

STORM DATA



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DIRECTOR
NATIONAL CLIMATIC DATA CENTER

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C O N T E N T S

Cover: Undulating floodwaters of Grouse Creek at Silverdale, Kansas, rush by a stop sign at the intersection of Cowley County Highway 1 and a township road, one mile south of the town, on October 3rd. The high waters were part of a much larger area of flooding which, was most prevalent in Southeast Kansas and North-Central Oklahoma and resulted from a week of very heavy rain (see pages 6 through 19).

---Photo by Don Shrubshell, The Arkansas City Traveler.

Inset: Residents ferry a boatload of belongings through floodwaters of Elm Creek at Iola, Kansas, on October 3rd during the same flood episode.

---Photo by Keith Mays, The Topeka Capital-Journal.

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STORM DATA (ISSN 0039-1972)

The section on Outstanding Storms of the Month is prepared by Professor T. Theodore Fujita, editor, and Duane J. Stiegler, associate editor, the University of Chicago with funding by the U. S. Office of Naval Research. The Storm Data and Unusual Weather Phenomena narratives, and summaries of Hurricanes/Tropical Storms are prepared by the National Weather Service. The National Climatic Data Center compiles statistics on deaths, injuries, damage, and prepares the annual summaries of Tornadoes and Lightning. 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. Maps of zones used in the Storm Data and Unusual Weather Phenomena will be published in these editions; Eastern States: JAN, APR, JUL, OCT.
Central States: FEB, MAY, AUG, NOV.
Western States: MAR, JUN, SEP, DEC.

Storm Data is published monthly by the National Climatic Data Center.

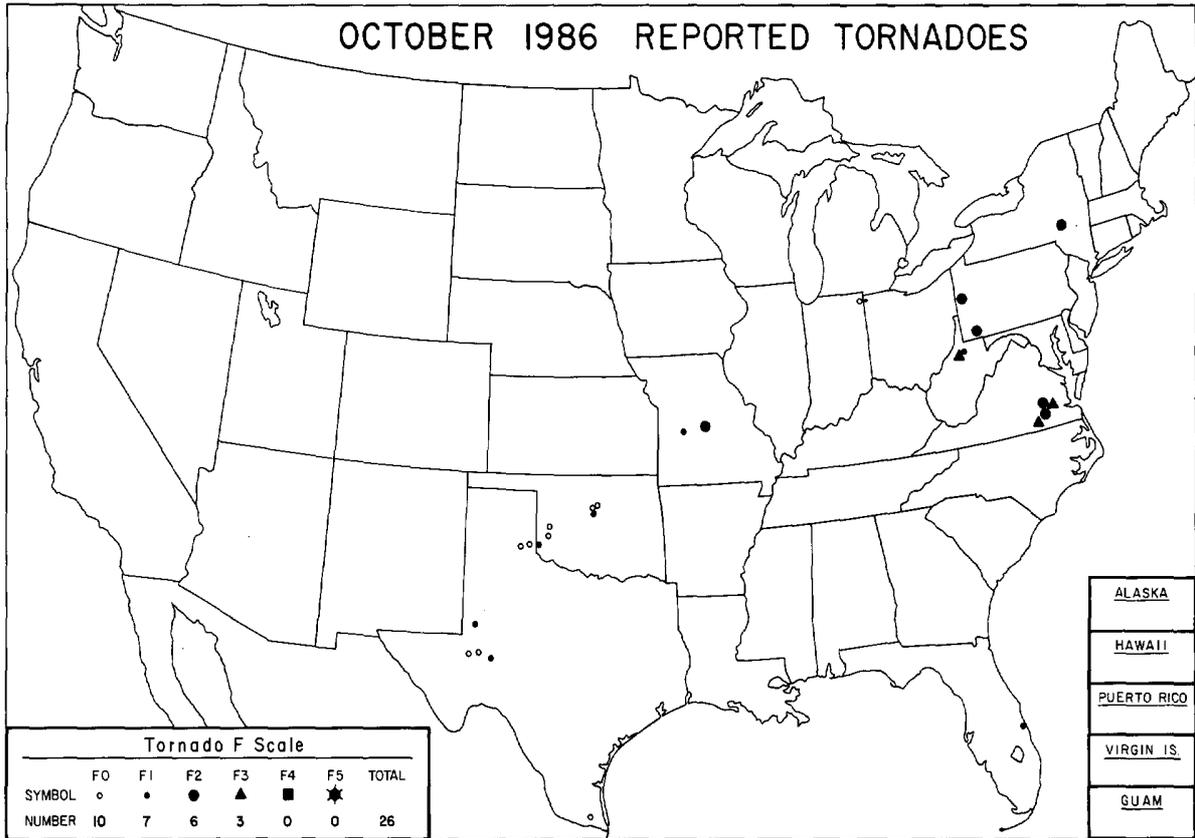
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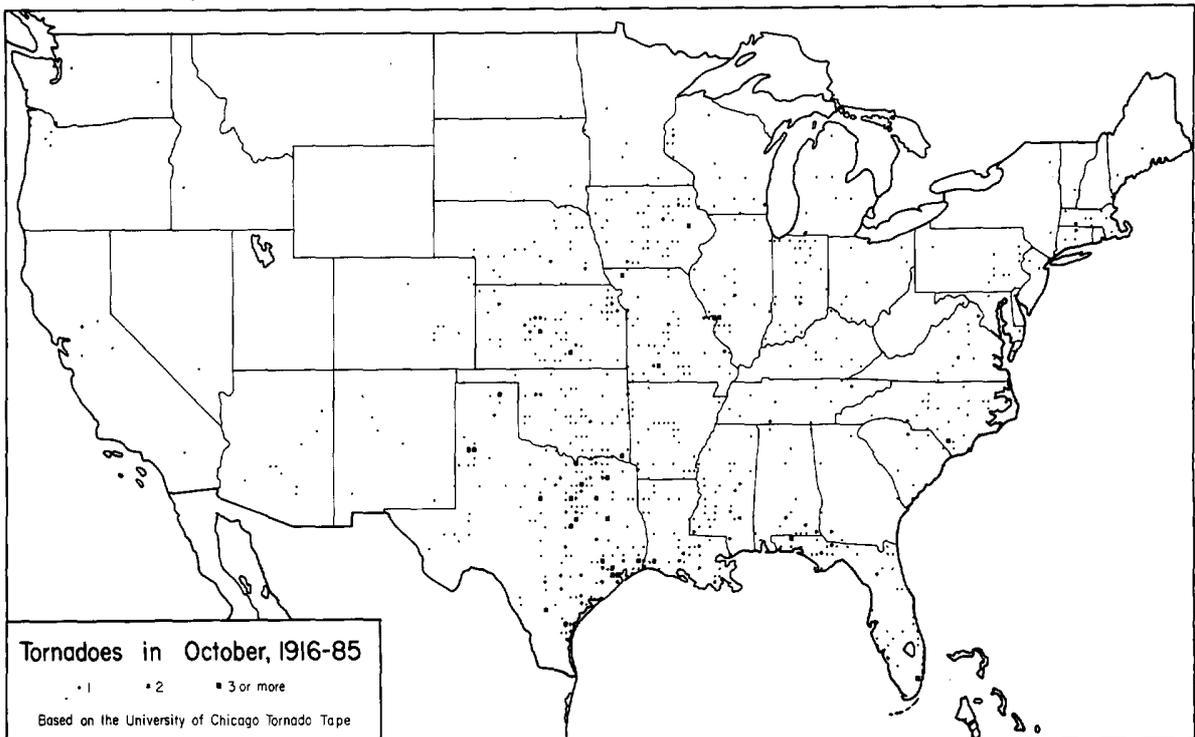
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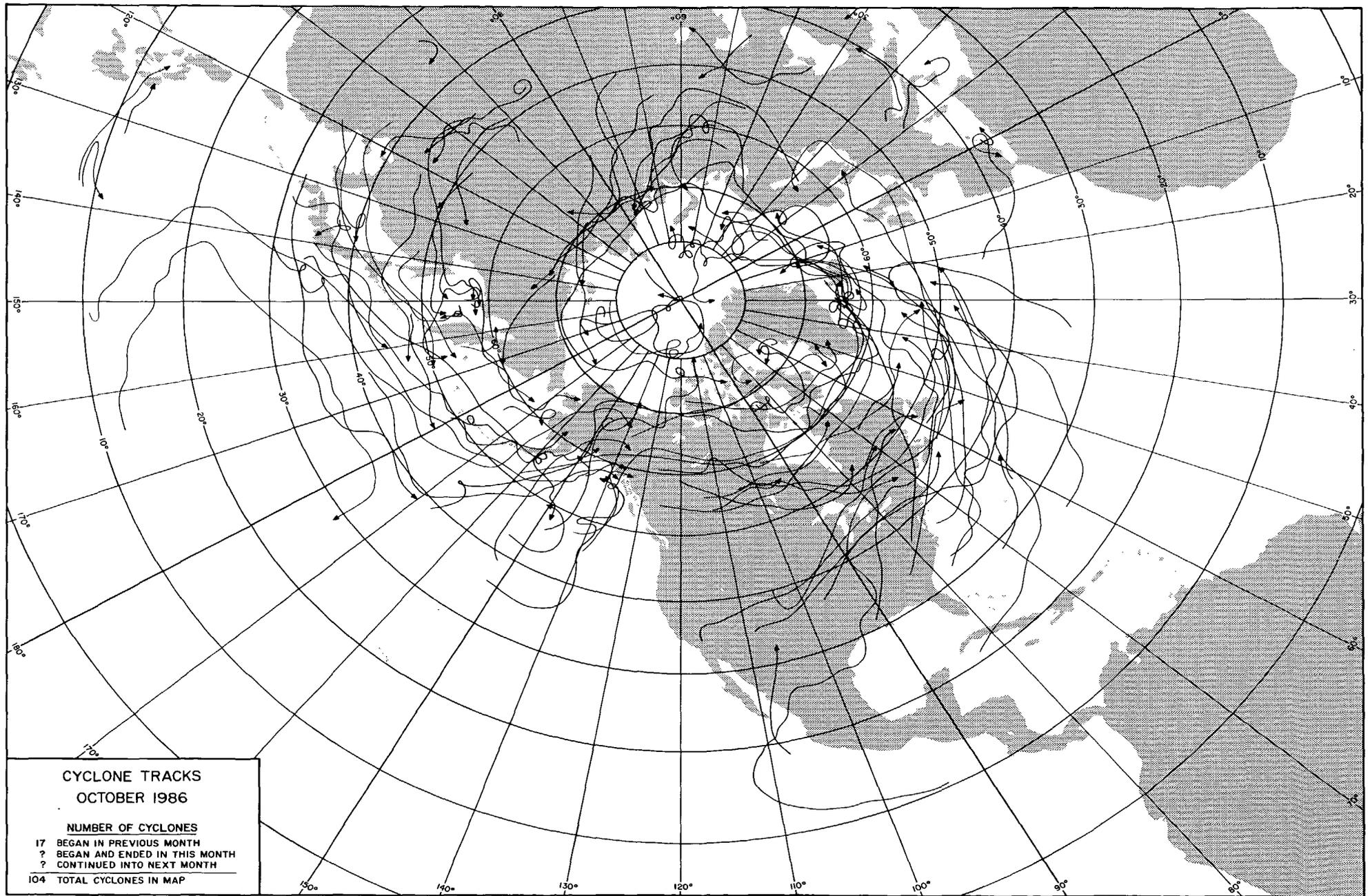
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OUTSTANDING STORMS OF THE MONTH



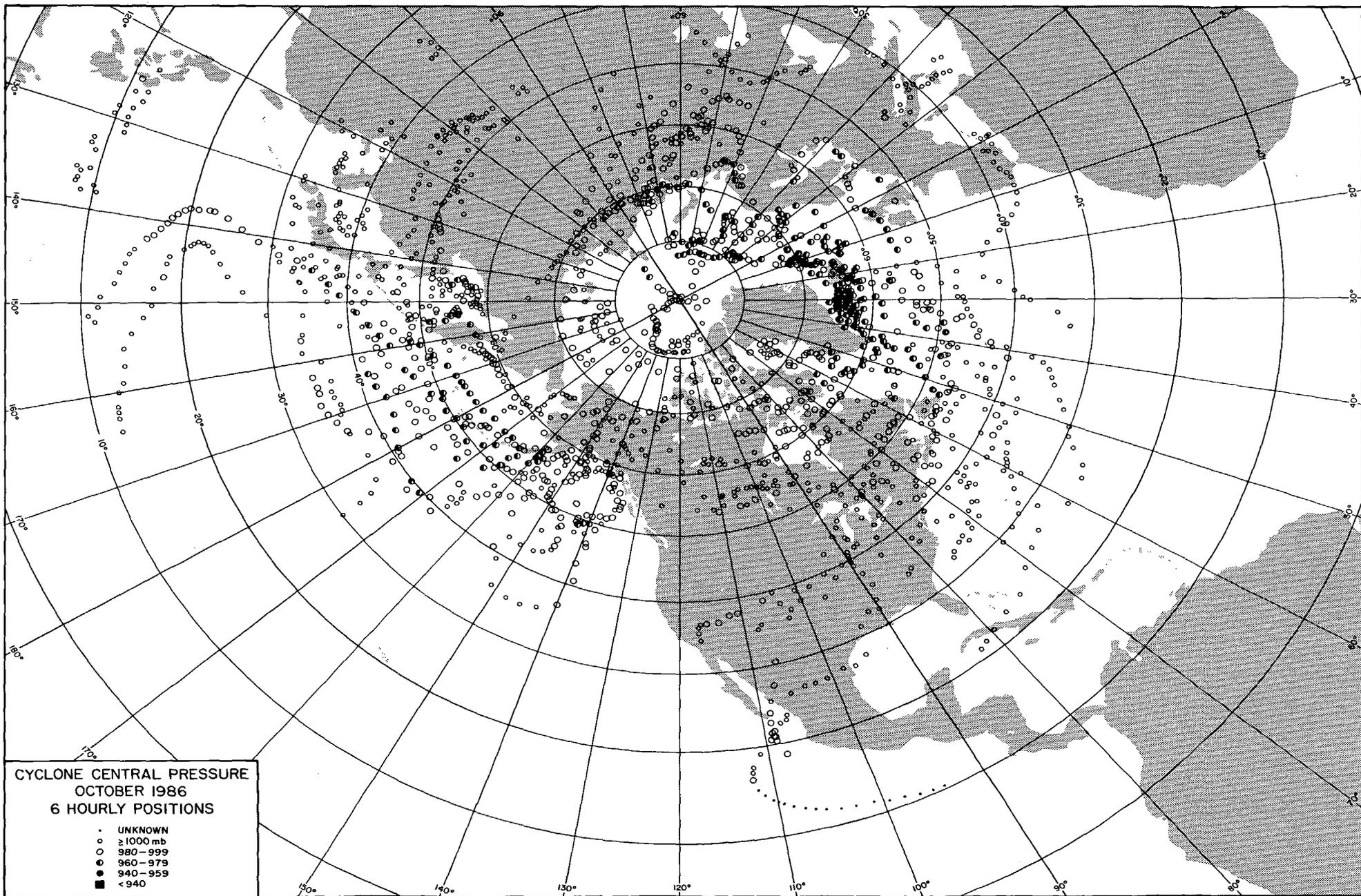
● COMPLETE REPORT RECEIVED	● 1AL	● 7DE	● 14KS	● 21MN	● 28NJ	● 33OH	● 39SD	● 44VA	● 49AK(SE)
⊙ PRELIMINARY REPORT RECEIVED	● 2AZ	● 8FL	● 15KY	● 22MS	● 29NM	● 34OK	● 40TN	● 45WA	● 50HI
○ REPORT NOT RECEIVED	● 3AR	● 9GA	● 16LA	● 23MO	● 30NY(O)	● 35OR	● 41TX(N)	● 46WV	● 51PR
(N) northern (W) western	● 4CA(N)	● 10ID	● 17ME	● 24MT	● 30NY(C)	● 36PA(E)	● 41TX(S)	● 47WI	● 52VI
(S) southern (C) central	● 4CA(S)	● 11IL	● 18MD	● 25NE	● 30NY(W)	● 36PA(W)	● 41TX(W)	● 48WY	● 53PC
(E) eastern (O) coastal	● 5CO	● 12IN	● 19MA	● 26NV	● 31NC	● 37RI	● 42UT	○ 49AK(N)	
(SE) southeastern	● 6CT	● 13IA	● 20MI	● 27NH	● 32ND	● 38SC	● 43VT	○ 49AK(S)	





Missing data: 12 GMT, Oct. 29 through 18 GMT, Oct. 31

Mapped at the University of Chicago from NMC, 6-hourly surface maps



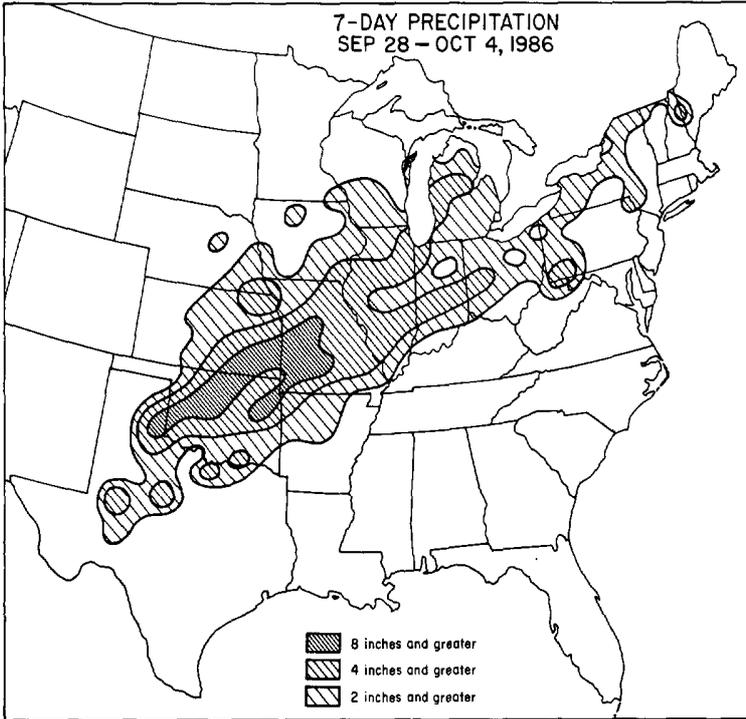
**CYCLONE CENTRAL PRESSURE
OCTOBER 1986
6 HOURLY POSITIONS**

- UNKNOWN
- ≥ 1000 mb
- ◌ 980-999
- ◌ 960-979
- ◌ 940-959
- < 940

Missing data: 12 GMT, Oct. 29 through 18 GMT, Oct. 31

Mapped at the University of Chicago from NMC, 6-hourly surface maps

1. HEAVY RAINS and FLOODING in the CENTRAL STATES, September 26 through October 5, 1986

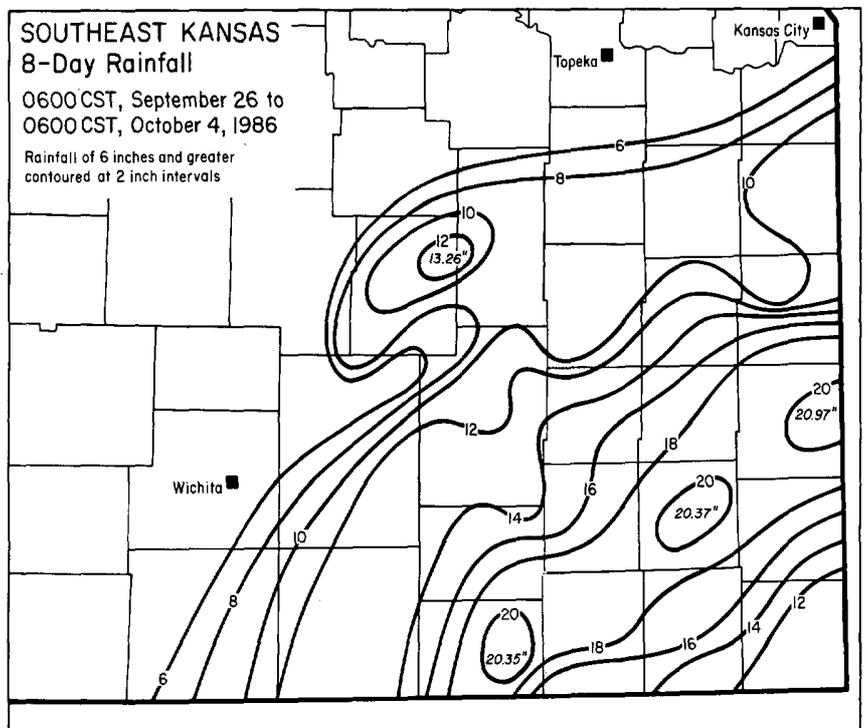


---Map from the NOAA/USDA Joint Agricultural Weather Facility.

During the last four days of September and the first four days of October, the almost stationary positioning of a front resulted in a band of heavy rainfall that extended from the Texas Panhandle, through Oklahoma and Southeast Kansas, and into Central Missouri. By the end of September, the ground was saturated throughout most of the region, and flooding was already prevalent in many areas. Then, the precipitation became further enhanced as the remnants of Pacific Hurricane PAINE moved northeastward along the front on October 2nd and 3rd. Flooding of catastrophic proportion over widespread areas resulted, as many locations received rainfall in excess of 20 inches during the 8-day period. Hardest hit by the flooding were North-Central Oklahoma and Southeast Kansas (see individual state reports for details). Coverage of Southeast Kansas flooding follows:

1a. HEAVY RAINS and FLOODING in SOUTHEAST KANSAS, September 26 through October 5, 1986

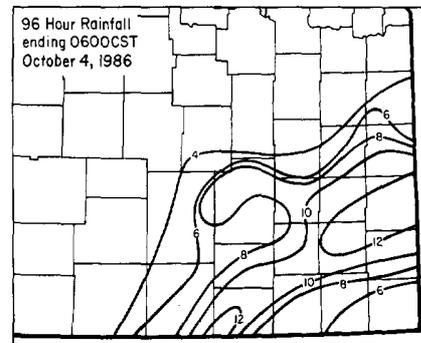
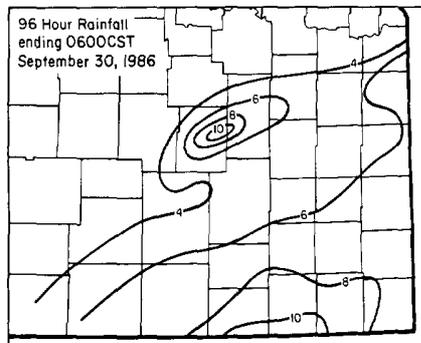
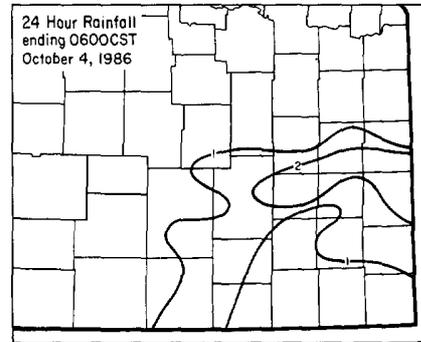
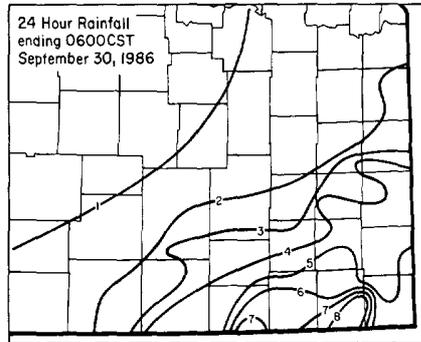
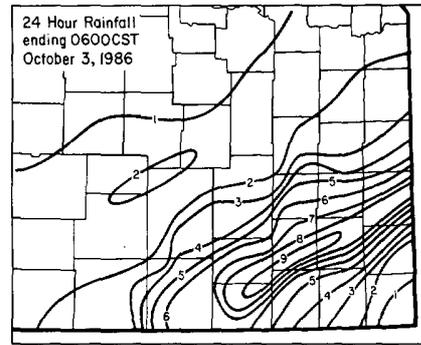
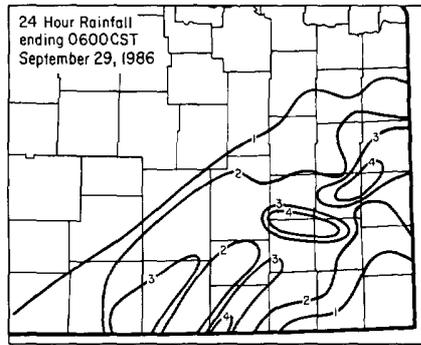
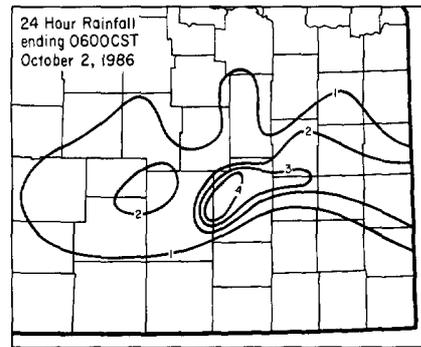
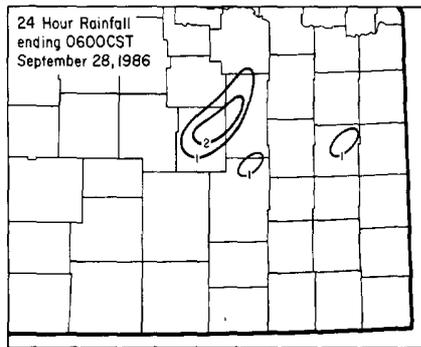
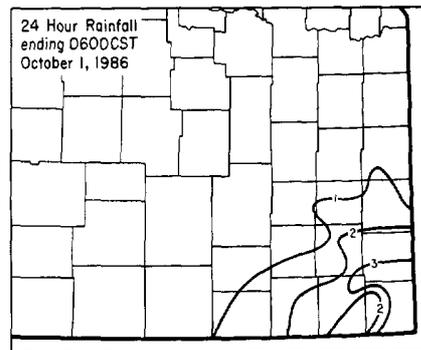
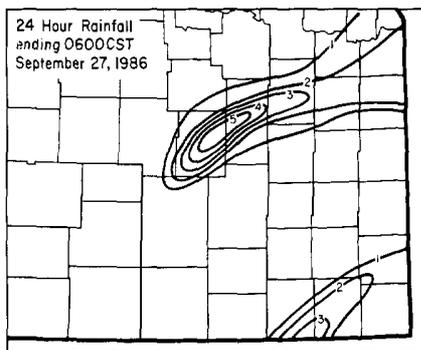
The heavy rain and flooding in Southeast Kansas affected counties generally south of Topeka and Kansas City, and east of Wichita (see map at right). The 40-mile-wide band of 18-inch and greater rainfall was comprised, to a large degree, of 6 to 9 inch rains that fell during the passage of Hurricane PAINE's remnants on the evening of October 2nd and morning of the 3rd (see map sequence on the following page).



Isohyet analysis of precipitation totals from the eight-day, heavy rain episode in Southeast Kansas.

---Above map and those on the following page are courtesy of Steven Schurr, NWSFO, Topeka, Kansas.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



Southeast Kansas rainfall analyses for individual 24-hour periods and 4-day periods in each month. 24-hour analyses show amounts of 1 inch and greater contoured at 1 inch intervals; 96-hour analyses, 4 inches and greater contoured at 2 inch intervals.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



Children wade through floodwaters of Onion Creek in Coffeyville (left) and onlookers watch as a motorist ignores roadblocks and crosses a flooded portion of Buckeye Road in Coffeyville (right). ---Both photos taken on September 30th by John C. Davis, The Coffeyville Journal.



ABOVE: Vehicles on 10th Street in Parsons being overtaken by floodwaters of Labette Creek on the morning of September 30th. BELOW: A flooded industrial park, also in Parsons on the 30th. ---Both photos by Steven Hausler, The Parsons Sun.

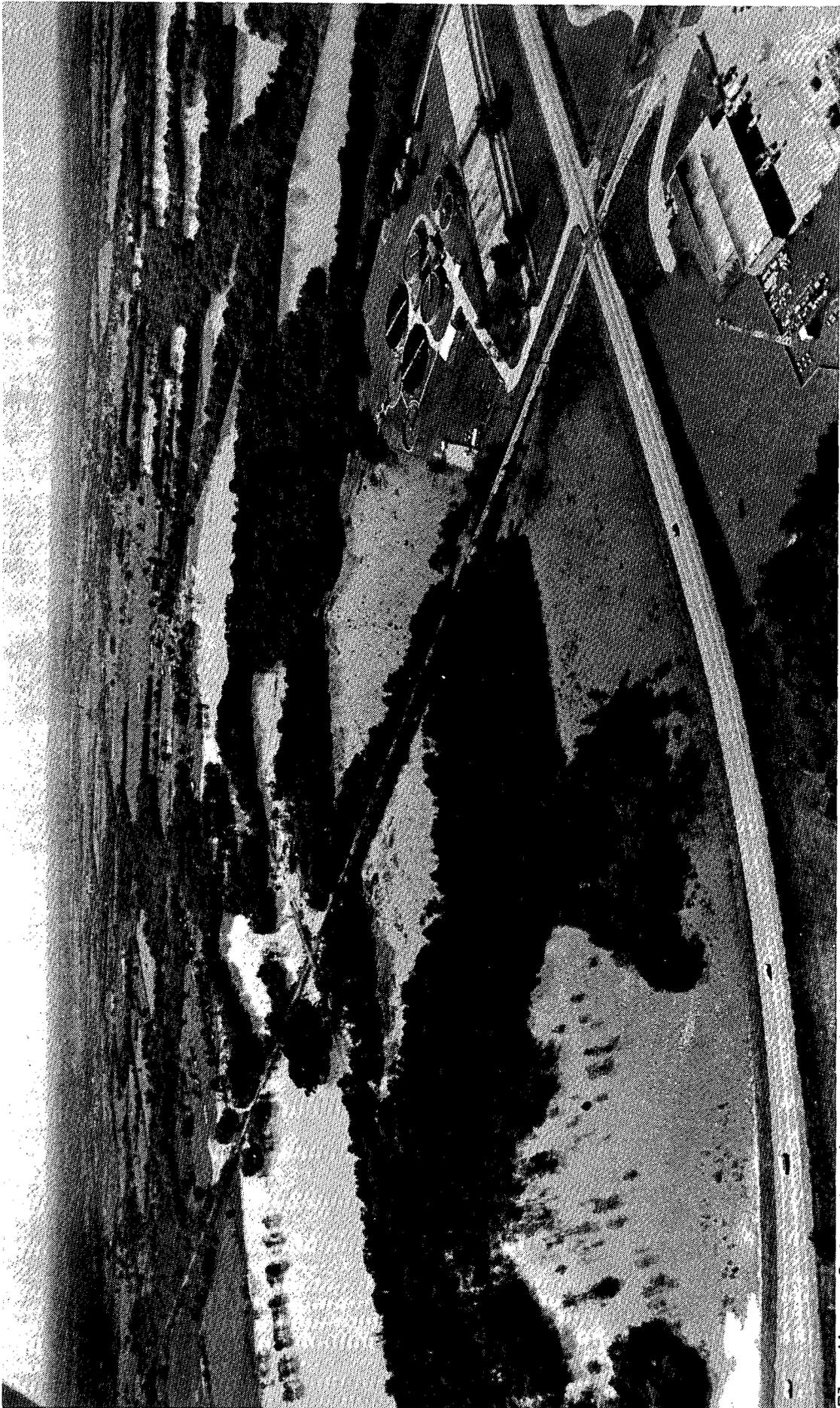


HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



Floodwaters of Labette Creek inundate fields adjacent to US Highway 59 between Oswego and Chetopa (above) and a farm northwest of Chetopa (below). ---Both photos taken on September 30th by Steven Hausler, The Parsons Sun.





Flooding of Cow Creek west of Pittsburg on October 1st. The Pittsburg Wastewater Treatment Plant and a facility of the Kansas Gas and Electric Company appear at the lower right; the highway is US 69. ---Photo by Robert Poole, The Pittsburg Morning Sun.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



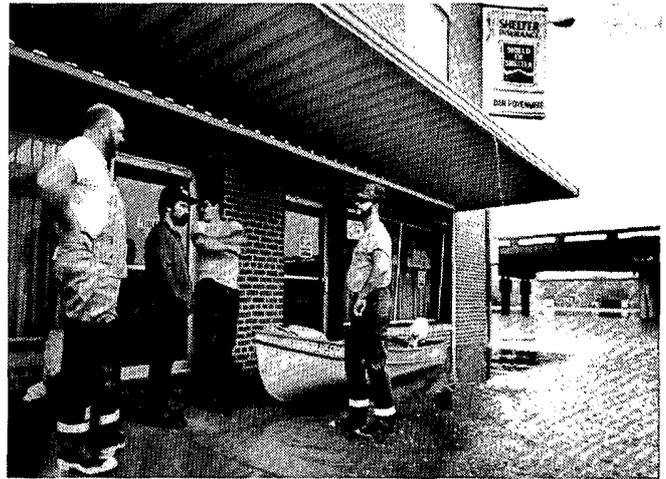
Waters from Cow Creek creep up on Whispering Pines Trailer Court west of Pittsburg (above) and engulf a meat-packing plant at the intersection of Kansas Highway 126 and US Highway 69 in Pittsburg (below). ---Both photos taken on October 1st by Robert Poole, The Pittsburg Morning Sun.



HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



Marmaton River flooding in Fort Scott caused doors to be ripped open and trailers to be uplifted and toppled at this trucking company shown on October 3rd. ---Photo by Joe Zeman, The Linn County News.



Fort Scott volunteers hold an impromptu meeting in front of an insurance office, one of many that were hard hit after, if not during the flooding episode. ---Photo by Raymond L. Brecheisen, The Pittsburg Morning Sun.



An October 3rd, aerial view of flooding at the intersection of US Highways 69 and 54 on the north side of Fort Scott. ---Photo by Robert Poole, The Pittsburg Morning Sun.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued

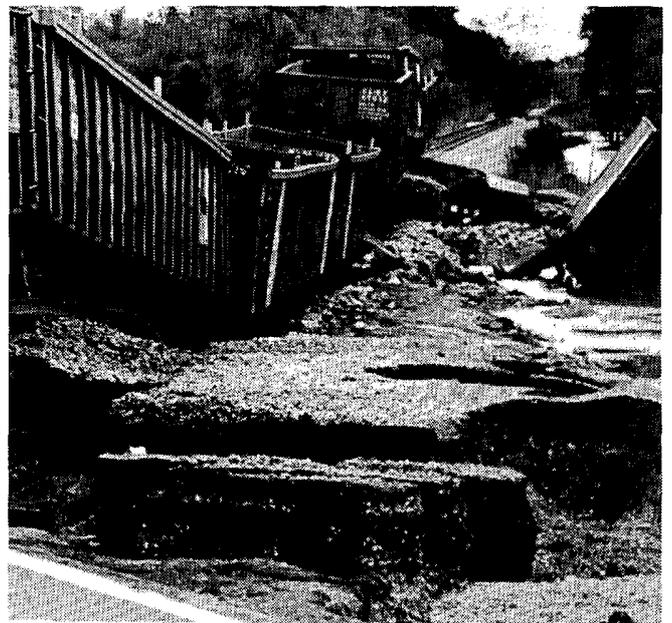
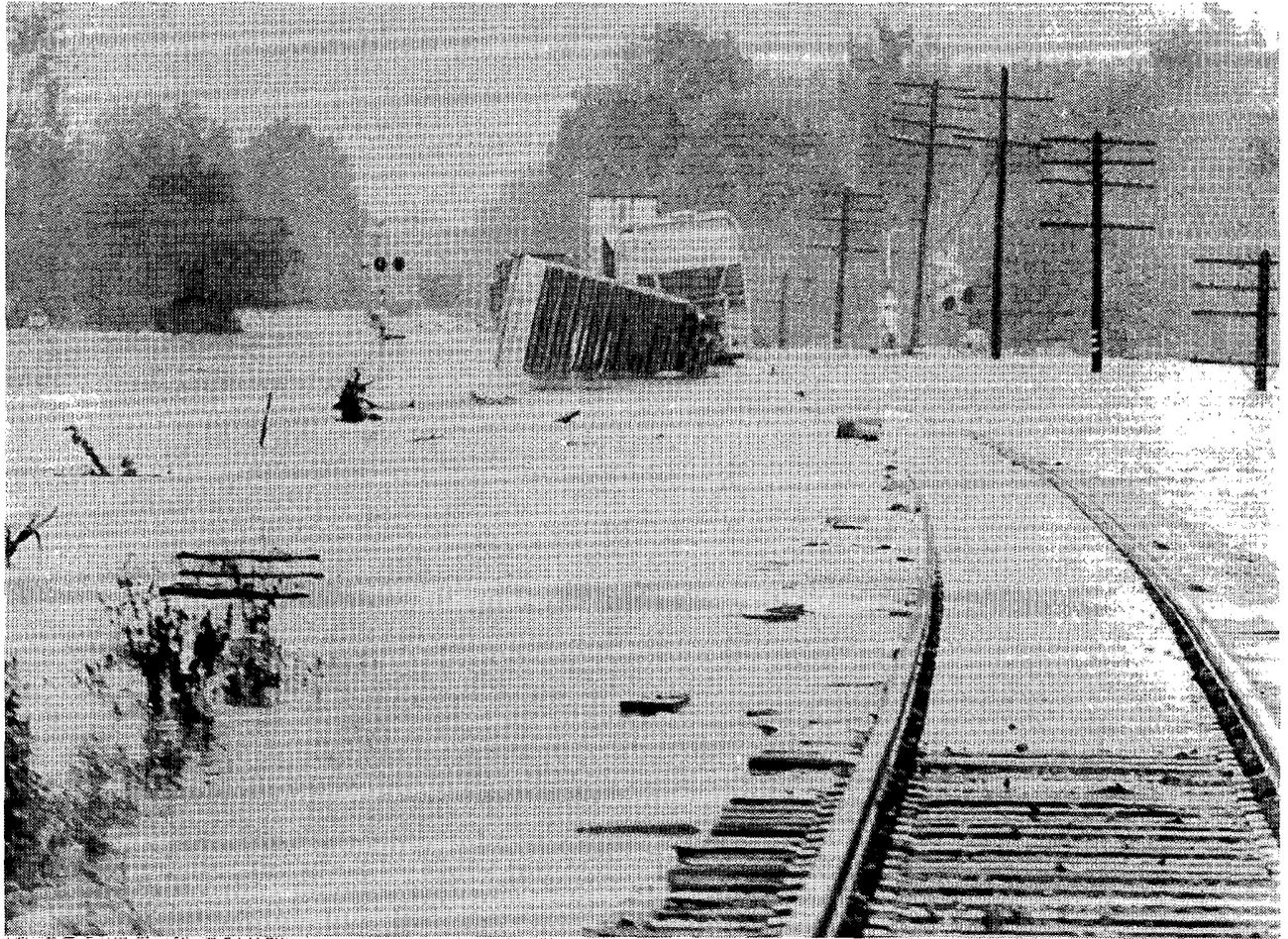


The two ground-level, or perhaps one should say "water-level", views above, also show the flooding at the intersection of US Highways 69 and 54 on October 3rd. As the Marmaton River spilled out of its banks, water levels here became several feet deep, deep enough to make some small structures buoyant and float out of position. ---Both photos by Christian Scherling, The Linn County News.



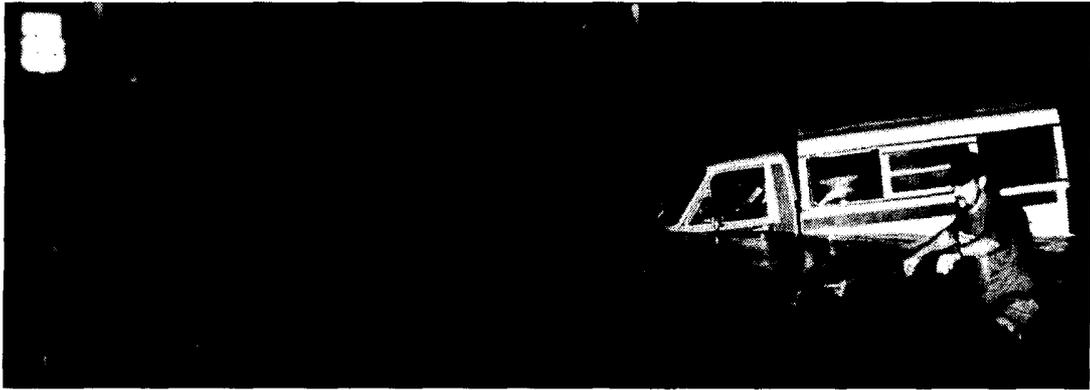
Fort Scott residents watch as the Marmaton River's waters creep up National Avenue on the morning of the 3rd. Note the floating anhydrous ammonia tank beside the railroad signal. ---Photo by John Lechliter, The Fort Scott Tribune.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



Floodwaters from the Little Osage River at Fulton poured over and weakened the roadbed of a Burlington Northern rail line at old US Highway 69, causing the train derailment shown in the above three photos taken on October 3rd. The top and bottom left photos were taken as the waters still poured over the highway and roadbed; the bottom right photo shows the wreck after the waters had receded. ---Top and bottom left photos by Christian Scherling and bottom right photo by Joe Zeman, both from the Linn County News.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



A pickup stranded in floodwater of Turkey Creek, 7 miles south of Chanute on US Highway 169. The driver had been perched atop his vehicle for several hours during the early morning of October 3rd, awaiting rescue. ---Photo by Mike Gullet.



Neosho River flooding east of Chanute on October 3rd. ---Photo by Steve Shurley.



Floodwaters of Village Creek flowing briskly over old US Highway 169 just north of Chanute on October 3rd. ---Photo by Mike Gullet.

---All above photos from the Chanute Tribune.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



Overflow from Grouse Creek passing briskly over Kansas Highway 15 north of Dexter on the morning of the 3rd. ---Photo by Don Shrubshell, The Arkansas City Traveler.



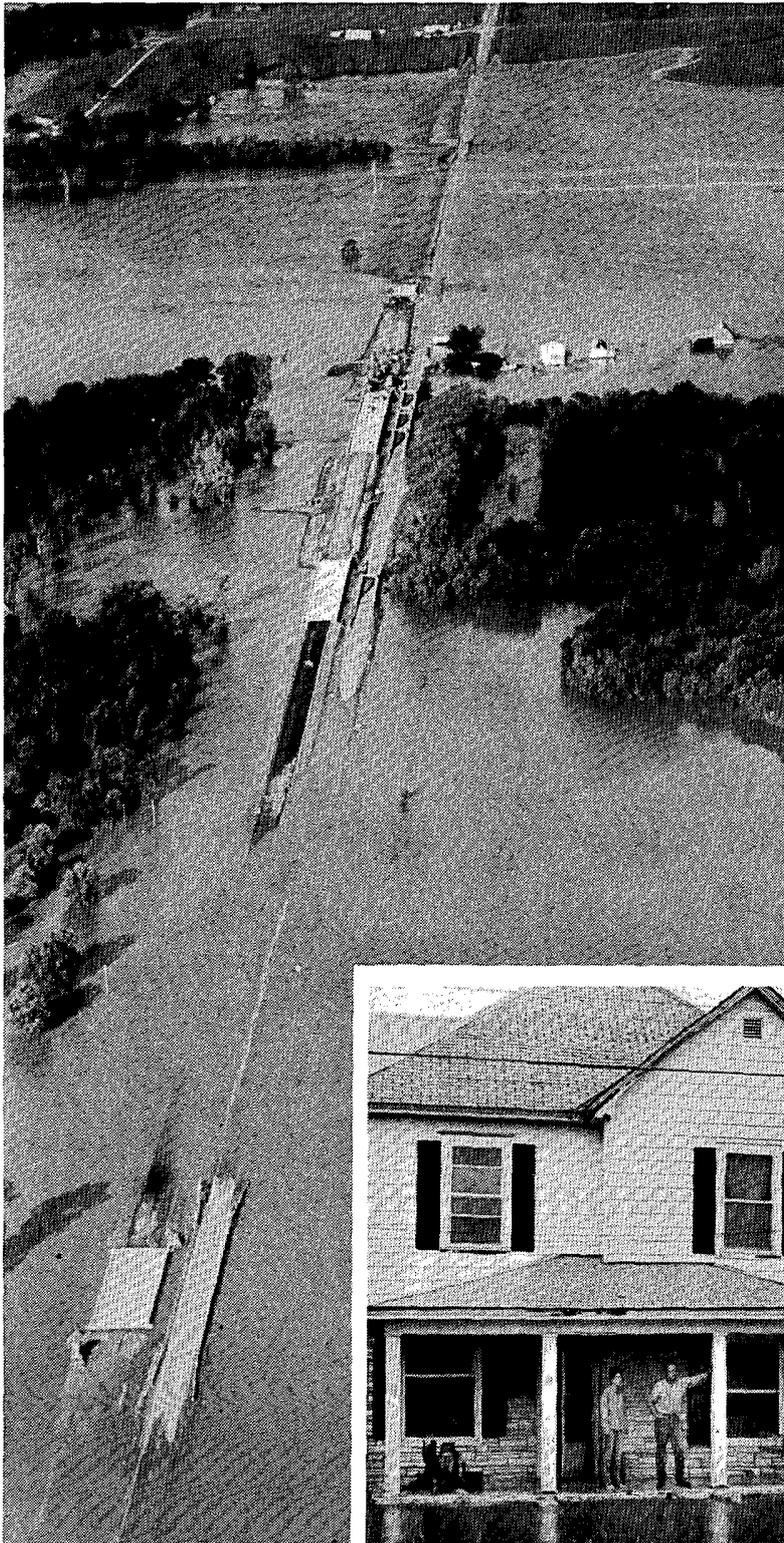
A Parsons man watches floodwaters rise against his porch on October 3rd (above) and rescue workers use boats to transport sandbags to the city's water treatment plant (below). ---Both photos by Steven Hausler, The Parsons Sun.





An engulfed farm north of Oswego in Labette County on October 4th. The Neosho River had expanded to as much as 2 to 3 miles across in portions of the county. ---Photo by Steven Hausler, The Parsons Sun.

HEAVY RAINS and FLOODING in SOUTHEAST KANSAS ---- continued



LEFT: US Highway 160 east of Parsons submerged under floodwater from the Neosho River on October 3rd. ---Photo by Steven Hausler, The Parsons Sun.

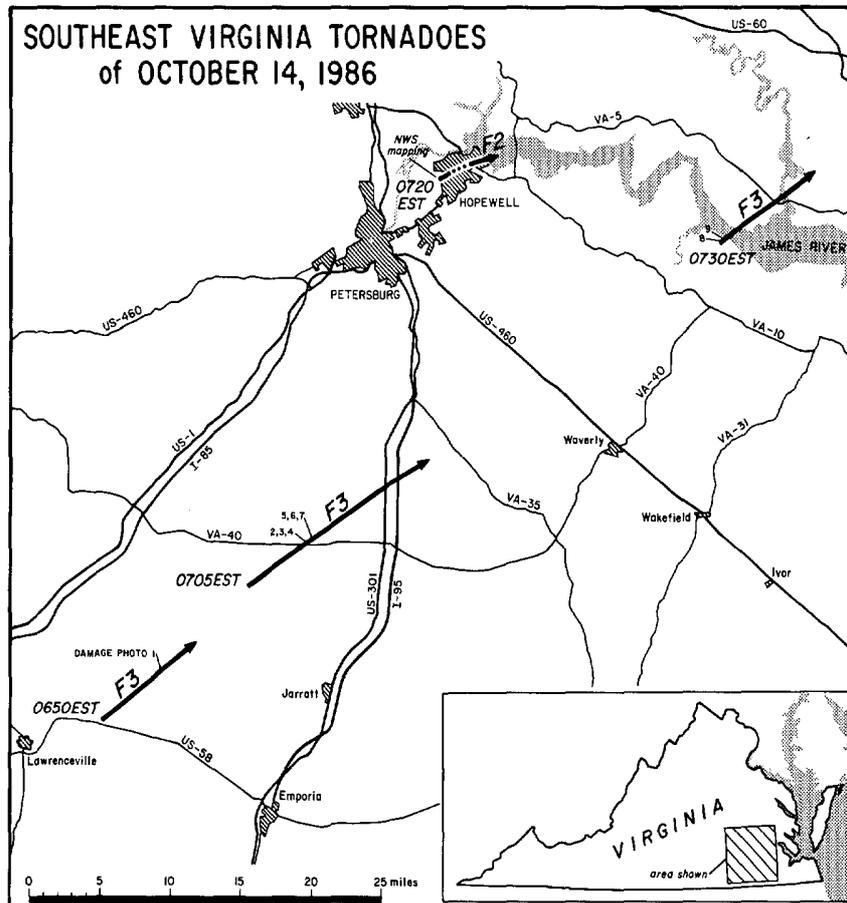
BELOW: Water from Elm Creek, a tributary of the Neosho River, laps at the porch of a home south of Iola on October 3rd. ---Photo by Keith Mays, The Topeka Capital-Journal.



---Photos on the cover and pages 8 through 19 were provided by Steven Schurr, NWSFO, Topeka, Kansas.

2. TORNADOES in SOUTHEAST VIRGINIA on October 14, 1986

During the morning of October 14th, Southeast Virginia received a rare, fall visit by at least four strong tornadoes. They struck in mainly rural areas south and east of the cities of Petersburg and Hopewell, although one carved an intermittent path through Hopewell (see map below). The northeastward-moving, parent storms caused over \$3 million in combined tornado and thunderstorm wind damage, and luckily only 2 injuries, one of which was caused by a tornado.



---Mapped from a survey by weather enthusiast, Roy L. Britt of Richmond, Virginia, with the exception of the Hopewell Tornado which is by the NWSO at Richmond, Virginia. The small numbers (1-9) along the paths correspond to the photos on this and the following two pages.

(Editor's note: Portions of the paths, times, and F scales in this mapping conflict with the NWSFO reports listed on pages 34 and 35. As of March 16, 1987, these discrepancies have not been resolved.)



A southwest view of a house at Callaville that sustained heavy roof damage. A blown-away garage housed the woodpile in the foreground.

TORNADOES in SOUTHEAST VIRGINIA ---- continued

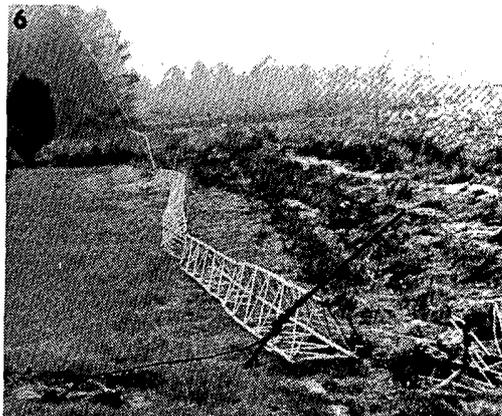


Shown in southwest (above) and north (below) views are the chaotic remains of a farmhouse near Virginia Highway 40, debris from which was strewn several hundred yards into a field north of the house.



A northeast view of the foundation of a second, smaller farmhouse located just 150 yards northeast of the house mentioned above. Debris from this house was blown toward the northeast.

TORNADOES in SOUTHEAST VIRGINIA ---- continued



At a farm just northeast of the one shown on the previous page, a barn received heavy damage (above left), a tower anchored to a concrete pad and held in place with guy wires was toppled (above right), and farm equipment was tossed about and into nearby trees to the north (below).

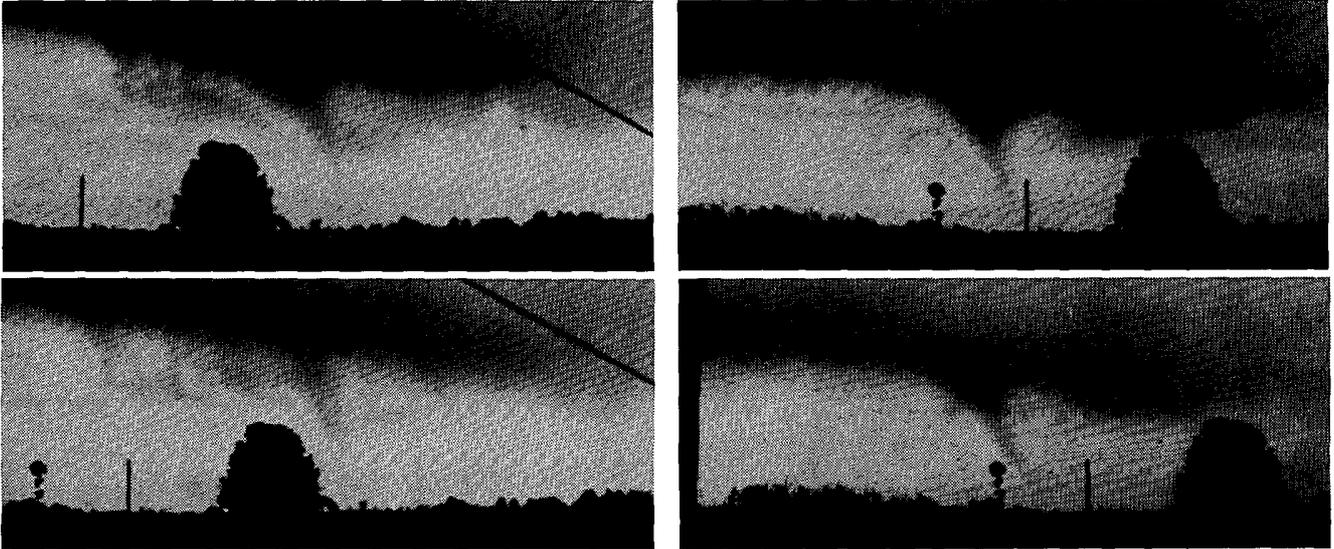


An unroofed home (left) and overturned trailer (right) at Claremont, just southwest of the James River.

---All photos on pages 20 through 22 are by Roy L. Britt of Richmond, Virginia.

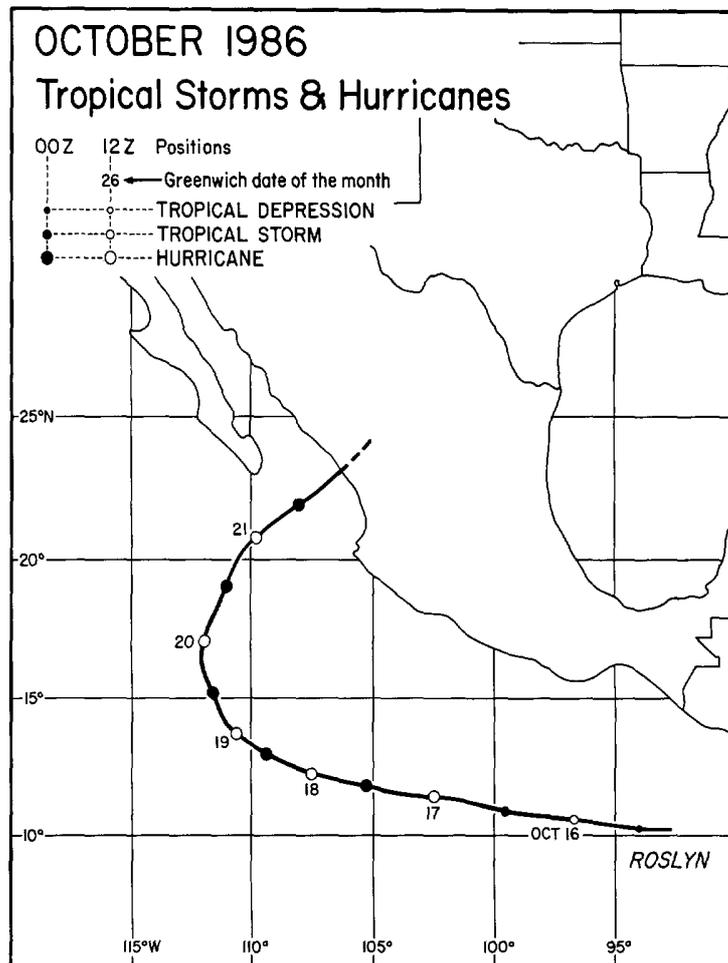
3. TORNADO near ANGOLA, INDIANA on October 1, 1986

Although weak and only occasionally touching the ground, an October 1st tornado was observed by several spotters and photographed and videotaped by the Indiana State Police as it moved east from 6 miles southwest of Angola, Indiana to 8 miles west of Montpelier, Ohio. The tornado was unusual in that it developed from a rainshower with a maximum radar-detected echo top of only 12,000 feet. A spotter was caught in the surface-based condensation funnel as it crossed the state line, and estimated the vortex winds to be no more than 60 mph.



---Indiana State Police photos, supplied by Russell D. Marshall, NWSO, Fort Wayne, IN.

TROPICAL STORMS AND HURRICANES



---Best track data from the NWSFO at San Francisco, California.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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			
1 ALABAMA											
Bessemer Area, Jefferson County	01	1525CST			0	0	3	0	TSTM Wind	Thunderstorm winds downed two trees near McAdory High School and one tree was also blown onto a house in Bessemer.	
2 ARIZONA											
Yuma County	09	1430MST			0	0	4	0	Thunderstorm Wind	Strong thunderstorms in Dateland tore a roof off a trailer. A railroad north of Yuma was washed out by locally heavy rains.	
Maricopa County	09	1545MST			0	0	2	0	Thunderstorm Wind (87)	Winds were estimated to be around 100 MPH along Interstate 10, about 40 mi. west of Phoenix. The visibility was briefly near zero in blowing dust and heavy rain, resulting in the closure of the freeway. About an hour later, peak winds of 68 MPH hit KTSP in downtown Phoenix.	
Mohave County	09	1942MST			0	0	0	0	Flash Flood	Heavy thunderstorms hit Bullhead City area. Water was reported to be 1 ft. deep at Fort Mohave Mesa. Winds of 45 MPH preceded the flash flooding in Bullhead City.	
Maricopa County	10	1155MST			0	0	0	0	Hail (0.75)	Numerous reports of hail and funnel clouds in the Avondale-Buckeye area were received.	
Gila County	10	1230MST			0	0	2	0	Hail (1.50)	The sheriff's office reported large hail and the flooding of flash-flood-prone roads along Route 177 near Miami.	
Maricopa County	10	1306MST			0	0	0	0	Funnel Cloud	An air traffic controller reported having sighted a funnel cloud moving northeast over Scottsdale.	
Maricopa County	10	1705MST			0	0	0	0	Funnel Cloud	Tempe police relayed reports from residents spotting a funnel cloud.	
Maricopa County	11	1746MST			0	0	0	0	Funnel Cloud	The sheriff's office reported a funnel cloud at Deer Valley.	
Maricopa County	11	2100MST			0	0	3	0	Flash Flood, Hail (0.75)	Numerous streets were blocked by flooding. Superstition Freeway was closed at Val Vista Road due to flooding and debris on the pavement. Carefree Highway, Route 74, was closed for most of the night due to flooding. Hail was reported from the Mesa-Apache Junction area.	
3 ARKANSAS											
Crawford, Sebastian, Franklin, Logan, Johnson, Pope, Yell, Conway, Perry, Faulkner, Pulaski and Jefferson Counties	1-22				0	0	6	7	Flooding	Extensive flooding occurred along the Arkansas River and some of its tributaries from the Oklahoma border down to Jefferson County. Flooding was the result of prolonged, heavy rains upstream in Oklahoma and Kansas, from abundant moisture left behind by what once had been Hurricane Paine. Somewhat over one million dollars in damage was done to residences, farm machinery, and other equipment. Agricultural damage estimates ranged from 5 to 13.5 million dollars. Crop damage was mainly to soybeans; but rice, milo, and other crops were damaged as well. Winter wheat suffered because farmers could not plant due to the prolonged flooding. Navigation along the Arkansas River came to a halt because of the strong flow. Normally, the current moves at approximately 30,000 cubic feet per second (cfs). During the height of the flooding, flows were as high as 382,000 cfs. The approximate acreage of flooded cropland, county by county, was as follows:	
					Crawford	20,000	Johnson	200	Perry	200	
					Sebastian	10,000	Pope	2,000	Faulkner	3,100	
					Franklin	1,600	Yell	2,000	Pulaski	4,800	
					Logan	500	Conway	9,000	Jefferson	10,000	
					Flooding began during the afternoon of the first and lasted until the morning of the 22nd.						
— ARKANSAS											
Carroll County	01	0453CST			0	0	4	-	Thunderstorm Wind	Strong wind unroofed a dairy barn, destroyed a hay barn and another building, and blew a refrigerator off a patio on a farm 12 miles south of Berryville, in the Metalton Community. Several trees were knocked down as well. Debris broke the windshield on a pick-up truck. Seven calf hutches were blown over. Nearby, a boat was overturned, and the top of a well house was blown down.	
Mississippi County	01	1330CST			0	0	4	-	Thunderstorm Wind	The Sheriff's Office reported trees down in Osceola, where one of the trees crushed a car. A greeting card company had 1,300 square feet of its roof damaged. Trees were also blown down in Blycheville, causing power outages.	
Lonoke County	12	0325CST			0	0	4	-	Thunderstorm Wind	A house received extensive wind damage at Old Austin, 5 miles east of Cabot. Three barns were destroyed and many trees were uprooted.	
4 CALIFORNIA, Northern											
Tulare County, Sequoia National Park	01	1330PST			0	1	0	0	Lightning	A group of teenagers throwing snowballs near Kings Canyon lookout during a thunderstorm were struck by lightning. One was injured and required hospitalization for minor burns.	
4 CALIFORNIA, Southern											
CAZ011-012-013-016-017 Los Angeles County	02	1530PST			0	9	?	0	Thunderstorm	A severe thunderstorm produced measurable hail in the San Bernardino and San Gabriel Mountains and caused power outages to over 58,000 customers. Reports of minor street flooding in Baldwin Hills, Montebello, Covina, and Monrovia were received. Several men were rescued from the Los Angeles River. The roof collapsed at a warehouse in Canoga Park, damaging 30 to 40 computers. A power failure at California State University in Northridge caused the dismissal of classes. Five people in Upland were swept away by urban flood waters and several homes received damage from the waters.	
CAZ014 Kern County, Mojave area	09	0735PST			0	0	?	0	Thunderstorm	The Mojave Sheriff reported that the road between State Route 14 and US Highway 395 was under water.	
Kern County, Red Rock Canyon State Park	09	0747PST			0	0	?	0	Thunderstorm	Ranger reports indicated that 8 campers and 1 passerby were stranded in the campgrounds.	
San Bernardino County, Twenty-Nine Palms area	09	1130PST			0	0	?	0	Thunderstorm	Street flooding occurred around the Twenty-Nine Palms area.	
5 COLORADO											
All of State except Southeast	10-12				0	0	5	4	Snow	The first significant storm of the fall brought snow to all areas of Colorado except the southeast. Mount Evans, in Clear Creek County west of Denver, was buried by 22 inches of snow, and Wondervu, in the foothills southwest of Boulder, received 13 inches. Elsewhere, amounts generally ranged from 5 to 10 inches at higher elevations to 2 to 5 inches in the western valleys and on the northeast plains. The heavy wet snow at lower elevations caused numerous power outages. At Dolores, in southwest Colorado, a downed power line caused a fire in a home. There was some damage to fruit and other crops in western Colorado.	
Arapahoe County	21	1500-1600MST			0	0	0	0	Hail (0.75)	3/4 inch hail fell at Centennial Airport. Hail piled up 2 1/2 inches deep in that area, and there was some street flooding.	

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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	
— COLORADO									
Northern Mountains	21-22				0	0	0	0	Snow
	Spots in the mountains from Interstate 70 northward received snow; the heaviest reported amount was 11 inches at Granby, in Grand County. Interstate 70 was closed for a time at Vail Pass after numerous traffic accidents.								
Larimer County	30	2355MST			0	0	0	0	High winds
	A gust of 68 mph was clocked at Fort Collins, the strongest of numerous gusts of 60 mph or more between 2300 and 2400MST.								
6 CONNECTICUT									
Statewide	06	all day			0	0	4	0	High Winds
	Strong and gusty winds in the wake of a cold frontal passage in the morning knocked down trees and tree limbs, resulting in power outages affecting more than 20,000 customers statewide. A total of about 12,000 lost their lights in lower Fairfield County. All but a couple thousand had their power restored by evening.								
7 DELAWARE ————— NONE REPORTED									
8 FLORIDA									
Citrus Co.	09	1710EST			0	0	4	0	Thunderstorm wind (60)
	High wind damaged a roof, blew a boat 20 feet, and downed trees and power poles.								
Escambia Co.	12	1339CST			0	0	4	-	Flash Flood
	Five residences were flooded and a hospital basement was flooded. Several streets were undermined, resulting in two gas leaks.								
Escambia Co.	23	2330CST			0	0	4	0	Thunderstorm wind (60)
	High wind in Pensacola broke a store plate glass window and damaged a store roof. Signs were also downed by the high wind.								
Brevard Co.	29	1049EST 1.5	30	0	0	4	0	0	Tornado(F1)
	A tornado damaged the roofs of 12 homes and moved a pickup truck 15 feet in Palm Bay.								
9 GEORGIA									
Irwin County	10	1740EST			0	0	5	?	Thunderstorm Wind
	Thunderstorm winds caused damage during a 20 minute period in a ten-mile-long area that extended from near Mystic to the southeast into the southeast part of Irwin County. Hail to 3/4 inch in diameter fell from the storm. A mobile home was destroyed and three others damaged. Houses, barns and several outbuildings were also damaged at several farms.								
					0	0	?	?	Hail(.75)
10 IDAHO									
ID2002 Twin Falls/Jerome area	10	1730MST			0	0	4	0	Thunderstorm wind (37)
	Thunderstorm winds felled trees in the Twin Falls area, toppled stadium bleachers at Jerome High School, caused widespread power outages, and produced other damage to local residences and farm structures. The 37 knots was the only recorded wind gust in the area.								
ID2003 Sugar City area	30	1530MST			0	0	2	0	Hail (?)
	Hail covered the ground to nearly one inch deep in the Sugar City area. There were reports of cars sliding off U.S. 20 in the slush.								
11 ILLINOIS									
ILZALL entire state									monthlong
					0	0	7	7	Flood
	Heavy precipitation which characterized the last half of September continued into the first 10 days of October over Illinois, except for the extreme northeast. In extreme northeast Illinois, where September rainfall exceeded 10 inches, precipitation in October returned to normal. This permitted floodwaters to recede from areas in Lake, Cook and McHenry counties which had been severely flooded in September.								
	Most Illinois rivers exceeded flood stage in October, with crests generally occurring during the first two weeks of the month. Two rivers, the Big Muddy and the lower Illinois, were still in flood at month's end, however.								
	A faulty flow gate in the East St. Louis sewer system allowed Mississippi River floodwaters to back up into the city, resulting in a major urban flood in the community during the first week of October. Damage was estimated at \$7,000,000 in East St. Louis.								
12 INDIANA									
IN2006-009 Central Indiana	01	0600 to							Flash Flood
	01	1000 EST			0	0	?	?	
	Flash flooding occurred in portions of Central Indiana as rain of 3 to 5 inches fell in 8 hours or less. Most of the heavy rain had moved out of Indiana by noon. Rainfall reports from the Indianapolis area showed that 4 or more inches of rain fell over the city. The greatest amounts were 4.5 to 4.7 inches. High water blocking vehicle traffic was reported on the west side of Indianapolis at 815 am EST. Other reports of high water were common in the flash flood warning area which consisted of Putnam, Hendricks, Hancock, Marion, and eastern Parke counties. Flood damage occurred to county roads, city streets, cars, and agricultural lands.								
Hamilton Co, Cicero	01	0900 EST			0	0	4	0	Lightning
	When lightning struck the antenna atop a mobile home, a fire broke out which destroyed the home.								
Steuben County, 6 SW Angola to 17 ESE Angola	01	1720- 1746EST	14	narrow	0	0	0	0	Tornado (F0)
	A tornado made several touchdowns (approximately 7) as it moved from west to east along a 14-mile path from 6 miles southwest to 11 miles east-southeast of Angola in Indiana, and continued an additional 2 miles in Ohio to a point 8 miles west of Montpelier, Ohio. The tornado's funnel was seen and reported by several spotters, and was accompanied by a heavy rainshower. A spotter who was on the Indiana-Ohio state line was trapped in the condensation funnel as it was in contact with the ground, and estimated that the wind speeds were between 55 and 60 mph. No damage was reported. The total path length in both states was 16 miles, and the F scale was never higher than F0 in either state.								
Posey Co, Cynthiana	02	1525 EST			0	0	0	0	Hail (1.0)
Gibson Co, 5 N Owensville	02	1527 EST			0	0	0	0	Hail (1.0)
Dekalb Co.	03	1500 to 2100 EST			0	0	3	4	Flash Flood
	Rainfall of between 2 and 3 1/2 inches in Dekalb County produced flooding of several county roads, numerous streets, numerous basements, some residences, and low-lying farmland. The flooding was across the county and along southern sections of Cedar Creek in the southern half of Dekalb County.								
IN2007-008-009-010 Central Indiana	03	2300 to 0700 EST			0	0	?	?	Flash Flood
	Heavy rain fell across Central Indiana again late on the night of October 3rd to the early morning hours of October 4th. Two to 4 inches of rain fell, causing a recurrence of flood damage to county roads, city streets, basements, cars, and agricultural lands in Central Indiana. Water was reported over roads at Terre Haute in Vigo County and Brazil in Clay County at around 11 pm EST on the 3rd. State police in Putnam and Marion counties reported high water on some roads at 1215 am EST on the 4th.								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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	

INDIANA

Harrison Co, Corydon 04 1945 EST 0 0 2 0 Tsto. Wind
 The Harrison County Sheriff reported trees down in Corydon. Clean-up was slowed by high water on city streets. Drain pipes were clogged, some streets were washed out, and some streets were covered with washed-out gravel.

Clark Co, Sellersburg 04 2006 EST 0 0 0 0 Hail (0.75)

13 IOWA

Statewide All Month 0 0 3 5 Flooding
 Heavy rains on top of the already wet ground brought flooding to parts of Iowa, with a record Fall flood on the Mississippi. The biggest hindrance to Iowa was the delay in harvest and loss of crops by all the water.

14 KANSAS

KSZ012-016-017, Southeast Kansas 01- 0000 to 05 1200CST 0 11 8 8 Flood

Heavy rains in Southeast Kansas that began the last 4 days of September continued through October 3rd. The rain was concentrated over Southeast Kansas by a front that remained nearly stationary across that area. Heaviest rain fell the night of October 2nd through the morning of the 3rd as the remnants of Hurricane Paine moved northeast along the front. That night, 6 to 9 inches fell in a 40-mile-wide swath from Arkansas City to Chanute and Fort Scott. Rainfall totals for the 8 day period from 7am September 26th through 7am October 4th exceeded 10 inches southeast of a line from Arkansas City to Emporia and Paola. Eighteen inches or more fell in a 40 mile wide path from Sedan through Chanute to Fort Scott.

Runoff caused flooding on nearly all streams in Southeast Kansas east and south of a line from Arkansas City to Eureka and Paola.

Considerable flooding continued from the end of September through October 1st on the Spring River and its tributaries in Cherokee County, along Cow Creek near Pittsburg and on Labette Creek in Labette County.

More severe flooding resulted from the deluge of October 2nd and 3rd. The worst of the flooding occurred along the Marmaton, Little Osage, Neosho, Verdigris and Caney Rivers and their tributaries. Those streams were above flood stage from the 3rd through the 5th. Agricultural flooding also occurred along the Marais Des Cygnes River and many other streams.

The Marmaton River in Bourbon County crested at its highest level on record. The river went to a level more than 14 feet above flood stage and more than 3 feet above the previous record set in 1915. The river expanded to a width of 3/4 of a mile on the north side of Fort Scott. Flooding damaged a good share of the industrial area of the town. At least 55 businesses and 52 homes were flooded and water reached the first floor ceilings in some buildings.

The Little Osage River left its banks in northern Bourbon County and reached an all time record crest more than 13 feet above flood stage at Fulton. A train was derailed at a washed out section of track in Fulton. Several homes were also flooded in and near Fulton.

The Neosho River flooded throughout its reach south of Burlington. The river crested 9 to 12 feet above flood stage and reached its highest level since 1951 from Iola south to the Oklahoma border. It expanded to a width of 2 to 3 miles across Labette County. At least 60 homes were flooded in Iola and water reached many more at Chanute and Erie, near St. Paul and east of Parsons. Labette Creek and Little Labette Creek caused major flooding in the city of Parsons as well. Most creeks that flow into the Neosho also flooded.

The Verdigris River south of Toronto Lake reached its highest levels in more than 25 years as well. About 100 homes were flooded in Independence and about 20 had water in them at Coffeyville. Water filled Elk City Lake and overflow across the spillway reached

KANSAS

a depth of nearly 4 feet late on the 3rd. Lake levels crested near the top of flood pool at Big Hill and Toronto Reservoirs. Flooding also occurred on Fall River below Fall River Reservoir, on the Elk River and on several other tributaries of the Verdigris.

The Caney River left its banks in southeast Cowley and southwest Chautauqua Counties. Water damaged 53 homes in the Elgin community. Grouse Creek also flooded parts of Cowley County.

The Marais Des Cygnes River reached levels 6 to 10 feet above flood stage from Osawatomie downstream to the Missouri border in Miami and Linn Counties. Several thousand acres of farmland were flooded. The worst flooding occurred downstream of La Cygne. Pottawatomie Creek also reached 6 to 9 feet above flood stage in Anderson County.

Minor overflows also occurred on the Cottonwood, Arkansas, Little Arkansas, Walnut and Chikaskia Rivers.

Flood waters forced the evacuation of an estimated 467 families. At least 18 homes were destroyed, 168 had major damage and 140 more had minor damage. In addition, 73 mobile homes were destroyed, 35 sustained major damage and 33 had minor damage. An estimated \$60 million damage resulted from the flooding of more than 340,000 acres of farmland.

There were eleven minor injuries, and only 5 of those required any hospitalization. A Presidential Disaster Declaration covered Allen, Bourbon, Chautauqua, Cherokee, Cowley, Montgomery, Neosho and Wilson Counties.

CRESTS

	Flood Stage	Record Crest	Date/Time	Record Crest	Highest Since
MARMATON RIVER					
Marmaton	NA	42.9	3/1pm	34.7	Record
Fort Scott	38	52.5	3/7pm	49.3	Record
LITTLE OSAGE RIVER					
Fulton	22	35.3	3/NA	30.0	Record
NEOSHO RIVER					
Le Roy	23	27.0	4/11pm	34.6	1973
Iola	20	31.8	3/9pm	43.0	1951
Chanute	23	35.3	4/9am	40.9	1951
8E Parsons	18	28.1	5/2am	40.2	1961
Oswego	17	27.7	5/11am	32.5	1951
VERDIGRIS RIVER					
Attoona	23	28.9	3/9am	31.1	1951
Independence	30	47.0	4/1pm	49.2	1961
Coffeyville	18	26.5	5/2am	26.8	1961
FALL RIVER					
Fredonia	17	32.2	3/9pm	36.2	1945
MARAI DES CYGNES RIVER					
Osawatomie	28	37.7	5/10am	50.3	1985
La Cygne	25	31.9	6/5pm	36.2	1977
State Line	25	34.4	4/10am	41.2	1951
POTTAWATOMIE CREEK					
Garnett	26	32.0	3/10pm	35.4	1973
Lane	23	32.0	4/4am	33.9	1967

SPECIAL HAIL SUMMARY

Kansas-Oklahoma Hail Loss Service reports indicate hail was especially damaging to crops in the listed counties on the following dates:

08 Phillips
 21 Stanton

15 KENTUCKY

Meade County 04 1600 EST 0 0 3 0 Severe Thunderstorm Winds

Severe thunderstorms, generating winds to 60 miles per hour, blew large trees down near Midway. Blown over trees damaged cars and homes as they fell. One trailer was knocked off of its foundation. The Midway telephone system suffered several broken poles, downing lines.

Marion County 04 1610 EST 0 0 2 0 Thunderstorm Winds

Strong thunderstorm winds to 50 miles per hour downed trees and power lines along with some small outbuildings near Lebanon.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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	
— KENTUCKY									
Jefferson County	04	1640 EST			0	0	2	0	Severe Thunderstorm Winds
									Severe thunderstorm winds downed trees in the Okolona area of south-central Jefferson County.
Rockcastle County	13	1720-1820 EST			0	0	2	0	Flash Flooding
									Flash flooding of streets occurred in Brodhead when over two inches of rain fell during heavy thunderstorms within a one hour period.
16 LOUISIANA									
East Baton Rouge Parish	04	AFTN			0	45	0	0	Heat
									45 Baton Rouge area football fans were treated for heat exhaustion by emergency medical personnel.
Ouachita Parish	12	0820CST			0	0	3	0	SVR TSTM-Wind
									Straight-line winds blew down several large trees and telephone poles in the Monroe area. In addition, the wind did \$3,000 to \$4,000 damage when it broke tie down lines and overturned a small airplane.
17 MAINE									
Piscataquis County	06	1700EST			2	0	3	0	High Winds
									Two York County men on a bird-hunting trip were killed on Route 16 in Kingsbury Plantation on Monday afternoon. High winds blew down a 12 inch diameter, dead tree which fell through the windshield of the pickup truck, instantly killing the 42-year-old driver and his 65-year-old passenger.
18 MARYLAND and D.C.									
Baltimore, Prince George, Carroll, and Cecil Counties	1	2100-2200 EST			1	1	5	?	Thunderstorm winds
									Winds from thunderstorms damaged trees, power lines, and homes. A tree blew onto a car, killing a passenger and injuring the driver.
19 MASSACHUSETTS									
Berkshire, Franklin, Hampshire, Hampden, and Worcester Counties	06	all day			0	0	4	0	High Winds
									Strong west to northwest winds in the wake of a cold frontal passage early in the day gusted to 40 to 60 mph. Peak gusts up to 56 mph were recorded by the National Weather Service at Worcester Airport. Fifty mile-an-hour winds were recorded at Pittsfield. Trees and tree limbs felled by the winds knocked out electric power in scattered locations throughout the area. More than 8,000 homes in Franklin County lost power, and an additional few thousand reported outages in the adjoining counties. Some minor property damage occurred, including a large tree which fell on a house in Greenfield.
20 MICHIGAN									
Ottawa County, Nunica	08	0405EST			0	0	0		Hail (0.75)
21 MINNESOTA ————— NONE REPORTED									
22 MISSISSIPPI									
Harrison County, Biloxi	02	0615CST			0	0	0	0	Funnel Cloud
									A funnel cloud was observed south of Biloxi.
Hinds County, Jackson	02	1750CST			0	0	5	0	Lightning
									Lightning struck an apartment complex in northeast Jackson and ignited a fire. One apartment was destroyed while 3 others had moderate damage.
Jackson County, 5 Miles North of Pascagoula	06	1730CST			0	0	?	?	Thunderstorm Winds
									Strong winds from a thunderstorm blew down trees and power lines in the Escatawpa community or 5 miles north of Pascagoula.
23 MISSOURI									
Southwest, Central and Eastern Missouri	1-4				1	0	6	5	Flash Flooding
									The remnants of Tropical Storm Paine moved across Missouri and produced extensive flash flooding across all of Southwest and much of Central and Eastern Missouri. Many counties had several flash flood events. A sixteen-year-old boy drowned on October 3 around 440 PM when he tried to rescue his dog in the swollen Moreau River near Jefferson City. Many homes and mobile homes were abandoned due to rising water. Some residents were rescued from their homes and cars. Rainfall amounts of 3 to 6 inches were common, with some amounts exceeding 10 inches in Southwest Missouri.
Barton County	2	2140CST			0	0	4	0	TSTM Wind
									Scattered wind damage occurred at Lamar.
Benton County	2	2250CST	10	50	0	0	5	0	Tornado (F1)
									A tornado touched down 2 miles west of Warsaw on Route KK. Nine homes were damaged, but not seriously. Most damage was to trees, and the damage was scattered along the path. One man was trapped in his vehicle when a large tree fell on it.
Miller and Cole Counties	3	0215-0240CST	6	100	0	0	6	0	Tornado (F2)
									A tornado touched down 2 miles south of Etrerville in Miller County. It damaged a barn and the tops of several trees. A barn was destroyed on a gravel road two miles further along the track. The tornado next struck a farm and service station located on an access road off of Highway 17 near Eugene. Extensive damage was done to the barn and to outbuildings. The storm continued through a small portion of Cole County and produced damage to several other buildings, a house and highway signs. The roof was blown off a service station. The last evidence of storm damage was at Hickory Hill where large trees were twisted and broken.
Lincoln County	3	0435CST			0	0	3	0	TSTM Wind
									A severe thunderstorm damaged several trees and uprooted several others at Davis.
Central and East Missouri	4-10				0	0	7	5	Flooding
									The heavy rains of early October were followed by general river flooding along the Missouri and Mississippi rivers as well as many small streams. The combination of a wet September, heavy rain over the river basins upstream and the heavy rains over Missouri in early October resulted in record October flooding and very close to record all-time flooding. The flooding was confined mostly to central and eastern Missouri. Portions of Interstate 70 were closed for days. The flooding on the Mississippi and Missouri rivers produced damage exceeding 14 million dollars. Flooding on smaller rivers produced damage of several million more.
24 MONTANA ————— NONE REPORTED									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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	
25 NEBRASKA									
NEZ011 South Panhandle	10-11	2300CST-1000CST			0	0	1	1	Heavy Snow
Local heavy snow fell at Dalton with 6 inches reported. Kimball received 4 inches.									
Lancaster, Cass and Saunders Counties	11	Daytime-Evening			0	0	5	5	Flood
Two to four inches of rain the night of the 10th into the morning of the 11th pushed the Salt Creek above flood stage from Roca through Ashland. Farmlands and county roads were flooded. Urban overflows were reported around Lincoln, with water in basements. Roca crested a half foot over flood stage. Greenwood was 2½ feet over and Ashland 4 feet over.									
Cass County	11	Daytime-Evening			0	0	3	3	Flood
Two to four inch rains pushed Weeping Water Creek out of banks for a time around Union.									
Saunders County	11-12	Daytime-Evening			0	0	1	3	Flood
One to three inch rains caused Wahoo Creek at Ithaca to go one foot over flood stage on the 12th, flooding lowlands.									
Muckolls, Thayer, and Jefferson Counties	11-12	Daytime-Evening			0	0	6	6	Flood
Three to five inch rains the night of the 10th into the 11th pushed the Little Blue River out of banks, flooding crop lands and roads. A stage, one and three-quarter feet over flood stage was recorded at Alexandria on the 11th and near 5 feet over at Fairbury on the 12th. Rose Creek overflowed at Hubbell, flooding portions of the business district.									
Saline County	11-12	Afternoon-Daytime			0	0	4	5	Flood
Two to four inch rains the night of the 10th into the 12th pushed Turkey and Swan Creek out of banks, flooding thousands of acres of crop lands. Water also flooded DeWitt and Swanton. Water was reported one to 2 feet deep in DeWitt in streets and basements. A crest 5 feet over flood stage was measured at Wilber on the 12th.									
Nemaha County	11-12	Afternoon-Daytime			0	0	3	4	Flood
Two to three inch rains pushed the Little Nemaha River out of banks, flooding crop lands and highways. Highway 136 was closed east of Auburn for a time. A crest 2½ feet over flood stage was measured at Auburn on the 12th. Rains occurred the night of the 10th into the 11th.									
Saline and Gage Counties	11-14	Daytime-Morning			0	0	5	6	Flood
Three to five inch rains the night of the 10th into the 11th pushed the Big Blue River out of banks, flooding crop lands and county roads. Around Beatrice, roads were closed, park areas were flooded, and some buildings were threatened. A stage of 4½ feet over flood stage was reported at Crete on the 12th, 9½ feet over at Beatrice on the 13th, and 6 feet over at Barneston on the 13th.									
Cass, Otoe, Nemaha and Richardson Counties	11-14	Evening-Afternoon			0	0	2	5	Flood
Two to four inch tributary rains the night of the 10th to the night of the 11th pushed the Missouri River over flood stage from Plattsmouth to Rulo, flooding bottomlands. A stage a half foot over flood stage was recorded at Plattsmouth, 1½ feet over at Nebraska City, 4 feet over at Brownville and 4 feet over at Rulo, all on the 12th.									
26 NEVADA									
NVZ005-006 Lander, Eureka, White Pine, and northern Nye Counties	18-19	1200PST			0	0	0	0	Heavy Snow
A cold, upper-level low pressure system moved through Central Nevada during the 18th and intensified as it moved east. This produced mixed rain and snow in the valley areas and all snow in elevations above 7000 feet. Snow accumulations were 2 to 4 inches in the valleys and 4 to 8 inches above the 7000-foot level. Ely reported 3 inches from this storm. Chain or snow tire requirements were in effect over the passes of East-Central Nevada.									
27 NEW HAMPSHIRE									
Rockingham, Strafford, Carroll and Belknap Counties	06	1300EST			0	0	5	0	High Winds
High winds behind a vigorous cold front blew down trees, large tree branches, and power lines, Monday afternoon. Approximately 10,000 customers had their electricity knocked out in Rockingham and Strafford Counties. Hardest hit was Rochester (Strafford County) where 5,000 customers were without power from 1351EST to 1554EST Tuesday, and where many trees were felled against power lines. Other outages in Strafford County occurred in the Dover-Barrington area, and from Milton Mills to Province Lake in Wakefield (Carroll County). Hardest hit in Rockingham County was Newcastle where 800 customers were out of power for about one hour. Carroll County reported 17 separate power outages north of Wakefield, Monday afternoon that affected about 2,400 customers throughout the county. Wolfeboro recorded wind gusts to 54 mph that knocked down trees and power lines, leaving South Wolfeboro without power for 3 hours. Chatham was out the longest, from Monday afternoon to Tuesday morning. Power failures were also reported in Alton (Belknap County), Monday afternoon. The captain of the cruise ship "Mount Washington" reported 8 to 10 foot waves on Lake Winnepesaukee (Carroll and Belknap Counties) which were the roughest conditions he had seen in 20 years.									
28 NEW JERSEY, Northern — NONE REPORTED									
28 NEW JERSEY, Southern — NONE REPORTED									
29 NEW MEXICO									
Grant County	05	1700 MST			0	0	4	0	Flash Floods
Several roads were washed out, including parts of NM 61 in the Mimbres and Silver City area.									
Luna County	05	1700 MST			0	0	4	5	Hail (1.00)
Hail caused about \$300,000 in damage to homes, cars, trucks, and crops 15 miles either side of a line from Deming to Columbus. One unofficial report said some hail was the size of a baseball.									
Luna County	05	1730 MST			0	1	4	0	Thunderstorm Winds (45-55)
High winds destroyed a mobile home with 5 members of a family inside. One 3 year old was injured. The mobile home was located 17 miles south of Deming.									
Northern New Mexico	11-12				0	0	0	0	Heavy Snow
An early snow storm hit northern New Mexico, stranding hunters and knocking out electric and telephone lines. Six inches to a foot or more of snow fell over a wide area of north-central NM and closed a section of I-40 just east of Albuquerque the morning of October 12. Albuquerque had its earliest measurable snow in history.									
Torrance County	20	1800 MST			0	0	4	0	Funnel Cloud and Thunderstorm Winds (45-55)
A funnel cloud was reported near Estancia and high winds destroyed a barn one mile southeast of Estancia. Damage was scattered over a quarter-mile radius.									
Eddy County	23	2020 MST			0	0	0	0	Hail (1.00)
Hail was reported between Hope and Artesia.									
Chaves County	23	2100 MST			0	0	0	0	Hail (0.75)
Hail was reported near Hagerman, 25 miles southeast of Roswell.									
30 NEW YORK, Coastal — NONE REPORTED									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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	
30 NEW YORK, Central									
Delaware County, Town of Roxbury 44 SW ALB	01	0200EST	UNK	UNK	0	0	5	4	Tornado (F2)
	An early morning tornado touched down in Roxbury, Delaware County. The tornado hurled two (2) farm wagons across a field. One (1) was hurled over 300 feet and the second over 1500 feet. The second wagon was left impaled on a maple tree 10 feet above ground.								
	The twister also moved a home off its foundation. A porch was torn off a home. A silo was also destroyed. Some of the wood from the silo was left sticking into the ground two to three feet.								
Delaware County	01	1900EST			0	0	5	3	High Wind
	High winds late in the day destroyed a partially constructed home and uprooted several very large maple trees, as well as peeling a metal roof off a barn. (Non-convective)								
NYZ019-020	06	0600EST			0	0	4	3	High Winds
	High winds gusting to 40-50 MPH caused power outages in several parts of the Capital District. Winds at Rome were recorded at 36 MPH at 6:00 AM and gusted to 44 MPH at 9:00 AM. (Non-convective)								
Clinton County and Essex County	06	1400EST			0	0	4	4	High Winds
	High winds, measured to 41 MPH at Plattsburgh Air Force Base, caused considerable power outages in portions of Clinton County. (Non-convective)								
NYZ013	06	1500EST			0	0	5	3	High Winds
	High winds brought down trees and power lines across parts of the lower Hudson Valley.								
30 NEW YORK, Western									
Cattaraugus, Chautauque, and Erie Counties	03	1400 EST			0	0	3	0	Rain
	03	1900 EST			0	0	4	0	Rain
	Heavy showers and thunderstorms caused some street flooding in the Buffalo area.								
	Scajaquada Creek in Erie County overflowed into the NY State Thruway and forced the closure of both eastbound and westbound lanes for several hours.								
	Cherry Creek in Cattaraugus County spilled its banks.								
	Chautauque Lake caused minor flooding.								
NYZ001-021 Erie, Niagara, & Orleans Counties	05	2158 EST			0	0	3	0	High Wind
	Strong winds downed large trees in Medina, Orleans County, and in North Tonawanda, Niagara County.								
	A portion of a dock was damaged by high waves at the Buffalo Marina.								
NYZ004 Jefferson County	06	0100 EST			0	0	3	0	High Wind
	Strong winds over Lake Ontario churned waves as high as 6 feet that smashed against lake shore properties in Henderson. Many cottages had to be evacuated.								
NYZ004 Oswego County	22	Morning			0	0	3	0	Fog
	Thick fog shrouded many portions of the county and is blamed for a spate of automobile accidents. Motorists reported late for work.								
31 NORTH CAROLINA									
Hoopers Creek, Henderson County	01	1625EST			0	0	5	0	Lightning
	A residence was struck by lightning, and then was destroyed by the resulting fire.								
32 NORTH DAKOTA ————— NONE REPORTED									
33 OHIO									
Franklin County	01	1000EST			0	0	4	0	Thunderstorm wind
	A severe thunderstorm destroyed numerous trees in the county. The worst damage was around Canal Fulton.								
Meigs County	01	1430EST			0	0	5	0	Thunderstorm wind
	A thunderstorm removed three mobile homes and a garage from their foundations and damaged several roofs. The damage occurred in the Rocksville area.								
Williams County, 10 W to 8 W Montpelier	01	1746- 1750EST	2 narrow		0	0	0	0	Tornado (F0)
	A tornado entered the state from Indiana at 10 miles west of Montpelier and continued eastward along its intermittent path for 2 miles in Ohio to a point 8 miles west of Montpelier. The tornado began 6 miles southwest of Angola, Indiana, had a total path length of 16 miles in both states, and was never stronger than F0 in either state.								
OHZ006 Marion County	02	1100EST			0	0	0	0	Flood
	The Scioto River went into flood at LaRue. The river crested at a stage of 11.2 (flood stage 11 feet) at 1300EST on the 2nd. There was little or no damage.								
OHZ001 Williams County	03	1100EST			0	0	2	?	Flood
	The Tiffin River went into flood at Stryker. The river crested at a stage of 14.4 feet (flood stage 11 feet) at 1900EST on the 4th. Only agricultural land and some farm buildings were affected by flooding.								
OHZ001 Northwest Ohio	03	1900EST			0	0	0	0	Flood
	The Maumee River flooded at Waterville. Crest stage occurred at 1200 EST on the 4th and was 9.7 feet (flood stage 9 feet). No damage occurred.								
OHZ006 Marion County	04	0200EST			0	0	0	0	Flood
	The Scioto River began to flood at LaRue. The river crested at 11.9 feet (flood stage 11 feet) at 0700 EST on the 4th, which was not high enough to cause damage.								
OHZ001 Williams County	04	0800EST			0	0	0	?	Flood
	The St. Joseph River flooded at Montpelier. Crest was 13.2 feet (flood stage 12 feet) and occurred at 1300 EST on the 5th. Only farm land was affected by flooding.								
OHZ006 Pickaway County	05	1100EST			0	0	0	0	Flood
	The Scioto River flooded at Circleville. The river crested at 15.7 feet (flood stage 14 feet) and occurred at 1100 EST on the 6th. The river was never high enough to cause damage.								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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	
34 OKLAHOMA									
OKZ004-005-006-007-008-009-010-011-012-013-014-015-016-017-020-021-022	01-05	Continuous			0	0	8	8	Flooding
<p>Heavy rains during the last two weeks of September left the ground across Oklahoma saturated. The heavy rain during the first four days of October were aided by the remnants of Hurricane Paine. Rainfall amounts of 6 to 10 inches were common with 15 to 20 inches falling across the north-central part of the state. Hardy, in northeastern Kay County recorded 21.79 inches for the maximum amount. This heavy rainfall falling over saturated land caused tremendous runoff which in turn caused all streams and creeks to flood, which also caused major rivers to flood. Rivers such as the Arkansas, Caney, Canadian, South Canadian, Cimarron, Washita, Salt Fork, Neosho, Verdigris, and the North Fork of the Red River set or nearly set record high crests. Approximately 30,000 people had to be evacuated from some 25 towns. Half of these evacuations were in Bartlesville. All of Webbers Falls, Jenks, and Bixby were ordered evacuated. 509 residences were destroyed and 3,957 were damaged. Many businesses suffered heavy damage. Many roads and bridges were washed out, including two bridges on Interstate 35.</p> <p>Damage to winter wheat, peanuts and cotton as well as the land may not be known for several years. It has been reported that 52 of the 77 counties in Oklahoma suffered some type of flood damage. The amount of dollar damage may not be known for some time; but latest estimates are for nearly \$100 million to roads and bridges, \$50 to \$75 million to homes and businesses, and \$175 million to agriculture.</p>									
Seminole County	01-01	0010CST			0	0	?	?	Wind
<p>A thunderstorm produced 60 to 65 mph winds downing trees and causing roof damage to several buildings just southwest of Seminole.</p>									
OKZ007-008-012-013	01-01	0500-1200CST			1	0	?	?	Flash Flooding
<p>Thunderstorms produced 3 to 4 inch rainfall amounts in a few hours, causing widespread flooding and flash flooding in Northeastern Oklahoma. Many small streams flooded roadways and closed several state highways until around noon. A man drowned when his auto stalled out while crossing a low-water bridge at about 8 am. He drowned while a rescue attempt was being made; he had become entangled in some underbrush. M680</p>									
Harmon County	01-01	1915CST	10	50	0	0	0	0	Tornado (F1)
Harmon County	01-01	1920CST			0	0	?	?	Hail (0.75)
Beckham County	01-01	1920CST			0	0	?	?	Hail (0.75)
Washita County	01-01	2025CST	0.1	30	0	0	?	?	Tornado (F0)
Greer County	01-01	2035CST			0	0	?	?	Hail (1.50)
Kiowa County	01-01	2107CST	0.1	30	0	0	?	?	Tornado (F0)
Woodward County	01-01	2110CST			0	0	?	?	Hail (1.75)
Woodward County	01-01	2125CST			0	0	?	?	Hail (0.75)
<p>A tornado set down at the state line 5 miles west of McKnight and moved northeast to a point 5 miles northeast of McKnight. The tornado was intermittently on the ground from 1915 to 1935CST, doing little or no damage. A second tornado touched down briefly 2 miles south of Canute, causing no damage. A third tornado touched down briefly 10 miles northwest of Lone Wolf, causing no damage. Hail ranging from 3/4 inch to 1 and 3/4 inches fell in several counties.</p>									
Comanche County	02-02	0212CST			0	8	6	?	Tsm. Wind
<p>A thunderstorm producing winds of 80 to 90 mph destroyed 17 mobile homes and damaged 74 others. Eight people were injured in the mobile homes. Damage is estimated at \$500,000. This was most likely a microburst, as the storms were not that intense.</p>									
Oklahoma County	02-02	0907CST	2.0	150	0	0	6	?	Tornado (F1)
<p>A small tornado set down in The Village at the intersection of May and Wilshire Avenues, moving in a northeast to north direction. The tornado lifted at Britton Road and set down again between Britton and Hefner Roads on Sunnymead. The tornado traveled for 1/2 mile in a northerly direction, lifting a second time at Hefner Road. A momentary touchdown then occurred 4 of a mile north of Hefner Road on May Avenue. The majority of damage was confined to the roofs of 60 houses, trees, power poles, and storage sheds. Damage was estimated at \$600,000.</p>									
OKLAHOMA									
Oklahoma County	02-02	0920CST			0	0	?	?	Tsm. Wind
Logan County	02-02	1012CST	5.0	75	0	0	?	?	Tornado (F0)
<p>Winds of 60 to 70 mph occurred just west of Edmond. A tornado touched down intermittently from Seward Road and Highway 74 to the junction of Highways 74 and 33. No significant damage occurred.</p>									
OKZ005-006-009-010-011-014-015-016-021-022	02-03	1000-0500CST			0	0	?	?	Flash Flooding
<p>Rainfall amounts of 7 to 12 inches fell over sections of north, central and southwestern Oklahoma during the day of the 2nd through the night of the 2nd into the 3rd. This heavy rainfall caused many roads to be under water and many towns and cities to have flood problems. Water was 3 to 4 feet deep in several towns, flooding houses and businesses.</p>									
OKZ007-008-012	02-03	1500-0500CST			0	0	?	?	Flash Flooding
<p>Heavy rain and thunderstorms caused flooding and flash flooding during the evening hours into the morning hours of the 3rd. Many cities had flooding, and many state and county roads were washed out or closed. No estimate on the damage done to personal as well as agricultural lands is available.</p>									
Logan County	02-02	1529CST	0.1	50	0	0	?	?	Tornado (F0)
Cleveland County	02-02	1700CST			0	0	?	?	Hail (0.88)
<p>A tornado touched down briefly 6.5 miles west of Guthrie, doing no damage. Nickel size hail fell in southeastern Norman.</p>									
35 OREGON - NONE REPORTED									
36 PENNSYLVANIA, Eastern - NONE REPORTED									
36 PENNSYLVANIA, Western									
Fayette County, 1 NW Uniontown to 2 E Uniontown	01-01	1540-1554EST	4.5	100	0	2	6	0	Tornado (F2)
<p>A tornado touched down 1 mile northwest of Uniontown in North Union Township at 1540EST; walls of a car dealership were knocked down and vehicles were tossed in the air. The tornado traveled northeast ripping roofs off of homes and businesses - 40 homes and 7 businesses were damaged. One man was injured by flying glass, and a woman was injured when a mobile home was moved off of its foundation and tipped over. Numerous trees and sheds were blown down in North Union Township. The tornado was last seen in contact with the ground near Coolspring, two miles east of Uniontown at 1554EST.</p>									
Clearfield County, 15 SE Dubois	03-03	1400EST			0	0	4	0	Flood
<p>Hockenberry Run and Anderson Creek went over their banks at Curwensville, 15 miles southeast of Dubois after 1.8 inches of rain fell in a 24 hour period. A stream usually two to three feet wide was twenty feet wide and ten feet deep in spots. A garage in the path of one flooded stream was moved off of its foundation, causing one wall to cave in. Basements were flooded; freezers, hot water heaters, and furnaces were lost.</p>									
Mercer County: 6 S Mercer to 3 SE Grove City	03-03	1835-1900EST	9.0	125	0	0	6	?	Tornado (F2)
Sharon	03-03	1900EST			0	0	3	0	Flood
<p>A tornado touched down at 1835EST near Leesburg, 6 miles south of Mercer. It moved east for nine miles through Wilmington, Springfield, and Pine Townships, and was last reported on the ground near Route 58, three miles southeast of Grove City. In Wilmington Township, one home and three barns were destroyed, and a combine was tossed about. In Springfield Township, two barns were destroyed, causing the loss of ten head of cattle, and farm equipment and buildings worth \$1 million were destroyed as well. In Pine Township, seven trailers were damaged, one was a total loss. Trees were uprooted or snapped off halfway up their trunks in Grove City. Flooding from 1.5 inches of rain caused water to be chest high in sections of Sharon as Pine Hollow Creek flooded.</p>									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	

— PENNSYLVANIA, Western

Butler County, Butler	03	1900EST									Thunderstorm Wind, Flood
Trees and power lines were downed and roads were flooded in the Butler area. A mudslide occurred on Route 422.											
Warren County: Warren to 15 SW Warren, 6 SE Warren, and 12 NW Warren	03	1900EST									Flood
Roads flooded at Warren and between Warren and Tidoute, 15 miles southwest of Warren. Roads also flooded in Mead Township, 6 miles southeast of Warren, and Sugar Grove, 12 miles northwest of Warren.											
Lawrence County, 3 NW New Castle	03	1930EST									Flood
Six to eight inch deep water pooled on Neshannock Township roads, 3 miles northwest of New Castle.											
Indiana County; 7 NE Indiana, 10 NE Indiana, and 8 N Indiana	03	2100EST				3					Flood
Two inches of rain in 24 hours caused basement flooding at Clymer, 7 miles northeast of Indiana, and at Diamondville and Dixonville, 10 miles northeast of Indiana. Two Lick Creek reached a bridge overpass, causing an overflow at Diamondville. Roads were closed as a tributary of Crooked Creek in Home (8 miles north of Indiana) overflowed.											
Armstrong County; 6 W Kittanning and 3 NW Kittanning	03	2100EST				3					Flood
Buffalo Creek flooded in West Franklin, 6 miles west of Kittanning, and road and basement flooding occurred in East Franklin, 3 miles northwest of Kittanning.											
Clearfield County, 5 SE Clearfield	03	2115EST				4					Thunderstorm Wind
Trees were uprooted and shingles torn off of a house in Spring Valley, 5 miles southeast of Clearfield. Windows were blown out and awnings torn off of a country club.											
Venango County, 5 N Franklin	03	2200EST									Thunderstorm Wind
Trees were downed near Country Paradise Park in Sugar Creek Township, 5 miles north of Franklin.											
Clarion County, 9 SW Clarion	03	2200EST				5					Thunderstorm Wind
A garage and barn were blown down 2 miles east of Sligo (9 miles southwest of Clarion). A roof was torn off of a house 1 mile north of Sligo.											
Westmoreland County, 6 S Greensburg	04	1930EST				3					Thunderstorm Wind
Trees were uprooted and sheared off, awnings were damaged, and heavy lawn furniture was tossed about in New Stanton, 6 miles south of Greensburg.											

37 RHODE ISLAND ————— NONE REPORTED

38 SOUTH CAROLINA

Horry County: Myrtle Beach	8	0500EST				5					Lightning
Coastal areas	8	0600EST				4					Flash Flooding
Surfside Beach	8	0600EST				4					Flash Flooding
A stationary front situated across the southeastern U.S. moved slowly northward, bringing heavy rains across portions of South Carolina. Extremely heavy rain caused major localized flooding along the northeast South Carolina coast. The U.S. Airforce Base at Myrtle Beach reported 7.82 inches of rain in a 6 to 12 hour period. At Surfside Beach, flooding along US 17 Highway reached a 3 foot depth. Roads were covered near Dogwood Lake; frontage roads of US 17 were washed out. Water had become two feet deep in the Wal-Mart Store at Surfside Beach. It was reported to be the worst flooding in Myrtle Beach since Hurricane Gloria.											
Fichland County, Columbia	8	1500EST				3					Lightning
	8	1600EST				3					Urban Flooding
Heavy thunderstorm rains caused considerable street flooding in Columbia including the Woodland Subdivision, Atlas Road at Veterans Road, and Cervais Street. Lightning caused power failure to 400 homes.											

— SOUTH CAROLINA

Florence County, Florence	8	1600EST									Urban Flooding
Heavy rains during a thunderstorm during the afternoon flooded the Cheves Street viaduct as well as several other streets in Florence. Traffic was slowed.											
Lexington County, South Congaree	13	2330EST				3					Thunderstorm Wind
Thunderstorm winds about 1/2 mile southeast of South Congaree uprooted several trees, blew shingles off the roof of a home, and caused other minor damage.											
Aiken County, Aiken	14	0100EST				3					Thunderstorm Wind
	14	0100EST				3					Lightning
Winds during a thunderstorm caused tree limb damage in Aiken. Falling limbs damaged the roofs of several homes and caused power outages. Lightning damage to utilities was also reported.											

39 SOUTH DAKOTA

Jerauld County, 5 SE Gann Valley	01	1632CST									Funnel Cloud
SDZ011 Black Hills	02-	afternoon-				0					Heavy Snow
	03	morning				0					
Four to eight inches of snow fell above the five-thousand-foot elevation in the Black Hills. The larger amounts were eight inches at Terry Peak (Lawrence County) and six inches at Deerfield (Pennington County). The heavy snow felled trees.											

40 TENNESSEE

Tullahoma, Coffee County	01	1630CST									Thunderstorm Wind (65)
Two airplanes were lifted up and slammed to the ground upside down by a 5 second gust of violent thunderstorm wind at the Tullahoma Municipal Airport. One airplane was a total loss. Property damage occurred to a gate and two hangars at the airport. An FAA official estimated that winds exceeded 75 mph.											
Nashville, Davidson County	01	1700CST				4					Lightning
	01	1720CST				4					Thunderstorm Wind
Lightning caused a fire at a condominium on Basswood Drive, and eight units were damaged by the resulting fire. Strong thunderstorm winds tore material from a building in downtown Nashville on Third Avenue and slammed the debris into a neighboring building, causing a six foot by six foot hole. A car was also damaged by falling debris.											
Montgomery County	02	1445CST				3					Thunderstorm Wind
Strong thunderstorm winds toppled a tree onto a house on Route 7, causing roof damage.											

41 TEXAS, Northern

Knox County, 5 NW Knox City	1	2045CST				?	?				Hail (0.75)
Knox County, Rhineland	1	2115CST				4					TSM Winds
Hail to at least 3/4 inch in diameter damaged cotton and watermelon crops 5 miles northwest of Knox City at 2045CST. Strong winds took the roof off a barn and knocked down telephone poles near Rhineland at 2115CST.											
Taylor County	5	1800CST				?					Flash Flooding
Several families were evacuated from their homes in the northern part of Abilene after rainfall of up to 6 inches flooded Elm Creek.											
Comanche County, 8 N Comanche	11	1655CST				?					TSM Winds (52)
Winds up to 52 knots were observed eight miles north of Comanche.											

STORM DATA AND UNUSUAL WEATHER PHENOMENA

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TEXAS, Northern									
Lampasas County	23	0600CST			0	0	?	?	Flash Flooding
									Heavy rains of up to 3 inches flooded several low water crossings around the county.
Coryell County	23	1130CST			1	0	?	?	Flash Flooding
									A soldier drowned at Fort Hood when his armored personnel carrier stalled at a flooded low water crossing on Cowhouse Creek. M22V.
41 TEXAS, Southern									
Val Verde County	05	0740CST			0	0	?	0	Flash Flooding
									Up to 15 inches of rain caused serious flooding over the northern part of the county on the watersheds of the Devils and Dry Devils Rivers. Numerous low water crossings and roads were covered with high water which forced several roads to become impassable including SH163 and FM189. The flood waters stranded several persons, but no one lost their life in the event. 12 to 15 inches of rain fell in and around Juno. Mayfield Store had 10 inches and the Glasscock Ranch 10.54 inches.
Medina County	05	Morning			0	0	4	0	Flash Flooding
									Heavy rains in and around Hondo caused local flash flooding. Businesses in downtown Hondo were sandbagged because of the high water. The National Weather Service in Hondo received 4.44 inches of rain ending at 0600CST.
Atascosa County	07	1100CST			1	0	0	0	Flooding
									Floodwaters from the Atascosa River in Pleasanton trapped and drowned a man as he was riding his bicycle near or in the edge of the swollen river. The crossing where the man lost his life had been barricaded by local authorities. M280
Cameron County	07	1223CST short	15		0	0	0	0	Tornado (F0)
									A tornado formed from a towering cumulus cloud and remained nearly stationary for about 30 minutes. Rain was not falling from the cloud. The tornado was on the ground on the northwest side of the city of Harlingen in open country and did no damage. It was near US Hwy. 77 and numerous persons viewed the tornado. It had the characteristics of a waterspout.
Val Verde County	11	0100CST			0	0	0	0	Thunderstorm Wind (S)
									High winds from a thunderstorm measured at 60 MPH hit a marina on the east side of Lake Amistad. Damage was not reported.
Frio County	11	0440CST			0	0	5	0	Hail (0.75)
	11	0440CST			0	0	5	0	Thunderstorm Wind (?)
									Three-quarter inch hail did damage to roofs of residences and automobiles in and around Pearsall. High winds from a thunderstorm blew some roofs off and downed some trees.
Montgomery County	12	0326CST			0	0	0	0	Hail (0.75)
	12	0326CST			0	0	0	?	Thunderstorm Wind (?)
									Montgomery County Sheriffs Office reported dime size hail fell on F-45 south of Conroe. Thunderstorm winds downed trees around Dobbin and Lake Conroe Forest.
Travis County	12	Early Morning			1	0	5	0	Flash Flooding
									Up to 3.5 inches of rain fell over the eastern part of the city of Austin which resulted in floodwaters rising into some homes. One east Austin street had as much as 4 feet of water covering it. One man was drowned when he was swept into a creek. M300
Bexar County	12	Early Morning			0	0	0	0	Flash Flooding
									Heavy rains on the north side of the city of San Antonio flooded creeks and low water crossings. 8 persons had to be rescued from vehicles that had either been washed off of low water crossings or were stranded in high water.
Atascosa County	12	Early Morning			0	0	0	0	Thunderstorm Wind (?)
									High winds from a thunderstorm blew over some signs and downed trees in Pleasanton.
Galveston and Harris Counties	12	0600CST			0	0	0	0	Hail (0.75)
	12	0600CST			0	0	4	0	Thunderstorm Wind (S)
									Hail the size of dimes fell on the south part of the city of Houston. High winds from a thunderstorm downed several trees, limbs and signs on the south side of the city of Houston. Wind damage was also reported at LaPorte. Galveston's Sheriffs Office estimated the wind at 65 MPH at Bayview. League City had winds estimated at 60 MPH. One power transmission tower was downed in the area. The Galveston WSO registered winds at 43 MPH.
TEXAS, Southern									
Brazoria, Calhoun, and Matagorda Counties	23	Morning			0	0	0	0	Flooding
									Some flooding occurred in the southern parts of the above counties as 6 inches of rain was reported in some areas. Most of the rain fell during the night and flooding was reported in and around Freeport, Bay City, Matagorda and Wadsworth. Many local roads were covered with water and some were impassable. However, no serious flooding was reported. At an intracoastal waterway gate at Matagorda, 12 inches of rain was measured.
Travis County	23	0400CST			0	0	0	0	Flash Flooding
									Up to 3 inches of rain fell on the watershed of Walnut Creek and flooded low water crossings. At least one car was washed off of a road and the driver had to be rescued. 16 roads in the area had to be barricaded because of the high water.
Nueces County	26	1753CST			0	0	?	0	Hail (1.75)
									Hail the size of golfballs was reported over the south side of the city of Corpus Christi. Damage was not reported.
41 TEXAS, Western									
Hockley County	01	1610CST			0	0	0	5	Hail (1.75)
									A strip of hail 2 miles wide destroyed milo and cotton crops in the central part of the county. Damage was so total that the crops showed virtually no new growth a month later.
Lynn County	01	1630CST			0	0	0	0	Hail (0.75)
									Dime-sized hail accompanied a thunderstorm that also produced very strong wind and heavy rainfall at Tahoka, according to city police.
Lubbock and Lynn Counties	01	1647CST			0	0	0	0	Hail (1.75)
									A Skywarn Storm Spotter reported golfball-sized hail 3.5 miles southwest of Slaton, falling in both counties simultaneously. No damage was noted.
Ward County	01	1650CST Short	30		0	0	0	0	Tornado (F0)
									The public reported a tornado 3 miles south of Grandfalls in the extreme southern part of the county.
Lubbock County	01	1656CST			0	0	0	0	Hail (1.75)
									Golfball-sized hail was reported by the Slaton Fire Department in the city of Slaton.
Hale County	01	1700CST			0	0	5	0	Hail (4.00)
									Hail, measuring up to 4 inches in diameter, knocked out windows and caused major roof damage in and around the community of Petersburg.
Garza County	01	1703CST			0	0	0	0	Hail (0.94)
									Hail the size of quarters accompanied very heavy rainfall in the community of Southland, with deep standing water widespread in town.
Floyd County	01	1715CST			0	0	4	0	Hail (1.75)
					0	0	0	0	Thunderstorm Wind
									Golfball-sized hail broke out business and residential windows in the community of Lockney. The hail was associated with a severe thunderstorm that also produced wind gusts to at least 60 miles per hour. Two inches of rain fell in less than a half hour.
Floyd County	01	1715CST			0	0	?	0	Hail (2.75)
					0	0	?	0	Thunderstorm Wind
									The Lockney hailstorm moved through the community of South Plains, bringing with it hail as large as baseballs and very high wind in excess of 60 miles per hour over a period of about 10 minutes. No significant damage was reported.
Briscoe County	01	1740CST			0	0	0	?	Hail (1.75)
									Golfball-sized hail pounded open country just southwest of Silverton in the southern part of the county. Damage was unknown.
Dickens County	01	1803CST			0	0	?	0	Hail (1.75)
									Golfball-sized hail was reported by the police department in Spur.
Kent County	01	1834CST			0	0	?	0	Hail (1.75)
									The sheriff's department reported golfball-sized hail in downtown Girard.

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					KILLED	INJURED	PROPERTY	CROPS	
— TEXAS, Western									
Donley County	01	1840CST			0	0	?	?	Hail (1.75)
									Golfball-sized hail accompanied mostly light rain south of Clarendon, according to the sheriff's office.
Hall County	01	1840CST	Short	30	0	0	0	0	Tornado (FO)
									A tornado briefly touched down near Memphis without doing damage, according to the sheriff's office.
Collingsworth County	01	1840CST	Short	30	0	0	0	0	Tornado (FO) Hail (2.50) Funnel
									A tornado was sighted by a county official 5 miles southwest of Wellington around 1840 CST. Hail ranging in size from golfballs up to tennis balls fell in the Wellington area during the next 10 minutes, with amount of damage unknown. A funnel cloud was sighted over Wellington around 1850 CST.
Dickens County	01	1842CST			0	0	0	0	Hail (1.75)
									Intermittent golfball-sized hail, accompanied by heavy rainfall, was noted by Skywarn Storm Spotters in open country just southeast of Spur.
Kent County	01	1842CST			0	0	0	0	Hail (1.75) Thunderstorm Wind
					0	0	0	0	The storm that moved across southern Dickens County also produced large hail and high wind in northern Kent County. Golfball-sized hail and wind in excess of 60 miles per hour were reported by sheriff's office personnel in Jayton and Antelope at about the same time.
King County	01	2009CST			0	0	0	0	Funnels
									A deputy sheriff sighted a funnel cloud northwest of Guthrie at 2009 CST. Several more funnels were noted during the next 6 minutes. Strong wind and pea-sized hail accompanied the storm.
Lubbock and Crosby Counties	01	2040CST			0	0	5	0	Hail (1.75)
									A very strong thunderstorm moved across both counties, leaving a path of golfball-sized hail that inflicted severe roof damage at Idalou in northeast Lubbock County and at Lorenzo in western Crosby County. The severe hailfall lasted about 15 minutes.
Floyd County	01	2055CST			0	0	0	0	Hail (1.75)
									Sheriff's department officers reported golfball-sized hail 3 miles south of Floydada. The storm also produced very heavy rainfall.
All of Southwest Texas	02-05	All Day			0	0	?	?	Flash Flooding
									A vigorous upper level trough pushed a slow-moving cold front across the remnants of Eastern Pacific Hurricane Paine, producing widespread, very heavy rainfall. Many rain totals over the period exceeded 6 inches, a significant number surpassed 10 inches, and one gage (at McCaney) collected 16.21 inches within a 24-hour period ending on the morning of the 5th.
									Following the first wave of rains on the 2nd and early morning of the 3rd, a second wave began overnight in the Davis Mountains on the 4th. In the Big Bend, Lajitas totaled over 7 inches of rainfall, and flash flooding was widespread through mountain ravines where torrents of water rushed over bridges. Whole towns were inundated by the waters, which cut several communities off from the outside for days as rivers poured out of their banks. At dawn on the 4th, the Pecos River spilled over its banks from Grandfalls to Sheffield. By late afternoon on the 5th the slow-moving thunderstorms had pushed into the Concho Valley, dropping from 4 to 10 inches of rain and lifting the Concho River out of its banks. Roads and low-lying areas over a half-dozen more counties were inundated.
									The heavy rain on the 2nd and 3rd had focused on the northeast Permian Basin and southeast South Plains, where rains of between 4 and 7 inches flooded Stonewall and Fisher Counties. The wave of severe thunderstorms on the 1st was merely the vanguard of a much larger and more devastating round of flood-producing storms. The following is a county-by-county description of events during the Hurricane Paine flooding episode:
Midland County	02	0400CST			0	0	?	?	Flash Flooding
									Very strong, slow-moving thunderstorms brought 2.53 inches of rain at Midland Air Terminal. Urban flooding forced closure of many streets in Midland, with dozens of motorists stranded by the high water. The storm lasted about four hours.
Lynn and Garza Counties	02	1310CST			0	0	4	?	Flash Flooding
									Heavy rains from slow-moving thunderstorms sent water over roads and into residences between Tahoka and Post during the afternoon. The rain tapered off at around 1830CST.
— TEXAS, Western									
Crosby and Lubbock Counties	02	1405CST			0	0	3	0	Flash Flooding
									Thunderstorms developed further north and produced very heavy rain between Lubbock and Ralls. Urban flooding was reported to have closed city streets in both cities, as well as smaller communities in both counties. Water rose into some residences and did not recede until around 2200 CST.
Andrews County	02	1553CST	0.3	40	0	0	5	0	Tornado (FI)
									A tornado touched down in the southeast section of the city of Andrews, unroofing a bowling alley and overturning four mobile homes. No one was injured.
Upton County	02	1731CST	0.1	30	0	0	4	0	Tornado (FI)
									A small tornado briefly touched down in the city of Rankin, according to sheriff's department officers. A metal storage building was blown into two parked automobiles, a power pole was downed, and two large trees were uprooted and twisted in half.
Floyd County	02	1735CST			0	0	?	?	Flash Flooding
									Strong, slow-moving thunderstorms caused widespread street and rural flooding from Lockney to South Plains. The storms moved out of the area around 2050 CST.
Lynn County	02	1830CST			0	0	?	?	Flash Flooding
									Continued heavy rain from slow-moving "train-effect" thunderstorms exacerbated flooding left over from the previous day's severe storms. Flash flooding forced closure of numerous county roads and highways as high water was reported throughout the county. The rain ended around 2330 CST.
Midland County	02	1904CST			0	0	3	0	Thunderstorm Wind
									Thunderstorm wind gusted to 69 miles per hour at the National Weather Service Office at Midland Regional Airport. Two aircraft were blown together and a DC-3 was blown off its chocks.
Upton County	02	1910CST			0	0	?	?	Thunderstorm Wind
									The Upton County Sheriff reported a thunderstorm wind gust estimated at 75 miles per hour at Rankin.
Briscoe and Collingsworth Counties	02	2000CST			0	0	0	0	Flash Flooding
									Runoff from slow-moving thunderstorms forced closure of State Highway 207 in the southern part of Briscoe County. State Highway 203 between Wellington and Quail was closed in Collingsworth County. Roads remained closed until flooding eased at around 0200 CST.
Garza County	02-03	2100CST			0	0	?	?	Flash Flooding
									Ponding water in fields spilled across U.S. Highway 87 near Southland. The highway was closed to traffic for several hours until water receded at around 0300CST.
King and Cottle Counties	02-03	2300CST			0	0	?	?	Flash Flooding
									Protracted rains totaling between 4 and 6 inches caused arroyos to run full and spill high water over many roadways in the two-county area. The fast-moving, deep water mandated closing most of the affected roads until water receded at around 0300CST.
Crane County	03	1950CST	Short	30	0	0	0	0	Tornado (FO)
									The public reported a small tornado 2 miles south of Crane.
Fisher and Stonewall Counties	04	0553CST			0	0	0	0	Flash Flooding
									Repeated passages of thunderstorms over both counties brought lowland flooding that sent water over numerous highways. Among the flooded roads were Highway 283 east of Old Glory in Stonewall County and Farm-to-Market Road 1835 north and south of Old Glory. The flood waters remained over roadways until 2250 CST.
Glasscock County	04	0800CST			0	0	?	?	Flash Flooding
									As much as 5 inches of rain in a 5-hour period fell at Garden City beginning around 0800 CST, causing flash flooding along Highways 33 and 87.
Sterling County	04	Est. 1020 CST			0	0	?	?	Flash Flooding
									The Department of Public Safety reported that U.S. Highway 87 northwest of Sterling City was closed due to high water caused by slow-moving thunderstorms. Arroyos had quickly filled and pushed water across the roadway.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

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, Western									
Upton County	04-	1015CST			1	0	5	?	Flash Flooding
		05							Flash flooding, caused by protracted heavy rainfall over saturated ground, sent the Pecos River as much as 10 feet out of its banks. State Highway 67 was covered with water at the Pecos River Bridge just north of McCamey. Thunderstorms continued to regenerate near McCamey, resulting in a total of 16.21 inches of rainfall in a 24-hour period ending around 0900 CST on the 5th.
									The seige of rain left virtually every road in town under water and out off all traffic into and out of the city until the water receded on the 6th. The first 4 inches of rain fell in 2 hours and 15 minutes, after which the Pecos River rose quickly to flood adjacent low-lying areas.
									The flash flooding claimed the life of a motorist when Mrs. Ellen Bullard, 67, of Arizona, drove her automobile into water rushing over a bridge east of Rankin. The automobile was swept off the road into a 10-foot deep ditch. Her body was found in a muddy pasture one-half mile east of the automobile.
									F67V
Brewster County	04-	1725CST			0	0	?	?	Flash Flooding
		05							Torrential rains caused the Rio Grande River to rise 17 feet and Terlingua Creek to rise 12 feet, sending water 3 feet deep through city streets in Terlingua and Lajitas. Rains causing the flooding totaled more than 7 inches at Lajitas. Water spilled over bridges and closed roads in and around both communities, and did not recede until 1900 CST on the 5th.
Crockett County	04-	1930CST			0	0	?	?	Flash Flooding
		05							The Department of Public Safety reported that the Pecos River north of Iraan at Farm-to-Market Road 1901 was over the bridge. Continued rain closed most highways in the county on the 5th as the Pecos River rose to as much as 10 feet above flood stage. The flooding did not ease until around 2230 CST on the 5th.
Mitchell County	04-	All Day			0	0	?	?	Flash Flooding
		05							Rains of between 4 and 6 inches caused lowland flooding that forced closing of several highways in the county. Highway 203 between Colorado City and Robert Lee was closed for 24 hours.
Sterling County	04-	All Day			0	0	?	?	Flash Flooding
		05							Rains of more than 7 inches in the county sent the Concho River out of its banks in places, forcing water over several roadways and mandating their closure.
Southern Brewster County	10	1800CST			0	0	?	?	Hail (1.00)
					0	0	0	0	Thunderstorm Wind
									Hail between 3/4 and 1 inch in diameter fell at Terlingua, according to sheriff's department officials. The hail was accompanied by wind that gusted to 70 miles per hour.
Pecos County	10	1955CST			0	0	?	?	Flash Flooding
									Slow-moving thunderstorms over still-saturated ground caused rapid runoff that sent 6 to 8 inches of water over Farm-to-Market Road 349 in the eastern part of the county.
El Paso County	19	2100CST			0	0	?	5	Hail (1.75)
									A strong thunderstorm moved through the communities of Fabens and Tornillo in the southern and southeast part of the county, leaving a strip about 8 to 10 miles wide of golfball-sized hail. The hail destroyed cotton that should have amounted to about a half-bale per acre a few days hence.
Yoakum County	24	2030CST			0	0	?	?	Hail (1.75)
									Hail, ranging in size from marbles to golfballs, pounded Denver City as an isolated thunderstorm slowly migrated through the southern part of the county. A high school football game was halted for 30 minutes by the hail, as players and spectators took cover.
42 UTAH									
Wasatch Front	11	0400MST			0	0	4	0	High Wind
	11	0430MST			0	0	2	0	High Wind
	11	0500MST			0	0	2	0	High Wind
	11	0725MST			0	0	0	0	High Wind
	11	0813MST			0	0	2	0	High Wind
	11	0900MST			0	0	2	0	High Wind
									Easterly canyon winds along the west slopes of the Wasatch Front produced a moderate amount of damage on this Saturday morning. Reported wind gusts included 74 mph in Farmington at about 5 a.m. MDT, a gust to 75 mph in Farmington at about 5:30 a.m. MDT, a gust to 81 mph at Hill AFB at about 6 a.m. MDT, an estimated gust to 70 mph in Kayville at about 8:25 a.m. MDT, a gust to 51 mph at the Utah State University Campus in Logan at about 9:13 a.m. MDT, and an estimated gust to 50 mph in Orem at about 10 a.m. MDT. Damage reports included a downed main power line which cut the power off to approximately 2,500 homes at about 4 a.m. Numerous small trees were blown over in Centerville as well as several small metal sheds. A pickup truck shell and camper were blown off two trucks.
Wasatch Front	11	1815MST			0	0	1	0	High Wind
	11	2025MST			0	0	1	0	High Wind
	12	0535MST			0	0	1	0	High Wind
									Easterly canyon winds picked up again during the late afternoon hours and continued into the next morning. During this time period, reported peak wind speeds include an estimated gust to 50 mph in Bountiful at about 7:15 p.m. MDT, an estimated gust to 60 mph in Bountiful at about 9:26 p.m. MDT, and a measured gust to 68 mph in Farmington at about 6:35 a.m. on the 12th.
Carbon County	18	0900MST			1	2	1	0	Lightning
									Lightning struck and killed a 26 year old deer hunter in the Beaver Canyon area. Two others in the party were knocked down and received minor injuries. M260
Wasatch Front	19	0440MST			0	0	1	0	High Wind
	19	0540MST			0	0	1	0	High Wind
	19	0620MST			0	0	1	0	High Wind
	19	0700MST			0	0	1	0	High Wind
									A low pressure center moving through Southern Utah once again produced strong easterly canyon winds along the Wasatch Front. Reported peak wind speeds included a gust to 67 mph at Hill AFB at about 5:40 a.m. MDT, a gust to 81 mph in Bountiful at about 6:40 a.m. MDT, a gust to 65 mph in Farmington at 7:20 a.m. MDT, and an estimated gust to 80 mph in Kayville at about 8:00 a.m. MDT. No serious damage was reported.
Davis County	21	1431MST			0	0	4	0	Lightning
									Lightning struck a house in the Woods Cross area and damaged one wall.
43 VERMONT									
Windham County	06	0800EST			0	0	3	3	High Wind
									Strong gusty winds were the culprits in bringing down trees and power lines in the town of Guilford.
44 VIRGINIA									
Brunswick County	14	0550EST	12	800	0	0	6	?	Tornado (F3)
									The tornado first touched down about 5 miles ENE of Lawrenceville, then moved northeast almost to the county line. 12 to 15 houses were damaged and numerous trees and utility lines were down. Parts of the path were cleared to the ground, while other parts were skipped over. Total damage was estimated at about one million dollars.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

OCTOBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
— VIRGINIA —									
York County, Surry County, Gloucester County, and James City County	14	0650EST			0	1	6	0	Thunderstorm Winds
			A line of strong thunderstorms moved across southeastern Virginia. The storms produced wind damage along a spotty path that extended from Claremont in northern Surry County NE into Gloucester County just east of Harcum. Two barns and a shed were destroyed just east of Claremont in Surry County. 10 to 15 campers were damaged or destroyed in James City County near the Chickahominy River. One 32 foot trailer was rolled or carried 50 feet and deposited on its side. A mobile home in Gloucester County just east of Harcum was turned over even though tied down. The damage appears to be the result of a downburst 1-2 miles wide in places with several embedded microbursts that reached close to 112 MPH. Damage was estimated to be \$1.8 million.						
Charles City County	14	0705EST	5	35	0	0	5	0	Tornado (F3)
			The tornado struck the Sandy Point section of Charles City County before moving NE. Numerous trees were down, 12-15 homes damaged, and power and telephone lines were down. Damage was over \$100,000.						
Sussex County and Prince George County	14	0720EST	15	450	0	1	5	?	Tornado (F2)
			The tornado touched down near the Sussex-Prince George county line, just east of Carson, about 35 miles SE of Richmond. The storm moved northeast for about 15-18 miles. A mobile home and a barn were destroyed. A large oak tree with a diameter of at least 3.5 feet was picked up and blown across a one story residence with 5 people inside. No one was injured, but one person had to dig himself out from the rubble. Damage was estimated at \$100,000 to \$200,000.						
Dinwiddie County and Prince George County	14	0720EST	2	100	0	0	5	5	Tornado (F2)
			The tornado appears to have first touched down in northern Dinwiddie County before moving northeast across Hopewell to the James River. The tornado was a funnel cloud for much of its lifetime. An outdoor shelter was ripped apart on the west side of the city of Hopewell. The tornado picked up pieces of metal from the Allied Chemical Plant and carried them through the air.						
45 WASHINGTON ————— NONE REPORTED									
46 WEST VIRGINIA									
Doddridge County, West Union	01	1730EST	1	200	0	1	5	4	Tornado (F3)
			A tornado touched down near the Wabash Addition area of West Union, destroying 5 homes and damaging 7 others. Three mobile homes were also destroyed and 2 others received minor damage. Many other outbuildings were damaged. One person was injured while going to a basement shelter.						
Marion County	01	1800EST			0	0	0	?	Winds
			Several trees were blown across the highway in the Anns Run area. One tree was 4 feet in diameter. Trees were reported as being across the road in the Fairview area.						
Harrison County	01	1815EST			0	0	0	?	Winds
			Several trees were downed in the northern part of the county around the Lumberport and Shinnston areas. Several power outages were also reported.						
Doddridge County, West Union	04	2300EST	1	50	0	0	5	?	Tornado (F1)
			A tornado touched down in the Rock Run area, about six miles northeast of West Union. Four houses and four mobile homes were damaged. This tornado occurred about three-quarters of a mile from the path left by the tornado on October 1st.						
47 WISCONSIN ————— NONE REPORTED									
48 WYOMING									
WY2011 East-Central	02	Day			0	0	0	0	Heavy snow
			Ten inches of snow fell at Casper, half of which quickly melted.						
WY2010-014 South-Central	10	Day			0	0	0	0	Heavy snow
			Four to 8 inches of snow were reported from 40 miles north of Rawlins to near Lander.						
WY2017 Southeast Corner	13	Day			0	0	0	0	Heavy snow
			Six inches of snow were reported at Granite Reservoir in extreme west Laramie County.						
WY2015 Southern Mountains	21	Day			0	0	0	0	Heavy snow
			Six inches of snow fell during the day at Centennial in Albany County.						
49 ALASKA, Northern ————— NO REPORT RECEIVED									
49 ALASKA, Southern ————— NO REPORT RECEIVED									
49 ALASKA, Southeastern									
Southeast Alaska	14-16								Heavy Rain
			Heavy rains which fell on Southeast Alaska during the middle of the month touched off mudslides near Petersburg and in downtown Juneau. These rains came on top of three weeks of wet weather which had saturated the Southeast Alaska ground. The Mitkof Highway near Petersburg was closed while several families in Juneau were evacuated and one home there was damaged.						
50 HAWAII ————— NONE REPORTED									
51 PUERTO RICO ————— NONE REPORTED									
52 VIRGIN ISLANDS ————— NONE REPORTED									
53 PACIFIC ————— NONE REPORTED									

STORM SUMMARY

OCTOBER 1986

TYPE	ALABAMA	ARIZONA	ARKANSAS	CALIFORNIA	COLORADO	CONNECTICUT	DELAWARE	FLORIDA	GEORGIA	IDAHO	ILLINOIS	INDIANA	IOWA	KANSAS	KENTUCKY	LOUISIANA	MAINE	MARYLAND & DC	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSISSIPPI	MISSOURI	MONTANA	NEBRASKA	NEVADA	NEW HAMPSHIRE
TORNADOES																											
Number								1																			
Days								1																			
Deaths																											
Injuries																											
Property Damage								4																6			
Crop Damage																											
HAIL																											
Deaths																											
Injuries																											
Property Damage			2																								
Crop Damage																											
THUNDERSTORM WINDS																											
Deaths																											
Injuries																											
Property Damage								4																			
Crop Damage	3	4	4	?					5	4					3									4			
HIGH WINDS																											
Deaths																		2									
Injuries																											
Property Damage																											
Crop Damage							4											3		4							5
LIGHTNING																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage				1																							
FLASH FLOODS																											
Deaths																											
Injuries																											
Property Damage			3					4								2											
Crop Damage																											
FLOODS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage			6										7	3	11											6	
HEAVY SNOWSTORMS AND BLIZZARDS @																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
ICE STORMS #																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
HURRICANES AND TROPICAL STORMS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
ALL OTHERS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											

SEE REFERENCE NOTES FOR STORM DAMAGE CATEGORIES

STORM SUMMARY

OCTOBER 1986

TYPE	NEW JERSEY	NEW MEXICO	NEW YORK	NORTH CAROLINA	NORTH DAKOTA	OHIO	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA	TENNESSEE	TEXAS	UTAH	VERMONT	VIRGINIA	WASHINGTON	WEST VIRGINIA	WISCONSIN	WYOMING	ALASKA	HAWAII	PACIFIC	PUERTO RICO	VIRGIN ISLANDS	NATIONAL DEATHS & INJURY TOTALS
TORNADOES													SEE PAGE 38														
Number			1			1	6		2					7			4		2								
Days			1			1	2		2					4			1		2								
Deaths																											
Injuries																											
Property Damage			5				6		6					5			6		5								4
Crop Damage			4				?		?								5		3								
HAIL																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage			4											5													
THUNDERSTORM WINDS																											
Deaths																											1
Injuries			1				8										1										11
Property Damage			5				6		5		3			5			6										
Crop Damage						5	?							?					?								
HIGH WINDS																											
Deaths																											
Injuries																											2
Property Damage																											
Crop Damage			6												4												
LIGHTNING																											
Deaths																											
Injuries																											1
Property Damage																											3
Crop Damage				5																							
FLASH FLOODS																											
Deaths																											
Injuries							1																				
Property Damage																											5
Crop Damage			4				?																				9
FLOODS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
HEAVY SNOWSTORMS AND BLIZZARDS @																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
ICE STORMS #																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
HURRICANES AND TROPICAL STORMS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
ALL OTHERS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											45

SEE REFERENCE NOTES FOR STORM DAMAGE CATEGORIES

STORM DATA AND UNUSUAL WEATHER PHENOMENA

LATE REPORTS

CORRECTIONS

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	
1 ALABAMA									
<u>JUNE 1986</u>									
Lauderdale County, Killen	11	1720CST	3.5	500	0	0	3	1	Tornado (F1)
A weak tornado touched down at Kendale Gardens 6 miles northeast of Florence and moved northeast through the town of Killen. Most of the property damage occurred in Killen where large trees fell on roofs of homes.									
<u>JULY 1986</u>									
Madison County, 8 SE Huntsville	28	2000CST	4.0	150	0	0	2	2	Tornado (F0)
During a very heavy thunderstorm, a tornado touched down just east of Green Mountain, 8 miles southeast of Huntsville. The tornado moved south-southeast through farm fields along Big Cove Road. Aerial and ground, post-storm surveys revealed that the tornado left a cyclonic swirling pattern in a hayfield.									
3 ARKANSAS									
<u>FEBRUARY 1986</u>									
The Arkansas Health Department reported the following deaths due to overexposure to weather and/or hypothermia:									
Little River County	10	UNK			1	0	-	-	Low Temperature
The victim was an 82-year-old male.									
Pulaski County	11	UNK			1	0	-	-	Low Temperature
The victim was an 83-year-old female.									
41 TEXAS, Western									
<u>APRIL 1986</u>									
Nolan County	19	0655-0705CST	3.0	250	0	0	4	0	Tornado (F1)
A tornado preceding the Sweetwater Tornado was produced by the same parent thunderstorm and touched down 8 miles southwest of Roscoe. The twister snapped four telephone poles on Farm Road 2319 and left deep scour marks on either side of the roadway four miles east of Champion according to a telephone company representative who made the repairs.									
17 MAINE									
<u>JUNE 1986</u>									
The following reports from page 25 remain the same except that location information has been added:									
York County, 25 Shapleigh	16	1245EST			0	0	4	0	Severe Thunderstorm
In Shapleigh, winds from a severe thunderstorm blew down large branches and powerlines.									
York County: 6ESE Sanford 4SE Alfred	16	1250EST			0	0	*4	C	Severe Thunderstorm
Sanford and Alfred reported one inch to golfball size (1.75 inches) hail fell during a severe thunderstorm. Winds also blew down trees.									
York County: 3NE Limerick Limington	16	1250EST			0	0	*6	C	Severe Thunderstorm
Limington and Limerick reported marble size (½ inch) to golfball size (1.75 inch) hail fell during a severe thunderstorm. Winds also blew down trees.									
York County, 4.5NE Waterboro	16	1250EST			0	0	4	0	Severe Thunderstorm
In Waterboro, winds from a severe thunderstorm blew down trees.									
<u>JULY 1986</u>									
TIME CHANGE:									
The time is corrected from 1815EST to 1830EST in the following report from page 40:									
Cumberland County	18	1830EST			0	0	5	0	Severe Thunderstorm
Gorham, North Gorham, and West Gorham reported wind gusts in excess of 60 mph during a severe thunderstorm that blew trees down which, in turn, tore down powerlines and blocked roads.									
<u>AUGUST 1986</u>									
TIME CHANGE:									
The time is corrected from 1415EST to 1615EST in the following report from page 30:									
York County	07	1615EST	1.5	200	0	0	*6	C	Tornado (F1)
A tornado began in New Hampshire near the Wakefield-Effingham town line on the west side of Province Lake. It twisted its way into Parsonsfield, ME where Route 153 bends to meet the state line about four-tenths of a mile from the east shore of Province Lake. It then entered the Maine woods, traversed a section of Smith Road, tore through the Smith farm, crossed Stagecoach Road and ended near the top of the hill. The path was approximately 200 yards at maximum width along the Smith Road and almost 3 miles in total length. The path in Maine was nearly 1½ miles long. All the trees in its path were either uprooted or snapped off and laid in a definite cyclonic pattern. On Smith Road, the felled trees damaged several homes and crushed two vehicles. The Smith farm appeared to suffer the worst damage where a six-bay garage was completely blown away, a part of the farmhouse roof was torn away, and an estimated \$5,000 worth of corn in fields was lost. Sections of the farm's garage and roof, as well as a battered canoe, were found up to ½ mile away. Inspection by two National Weather Service personnel and Mrs. Smith's vivid account, left no doubt that this was a tornado.									
23 MISSOURI									
<u>JUNE 1986</u>									
The estimated property damage code is corrected from 4 to 5 and the descriptive text is reworded in the following report from page 29:									
Pike County	14	1700 CST			0	0	5	0	ISM Wind
Many trees and power lines were downed as a severe thunderstorm hit Annada in the extreme southeast corner of Pike County. A two-mile section of Highway 79 was closed. Some silos fell during the storm.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

CORRECTIONS

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		

31 NORTH CAROLINA

JULY 1986

The name of the first county listed in the following report from page 52 is corrected from Albermarle to Stanly; the correction is also made in the narrative:

Stanly County	10	1500EST	0	1	0	0	Lightning
Johnston County	10	1655EST	0	0	5	?	Thunderstorm Winds (75)
Sampson County	10	1706EST	0	0	?	?	Thunderstorm Winds
Johnston County	10	1730EST	0	0	5	0	Thunderstorm Winds (55)
Vance County	10	1730EST	0	0	3	?	Thunderstorm Winds, Hail (1.75)
Robeson County	10	1740EST	0	0	?	?	Thunderstorm Winds
Wilson County	10	1830EST	0	0	5	0	Thunderstorm Winds (65)
Duplin County	10	1830EST	0	0	3	0	Thunderstorm Winds
Edgecombe County	10	1840EST	0	0	3	0	Thunderstorm Winds (52)

Lightning injured a teenage girl as she talked on the phone at Oakboro in Stanly County. A large severe storm moved slowly across much of central and northern Johnston County. West of Selma, a building at a lumber yard collapsed, and a store suffered about \$40,000 in damage. A tank at a fuel storage yard was damaged and many trees were blown down over Selma and Smithfield. Winds were 50 to 60 mph over a large area, and in small areas there was evidence of downburst winds of up to 80 or 90 mph. Trees were blown down at Roseboro in Sampson County, at Fairmont and Rowland in Robeson County, and 2 miles west of Wallace in Duplin County. A severe thunderstorm struck eastern Wilson County, blowing down trees and power lines onto homes, and causing about \$50,000 in damage at Saratoga. The storm produced winds of over 50 knots, and uprooted trees, between Crisp and Macclesfield in Edgecombe County. At Gilburg, in Vance County, some siding was blown off a house, the antenna was blown off, and trees were uprooted. Golf-ball size hail was also observed.

The county names are correctly interchanged in the following listings from a report on page 53:

Beaufort County	12	1630EST	0	0	4	0	Thunderstorm Winds
Washington County	12	1656EST	1	0	0	0	Lightning

36 PENNSYLVANIA, Eastern

AUGUST 1986

The name of the town in the "PLACE" column is corrected from Wrightstown to Wrightsville in the following listing from a report on page 43:

York County, Wrightsville	05	1600EST	0	0	4	0	TSTM Winds
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38 SOUTH CAROLINA

JULY 1986

The number of persons killed is corrected from 1 to 0 in the following report from page 61; the narrative is corrected as well:

Horry County, Myrtle Beach	21	1630EST	0	0	3	0	Wind
	21	1630EST	0	0	5	0	Lightning

Winds overturned a boat and caused other minor damage. 19,000 people were affected by various power outages, 17,000 in North Myrtle Beach alone, caused by a lightning strike to power lines at the Chestnut Hill and Crescent Hill Power substations.

LATE REPORTS

FEBRUARY 1986

Arkansas - ALL OTHER, Deaths = 2 (vice 0).

APRIL 1986

Texas - TORNADOES, Number = 21 (vice 20).

JUNE 1986

Alabama - TORNADOES, Number = 1 (vice 0).
Days = 1 (vice 0).
Property Damage = 3 (vice 0).
Crop Damage = 1 (vice 0).

JULY 1986

Alabama - TORNADOES, Number = 1 (vice 0).
Days = 1 (vice 0).
Property Damage = 2 (vice 0).
Crop Damage = 2 (vice 0).

CORRECTIONS

JULY 1986

South Carolina - FLOODS, Property Damage = 3 (vice 0).

AUGUST 1986

Michigan - TORNADOES, Number = 7 (vice 6).

Mississippi - TORNADOES, Number = 1 (vice 0).
Days = 1 (vice 0).

REFERENCE NOTES

- † Storm damage categories are from 1 to 9 as follows:
- 1 Less than \$50
 - 2 \$50 to \$500
 - 3 \$500 to \$5,000
 - 4 \$5,000 to \$50,000
 - 5 \$50,000 to \$500,000
 - 6 \$500,000 to \$5 Million
 - 7 \$5 Million to \$50 Million
 - 8 \$50 Million to \$500 Million
 - 9 \$500 Million to \$5 Billion

- * Miles instead of yards
- ** Yards instead of miles
- @ Includes heavy sleet storm
- # Freezing drizzle and freezing rain, commonly known as glaze
- ≠ Not received or incomplete
- o/c Under Estimated Damage, Property/Crops, indicates crop damage amount is included in the figure given

Definition of Fujita Tornado Scale (F scale)

(F0) Gale tornado (40-72 mph): Light damage
Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage sign boards.

(F1) Moderate tornado (73-112 mph): Moderate damage
The lower limit (73 mph) is the beginning of hurricane wind speed; peel surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads.

(F2) Significant tornado (113-157 mph): Considerable damage
Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.

(F3) Severe tornado (158-206 mph): Severe damage
Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground and thrown.

(F4) Devastating tornado (207-260 mph): Devastating damage
Well-constructed houses leveled; structure with weak foundation blown off some distance; cars thrown and large missiles generated.

(F5) Incredible tornado (261-318 mph): Incredible damage
Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 m; trees debarked; incredible phenomena will occur.

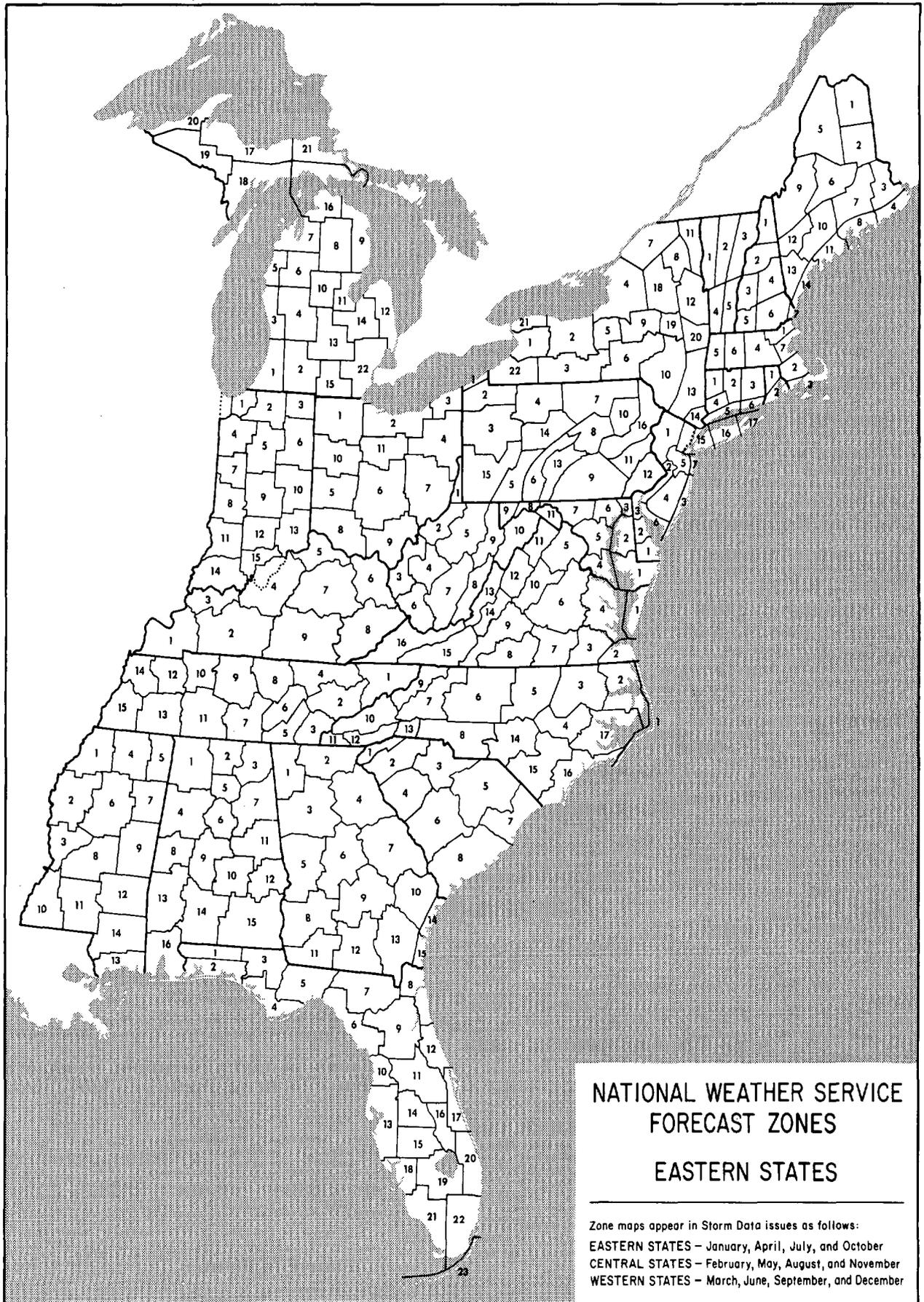
(F6-F12) (319 mph to Mach 1, the speed of sound):
The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.

(F0+F1) Weak Tornado
(F2+F3) Strong Tornado
(F4+F5) Violent Tornado

From J. Atmos. Sci., August 1981, p. 1517-1519



USCOMM-NOAA-ASHEVILLE, N. C. 1986-2075



CONFERENCE SUMMARY

Telling you what really works to reduce flood damages will be the common thread throughout the nation's largest conference on floodplain management. Conducted at the beautiful Stouffer Madison Hotel in the heart of Seattle, the ASFPM's 11th Annual Conference will keep you learning from morning until night. More than 70 speakers will share their techniques for managing floodplains. The speakers come from local, state, federal, private, foreign and academic sectors. *Their different backgrounds and viewpoints will guarantee a lively exchange of ideas.*

The conference features 16 different concurrent sessions on a wide range of floodplain management topics. Each session will have three or four speakers and a moderator. Plenty of time will be reserved for questions from the audience. Four short courses are being offered for more in-depth discussion of topical issues. Experts will teach these three hour courses on map revisions, wetlands and floodplain analysis, watershed master planning and western issues.

The 1987 Program features a track of concurrent sessions devoted to Western states issues. This effort is a continuation of earlier ASFPM research initiatives into high risk flood hazards. One outgrowth of the unique hazards research has been the formation of the Arid West Committee, which is presenting the western issues short course. The Seattle program will emphasize Northwest issues, including a panel on Mount St. Helens; the conflicts encountered as resource managers attempt to preserve salmon and steelhead spawning habitat and maintain necessary flood control features; and a review of last November's widespread flooding in Western Washington, which resulted in a Presidential Disaster Declaration.

Conference participants will also hear from several plenary speakers who have special insights into floodplain management in the United States. These include Harold Duryee, Federal Insurance Administrator; Frank Dalton, General Superintendent of the Metropolitan Sanitary District of Greater Chicago; the Honorable John Myers, Congressman, Indiana; and William Riebsame, Director of the Natural Hazards Center in Boulder.

In other general sessions, panel discussions will relate practical information regarding state floodplain management associations and federal agency outlooks for the coming year. The ASFPM will also present its prestigious "Awards for Excellence" in state and local floodplain management programs.

A conference highlight will be the King County area field trip to the Chittenden Locks and the NOAA - National Weather Service facility. *An optional field trip to the City of Snoqualmie may also be available. For those who prefer the comforts of the hotel, a special treat awaits them. Panels on flash flood mitigation will be presented via videotape from the Rapid City, SD symposium being held June 9-10, 1987. The optional field trip to Mount St. Helens on June 13 gives you perhaps a once-in-a-lifetime chance to see the site of the country's most spectacular disaster and learn how the local government has grown from the experience.*

Time, of course, is available for relaxation and the ever important aspect of conferences - sharing problems and ideas with colleagues from around the country in a casual and stress-free atmosphere. Take advantage of the coffee breaks, luncheons, social hours and Puget Sound cruise to meet old friends and make new ones.

QUESTIONS? Contact:

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- State of Oregon
- USDA Soil Conservation Service
- Tennessee Valley Authority
- Washington State Department of Fisheries



* CONFERENCE DETAILS ON PAGE REVERSE *

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