings, uprooting trees and causing considerable damage to a farmer's home.						
Platte County	4-5	2200-0100CST			0	0	5	4	Flash Flooding
			6 to 10 inches of rain fell from Monroe into Columbus causing flash flooding and crop damage. County road washouts were reported along with street flooding in Columbus. 150 basements were reported flooded in Columbus.						
Saunders County	5	0000CST			0	0	3	3	Flash Flooding
			4.4 inches of rain fell east of Valparaiso in less than 1 hour damaging crops and washing out a number of county roads.						
Sioux County	5	2115CST			0	0	0	3	Hail
			One and a half inch hail fell 20 miles north of Scottsbluff with some crop damage.						
Garden County	6	0200CST			0	0	3	6	Damaging Winds and Hail
			One and a half inch hail driven by winds estimated to 80 MPH damaged a few ranch buildings and heavily damaged crops around Oshkosh and Lewellen.						
Keith County	6	0300CST			0	0	4	5	Damaging Winds and Hail
			A severe thunderstorm with winds gusting to 70 MPH and 1 1/2 inch hail moving southeast across Lake McConaughy to east of Ogallala caused considerable damage to campers at Lake McConaughy and heavily damaged crops. Two inch rains with the storm caused some basement flooding at Ogallala.						
Perkins County	6	0330-0400CST			0	0	4	5	Damaging Winds and Hail
			Sixty MPH winds in thunderstorms destroyed grain bins and farm outbuildings in northeast portion of county. Half inch hail with the storm damaged crops.						
NEBRASKA									
Lincoln County	6	0400CST			0	0	3	5	Damaging Winds
			From 8 miles northwest of Wallace to the Hayes and Flash County line, thunderstorm winds estimated to 60 MPH caused tree and power pole damage. Area was out of power for 4 hours. Two to three inch rains caused Red Willow Creek to flood and damage crops.						
Frontier County	6	0500CST 3/4	50	0	0	5	2	0	Tornado (FPP 101)
			Small tornado moving southeast struck the south side of Harry Strunk Reservoir demolishing a cabin and 30 power poles.						
Frontier County	6	0500CST			0	0	3	5	Flash Flooding
			Two to four inches of rain in a short period caused local flash flooding and much crop damage by washing down from hills.						
Red Willow, Furnas and Harlan Counties	6	0500-0700CST			0	0	6	6	Damaging Winds, Hail and Heavy Rain
			A severe thunderstorm about 10 miles wide moved from near McCook to Cambridge, Holbrook and then through Alma into north central Kansas. Winds clocked to 105 MPH at the Cambridge airport along with small hail did considerable damage in Cambridge and Holbrook. Many crops were wiped out along the path. An airplane sustained major damage west of Cambridge and a mobile home, hay barn and several grain bins were destroyed in the same area. Numerous trees were downed and power lines also in Cambridge and Holbrook. Three inches of rain in less than a half hour flooded streets in Oxford.						
Arthur County	6	1600-1700CST			0	0	0	5	Hail
			Hail 1/2 to 3/4 inches fell across the central portion of the county including Arthur damaging crops and gardens.						
Scottsbluff County	6	1650CST			0	0	0	4	Hail
			Inch and a half hail fell 10 miles west of Scottsbluff damaging crops.						
Dawes County	15	1600CST			0	0	3	4	Flash Flooding
			6.7 inches of rain fell east of Crawford. Heavy flooding washed out bridges, knocked down fences and eroded fields.						
Cheyenne County	21	1540CST 1/8	80	0	0	0	0	0	Tornado (FPP 0-2)
			Tornado touched down briefly 2 miles southwest of Sidney in open country with no damage.						
Box Butte County	22	1800CST			0	0	5	6	Hail
			One and a half inch hail heavily damaged crops west of Alliance with building and window damage in Alliance.						
Hamilton County	22	2130CST			0	0	4	0	Lightning
			Lightning struck a house in Phillips and was gutted by fire.						
Phelps County	23	1800CST			0	0	0	4	Hail
			Half inch hail damaged crops from north of Bertrand to just south of Bertrand.						
Thomas County	24	1830-1900CST			0	0	4	5	Damaging Winds and Hail
			One and a half inch hail driven by winds estimated to 70 MPH punched out 26 windows in the courthouse at Thedford and downed trees and power lines in the south part of the county. Crops were hailed out.						
Logan County	24	1900CST 1	200	0	0	5	2	0	Tornado (FPP 213)
			Tornado moving east touched down 12 miles east of Stapleton totally demolishing homes, out buildings, trees and power lines.						
Logan County	24	1900-2100CST			0	0	3	5	Hail and Flash Flooding
			1 1/2 inch hail damaged crops in southeast part of county. Rains to 4 inches caused local flash flooding.						
Guster County	24	2030-2300CST			0	0	4	5	Hail and Flash Flooding
			1 1/2 inch hail fell from around Arnold to Callaway heavily damaging crops. Buildings also received window and some roof damage. Rainfall of up to 4 inches caused low land flooding along the South Loup.						
Platte County	24	2100-2200CST			0	0	3	0	Lightning
			Lightning strike caused power failure in Columbus with city street lights out several days.						
Lincoln County	25	1930CST			0	0	0	0	Hail
			1 1/2 inch irregular shaped hail fell briefly over a small area of west North Platte. No damage reported.						

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1961

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		
26 NEVADA										
Northern Clark County	10	1630PST			0	1	7	7	Severe Thunderstorms	
Severe thunderstorms caused flash flooding in northern Clark County in Moapa Valley, Glendale, Logandale and Overton areas. 762 cows were killed at a dairy in Hidden Valley. Overall damage is over \$10 million.										
27 NEW HAMPSHIRE										
Statewide	5	1900EST			0	1	4	0	Thunderstorm	
A restaurant in Middleton burned after being struck by lightning. In Kensington, lightning struck a pine tree behind the Universalist Church. A piece of the tree went through the back of the church causing 56 panes of glass to be broken. A local man was apparently hit by lightning which paralyzed his right arm temporarily. At Hooksett, lightning struck a tree sending a heavy branch onto the roof of the Fire department garage, destroying a radio antenna on the roof. Strong winds uprooted about 50 trees in Goffstown. In Colebrook, winds toppled a large tree onto a mobile home, extensively damaging it.										
Antrim, Hillsborough County	19	Evening-EST			0	0	4	0	Lightning	
Lightning travelled down a tree to a barn and the resultant fire burned the structure to the ground. Lightning also disrupted telephone service, making summoning help more difficult.										
New Hampton and Meredith, Belknap County; Northfield, Merrimack County	24	1600EST			0	0	5	3	Thunderstorm	
Lightning struck a 150-year old barn, setting hay on fire. The barn was a total loss. Contents lost in the blaze were 2300 bales of hay, a hay elevator and winch, and hose used for maple sapping. Lightning also struck a home in Meredith, damaging a stove. Heavy rains from the storm caused a sewer project in Northfield to cave in.										
28 NEW JERSEY ————— NONE REPORTED										
29 NEW MEXICO										
Near White Sands, Otero County	2	2100MST			0	0	0	0	Tornado (F0)	
Small tornado reported by Military Police in open country. No damage.										
Lovington, Lea County	2	2157MST			0	1	0	0	Lightning	
Man struck by lightning.										
Mayhill Ranger Station, Otero County	5	1110MST			0	0	0	0	Tornado (F0)	
Small tornado in open country reported by Forest Ranger. No damage.										
Ojo Feliz, Mora County	8	Night			0	0	4	4	Hail	
Hail reported to have damaged homes, cars, crops, livestock, and fourteen antelope killed.										
Albuquerque, Bernalillo County	27	Night			0	0	4	0	Windstorm	
Strong winds associated with thunderstorm, gusting above 60 MPH caused damage to homes, cars, and trees.										
30 NEW YORK, Coastal										
Jamesport and Laurel L.I., N.Y.	5	1215EST	5	13	0	?	?	?	Tornado (F2)	
The tornado swept through the two small towns ripping roofs from several homes, knocked down telegraph poles and methodically tore holes in walls of a group of homes.										
30 NEW YORK, Central										
Cortland and Tioga Counties	11	1300-1400EST			1	15	4	0	Thunderstorm	
A severe thunderstorm moving through Southern Cortland and Northern Tioga Counties, caused people attending the Empire Farm Days, farm equipment exhibitions, to take cover. Twenty-five of these people sought shelter under a tractor and 4-H wagon covered by sheet metal.										
When lightning hit the tractor and wagon, fifteen people were injured and one man was killed. Many of the injured suffered burns and several were knocked unconscious. The forty-year old man who was killed, died of cardiac arrest due to severe electrical shock.										
30 NEW YORK, Western										
Rochester and Brighton in Monroe County	4	1500EST					4	0	Lightning	
Lightning started house fires and knocked down power lines.										
Greece, Henrietta, Webster, Brockport and Rochester in Monroe County and Sodus in Wayne Co.	5	Early morning				1	4	0	Lightning and	
Lightning strikes ignited many houses. Utility rain lines were felled and caused blackouts to 22,000 customers for hours. Heavy rain caused drainage flooding.										
Towns of Black River, Brownsville and Watertown, Jefferson County	8	1700EST					6	0	Rain	
A severe thunderstorm poured up to 6 inches of rain in a few hours. Major flash flooding followed. Businesses in a 5-block area in Watertown were inundated with up to 6 feet of water. Residential properties suffered heavy structural damages and 4000 cubic yards of soil were eroded away.										
Amherst in Erie County and Rochester in Monroe County	11	0700EST					3	0	Lightning and rain	
Lightning struck electric line and rendered 6000 customers without power for several hours. Heavy rains flooded some streets, viaducts, underpasses and basements.										
Lockport, Niagara County	13	1400EST					4	0	Rain	
A heavy thunderstorm dumped up to 4 inches in an hour. Businesses were inundated. Streets were covered with up to 4 feet of water. Hundreds of homes suffered basement flooding.										
31 NORTH CAROLINA										
Franklin County	8	Afternoon				1	0	0	0	Lightning
A man was struck and killed by lightning while standing in an open doorway of a farm building.										
Henderson Vance County	11	1420EST					0	0	Wind, Hail	
A severe thunderstorm moved east through Vance County with 55 MPH wind and marble-size hail reported at the Henderson Airport. Some power lines were also downed.										
Raleigh Wake County	11	1515EST				0	0	0	0	Hail
A thunderstorm moved east across Raleigh with marble-size hail reported on the west side of town.										
South Central and Eastern North Carolina	11	Evening				0	0	5	4	Heavy Rains
A line of thunderstorms moved slowly south through south-central and eastern North Carolina during the evening with the individual storms moving east. Heavy rains of up to 6 inches accompanied the thunderstorms. A trailer park in Erwin, NC (Harnett County) was flooded with over 100 mobile homes damaged and caused all residents to evacuate. Up to six inches of rain in Montgomery Co. caused several creeks and rivers to flood causing \$20,000 damage to crops.										
Eastern North Carolina	19-20					0	0	0	7	Tropical Storm Dennis
Tropical storm Dennis moved parallel to the North Carolina coast coming ashore near Morehead City on the morning of the 20th. Rains associated with the tropical storm moved into the State during the afternoon of the 19th. During the night very heavy rains occurred near the coast with amounts ranging from 4 to 9 inches but with a maximum of 15 inches near Tabor City in Columbus County. The heavy rains flooding on most streams and creeks in southeastern North Carolina. The Waccamau flooded at Pireway in Columbus county making it necessary for some 20 families to evacuate their homes. Some roads were closed due to flooding in Pender, New Hanover and Pamlico Counties. Heavy rains in Columbus County also caused \$10 million in damage to crops. Highest winds were reported at Frying Pan Shoals Light Tower, 47 MPH sustained and 59 MPH in a gust. There was also some beach erosion and shallow flooding late in the evening on the 19th.										

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	
32 NORTH DAKOTA									
Watford City (McKenzie County)	1	1850CST			0	0	4	4	Thunderstorm Winds
Strong thunderstorm winds (measured at 63 MPH) blew off two large garage doors; tore the roof off a greenhouse; overturned a tent camper; and damaged grain.									
Watford City 105 (McKenzie County)	1	1850CST							Two funnels
Killdeer (Dunn County)	1	1925CST			0	0	4	0	Thunderstorm Winds
Strong thunderstorm winds wrecked a new house under construction.									
Taylor (Stark County)	1	1949CST			0	0	0	0	Thunderstorm Winds
Strong thunderstorm winds measured at 66 MPH. No damage reported.									
Beulah (Mercer County)	1	2015CST			0	0	5	4	Thunderstorm Winds
Strong thunderstorm winds tipped over campers; flipped over mobile homes; damaged the roof on the city's two schools; downed power lines; blew the roof off a storage shed; broke windows; and damaged crops.									
Parshall (Mountrail County)	1	2021CST			0	0	0	0	Thunderstorm Winds
Strong thunderstorm winds measured at 58 MPH. No damage reported.									
Riverdale (McLean County)	1	2100CST			0	0	4	0	Thunderstorm Winds
Strong thunderstorm winds tipped over a mobile home, broke tree branches; downed power lines; and damaged electrical wires.									
Zap (Mercer County)	2	0500CST			0	0	5	5	Lightning
A fire, started by lightning, destroyed a grain elevator.									
Dickinson 125 (Stark County)	2	2045CST			0	0	3	0	Thunderstorm Winds
Strong thunderstorm winds blew down an old barn, fences, and the side of a second barn.									
New England (Hettinger County)	2	2045CST			0	0	5	5	Thunderstorm Winds
Strong thunderstorm winds peeled shingles off a roof; toppled silos; blew away a grainery; tore a roof off a barn; turned over a combine; demolished a barn; and damaged crops.									
Amidon (Slope County)	2	2100CST			0	0	0	5	Hail
Hail up to one inch in diameter severely damaged crops.									
Regent (Hettinger County)	2	2100CST			0	0	5	5	Thunderstorm Winds
Strong thunderstorm winds blew a quonset hut off its foundation; ripped siding off a house; toppled grain bins and trees; and flattened crops.									
Mandan 10W (Morton County)	3	0010CST			0	0	3	0	Lightning
A fire, started by lightning, damaged the exterior of a house.									
Bisbee 4E (Towner County)	3	1830CST			0	0	4	5	Thunderstorm Winds, Hail
Strong thunderstorm winds blew down a barn and windmill. Hail one inch in diameter damaged crops.									
Springbrook (Williams County)	4	2115CST			0	0	0	0	Hail
Hail 3/4 inch in diameter. No damage reported.									
Williston (Williams County)	4	2200CST			0	0	3	0	Lightning
Lightning burned a hole in a cabin and damaged the interior of the cabin.									
Dickinson (Stark County)	4	2310CST			0	0	0	0	Thunderstorm Winds
Strong thunderstorm winds of 58 MPH were recorded at the Dickinson airport. No damage reported.									
Taylor (Stark County)	4	2319CST			0	0	0	0	Thunderstorm Winds
Strong thunderstorm winds measured at 63 MPH. No damage reported.									
New Salem (Morton County)	4	2355CST			0	0	0	5	Hail
Hail up to one inch in diameter severely damaged crops.									
Bismarck (Burleigh County)	5	0119CST			0	0	3	0	Thunderstorm Winds
Strong thunderstorm winds (55 MPH at Bismarck airport) toppled a few trees.									
Sherwood 7W (Renville County)	5	1530CST			0	0	4	5	Hail
Golfball size hail severely damaged crops; stripped trees and sidings; broke windows; and shredded screens.									
Washburn 9N (McLean County)	5	1600CST			0	0	0	5	Hail
Golfball size hail severely damaged crops.									
Esmond (Benson County)	5	1900CST			0	0	3	5	Hail
Hail up to one inch in diameter damaged crops and busted windshields.									

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					KILLED	INJURED	PROPERTY	CROPS	
NORTH DAKOTA									
Ray (Williams County)	7	2130CST			0	0	5	5	Lightning
A fire, started by lightning, destroyed a grain elevator.									
Dickinson (Stark County)	15	1711CST			0	0	5	0	Thunderstorm Winds, Heavy Rain, Hail, Two Funnels
Hail, the size of baseballs, broke windows; dented sidings; and damaged roofs and campers. Strong thunderstorm winds smashed a garage door. Heavy rains collapsed a basement wall and caused the sewer system to back up. Two funnels were sighted during the storm.									
New England (Hettinger County)	15	1805CST			0	0	0	0	Thunderstorm Winds
Strong thunderstorm winds stripped leaves off trees.									
Dickinson 18SW (Stark County)	15	Night			0	0	5	0	Lightning
A fire, started by lightning, gutted a building housing the equipment for a television station and several radio stations.									
Adams (Walsh County)	20	2330CST			0	0	5	5	Lightning
A fire, started by lightning, destroyed two grain elevators.									
Hebron 5S (Morton County)	21	1640CST			0	0	0	0	Hail
Hail one inch in diameter severely damaged crops.									
Elgin 10N (Grant County)	21	1802CST			0	0	0	0	Hail
Hail one inch in diameter. No damage reported.									
New Leipzig (Grant County)	21	2007CST			0	0	0	0	Hail
Golfball size hail. No damage reported.									
Ellendale (Dickey County)	22	1725CST			0	0	0	5	Hail
Hail 3/4 inch diameter caused severe crop damage.									
Gladstone (Stark County)	24	1318CST							Funnel
Heil 4N (Grant County)	30	2132CST			0	0	0	0	Hail
Golfball size hail. No damage reported.									
Blue Lake (McLean County) (Turtle Lake 10E)	30	2230CST			0	0	4	0	Thunderstorm Wind
Strong thunderstorm winds demolished three trailer homes.									
33 OHIO ————— NONE REPORTED									
34 OKLAHOMA									
Quapaw, Ottawa County	1	1500CST			0	0	4	0	Lightning
Lightning during a thunderstorm killed 20 head of cattle. About 30 other cattle were knocked down by the bolt, but survived. The cattle had sought refuge beneath a large tree.									
Collinsville, Tulsa County	6	1830CST			0	0	5	0	Lightning
A house and contents were destroyed by a lightning set fire. An outbuilding was also damaged.									
Jenks, Tulsa County	7	1750CST			0	0	4	0	Wind
High winds up to 70 MPH damaged a storefront, roofs, and trees.									
Kay County	13	1530CST			0	0	5	?	Wind and Hail
High winds and golfball size hail smashed a mobile home, tore roofs off sheds and barns, killed livestock, and ruined crops over much of Kay County.									
Enid, Garfield County	15	1345CST	?	?	0	0	0	0	Tornado (F0)
A small weak tornado touched down briefly 7 miles southwest of Enid.									
Martha, Jackson County	15	Afternoon	?	?	0	0	4	0	Tornado (F1)
A small tornado touched down on a farm one mile west and one-half mile north of Martha. Damage was estimated at over \$20,000.									
Woodward, Woodward County	15	1530CST			0	0	5	?	Wind and Rain
Winds estimated near 70 MPH and heavy rains caused extensive damage at the Woodward Airport. One small airplane was totaled, several had minor damage, and two hangers were damaged. Exact figures on damage were unavailable.									
Blackwell, Kay County	15	1720CST			0	0	5	?	Wind and Rain
Winds of 78 MPH and more than 4 inches of rain damaged a downtown movie theater, a new car dealership, mobile homes, building construction, power lines, trees, roofs, etc. Damage was estimated at over \$200,000.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	
OKLAHOMA									
Lindsay, Garvin County	16	0200CST			0	0	5	0	Lightning
Lightning started a house fire in the Erin Springs Community. Both the house and contents were a total loss.									
Oklahoma County	26	1815CST			0	3	5	0	Wind and Hail
High winds and golfball size hail caused scattered damage in Oklahoma City and Moore. Several businesses sustained roof damage. Three people were injured when a wall of a burned out building was blown onto a parked car.									
Davenport, Lincoln County	26	1925CST			0	0	0	0	Funnel Cloud
Cherokee, Alfalfa County	31	0400CST			0	0	5	0	Lightning
Lightning was blamed for a fire in an auto parts store, which caused damaged near \$150,000.									
35 OREGON ————— NONE REPORTED									
36 PENNSYLVANIA, Eastern									
Seven Points Marina, Raystown Lake, Huntingdon County	3	1825EST			0	0	4	0	Wind
Winds gusts estimated at 50 to 60 MPH caused considerable damage to boat docks and damaged several of the 486 boats moored at the marina. Eye witnesses reported seeing a funnel cloud move across the lake from about 3 miles away. The winds caused waves estimated at 5 to 6 feet. The storm moved from SSW to NNE across the lake.									
Delaware and Philadelphia Counties	8	0400-1400EST			0	0	5	0	Heavy Rain
Heavy downpours which accumulated up to 5 inches of precipitation caused considerable roadway and stream flooding. The most damage was in the Boroughs of Darby and Colwyn in Delaware County. Many commercial and residential properties were flooded with 25 homes evacuated in Darby. Streets and underpasses were flooded causing some washouts and flooding automobiles.									
36 PENNSYLVANIA, Western									
Erie County	7	1600EST	0	0	1	0	5	?	Lightning and Strong Winds
A 74-year-old man was fatally struck by lightning in Wesleyville. Heavy thunderstorms caused widespread damage throughout the county, mostly by strong winds.									
Venango County	7	1715EST	0	0	0	0	5	0	Tornado (F1)
A reported funnel cloud was responsible for lifting a roof from a discount department store near Franklin. At a nearby car dealer, 25 cars suffered varying forms of damage.									
37 RHODE ISLAND ————— NO REPORT RECEIVED									
38 SOUTH CAROLINA									
Hampton (Hampton County)	7	1600EST	1/4	100	0	0	3	0	Tornado (F1)
A small tornado during a thunderstorm damaged a farm building.									
Springfield (Orangeburg County)	10	2205EST			1	1	3	0	Lightning
A youth who was standing by a car talking was struck and killed. The car's occupant was injured.									
Tropical Storm	19				0	0	6	0	Tropical Storm (Heavy Rains)
Tropical Storm Dennis moved northward along the South Carolina coast on the 19th and produced heavy rains of 5 to 10 inches within 24 hours north of Charleston through NE Horry County. Flooding on the Waccamaw River continued throughout the first week of September. Major damage of 1 to 2 million dollars resulted. Flooding was the most severe since 1945 along the Waccamaw.									
Considerable by minor thunderstorm damage was reported on the 7th, 10th, and 11th.									
39 SOUTH DAKOTA ————— NO REPORT RECEIVED									
40 TENNESSEE ————— NONE REPORTED									
41 TEXAS, Northern									
Kerens, Navarro County	16	1430CST			0	0	?	?	Hailstorm and Heavy Rain
Golf ball size hail lasted for a few minutes as a severe thunderstorm moved across Kerens. Several inches of rain produced minor road flooding in the Kerens area.									
Garrett and Ennis areas, Ellis County	16	1815-1930CST			0	0	5	?	Windstorm and Lightning
Thunderstorm winds destroyed a metal building at a concrete company near Garrett. In Ennis, a large meeting hall was destroyed by a lightning-set fire and two homes were damaged by lightning strikes.									
Granbury, Hood County	16	2100CST			0	0	5	0	Lightning
A lightning-set fire burned a \$150,000 house on the shores of Lake Granbury.									
Anson and Young Counties	17	Afternoon			0	0	?	?	Flash Flooding
Heavy rains forced the closing of rural roads south of Anson, in Jones County and east of Woodson, in Young County.									
Sulphur Springs, Hopkins County	25	1330CST			0	0	4	0	Windstorm
Thunderstorm winds toppled the northwest and northeast walls of a trucking firm building located just east of the Sulphur Springs city limits.									
Sherman and White-wright areas, Grayson County	26	1320-1400CST			0	0	?	?	Wind and Hailstorm
At 1320CST, 3/4 inch diameter hail was reported in Sherman. The thunderstorm moved southward, producing minor wind damage from the Whitewright area southeastward into Fannin County.									
Southwest Fannin County	26	1400-1430CST			0	0	5	0	Windstorm
Thunderstorm winds destroyed porches, awnings, signs, outbuildings in and near Trenton. Several garages were destroyed and at least one home was partially unroofed.									
Collin County	26	1415CST			0	0	5	?	Wind and Hailstorm
Very strong thunderstorm winds moved southward across Collin County, causing scattered damage from near Anna in northern Collin County, to just north of Plano in the southern portions of the county. An 18-wheel truck was overturned on Highway 75 between Melissa and Anna. Four private airplanes were destroyed and eight more damaged at the Aero County Airport, 10 miles north of Plano. Wind gusts to 90 MPH and golf ball size hail accompanied the storm across the airport. Additional minor wind damage was reported in the McKinney area.									
N of Vernon, Wilbarger County	26	1830CST			0	0	?	?	Wind and Hailstorm
Sixty MPH winds and marble size hail occurred with a thunderstorm several miles north of Vernon. The extent of damage was not known.									
Nacogdoches area, Nacogdoches County	31	Afternoon							Flash Flood
Almost four inches of rain fell within several hours in the Nacogdoches area, causing widespread creek flooding. LaNina Creek exceeded flood stage in Nacogdoches, causing damage to hundreds of cars in a Stephen F. Austin University parking lot. Creek flooding caused very heavy damage to dozens of rural roads and several rural bridges close to Nacogdoches. Several of the roads were completely washed out by the flood waters. County Road Administrator R. L. Baker said that the county road damage was greater than that which occurred with the June 1979 flood.									
41 TEXAS, Southern									
Jefferson Co.	4	0845CST							Funnel Clouds
Several small funnel clouds passed over mid and south Jefferson Co. beginning at 8:45 am CST as thundershowers developed.									
Harris Co.	4	0900CST							Funnel Clouds
Numerous funnel clouds formed around the north side of Baytown in an area of rapidly developing thundershowers. Some may have started as waterspouts over Galveston Bay. One funnel touched ground in Baytown (see next entry).									
Harris Co. (Baytown)	4	0930CST	1/18	18	0	0	4	0	Tornado (FO)
A small rope-like funnel, similar to the ones that frequently form in the area and almost always remain aloft, did touch ground for a brief period on this day. The twister drifted a short distance northward passing across the Harris County Courthouse Annex in Baytown on Baker Road breaking windows and glass doors. Sudden pressure reduction was said to have caused closed car windows in the parking lot to pop out. Persons jumped away from glass and no one was hurt.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	PROPERTY	CROPS	

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	PROPERTY	CROPS	

TEXAS, Southern

Refugio Co. (2SE Woodsboro)	11	1045CST	1/10	20	0	0	0	0	0	0	0	Tornado (F0)
Developing coastal thundershowers generated a funnel which was observed to touch ground 4 to 5 miles inland of Copano Bay or just southeast of Woodsboro. The mini-twister was observed by an airplane pilot and by residents in the area. No damage was done in the open area.												
Nueces Co.	12	0830CST										Funnel Clouds
San Patricio Co.	12	0830CST										Funnel Clouds
Numerous funnel clouds over these two counties were observed as thundershowers developed rapidly just inland from Nueces Bay between Corpus Christi and Odem.												
San Patricio Co. (SE of Odem)	12	0845CST	1/10	20	0	0	0	0	0	0	0	Tornado (F0)
One of several funnel clouds passing over the area was seen to touch ground in a marshy area south of Odem. The brief weak twister moved northwest a short distance in the open and caused no damage.												
Nueces Co.	14	0800CST			0	0	0	0	0	0	0	Waterspout
The spout moved northward through Corpus Christi Bay causing no damage to boating. The upper part of the waterspout was seen from Corpus Christi.												
Menard Co.	17	1030CST			0	0	4	0	0	0	0	Heavy rain
Flash flooding occurred on creeks, mainly in the west part of Menard Co., after overnight and morning rains totalled 5.5 inches around Fort McKavett. Creek flow generated a sharp rise of about 2 feet over bankfull on the San Saba River which moved downstream from Fort McKavett to Menard during the afternoon and evening. No one was reported endangered by the floods. Property damage was probably limited to fences and roads.												
Val Verde Co.	17	1100CST			0	0	4	0	0	0	0	Heavy rain
Flash floods moved down canyons and normally dry creek beds of northern Val Verde Co. after morning thunderstorms dropped sudden 3 inches of rain onto wet ground north of Juno to Loma Alta. By 11 am CST water was surging over low spots of Highway 163 north of Comstock. On the Devils River a sharp rise crested 4 feet over bankfull from Juno to below Bakers Crossing in the afternoon. Damage was limited to roads.												
Aransas Co.	18	1015CST			0	0	0	0	0	0	0	Waterspout
A waterspout, observed from Rockport, moved northward through Aransas Bay.												
Nueces Co.	20	0630CST			0	0	4	0	0	0	0	Lightning
Frequent lightning strikes hit the city of Corpus Christi during heavy early morning rainstorms. Two houses were damaged when struck by lightning and fires started. Sudden rains of 2.5 inches on the southside caused urban flooding at rush hour.												
Nueces Co.	24	1225CST										Funnel Cloud
The funnel moved northwest over the city of Corpus Christi attached to a moderate thunderstorm.												
Nueces Co.	25	1310CST										Funnel Cloud
Kleberg Co.	25	1350CST										Funnel Cloud
Developing thundershowers moved slowly northwest through these counties producing at least two funnel clouds. One passed over Robstown and the other was spotted by deputy sheriffs over Kingsville. None touched ground.												
Kleberg Co.	26	0955CST			0	0	0	0	0	0	0	Waterspout
The public observed a waterspout off Kleberg Co. section of Padre Island 10 miles south of the Kennedy Causeway.												
Kleberg Co.	27	0845CST			0	0	0	0	0	0	0	Waterspout
The waterspout occurred 7 miles east-southeast of Malaquite Beach in an area of scattered thundershowers.												
Mason Co.	27	1910CST			0	0	?	?	?	?	?	Wind
Kimble Co.	27	1930CST			0	0	?	?	?	?	?	Wind
Scattered thunderstorms moved southwestward at 10 to 15 MPH over these counties but produced localized high wind gusts. One storm caused strong gusts in the city of Mason with even stronger winds outside the city. At Junction in Kimble Co. a thunderstorm passed over the city accompanied by a brief damaging gust front. An automatic wind gauge registered peak wind of 85 MPH which downed power lines, trees, signs. Superficial wind damage to buildings was reported.												
Bastrop Co.	28	1730CST			0	0	4	0	0	0	0	Wind
A thunderstorm moving over the city of Bastrop produced brief strong wind gusts that caused scattered damage. Numerous outbuildings were toppled, power lines downed, trees damaged. Mobile homes received some damage northeast of Fairview Cemetery and west of the Colorado River. About 1.5 inches of rain fell in 30 minutes after the wind gusts hit.												

TEXAS, Southern

Starr Co.	28	1830CST			0	0	5	0	0	0	0	Heavy Rain
One intense thunderstorm became situated over Rio Grande City and dropped 4.7 inches of rain in 90 minutes with a storm total of 4.97 inches by the time it dissipated. Pockets of water ponded quickly and led to flooding of low areas. Several low lying streets on the north and west sides of the city flooded. Water entered a number of homes prompting evacuations. In the same areas automobiles were damaged by deep water in the streets. No injuries occurred.												
South Texas	29-31											Tropical Depression
A tropical depression formed in the extreme western Gulf of Mexico near Tampico on August 28. Although never strengthening to tropical storm status as it drifted northward, the depression nevertheless generated an outbreak of small tornadoes and dropped killer, flash flood-producing rains over south Texas.												
The weak low pressure center of the tropical depression moved inland near Brownsville on Aug. 29, continued northward through south Texas on a track between Victoria and San Antonio the night of Aug. 30, and then turned eastward near Houston on the 31st.												
Overnight rains Aug. 30-31 up to 18 inches fell between Victoria and San Antonio causing flash floods which killed 5 persons, injured others, did millions of dollars property and agriculture damage, and pushed rivers to record and near-record heights. Other rains farther east of the depression center flooded Houston with 10 to 11 inches.												
A boundary separating warm, humid air to the south and slightly cooler, drier air to the north lay across the upper Texas coast on Aug. 31. As the tropical depression center, guided by an upper trough, turned eastward along the boundary, it generated a tornado-bearing severe thunderstorm complex which erupted on the coastline and moved over Galveston Island and adjacent mainland with damaging winds and torrential rains.												
Hidalgo Co. (near Mission)	29	1347CST	2	35	0	0	4	0	0	0	0	Tornado (F1)
As the tropical depression moved through extreme south Texas, one heavy thunderstorm generated a small short-lived tornado. The twister hit a mobile home park on the south side of Mission near FM Road 1016 and US Highway 83. One home was damaged but no one was injured. The tornado skipped northeastward and just after 2 pm CST was seen on the ground again southwest of McAllen where it moved through an open area beside the arroyo before ending.												
Nueces Co. (Corpus Christi)	29	1430CST	1/18	20	0	0	3	0	0	0	0	Tornado (F0)
A small funnel, initially passing aloft over Corpus Christi, apparently built a weak wind circulation close to ground for a brief period. Minor house damage was reported near Lexington Blvd. and Lantana Dr. as the funnel passed overhead. Heavy rains fell close by at the time.												
Hidalgo Co. (2N McCook)	29	1520CST	2/10	25	0	0	0	0	0	0	0	Tornado (F0)
A small tornado was observed 2 miles north of McCook passing through an undeveloped area. Witnesses said the twister lifted gravel and dirt from a rural road but otherwise caused no damage.												
Aransas Co. and San Patricio Co. (Aransas Pass)	29	1530CST	2/10	50	0	0	4	0	0	0	0	Tornado (F1)
A waterspout moved through Red Fish Bay and came ashore in the city of Aransas Pass at the Aransas-San Patricio county line near the causeway. Associated with squally weather to the east of a tropical depression, the waterspout persisted as a tornado for about 2/10 mile into the city of Aransas Pass. An unoccupied mobile home at the shore line was hit directly and destroyed by the twister while roofing was peeled from a nearby fishing lodge. Power poles were snapped and lines severed as the tornado crossed Houston and DeBerry Streets before ending.												
Brooks Co.	30	0200CST			0	0	5	5	0	0	0	Heavy Rain
Heavy thunderstorms on the afternoon and evening of Aug. 29 dropped torrential rains over sparsely populated western Brooks Co. as well as in the Falfurrias area where 7.67 inches were measured.												
Creeks were slow to drain in this very flat area. As a result, it was not until about 2 am CST that flooding conditions arrived in Falfurrias on Cibolo Creek and about 5:45 am CST that a flood wave arrived in the city on Palo Blanco Creek. This water originated from brushland west of the city. Water rose into homes and businesses in lowest areas in the northwest sector of Falfurrias, in the Mejico area, and in the business district. Some places flooded for the fourth time this year (previously June 4, 13, and 17). Field crops, mainly vegetables and melons, were damaged by flood waters around Falfurrias.												
Jefferson Co.	30	1425CST			0	0	0	0	0	0	0	Waterspout
A rapidly developing thundershower generated a waterspout over Sabine Lake. It moved northeast and did not come ashore.												
Live Oak Co. (4NE Three Rivers)	30	1445CST	1	40	0	2	5	0	0	0	0	Tornado (F1)
A funnel which travelled mainly aloft north-northeastward across Live Oak Co. touched ground some 3 to 4 miles northeast of Three Rivers near the Ray Point community. The tornado moved directly across a uranium mining headquarters doing extensive damage to a large warehouse and office. A couple of minor injuries were reported due to cuts and abrasions from blowing debris.												

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	

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, Southern

Atascosa Co. (6W Jourdanton)	30	1515CST	1/2	40	0	0	0	0	0	Tornado (FO)
Showery weather surrounding the tropical depression produced a funnel cloud which eventually dipped to earth 6 miles west of Jourdanton. The tornado skipped northward about 1/2 mile through brushland according to the sheriff's personnel who surveyed the tornado.										
Atascosa Co. & Bexar Co. (10NE Poteet)	30	1545CST	3/4	25	0	0	0	0	0	Tornado (FO)
A second funnel was seen touching down in the area on this afternoon. The second incident occurred 10 miles northeast of Poteet just east of US Highway 281 near the Espey community. The mini-twister skirted populated areas for less than a mile and crossed into extreme southern Bexar Co. a short distance before lifting.										
Bee Co. (3NW Beeville)	30	1610CST	3/4	45	0	0	5	0	0	Tornado (F1)
A rash of funnel clouds developed over Bee Co. between 4 and 7 pm CST as thunderstorms moved north-northeastward through the area. The band of bad weather was part of a developing band of storms loosely organized around a weak tropical depression. One funnel touched ground for a short distance 3 miles northwest of Beeville. As the twister crossed FM Road 673, it hit and destroyed a mobile home, flattened a barn, peeled roofing from a nearby frame house, and downed a row of utility poles.										
Karnes Co. (SE of Karnes City)	30	1730CST	3/10	35	0	0	4	0	0	Tornado (FO)
Two funnels aloft were reported by the sheriff's office moving northward through Karnes Co. One funnel was seen to touch ground about 5:30 pm CST near FM Road 743 where it snapped power lines and damaged a barn before lifting.										
Goliad Co. (E of Berclair)	30	1750CST	2/10	25	0	0	0	0	0	Tornado (FO)
Several funnels aloft were spotted over Goliad Co. between 5 and 6 pm CST with reported sightings near FM Roads 81 & 884. At 5:50 pm CST Highway Dept. personnel observed one small funnel touching ground east of Berclair. The mini-tornado moved a short distance northward through pasture land and caused no damage.										
Live Oak Co.	30	2230CST			0	0	?	?		Heavy Rain
Bee Co.	30	2230CST			0	0	?	?		Heavy Rain
Frequent showers during the day Aug. 30 turned into steady downpours late that night over the extreme north part of these two counties as the southern end of a band of rain associated with a tropical depression intensified. Flash flooding occurred on creeks north of Beeville and north of Three Rivers due to rainfall of 5 to 7 inches. Impact was closure of rural roads in the area plus loss of some ready-to-be-harvested cotton in Live Oak Co.										
Goliad Co.	30-31	Late night-next day			0	0	?	?		Heavy Rain
Rains of 4 to 6.5 inches fell over extreme northwest portions of the county during the night of Aug. 30. Rural areas were affected when small creeks overflowed onto farm lands. During the day Aug. 31, a sudden flood crest moved into Goliad Co. on the San Antonio River due to overnight rains upstream in Karnes Co. The river flood crest reached the city of Goliad and progressed downstream during the first few days of September.										
Karnes Co.	30-31	Late night-next day			0	0	7		C	Heavy Rain
A narrow band of torrential rainstorms associated with a weak tropical depression extended southwest to northeast over Karnes Co. during the evening of Aug. 30 and remained nearly stationary until after midnight. Severe flash flooding on creeks resulted. Rainfall: Rains during the previous afternoon up to 6 pm CST totalled 3.0 inches at Karnes City and 2.59 at Runge. Rains greatly intensified around 9 pm CST and deluged the county until 2 am. By midnight rain totals were exceeding 8 inches over the county. Some 24-hour amounts to 6 am Aug. 31 (most of which fell in a 4 to 6 hour period): Karnes City 2 south (Radio KAML) 16.29 inches; Karnes City 14.25; Panna Maria 9.0; Kenedy 8.50; Runge 8.06; Hobson 7.50. Flood pattern and damages: Although receiving the most rainfall, Karnes City was not so extensively flooded as other parts of the county due to its situation on relatively higher ground between watersheds. In Karnes City most damage was to vehicle and roads which were flooded by deep swift water during height of the heaviest rain. Deep water covered Texas Highway 123 at Karnes City completely submerging 18-wheels trucks and cars. The worst flash flood waters gathered in Escondido Creek and flowed quickly downstream toward the city of Kenedy causing much property damage in the city and agricultural losses enroute. Water surged out of the creek and into Kenedy between 11 pm and midnight CST on a very fast rise which prompted the evacuation of 300 persons from their homes. Escondido Creek waters in Kenedy damaged 70 houses, 12 mobile homes, several businesses, and dozens of automobiles. The flood crested near downtown between 1 and 1:30 am CST. Nichols Creek was said not to have caused significant flooding. Where houses were close to Escondido Creek, contents of the homes were swept away or badly damaged due to swiftness of the water. No injuries occurred due										

TEXAS, Southern

	to	flooding	although	one	person	was	bitten	by	a	rattlesnake	when
flood waters drove many snakes into higher spots. Waters receded quickly before 8 am CST. A series of new retaining dams on the creek was credited with saving the area from even worse flooding. Through rural parts of the county damages were concentrated on Escondido and Ecletto Creeks. At least 200 head of cattle drowned, thousands of bale bales washed away, top soil lost, and fencing torn out. Severe highway and bridge damage were reported throughout the county. Total property and crop losses had not been tallied by Karnes Co. officials by this report time. Damages were expected to exceed \$5 million for combined property and agricultural losses.											
Gonzales Co.	30-31	Late night-next day			0	0	7		C	Heavy Rain	
Nocturnal rains close to the center of the tropical depression deluged Gonzales Co. causing flash floods on all creeks, generating a near-record rise on the Guadalupe River and a sharp rise on the San Marcos River, and doing millions of dollars damage to property and agriculture. Although area residents said it was the worst general flooding for Gonzales Co. since 1936, there were no drownings or injuries in the county. Rainfall Pattern: Most rain fell in a 4-hour period approximately 9 pm to 1 am CST. By 11 pm small headwater creeks were out of banks and feeding large rises into major streams. Some 24-hour rainfall totals to 6 am CST Aug. 31: Cheapside 18.00; Gonzales 16.31; Harwood 16.0; Waelder 12.43; Smiley 12.0; Lessville 8.0; Nixon 7.9 inches. Flood Patterns and Damages: County-wide some 200 persons were rescued from midnight to noon Aug. 31 when they became stranded in flooded homes, vehicles, or were marooned in isolated high spots. At the city of Gonzales worse damage was caused by Tinsley Creek, a very short small stream originating just north of town. The creek rose very fast and sent a flash flood crest through the north and east side of Gonzales around midnight CST. Residents successfully evacuated before water damaged about 30 frame and mobile homes and swept a number of cars down the creek. The business district escaped significant flooding. The San Marcos River swelled out of banks for a small stretch west of Gonzalez just above confluence with the Guadalupe River causing some evacuations. A major rise developed on the Guadalupe River. At Waelder several headwater branches of Baldrige Creek flooded about 50 homes and a number of automobiles. Fast rising waters entered Waelder around 1 am CST. At Leesville O'Neil Creek overflowed rising from within banks to the highest known level since 1936 in about 1 hour. Several Leesville area homes were damaged by the swift waters. Through eastern rural Gonzales Co. significant agricultural losses were noted along all creeks. Peach Creek, the major tributary through the area, experienced severe flooding with an all-time record stage measured at D11worth. County-wide considerable loss of hay, hundreds of head of cattle, many miles of fencing, lots of farm equipment, and around Harwood many poultry were reported. Considerable damage to roads and bridges was reported stranding many persons. Roads which were overwashed included Interstate 10 near Waelder; US Highways 90, 90A, 183; Texas Highway 97; and many Farm-to-Market Roads including 108, 304, 443, 466, 794, 1115, 1116, 1290, 1680, 1683, 2814, and 2922. Official estimates of county-wide property and agricultural losses were not available by this report time but were expected to exceed \$5 million.											
Guadalupe Co.	30-31	Late night-next day			0	0	6		C	Heavy Rain	
The western edge of heavy nighttime rains around a tropical depression center hit central and eastern Guadalupe Co. For the second time in just over two months severe flash floods damaged countryside and parts of the city of Seguin. Still, early evacuation saved countless dollars of property in Seguin and prevented loss of life and injury. Rainfall Pattern: After early day rains wetted the area, nocturnal rains deluged the area from 8 pm to after midnight CST. By 10 pm CST areas north of Seguin had received 7 inches of rain. By midnight totals were over 9 inches. Flood producing rains hit the eastern 2/3 of the county with center of maximum rains around the Geronimo community. The western 1/3 of the county received less than 4 inches and no flooding. Rainfall totals for 24-hours to 6 am Aug. 31 included these: Geronimo 10.11; Seguin 4 miles northeast 9.0; Kingsbury 6.45; Seguin 4.20.											

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					KILLED	INJURED	PROPERTY	CROPS	
TEXAS, Southern									
									<p>Flood Pattern and Damages: Most property damage was along Geronimo Creek. Alerted to the potential for flooding early in the night, many residents of the Elmwood subdivision of Seguin starting moving personal belongings and evacuating by 8 pm CST. The sudden flood wave of Geronimo Creek hit Elmwood around midnight and crested between 1 and 3 am CST. Some residents were still surprised and said the water "came up faster and swifter than we thought it would." This was the highest flood crest on the creek since 1972, but came so soon after lesser flooding in June 1981 that repairs had just been completed. Although many residents saved contents of their homes, the swiftness of the water was so great that severe structural damage, including walls knocked down, was suffered by houses taking full brunt of water force.</p> <p>Upstream at the community of Geronimo the creek was in flood by 10 pm CST and crested at 17.8 feet (nearly 10 feet about banks). Extensive flooding of farm lands occurred in central Guadalupe Co. Several dozen cars were abandoned in high waters.</p> <p>Estimates for property and crop losses in Guadalupe Co. were not complete by this report time but expected to amount to several million dollars.</p>
Caldwell Co.	30-31	Late night-next morning	0	0	?	?	?	?	Heavy Rain
									<p>Heavy rains fell mainly over eastern Caldwell Co. with the major portion of the deluge hitting from 9 pm to 2 am CST. By 6 am CST 24-hour rainfall totals were these: Delhi 9.21; Timon 2 south 5.46; Luling 5.27 inches.</p> <p>Flash flooding set in on creeks in eastern parts of the county including Peach Creek and Sandy Fork. Many rural farm areas were flooded. At Luling the San Marcos River rose to just above bankful.</p>
Bastrop Co.	30-31	Late night-next morning	0	0	?	?	?	?	Heavy Rain
									<p>Nighttime rains created flash flooding on creeks in extreme south and east Bastrop Co. Receiving the northwest edge of heavy rains around a tropical depression center, Bastrop Co. rain gauges measured these 24-hour amounts (most having fallen in 4 to 6 hours during the night): Smithville 6.93; 7 to 10 inches for areas between String Prairie, Kovar, Jeddo, and Rosanky.</p> <p>Creeks flooding through the area affected mainly farm lands through Southeast Bastrop Co.</p>
Fayette Co.	31	Early morning-rest of day	0	0	6	6	6	6	Heavy Rain
									<p>Deluges hit the southern half of Fayette Co. around midnight and continued through early morning setting off serious flash flooding on small streams in the area. A sudden flood wave was even generated on the Colorado River which put water 5 1/2 feet over flood stage at LaGrange during the day.</p> <p>Rainfall Pattern: By 6 am CST rainfall totals, most of which fell in about 6 hours overnight, were these: Muldoon 17.0; Flatonia 13.88; Schulenburg south 9.48; Schulenburg 7.70; unofficial report at Pine Springs 21.0 inches.</p> <p>Flood Pattern and Damages: All creeks and low areas in the south part of the county experienced severe flooding. Remainder of the county had localized flooding. Water surged out of small streams by 3 am CST and flooding continued throughout the day.</p> <p>The 17 inches at Muldoon sent a furious flood wave down Buckner's Creek during early morning hours and later caused a sudden rise to above flood stage at LaGrange when water emptied into the Colorado River. Severe agriculture and rural losses occurred on Buckner's Creek, Peach Creek, and dozens of small tributaries. At LaGrange water damaged some homes in the Fritsch Auf subdivision next to the creek. In Flatonia small streams isolated the town completely. Rising water forced early morning evacuations and damaged a dozen or so homes in Flatonia. Water swept over segments of Interstate Highway 10.</p> <p>County-wide much damage was reported to fences, topsoil, and roads. Six bridges were washed out; others were damaged. Several hundred head of livestock were lost.</p>
DeWitt Co.	31	Early morning-All day	0	4	6	6	6	6	Heavy Rain
									<p>Severe flash flooding started on creeks in northern DeWitt Co. during post-midnight hours and led to development of the second all-time highest rise on the lower Guadalupe River. River flooding moved rapidly downstream into DeWitt Co. during the day Aug. 31 pushing water above floodstage at Cuero late in the day but not cresting there until September 1.</p> <p>Rain Pattern: Intense nighttime rainstorms near the center of the tropical depression deluged northern DeWitt Co. from 10 pm to about 3 am CST. By 6 am CST Aug. 31 these 24-hour totals were registered (most having fallen in 4 to 6 hours): Hochheim 17.50; Cuero 6.75; Yoakum 6.25; Yorktown 5.75 inches.</p>
TEXAS, Southern									
									<p>Flood Pattern and Damages: Widespread flooding of rural areas in northern DeWitt Co. began around 1 am CST. Overhead rains at Hochheim as well as upstream in Gonzales Co. sent severe flash flood waves down Fulcher Creek, McCoy Creek, Cuero Creek as well as smaller tributaries. The Guadalupe River near Hochheim filled above floodstage early in the day with the leading edge of the flood wave reaching Cuero later in the day.</p> <p>At least 2000 head of cattle were lost. Serious loss of hay and other crops occurred. About 500 miles of fences were torn out by flooding. Commercial pecan orchards and wild trees were damaged. Total agriculture losses were set at \$1.2 million by early estimates. Property damages were estimated at \$1.4 million.</p> <p>Most property damage was due to sudden flooding of the river at Cuero. Much property was moved out of the area due to early warnings, but buildings and non-moveable items were damaged by water directly from the Guadalupe River or by water backing up creeks. The river reached a stage of 42.3 feet, second highest stage on record. In Cuero 40 homes and 4 businesses were damaged. Above and below Cuero more extensive damage was done to riverside housing areas, some of which were close to complete submersion.</p>
Lavaca Co.	31	Early Morning-All day	5	3	7	6	7	6	Heavy Rain
									<p>The worst flood in history of the Lavaca River developed on this date and devastated downtown Hallettsville, while flash flooding on creeks in north Lavaca County claimed 5 lives, injured at least 3 persons, and did extensive damages.</p> <p>Overall countywide losses were put at \$22 million.</p> <p>Nighttime rainstorms in north Lavaca Co. and adjacent upstream areas of Gonzales and Fayette counties were associated with the center of a tropical depression and led directly to the flash flooding.</p> <p>Rainfall Pattern: Most rain fell from 10 pm to 4 am CST with 24-hour totals by 6 am CST including these: Dreyer on the Gonzalez-Lavaca countyline, unofficial report 19.96; Moulton 9.0; Shiner 7.0; Hallettsville 6.75 inches.</p> <p>Flood Pattern, Deaths, and Injuries: Around 3 am CST waters had filled headwater streams over the extreme northwest part of the county. At Shiner a severe flood wave moved down Rock Creek reaching the city around 3 am CST and eventually doing severe damage to homes on the south and west sides of town. Four teenage brothers in a mobile home on Rock Creek evacuated to a nearby frame house around 3 am, but around 4:30 am the creek was so high and swift that the house was swept off its foundation and taken down the creek. The house shattered drowning three of the boys; a fourth who was on the roof was saved by a tree. Farther downstream two other lives were claimed by Rocky Creek between 5 and 6 am. Two cars plunged into the deep swift waters covering the bridge on Highway 77A. Two young men drowned: a woman passenger of one car and the driver of a third car were saved by clinging to trees in the swift current.</p> <p>Boggy Creek through Shiner also rose out of banks at the same time washing away the landmark Spoetzel Brewery bridge and damaging adjacent houses. Numerous small creeks throughout the northwest side of the county experienced severe flash flooding.</p> <p>The Lavaca River swelled out of banks on a very sharp rise all the way from headwaters at Moulton downstream to the gulf. Swiftness and steepness of the flood crest produced severe damages at Hallettsville where the river rose from within banks at 7 am CST to the all-time record high stage of 41.2 feet at 10 am CST. (Previous record was 40.6 feet, June 10, 1940. Records kept since 1870.) Many downtown workers had just arrived in Hallettsville (8 am CDT) when they were forced to flee for higher floors of buildings as water suddenly surged out of the river and into the city. Water at Hallettsville fell quickly after 2 pm CST.</p> <p>On the upper Navidad River a flood crest also developed, but it was later in the day. Near Sublime the Navidad River reached flood stage during the day Aug. 31 and continued to rise for several days.</p>

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TEXAS, Southern

	<p>Damages: Hallettsville-Losses were over \$6.5 million for the downtown area where concentrated flooding hit 15 blocks. About 150 to 200 houses were damaged; 75 businesses damaged with considerable loss to merchandise; City Hall, the jail, and county courthouse were damaged; hundreds of cars were badly damaged or destroyed. Shiner-Totals showed 118 homes damaged, several were completely taken away by swift flood waters on Rocky and Boggy Creeks; many cars were damaged; city water and gas lines across Boggy Creek were severed.</p> <p>Moulton-About 18 houses were damaged. Some frame houses were said to have been shoved off their foundations.</p> <p>Countywide-Roads were washed over doing considerable damage as well as isolating many persons. Roads suffering washovers included these: US 77, 77A, 90, 90A, 183; Texas 97, 95; Farm-to-Market Roads 531, 532, 443, 766, 108, 115, 116, 1680, 2814. Seventeen bridges were washed out including the Wallace Bridge below Ezzell on the Lavaca River which was over 100 years old.</p> <p>Agricultural losses included hundreds of head of cattle, miles of fencing, several thousand bales of hay, many barns. Railroads were washed out or undermined in several places.</p>								
Colorado Co.	31 Morning-Afternoon		0	0	?	?	?	?	Heavy Rain
	<p>Heavy rainstorms from pre-dawn to noon CST caused creeks to flood quickly through rural areas. Worst flooding was reported over southwest Colorado Co. where 5.33 inches rain fell at Sheridan by 6 am CST with more rain added to that later in the day. Streams reported out of banks included Mustang Creek and Sandy Creek.</p> <p>Damages were mainly rural in southwest Colorado Co. An intense thunderstorm developed over southeast Colorado Co., however, during the afternoon 3 to 5 pm dropping a sudden 2 to 3 inches of new rain which added to flooding in progress.</p>								
Forst Bend Co.	31 Morning-Afternoon		0	0	?	?	?	?	Heavy Rain
	<p>Morning rains dropped 7.6 inches at Richmond-Rosenberg and 7.85 near Sugar Land with later morning and early afternoon storms adding enough for totals to exceed 10 inches at these places.</p> <p>South of Katy around Saddlehorn Rd. houses in low spots were flooding by mid morning. Throughout the relatively flat county, many motorists drove off roads and into deep ditches due to obscuration of the road edge by the extensive water sheet covering the landscape. Over 1000 acres of harvestable cotton were abandoned due to untimely flooding of fields.</p>								
Harris Co.	31 0430CST		0	0	5	0			Lightning
	<p>A pre-dawn lightning-set fire destroyed 4 units of an apartment complex and damaged 4 others in Houston.</p>								
Brazoria Co. (N of West Columbia)	31 0815CST	3/10	30	0	0	5	0		Tornado (F1)
	<p>A small tornado spun out of a cluster of heavy thunderstorms. The mini-twister touched down just north of West Columbia beside Texas Hwy 36 where it damaged an office at an oil company facility. Persons inside hid in a bathroom when they heard a loud roar and no one was hurt. The tornado skipped a short distance, destroyed a barn, and then lifted.</p>								
Austin Co. (SE of Sealy)	31 0830CST	1/10	35	0	0	4	0		Tornado (F0)
	<p>A small tornado formed near heavy tropical rainstorms and touched ground just south of Interstate Highway 10 about 5 miles east of Sealy. This was close to the Frydek community. Roofing was peeled from a home along with other minor damage in the immediate area.</p>								
Harris Co.	31 Early morning-next night		0	3	7	?			Heavy Rain
	<p>Two periods of intense rains associated with a tropical depression hit the Houston-Harris Co. area.</p> <p>Recurring rains during the day Aug. 30 and a period of heavy downpours between midnight and 6 am Aug. 31 gave rainfall totals of 6 to 11 inches over west Harris Co. Totals included these: Alief 10.75; upper Buffalo Bayou 9.88; Addicks 7.15; Cypress 7.21; North Houston 5.21; Humble 5.31 inches.</p> <p>The second period of intense rains hit during early afternoon over east Harris Co. causing flooding to set in over that area too.</p> <p>Countywide estimates of flooding impact put flood damages at 1250 homes, 1000 automobiles, several dozen businesses. The three known injuries occurred in Pasadena when a woman and two children in a pickup truck were submerged in deep waters where Little Vince Bayou overflowed at Pasadena Blvd. Quick acting passersby saved the trio with only minor injury.</p> <p>Streams rising out of banks and causing know damages were these:</p> <p>Buffalo Bayou - Swelled out of banks in west Houston during early morning. Flooded west Houston houses, ruined several dozen cars at parking garage of large hotel. By afternoon was out of banks in downtown area washing a few cars off streets and parking lots. Many other cars submerged to hood level on adjacent streets.</p>								

TEXAS, Southern

	<p>Simms Bayou - Came over banks at Telephone Rd. by noon CST. Flooded adjacent apartments in south Houston.</p> <p>Mason Creek - Subdivisions east of Katy were flooded by overflow of the creek. Water entered a number of houses beginning around 9:15 am CST.</p> <p>Greens Bayou & Halls Bayou - Overflowing by afternoon and evening causing evacuation of 450 residents in several subdivisions.</p> <p>White Oak Bayou - Overflowed lowest banks. Caused emergency evacuation of a day care center.</p> <p>Brays Bayou - Water was said to have risen very fast during the morning flooding some homes in a least one subdivision.</p> <p>Little Vincens Bayou - Flooded adjacent apartments in Pasadena.</p> <p>Bear and Mayde Creeks - Many cars stalled and eventually were submerged as water rose behind Addicks Reservoir.</p>								
Brazoria Co.	31 Morning-Evening		0	0	?	?	?	?	Heavy Rain
	<p>Rainfall to 6 am CST measured 10.5 inches at West Columbia, 7.0 at Angleton, 5.3 at Sweeny, and 5.18 at Alvin. Renewed downpours around noon hit the area sending creeks and bayous on rises through rural areas and putting deep water into city streets. In Angleton water seeped into several businesses and a few homes around 11 am CST. In Alvin streets and low areas were flooding by noon CST.</p>								
Brazoria Co. (near Hoskins)	31 1145CST	4/10	45	0	0	4	0		Tornado (F1)
	<p>A large thunderstorm developed on the coastline of southeast Brazoria Co. and produced at least one tornado. The twister was observed moving on the ground close to Hoskins Mound. The tornado downed a swath of trees, ripped some fencing, but hit no houses. A resident nearby said he noticed the tornado at first because of its loud rumble.</p>								
Galveston Co.	31 Afternoon-Night		0	0	7	0			Heavy Rain
	<p>Recurring rains from noon til 3 pm CST caused sporadic flooding of streets and low areas throughout the mainland and island parts of the county. By 3:30 pm CST major streets on Galveston Island, in Texas City, LaMarque, and Hitchcock were flooded. By 4:30 pm many were impassable. Then at 6:15 pm CST a large severe thunderstorm complex developed rapidly over West Bay and moved across Galveston Island and adjacent mainland. Torrents of rain sent water into homes in scattered low areas of LaMarque and Texas City doing considerable damage to several dozen houses and City Hall in LaMarque, and to about 100 houses in Texas City. In Galveston rain water ran off quickly into the gulf and bays except in the downtown area where waist deep waters flooded some businesses. Water damage on first floors was compounded by rain which entered buildings after tornado damage. 100's of cars were damaged too.</p> <p>By 9 pm CST rainfall totals for the storm ranged from 8 to 12 inches over the area.</p> <p>In Texas City concern was raised when flood waters pushed gasoline out of underground storage tanks during a lightning storm. Highway 6 at Interstate 45, a major route out of Galveston, was submerged in deep rainwaters.</p>								
Galveston Co. (City of Galveston)	31 1805CST	13	85	0	2	7	0		Tornado (F1)
	<p>A rapidly developing thunderstorm moved northeastward through West Bay and onto Galveston Island. A tornado was generated on the southwest section of the storm very close to the storm's intense rain pattern. Witnesses close to the tornado described a sudden onset and abrupt cessation of wind of a few seconds duration when the tornado passed by. Many took cover when they heard a loud unusual roar.</p> <p>First touchdown of the tornado was through the Pirates Beach area on FM 3005 where the weak tornado travelled on ground for about 1 1/4 miles. It then apparently went aloft until it approached the airport. Next evidence of ground-based funnel activity was just southwest of Scholes Airfield. As the tornado passed over the airport at 6:15 pm CST, wind instruments measured peripheral gusts of the tornado up to 92 MPH for a short while. Leaving a continuous streak of alternating light to moderate damage nearly a block wide for 7 miles, the tornado moved over the north edge of the city. At the airport windows broke in the terminal building, a fire station was heavily damaged, some planes were damaged, roofs came off one or two hangars, a major power line was severed. As the tornado skimmed over residential areas, it left considerable roof and window damage. At Broadway and 51st Street a business was unroofed and old oaks toppled. As it approached downtown, the tornado produced moderate damage to house roofs and did severe damage to tops of taller 19th century buildings in the Strand Historical District. Many windows were broken in stores. As the tornado continued northeastward, it passed along the south side of Galveston Ship Channel heavily damaging a warehouse, toppling many 18-wheel trucks, and causing a 450-ft. freighter to break loose from the dock. Pier 21 suffered heavy damage as the ship was wrenched loose. Two workmen on the wharves were lightly injured by blowing debris.</p>								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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	

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, Southern

Early estimates put tornado damages at \$3.5 million for the private losses. Heavy city losses at the wharves were not yet determined by report time.

The twister headed into Galveston Bay and apparently ended over water.

Harris Co.	31 2315CST	0	0	4	0	Lightning
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Lightning hit a tall pine tree beside a house in north Houston. The charge leaped to the roof and started a fire which destroyed 30 percent of the house and its contents.

41 TEXAS, Western

Potter, Moore Counties	1 0045CST	0	0	0	0	Hail
Golf ball-sized hail 10 to 15 MPH north of Amarillo. No damage reported.						
Conley, Dallam County	6 1258CST	0	0	0	0	Tornado (FO)
Tornado near Conley. No damage reported.						
El Paso, El Paso County	10 Afternoon	0	0	0	0	Flood
Heavy rains swamped much of El Paso with water in low areas rising to near 5 feet. The Weather Service measured 1.5 inches of rain. No damage reported.						
Odessa, Ector County	16 1618CST	0	0	0	0	Funnel
A funnel cloud just north of Odessa moving southeast at 20 MPH reported by the Sheriff's Department. No touchdown.						
Midland, Midland County	16 1716CST	0	0	0	0	Wind, Rain
Wind gusts to 66 MPH and near 1.75 inches of rain hit the Midland Airport. No damage reported.						
Midland, Midland County	16 1845CST	0	0	0	0	Flash Flood
Flash flooding, with water up to near 5 feet deep at Midland Drive, reported by severe weather spotter. Other parts of the City were also flooded. No damage reported.						
Lubbock, Hale Counties	16-17 Evening-Morning	0	0	0	0	Flood
Two to four inch rains produced flash flooding. No damage reported.						
Potter, Randall, Swisher Counties	16-17 Evening-Morning	0	0	4	0	Flood
Flash flooding due to 3 to 4 inch rain amounts closed several roads and highways, with water rising to near one foot, in low places in Tulia. Potter County Deputies, wading in waist-deep water, rescued four families from their homes in Valley De Oro. Water was 3 feet deep in one of the houses.						
Coahoma, Howard County	17 1100CST	0	0	0	0	Tornado (FO)
A tornado tore down some mesquite a few miles southeast of Coahoma. It was sighted by the Police and County Sheriff. No other damage was reported.						
Carlsbad, Tom Green County	27 1713CST	0	0	2	0	Wind
Unconfirmed tornado reported near Carlsbad. Some roof damage was reported along with tree limbs. Later reports indicated most damage was due to high winds.						
Hall, Tom Green County	27 1900CST	0	0	0	0	Wind, Rain
Three to four inch rains and estimated wind to 80 MPH four miles west of Hall within a very short period. No damage reported.						
Odessa, Ector County	28 1538CST	0	0	0	0	Tornado (FO)
A tornado in open country, causing no damage, west of Odessa was sighted by the Odessa Fire Department.						

42 UTAH

Salt Lake, Davis, Weber, and Cache Counties	9-10 Evening-Morning	0	0	4	0	High Winds
Easterly canyon winds, estimated at 70-75 MPH occurred in the evening of the 9th and morning of the 10th. Damage occurred to trees, power lines, a Parade of Homes display, and several boats at the Great Salt Lake Marina.						
Western Iron and Northern Washington Counties	10 1330MST	0	0	0	6	Hail
A thunderstorm producing a large amount of hail caused considerable crop damage in agricultural areas near Modina, Enterprise, and Beryl. The damaged crops consisted of hay (\$10,000), potatoes (\$500,000), corn (\$24,000), oats (\$12,000), and barley (\$85,000). Up to one-inch diameter hail, four inches deep on the ground, occurred at Cedar City. Total damage was estimated at \$721,000.						

UTAH

Carbon County, Wellington	21 Unknown	1	1	0	0	Lightning
One youth was killed and another injured when lightning struck while they were riding their dirt bikes in Wellington. The injured youth suffered neck and chest burns.						
Iron County	22 1800MST	1	0	0	0	Lightning
A Nevada man was killed by lightning while fishing on Lower Creek near the Brian Head Ski Resort.						
Summit County, Park City	23 1700MST	0	2	0	0	Lightning
Two golfers were injured when lightning struck them on the 16th tee.						

43 VERMONT ————— NONE REPORTED

44 VIRGINIA

Newport News and Hampton	8 0545EST	0	0	4	0	Rain, Lightning, Wind
A brief, but intense, thunderstorm caused street flooding in the area and at least one automobile was caught in window-high water at one low spot. Lightning and wind gusts were responsible for the disruption of electricity to some 3,000 homes.						
Hampton Area	11 1300EST	0	0	4	0	Wind, Lightning, Rain
Wind did considerable damage to the roofing of a home in Hampton, and also demolished a utility shed on the property. A band building in the neighborhood had more than half of the shingles torn off. Elsewhere, in York County, a lightning-caused fire resulted in damage to the porch and wall of a house, and some street flooding was reported. Damage estimated at \$8,000.						
Wise County	16 Early AM	0	0	5	3	Rain, Flash Flood
Very localized thunderstorm produced rainfall of around 4.5 inches during a 5-hour period ending at about 9:30 am EST. Fifty homes and 25 mobile homes in the central section of the County had damage totalling around \$110,000. Another \$17,000 damage was inflicted upon other property or equipment ... around \$10,000 to a highway and railroad.						
Southeastern	20 All Day	0	0	3	0	Tropical Storm
Tropical Storm "Dennis" brushed the southeast corner of the State with little damage. Winds gusted to near 45 MPH at the height of the storm (around 7 am EST). Minor flooding occurred during high tide, along with light to moderate beach erosion ... the most significant at Willoughby Spit, Norfolk.						
Northern	30 0200-1000EST	0	0	4	3	Rain
Shower and thunderstorm activity brought rainfall totalling from over 4 inches in many sections in Fauquier and Stafford Counties, with nearly 9 inches measured at Warrenton. Streams left their banks and flooded homes and businesses and also blocked several roads. About the most serious flooding occurred on State Route 612. Total damage expected to be near \$60,000.						

45 WASHINGTON ————— NONE REPORTED

46 WEST VIRGINIA ————— NONE REPORTED

47 WISCONSIN

Grindstone Lake, Sawyer County	1 0930CST	1	0	0	0	Lightning
Lightning struck and killed a fisherman in an aluminum boat on Grindstone Lake near Hayward.						
Rusk County	1 1050CST	0	0	4	0	Severe Thunderstorm
60 MPH winds damaged trees at numerous locations. 1/2 inch hail was reported at Bruce.						
Grant, Crawford Counties	1-2 2100-0500CST	0	0	5	?	Rain
3 to 5 1/2 inches of rain caused localized stream flooding. Ponding of water on streets in Prairie du Chien flooded several downtown stores. Mud slides occurred on many secondary roads in the Prairie du Chien area.						

STORM DATA AND UNUSUAL WEATHER PHENOMENA

AUGUST 1981

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										
Polk, Barron, Rusk Counties	3	1345-1500CST			0	0	5	6	Severe Thunderstorm	
80 MPH winds flattened crops, destroyed many barns and downed power lines. 1 to 3 inch hail accompanied the storm in areas around St. Croix Falls, Dresser, Deer Lake and Sand Lake. Crops were 40 to 90 percent ruined in the hail areas. Two tornadoes (see following reports) occurred in the Ubet areas.										
Ubet Area, Polk County	3	1430CST	?	?	0	0	4	?	Tornado (FO)	
A tornado touched down briefly just north of Ubet and damaged the Bethesda Lutheran Church.										
Ubet Area, Polk County	3	1430CST	?	?	0	0	4	?	Tornado (FO)	
A tornado touched down in a field one mile east of Ubet, moved east 150 feet, and then lifted.										
Central Wisconsin	3	1640-2000CST			0	0	6	7	Severe Thunderstorm	
Numerous waves of severe thunderstorms devastated crops and caused widespread damage to buildings and rural electric facilities. 1/2 to 2 inch hail was reported at many locations. Dollar damage by county: Clark 1,770,000; Chippewa 300,000; Dunn 600,000; Eau Claire 210,000; Marathon 2,700,000; Taylor 1,460,000; and Wood 340,000.										
Langlade, Menominee Oconto Counties	6	1700-1830CST			0	0	4	0	Severe Thunderstorm	
Severe thunderstorms with 80 MPH winds and 1/2 inch hail roared through the area. Widespread tree and power line damage occurred. In the Oconto Falls area, several buildings (including one trailer) were damaged.										
Orfordville, Rock County	26	1800-2200CST			0	0	4	?	Rain	
6 1/2 inches of rain resulted in flooded streets, stalled cars and flooded basements. Several minor road washouts occurred.										
Lima Township, Sheboygan County	29	1300CST	.2	?	0	0	3	0	Tornado (FO)	
A tornado touched down 1/2 mile west of Highway 32 along Wilson-Lima Road, moved north through a farm, then dissipated.										
Columbia	31	2200-2400CST			0	0	5	?	Flash Flood	
4 to 7 1/2 inches of rain fell across the south half of the county, producing flooding on creeks flowing into the Wisconsin River. Poynette recorded 7 1/2 inches of rain. Numerous highway washouts occurred.										
Jefferson, Waukesha Counties	31	1900-2100CST			0	0	5	5	Severe Thunderstorm	
80 MPH winds caused widespread tree and crop damage. Heaviest damage occurred in the Lake Koshkonong-Hebron area.										
48 WYOMING										
Casper, Natrona County	3				0	0	0	?	0	Electrical
Lightning strike destroyed Casper's Police Department radios.										
Worland, Washakie County	5	1515MST	?	?	0	0	?	?	Hail	
Three-quarter inch hail reported on Worland's observation. Not extensive and mostly 1/2 inch hail.										
Pine Bluffs, Laramie County	6	0200MST	12 mi.	?	0	0	?	7	Rain, Hail	
Heavy rain estimated between 1-1/4 to 4 inches in about 40 minutes. Hail up to grapefruit size. Damaging winds blew off roofs to wooden granaries and bent TV antenna poles. Most of damage caused by hail and aggravated by wind and rain. NOTE: No. 7 in crop damage represents the total damage of this storm plus the two previous storms combined.										
Near Buford, 20 mi. West of Cheyenne, Laramie County	16	1015-1025MST	?	?	?	0	0	0	Tornado (FO)	
Funnel cloud reported by Cheyenne's Tower operator at 10:15 am. Reported to have briefly touched down at 10:25 am by a Frontier Airline pilot.										
Campstool Road and Interstate 80 Junction 6 mi. East of Cheyenne, Laramie County	16	1440MST	?	?	0	0	0	?	Hail	
Golf-ball size hail reported at the intersection of Campstool Road and Interstate 80 Junction, 6 miles east of Cheyenne.										
Burns, Laramie County	21	1658MST	6 mi.	?	0	0	0	0	Funnel aloft	
Funnel cloud 3 miles west to 3 miles south of Burns, heavy rains, vivid lightning and 1/4 inch hail.										
Cheyenne, Laramie County	22	1710MST	?	?	0	0	0	0	Funnel aloft	
Funnel cloud aloft and several dust swirls associated with a thunderstorm gust front. Rear end of a U-Haul truck lifted 5 feet above ground. At 5:50 pm: apparent hook echoes on Cheyenne radar 4 miles north northeast of Nunn, Colorado, about 15 miles south of the Wyoming border.										
WYOMING										
Platte Valley, Albany County	30	1630-1800MST			0	0	0	0	4	Electrical
Lightning started two fires which burned some 255 tons of hay.										
Libby Flats area, near Medicine Bow Peak in Snowy Range, Albany County	30	?	0	0	1	1	0	0	0	Electrical
Lightning killed a Milwaukee man and caused second and third degree burns to his wife. NOTE: This event most likely occurred around the time of lightning fires above--areas are close to each other.										
49 ALASKA										
North Gulf Coast	6-10				0	?	5	0	0	Heavy Rain
A slow moving front across Prince William Sound caused very heavy rains in the cities of Cordova Valdez and Seward. At Cordova the official rainfall for the period was 14 1/2 inches with unofficial reports of over 20 inches. Many roads were closed in the area due to washouts and mudslides.										
Northwest Interior	11	?			0	0	0	0	0	Funnel Clouds
Three funnel clouds were sighted in the western Brooks Range by a vacationing weather observer.										
50 HAWAII										
Statewide	3-4				0	0	4	4	4	Heavy Rain, Wind
Heavy rains over the State caused minor flood damage, rock slides, and scattered wind damage. Rainfall amounts 5 to 10 inches along windward slopes of Big Island. Also locally heavy amounts on Kauai. Storm was caused by moisture carried along by a weak tropical disturbance moving westward just south of Big Island. This moisture was acted upon by a trough in the upper westerlies north of the State. Rainfall, in general, was much appreciated since it alleviated severe drought on Big Island and Maui caused by much below normal precipitation over the past 11 months.										
51 PUERTO RICO ————— NONE REPORTED										
52 VIRGIN ISLANDS ————— NONE REPORTED										
53 PACIFIC										
Wake Island	7	1000LST			0	0	2	0	0	Wind, Rain
Minor wind damage on Wake Island as winds gusted at 58 MPH. A few branches blown off trees and some sheet metal off buildings. The weather at Wake during month was very unsettled as an active monsoon trough lingered in the area. Rainfall was exceedingly heavy. The 5-day period, August 4-8, had a total of 19.71 inches which exceeded any total recorded previously for any entire month. Tropical cyclone Susan formed late on the 8th about 300 mi. NNW of Wake Island.										

STORM SUMMARY

AUGUST 1981

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	DAMAGE	DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE		DEATHS	INJURIES	DAMAGE					
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS				
Alabama	1	1			1			1	2		2	5		1	5														
Alaska																													
Arizona								4	4			5	4	1	2	4													
Arkansas														3	8														
California																													
Colorado	3	3			3		1	6	5			4	4	2	3	4								5	4				
Connecticut	‡																												
Delaware																													
Florida	8	5			5							4			3	2								6	7				
Georgia												5		1		4													
Hawaii													3																
Idaho									6															4	4				
Illinois	1	1			4							4	4			5							4	5	4				
Indiana																								5	4				
Iowa	1	1						4	5			4	4			3								5	4				
Kansas												5	6	3										4	4				
Kentucky	1	1		3	4							4	3											4	4				
Louisiana	1	1		2	3							2																	
Maine																								7	6				
Maryland & DC																								4					
Massachusetts	‡																												
Michigan																													
Minnesota	5	2		1	7								4											4	6				
Mississippi										1		5	3	2	4	5													
Missouri	1	1			4			?	?			5	?		?	5													
Montana	2	1																											
Nebraska	5	4			6							5	7	3										5	6	6			
Nevada												6	7											2	1	7			
New Hampshire												6	5											1	7	7			
New Jersey															1	5	3												
New Mexico	2	2																											
New York	1	1		?	?							4			1	16	4								6	5			
North Carolina																										7			
North Dakota															1											4			
Ohio												5	6				5	5											
Oklahoma	2	1			4									3	5	?													
Oregon																													
Pacific																													
Pennsylvania	1	1			5																								
Puerto Rico															5	?													
Rhode Island	‡																												
South Carolina	1	1			3																					6			
South Dakota	‡																												
Tennessee																													
Texas	20	9		4	7			4						5	?		5						5	10	8	7			
Utah									6					4		2	3												
Vermont																													
Virginia														4			3									5			
Virgin Islands																										3			
Washington																													
West Virginia																													
Wisconsin	3	2			5			6	7					6	6											5			
Wyoming	1	1												?	7											?			

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