

SEPTEMBER 1992

VOLUME 34

NUMBER 9

STORM DATA



Lihue

AND UNUSUAL WEATHER PHENOMENA
WITH LATE REPORTS AND CORRECTIONS



noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

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NATIONAL CLIMATIC DATA CENTER
ASHEVILLE, N.C.

Cover: Hurricane Iniki struck Kauai on September 11 with estimated maximum sustained (one minute average) surface wind speeds of 140 mph, gusts to 175 mph, and a central pressure of 945 millibars (27.91 inches). Pictured is an AVHRR (Advanced Very High Resolution Radiometer) composite satellite image of Iniki at 3:00 p.m. HST on September 11, 1992. The National Weather Service Office for the island of Kauai is located at Lihue. (Photo courtesy: Ralph E. Meiggs)

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STORM DATA

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National Climatic Data Center

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The Storm Data and Unusual Weather Phenomena narratives and Hurricane/Tropical Storm summaries are prepared by the National Weather Service. Monthly and annual statistics and summaries of tornado and lightning events resulting in deaths, injuries, and damage are compiled by cooperative efforts between the National Climatic Data Center and the National Severe Storms Forecast Center.

STORM DATA contains all confirmed information on storms available to our staff at the time of publication. However, due to difficulties inherent in the collection of this type of data, it is not all-inclusive. Late reports and corrections are printed in each edition.

Maps of the National Weather Service Forecast Zones which are used in the Storm Data and Unusual Weather Phenomena section will be printed in all editions.

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The editor of STORM DATA solicits your help in acquiring photographs (prints or slides; black and white, or color), maps, clippings, etc. of significant or unusual weather events (past or present). These could be for use in the "Outstanding Storms of the Month" or "Et Cetera" sections of STORM DATA. We request our subscribers or other interested persons to mail such items to:

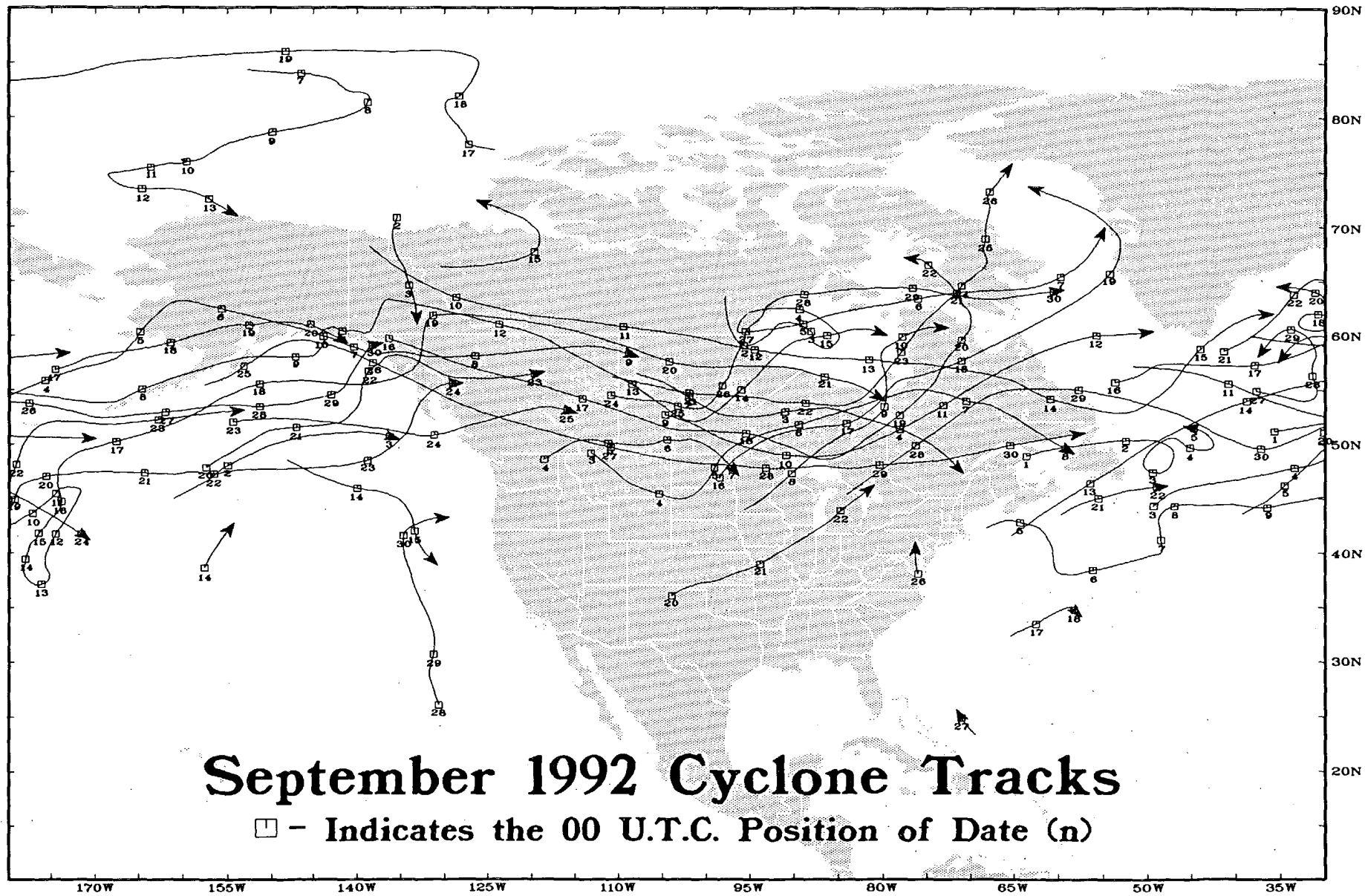
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Director,
National Climatic Data Center



CLIMATIC DATA OF THE MONTH

PRECIPITATION AND TEMPERATURE ANOMALIES - SEPTEMBER 1992

Table 1 lists the 98-year temperature and precipitation rankings for the nine climatically homogeneous regions in the United States outlined below in Figure 1.

Areally averaged mean monthly temperatures across the nation ranked September 1992 as the 48th warmest September since 1895. Above normal mean monthly temperature departures occurred from the Central Plains to the West Coast and along portions of the East Coast. The departures topped +4°F in parts of California, Arizona, Nevada, and Texas. However, a large segment of the eastern half of the country experienced subnormal monthly averages. Departures of -5°F were found in portions of Missouri. Monthly mean temperatures in Hawaii were abnormally warm with departures reaching +3°F. Conversely, Alaska was unseasonably cold with some stations reporting a monthly departure of -15°F!

The series of fronts that brought cool air to the eastern half of the country were accompanied by severe weather and copious amounts of rain in the eastern Plains and the Corn Belt. Areas from northeast Texas to Wisconsin and Indiana reported monthly rainfall totals of eight to 15 inches. By contrast, the West was drier than normal. The West and Southwest Regions respectively recorded their 8th and 5th driest September on record. Nationally, September 1992 was the 27th driest September since 1895. Hurricane Iniki brought excessive rainfall to the Hawaiian Islands. In parts of the state, monthly rainfall totals were more than 300% of normal. Central and southern Alaska were wetter than normal, while northern sections experienced drier than normal conditions.

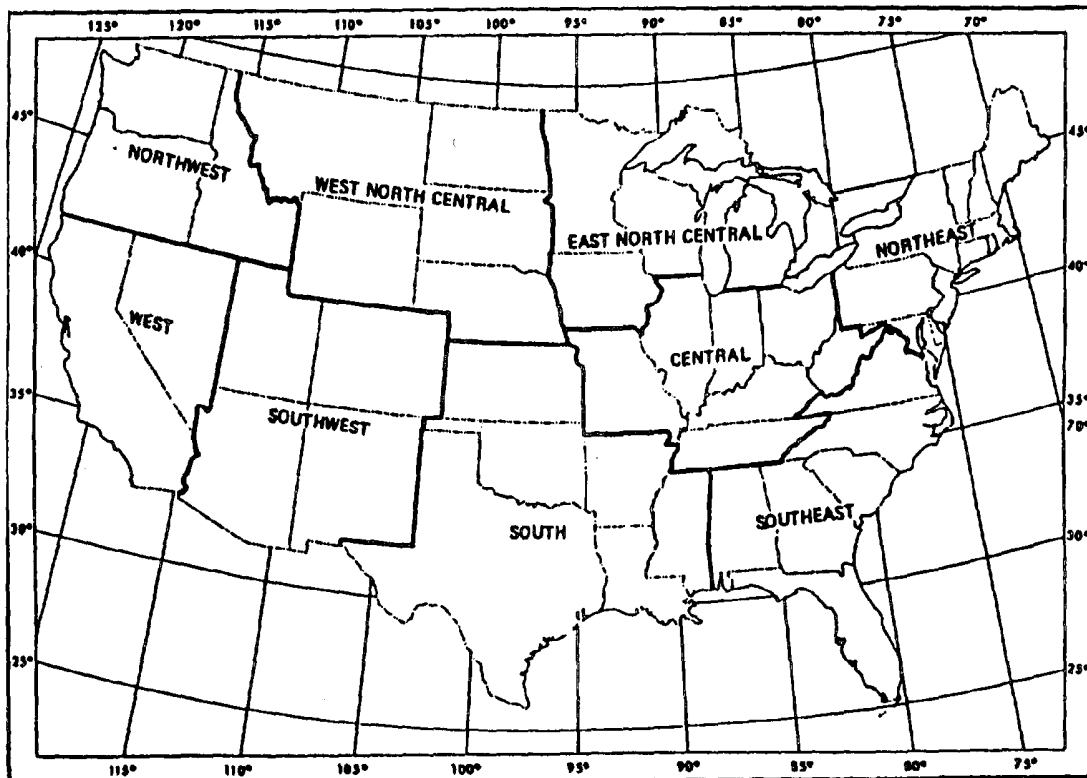
TABLE 1. TEMPERATURE AND PRECIPITATION RANKINGS FOR SEPTEMBER 1992, BASED ON THE PERIOD 1895-1992.

1 = DRIEST, 98 = WETTEST; 1 = COLDEST, 98 = HOTTEST.

REGION	PRECIPITATION	TEMPERATURE
Northeast	63	36
East North Central	80	24
Central	70	22
Southeast	44	45
West North Central	26	50
South	33	48
Southwest	5	76
Northwest	30	38
West	8	78
National	27	51

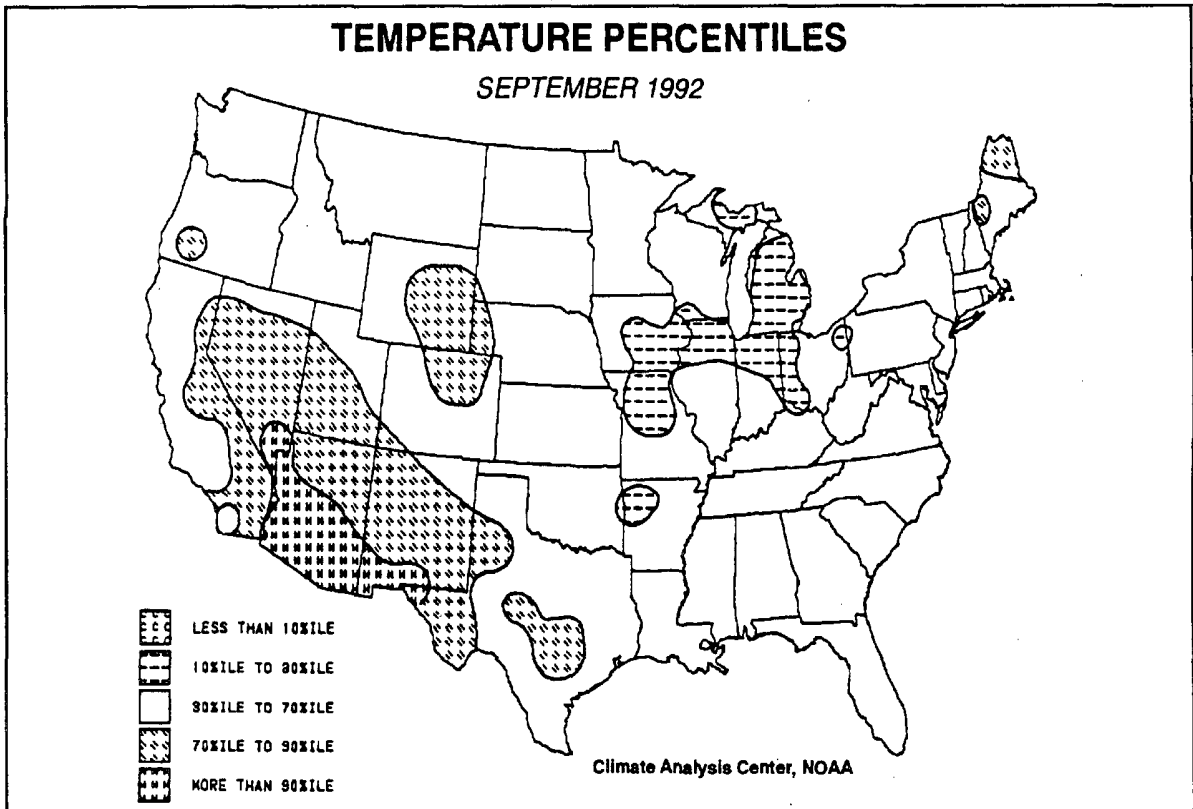
From National Climatic Data Center

Fig. 1



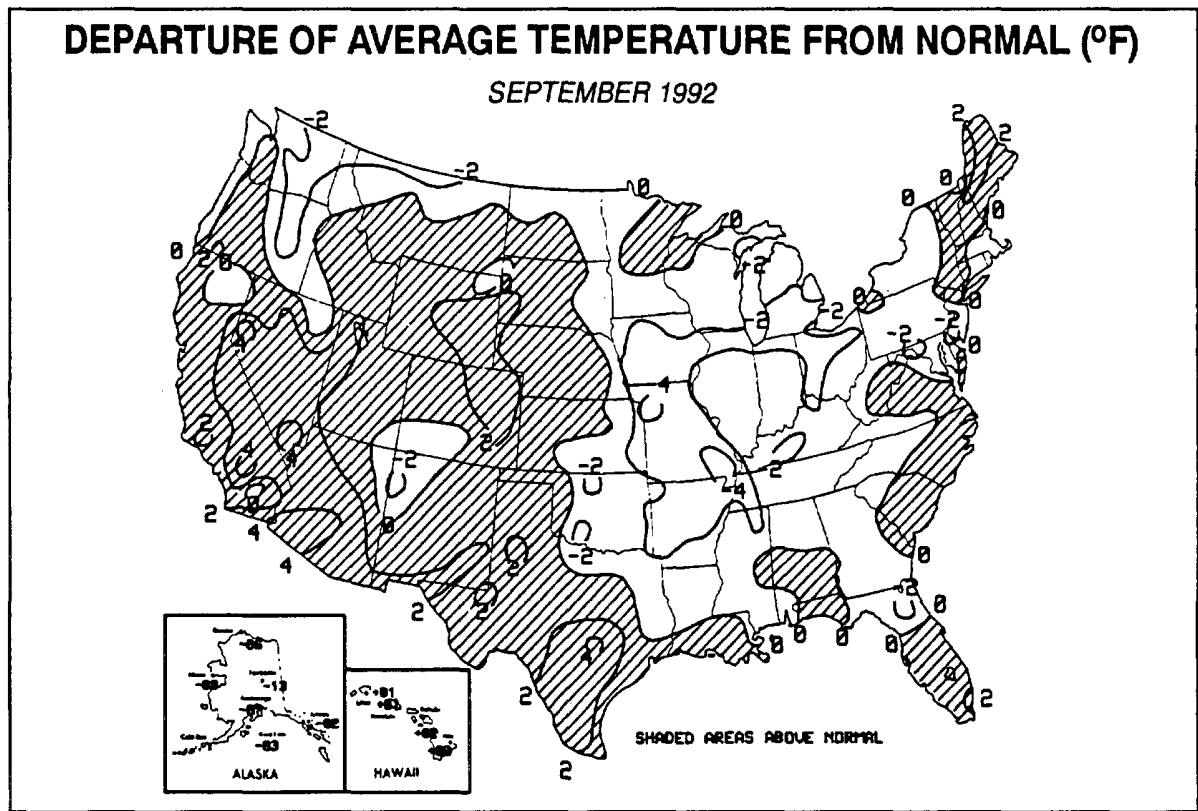
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Fig. 2



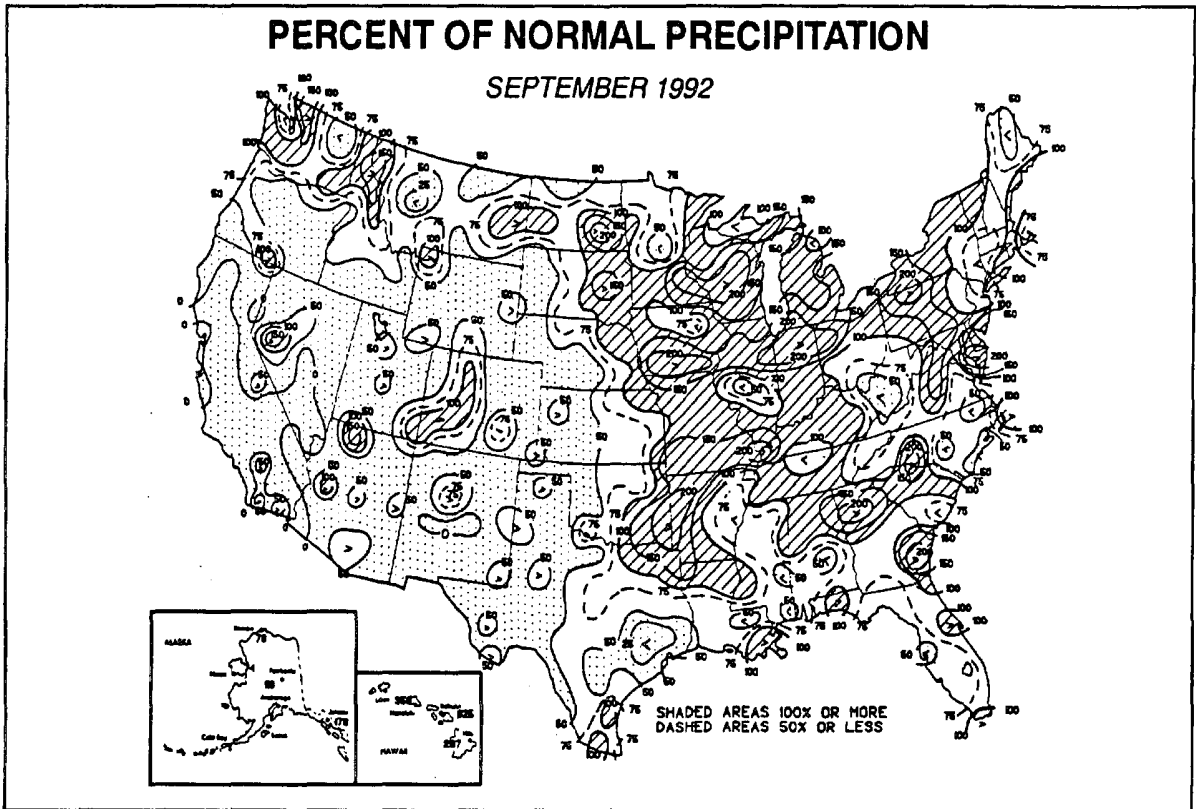
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Fig. 3



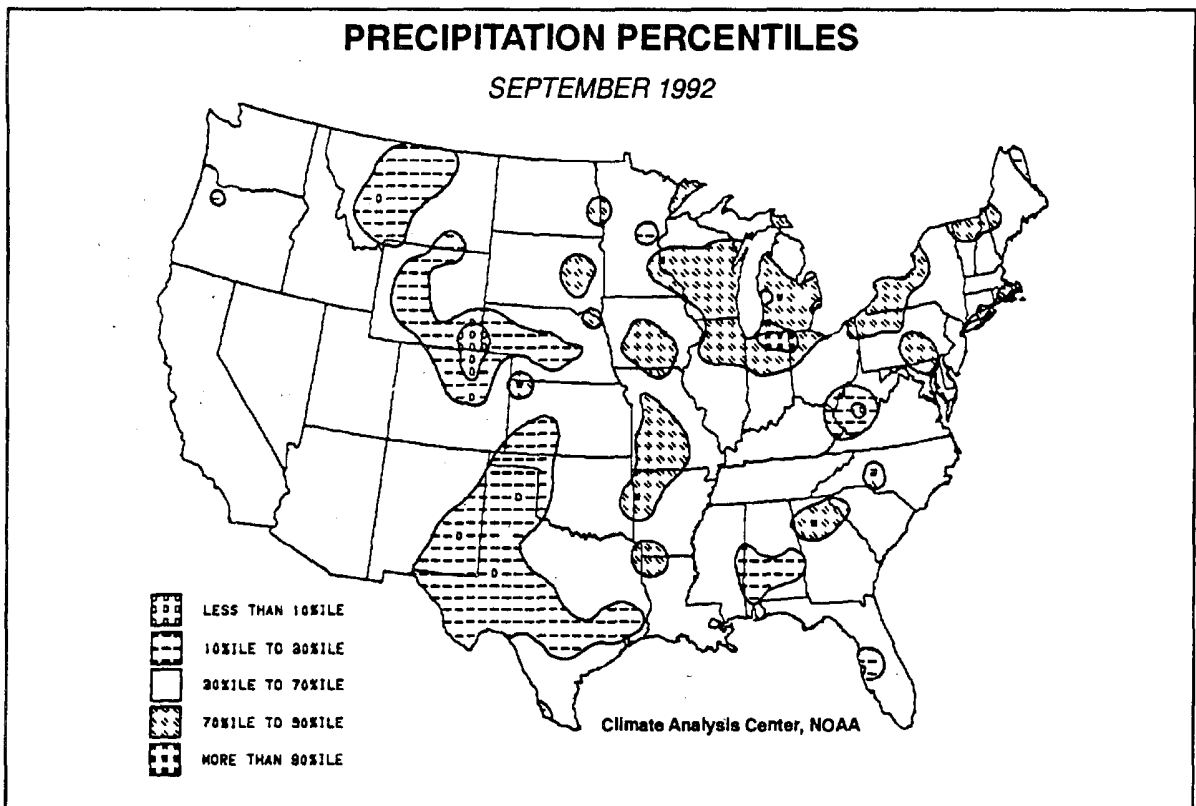
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Fig. 4

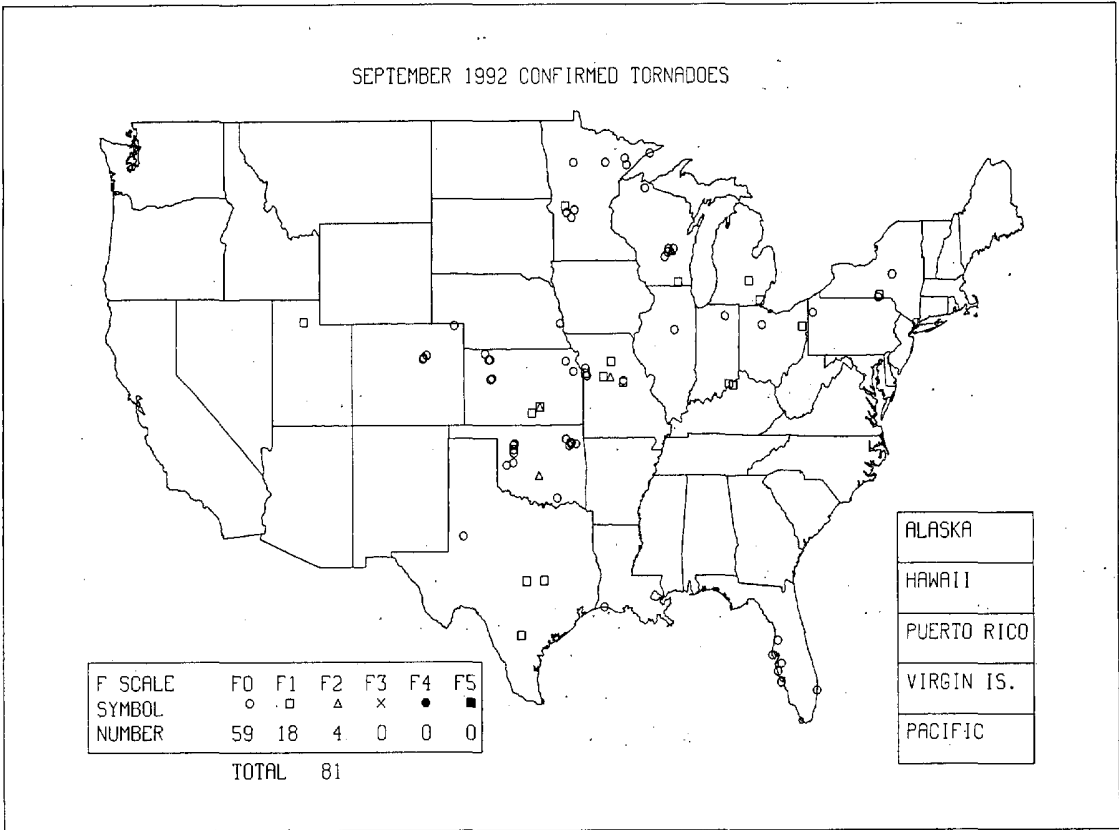


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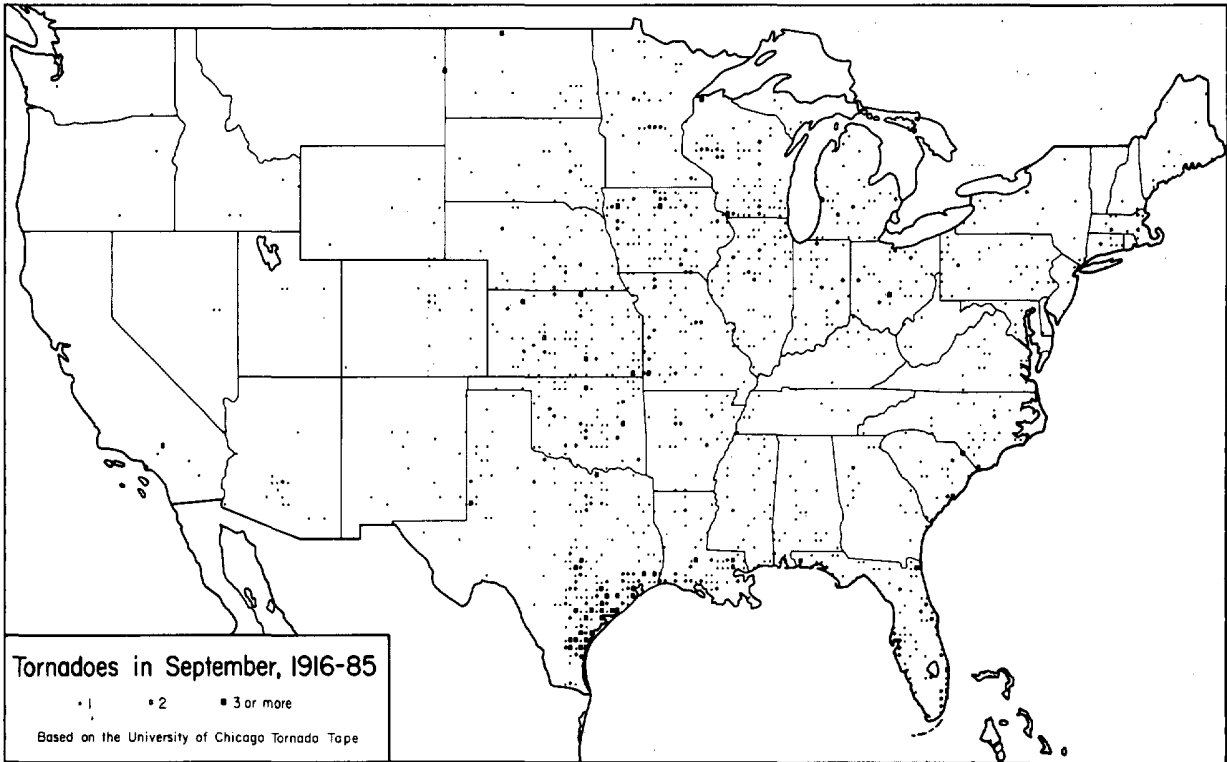
Fig. 5



Reprinted from Weekly Climate Bulletin - October 10, 1992



Eighty-one tornadoes were reported in September 1992. Fifty-nine were rated F0's, as defined by the Fujita Tornado Scale. The strongest tornadoes of the month were four F2's which occurred in Kansas, Missouri, Oklahoma, and Wisconsin. No deaths were attributed to any of the tornadoes, but 14 injuries did result.

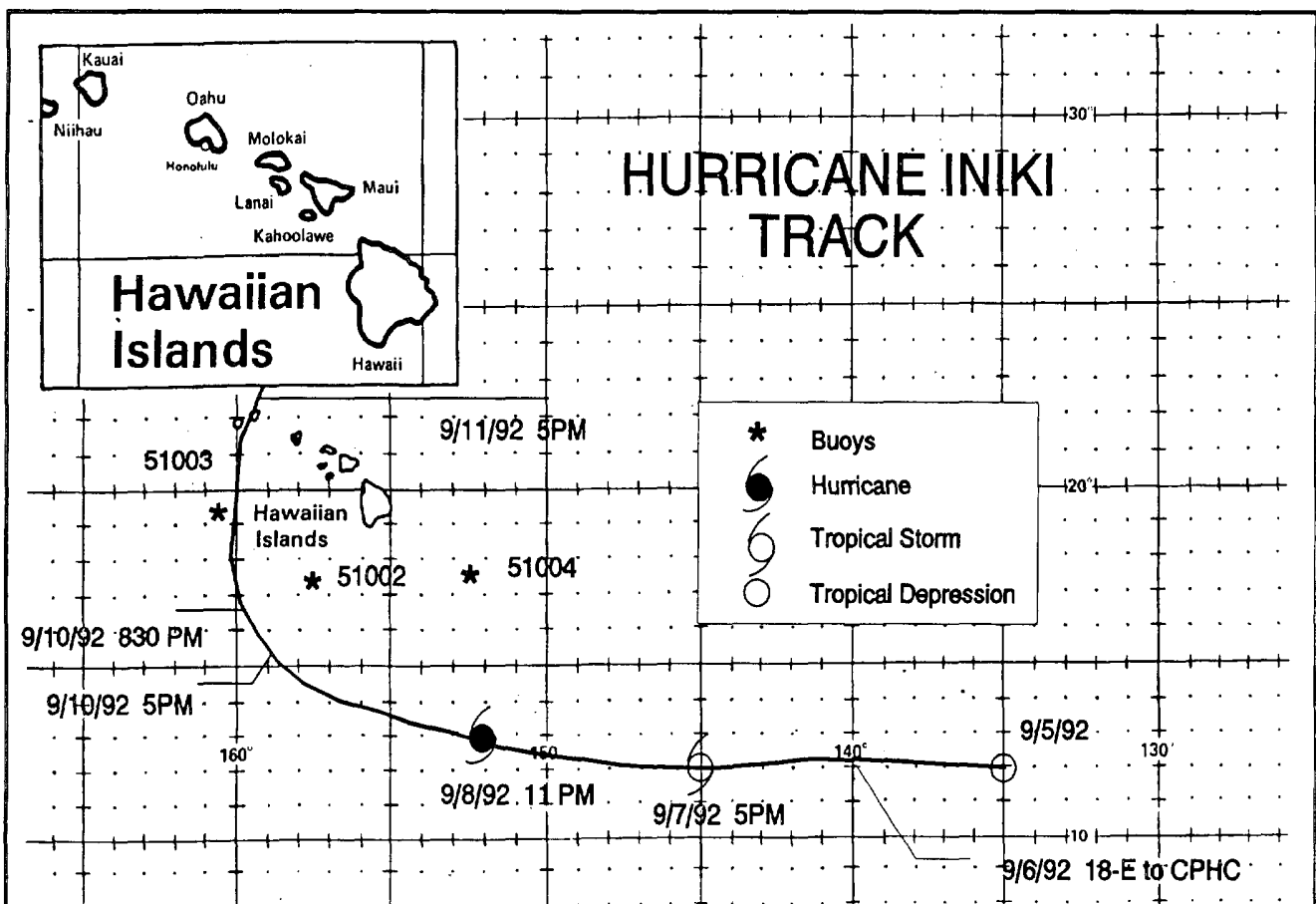


OUTSTANDING STORMS OF THE MONTH

1. HURRICANE INIKI STRIKES HAWAII

The most powerful Hawaiian hurricane in recent history moved over the Hawaiian Islands during the afternoon hours of September 11. Iniki moved across Kauai in a south-southwest to north-northeast direction. The eye crossed the coast in the Waimea area about 3:30 p.m. HST and departed over Haena about 40 minutes later. Estimated maximum sustained winds were 140 mph with gusts to 175 mph (a category 4 hurricane on the Saffir/Simpson Scale which is not considered valid for the Pacific Islands).

Iniki caused \$1.8 billion in damage. Even though the hurricane force winds were confined to the island of Kauai, all the other islands in the state experienced some damage from strong winds and heavy (4 - 6 foot) surf. The Red Cross reported 1,421 homes were destroyed on Kauai with 5,152 homes receiving major damage and 7,178 homes receiving minor damage. Sixty-three homes were destroyed by wave and storm surge on the south coast of Kauai. Damaged crops included: sugarcane, papayas, and other assorted plants, fruits and tropical nuts. Iniki killed 3 people and injured 100.



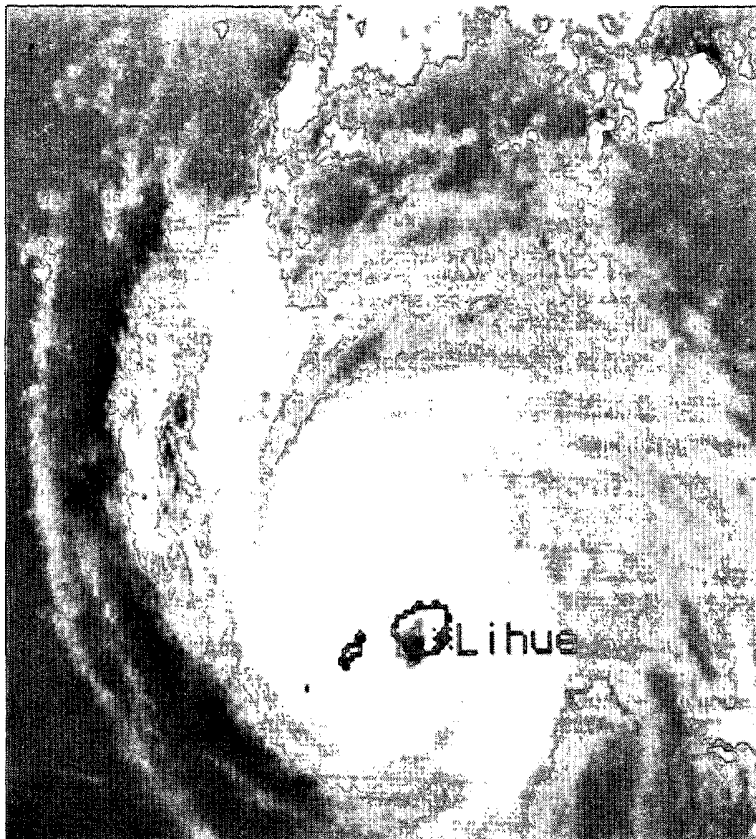
Track of Hurricane Iniki.

HISTORY OF HURRICANE INIKI

Hurricane Iniki formed from Tropical Depression Eighteen-E on September 5, 1992. On that date, the depression was situated near 12°N 135°W, or about 1600 miles southwest of Baja California. It is possible that this depression originated from a tropical wave that moved off the western coast of Africa on August 18. The National Hurricane Center tracked the movement of the wave for the next week as it moved across the Atlantic. The tropical wave then drifted over the northern sections of South America where it became diffuse and difficult to track. The system then moved across Central America and into the Pacific on August 28. Initially, Tropical Depression Eighteen-E was estimated to have winds near 25 mph and was moving westward at 10 mph.

The circulation was upgraded to Tropical Storm status at 5 p.m. HST on September 7. After continued intensification and an increase in forward motion to about 15 mph, Iniki became a hurricane at 11 p.m. HST on September 8. At this time, Iniki was located near 13°N 152°W, or 510 miles south-southwest of Hilo and moving west-northwest at 15 mph.

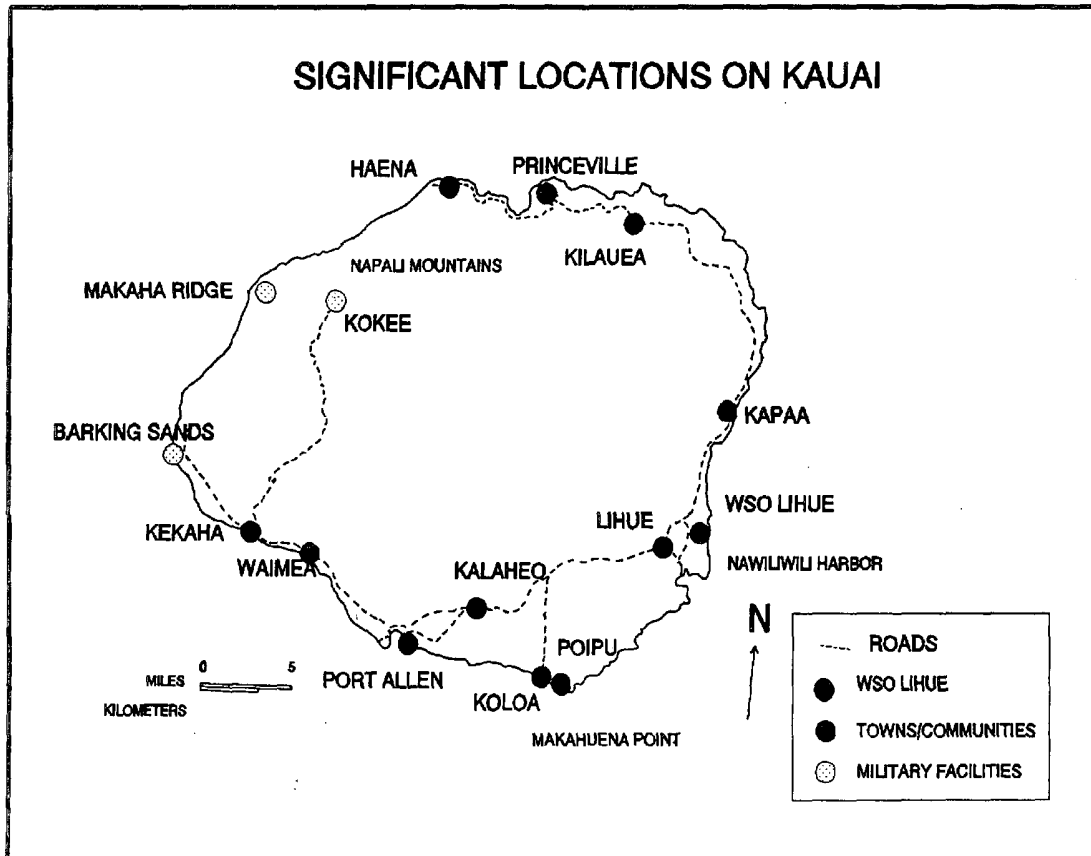
The subtropical ridge, a semipermanent feature that normally keeps hurricanes south of Hawaii weakened and thus allowed the steering winds to shift and eventually turn Iniki on a northward track. During the early morning hours of the 10th, the forward movement of Iniki decreased to 10 mph and was located near 15°N 159°W or 460 miles south-southwest of Honolulu. The central pressure was now 951 millibars. By late afternoon, Iniki's forward motion had slowed even more as it turned northwest. By 8:30 p.m. HST, the hurricane had a more northerly track, and by late morning of the 11th, was located about 140 miles south-southwest of Lihue. Forward movement had now increased to 15 mph with maximum sustained winds of 140 mph and gusts to 175 mph. The central pressure was now down to 938 millibars (27.70 inches) - the lowest pressure ever recorded in a Central Pacific Hurricane.



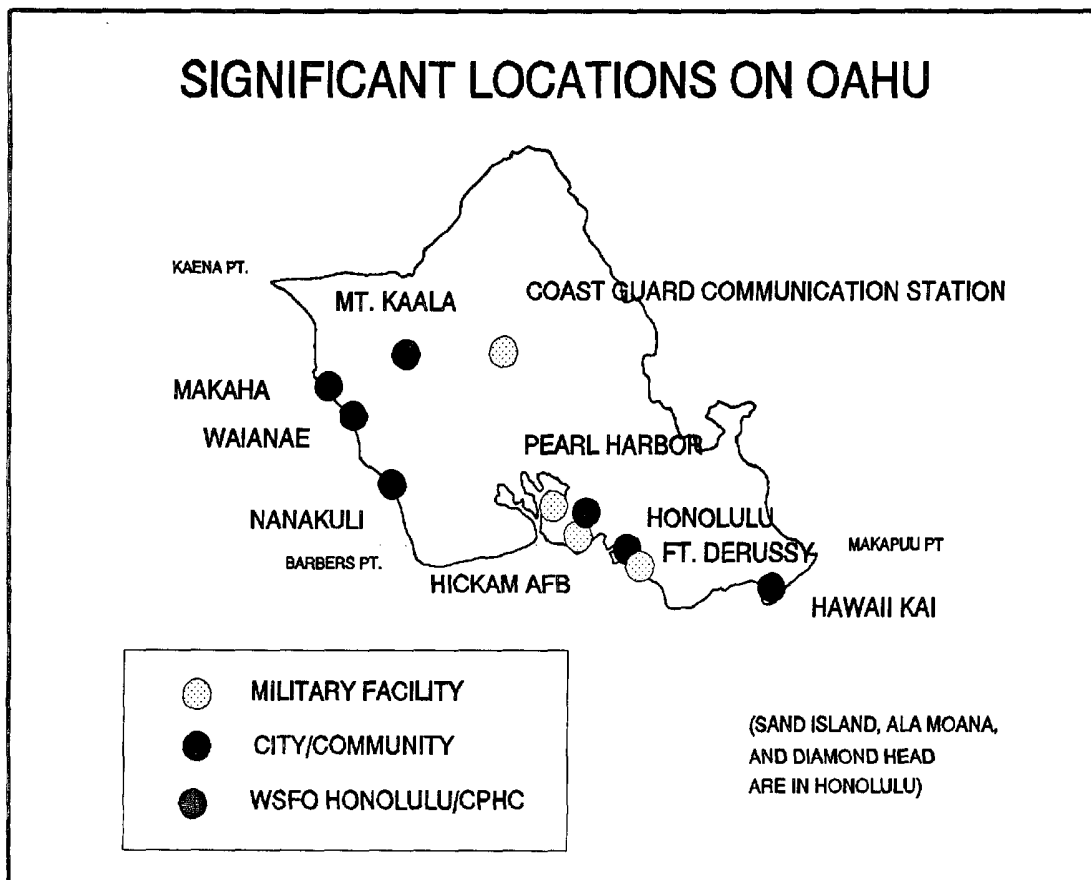
Iniki made landfall on the southwest Kauai coast, in the Waimea area, about 3:30 p.m. HST. The central pressure had risen to 945 millibars by the time of landfall. Iniki accelerated rapidly northward reaching a forward speed of 30 mph. The eye was back over the water at 4:10 p.m. HST. All warnings were discontinued by 11 p.m. HST. Iniki was downgraded to tropical storm status at 2 a.m. HST on the 13th and to extratropical status at 11 a.m. By September 15, it had become a northeasterly moving extra-tropical low.

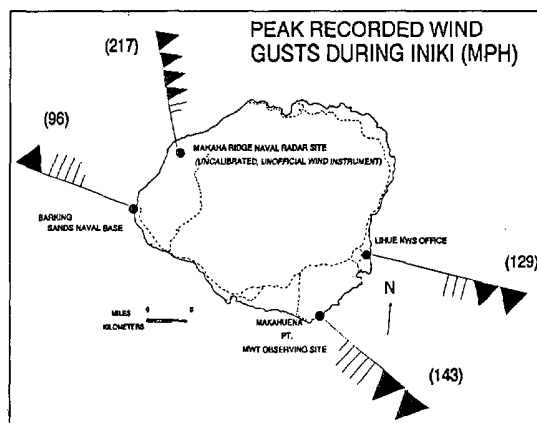
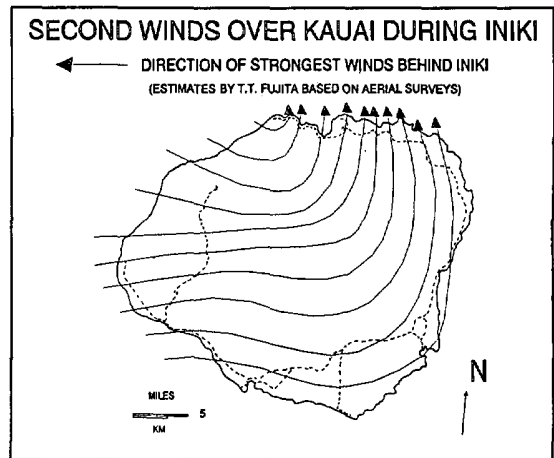
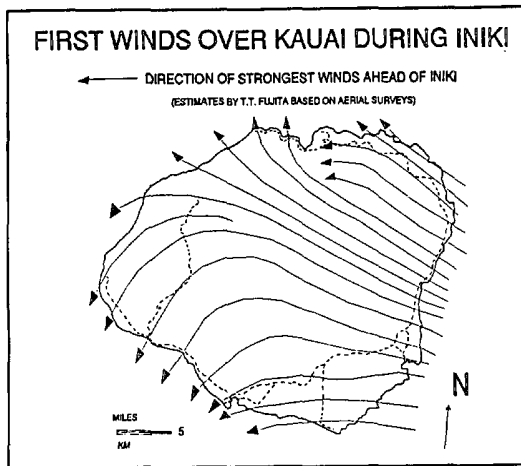
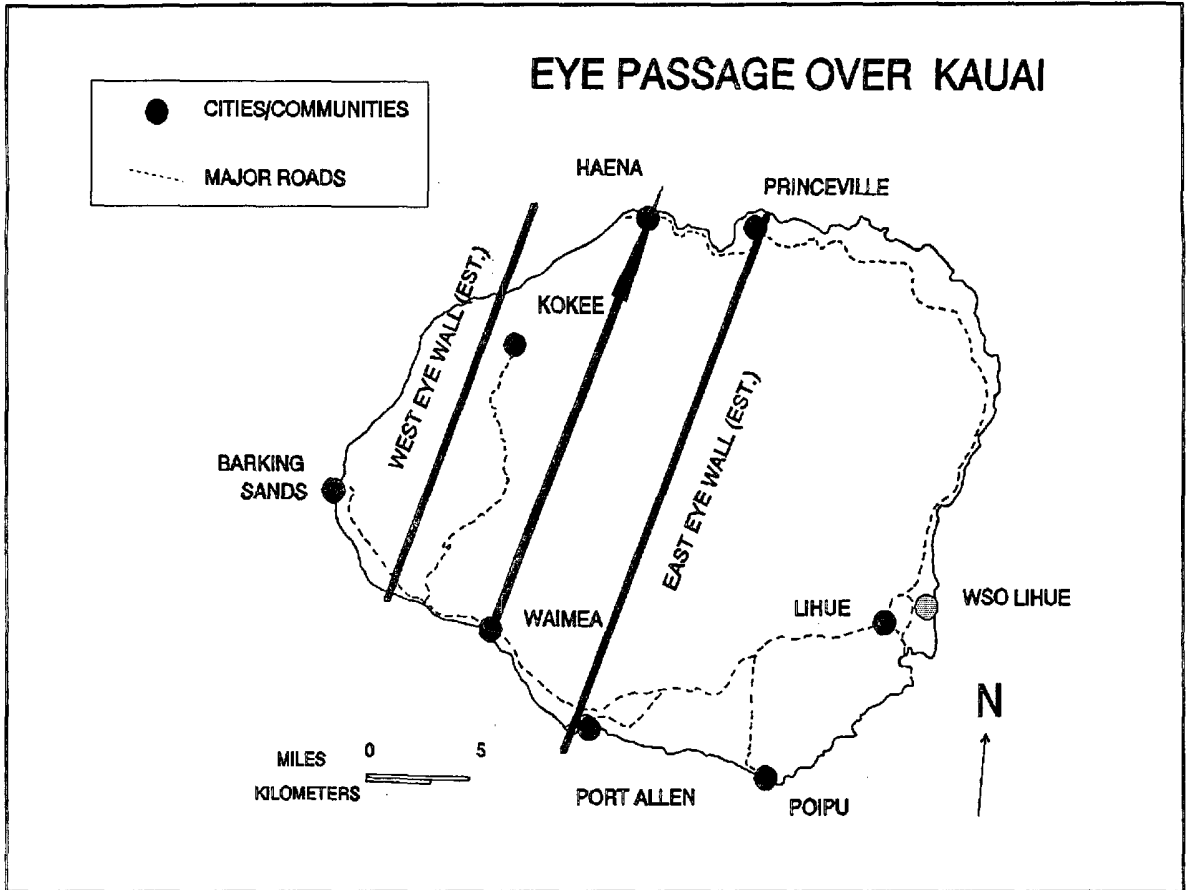
Left: An AVHRR (Advanced Very High Resolution Radiometer) composite satellite image of Iniki at 3:00 p.m. HST on September 11, 1992. (Photo courtesy: Ralph E. Meiggs)

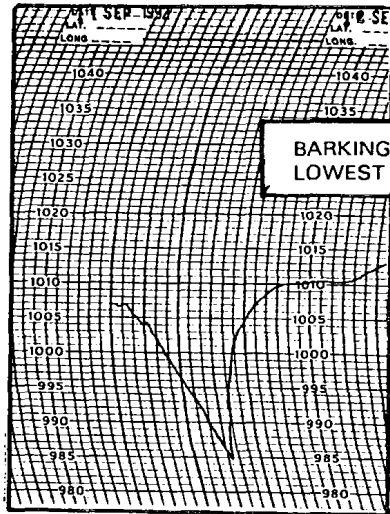
SIGNIFICANT LOCATIONS ON KAUAI



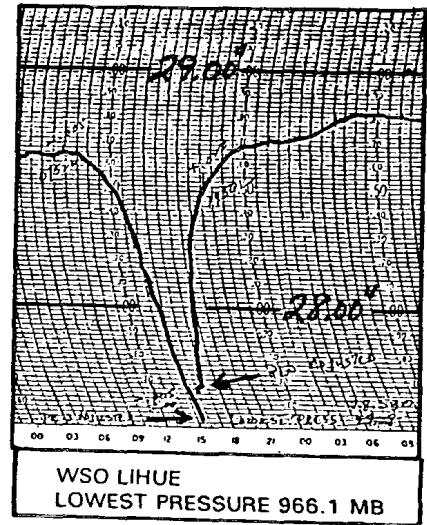
SIGNIFICANT LOCATIONS ON OAHU



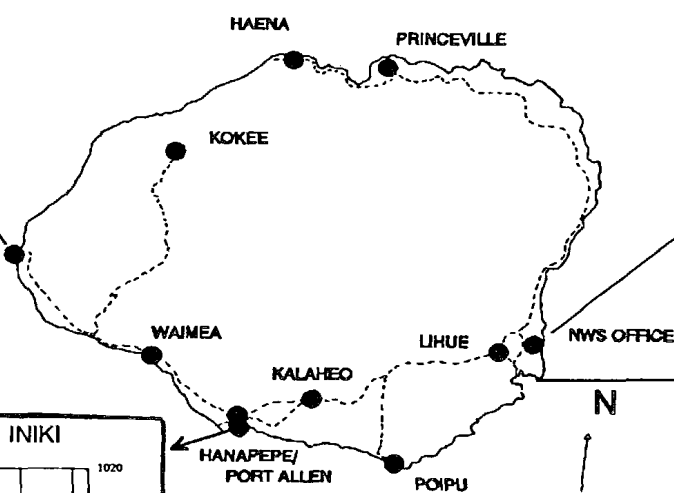




BARKING SANDS USN FACILITY
LOWEST PRESSURE 984.5 MB

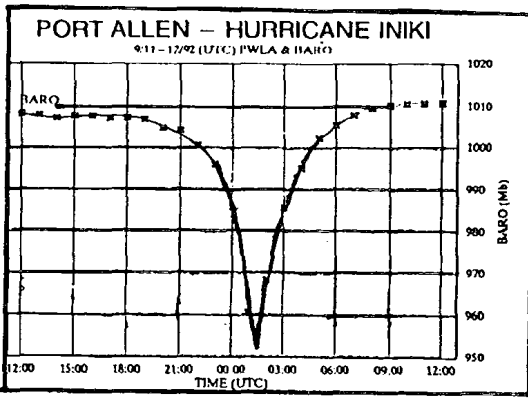


WSO LIHUE
LOWEST PRESSURE 966.1 MB

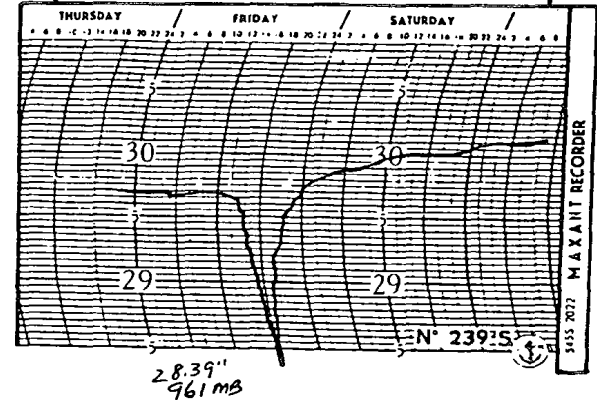


KAUAI

RECORDED ON SAILING SHIP "KAHUNA"
IN NAWILIWILI HARBOR
LOWEST PRESSURE 961 MB

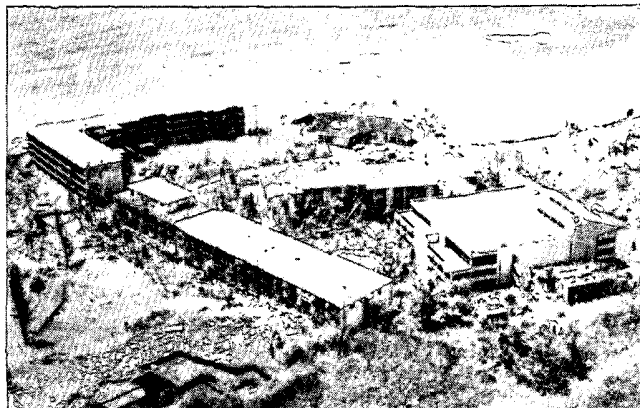
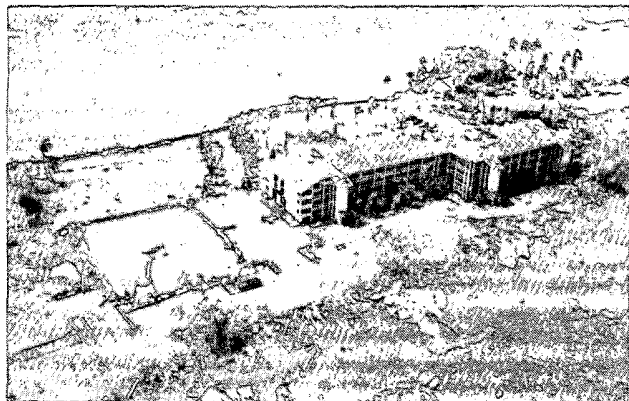


NOAA/NATIONAL OCEAN SERVICE EQUIPMENT AT PORT ALLEN
LOWEST PRESSURE 952 MB (ESTIMATED)

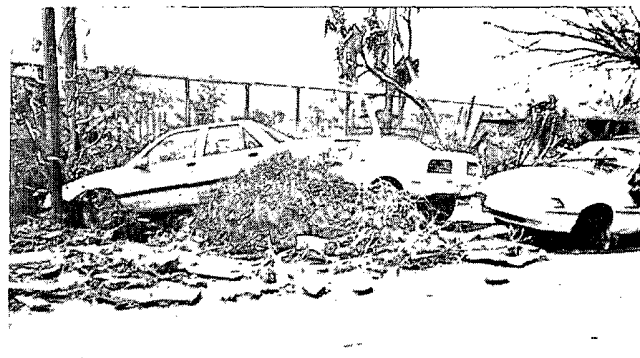


28.39"
961 MB

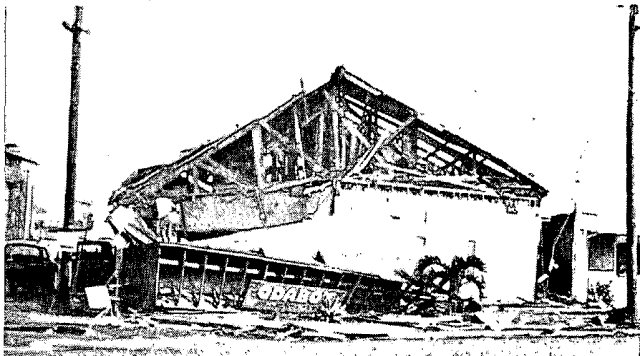
EXAMPLES OF DAMAGE CAUSED BY HURRICANE INIKI

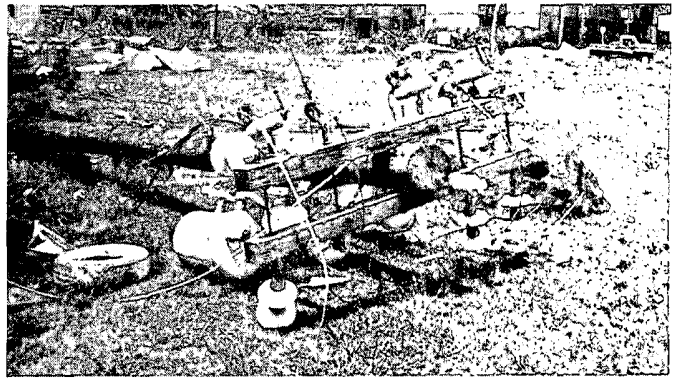
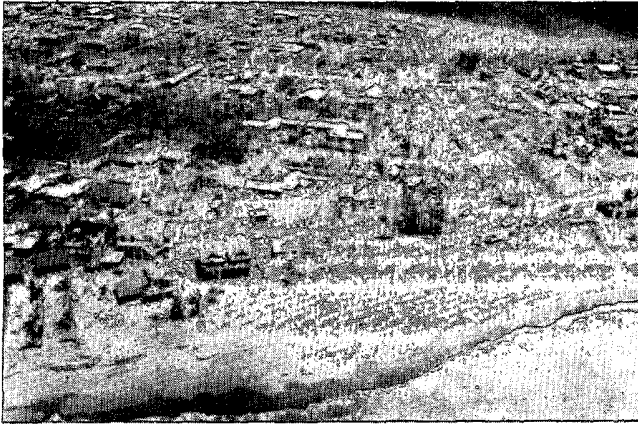


Above(both): Wind damaged beach front property and scattered roof debris. *(Photo courtesy: Property Claim Service)* **Left:** Tree damage along Highway 56, west of Kilauea. **Below:** Damaged vehicles at the Sheraton in Poipu. *(Photo courtesy: William Alder)*

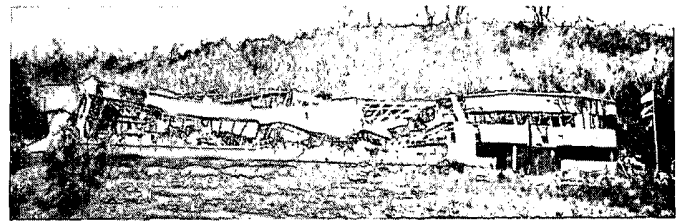


Left: Hurricane Iniki's winds damaged this condominium in the Princeville area. **Below:** A downtown business in Kapaa damaged by Iniki's winds. *(Photo courtesy: William Alder)*





Above: Iniki's strong winds produced widespread damage. Notice the scattered debris from the various structures as well as the coastal road blocked by sand! **Above(right):** Downed telephone and electrical poles were a common sight across the Kauai. **Right:** A warehouse in Lihue collapsed due to the force of the wind. (*Photo courtesy: William Alder*)



A SPECIAL THANKS

T. Theodore Fujita, Professor Emeritus, University of Chicago, Chicago, Illinois;

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Property Claim Services, A Division of American Insurance Services Group, Inc., James J. Welsh, Rahway, New Jersey;

Tom Yoshida, Meteorologist in Charge, WSO, Guam, U.S. territory;

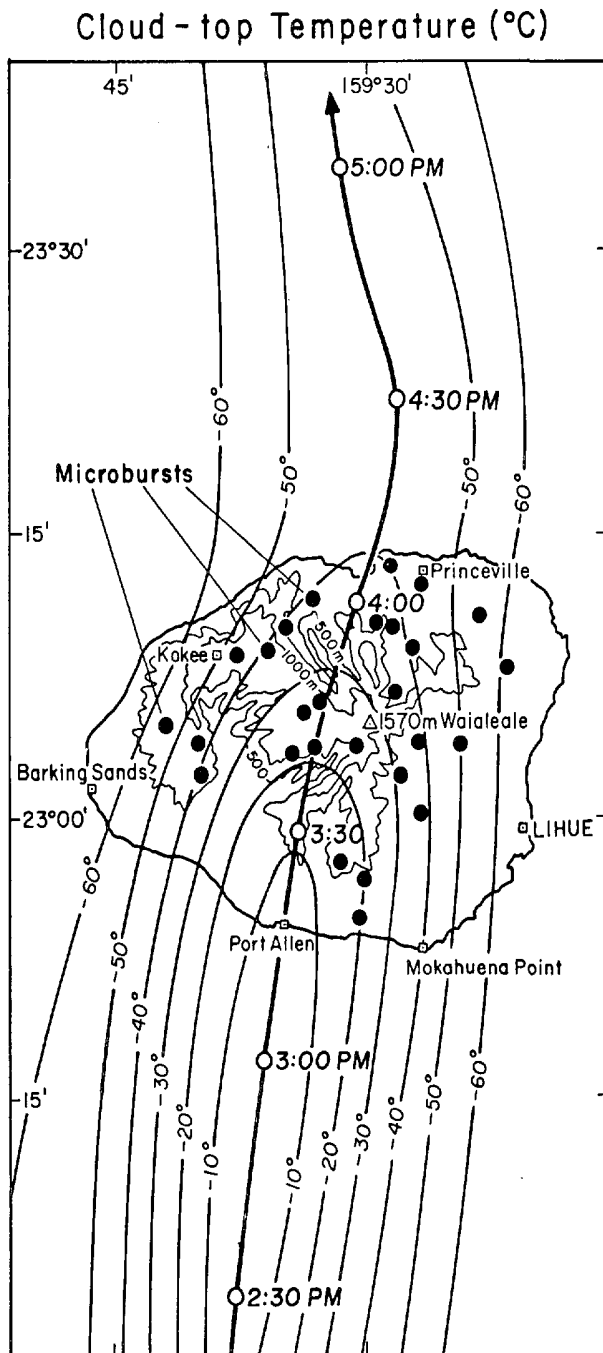
Ralph E. Meiggs, National Climatic Data Center, Satellite Data Services Division, Camp Springs, Maryland;

William Brown, National Climatic Data Center, Global Analysis Branch, Asheville, North Carolina;

Steve D. Schurr, Warning and Coordination Meteorologist, WSO, Wichita, Kansas.

Damage Survey of Hurricane Iniki in Kauai by Ted Fujita

In the afternoon of 11 September 1992 hurricane Iniki passed, from south to north, across the Garden Island of Kauai. Although, its exact path cannot be determined due to the lack of radar data, the path of the eye can be estimated by mapping the maximum cloud-top temperature measured by GOES 7 at 30-min intervals during the passage of the eye (See cloud-top temperature map shown below).



The warmest temperature inside the eye was -4°C at 3:00 p.m. prior to the landfall. Thereafter, the eye broke up while moving over the central mountains of the island. During this stage, approximately 3:00 to 4:30 p.m. Hawaii time, a large number of microbursts occurred on the island. It is likely that the convective towers on the eyewall induced those microbursts during their fast-collapsing stage.

Microbursts were confirmed mainly based on the following aerial photographs.

- (1) 380 color photos in 9" x 9" size
- (2) 472 infrared photos in 9" x 9" size

By Air Survey Hawaii

- (3) 2,800 color photos in 35-mm size

By Duane Stiegler of Fujita's Wind Research Lab

- (4) In addition, several microbursts were investigated by Fujita during his anniversary visit to Kauai on 12-14 September 1993.

Locations of the Iniki microbursts which touched down during the first and second winds are shown in the map to the left and in the folding color map in this issue.

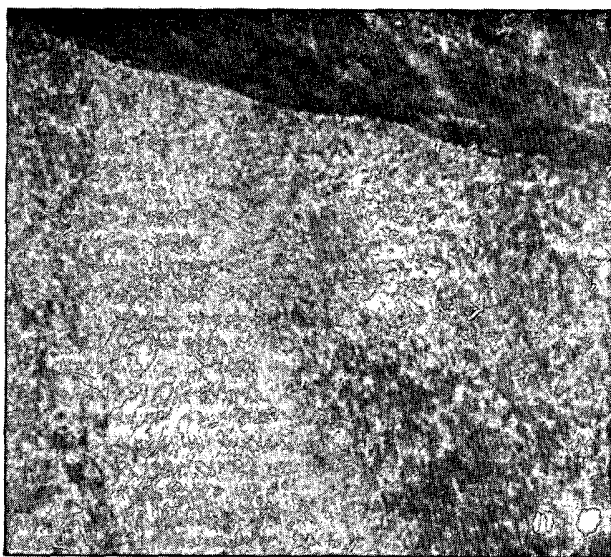
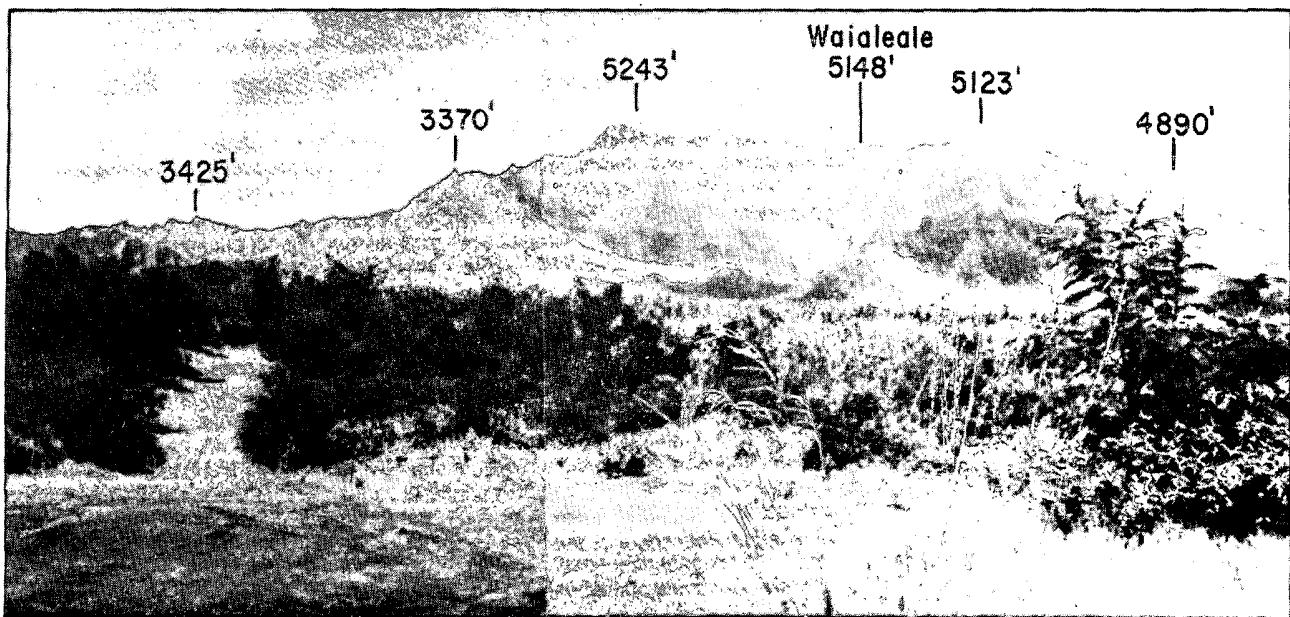
In general, horizontal dimensions of the Iniki microbursts were relatively small, less than 2 kilometers across. Some were very damaging in their small touchdown areas where the topsoil was blown off, trees blown away, and houses blown apart. Furthermore, microburst winds in mountains descended deep into canyons, uprooting trees on the slopes and at the bottom as well.

On the contrary to the pre-dawn landing of hurricane Andrew in south Florida, Iniki's damaging winds occurred during the mid-afternoon hours. Those who were on the island of Kauai witnessed the awesome fury of the damaging winds, recording scenes of destruction at various locations.

The Roof of Garden Island

Based on the rainfall collected by the rain gauge atop the 5,148' (1570 m) Waialeale, the roof region of Kauai is known as the wettest spot on the earth. The wet plateau of Alakai Swamp extends over 10 miles toward the west-northwest from Waialeale to near Kokee. Because of the orographic clouds which develop in the trade wind continuously, some areas north and west of Waialeale have not been photographed from the air. Ground access to the area was not possible after the storm.

The ground picture (below) of the central mountains was taken on 14 September 1993, from 4.8 miles ESE of Waialeale. Two Civil Defense officials, Sonny Gerardo and Edwin Petteys, escorted Fujita to the restricted area overlooking the roof of Kauai. The bottom-left picture by Stiegler shows the high-elevation slope, stripped of native ferns, and low vegetation. The other photo (bottom-right) by Stiegler shows the damaged trees of Microburst No. 5 in the Wailua River Valley, 1.5 miles closer to Waialeale.

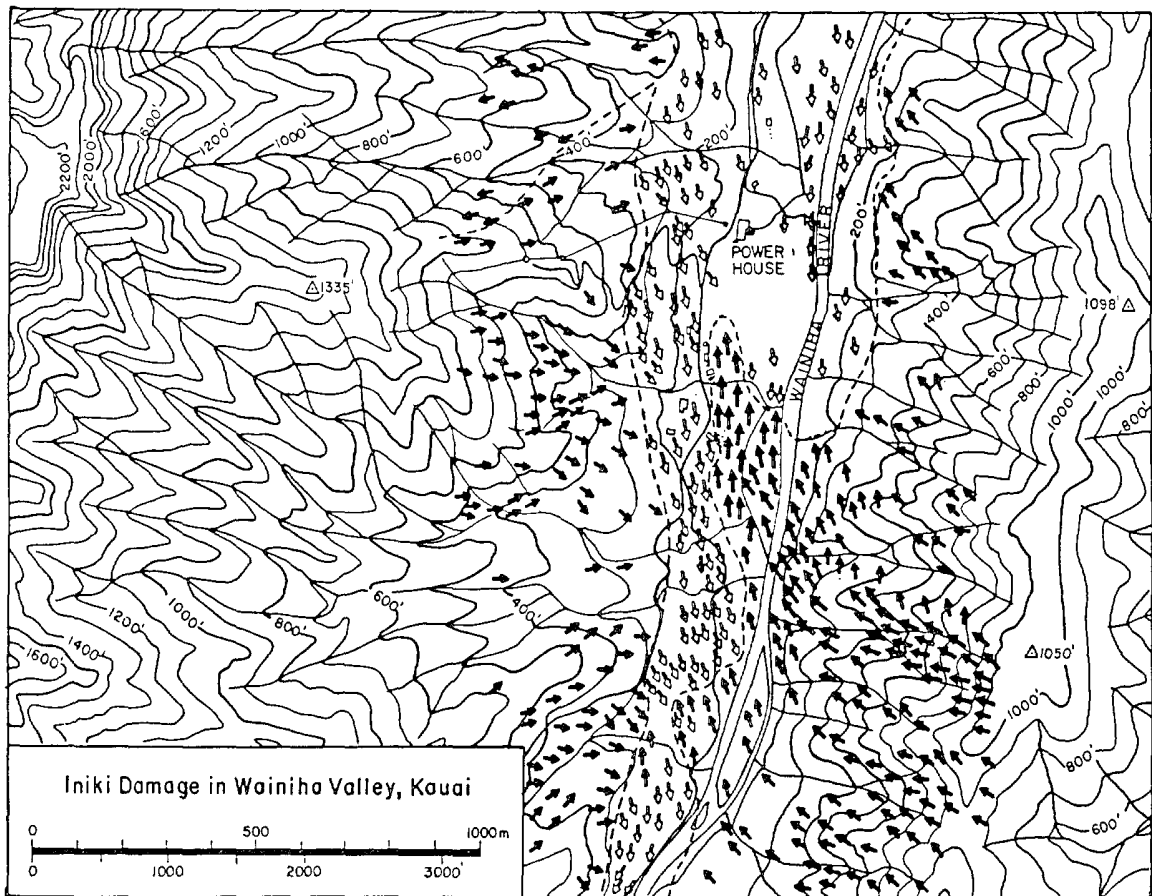


Microbursts in Canyons

Winds in a microburst consist of a core of downflow and violent outburst winds on the ground. When a downflow descends into a canyon, the microburst winds blow down trees on the steep canyon walls and those at the bottom of the canyon floor.

The right-side photo taken by Stiegler shows numerous trees inside the 3,000' deep Olokele Canyon blown down by Microburst No. 8, one mile to the southwest of Waialeale.

A damage map below by Fujita shows the directions of trees uprooted by Microburst No. 22 which touched down atop the 1,050' ridge on the east side of Wainiha Valley. Intense outburst winds descended on the steep slope toward the northwest. Fortunately, the winds weakened approximately 700' short of the hydroelectric power house in the valley. The pattern of the damaging winds inside the valley was very complicated, consisting of the northerly first winds (open arrows) and easterly and westerly winds on both slopes of the valley.

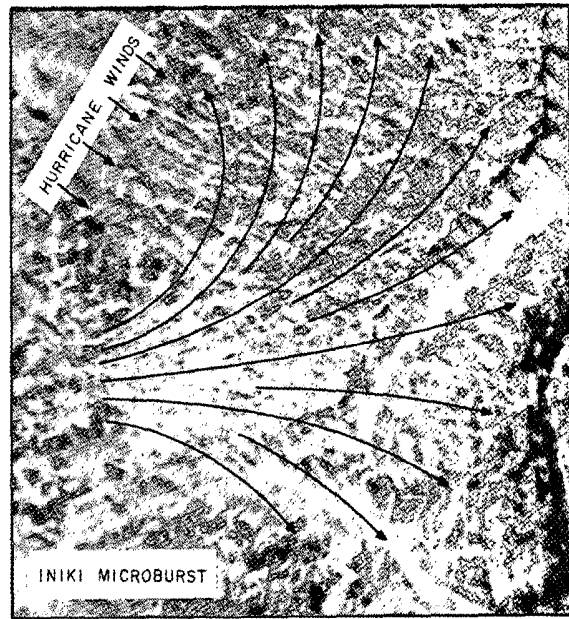
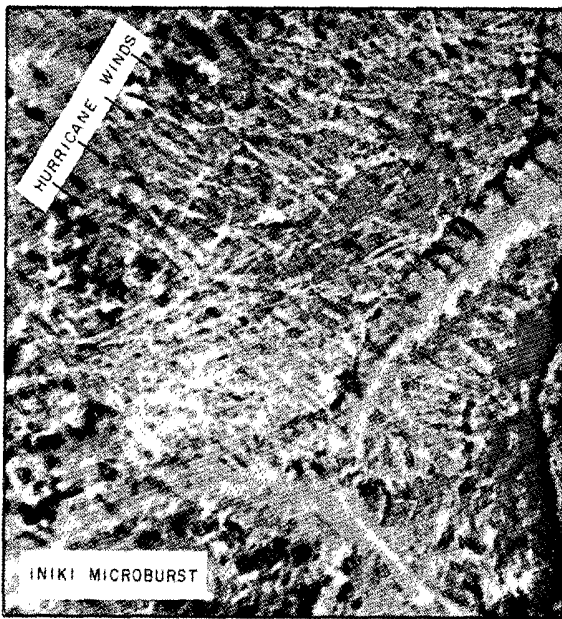


Microburst in Albizzia Forest

One of the most beautiful patterns of microburst winds was made visible by the albizzia trees blown down by Microburst No. 4, which descended to the southwest of Wailua Reservoir with its water level at 472' MSL. The touchdown area was covered by albizzia trees in dense forests.

The upper aerial photographs, enlarged from a 9" x 9" color photo by Air Survey Hawaii show the evidence of Iniki's first wind from the southeast (upper-left). It is of interest to find the curvature of the tree trunks, frozen into the curved direction of the final wind.

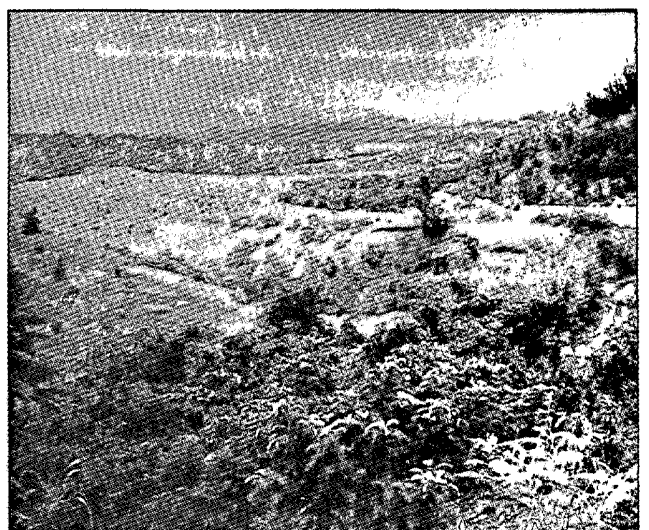
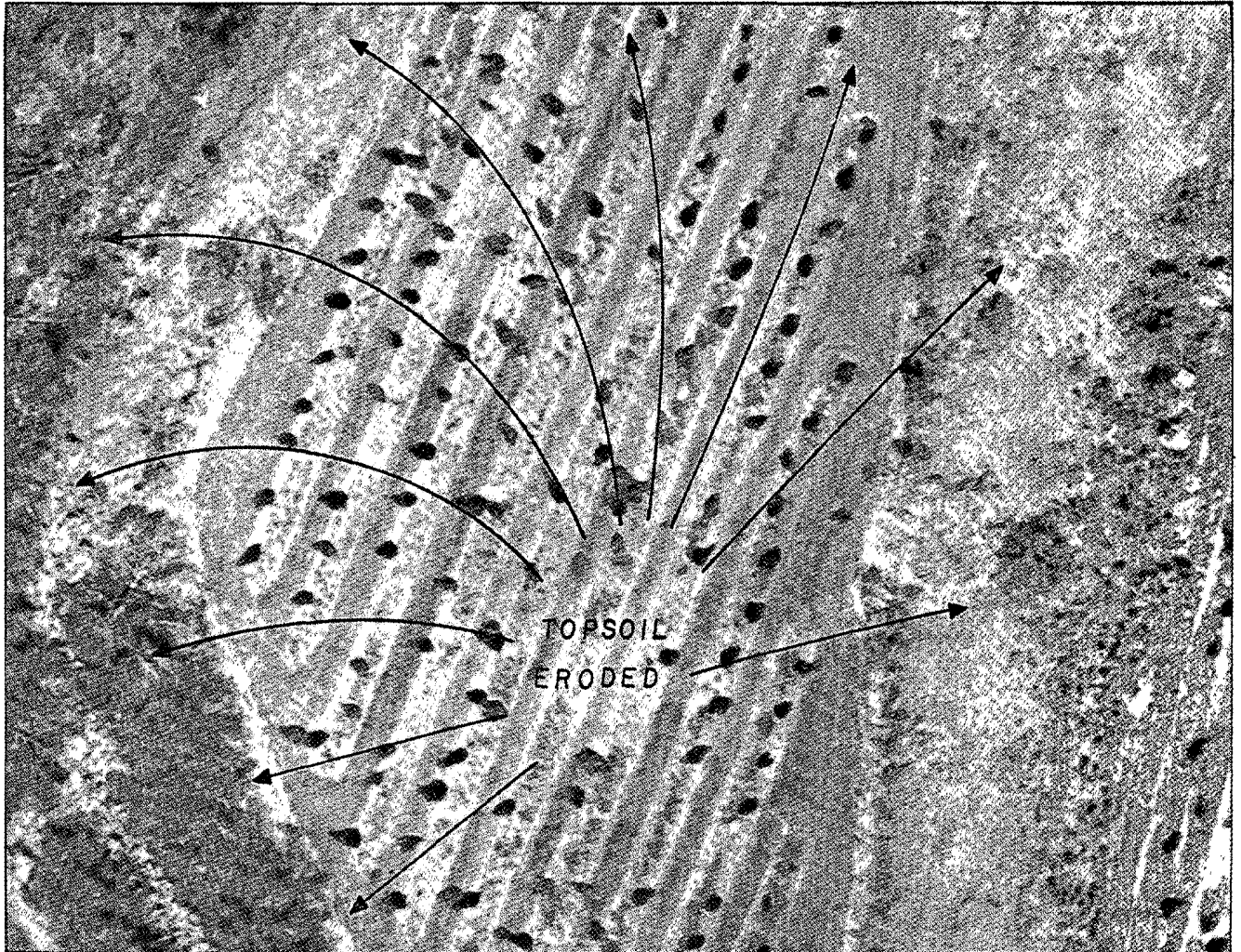
The lower pictures, taken on 14 September 1993 by Fujita inside the microburst area, present close-up views of the albizzia damaged by the microburst. Albizzia grows very fast under the tropical sun with their light-weight, flexible, small trunks. Their multiple leaves are small and trees often grow to 30 to 50' tall. They turned out to be excellent indicators of the final damaging winds of Iniki and embedded microbursts. It was seen, during the anniversary visit, that most albizzia trees have been growing back fast. They will be ready to serve again as excellent indicators of damaging winds.



Touchdown Spot of Microburst (1)

Macadamia-nut trees have been grown in a number of large farms on the south side of the island. However, the 10 to 15' clumpy trees (lower left) failed to withstand the Iniki winds. Some abandoned their farms after Iniki (lower

right). An aerial photo (below) shows the starburst pattern of uprooted and blown-off trees in Microburst No. 1 south of Lawai. Note that the topsoil at the touchdown spot was eroded.



Touchdown Spot of Microburst (2)

Another violent spot of microburst touchdown is seen in an aerial photo looking north at the top. A house at the touchdown spot was literally blown apart, spreading high-speed debris in starburst directions. The reinforced block wall of house "G" was bombarded by the

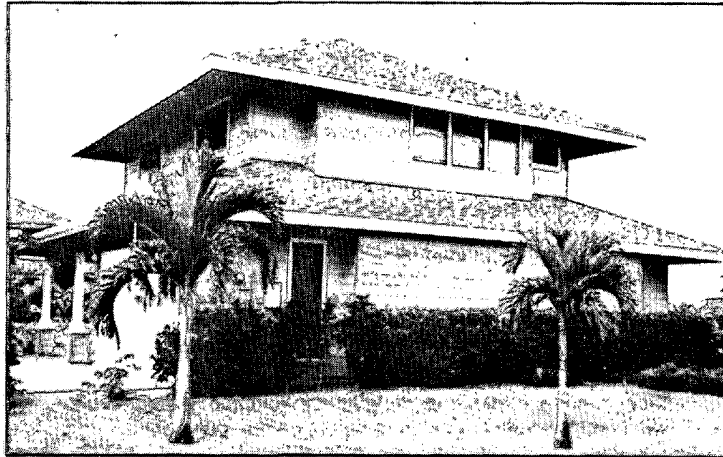
high-speed debris from the west and destroyed. The roof of house "A" flew away westward. Fujita's anniversary photo, taken at the Princeville site, reveals a large vacant grass field surrounded by houses A-H which have been restored.



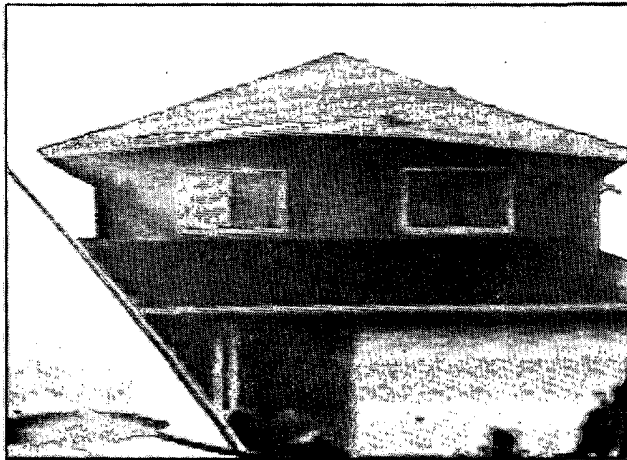
Flight of the Roof at Princeville

The scene of the roof of a house in Princeville blown away by the Iniki wind and video-taped by Mr. Dean Marshall of San Francisco. The continuous and steady scene used in this research lasted about 3 minutes or 180 seconds. Fujita's anniversary visit to the house

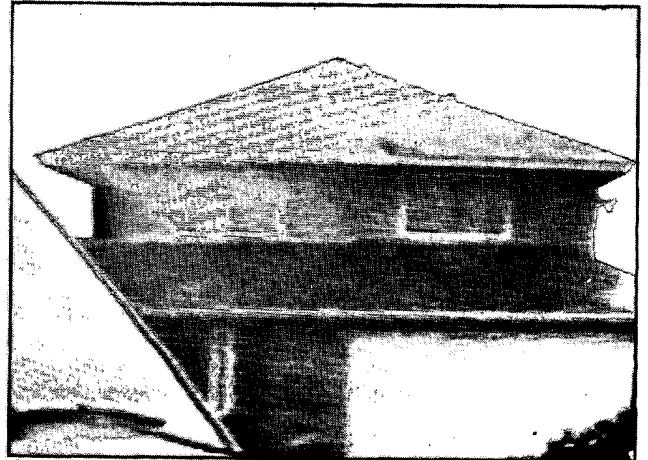
on 14 September 1993 revealed that it is a well-constructed two-story house with a square shaped roof atop the second floor. Apparently, the southerly wind from Microburst No. 19 began affecting the roof approximately 60 seconds before the roof began flying away.



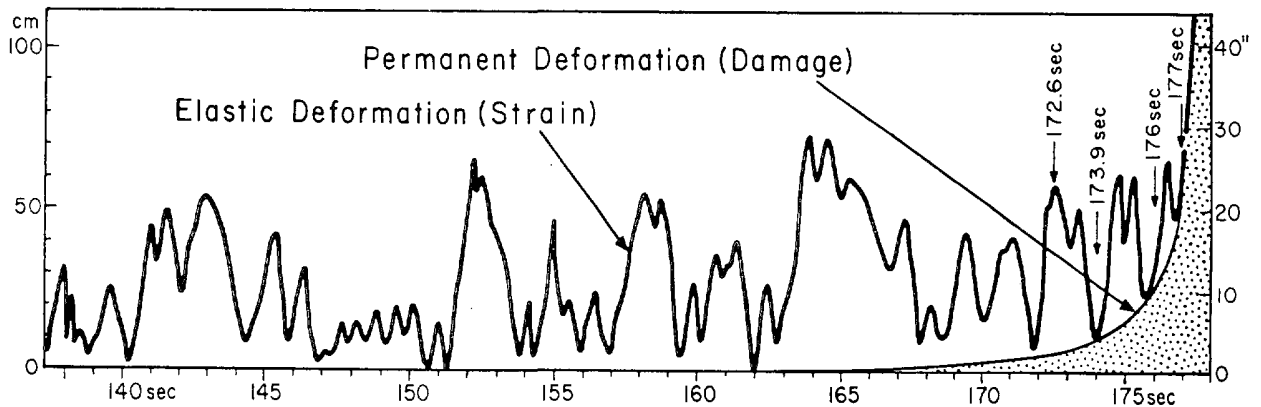
View of the restored house looking west. Southerly winds impinged upon the left-side blew off the roof toward the right.



The roof at 172.6 sec when the bulge was 22" (55 cm), mostly elastic deformation.

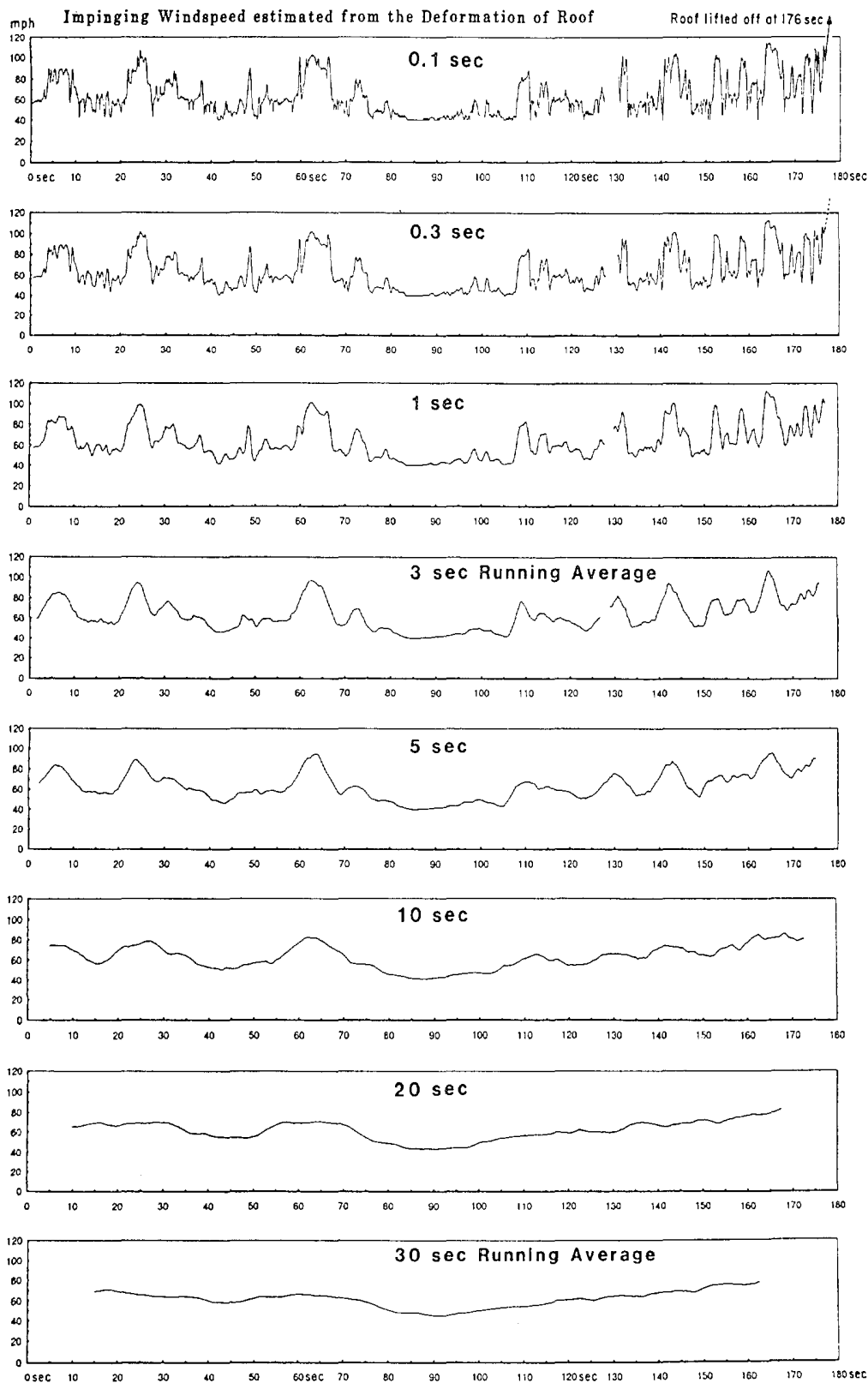


At 173.9 sec, wind diminished and the roof settled down to the 4" (10 cm) bulge.



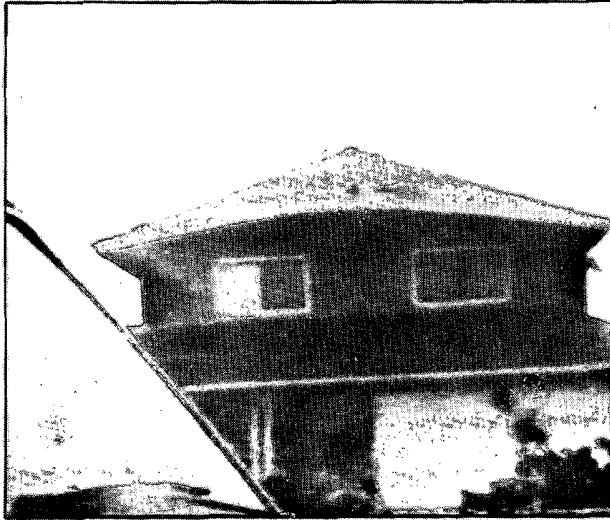
Bulging motion of the roof caused mostly by the elastic deformation which disappeared during the dull periods of gusty winds.

Under the assumption that the elastic deformation (bulge) is proportional to the square of the impinging windspeed while satisfying the following upper and lower bounds, the bulge was converted into the impinging windspeed. Upper bound: The roof left the house at 120 mph windspeed. Lower bound: No bulge occurred when windspeed was 40 mph or less.

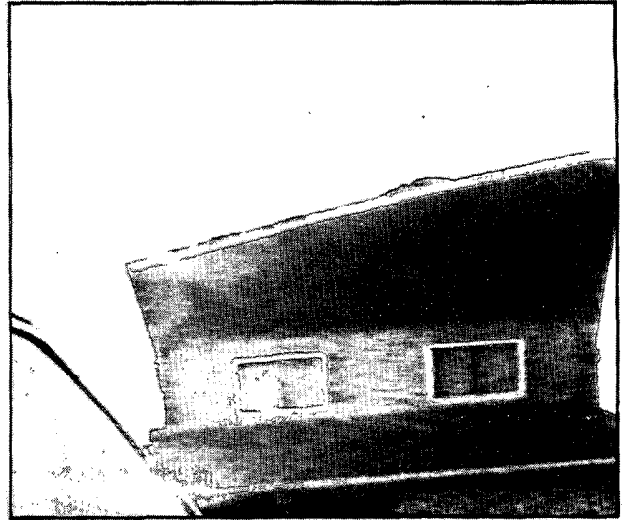


Flight of the Roof Part 1 (1.4 seconds)

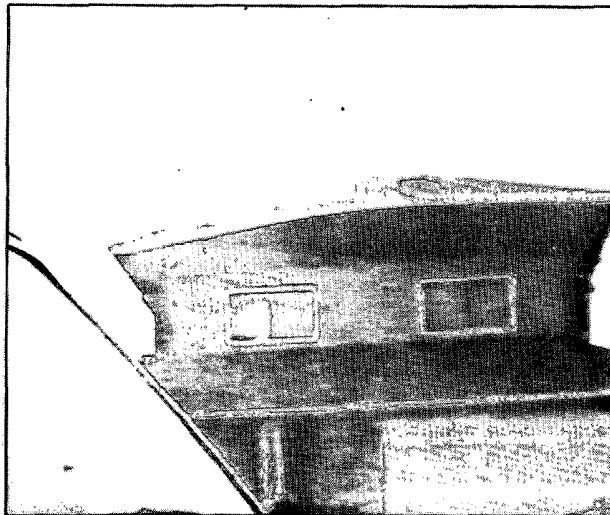
Video courtesy of Mr. Dean Marshall of San Francisco, California



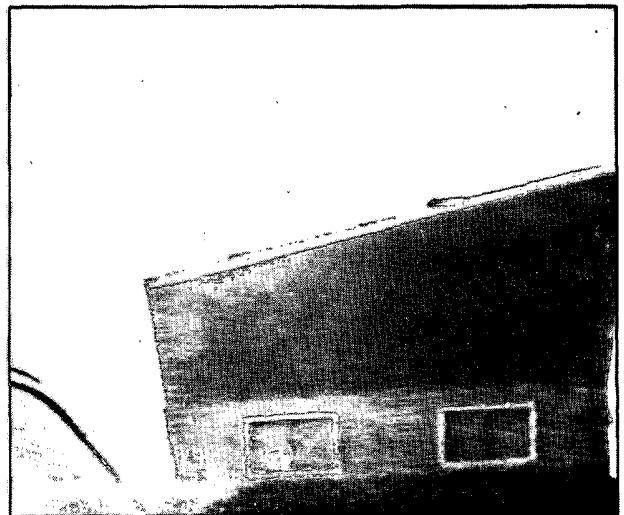
177.0 sec



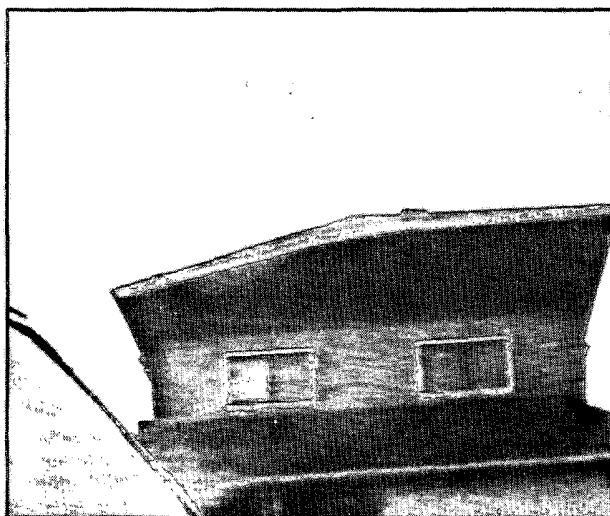
177.8 sec



177.4 sec



178.0 sec



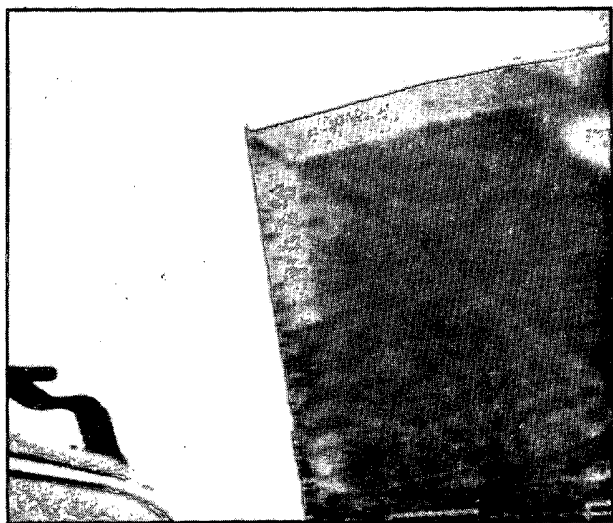
177.6 sec



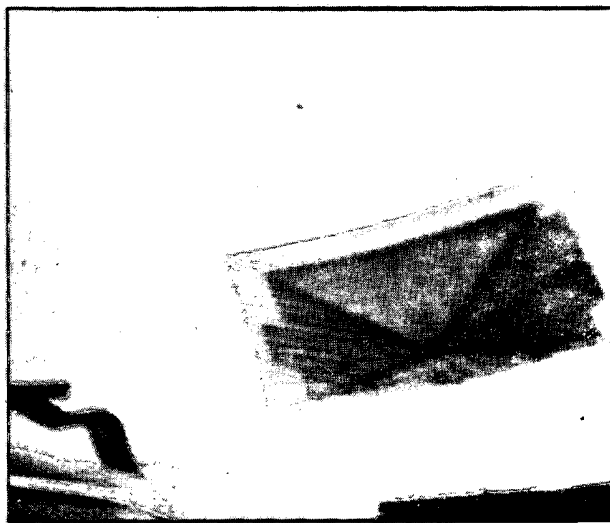
178.4 sec

Flight of the Roof Part 2 (1.0 second)

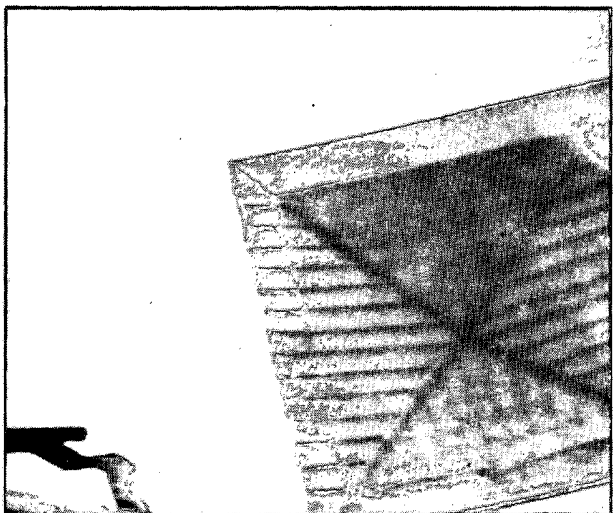
Video courtesy of Mr. Dean Marshall of San Francisco, California



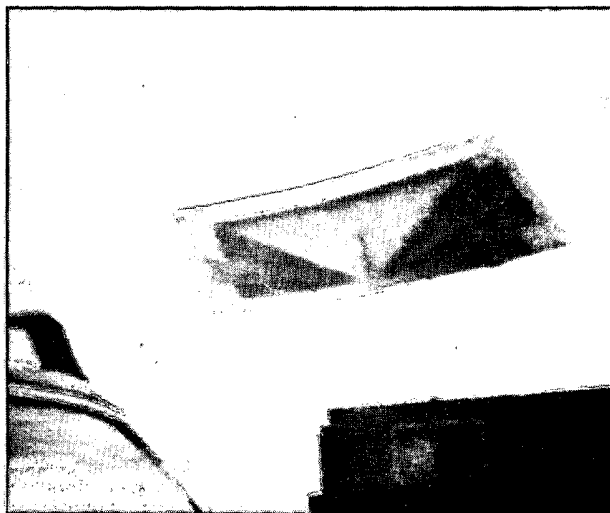
178.8 sec



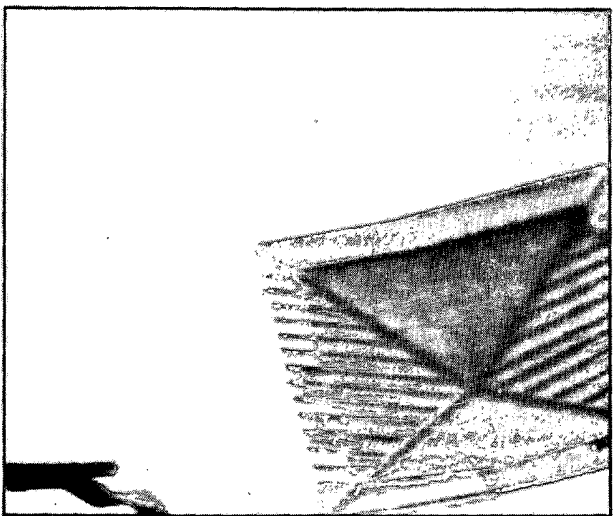
179.6 sec



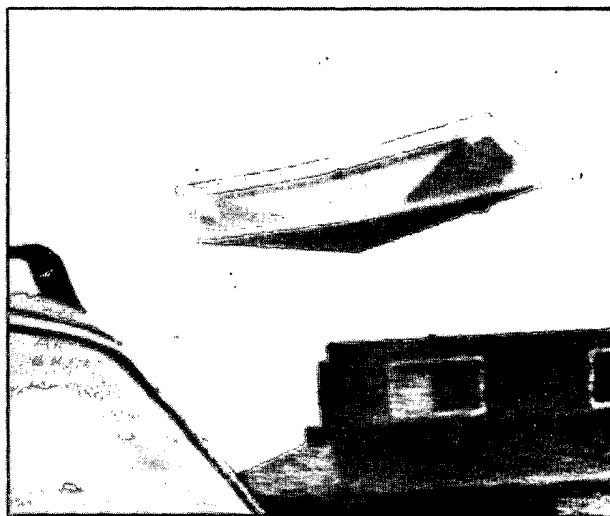
179.2 sec



179.7 sec



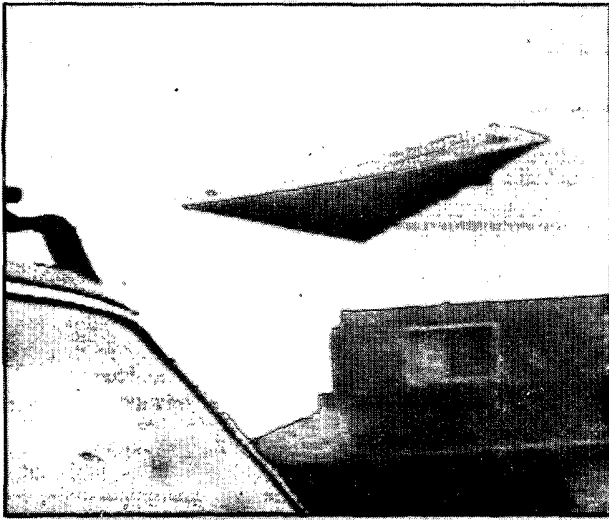
179.4 sec



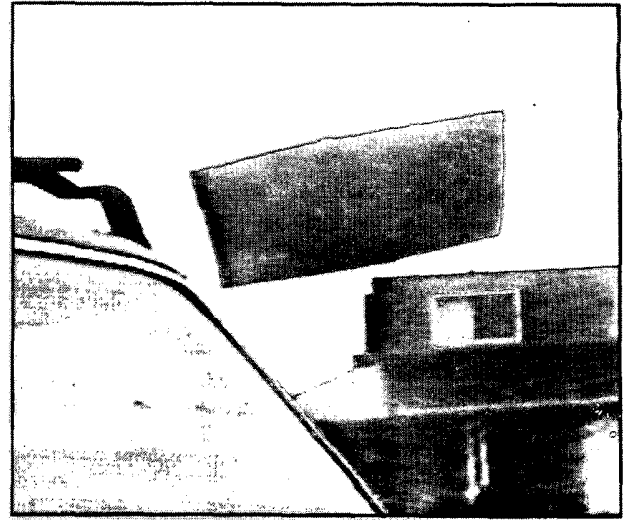
179.8 sec

Flight of the Roof Part 3 (0.6 second)

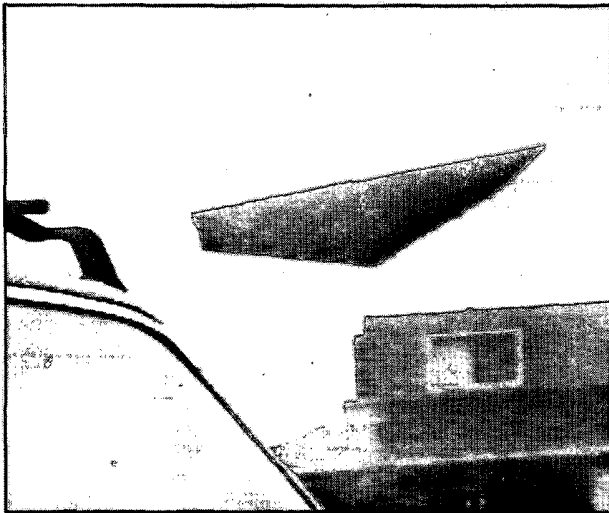
Video courtesy of Mr. Dean Marshall of San Francisco, California



179.9 sec



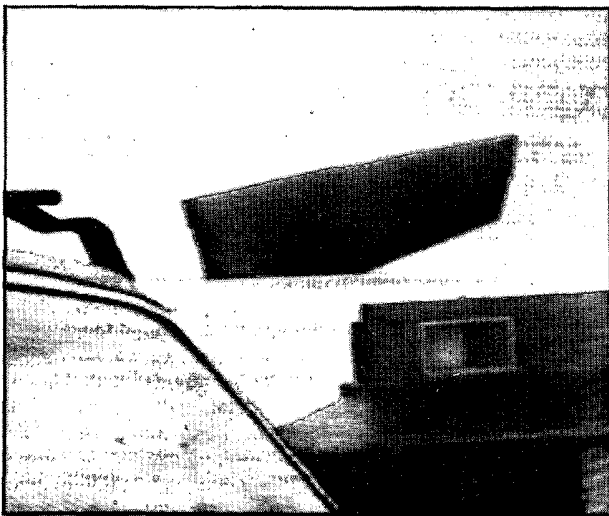
180.2 sec



180.0 sec



180.3 sec



180.1 sec



180.5 sec

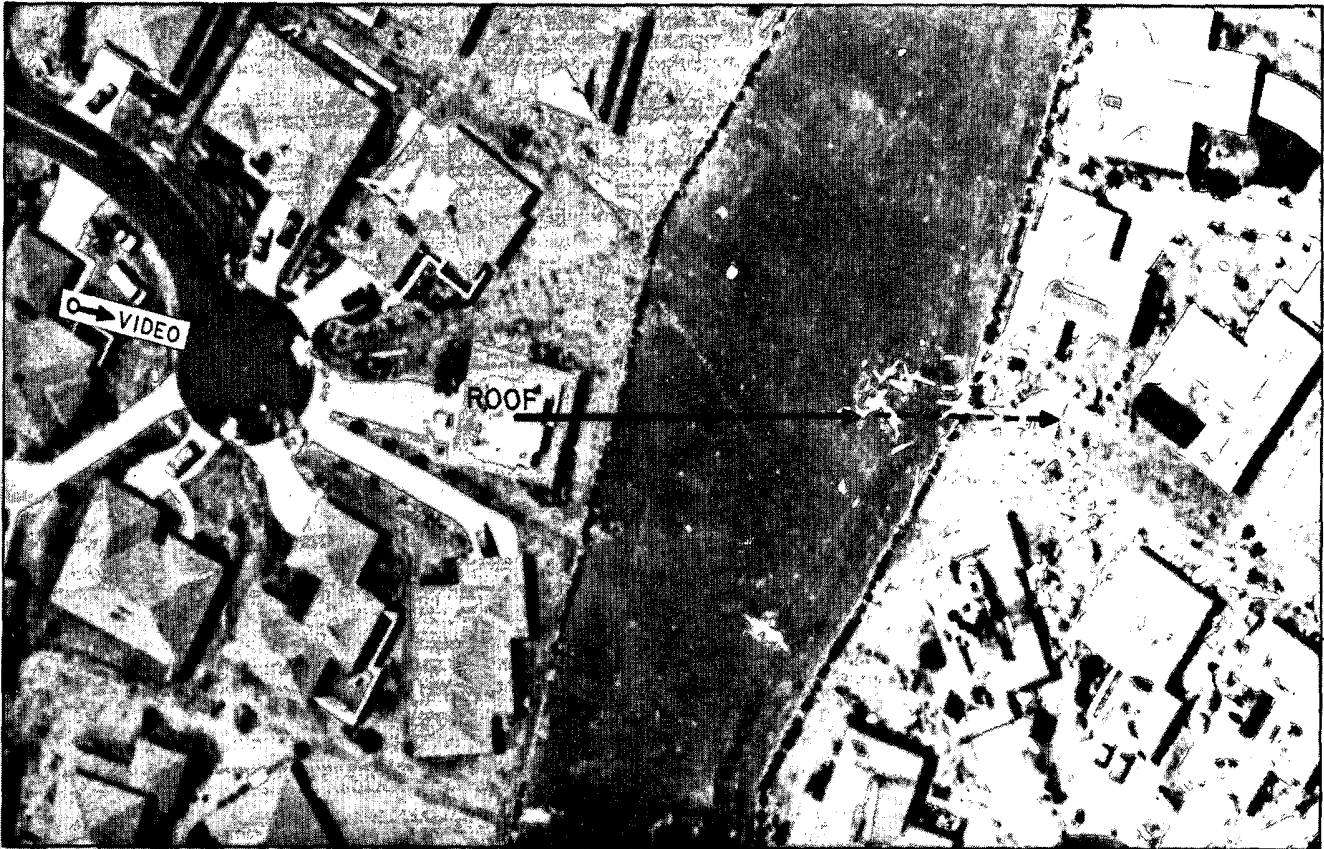
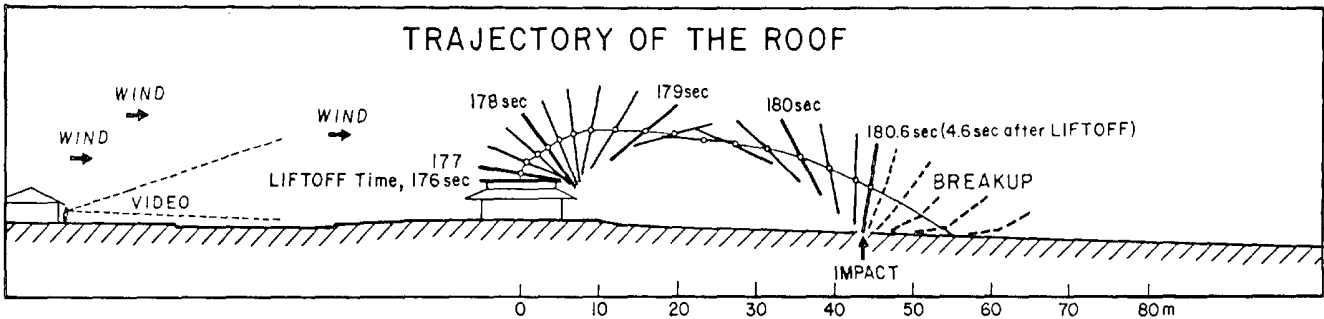
Photogrammetric Analysis of the Roof

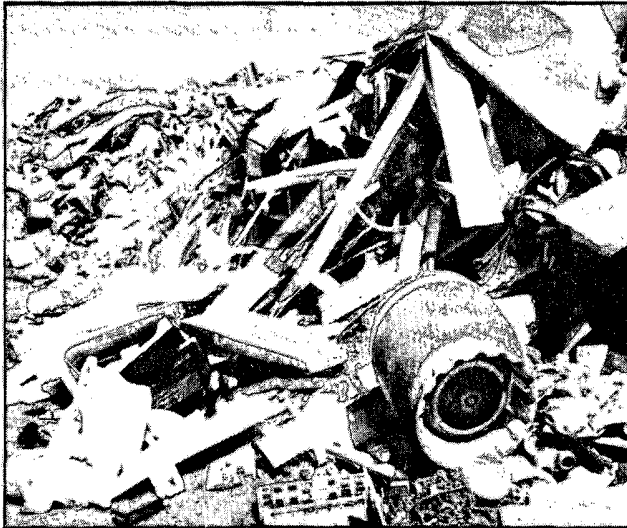
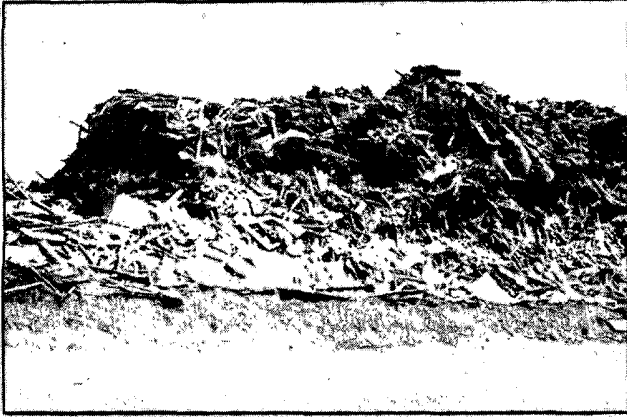
Successive pictures of the roof presented in the previous three pages reveal the movement of the roof as seen from the position of the video camera. Although the distance to the airborne roof is not available, the simple relationship, the further the distance to the roof from the camera, the smaller the dimensions of the roof on the normalized image, will permit us to compute the direct distance to the flying roof from the video camera.

The impact mark of the roof seen in the aerial photo is a slightly curved indentation, 43 m

downwind from the original position of the roof center. Video counts reveal the 4.6 second-flying time between take-off and impact. The average traveling speed of the roof should be 9.3 m/s (21 mph).

The trajectory diagram and the enlarged picture of the flight area were obtained based on the calculated distance to the roof and the attitudes of the roof. The maximum traveling speed of the roof was 47 mph, which was much slower than the impinging wind which accelerated the roof.





Hurricane Iniki left behind unbelievable tons of debris which were piled up into debris mountains soaring at several dump sites all around the island. It will take years before these mountains disappear somehow, restoring the beauty of the Garden Island in the Pacific. Photos taken by Fujita during his anniversary visit to the island in September 1993

Concluding Remarks

Investigation of the Iniki damage on the island suggests two important aspects of the hurricane winds. They are **hurricane-topography interactions** and **damage-causing wind vs sustained wind**.

1. Unlike over-water hurricanes, the Iniki eyewall, along with embedded convective towers, weakened and collapsed very rapidly within only one hour while crossing the central mountains of Kauai. At least 26 small but intense microbursts have been confirmed. It is likely that the number will increase when more researchers investigate the local damage photographed after the storm. We should understand the structure of sub-hurricane-scale wind systems induced by hurricane-topography interactions.

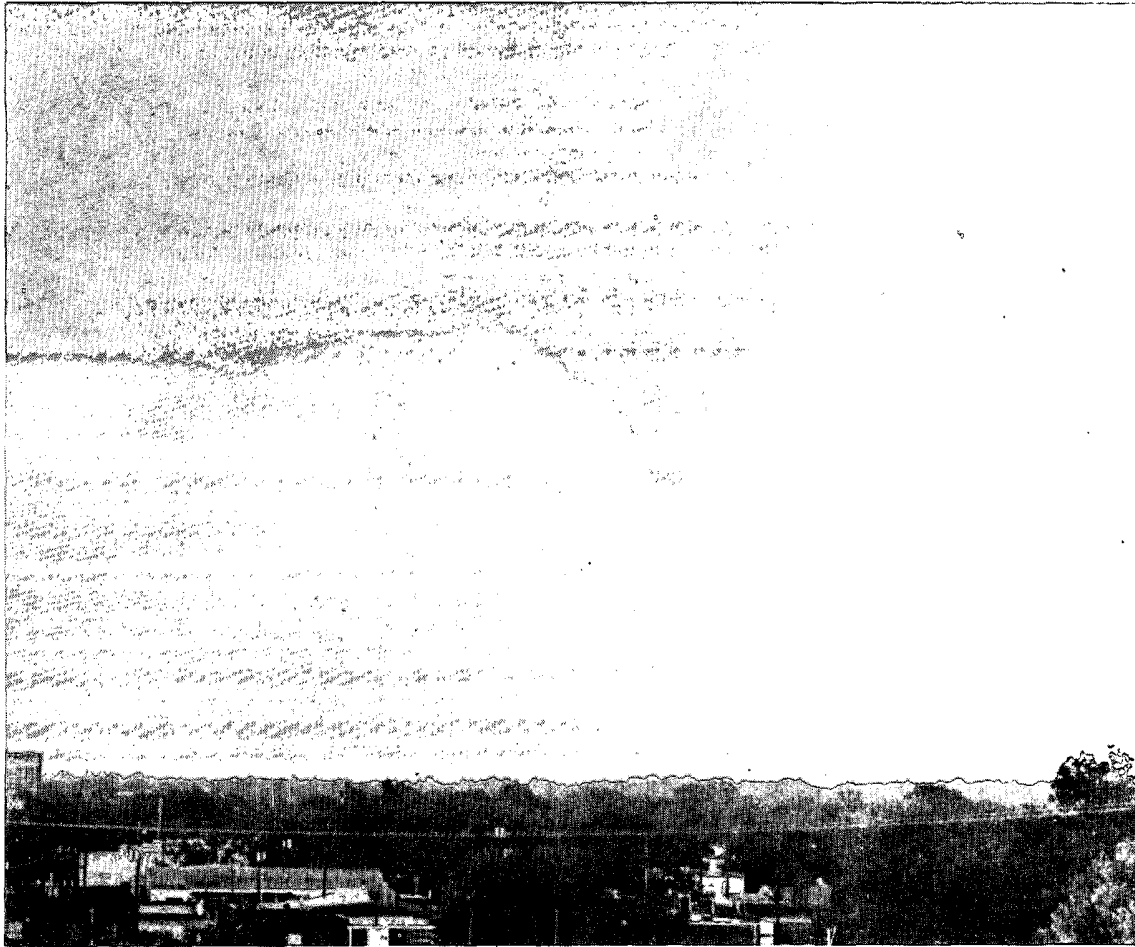
2. The windspeed ratio (peak gust/sustained wind) in hurricanes under the influence of topography could be much larger and variable than that of over-water hurricanes. When the peak wind is caused by a specific wind system, such as microburst, mini-swirl, and others, the ratio (peak gust/sustained wind) could exceed 150% or even 200%. It is also important to realize that a roof can be blown away by 1 to 2 sec winds rather than a sustained wind.

Acknowledgments

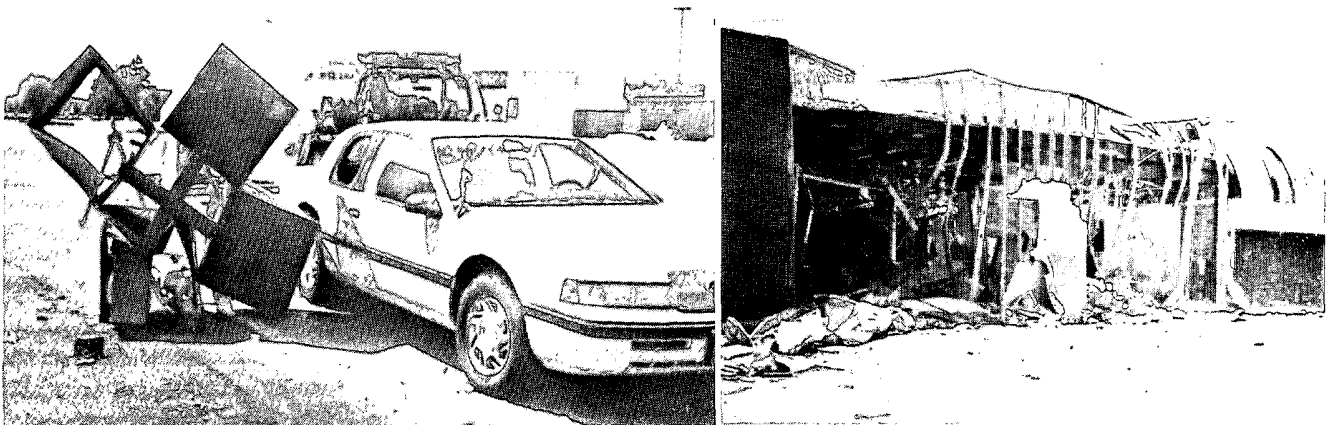
The post-Iniki aerial survey by Duane Stiegler and subsequent mapping were sponsored by NOAA/National Weather Service under contract 40AANW204612. Further research with 9" x 9" color photos and infrared photos from Air Survey Hawaii was sponsored by the Office of Naval Research under Grants N00014-91-J1136 and N00014-90-J-1526. Fujita's mapping and research were assisted by Jim Partacz, Jaime Tecson, and Ji Chung of the Wind Research Laboratory. Fujita's anniversary visit to Kauai was arranged by Mr. Paul Haraguchi of the Department of Land and Water Resources, State of Hawaii. The research leading to the completion of this paper was performed at the Wind Research Laboratory, The University of Chicago.

2. WICHITA, KANSAS HIT BY TORNADOES ON SEPTEMBER 5

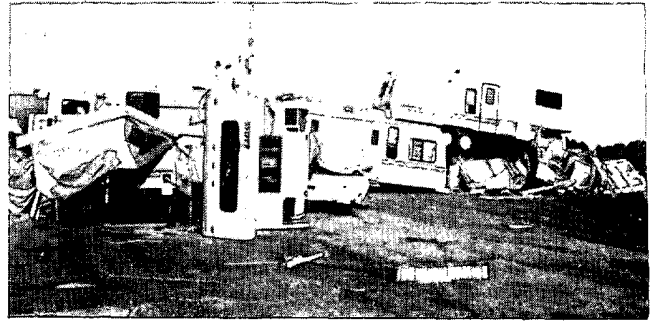
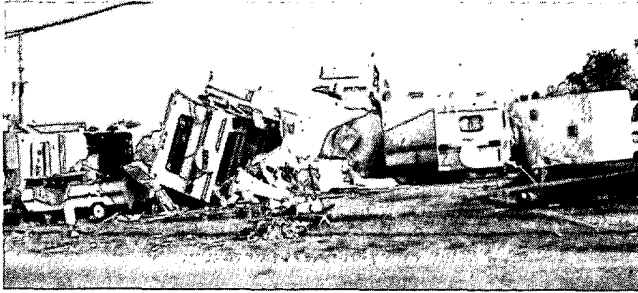
A. F2 TORNADO STRIKES EASTSIDE OF WICHITA, 1759 - 1815 CST



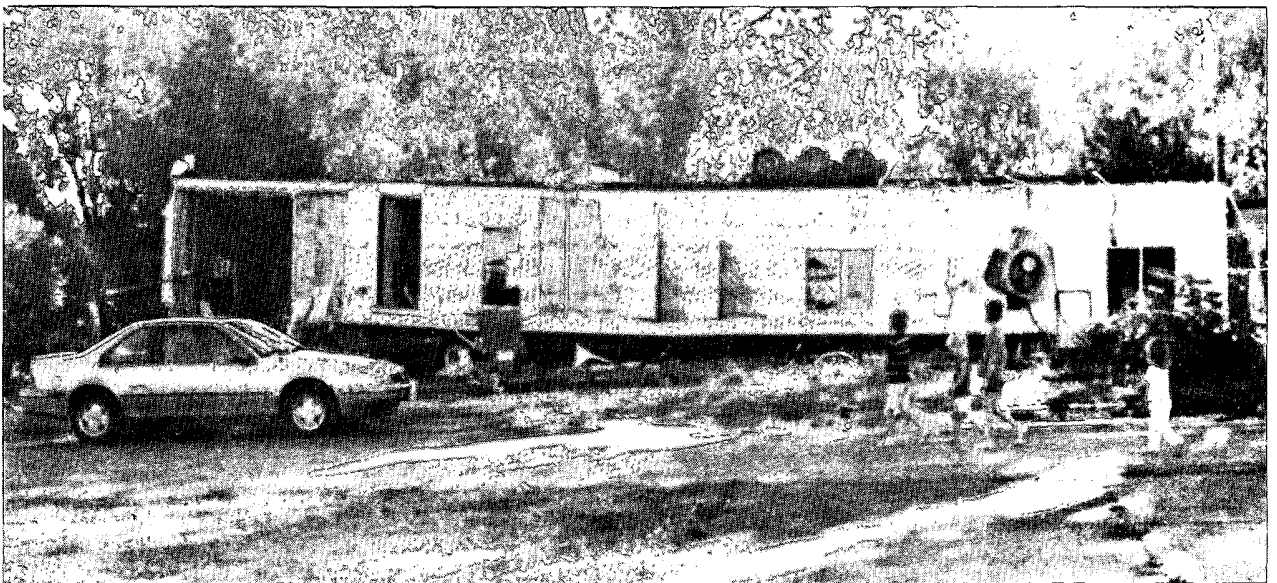
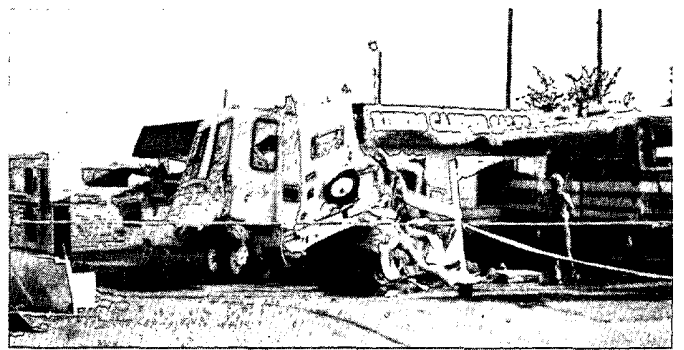
Shortly before 6:00 p.m. CST, September 5, the first of two tornadoes struck Wichita, Kansas (top). (Photo courtesy: Kim D. Johnson, *The Wichita Eagle*, Wichita, Kansas.) This tornado, rated as an F2 on the Fujita Tornado Scale, had a path length of three miles through the major business district on Kellogg Street in eastern Wichita. The tornado moved through the Towne East Mall. Several parking lot lights were downed causing damage to parked vehicles, below(left). (Photo courtesy: Steve Schurr) A vacant building, just west of Towne East Mall, sustained considerable damage from the tornado, below(right). (Photo courtesy: Steve Schurr)



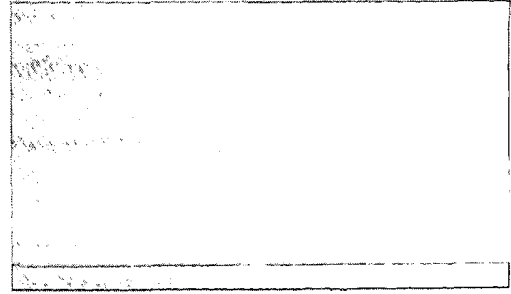
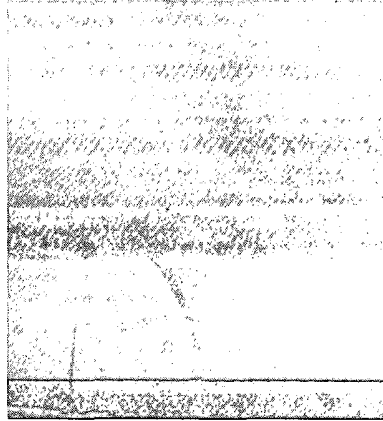
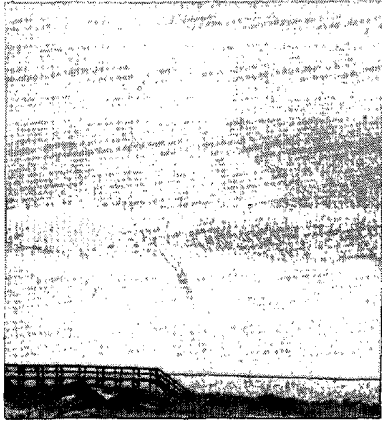
B. F1 TORNADO STRIKES THE WESTSIDE OF WICHITA, 1930 - 1945 CST



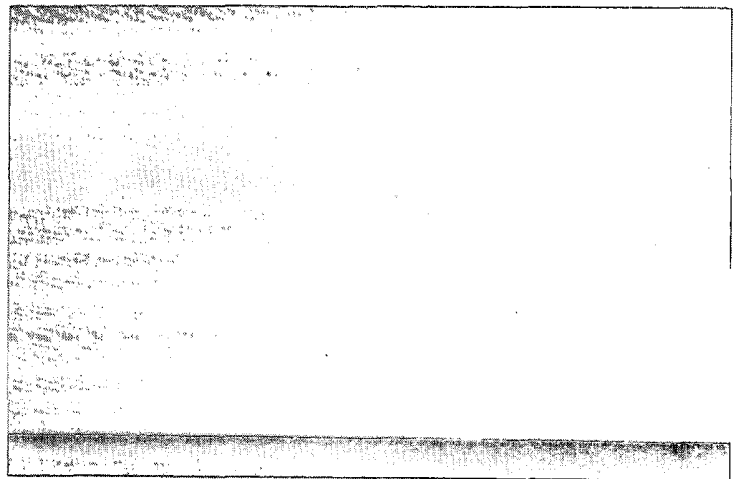
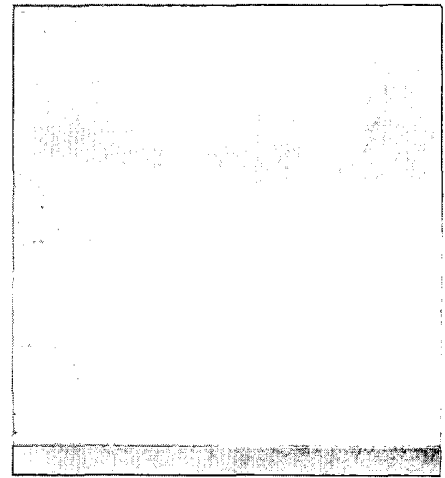
The second tornado of the day to affect Wichita formed at 7:30 p.m. CST. The second tornado (F1) was weaker than the first (F2) and it struck western Wichita. All eighty vehicles at Riner's Camper Sales were destroyed or damaged, above(all). Debris from the store was scattered across Kellogg Street. Fortunately, no one was injured when the tornado overturned over this mobile home, below. *(Photo courtesy: Steve Shurr)*



3. WATERSPOUT SOUTH OF SANTA ROSA ISLAND, FLORIDA



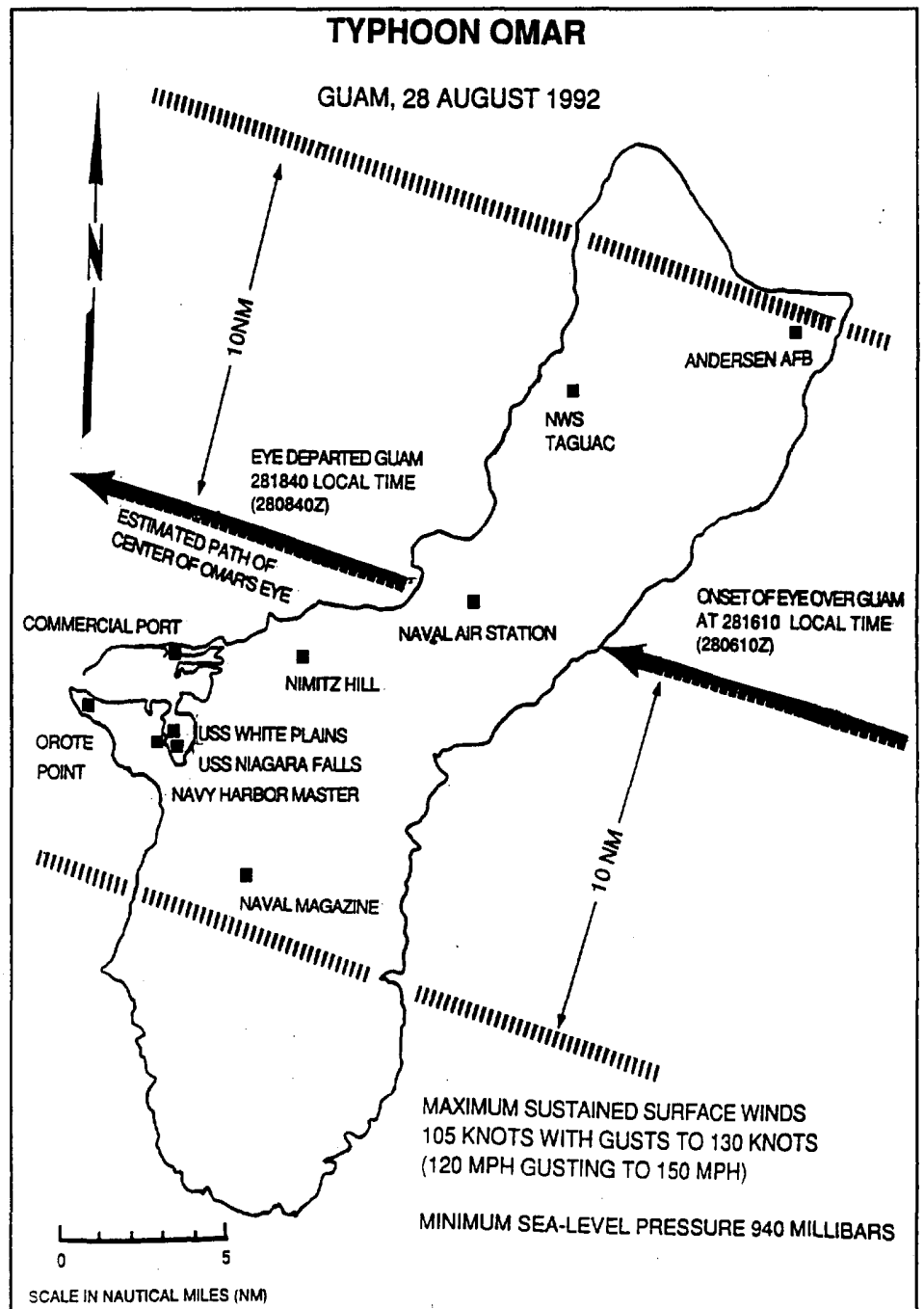
At approximately 12:30 p.m. EST on September 4, a waterspout formed south of Santa Rosa Island in Fort Walton Beach, Florida, **top(left)**. The waterspout moved in a westerly direction and intensified, **top(center and right)**. The pictures at **left and right** show the waterspout at its maximum intensity. The waterspout weakened and ended within 15 minutes of its beginning, never making landfall, **below(both)**. (Photo courtesy: Tracy Middlestead, Bay Saint Louis, Mississippi.)



ET CETERA

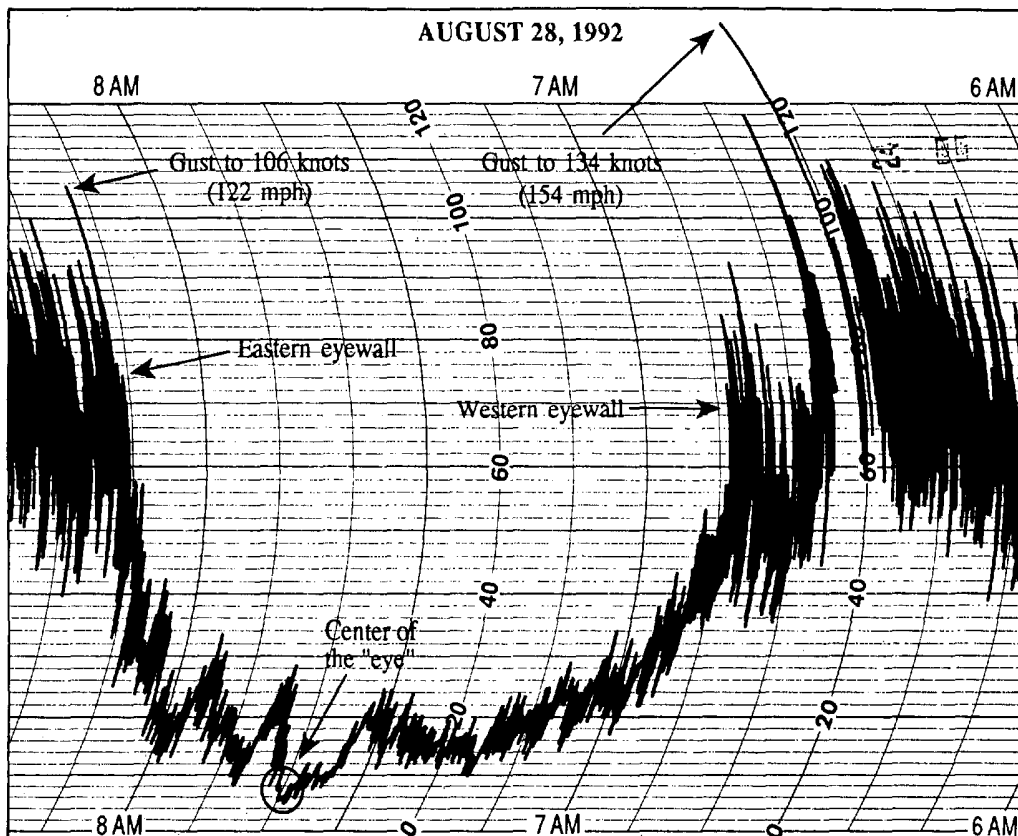
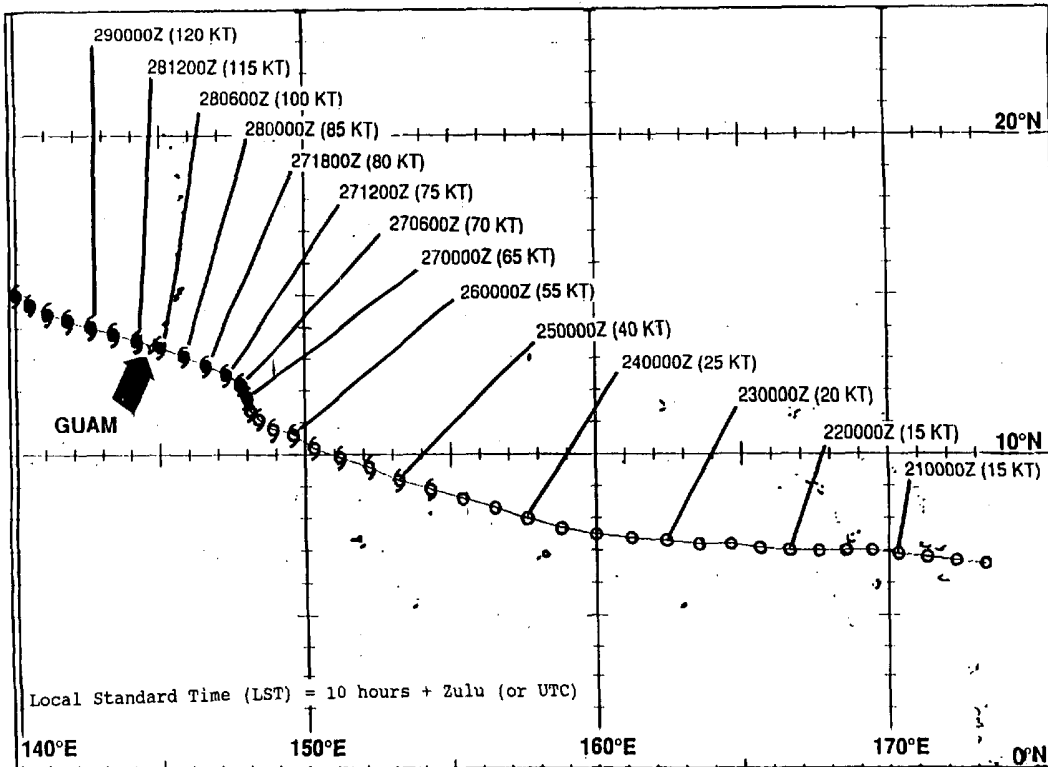
TYPHOON OMAR STRIKES GUAM ON AUGUST 28, 1992

Typhoon Omar was the strongest typhoon to strike Guam since Typhoon Pamela in 1976. Omar began its development on August 20 from an area of cloudiness associated with the Intertropical Convergence Zone (ITCZ). During the morning of August 25, the disturbance was classified as a tropical storm. Further intensification was hindered by a weak tropical depression to the northwest, however it accelerated its forward motion and allowed Omar to gain strength. A small "eye" was discernible by the evening of the 27th. Maximum sustained (one minute average) winds were estimated at 125 to 130 mph with gusts over 150 mph as the western eyewall came ashore shortly after 3:00 p.m. local time on the 28th. The eye moved over the northern portion of the island and remained ashore for 2.5 hours due to Omar's slow forward speed of nine miles per hour. The northern coast was particularly hard hit with over 16 inches of rain (Andersen Air Force Base recorded 16.41 inches) and an estimated storm surge of eight to ten feet. (See page 33.) The USS White Plains, sheltered in Apra Harbor, registered a barometric reading of 940 mb (27.76 inches). Damage to Guam from Typhoon Omar was extensive and one fatality did occur. Recovery efforts were hampered by four more typhoons striking Guam in the next three months.



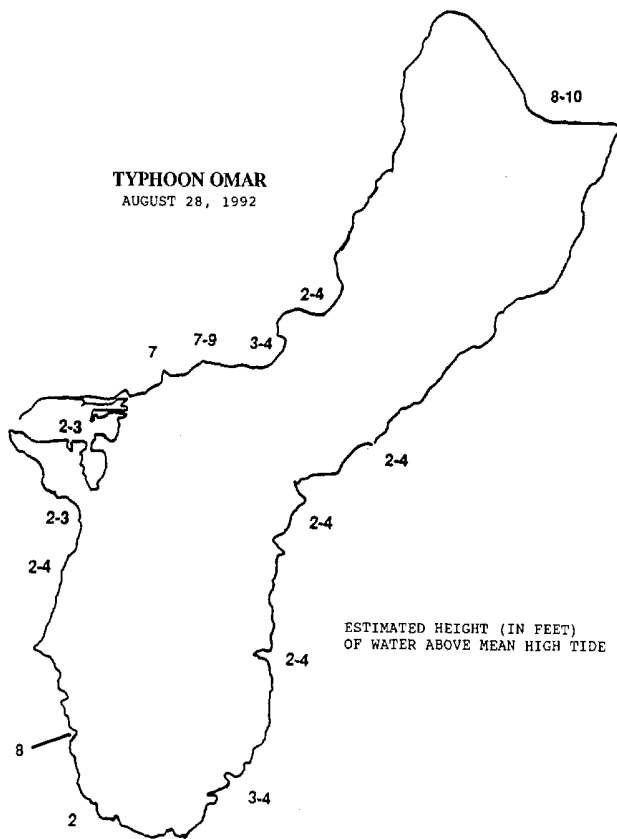
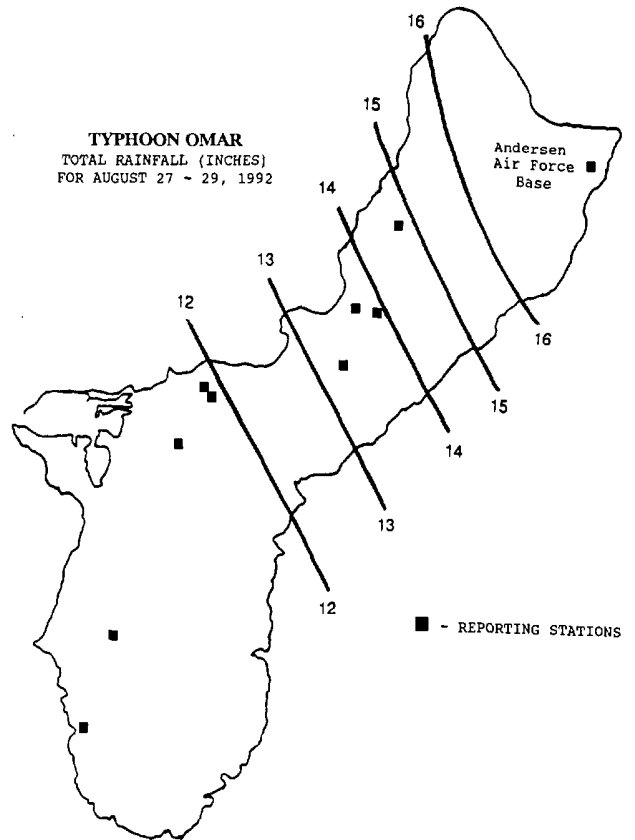
TYPHOON OMAR (15W) TRACK

20 AUGUST - 29 AUGUST 1992



The wind chart from the U.S. Naval Oceanographic Command Detachment in Agana, Guam indicates a gust of 134 knots (154 mph) occurred at approximately 16:32 p.m. LST. (The time on the wind chart is in UTC.) With the "eye" overhead, the wind speed dropped to 5 knots (6 mph). Thirty five minutes later, the winds were gusting as high as 106 knots (122 mph). (Wind Chart provided by National Climatic Data Center.)

Right: Rainfall was heavy over the entire island (10+ inches). The maximum recorded rainfall was the 16.41 inches measured at the Andersen Air Force Base.



Left: Generally, the storm surge was 2 to 4 feet. However, the northern coast and a few sites along the western coast observed storm surges of 7 to 10 feet.

Maps and information provided by Tom Yoshida.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ALABAMA									
Lawrence County 2 SW Moulton	02	1745CST			0	0	?	?	Thunderstorm Winds
									Thunderstorm winds gusted to 60 mph in the Moulton vicinity.
Morgan County Hartselle	03	1420CST			0	0	4	0	Thunderstorm Winds
									Two large oak trees were blown down by thunderstorm winds. One tree, estimated at over 100 years old, damaged a house and garage as it fell.
Jackson County 4 S Flat Rock Eastern Portion	05	1733CST			0	0	?	?	Flash Flood
	05	1835CST			0	0	?	?	Flash Flood
									Heavy rains from a nearly stationary thunderstorm caused flash flooding of Highway 71 between Flat Rock and Rosalie. Over six inches of rain fell within 1 hour in Eastern Jackson County resulting in considerable flash flooding.
Cherokee County 7 NW Centre	10	1745CST			0	0	4	0	Thunderstorm Winds
									Thunderstorm winds destroyed a barn in the Sand Rock vicinity, and damaged farm equipment that was kept inside. Also, a chicken house was damaged and several trees were uprooted.
Houston County Ashford	11	1447CST			0	1	0	0	Lightning
									A woman was injured slightly when lightning entered the building she was in and struck her through the telephone as she talked.
Lauderdale County 8 NW Florence	17	1545CST			0	0	4	0	Thunderstorm Winds
									A mobile home and an adjoining out building were destroyed by thunderstorm winds. Also, a car was destroyed when tree was blown down onto it.
Walker County 9 NE Jasper	17	1730CST			0	0	4	0	Thunderstorm Winds
									Thunderstorm winds destroyed one chicken house and damaged two others killing approximately 5,000 chickens in the Curry vicinity.
ARIZONA									
Pima County Green Valley	13	1500MST			0	0	2	0	Thunderstorm Winds (G63)
									Tubac Golf Resort reported more than 70 trees felled by winds that reached as high as 72 mph.
Tucson	13	1517MST			0	0	0	0	Thunderstorm Winds (G53)
									Winds gusted to 61 mph and rainfall of close to one inch hit Tucson International Airport.
18 NNW Tucson	13	1725MST			0	0	2	0	Thunderstorm Winds
									Winds uprooted two trees near Ina and La Cholla. Police reported two traffic lights and some power poles down.
Coconino County Page Page	15	1620MST			0	0	0	0	Thunderstorm Winds (G52)
	15	1632MST			0	0	2	0	Hail (1.75)
									Winds blew down some fences and hail damaged a car at a golf course.
Grand Canyon	15	1900MST			0	0	0	0	Flash Flood
									Park rangers alerted hikers just before a 2- to 3-foot wall of water swept through Cottonwood campground. Persistent thunderstorms dumped very heavy rains in this area during the late afternoon.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ARIZONA Cont'd									
Maricopa County Luke Air Force Base	20	0015MST			0	0	3	?	Thunderstorm Winds (G65)
Luke Air Force Base	20	0430MST			0	0	6	?	Flash Flood
<p>Slow-moving strong thunderstorms developed north and west of the base around midnight. Microburst winds damaged a metal garage just west of Luke. Nearby, at the University of Ariona Citrus Station at Perryville and Greenway 2.85 inches fell in just 75 minutes. Youngtown had 1.18 inches, Sun City West had 2.25 inches, and a farmer about 2.5 miles northwest of the base had six inches. Most of the rain fell between the White Tank Mountains, McMicken Dam and Luke Air Force Base washing a great deal of sediment from the farm areas onto the base. The silt cleanup effort, cost of relocation and damage repair is estimated at \$3.2 million. About 150 homes and several buildings on the base were flooded. A foot of mud covered runways and ramps.</p>									
ARKANSAS									
Polk County Potter	02	2100CST			0	0	5	0	Lightning
<p>Lightning was the cause of a house fire in Potter. The house was completely destroyed. No injuries were reported.</p>									
Little River County Ogden	02	2350CST			0	0	0	0	Hail (0.88)
Hempstead County Mt. Zion	03	0015CST			0	0	0	0	Thunderstorm Winds (G52)
Spring Hill	03	0020CST			0	0	0	0	Hail (0.75)
Miller County 2 E Texarkana	03	0020CST			0	0	0	0	Hail (0.88)
Columbia County Walkerville	03	0127CST			0	0	3	0	Thunderstorm Winds
<p>Thunderstorm winds blew out the window of a home.</p>									
Carroll County 2 E Green Forest	08	0700CST			0	0	5	0	Lightning
<p>Lightning caused a house fire outside of Green Forest. Lightning struck a telephone pole near the house and followed the lines into the house. The house was a total loss.</p>									
Stone County Mountain View	08	0725CST			0	0	3	0	Thunderstorm Winds
<p>Thunderstorm winds blew down some power lines.</p>									
Carroll County Berryville	08	0800CST			0	0	4	0	Lightning
<p>Lightning struck a building in Berryville causing an extensive fire. Approximately half of the building and its contents were destroyed.</p>									
Perry County Aplin	08	1700CST			0	0	3	0	Thunderstorm Winds
<p>Thunderstorm winds downed some trees and power lines.</p>									
Baxter County Mountain Home	09	2130CST			0	0	2	0	Thunderstorm Winds (G30)
<p>Thunderstorm winds blew down some large tree limbs.</p>									
Benton County Gravette	09	2158CST			0	0	0	0	Thunderstorm Winds (G52)
Rogers	09	2202CST			0	0	0	0	Thunderstorm Winds (G52)
Washington County Fayetteville	09	2230CST			0	0	3	0	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
Thunderstorm winds blew a tree down on top of a car.									
Crawford County 2 SE Mountain- burg	09	2240CST			0	0	2	0	Thunderstorm Winds
Thunderstorm winds blew down a large tree onto Highway 348.									
Van Buren	09	2330CST			0	0	0	0	Thunderstorm Winds (G52)
Franklin County Ozark	09	2345CST			0	0	0	0	Thunderstorm Winds (G59)
Pope County Russellville	10	0100CST			0	0	3	0	Thunderstorm Winds
Thunderstorm winds downed several trees and power lines.									
Yell County Danville	10	0110CST			0	0	3	0	Thunderstorm Winds
Thunderstorm winds blew down several trees and power lines.									
Sebastian County Greenwood	21	1536CST			0	0	0	0	Hail (0.75)
Greenwood	21	1536CST			0	0	3	0	Thunderstorm Winds
Thunderstorm winds downed several trees.									
Logan County Booneville	21	1615CST			0	0	0	0	Hail (0.75)
Subiaco	21	1635CST			0	0	0	0	Hail (0.75)
Yell County 5 E Danville	21	1710CST			0	0	3	0	Thunderstorm Winds
Thunderstorm winds knocked down some power lines.									
Johnson County Hartman	21	1714CST			0	0	3	0	Thunderstorm Winds
Thunderstorm winds knocked down several trees.									
Clarksville	21	1730CST			0	0	4	0	Thunderstorm Winds
Thunderstorm winds blew down trees and caused minor roof damage to several homes.									
Pope County 3 W Appleton	21	1740CST			0	0	3	0	Thunderstorm Winds
Thunderstorm winds blew down several trees and power lines.									
Sevier County Horatio	21	1835CST			0	0	4	0	Thunderstorm Winds (G56)
Thunderstorm winds blew down numerous trees and blew several cars off the road.									
Howard County Dierks	21	1900CST			0	0	4	0	Thunderstorm Winds
Numerous trees were blown down by thunderstorm winds.									
Sevier County DeQueen	21	1915CST			0	0	0	0	Thunderstorm Winds (G48)
DeQueen	21	1915CST- 2115CST			0	0	4	0	Flash Flood
Heavy rains caused flash flooding in several parts of DeQueen. Most of the damage consisted of some city streets being washed out. No other property damage was reported.									
Horatio	21	1930CST			0	0	0	0	Hail (0.88)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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ARKANSAS Cont'd

Howard County 8 W Nashville	21	1945CST			0	0	0	0	Hail (0.75)
8 W Nashville	21	1945CST			0	0	2	0	Thunderstorm Winds (G48)

Thunderstorm winds blew a car off the road on Highway 24.

Little River County Foreman	21	2010CST			0	0	0	0	Hail (0.88)
Foreman	21	2010CST			0	0	0	0	Thunderstorm Winds (G48)
Hempstead County Washington	21	2045CST			0	0	0	0	Thunderstorm Winds (G52)

Hempstead and Pike Counties 2 SE Billstown	21 22	2100CST- 0000CST			0	0	4	0	Flash Flood
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Heavy rains caused the levee on a pond to fail 2 miles southeast of Billstown on the Hempstead/Pike County line. Water began flowing across Highway 195 and several homes were also evacuated.

CALIFORNIA, Northern

None reported.

CALIFORNIA, Southern

None reported.

COLORADO

Mesa County 5 N Grand Junction	04	1350MST			0	0	?	?	Thunderstorm Wind (G56)
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Thunderstorms produced wind gusts to 64 mph (56 knots) at the National Weather Service office in Grand Junction.

COZ011-012 Front Range, Northeast Plains	04	1800MST- 2100MST			0	0	?	?	High Winds
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Strong gradient winds behind a Pacific cold front moving across the Continental Divide blew at speeds above 40 mph with gusts as high as 60 mph. The highest recorded wind speed occurred at the National Weather Service mesonet station in Fort Collins, where a gust of 60 mph (52 knots) was measured. Fort Collins and Fort Morgan each recorded gusts to 57 mph (49 knots) while Keenesburg had a gust of 53 mph (46 knots).

Sedgwick County 6 W Sedgwick	04	2100MST	Short	Narrow	0	4	4	?	Tornado (F0)
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A tornado developed near the Julesburg Reservoir, damaging several camping-trailers and injuring four people.

Weld County Nunn	17	1550MST			0	0	?	?	Thunderstorm Winds (G51)
Briggsdale	17	1615MST			0	0	?	?	Thunderstorm Winds (G50)

Thunderstorms produced gusts of 59 mph (51 knots) at Nunn and 58 mph (50 knots) at Briggsdale.

Adams County 2 E Bennett	17	1800MST	Short	Narrow	0	0	?	?	Tornado (F0)]
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A tornado touched down briefly near Bennett.

Arapahoe County 11 SE Buckley Air National Guard Base	20	1435MST- 1437MST	Short	Narrow	0	0	0	0	Tornado (F0)
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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COLORADO Cont'd

16 SE Buckley Air National Guard Base	20	1534MST- 1539MST	Short	Narrow	0	0	0	0	Tornado (F0)
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Observers at Buckley Air National Guard Base sighted two tornadoes southeast of the base. The tornadoes were short-lived and caused no injuries or damage.

Morgan County 1 W Wiggins	21	1640MST			0	0	0	0	Hail (1.75)
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Golf ball-size hail was reported near Wiggins.

CONNECTICUT

Fairfield County Stamford Darien Norwalk Westport	03	1730EST- 1800EST			0	3	5	0	Thunderstorm Winds
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A powerful thunderstorm ripped into extreme southwest Connecticut causing a series of microbursts which injured three people and caused extensive damage to the Newfield Plaza in Stamford and downed many large trees which damaged homes and autos in Darien. In addition, there were trees blown down and damage to several homes in Norwalk and Westport.

DELAWARE

DEZ001 > 003 All of Delaware	24- 26				0	0	4	0	Tropical Storm Danielle
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Tropical Storm Danielle was centered about 100 miles southeast of Cape Hatteras North Carolina late Thursday afternoon, while strong high pressure was over New England. The circulation around both of these systems caused strong winds and heavy surf in the Delaware, Maryland and Virginia coastal areas ahead of Danielle as the storm moved North-Northwest. Danielle's center reached the Wallops Island, Virginia area around 6 PM Friday the 25th, and passed about 25 miles east of Baltimore, MD around 2 AM Saturday morning the 26th. It continued to weaken and move north as it crossed Delaware and moved into eastern Pennsylvania around 4 AM.

Strong winds throughout the area, with gusts to 60 mph recorded at Rehoboth Bay, caused beach erosion, downed tree limbs and power lines. Minor flooding of low lying areas closed several roads. About 45 residents in Kent and Sussex counties went to shelters Friday night. Four small boats were sunk and floating docks were damaged in Slaughter Beach. Several areas had flooded basements.

New Castle County	26	0030EST- 0500EST			0	0	0	0	Flood
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The Christina river overflowed its banks in the central part of the county due to very heavy rainfall that occurred with tropical storm Danielle.

FLORIDA

Brevard County 2 SE Sebastian Inlet	01	1115EST			0	0	0	0	Waterspout
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A waterspout was sighted 2 miles southeast of Sebastian Inlet.

Hernando County 29 N Tampa	01	1520EST	short	?	0	0	0	0	Tornado (F0)
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A small tornado touched down briefly about 1 mile northeast of Brooksville with no damage reported.

Sarasota County 46 SSE Tampa	01	1650EST	short	?	0	0	0	0	Tornado (F0)
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A small tornado touched down about 8 miles east of Interstate 75 on Florida Highway 72. No damage was reported.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
FLORIDA Cont'd									
Hillsborough County 22 E Tampa	01	1740EST			0	0	2	0	Hail (1.00) Thunderstorm Winds
									Quarter-size hail fell and strong thunderstorm winds uprooted trees in Plant City.
Hillsborough County 14 ESE Tampa	01	1754EST			0	0	0	0	Hail (1.00)
									Quarter-size hail fell briefly in Brandon.
Hillsborough County 11 SE Tampa	01	1808EST			0	0	0	0	Hail (1.00)
									Quarter-size hail fell briefly in Gibsonton.
Hillsborough County 13 ESE Tampa	01	1830EST			0	0	0	0	Hail (0.75) Thunderstorm Winds
									Dime-size hail fell briefly in Riverview. Two large oak trees were uprooted, a screened-in pool enclosure was destroyed, and turbines were ripped from a roof near Cork.
Pinellas County Lake Seminole	01	1852EST	short	?	0	0	0	0	Tornado (F0)
									A small tornado touched down near Lake Seminole blowing down several trees.
Hillsborough County Tampa	01	1855EST			0	0	0	0	Funnel Clouds
									Two funnel clouds were observed briefly over Tampa.
Pinellas County 16 SW Tampa	02	1536EST			0	0	0	0	Hail (1.00)
									Quarter-size hail fell briefly in Seminole.
Pinellas County 18 WSW Tampa	02	1544EST			0	0	0	0	Thunderstorm Winds (G52)
									Thunderstorm winds gusted to 60 mph along Indian Rocks Beach and Reddington Shores.
Pinellas County 15 WSW Tampa	02	1545EST			0	0	0	0	Hail (0.75)
									Marble-size hail fell briefly at Largo.
Hillsborough County Tampa Area	02	1558EST- 1645EST			0	0	0	0	Hail (1.00)
									Marble to quarter-size hail fell at several locations including Ybor City, Carrollwood, Lutz, and Tampa.
Hillsborough County Tampa Bay	02	1645EST			0	0	0	0	Thunderstorm Winds (G55)
									A tug pilot reported a wind gust to 63 mph near Egmont Key lighthouse at the mouth of Tampa Bay.
Manatee County 28 S Tampa	02	1721EST			0	0	0	0	Hail (1.00)
									Quarter-size hail fell at Palmetto.
Manatee County 29 SSW Tampa	03	1345EST	0.2	30	0	0	4	0	Tornado (F0)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
FLORIDA Cont'd									
									A small tornado tore shingles off three roofs, knocked a hole in one roof, and downed trees and power lines.
Citrus County	03	1505EST			0	0	3	0	Thunderstorm Winds
									Strong thunderstorm winds blew off roof shingles and destroyed a shed along Highway 581.
Hernando County 34 N Tampa	03	1515EST- 1530EST			0	0	2	0	Thunderstorm Winds
									Strong thunderstorm winds knocked down power lines in Spring Hill.
Citrus County 51 S Gainesville	03	1530EST			0	0	2	0	Thunderstorm Winds
									Strong thunderstorm winds knocked down power lines in Inverness.
Pasco County	03	1545EST			0	0	2	0	Thunderstorm Winds
									Strong thunderstorm winds knocked down power lines north of Bayonet Point hospital.
Manatee County 31 SSW Tampa	06	1900EST			0	0	0	0	Waterspout
									Several waterspouts were sighted off Anna Maria Island and Longboat Key.
Pasco County 25 NNW Tampa	07	1530EST			0	0	3	0	Thunderstorm Winds
									Strong downburst winds damaged the roofs on a pharmacy, auto garage, and damaged tree limbs near Hudson.
Hillsborough County Tampa Area	07	1718EST			0	0	0	0	Funnel Cloud
									A funnel cloud was sighted briefly near MacDill AFB.
Monroe County Boca Chica Key	08	1320EST			0	0	0	0	Waterspout
									A waterspout was sighted near Boca Chica Channel.
Hernando County 36 N Tampa	08	1430EST			1	0	0	0	Lightning
									A Homosassa man was struck and killed while fishing in the Gulf of Mexico near Pine Island. (M210)
Monroe County Sugarloaf Key	08	1535EST			0	0	0	0	Waterspout
									A waterspout was sighted just north of Sugarloaf Key.
Martin County 30 SSE Vero Beach	08	1613EST			0	0	0	0	Waterspout
									A waterspout was sighted 2 miles east of Stuart.
Volusia County Daytona Beach	10	1335EST			0	0	0	0	Thunderstorm Winds (G52)
									A thunderstorm gust to 60 mph was recorded at Daytona Beach.
Seminole County 8 N Orlando	10	1500EST			0	1	0	0	Lightning
									Lightning struck a pipe slightly injuring a plumbing company worker in Casselberry.
Monroe County 3 NW Key West	10	1830EST			0	0	0	0	Waterspout

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
FLORIDA Cont'd									
A waterspout was sighted 3 miles northwest of Key West.									
Monroe County 1 W Key West	12	1115EST			0	0	0	0	Waterspout
A waterspout was sighted 1 mile west of Key West.									
Gulf County 22 E Panama City	12	1615EST			0	0	0	0	Hail (0.75) Thunderstorm Winds
Dime-size hail fell briefly at Wewahitchka. Trees and power lines were blown down.									
Monroe County 3 NE Key West	12	1740EST			0	0	0	0	Waterspout
A waterspout was sighted 3 miles northeast of Key West.									
Lee County Fort Myers Area	12	1800EST- 1818EST			0	0	0	0	Hail (0.88)
Dime to nickel-size hail fell near Cape Coral and North Fort Myers.									
Polk County 40 S Orlando	13	1619EST			0	0	0	0	Thunderstorm Winds
Thunderstorm winds toppled a large tree 8 miles east of Lake Wales.									
Polk County 35 SSW Orlando	13	1645EST			0	3	0	0	Lightning
Three people were struck and injured by lightning in Dundee. One was hospitalized.									
Sarasota County	13	1715EST- 1730EST			0	0	0	0	Thunderstorm Winds (G52)
A thunderstorm gust to 60 mph was reported in Venice. Numerous trees were blown down in Bee Ridge.									
Monroe County 9 E Dry Tortugas	13	2200EST			0	0	3	0	Lightning
Lightning struck a fishing boat in the Gulf of Mexico 9 miles east of Fort Jefferson. The wheelhouse was destroyed.									
Monroe County Key Largo	14	1420EST			0	0	0	0	Waterspout
A waterspout was sighted just east of the north end of Key Largo.									
Monroe County 4 NE Key West	14	1615EST			0	0	0	0	Waterspout
A waterspout was sighted 4 miles northeast of Key West.									
Polk County N Lakeland	15	1830EST			0	0	0	0	Thunderstorm Winds
Strong thunderstorm winds blew a large tree onto a roadway in North Lakeland.									
Monroe County 3 W Key West	16	1106EST			0	0	0	0	Waterspout
A waterspout was sighted 3 miles west of Key West.									
Charlotte County Boca Grande Key	16	1700EST	0.3	30	0	0	2	0	Waterspout- Tornado (F0)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

FLORIDA Cont'd

A waterspout formed over Charlotte Harbor, moved west over Boca Grande Key damaging plants and trees, then dissipated over the gulf.

Palm Beach County 13 S West Palm Beach	17	0945EST	short		0	0	0	0	Waterspout- Tornado (F0)
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A waterspout moved onshore at Delray Beach but dissipated before doing any damage.

Monroe County 5 WNW Key West	17	1422EST			0	0	0	0	Waterspout
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A waterspout was reported 5 miles west northwest of Key West.

Volusia County 16 SW Daytona Beach	22	1835EST			0	0	3	0	Thunderstorm Winds
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Strong thunderstorm winds blew down trees and power lines in Deland. One tree fell on a roof.

Monroe County Key West	27	1151EST			0	0	0	0	Waterspout
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Waterspouts were observed one mile southwest and 3 miles north of Key West.

FLZ008-012 Duval, Flagler, St. Johns, Nassau Cos.	27	1200EST-							
	29	1600EST			0	0	6	0	High winds

Strong northeast winds and high tides as well as heavy surf from Tropical Storm Earl led to significant beach erosion and some coastal flooding along the northeast Florida coast.

Monroe County 7 S Cudjoe Key	29	1225EST			0	0	0	0	Funnel Clouds
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Three funnel clouds were sighted 7 miles south of Cudjoe Key.

Monroe County 5 NW Key West	30	0635EST			0	0	0	0	Waterspout
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A waterspout was sighted 5 miles northwest of Key West.

Monroe County 10 W Key West	30	0826EST			0	0	0	0	Waterspout
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A waterspout was sighted 10 miles west of Key West.

Monroe County 10 N Key West	30	0953EST			0	0	0	0	Waterspout
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A waterspout was sighted 10 miles north of Key West.

GEORGIA

Ben Hill County NE of Fitzgerald	03	?			?	?	?	?	Hail (?)
2 Fitzgerald	03	1815EST			0	0	3	?	Thunderstorm Winds
6 E Fitzgerald	03	1840EST			0	0	3	?	Thunderstorm Winds

Hail of unknown size fell northeast of Fitzgerald. Scattered trees were uprooted and power lines were torn down by winds west of Fitzgerald along Georgia Highway 107 and along Georgia Highway 319 northeast of Fitzgerald. The winds ripped the roof off a mobile home and a small storage building was damaged.

Taylor County Butler	03	1600EST			0	0	2	?	Thunderstorm Winds
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Strong winds uprooted several trees and caused minor property damages in Butler. Time is estimated.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

GEORGIA Cont'd

Richmond County

Augusta	03	1700EST			0	0	3	?	Thunderstorm Winds
Augusta	03	1700EST			0	0	4	?	Flash Flood
Augusta	03	1900EST- 1700EST			0	0	?	?	Lightning

A strong thunderstorm knocked over trees in Augusta. A car was damaged after lightning split a nearby tree. An estimated five inches of rain fell in less than 2 hours. About 1830 EST, water began to rise inside homes, businesses, and a school. Many streets were flooded and traffic was impaired when cars stalled in waist-level water. No evacuations occurred. Times are estimated.

Jeff Davis County Hazelhurst

04	1744EST- 2018EST			0	0	3	?	Flash Flood
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Thunderstorms with torrential rainfall developed over southeastern Georgia. By 1810 EST, drainage problems had developed over Hazelhurst and about five inches of rain had fallen over the city. Extensive flooding developed in the downtown area; one store had about 6 inches of water inside.

Rockdale County Conyers

04	2235EST			0	0	4	?	Flash Flood
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A convenience store near Georgia Highway 20 was flooded after heavy rainfall developed over Rockdale County. Minor flooding occurred along Big Haynes Creek in northern Rockdale County.

Fulton County East Point

04	2330EST-			0	0	4	?	Flash Flood
05	0315EST			0	0	4	?	Flash Flood

Atlanta

04	2330EST-			0	0	4	?	Flash Flood
05	0315EST			0	0	4	?	Flash Flood

12 N Atlanta

05	0015EST- 0800EST			0	0	4	?	Flash Flood
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Clayton County 2 S College Park

05	0015EST- 0315EST			1	0	4	?	Flash Flood
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Heavy rainfall over the Atlanta metropolitan area produced flash flooding at East Point, College Park, and Atlanta in Fulton County and in northern Clayton County around College Park. Serious street flooding developed over the area as the heavy rainfall continued to 0315 EST. Flood water reached as high as 6 feet around the airport. Several apartment buildings, along with many homes, vehicles and other properties were flooded in College Park and Atlanta. Basements and a school were flooded in East Point. Flood damage to the school's carpets cost \$10,900 alone; other damage costs were over \$20,000. In College Park, a woman slipped into a storm drain and was swept away around 0145 EST. The body was not recovered. In north Atlanta, waters from Peachtree Creek entered several homes, inundated a golf course, and flooded several streets. Peachtree Creek crested around 0300 EST at 19.6 feet. (F340)

Miller County Southwestern Portion

07	1545EST			0	0	3	?	Thunderstorm Winds
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The roof of a barn and a doghouse were damaged by strong winds over southwestern Miller County. Several trees were uprooted.

Fulton County East Point

09	1839EST			0	0	3	?	Lightning
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Lightning struck an apartment complex and caused minor damage to the electrical outlets. Lightning also killed a dog.

Jones County James

11	1940EST			0	0	3	?	Thunderstorm Winds
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A few trees and limbs were blown down at James.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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GEORGIA Cont'd

Toombs County 4 NW Cedar Crossing	11	1624EST			0	0	?	?	Funnel Cloud
Ware County Waycross	11	1940EST			0	0	4	4	Thunderstorm Winds

Near the airport in Waycross, a mobile home on U.S. Highway 1 was damaged when a tree fell across a bedroom. Across the highway, a pecan orchard had considerable damage. Power outages developed over a large portion of northwestern Ware County.

Burke County 1 W Waynesboro	23	1545EST			0	0	2	?	Thunderstorm Winds
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Strong winds tore down tree limbs west of Waynesboro on Georgia Highway 24. Power outages developed at Gough and Vidette due to lightning strikes.

Chatham County Pooler	23	2130EST			0	0	2	?	Flash Flood
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Slow-moving thunderstorms produced torrential rainfall over western Chatham County. Rainfall totals were estimated at near five inches at Pooler. Major flooding of streets and drainage ditches along U.S. Highway 80 developed by 2130 EST. Several yards were flooded in the area; some houses had water up to the doorsteps.

Fulton County Atlanta	24	1650EST			0	0	3	?	High Winds
DeKalb County Decatur	24	1650EST			0	0	2	?	High Winds

High winds downed power lines and left about 7,000 customers without power over metropolitan Atlanta. Some fine art was damaged after the winds overturned tents at an arts festival in Atlanta. Time is estimated.

IDAHO

IDZALL Entire State	01 30	0000MST- 2400MST			0	0	?	8	Extreme Drought
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The Boise Reservoir storage was 4 percent of capacity and the upper Snake River basin reservoirs were 11 percent and 21 percent of capacity. Pocatello experienced its 9th driest September on record with 0.08 inches of rain. Precipitation amounts averaged about 60 percent of normal statewide, ranging from 9 percent of normal in southern Idaho at Pocatello to 138 percent of normal in the north at Kellogg. September started with virtually the entire state in the extreme drought category of the PDSI; but above normal rainfall in the north brought the northern PDSI down to the moderate drought category by the end of the month. Weather modification consultants, hired by the State, identified the Boise River and Payette River basins, the Wood River and Lost River basins, as well as the upper Snake River drainage and the Bear River basin as being suitable for cloud seeding. No water was available for some of the canal systems in southwestern Idaho.

IDZ006 West Central Mountains	02 03	1530MST- 0500MST			0	0	5	5	Dry heat
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The person-caused Dunnigan Creek wild lands fire ignited about 1530MST and quickly ran through a small subdivision 14 ENE Boise burning a house under construction. Fire spread was primarily due to drought-cured grass and brush fuels on sloping terrain with temperatures in the 80s, relative humidity near 10 percent; the winds were light. The fire burned actively to 3,000 acres during the night; the relative humidity was 22 percent at 0030MST.

IDZ006-003 West Central Mountains, Upper Snake River	03 03	1600MST- 1900MST			0	0	5	5	Dry heat, Winds
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Northwest winds surfaced on the Dunnigan Creek fire doubling its size to 6,000 acres in a few hours. The Mosby Butte brush fire in the Idaho Falls BLM District burned 7,000 acres.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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IDAHO Cont'd

IDZ006 West Central Mountains	04	1500MST-					
	04	2100MST			0	0	6 6 Winds

Cold front winds from the northwest at 15 to 25 mph with gusts to 40 mph redoubled the acreage burned of the Dunnigan Creek fire to 12,000 acres. The relative humidity dropped to between 30 and 40 percent and the maximum temperatures ranged from the mid 60s to the lower 70s. Light rain on the 5th with high temperatures in the 50s and relative humidity above 50 percent allowed a direct attack to be made on the fire. The fire was contained at 12,860 acres on the 7th and declared controlled on the 12th.

Lemhi County Salmon	23	1300MST			0	0	4 3 Thunderstorm Winds
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Winds toppled trees and utility lines.

IDZ001-002-003 -006 West Central Mountains and Snake River Valley	24	0920MST-					
	24	1700MST			0	0	5 6 High Winds (G55)

A strong cold front moved across the state with high winds knocking down trees and utility lines. Stacked pallets were blown into new 1993 automobiles on display in Twin Falls. Millions of dollars worth of beans and seed beans in the Magic Valley were knocked out of their pods. Bean vines stacked into windrows for drying were scattered and the beans shattered out of the pods. Blowing dust reduced the visibility to zero in widespread areas, closing Interstate 84 at Glenns Ferry near noon. A thunderstorm with pea-size hail and a "big wind" had been reported at Cascade at 0610MST, but no reports of thunder or lightning were received during this period of high winds.

Boise	29	1550MST			0	0	0 0 Record Temperature
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The high temperature for the day of 95° set a new record for so late in the season. The old record was 92° in 1989. The 5880 meter 500MB isoheight line was over Boise at 0500MST.

Boise	30	1450MST			0	0	0 0 Record Temperature
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The high temperature of 96° became the record for so late in the season. The 5880 meter 500MB isoheight line was over Boise at 0500MST.

ILLINOIS

Franklin County Zeigler	03	1952CST			0	0	1 1 Hail (0.75)
	03	1952CST			0	0	1 0 Hail (0.75)
Jackson County Vergennes 5 N Murphysboro	03	1957CST			0	0	1 0 Hail (0.75)
	07	1923CST			0	0	? ? Thunderstorm Winds

Downed trees were reported by the sheriff's office.

Henderson County Lomax	07	1942CST			0	0	? ? Thunderstorm Winds
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Downed trees were reported by the sheriff's office.

McDonough County Blandinsville	07	2010CST			0	0	? ? Thunderstorm Winds
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The highway department reported trees downed in the Blandinsville area.

Warren County Greenbush	07	2025CST			0	0	? ? Thunderstorm Winds
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Illinois Department of Transportation crews reported downed trees.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ILLINOIS Cont'd									
Fulton County									
4 NE Ipava	07	2050CST			0	0	?	?	Thunderstorm Winds
Lewiston	07	2100CST			0	0	?	?	Thunderstorm Winds
									Winds damaged farm buildings and blew down trees. Downed trees blocked highway 24.
Peoria County									
Peoria	07	2117CST			0	0	?	?	Thunderstorm Winds
									Trees were blown down near Bradley University campus.
Peoria	07	2120CST			0	0	?	?	Thunderstorm Winds
									Trees were blown down in the East Bluff area of Peoria.
Tazewell County									
Pekin	07	2140CST			0	0	?	?	Thunderstorm Winds
									Trees were blown down in Pekin.
Madison County									
Bethalto	07	2148CST			0	0	2	0	Thunderstorm Winds
									Ham radio spotters reported 6-inch-diameter tree limbs broke off.
Monroe County									
Waterloo	07	2233CST			0	0	0	0	Thunderstorm Winds (G52)
									Wind gusts to 60 mph were reported.
Iroquois County									
Fairbury	07	2247CST			0	0	?	0	Thunderstorm Winds
Chatsworth									
Ford County									
Piper City	07	2301CST			0	0	?	0	Thunderstorm Winds
									Trees and large limbs were blown down in Fairbury. Limbs and power lines were downed in Chatsworth and Piper City.
St. Clair County									
Shiloh	07	2255CST			0	0	3	0	Thunderstorm Winds
Shiloh	07	2255CST			0	0	0	0	Funnel Cloud
									The Illinois State Police reported trees down and a sighting of a funnel cloud.
Randolph County									
Prairie									
Du Rocher	07	2305CST			0	0	0	0	Thunderstorm Winds (G52)
									Wind gusts to 60 mph were reported.
Jackson County									
1 NW to 15 NW	08	0021CST			0	0	2	1	Thunderstorm Winds
Carbondale									Trees were blown down 15 miles northwest of Carbondale and power lines were blown down 1 mile north of Carbondale.
Kinkaid Lake									
	08	1330CST			0	1	0	0	Lightning
									A young man was struck by lightning at the Kinkaid Lake spillway. He was swimming with a group of people when storms developed. He was climbing out of the water, using a tree to pull himself up. The tree was struck by lightning.
Hancock County									
Carthage	09	0940CST			0	0	?	?	Hail (1.00)
McDonough County									
Bushnell	09	1000CST			0	0	?	?	Thunderstorm Winds
									Trees were damaged 5 miles west of Bushnell.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ILLINOIS Cont'd									
Mason County Chatauque Park	09	1200CST			0	0	?	?	Thunderstorm Winds
									Trees were damaged by thunderstorm winds.
Lee, DeKalb, Kane, DuPage, Cook, Will, Grundy and LaSalle Counties	09 10	1200CST- 0400CST			0	0	?	?	Flash Flood
									Around two to three inches of rain fell in 60-mile-wide band from near Moline to the south side of Chicago and into northwest Indiana between noon and 1800 CST. The heaviest rain, four to over five inches, fell from southern Lee County through Will County and southern Cook Counties. Some of the larger rainfall totals included; 5.25 inches at PawPaw, 5.02 inches at Joliet, 4.76 inches at Channahon, 4.74 inches at Oak Forest and 4.64 inches at Compton. The heavy rain resulted in flooding of streets, low lying areas, viaducts and basements. Some roads were closed due to high water. Many ditches and small streams overflowed. Area creeks and small streams crested between the evening of the 9th and the early morning hours of the 10th.
Cook County Chicago	09	1430CST			0	1	0	0	Lightning
									A woman suffered minor injuries when her arm was struck by lightning. She was holding an umbrella.
Adams County Mendon 7 NW Payson	09 09	1505CST 1550CST			0 0	0 0	3 3	0 0	Hail (1.75) Hail (1.75)
									Golf ball-size hail was reported. Hail fell at the intersection of Highways 57 and 336 northwest of Payson at 1550 CST.
Warren County Monmouth	09	1530CST			0	0	?	?	Thunderstorm Winds
									Trees and a mobile home were damaged by thunderstorm winds.
Tazewell County Washington	09	1600CST			0	1	0	0	Lightning
									A man was struck by lightning while standing in a doorway.
Peoria County Peoria	09	1620CST			0	0	?	?	Thunderstorm Winds (G51)
									A wind gust of 59 mph was measured at the National Weather Service office.
Kickapoo	09	1622CST			0	0	?	?	Thunderstorm Winds (G58)
									A 67-mph wind gust was measured at the Peoria County Emergency Operations Center.
Fulton County Canton	09	1626CST			0	0	?	?	Thunderstorm Winds
									Trees and power poles were damaged.
Tazewell County Cooper	09	1630CST			0	0	?	?	Thunderstorm Winds (G57)
									A 65-mph wind gust was measured at the Cooper Agricultural station.
McLean County Gridley	09	1646CST	0.2	10	0	0	?	?	Tornado (F0)
									Trained spotters reported a brief tornado touch down in agricultural area with no damage observed.
Woodford County Eureka	09	1647CST			0	0	?	?	Thunderstorm Winds
									Trees were damaged by high winds.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ILLINOIS Cont'd									
Menard County Petersburg	09	1700CST			0	0	2	0	Thunderstorm Winds
	Thunderstorm winds blew down several trees, as well as, some power lines. A few of the trees fell onto a car.								
Tazewell County Deer Creek	09	1703CST			0	0	?	?	Thunderstorm Winds
	Trees were damaged by high winds.								
Pike County Pittsfield	09	1705CST			0	0	3	0	Thunderstorm Winds
Griggsville	09	1705CST			0	0	2	0	Thunderstorm Winds
Pleasant Hill	09	1712CST			0	0	0	0	Hail (0.75)
Martinsburg	09	1712CST			0	0	0	0	Hail (0.75)
	The county sheriff reported trees down. The Illinois State Police reported 0.75-diameter hail covering the ground.								
Livingston County Pontiac	09	1710CST			0	0	?	0	Thunderstorm Winds
Ford County Piper City	09	1725CST			0	0	?	0	Thunderstorm Winds
Iroquois County Onarga	09	1739CST			0	2	?	0	Thunderstorm Winds
Kankakee County Hopkins Park	09	1745CST			0	0	0	0	Hail (0.75)
	A severe thunderstorm knocked down numerous trees and limbs in and south of Pontiac. The storm continued east through Piper City damaging large limbs and power lines. A 50-mph wind gust was measured by the Iroquois County Emergency Management Coordinator in Watseka. A few limbs were knocked down. More extensive damage occurred in nearby Onarga to a few miles east of Onarga. Large trees were uprooted and large limbs were blown down. A falling tree destroyed a mobile home and a large limb damaged another. Two cars were also damaged by tree limbs. East of Onarga a porch was destroyed and a few outbuildings were damaged at a farm. A tractor-semitrailer was overturned on Interstate 57 near Buckley, injuring two people.								
McLean County Stanford	09	1710CST			0	0	?	?	Thunderstorm Winds
Chenoa	09	1714CST			0	0	?	?	Hail (0.75)
Le Roy	09	1725CST			0	0	?	?	Hail (0.75)
	Trees were damaged by winds.								
Morgan County Jacksonville	09	1715CST			0	0	2	0	Thunderstorm Winds
	Several trees and power lines were blown down in Jacksonville.								
Greene County White Hall	09	1730CST			0	0	2	0	Thunderstorm Winds
Berden	09	1745CST			0	0	0	0	Hail (0.75)
Wrights	09	1745CST			0	0	2	0	Hail (0.75)
	Trees were knocked down at White Hall.								
Sangamon County Springfield	09	1735CST			0	0	3	0	Thunderstorm Winds
Springfield	09	1740CST			0	1	?	0	Thunderstorm Winds
	Thunderstorm winds blew down numerous trees, power poles, and power lines on the southwest side of town. Also, a large store sign and signal lights were damaged. Two large trees were blown down onto two homes causing minor damage and a 60-foot maple tree fell on a car, injuring the driver.								

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	
ILLINOIS Cont'd									
Iroquois County									
Milford	09	1800CST			0	0	0	0	Thunderstorm Winds
Ford County									
Paxton	09	1810CST			0	0	0	0	Thunderstorm Winds
									A storm damaged trees and power lines near Milford. Another severe storm knocked down tree limbs on route 115 near Paxton.
Greene County									
Carrollton	09	1813CST			0	0	0	0	Thunderstorm Winds (G52)
Carrollton	09	1813CST			0	0	3	0	Flash Flood
									Wind gusts to 60 mph with flash and street flooding.
Calhoun County									
Countywide	09	1816CST			0	0	3	0	Thunderstorm Winds
Countywide	09	1816CST			0	0	0	0	Hail (0.75)
									Dime-size hail and several trees were blown down across southern Calhoun County.
Jersey County									
Jerseyville	09	1845CST			0	0	3	0	Thunderstorm Winds
									Several large trees and power lines were down.
Montgomery County									
Nokomis	09	1849CST			0	0	2	0	Thunderstorm Winds
									Numerous power lines and tree limbs were blown down in Nokomis.
Douglas County									
Arcola	09	1927CST			0	0	?	0	Thunderstorm Winds
									Several power lines were blown down in Arcola.
Madison County									
Granite City	09	1929CST			0	0	0	0	Hail (0.75)
									Dime-size hail was reported.
Edgar County									
Paris	09	1946CST			0	0	3	0	Thunderstorm Winds
									Thunderstorm winds and very heavy rain damaged a porch and caused the roof of an old building to collapse. Also, numerous tree limbs were blown down.
Monroe County									
Waterloo	09	1955CST			0	0	0	0	Thunderstorm Winds (G52)
									The Illinois State Police reported a wind gust to 60 mph.
St. Clair County									
Washington Park	09	1955CST			0	0	2	0	Thunderstorm Winds
Freeburg	09	2005CST			0	0	3	0	Thunderstorm Winds
									Several large trees were blown down at Washington Park. The Freeburg Emergency Management reported trees and power lines down.
Randolph County									
Sparta	09	2040CST			0	0	4	0	Thunderstorm Winds
									The Randolph County Emergency Operations Center reported numerous trees and power lines down.
Perry County									
Pinckneyville	09	2055CST			0	0	3	0	Thunderstorm Winds
									Power lines were knocked down causing power outages across central Perry County.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ILLINOIS Cont'd									
Jackson County									
1 W Murphysboro	09	2135CST			0	0	0	0	Thunderstorm Winds (G50)
Murphysboro	09	2205CST			0	0	3	0	Thunderstorm Winds
			Numerous trees and power lines were blown down.						
Saline County									
Harco	09	2230CST			0	0	2	0	Thunderstorm Winds
Harrisburg			Several trees were blown down.						
Williamson County									
5 SW Marion	09	2235CST			0	0	2	0	Thunderstorm Winds
			Trees and power lines were blown down in the Crab Orchard National Wildlife Refuge.						
DuPage County									
Bloomington	15	1400CST			0	1	0	0	Lightning
			A caddy was struck by lightning at a golf course.						
St. Clair County									
New Athens	20	2325CST			0	0	3	0	Thunderstorm Winds
			County officials reported power lines down.						
Edgar County									
Paris	21	0000CST			0	0	?	0	Thunderstorm Winds
			Two large hickory trees were blow over by high winds.						
INDIANA									
St. Joseph County									
Mishawaka	03	0200EST			0	0	6	0	Lightning
			A car dealership was damaged by fire after it was struck by lightning. Damage was estimated at \$500,000.						
Kosciusko County									
North Webster	03	0430EST			0	0	5	0	Lightning
			A house caught fire after it was struck by lightning. Damage was estimated at \$75,000 to \$80,000.						
Jasper County									
5 S Rensselaer	08	0055EST			0	0	5	0	Thunderstorm Winds
			One steel structure collapsed and a second structure was blown off its foundation.						
Cass County									
Clymers	08	0115EST			0	0	4	0	Thunderstorm Winds
Logansport			Windows were blown out of a business building in Clymers. In Logansport, a garage was blown down and trees were downed. One tree fell on a house.						
Clinton County									
Cyclone	08	0230EST			0	0	4	0	Thunderstorm Winds
			A greenhouse and camper were damaged. The roof was damaged at a business on U.S. Highway 421 between Kirklin and State Route 28, and two tractor-semitrailers were overturned.						
Boone County									
2 NW Zionsville	08	0300EST			0	0	4	0	Thunderstorm Winds
			Numerous trees and power lines were downed. A barn was severely damaged and shifted off its foundation.						
St. Joseph County									
Granger	08	0330EST			0	0	3	0	Lightning

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
INDIANA Cont'd									
	Lightning caused an estimated \$1,500 damage when it struck an electrical service line and burned a cable television converter box.								
Lake County	09 10	1500EST- 0700EST			0	0	?	?	Flash Flood
	Rainfall of three to four inches fell over northern Lake County in the afternoon and early evening. The heavy rain resulted in flooding of streets, low lying areas, viaducts, and basements. Many ditches and tributaries to the Little Calumet River overflowed their banks. The Little Calumet crested at flood stage in the early morning hours of September 10.								
Adams County	09	1630EST			0	0	0	4	Flash Flood
	Heavy rain caused flooding of roads and cropland in southern Adams County.								
Huntington County 3 S Andrews	09	1728EST			0	0	0	3	Hail (1.00)
Pulaski County 4 W Winamac	09	1843EST			0	0	?	0	Thunderstorm Winds
	Thunderstorm winds damaged a house 4 miles west of Winamac.								
Elkhart County 1 S Goshen	09	1845EST			0	0	0	6	Hail (1.50)
	Hail damaged an estimated 130,000 bushels of apples that were almost ready to be picked. Damage was estimated at \$750,000.								
Fulton County Bruce Lake Station	09	1910EST			0	0	?	?	Hail (1.75)
Kosciusko County N Webster	09	1923EST	Short	5	0	0	0	0	Tornado (F0)
	A small tornado touched down briefly, and caused no damage.								
Elkhart County Elkhart	09	1930EST			0	0	4	0	Lightning
	A garage was destroyed by fire after it was struck by lightning. Damage was estimated at \$24,000.								
Benton County 5 SE Fowler	09	1937EST			0	0	4	0	Thunderstorm Winds
	Part of a steel tower was blown down, and a building was also damaged. The County Emergency Management Director determined that winds of 70 to 80 mph caused the damage.								
Noble County	09	1945EST			0	0	3	0	Thunderstorm Winds
	Trees and power lines were blown down across the western part of the county.								
Whitley County	09	1955EST			0	0	3	0	Thunderstorm Winds
	Trees and power lines were blown down across the western part of the county.								
Huntington County Huntington	09	2056EST			0	0	3	0	Lightning
	Lightning hit a home television antenna, and created a hole in the roof of the house. Damage was estimated at \$1,000.								
Vigo County Pimento	09	2115EST			0	0	0	0	Thunderstorm Winds (G52)
	Winds were estimated at 60 mph.								
Kosciusko County Syracuse	09	2330EST			0	0	3	0	Lightning
	Lightning struck a home television antenna on a house, then traveled underground and blew up part of a driveway. The lightning also ignited a gas line, knocked pictures off the walls of the house, and damaged the wiring in the house.								

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

INDIANA Cont'd

Jefferson County 0.5 S Paynesville	18	1702EST	1.0	50	0	0	5	4	Tornado (F1)
A small tornado touched down half-mile south of Paynesville. The tornado hit a house, three tobacco barns and a double wide mobile home. Three people in the mobile home were uninjured. The tornado also destroyed two trailers before lifting									
Allen County	21	1000EST			0	0	3	0	Flash Flood
Almost two inches of rain in a 1-hour period produced flash flooding on Spy Run Creek in Fort Wayne. Sandbagging was ordered in the city of Fort Wayne to prevent property damage.									
Noble County	21	1015EST			0	0	3	3	Flash Flood
Over two inches of rain fell during a 11.5 minute period and produced flooding of many county roads and streams in eastern Noble County. Some crop damage was also reported.									
Clay County Knightsville	26	2235EST			0	1	3	0	Winds
Part of a tree was blown down, and it fell into a nursing home. Several windows were broken, and the roof was damaged. One person was injured.									

IOWA

Cass County 3 N Griswold	05	1835CST			0	0	4	3	Thunderstorm Winds (G50+)
Adair County Fontanelle	05	1905CST			0	0	3	4	Hail (1.00)
Warren County Norwalk	05	2010CST			0	0	3	4	Hail (1.00)
Marion County Pleasantville	05	2042CST			0	0	4	3	Thunderstorm Winds (G50+)

A scattered line of thunderstorms developed along a cold front as it moved across the state. One-inch-diameter hail fell in Adair and Warren Counties. Other scattered severe weather reports were received. In Cass County, trees were downed by high winds north of Griswold. One of them fell onto a house, damaging the structure. Trees were also downed in Marion County by high winds. Other reports included small hail and gusty winds, but no significant damage.

Johnson County Solon	06	1431CST			0	0	0	0	Cold Air Funnels
Scattered light showers developed in the cold air following a cold frontal passage. Five cold air funnels were observed in the Solon area of Johnson County. None of them touched down.									
Cedar County Lowden	07	0715CST- 0725CST			0	0	0	0	Cold Air Funnels

Although there were no precipitation echoes indicated in the area, a trained observer reported two cold air funnels east of Lowden. They were observed coming out of a bank of cumulus congestus clouds. The bases were between 10,000 and 15,000 feet. One funnel was seen to descend about one-fourth way to the ground, while the other just made it barely past the cloud base. They were observed both with the naked eye and with a pair of binoculars. The funnels lasted 10 minutes.

IAZ061-062-075-076

Central into Southeast Iowa	09	0600CST-			0	0	4	4	Flood
Polk County	11	1200CST			0	0	4	4	Flood
Des Moines	09	0600CST			0	0	3	2	Hail (.75)
West Des Moines	09	0610CST			0	0	3	2	Hail (.875)
Windsor Heights	09	0610CST			0	0	3	2	Hail (.75)
Des Moines	09	0615CST			0	0	3	2	Hail (.75)

A cluster of thunderstorms moved across central Iowa. The main feature with them was heavy rainfall. Dime- to nickel-size hail fell over the metropolitan Des Moines area. The hail covered the ground in several places.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
IOWA Cont'd									
Scott County	09	1330CST- 1600CST			0	0	5	4	Flash Flood
A line of very heavy thunderstorms formed ahead of a cold front as it moved across southeast Iowa. The main feature with them was the very heavy rainfall. Many sections of Scott County received between three and six inches of rainfall. Walcott, just west of the Quad Cities, received six inches of rain. Flash flooding occurred along Duck Creek in Davenport. Considerable flooding occurred in the Quad Cities as streets flooded. Cars were forced off of the road and flooding was reported in homes and businesses.									
Kossuth County 4 E Algona	13	2050CST			0	0	4	4	Hail (1.75)
A line of thunderstorms brushed the northern part of Iowa. They developed ahead of a weak frontal system. One storm became severe, dropping golf-ball size hail east of Algona.									
Palo Alto County 6 E Mallard	14	0400CST			0	0	3	4	Hail (1.50)
Thunderstorms once again swept into northern Iowa in advance of a frontal system. Many were just below severe limits, however one did produce hail about 1.50 inches in diameter in Palo Alto County. Car damage was reported east of Mallard.									
Union County Creston	14	1918CST			0	0	5	4	Thunderstorm Winds (G65)
Thunderstorms developed during the late afternoon a hours ahead of a cold front. For the most part, they were just producing pea- to marble-size hail, heavy rain, and gusty winds. One cell moved through the Creston area and produced winds of 75 mph. Damage was quite widespread in the city. Many trees were downed.									
Clarke County	14	2200CST-							
	15	0800CST			0	0	7	7	Flash Flood
Union County	14	2200CST-							
	15	0800CST			0	0	7	7	Flash Flood
Decatur County	15	2336CST-							
		0800CST			0	0	7	7	Flash Flood
Wapello County	15	0130CST-							
		0500CST			0	0	6	6	Flash Flood
Lucas County	15	0200CST-							
		0800CST			0	0	7	6	Flash Flood
Wayne County	15	0200CST-							
		0600CST			0	0	6	6	Flash Flood
Appanoose County	15	0230CST-							
		0600CST			0	0	6	6	Flash Flood
Madison County Southern Portion	15	0300CST-							
		0600CST			0	0	6	6	Flash Flood
Marion County Extreme Southern Portion	15	0300CST-							
		0600CST			0	0	5	5	Flash Flood
Adair County	15	0300CST-							
		0600CST			0	0	6	6	Flash Flood
Adams County	15	0300CST-							
		0600CST			0	0	6	5	Flash Flood
Ringgold County	15	0300CST-							
		0800CST			0	0	6	5	Flash Flood
Monroe County	15	0400CST-							
		0600CST			0	0	5	5	Flash Flood
Guthrie County	15	0400CST-							
		1000CST			0	0	4	4	Flash Flood
Madison County Winterset	15	0445CST			0	0	4	0	Lightning

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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IOWA Cont'd

The combination of strong warm air advection on a strong southerly low-level jet, deep tropical moisture, thickness diffluence, and a stalled cold frontal boundary resulted in a classic back-developing Mesoscale Convective System. As the low level jet collided with an old thunderstorm outflow boundary in southern Iowa, deep convection began. The thunderstorms formed, and would move eastward, training over the same areas most of the night. The rain tapered off by mid-morning on the 15th. The system produced one of the worst flash flooding cases on record. The floods that followed were of record proportions and will be addressed later in this report. Four to eight inches or more of rain were common over a large area of south central Iowa. The highest rainfall total was 16 inches at Van Wert, in Decatur County. Most of the rain fell between 1900 CST and 0500 CST of the evening of the 14th and early morning of the 15th. Other flooding during the night occurred in Cass County, but it was not major. Massena, in Cass County, reported 6.45 inches of rainfall, however no roads were overtopped with water. A brief run down of some of the flood reports follows. In Adair County, county roads north and east of Hebron along the Grand River were closed. In Madison County, 4.99 inches of rain fell at Winterset. County roads were closed south of Highway 92. Unofficial reports of 5 1/2 to 7 inches of rain were received south of Highway 92. In Union County, 14 inches of rain fell (unofficially) at Thayer. Officially, 8.60 inches fell at Lorimor. Unofficially, 10 inches of rain fell at Creston. Numerous paved and gravel county roads were under water. The county reported that they had run out of barricades to block flooded roads. An earthen dam was also breached near Thayer. In Clarke County, 8.80 inches of rain fell at Osceola. Several county roads were under water. U.S. Highway 69 was closed from 2 to 8 miles south of Osceola. In Lucas County, officially 6.95 inches of rain fell at Chariton. Several unofficial reports of 10 to 13 inches were received from near Chariton. Derby officially reported 11.50 inches. All highways into Chariton were closed by flood waters. Highway 14, U.S. Highways 65 and 69 were all closed. In Monroe County, 4.61 inches of rain fell officially at Albia, closing U.S. Highway 34 there. In Wapello County, 6.28 inches fell at Eddyville, and 6.07 at Ottumwa (both official reports). Several county gravel roads were under water by flash flooding. In Ringgold County, seven inches of rain fell officially at Beaconsfield, with several reports unofficially of four to six inches elsewhere. Ten to twelve county gravel and paved roads were closed, as was Highway 2. In Decatur County, officially 6.64 inches of rain fell at Leon. Unofficially, 16 inches of rain fell at Van Wert, however this was verified by bucket survey. Highway 2 was closed east of Corydon. Interstate 35 was closed at the 7 mile marker. In Wayne County, 8.80 inches of rain fell officially at Promise City, with 5.20 inches at Clio. Unofficial rainfall reports include a 13 inch report north of Corydon near Millerton. All highways and county roads were closed. There was as much as 4 feet of water over Highway 2 east of Promise City. The flash flooding was incredible. It was very widespread. Many many homes were flooded and several school districts remained closed for 2 days due to high water and flooded schools. Bridge and road washouts were too numerous to mention here. Damage was extensive to both public and private property. Crop damage was also severe. Many fields were washed away or flattened by the rising flood waters. Small creeks became torrents, while rivers quickly became like lakes. Twenty-five head of sheep and 225 head of cattle were lost in the floods. Some of the rivers were as wide as 5 miles in width by later in the day. In fact, the satellite river reporting gage at Promise City was reportedly completely submerged by flood waters by the afternoon. In Lucas County, an empty coal train, 25 cars in length, was derailed as the flood waters swept it off the tracks near Lucas. Lightning struck the communications center of the Madison County law enforcement agency. The radio equipment was destroyed. There were two other reported lightning strikes in the county around mid morning of the 15th. Both of them were in Scott Township. A house was struck by one lightning stroke, a barn by another. Both were set on fire, but damage was quite minor.

IAZ058-059-070 >
076-080 > 085-090 >
096-NEZ010
Southwest and
South-central
Iowa

14	0500CST-						
20	1500CST	0	0	7	6	Major Flood	

A major flood event occurred over southwest and south central Iowa. After up to 16 inches of rain fell in some areas. The rain was the result of a prolonged moderate to heavy rain over a large area. The largest rainfall report for the 24-hour period ending at 0700 CST on the 15th, from a National Weather Service cooperative observer, was 11.50 inches at Derby in Lucas County. The largest unofficial total was 16 inches at Van Wert in Decatur County, with Thayer (Union County) close behind at 14 inches. A small dam was breached near Thayer during the flooding. By 0910 CST, flood warnings were issued for Union, Clarke, Lucas, Monroe, Wapello, Decatur, and Wayne Counties. Nearly all rivers and streams in these counties had serious flooding. All-time record crests were observed in the Chariton River basin, with water levels reaching 5 to 6 feet higher than

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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IOWA Cont'd

previous known crests. The Data Collection Platforms at the Chariton and Promise City gages quit working for a while as the flood waters rose inside the gage houses. The Thompson River at Davis City reached nearly 5 feet above its previous record; only the flood mark from the August 9, 1885 flood was higher. Significant flooding also occurred on portions of Whitebreast Creek upstream from Dallas, Elk Creek near Decatur City, Cedar Creek near Bussey, the Middle and South Rivers, the East Nodaway River, and in the Platte River basin. Some official record flood stages include, the record flood stage on the Thompson (locally known as the Grand) River and the Chariton River. At Davis City, the Thompson River crested at 24.25 feet, flood stage is 9 feet. The previous record flood was 19.43 feet on June 10, 1974. The Chariton River at Chariton crested at 29.43 feet, flood stage is 15 feet. The previous record crest was 23.14 feet on July 4, 1981. On the South Fork of the Chariton River at Promise City, a crest of 34.85 feet occurred, flood stage is 18 feet. The previous record was 29.95 feet on July 4, 1981. Most of the rivers in southwest and south central Iowa crested between 2 and 10 feet above flood state. The rainfall that produced the flooding was considered to be greater than a 100-year rain. In fact, the 16-inch rainfall total at Van Wert was 207% of a 100-year, 24-hour rainfall, which is 7.74 inches. Interstate 35 was closed at the 7-mile marker for about 1.5 days. This was the first time since the highway was built over 20 years ago that it has ever been closed due to flooding in that area. Other U.S. and State highways, too numerous to mention, were also closed due to the flooding. A few towns were isolated for a time. Most county and gravel roads were also inundated near creeks and rivers. There were no deaths or known injuries associated with all the flooding, although there were a few close calls when people drove vehicles (some deliberately driving around barricades) into flood waters. Total damage estimates are difficult to assess. Separation between the flash flooding and the general flooding is even more difficult. A minimum of 30 bridges were destroyed by the flood waters. Damage to those bridges alone is in excess of \$10 million. In Decatur County alone, 11 bridges were destroyed and 25 others suffered heavy damage. At the time of this writing, 9 counties were declared federal disaster areas by President Bush. They were Adams, Clarke, Decatur, Lucas, Madison, Monroe, Ringgold, Union, and Wayne.

Bremer County Sumner

23	2130CST							Lightning
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Thunderstorms moved over Bremer County. Lightning struck two houses in the town of Sumner. The wall paper was peeled off of the walls in one house, with damage occurring to some of the wiring. No fire was started. The owners reported that some of the childrens' toys began to function due to the charge of the lightning passing through the house. In the second house, only very minor damage was reported.

IAZ002 > 011-013 > 030-033 > 042-045 > 052-058-SDZ066- SDZ018 Northern Iowa

28	2200CST-							
29	0800CST			0	0	0	7	Frost

Cold high pressure settled in over Iowa, bringing an early season frost/freeze for about the north half of Iowa. Since crops were well behind schedule this season, much of the corn crop was not completely mature. Light frost damage occurred over a wide area of the state. Damage was reported to be under \$50 million, or put another way under 1% of the anticipated corn yield for 1992.

KANSAS

Greeley County 9 W Tribune 7 W Tribune Jewell County Mankato Geary County Fort Riley Military Airfield

01	1515CST							Hail (0.75)
01	1528CST			0	0	0	3	Hail (0.75)
01	2136CST			0	0	4	4	Hail (0.75)
05	1722CST			0	0	3	0	Hail (1.00)

One-inch hail fell briefly at Marshall Airfield.

Sedgwick County Wichita Wichita Wichita Wichita

05	1726CST							Hail (1.75)
05	1728CST			0	0	4	0	Hail (1.75)
05	1730CST			0	0	2	0	Hail (0.75)
05	1730CST			0	0	2	0	Hail (0.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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KANSAS Cont'd

Wichita	05	1731CST			0	0	2	0	Hail (0.75)
Wichita	05	1731CST			0	0	4	0	Hail (1.50)
Wichita	05	1731CST			0	0	4	0	Hail (1.75)
Wichita	05	1735CST			0	0	4	0	Hail (2.00)
Wichita	05	1740CST			0	0	4	0	Hail (1.50)
Wichita	05	1741CST			0	0	2	0	Hail (0.75)
Leavenworth County									
Lansing	05	1745CST			0	0	2	1	Hail (1.50)
Sedgwick County									
Wichita	05	1745CST			0	0	3	0	Thunderstorm Winds (G52+)
Wichita	05	1747CST			0	0	4	0	Hail (1.75)
Wichita	05	1748CST			0	0	4	0	Hail (2.00)
Wichita	05	1749CST			0	0	4	0	Hail (2.75)
Wichita	05	1757CST			0	0	4	0	Hail (2.75)

Sedgwick, Kingman and Butler Counties between 1726 CST and 1959 CST on the 5th: A mass of thunderstorms formed over Wichita that dropped large hail on the northwestern side of town. Hail and wind gusts greater than 60 mph also hit the northeastern side of town early in the episode. A tornado occurred (described separately) just before 1800 CST on the eastern side of town and caused a great deal of damage. The storm system was slow to move, but spread east and west of Wichita. Two more tornadoes (described separately) came to the ground out of the storm complex between 1900 CST and 2000 CST.

Large hail continued to fall in portions of Wichita until near 2000 CST.

Report locations and times follow.

Wichita	05	1759CST- 1815CST	3.0	200	0	1	7	0	Tornado (F2)
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A tornado touched down about a mile east of the intersection of Interstate 135 and U.S. Highway 54, and continued east 3 miles. The twister took a path on the east side of Wichita along Kellogg Street from Bluff to 0.5 mile northeast of Towne East Shopping Mall (near the intersection of Lochinvar & Heather Streets.) The tornado hit one of the most active business districts in Wichita and many businesses suffered heavy damage. The area of damage was bordered on the west by Bluff Street, on the north by Douglas Avenue, on the east by Webb Road, and on the south by Lincoln Street.

Particularly hard hit were several car dealers, with nearly their entire stock damaged severely. A motel had its entire roof ripped off. A total of 8 homes were destroyed, and 47 others heavily damaged in Wichita (by this and the 1930 CST tornado.) Towne East Mall took a direct hit with many cars in the parking lot damaged, several metal light poles bent to the ground, and roof damage to the building. A woman in the mall was hit by glass when a skylight was knocked out, but she was treated for minor cuts at a hospital and released.

Leavenworth County									
Lansing	05	1800CST			0	0	2	1	Hail (1.00)
Nemaha County									
3 SE Goff	05	1810CST			0	0	4	4	Flash Flood

Heavy rains caused 2 to 3 feet of water to overflow highway K- 9 between Goff and Wetmore.

Jackson County									
2 SW Whiting	05	1825CST- 1835CST	3.0	15	0	0	3	3	Tornado (F0)

A small weak tornado had a broken path 3 miles long in open country southwest of Whiting damaging some trees and a power line as it moved southeast.

Sedgwick County									
Wichita	05	1831CST			0	0	3	0	Hail (1.00)
Wichita Airport	05	1832CST- 1845CST			0	0	3	0	Hail (1.00)
Wichita	05	1836CST			0	0	2	0	Hail (0.75)
Goddard	05	1839CST			0	0	4	3	Hail (1.75)
Atchison County									
Muscotah	05	1840CST			0	0	5	3	Thunderstorm Winds (G55)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

KANSAS Cont'd

Strong thunderstorm winds in excess of 60 mph caused considerable damage in the western half of Atchison county to trees, farmsteads and power lines. Some residents thought it may have been a tornado, but none was spotted.

Jackson County 1 W Denison

05	1840CST				0	0	0	0	Funnel Cloud
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A funnel cloud, likely the remains of the weak tornado southwest of Whiting, was sighted west of Denison moving to the southeast.

Sedgwick County

Wichita

05	1848CST				0	0	3	0	Hail (1.00)
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Wichita

05	1849CST				0	0	4	0	Hail (1.50)
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Wichita

05	1849CST				0	0	4	0	Hail (1.50)
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Jackson County

Holton

05	1851CST				0	0	4	3	Thunderstorm Winds (G52)
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Thunderstorm winds to 60 mph downed tree limbs and power lines in and near the city of Holton.

Sedgwick County

Wichita

05	1855CST				0	0	4	0	Hail (4.50)
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Wichita

05	1856CST				0	0	4	0	Hail (1.75)
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Wichita

05	1857CST				0	0	4	0	Hail (1.75)
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Butler County

5 E Andover

05	1902CST				0	0	0	0	Funnel Cloud
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Marion County

Goessel

05	1903CST				0	0	3	3	Hail (1.00)
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Marion

05	1903CST				0	0	3	3	Hail (1.00)
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A thunderstorm (separate from the Sedgwick County storm) dropped 1.00-inch-diameter hailstones at Goessel and Marion. Little damage resulted.

Sedgwick County

Wichita

05	1903CST				0	0	4	0	Hail (2.50)
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Kingman County

1 N to 2 E

Norwich

05	1913CST- 1918CST	0.5	50		0	0	3	0	Tornado (F1)
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A tornado touched down initially near the Kingman-Sedgwick County Border northeast of Norwich. It tore up trees and damaged outbuildings at a farm just west of the Sedgwick County line. It continued east into southwest Sedgwick County.

Sedgwick County

1 N to 2 E

Norwich to

3 W Viola

05	1918CST- 1940CST	6.0	100		0	0	3	0	Tornado (F1)
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A tornado that formed northeast of Norwich in Kingman County entered Sedgwick County about 9 miles west of Viola and took a path 6 miles to the east, lifting 3 miles west of Viola. Videotape showed this as a fairly good sized tornado. Fortunately, it crossed open fields and caused little damage. On farm just north of 111th South and 375th West in the far southwest corner of Sedgwick County had some damage done to outbuildings.

Wichita

05	1930CST- 1945CST	3.7	100		0	0	6	0	Tornado (F1)
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The third tornado of the evening came to the ground on the west side of Wichita, cutting a path from Kellogg and Dugan Streets southeast nearly 4 miles and lifting 2 blocks west of 31st and Meridian. Riner Camper Sales (at Kellogg and Dugan) caught the first and most severe damage with the entire inventory of 80 camper trailers and recreational vehicles destroyed and scattered across Kellogg Street. Sheplers Western Wear (at Kellogg and Dugan) had a large section of roof ripped off its office building. A narrow trail of continuous damage to trees, homes and buildings was found throughout the track.

The tornado caught the southwest corner of a mobile home park at 2625 South West Street. One home was turned over and 10 others damaged heavily. Fortunately, no one was injured by this twister.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
KANSAS Cont'd									
Wichita	05	1959CST			0	0	2	0	Hail (0.75)
Franklin County Ottawa	05	2145CST			0	0	4	3	Thunderstorm Winds (G44)
Winds estimated at 50 mph caused tree and power line damage in and near Ottawa.									
Gove County 12 SSE Gove	06	1905CST			0	0	0	0	Tornado (F0)
A small weak tornado very briefly dipped down in open county with no damaged observed or reported.									
11 SSE Gove	06	1910CST			0	0	0	0	Tornado (F0)
A small weak tornado very briefly dipped down in open county with no damaged observed or reported.									
3 W Grinnell	06	1918CST			0	0	3	3	Hail (0.75)
Decatur County 12 W Oberlin	06	1952CST			0	0	0	0	Tornado (F0)
A small weak tornado dipped down in open county and uprooted some trees, otherwise no other damage was reported.									
Gove County 12 SE Gove	06	2010CST			0	0	0	0	Tornado (F0)
A small weak tornado very briefly dipped down in open county with no damage observed or reported.									
Trego County 15 S Voda	06	2125CST			0	0	4	4	Hail (1.00)
Decatur County 18 S Oberlin	06	2130CST			0	0	0	0	Tornado (F0)
A small weak tornado briefly touched down with no reported damage.									
5 SW Dresden	06	2135CST			0	0	0	0	Tornado (F0)
A small weak tornado briefly touched down with no reported damage.									
Trego County Cedar Bluff Dam	06	2150CST			0	0	3	3	Hail (1.00)
Phillips County 2 SW Phillipsburg	06	2210CST			0	0	4	4	Hail (0.75)
Ellis County Antonino	06	2238CST			0	0	3	3	Hail (1.00)
Rooks County 7 S Palco	06	2327CST			0	0	3	3	Hail (0.75)
7 SW Plainville	07	0025CST			0	0	4	4	Hail (1.75)
5 SW Plainville	07	0033CST			0	0	4	4	Hail (1.50)
Osborne County 5 E Natoma	07	0035CST			0	0	4	4	Hail (0.75)
2 S Natoma	07	0100CST			0	0	4	4	Hail (0.75)
Russell County Paradise	07	0115CST			0	0	4	4	Hail (0.75)
Jewell County Webber	07	0350CST			0	0	4	4	Hail (0.75)
Republic County Republic	07	0400CST			0	0	4	4	Hail (0.75)
Jefferson County 8 N Lawrence	07	1340CST	0.1	15	0	0	0	3	Tornado (F0)

A small weak tornado dipped to the ground only briefly in open country with no reported damage to property and only minor damage to crops. The tornado was spotted by a storm chaser driving on the Kansas turnpike at Lawrence.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
KANSAS Cont'd									
Franklin County									
Wellsville	07	1658CST			0	0	3	3	Hail (1.00)
Princeton	07	1720CST			0	0	2	2	Thunderstorm Winds (G52)
Winds estimated over 60 mph caused some minor damage.									
Miami County									
Osawatomie	07	1730CST			0	0	5	0	Lightning
Numerous lightning strikes caused power outages and interruption of cable, telephone and emergency communications. Electricity was out in some areas for 90 minutes, and some power poles were set on fire by the lightning.									
Paola	07	1730CST			0	0	5	0	Lightning
Numerous lightning strikes caused power outages and interruption of telephone, cable and emergency communications. Police and fire radio communications were nearly knocked out completely, with a backup system taking over.									
Paola	07	1734CST			0	0	2	1	Hail (0.75)
Franklin County	07	1737CST			0	0	3	3	Hail (0.75)
Butler County	07	1813CST			0	0	2	2	Hail (0.75)
4 NE Leon	07	1822CST			0	0	2	2	Hail (1.00)
4 SW Beaumont									
Three-quarter-inch diameter hail fell northeast of Leon and southwest of Beaumont. Little damage resulted.									
Coffey County	07	1843CST			0	0	4	3	Hail (1.75)
2 W Gridley									
Anderson County	07	1914CST			0	0	3	3	Hail (0.75)
Garnett									
Allen County	07	2059CST			0	0	0	0	Funnel Cloud
Elsmore	07	2107CST			0	0	0	0	Funnel Cloud
Moran									
Funnels were sighted near Elsmore and Moran. Neither touched down, and no damage was reported.									
Crawford County	07	2140CST			0	0	2	2	Hail (0.75)
Walnut	07	2145CST			0	0	0	0	Funnel Cloud
4 NE Pittsburg	07	2207CST			0	0	0	0	Funnel Cloud
2 N Pittsburg	07	2220CST			0	0	3	0	Thunderstorm Winds (G52+)
Opolis									
A thunderstorm dropped 0.75-inch hail at Walnut and produced damaging winds (in excess of 60 mph) at Pittsburg and Opolis. Pittsburg caught the worst damage: many trees in Lincoln Park were knocked down and damaged, a tree was knocked atop a home at 409 West 5th, and a 40-by 40-foot section of roof was peeled off a supermarket at Meadowbrook Mall on the south end of town. Funnels were spotted northeast and north of town, but the nature and random distribution of damage indicated downburst winds were the cause.									
Pittsburg	07	2220CST			0	0	5	0	Thunderstorm Winds (G52+)
Pratt County	08	0400CST			0	0	0	0	Hail (1.00)
1 NE Preston									
Shawnee County	09	0040CST			0	0	3	3	Hail (2.00)
2 E Auburn	09	0045CST			0	0	0	0	Hail (0.75)
Forbes Airport	09	0105CST			0	0	3	3	Hail (1.50)
6 SE Topeka									
Walnut-size hail fell just south and east of Lake Shawnee.									
Jefferson County	09	0125CST			0	0	4	3	Hail (4.00)
Oskaloosa									
Atchison County	09	0239CST			0	0	4	3	Thunderstorm Winds (G52)
Atchison									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
KANSAS Cont'd									
Winds estimated at 60 mph knocked trees and power lines with damage to several buildings.									
Bean Lake Area	09	0300CST			0	0	5	3	Thunderstorm Winds (G52)
Winds to around 60 mph damaged homes and buildings in the Bean Lake area and also knocked down tree limbs.									
Wilson County	09	1650CST			0	0	4	3	Hail (1.75)
Fredonia	09	1655CST			0	0	3	3	Hail (1.75)
3 NW Fredonia									
Golf ball-size hail fell in and around Fredonia. Some cars and roofs were damaged.									
Cowley County	09	1707CST			0	0	3	0	Hail (1.00)
4 SE Arkansas City									
One-inch-diameter hail fell southeast of Arkansas City. Little damage was done.									
Montgomery County	09	1740CST			0	0	2	0	Hail (0.75)
5 NE Elk City									
Three-quarter-inch hail fell northeast of Elk City. Little damage resulted.									
Chautauqua County	09	1745CST			0	0	2	0	Thunderstorm Winds (G52)
1 S Cedar Vale									
Thunderstorm winds estimated at 60 mph were reported south of Cedar Vale. Little damage resulted.									
Crawford County	09	1811CST			0	0	2	2	Hail (0.75)
Arcadia									
Three-quarter-inch hail fell at Arcadia. Little damage was done.									
Douglas County	17	0335CST			0	0	4	0	Lightning
Lawrence									
Lightning hit a house and set it on fire causing extensive damage. Heavy rains accompanied the strong thunderstorm.									
Wyandotte County	17	0750CST			0	1	0	0	Lightning
Kansas City									
Lightning struck a 27-year-old male as he was hooking a trailer to a truck. The man experienced only minor injuries, but was admitted to a hospital for observation.									
Lincoln County	17	1700CST			0	0	3	3	Hail (0.75)
2 S Hunter	17	1715CST			0	0	3	3	Hail (0.75)
1 W Ash Grove	17	1720CST			0	0	3	3	Hail (0.75)
Denmark	17	1813CST			0	0	5	4	Thunderstorm Winds (G56)
Vesper	17	1830CST			0	0	3	3	Hail (0.75)
Lincoln	17	1830CST			0	0	4	4	Thunderstorm Winds (G52)
Lincoln									
Ottawa County	17	1900CST			0	0	4	4	Hail (1.00)
2 W Delphos									
Washington County	17	1900CST			0	0	3	3	Hail (0.75)
Washington	17	1915CST			0	0	3	3	Hail (0.75)
Hanover									
Marshall County	17	1920CST			0	0	3	3	Hail (1.00)
8 N Marysville									
The walnut-size hail fell in the city of Bremen.									
Herkimer	17	1920CST			0	0	3	3	Hail (1.00)
Oketo	17	1930CST			0	0	3	3	Hail (1.00)
Jewell County	17	2218CST			0	0	3	3	Hail (0.75)
2 E Mankato									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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KANSAS Cont'd

Severe thunderstorms that moved across the area dropped large hail and caused high winds damaging several farms across central Lincoln county.

**Douglas County
Lawrence**

20	1600CST- 2100CST				0	0	5	3	Flash Flood
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Up to four inches of rain in less than one hour caused flash flooding in the Lawrence area. Many streets were flooded with 2 to 3 feet of water and many buildings had flooded basements. Traffic was stalled on many main streets and highways. The heavy rains knocked out power in some areas and caused numerous traffic accidents.

**Johnson County
Olathe**

20	1725CST				0	0	5	0	Thunderstorm Winds
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High winds overturned large trucks and stripped roofs from homes and commercial buildings.

Olathe

20	1801CST				0	0	3	2	Thunderstorm Winds
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High winds snapped trees at the base and blew down privacy fences.

Olathe

20	1803CST				0	0	4	0	Thunderstorm Winds
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A chimney was blown down and roofs were removed from homes.

**Sumner County
Near Conway
Springs**

21	1536CST				0	0	3	3	Hail (1.75)
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**Harper County
Harper**

21	1545CST				0	0	3	3	Hail (1.75)
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A thunderstorm dropped golf ball-size hail near Conway Springs and at Harper. Little damage resulted.

**Sedgwick County
Wichita**

21	1720CST				0	0	2	0	Hail (1.00)
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One-inch-diameter hail fell on the west side of Wichita at 18th Street North and Tyler Road. Little damage was done.

**Republic County
3.6 NW Narka**

23	1700CST- 0400CST				0	0	3	4	Flash Flood
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Isolated rainfall of nearly ten inches fell near the Nebraska border from near Mahaska to Narka to Munden causing significant crop damage and damage to railroad bridges, tracks, ties and county roads. The Rose creek was severely out of banks due to the high water, and many longtime local residents said it was the worst flooding in 50 years. The heavy rains extended into southern Nebraska.

KENTUCKY

Boone County

05	1600EST				2	0	0	0	Lightning
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James E. Williams, 36 and his fiance Linda Lampe, 32 were killed by lightning at a golf course in Florence. The couple had been struck by lightning while standing under a tree.

**Trimble and
Henry Counties**

18	1710EST- 1725EST	0.5	50		0	0	4	0	Tornado (F1)
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A tornado destroyed a house near Mount Pleasant after crossing the Ohio river from Indiana. The tornado also totaled two cars on the property. One of the cars was moved 300 feet. The tornado then lifted and descended one more time in Henry County. There it destroyed two tobacco barns.

Bullitt County

18	1845EST				0	0	5	0	Thunderstorm Winds
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A fast moving storm system sliced through a section of northern Bullitt County, shearing roofs off structures and destroying a house under construction. The storm also downed trees and left some 300 homes without electricity.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
KENTUCKY Cont'd									
Shelby County	18	1905EST			0	0	3	0	Thunderstorm Winds
Several trees and powerlines were blown down throughout the county.									
Adair and Russell Counties	19	0005EST			0	0	3	0	Flash Flood
Thunderstorms producing up to two inches of rain in an hour, flooded roads and streets throughout the area.									
LOUISIANA									
Caddo Parish Shreveport	01	1440CST			0	0	?	0	Thunderstorm Winds Lightning
Lightning struck a Shreveport home and set it on fire.									
Webster Parish Sibley	01	1542CST			0	0	?	?	Thunderstorm Winds
Bienville Parish 5 N Ringgold	01	1550CST			0	0	?	?	Thunderstorm Winds Hail (0.88)
Webster Parish 4 S Sibley	01	1615CST			0	0	?	?	Thunderstorm Winds Hail (0.75)
A cluster of thunderstorms moving northeast at 15 mph blew down several trees in Sibley and 4 miles south of Sibley. Penny- to nickle-size hail fell 5 miles north of Ringgold and 4 miles south of Sibley.									
Morehouse Parish Gallion	02	1635CST			0	0	?	?	Thunderstorm Winds Hail (1.00)
W Carroll Parish 8 SW Oak Grove	02	1640CST			0	0	?	?	Thunderstorm Winds Hail (0.88)
Richland Parish 6 N Holly Ridge	02	1655CST			0	0	?	?	Thunderstorm Winds Hail (0.88)
Franklin Parish Bakers	02	1710CST			0	0	?	?	Thunderstorm Winds Hail (1.00)
A line of scattered thunderstorms moving southeast at 25 mph produced nickle- to quarter-size hail in Gallion, 8 miles southwest of Oak Grove, 6 miles north of Holly Ridge, and in Bakers.									
Caddo Parish 2 N Blanchard	02	1915CST			0	0	?	?	Thunderstorm Winds
1 N Cross Lake	02	1934CST			0	0	?	?	Thunderstorm Winds Hail (1.00)
Caldwell Parish 10 W Columbia	02	1940CST			0	0	?	?	Thunderstorm Winds
Winn Parish 5 NE Joyce	02	1944CST			0	0	?	?	Thunderstorm Winds Hail (0.75)
Bossier Parish 3 S Bossier City	02	1947CST			0	0	?	?	Thunderstorm Winds Hail (0.75)
2 E Elm Grove	02	1950CST			0	0	?	?	Thunderstorm Winds
Desoto Parish 2 E Stonewall	02	2000CST			0	0	?	?	Thunderstorm Winds (G50) Hail (0.88)
Bienville Parish 3 W Ringgold	02	2023CST			0	0	?	?	Thunderstorm Winds Hail (0.88)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
LOUISIANA Cont'd									
Red River Parish 2 N Hanna	02	2037CST			0	0	?	?	Thunderstorm Winds
Natchitoches 2 E Powhatan	02	2048CST			0	0	?	?	Thunderstorm Winds (G54)
Desoto Parish 5 E Mansfield	02	2051CST			0	0	?	?	Thunderstorm Winds
Winn Parish 5 SE Dodson	02	2052CST			0	0	?	?	Thunderstorm Winds Hail (0.88)
Desoto Parish 2 E Carmel	02	2115CST			0	0	?	?	Thunderstorm Winds Hail (0.88)
Red River Parish 3 E East Point	02	2130CST			0	0	?	?	Thunderstorm Winds
Natchitoches 2 E Provencal	02	2135CST			0	0	?	?	Thunderstorm Winds
Cypress	02	2140CST			0	0	?	?	Thunderstorm Winds
Sabine Parish 2 N Belmont	02	2140CST			0	0	?	?	Thunderstorm Winds
<p>A line of numerous thunderstorms moving southeast at 25 mph blew down numerous trees and power lines 2 miles north of Blanchard, 10 miles west of Columbia, 5 miles northeast of Joyce, 3 miles south of Bossier City, 2 miles east of Elm Grove, 2 miles east of Stonewall, 2 miles north of Hanna, 2 miles east of Powhatan, 5 miles east of Mansfield, 3 miles east of East Point, 2 miles east of Provencal, in Cypress, and 2 miles north of Belmont. Penny- to quarter-size hail was reported just north of Cross Lake, 5 miles northeast of Joyce, 3 miles south of Bossier City, 2 miles east of Stonewall, 3 miles west of Ringgold, 5 miles southeast of Dodson, and 2 miles east of Carmel.</p>									
Webster Parish Springhill	03	0130CST			0	0	?	?	Thunderstorm Winds (G58) Hail (0.75)
Bossier Parish Plain Dealing	03	0135CST			0	0	?	?	Thunderstorm Winds Hail (0.75)
1 N Benton	03	0150CST			0	0	?	?	Thunderstorm Winds (G50)
<p>Scattered thunderstorms moving southeast at 25 mph produced 60 to 70 mph winds which blew down numerous trees in Springhill, Plain Dealing, and just north of Benton. Dime-size hail fell in Springhill and in Plain Dealing.</p>									
Calcasieu Parish Westlake	04	1430CST			0	0	5	?	Thunderstorm Winds Lightning
<p>Lightning struck a 300-foot tower and KAB Construction Company's offices in Westlake which was set on fire. The blaze did about \$100,000 damage to the company's office.</p>									
Cameron Parish Cameron	11	1435CST	0.1	10	0	0	0	0	Waterspout Tornado (F0)
<p>The sheriff's office reported a waterspout made landfall at Cameron before dissipating. No damage was reported in Cameron.</p>									
Avozelles Parish Moreauville	19	1630CST			0	0	4	0	Thunderstorm Winds
<p>Thunderstorm winds blew down a cinder block warehouse which was under constuction in Moreauville.</p>									
Caddo Parish Vivian	21	2245CST			0	0	?	?	Thunderstorm Winds
<p>A thunderstorm moving east-southeast at 25 mph blew down some trees in Vivian.</p>									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
LOUISIANA Cont'd									
Caddo Parish Vivian	22	0000CST			0	0	5	?	Thunderstorm Winds Lightning
	Lightning struck a petroleum tank farm near Vivian. Three 210-barrel tanks were destroyed and the top of a 100-barrel tank was blown off. It took firemen about an hour to extinguish the blaze.								
Bossier Parish McDade	22	0010CST			0	0	3	?	Thunderstorm Winds
	Scattered thunderstorms moving east-southeast at 25 mph blew down a few trees in McDade; one of these trees fell on top of a home damaging a roof.								
Calcasieu Parish Sulphur Moss Bluff	22	1245CST			0	0	?	?	Thunderstorm Winds
	Scattered thunderstorms moving east at 25 mph blew down power lines in Sulphur and Moss Bluff.								
MAINE									
Oxford County Sweden	21	2235EST			0	0	?	0	Lightning
	Lightning caused a fire that destroyed a house in Sweden.								
Penobscot County Bangor	21 22	2345EST- 0230EST			0	0	?	0	Thunderstorm Winds
	High winds associated with thunderstorms that moved across the area knocked down trees. Power outages resulted as the trees fell across power lines. Approximately 400 customers were without power until 0820 EST.								
MARYLAND and DC									
Prince Georges County Upper Marlboro	04	1450EST			0	0	0	0	Thunderstorm Winds
	Numerous trees were knocked down by powerful thunderstorm winds.								
St. Marys County	06	1005EST- 1230EST			0	0	0	0	Flash Flood
Charles County	06	1005EST- 1230EST			0	0	0	0	Flash Flood
	More than three inches of rain fell in a short time on already saturated ground in these areas and caused widespread flooding which flooded many small streams and roads. Some roads had water four feet deep flowing across them.								
Prince Georges County	06	1115EST- 1300EST			0	0	0	0	Flash Flood
Calvert County	06	1115EST- 1300EST			0	0	0	0	Flash Flood
	Excessive rainfall between three and five inches caused widespread flooding of small streams which closed many roads.								
St. Marys County	06	1425EST			0	0	0	0	Flash Flood
	Additional heavy rain in areas that had flooded earlier caused small streams to come out of their banks again closing more roads.								
Washington County Clear Spring	10	1630EST			0	0	0	0	Thunderstorm Winds
	Powerful thunderstorm winds knocked down trees and power lines in the Clear Springs area.								
MDZ001 > 006 Eastern Maryland	24- 26				0	0	4	0	Tropical Storm Danielle

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MARYLAND and DC Cont'd

Tropical Storm Danielle was centered about 100 miles southeast of Cape Hatteras North Carolina late Thursday afternoon, while strong high pressure was over New England. The circulation around both of these systems caused strong winds and heavy surf in the Delaware, Maryland and Virginia coastal areas ahead of Danielle as the storm moved North-Northwest. Danielle's center reached the Wallops Island, Virginia area around 6 PM Friday the 25th, and passed about 25 miles east of Baltimore, MD around 2 AM Saturday morning the 26th. It continued to weaken and move north as it crossed Delaware and moved into eastern Pennsylvania around 4 AM.

Damage was minimal in Eastern Maryland. The damage was mostly beach erosion and flooding to low lying areas as Danielle produced wind gusts up to 65 mph and average rainfall was three to five inches. Many areas had downed tree limbs and power lines. In Ocean City, significant beach erosion occurred along a three block stretch of beach. About 20 residents of St. George Island evacuated their homes due to flooding of low lying areas on Friday.

Washington DC	24- 26				0	0	0	0	Tropical Storm Danielle
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Tropical Storm Danielle was centered about 100 miles southeast of Cape Hatteras North Carolina late Thursday afternoon, while strong high pressure was over New England. The circulation around both of these systems caused strong winds and heavy surf in the Delaware, Maryland and Virginia coastal areas ahead of Danielle as the storm moved North-Northwest. Danielle's center reached the Wallops Island, Virginia area around 6 PM Friday the 25th, and passed about 25 miles east of Baltimore, MD around 2 AM Saturday morning the 26th. It continued to weaken and move north as it crossed Delaware and moved into eastern Pennsylvania around 4 AM.

No major damage was reported in the District. Some streets in low lying areas were flooded and some tree limbs were broken due to the high winds.

MASSACHUSETTS

Berkshire County									
W Stockbridge	22	1945EST			0	0	?	0	Thunderstorm Winds
Egremont	22	2209EST			0	0	?	0	Thunderstorm Winds

Trees were downed and pea-size hail accumulated in Great Barrington.

Hampden County									
Blandford	22	2040EST			0	0	?	0	Thunderstorm Winds

Worcester County									
Auburn	22	2130EST			0	0	?	0	Thunderstorm Winds

Large branches were blown down in Auburn and surrounding areas. The National Weather Service at the Worcester Airport reported a peak wind gust of 48 mph.

MICHIGAN

Genesee County									
1 N Lennon	06	1812EST			0	0	0	0	Funnel Cloud

A funnel cloud was reported by an off-duty police officer near the intersection of Michigan Highway #21 and #13.

Genesee County									
Flint	06	1900EST			0	0	3	0	Lightning

About 4000 homes and businesses lost power due to blown fuses and other problems related to the lightning strike.

Calhoun County									
Marshall	09	1020EST			0	0	3	0	Thunderstorm Winds

Strong thunderstorm winds, gusting to 40 mph caused considerable damage to Marshall. Many trees and power lines were blown down. This cause numerous local power outages across the city. The storm was so intense the afternoon kindergarten classes in Marshall were canceled. Pea-size hail and street flooding were also reported with this storm. Some of the trees and tree limbs fell on homes in Marshall but damage was mostly limited to roofs.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
MICHIGAN Cont'd									
Calhoun County Albion	09	1450EST			0	0	3	0	Lightning
									Lightning struck an Albion garage, setting it on fire. The garage was used as a storage shed. Before the fire could be put out, about \$3,000 damage was done to the garage.
Calhoun County Battle Creek	09	1915EST			0	0	4	0	Lightning
									Lightning caused an estimated \$40,000 damage to an apartment building and caused the residents to move to a motel that night. Lightning struck the Village Apartments, at 120 Greentree Blvd, which then caused a fire in the attic of the three story, 24 apartment, building. The strike also damaged the electrical system. Two firefighters suffered minor injuries but none of the residents were injured due to the fire or the lightning strike.
Washtenaw County Whitmore Lake	09	2000EST			0	4	0	0	Lightning
									Four people, three high-school football players and a coach were injured in Whitmore Lake, when lightning sent a strong electrical current through the wet turf of their practice field. All four were treated and released from a local hospital that night.
Monroe County Temperance	09	2055EST			0	0	3	0	Thunderstorm Winds
									Strong thunderstorm winds blew down trees and power lines. Some damage was done to several cars when the trees or large limbs fell on them.
Monroe County Monroe	09	2100EST	6.3	440	0	0	3	0	Tornado (F1)
									A tornado touchdown 3.7 miles to the west-northwest of the City of Monroe. From there, the tornado traveled east-southeast for about 6.3 miles before lifting up, 2.6 miles east-southeast of the City of Monroe. The damage path width was fairly uniform at about 0.25 mile. The damage began just to the west of the county fair ground, on the west side of Raisinville road, and ended near the Ford Motor Company between I-75 and Lake Erie. The path was not quite a straight line. The first two thirds of it's length was east-southeast, then the final one third of it's length was almost due east. Damage was mostly downed trees and power lines. The Monroe Junior High reported two second floor windows blown out as the tornado passed over the school building. Several vehicles were damaged by this tornado. Most of this damage was from trees or tree limbs that were blown onto the vehicles. Damage of this type included several crushed cars, but mostly damages glass or dents. Parts of many homes were damaged by trees falling or large limbs. Also, many buildings and homes in the damage path reported windows blown out. At Monroe Junior High, not only were two window blown out, but an uprooted tree fell through the roof of the choir room and the flag pole was bent sideways. Besides that, \$4,000 worth of CD-ROMS were blown out the window. An anemometer, owned by the Michigan Gas Utilities, was right near the center of the damage path and recorded a wind gust to 77 mph.
Monroe County Monroe	09	2105EST			0	0	0	0	Hail (1.00)
									Quarter-size hail reported at the Monroe Junior High by the school's principal.
Monroe County Across County	09	2200EST			0	0	3	0	Flash Flooding
									Heavy thunderstorm rainfall, from one to two inches in about an hour, caused many county roads to flood. Several basements were flooded during the storm.
Monroe County Monroe	09	2215EST			0	0	4	0	Thunderstorm Winds
									Strong thunderstorm winds blew down many trees and power lines in many areas of the county. Several thousand homes lost power across the county. Clean-up from this storm was in the thousands of dollars.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MICHIGAN Cont'd

Cass County
10 NE South
Bend

15	1710EST				0	0	0	0	Hail (1.00)
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Citizen reported 1.00 inch hail 10 miles northeast of South Bend, Indiana.

Cass County
5 W Edwards-
burg

15	1755EST				0	0	0	0	Thunderstorm Winds
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Large tree was blown across road 5 miles west of Edwardsburg, west of Leet Street in southern Cass County, by strong thunderstorm winds.

Berrien County
Niles

15	1845EST				0	0	0	0	Heavy Rain
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Heavy thunderstorm rains resulted in as much as 3.60 inches rainfall. This included up to 3.00 inches of rain in 45 minutes. This caused considerable street flooding, but no other damage was reported.

Berrien County
St Joseph
River

15	1848EST				0	0	0	0	Flash Flooding
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The river remain below flood stage, but rose rapidly, flooding low lying areas with as much as 4 inches of water. No significant damage was reported.

Cass County
Edwardsburg

15	1900EST				0	0	0	0	Flash Flooding
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Thunderstorm caused heavy rainfall at Edwardsburg, resulting in 3.60 inches of rain in 1 1/2 hours. No significant damage was reported.

Lenawee County
Tecumseh

16	0000EST				0	0	0	0	Flood
17	0700EST								

The River Raisin, near Tecumseh, crested at 9.95 feet, .95 feet above its flood stage, at 1431EST on the 16th. The river level then slowly receded, falling below its flood stage of 9.95 feet, at 0700EST on the 17th. As a result the river was at or above flood stage for one day and 7 hours. The flood resulted from two to three inches of rain that had fallen on the night of the 15th. This flood resulted in no significant damage to the area.

Mason County
Ludington to
Walhalla

18	0600EST				0	0	4	0	Thunderstorm Winds (56)
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A strong thunderstorm moved onshore from Lake Michigan around 0600EST by Ludington. Wind gusts to 60 mph were recorded at the Ludington Coast Guard Station at 0600EST, to 59 mph at the Mason County Sheriff Department at 0601EST, and to 65 mph at the Mason County Airport at 0603EST. The storm caused 986 customers of the Western Michigan Electric Cooperative to loss power. The storm moved almost straight east across the central part of Mason county. After the storm hit Ludington, it then hit Scottville, then Custer and finally Walhalla. At this point the storms intensity lessened. The damage was almost continuous along this 17 mile long path. The Scottville Police Chief said one of the towns streets, State Street, looked like a war zone. There were trees and limbs down all over the place. A gospel crusade tent, in the town of Ludington, was flattened during the storm. Over the rest of the 17 mile path of destruction, the damage was mostly downed trees and power lines.

Ingham County
2 N Webber-
ville

21	1610EST	1.3	50		0	0	4	3	Tornado (F1)
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A tornado touched down just north of Webberville and had a damage path that was 1.25 miles long. The tornado touched down just southwest of the intersection of Webberville and Allen roads, 1 mile northwest of Webberville, and moved east to the intersection of Gramer and Allen Roads, 1 mile northeast of Webberville. Two barns were destroyed. A horse, worth \$25,000 was killed and at least 2 homes and vehicles were damaged. Also, an empty semi-trailer overturned. Numerous

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

MICHIGAN Cont'd

trees and power lines were downed too. One of the barns was moved 10 feet from its foundation where it was mashed back down onto the ground, killing the \$25,000 horse inside. Several hundred bales of hay fell from the barn loft onto the prized Shire stallion while the barn was being smashed by the tornado. Some cows were also injured on the farm as the tornado moved through. The cows were not in the barn at the time.

MINNESOTA

Pope County
3 NE Cyrus
9 S Starbuck

02	1405CST- 1440CST	14.0	30	0	0	?	?	Tornado (F1)
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A small tornado developed near Cyrus and skipped along a 14-mile path to south of Starbuck. Several outbuildings were damaged and a barn was destroyed.

**Swift and
Kandiyohi Counties**
5 N Benson
5 S Sunburg

02	1442CST- 1505CST	19.0	10	0	0	?	?	Tornado (F0)
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A small tornado developed north of Benson and traveled along an intermittent path into Kandiyohi County before dissipating. Several trees were blown down and several outbuildings on area farmsites were damaged.

**Kerkhoven
Pennock**

02	1500CST- 1525CST	7.0	10	0	0	0	1	Tornado (F0)
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A small tornado followed along an intermittent path from Kerkhoven to Pennock doing very little damage.

Stearns County
Brooten

02	1500CST	Short	Narrow	0	0	0	?	Tornado (F0)
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A small tornado touched down briefly near Brooten and did little damage.

Kandiyohi County
Spicer
5 SE Willmar

02	1530CST			0	0	0	?	Funnel Cloud Hail (0.75)
02	1550CST			0	0	?	?	Thunderstorm Winds (G52)

Thunderstorm winds gusted to 60 mph southeast of Willmar and leveled 10 trees and damaged several buildings.

Meeker County
Grove City
Cosmos

02	1620CST			0	0	?	?	Hail (0.75)
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Renville County
1 N Hector

02	1630CST- 1640CST			0	0	?	?	Hail (0.75)
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Brown County
New Ulm

02	1720CST			0	0	3	?	Thunderstorm Winds
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Strong thunderstorm winds downed a large tree onto a car causing an estimated \$2,000 in damage.

**Hennepin and
Dakota Counties**
Bloomington
Eagan

04	0530CST- 0610CST			0	0	?	?	Hail (1.50)
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Thunderstorms dropped large hail and damaged several automobiles in southeast portions of Hennepin and northern sections of Dakota Counties.

Rice County
5 NW Faribault
Goodue County
Kenyon

04	0635CST			0	0	?	?	Hail (1.75)
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04	0725CST			0	0	?	?	Hail (0.88)
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
MINNESOTA Cont'd									
Jackson County Jackson Alpha	14	0340CST			0	0	?	?	Hail (1.75)
Martin County Sherburne	14	0355CST			0	0	?	?	Hail (1.75)
									Thunderstorms dropped hail the size of golf balls and did significant damage to property and crops.
Rice County Lonsdale	15	1820CST			0	0	?	?	Hail (1.75)
Northfield	15	1940CST			0	0	?	?	Thunderstorm Winds
									Strong thunderstorm winds broke large branches from trees and downed several power lines.
Sibley, Scott, Dakota, Goodhue, Northern Rice and Lesueur Counties	15 16	2030CST- 0300CST			0	0	?	?	Flash Flood
									Thunderstorms developed and moved over the same area dropping torrential rain from the evening of the 15th into the early morning hours on the 16th. Rainfall totals in excess of seven inches occurred in a 5- to 10-mile-wide swath from Belle Plaine, New Prague, New Market, Farmington and Hastings. A total of nine inches was reported in New Prague and 11.50 inches in New Market. Many basements were flooded across Scott, Dakota, Goodhue, and Sibley Counties. The most significant damage occurred in the Rosemount, Farmington and New Market areas in Dakota County and in Jordan in Scott County. A bridge collapsed in extreme northern Le Sueur County and a 40-foot-long basement wall caved in northern Goodhue County. A portion of Interstate 35E was closed for a time in Dakota and Rice Counties because of the high water. Flooded roads also occurred near Cannon Falls in Goodhue County. The Vermillion River (Goodhue County) crested about 5 feet above flood stage on the early morning hours of the 16th and caused some crop damage.
Ramsey County New Brighton	15	2130CST			0	0	?	0	Lightning
									Lightning struck a small business and the resultant fire destroyed the establishment.
Sibley County Arlington	15	2200CST			0	0	3	0	Lightning
									Lightning struck a home and the resultant fire caused \$2,000 in damage.
Olmsted County Fillmore County 25 SE Rochester	16 16	0240CST 0245CST			0	0	0	0	Thunderstorm Winds (G56)
								4	Thunderstorm Winds
									Strong thunderstorm winds flattened three acres of corn and ten large trees.
Clay County Glyndon	16	1215CST			0	0	?	?	Thunderstorm Winds
									Strong thunderstorms winds knocked down trees and power lines within a three block area in Glyndon.
Beltrami County Bemidji	16	1305CST- 1320CST			0	0	?	?	Thunderstorm Winds Hail (1.75)
									A number of trees were blown down and power was knocked out in and around Bemidji.
Hubbard County Becida	16	1320CST	Short	Narrow	0	0	0	?	Tornado (F0)
									A small tornado briefly touched down and blew down several trees.
Itasca County 18 NE Deer River Grand Rapids	16 16	1345CST 1355CST- 1410CST			0	0	?	?	Hail (0.75)
					0	0	5	?	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MINNESOTA Cont'd

Thunderstorm winds took part of the roof off of a community college and several trees were blown down.

Deer River	16	1402CST			0	0	?	0	Hail (0.75)
2 S Nashwauk	16	1410CST	Short	Narrow	0	0	0	4	Tornado (F0)

A tornado touched down briefly and uprooted or snapped in half several trees. Damage was estimated between \$5,000 and \$6,000.

3 SSE Nashwauk	16	1411CST			0	0	3	?	Thunderstorm Winds
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Thunderstorm winds blew the roof from a mobile home causing an estimated \$1,000 damage. A few large trees were also blown over.

5 N Grand Rapids	16	1411CST			0	0	?	?	Hail (1.75)
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St. Louis County Hibbing Aurora	16	1450CST- 1524CST			0	0	?	?	Thunderstorm Winds
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Strong thunderstorm downburst winds knocked down numerous trees in a 30-mile-wide swath from near Hibbing to Aurora.

22 NE Hibbing	16	1510CST			0	0	0	0	Hail (0.75)
24 E Virginia	16	1515CST	8.0	100	0	0	?	?	Tornado (F0)

A tornado skipped along an 8-mile-path damaging several trees.

Brimson	16	1520CST	3.0	40	0	0	4	?	Tornado (F0)
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A tornado skipped along a 3-mile-path damaging cabins and trees in the area.

10 N Duluth	16	1614CST			0	0	0	3	Thunderstorm Winds
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Strong thunderstorm winds knocked down numerous trees between Island Lake and Boulder Lake.

Lake County 3 NE Highland Finland	16	1630CST			0	0	?	?	Thunderstorm Winds
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Several trees were downed by strong thunderstorm winds.

Cook County Gunflint Trail	16	1640CST			0	0	?	?	Thunderstorm Winds
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Strong thunderstorm winds downed several large trees.

3 W Grand Marais	16	1643CST	1.0	70	0	0	0	?	Tornado (F0)
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A tornado caused damage to trees near Grand Marais.

Carlton County Mahtowa	16	1645CST			0	0	0	0	Hail (0.75)
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Aitkin County 2 E Waukenebo	17	1625CST			0	0	?	2	Thunderstorm Winds
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Several trees were blown down by strong thunderstorm winds.

MISSISSIPPI

Lafayette County Oxford	02	1505CST			0	0	3	0	Thunderstorm Winds
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Several trees and power lines were blown down throughout the city. One tree fell and caused minor damage to a house.

Tippah County 2 W Ripley	02	1540CST			0	0	2	0	Thunderstorm Winds
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Several trees and power lines were blown down.

Sharkey County	02	1707CST			0	0	2	0	Thunderstorm Winds
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

MISSISSIPPI Cont'd

Several trees were blown down in the southern part of Sharkey County and were blocking county roads.

Yazoo County 5 W Bentonia	02	1730CST			0	0	2	0	Thunderstorm Winds
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Several trees and numerous large limbs were blown down along Highway 433.

Attala County 1 S Kosciusko	02	1845CST			0	0	4	0	Thunderstorm Winds
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Shingles were blown off the roof of a store. Numerous large limbs and a few trees were blown down.

Leake County Renfro	02	1900CST			0	0	4	0	Thunderstorm Winds
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Strong winds caused minor roof damage to several houses. Large limbs and several trees were blown down.

Walnut Grove	02	1900CST			0	0	4	0	Thunderstorm Winds
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Minor damage was done to several roofs of houses. Numerous large limbs were blown down.

Neshoba County 1 W Philadelphia	02	1915CST			0	0	3	0	Thunderstorm Winds
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One billboard as well as several trees were blown down at the intersection of Highways 15 and 16.

Lee County 2 SW Shannon	10	1330CST			0	0	4	0	Thunderstorm Winds
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Two mobile homes were blown off their foundations and sustained roof damage.

Warren County Vicksburg	21	1615CST			0	0	2	0	Thunderstorm Winds
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Several power lines were blown down on Marshall Street in Vicksburg.

Vicksburg	21	1715CST			0	0	5	0	Flash Flood
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Nearly 3.50 inches of rain fell over Vicksburg in about an hours time causing widespread flooding over the southern part of the city. Flood waters got into several houses, one had as much as 3 feet.

MISSOURI

Nodaway County 5 NW Maryville	01	2145CST			0	0	4	0	Thunderstorm Winds
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A farm house was pushed off its foundation and several out-buildings were destroyed.

Platte County Bean Lake	05	1800CST			0	0	3	0	Thunderstorm Winds
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Large trees were blown down damaging several homes.

Platte County Kansas City International Airport	05	1814CST			0	0	1	0	Hail (1.25)
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Hail measuring 1.25 inches in diameter was observed at the National Weather Service office (MCI).

Clay County 3 SW Smithville	05	1830CST			0	0	1	2	Hail (1.00)
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Clay County Gladstone	05	1910CST	0.1	20	0	0	2	0	Tornado (F0)
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A tornado touched down briefly knocking down several large trees.

Platte County Weston	05	2200CST			0	0	3	0	Thunderstorm Winds
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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MISSOURI Cont'd

Large trees were blown down damaging some homes.

Bates County 10 NW Butler	05	2230CST			0 0	3 2	Thunderstorm Winds
A pole barn was destroyed and large tree branches fell damaging a car.							
Barton County Golden City	05	2328CST			0 0	3 0	Thunderstorm Winds (G52)
Jasper County Joplin	05	2328CST			0 0	4 0	Thunderstorm Winds (G60)
Clay County Liberty	07	1450CST			0 0	1 1	Hail (0.75)
Excelsior Springs	07	1520CST			0 0	1 1	Hail (0.75)
Jackson County Sibley	07	1540CST			0 0	4 0	Thunderstorm Winds (G73)
A gust to 84 mph blew an empty rail car over, broke windows, damaged a coal conveyor and moved four rail cars four yards. The wind speed was measured with on-site instruments.							
Ray County 3 S Richmond	07	1607CST			0 0	1 1	Hail (1.75)
Lafayette County Lexington	07	1630CST			0 0	3 0	Thunderstorm Winds
Power lines were knocked down with some roof damage to homes and commercial buildings at Lexington.							
Saline County Blackburn	07	1700CST			0 0	3 0	Thunderstorm Winds (G74)
The County Emergency Manager reported wind damage to a shed and several outbuildings. Wind gusts were estimated at 85 mph.							
Lafayette County Odessa	07	1735CST			0 0	1 1	Hail (0.75)
Chariton County 5 NE Keytesville	07	1745CST	0.5	45	0 0	5 3	Tornado (F1)
A pole barn was destroyed, power poles were broken, and large trees were downed. A roof was torn off of another barn shortly before lifting.							
Boone County 2 NE Columbia	07	1805CST			0 0	0 0	Funnel Cloud
Sheriff deputies and spotters watched and followed a funnel cloud along Mt. Zion Church Road.							
Cooper County Pilot Grove Lone Elm	07	1840CST	10.2	60	0 0	5 0	Tornado (F2)
This tornado touched down intermittently doing only scattered damage. The county sheriff reported power poles were blown down and a brick chimney was blown off a house in Pilot Grove. A pole barn was destroyed near Pilot Grove which also knocked down several power lines. Numerous large trees were blown over blocking area roads. A work trailer was also blown over near Speed. A large grain bin was smashed near Lone Elm while identical bins immediately adjacent to it and several smaller tanks nearby were untouched. About 0.5 mile southeast of the bin damage, tops of two, 100-foot silos were blown off. Also near the silos, several outbuildings were destroyed and about 10 acres of milo and corn were flattened. Two large maple trees were snapped off near Lone Elm and just missed falling on a house. The house was pelted by hail as the tornado passed.							
Moniteau County Jamestown	07	1934CST			0 0	3 0	Hail (1.00)
Tipton	07	1936CST			0 0	3 0	Hail (0.75)
Boone County Ashland	07	2004CST			0 0	3 0	Hail (0.75)
Miller County Olean	07	2005CST			0 1	4 0	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
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MISSOURI Cont'd

Power lines and tree limbs were blown down. A woman was knocked down by strong wind when she went outside to roll up the windows of her car.

Callaway County
Holtz Summit
New Bloomfield

07	2020CST				0	0	4	0	Hail (1.00)
07	2030CST	0.2	20		0	0	3	0	Tornado (F0)

A garage was flattened with many large trees and power lines broke off.

Holtz Summit

07	2030CST	0.3	20		0	0	4	0	Tornado (F1)
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A mobile home was picked up, dropped, and flattened with large trees and power poles also knocked down.

**1 N Jefferson
City**

07	2040CST				0	0	0	0	Thunderstorm Winds (G50)
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Winds to 58 mph were reported at Jefferson City Airport.

Lincoln County
Troy

07	2040CST				0	0	3	0	Thunderstorm Winds (G52)
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Power lines and trees were knocked down. The county sheriff estimated wind gusts to 60 mph.

Warren County
5 N Warrenton

07	2045CST				0	0	2	0	Thunderstorm Winds
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The county sheriff reported several large trees down along Highway 47.

Osage County
Linn

07	2057CST				0	0	3	0	Thunderstorm Winds (G52)
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A wind gust to 60 mph was reported.

St. Charles County
Wentzville
O'Fallon
Weldon Spring

07	2100CST				0	0	3	0	Thunderstorm Winds
07	2105CST				0	0	2	0	Thunderstorm Winds
07	2110CST				0	0	5	0	Thunderstorm Winds

A line of thunderstorms knocked down numerous trees and power lines across much of the county. Some minor building damage was reported by the Wentzville Police Department. The O'Fallon Police Department reported a blown transformer. Ham Radio spotters reported a cinder-block wall blown down at a local high school which damaged construction equipment.

Camden County
Osage Beach

07	2115CST				0	0	3	0	Thunderstorm Winds (G52)
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Winds to 60 mph were recorded at the police station.

St. Louis County
Hazelwood

07	2120CST				0	0	0	0	Thunderstorm Winds (G52)
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The public reported 60 mph wind gusts at the intersection of Interstate 270 and Lindbergh Road.

St. Louis City

07	2145CST				0	0	5	0	Thunderstorm Winds
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Union Electric reported many tree limbs and power lines down across the city. Roofing was blown off of the St. Louis Science Center walkway over Interstate 64.

Franklin County
St. Clair
Washington
Labadie

07	2145CST				0	0	2	0	Thunderstorm Winds
07	2149CST				0	0	3	0	Thunderstorm Winds
07	2155CST				0	0	2	0	Thunderstorm Winds

The Franklin County Emergency Operations Center reported many downed trees in St. Clair. Ham radio spotters later reported power lines down in Washington and Labadie.

Jefferson County
De Soto

07	2218CST				0	0	0	0	Thunderstorm Winds (G52)
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Ham radio spotters reported 60 mph wind gusts.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
MISSOURI Cont'd									
Jasper County 4 E Joplin	08	0948CST			0	0	3	0	Thunderstorm Winds (G52)
Barry County Southwestern Portion	08	1600CST- 2350CST			1	0	2	0	Flash Flood
A 65-year-old woman was killed trying to cross a low-water bridge over Little Sugar Creek in southwestern Barry County. (F650)									
Jackson County Independence	09	0010CST			0	0	3	1	Hail (0.75)
Buchanan County Rushville	09	0310CST			0	0	2	2	Hail (0.75)
Adair County 5 NW Kirksville	09	1416CST			0	0	0	0	Hail (1.00)
No damage was reported.									
Knox County Hurdland	09	1430CST			0	0	0	0	Hail (0.75)
A sheriff deputy reported 0.75-inch-diameter hail.									
Lewis County La Grange	09	1505CST			0	0	0	0	Hail (0.75)
Dime-size hail was reported at city hall.									
Saline County 2 E Slater	09	1510CST			0	0	4	0	Hail (1.00)
Pettis County Longwood	09	1532CST			0	0	3	0	Hail (0.75)
Shelby County Shelbina	09	1535CST			0	0	3	0	Hail (1.75)
Golf ball-size hail was reported.									
Cooper County Pilot Grove	09	1555CST			0	0	4	0	Hail (1.00)
Pettis County 1 NE Ionia	09	1608CST			0	0	3	0	Hail (0.75)
Monroe County Paris	09	1615CST			0	0	0	0	Hail (0.75)
Dime-size hail was reported by the county sheriff.									
Marion County 8 S Palmyra	09	1615CST			0	0	0	0	Thunderstorm Winds (G52)
Hannibal	09	1635CST			0	0	3	0	Thunderstorm Winds
A county sheriff deputy reported wind gusts to 60 mph and marble-size hail at Highways 24 and 36 south of Palmyra. Emergency Management personnel reported several large trees down in Hannibal. Numerous power outages were also reported.									
Cooper County 1 E Bunceton	09	1635CST			0	0	0	0	Hail (0.75)
Benton County Lincoln	09	1640CST			0	0	4	0	Hail (1.75)
St. Clair County Osceola	09	1651CST			0	0	2	2	Hail (1.75)
Morgan County Stover	09	1724CST			0	0	4	0	Hail (1.75)
Moniteau County 1 S Latham	09	1730CST			0	0	0	0	Hail (0.75)
Vernon County Nevada	09	1750CST			0	0	4	0	Hail (0.75)
Lincoln County 7 E Troy	09	1800CST			0	0	0	0	Thunderstorm Winds (G52)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

MISSOURI Cont'd

The public reported wind gusts to 60 mph.

Cole County Jefferson City	09	1813CST			0	0	0	0	Hail (0.75)
Vernon County Nevada	09	1815CST			0	1	3	0	Lightning

A 16-year-old boy was struck by lightning while pushing a shopping cart back to a store after helping a customer load groceries. The boy was slightly injured but received minimal hospital care. Many street and stop lights were blown out as well.

St. Charles County Foristell	09	1815CST			0	0	3	0	Hail (1.75)
New Melle	09	1819CST			0	0	0	0	Thunderstorm Winds (G52)

Golf ball-size hail was reported by the Missouri Highway Patrol on the St. Charles side of the county line. Ham radio spotters reported a wind gust to 60 mph a few minutes later.

Warren County Wright City	09	1829CST			0	0	0	0	Hail (0.75)
Dade County Arcola	09	1840CST			0	0	3	0	Thunderstorm Winds (G52)
Barton County Lamar	09	1847CST			0	0	4	0	Hail (0.75)
Jasper County Joplin	09	1909CST			0	0	0	0	Thunderstorm Winds (G61)

Wind gusts to 61 knots were recorded at the Joplin Airport.

St. Louis County Western Portion	09	1909CST			0	0	0	0	Thunderstorm Winds (G52)
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The public reported wind gusts to 60 mph.

Polk County 5 SE Flemington	09	1910CST			0	0	3	0	Hail (0.75)
Barton County Lamar	09	1910CST			0	0	4	0	Hail (0.75)
St. Louis County Southern Portion	09	1912CST			0	0	3	0	Thunderstorm Winds

The public reported wind gusts to 60 mph with several large trees blown down.

Jasper County Joplin	09	1913CST			0	0	2	0	Hail (0.75)
St. Louis County	09	1919CST			0	0	0	0	Hail (0.75)

Ham radio spotters reported 0.75-inch-diameter hail.

Greene County 3 N Walnut Grove	09	1925CST			0	0	3	0	Hail (0.75)
Franklin County Washington	09	1933CST			0	0	2	0	Thunderstorm Winds

Several large trees were knocked down.

Lawrence County Mt. Vernon	09	2005CST			0	0	4	0	Hail (1.00)
Greene County Stratford	09	2010CST			0	0	4	0	Hail (0.75)
Springfield	09	2010CST			0	0	4	0	Thunderstorm Winds (G53)
Newton County Neosho	09	2027CST			0	0	4	0	Hail (0.75)
Stone County Crane	09	2030CST			0	0	4	0	Thunderstorm Winds (G52)
Kimberling City	09	2030CST			0	0	4	0	Thunderstorm Winds (G55)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
MISSOURI Cont'd									
Newton County Neosho	09	2043CST- 0245CST			0	0	2	0	Flash Flood
									Numerous streets were under water.
Jasper County Carthage	10	0000CST- 0300CST			0	0	3	0	Flash Flood
									Highway 16 and Highway FF were closed due to high water. Elm Road was also closed.
Jackson County Independence	20	1730CST- 1750CST			0	0	1	1	Heavy Rain
									In independence, 1.50 inches of rain fell in 20 minutes.
Raytown	20	1755CST- 1800CST	2.0	100	0	1	4	1	Tornado (F1)
									The tornado caused intermittent damage along a path. An adult male was cut from glass from a broken window. Trees were uprooted or snapped at the base and many homes had some sort of roof damage. Several vehicles were damaged or moved.
Lee's Summit	20	1812CST	0.6	50	0	0	3	2	Tornado (F0)
									Damage was mainly to trees near the intersection of Interstate 470 and U.S. Highway 50.
Pettis County 1 S Houstonia	20	1830CST	0.6	35	0	0	4	0	Tornado (F1)
									A tornado touched down and severely damaged a large barn near Houstonia.
Howard County 1 N Glasgow	20	2105CST			0	0	3	0	Thunderstorm Winds
									Large tree limbs were broken off and damaged a roof, the hood of a car, and some playground equipment.
MONTANA									
MTZ007	06 07	1700MST- 0500MST			0	0	0	0	Heavy Snow
									Ten to twelve inches of snow fell in the Beartooth Mountains causing the Beartooth Highway to be closed.
Big Horn County Near Harden	12	1600MST			0	0	3	0	Thunderstorm Winds
									Several power poles were blown down by thunderstorm winds.
Yellowstone County Near Billings	12	1630MST			0	0	3	0	Thunderstorm Winds
									Several trees were blown down.
Fallon County Baker	12	1908MST			0	0	4	0	Thunderstorm Winds (G61)
									A garage was blown down and several buildings received damage.
MTZ003	26	1400MST- 1800MST			0	0	4	0	High Winds (G77)
									Strong winds whipped the Rocky Mountain Front. A pickup and mobile home was turned over near Browning on Highway 89. Dupuyer reported winds gusting to 89 mph, Choteau 81 mph and Cut Bank 65 mph.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
NEBRASKA									
Lancaster County 4 S Lincoln	01	1845CST			0	0	4	0	Lightning
									Lightning in south Lincoln started a house fire that caused \$30,000 damage to the house and \$5,000 to its contents.
2 NW Raymond	02	0100CST			0	0	5	0	Lightning
									Lightning started a fire that destroyed a barn, equipment, a saddle, and several thousand bales of hay on a farm 1.5 miles east of Branched Oak Lake.
Douglas County 9 NW Omaha	05	1500CST			0	1	0	0	Lightning
									Lightning struck a soccer field during a tournament, knocked several people to the ground, and slightly injured a referee.
Pawnee County 1 N Table Rock	05	1515CST			0	0	?	?	Hail (1.75)
Cass County 6 SW Offutt Air Force Base	05	1555CST	Short	10	0	0	?	?	Tornado (F0)
									The Air Force Base weather observer reported a tornado that briefly touched down just south of the Platte River.
Plattsmouth 2 W Plattsmouth	05	1610CST			0	0	?	?	Hail (1.75)
Nemaha County Auburn	05	1612CST			0	0	0	0	Funnel Cloud
Pawnee and Johnson Counties	05	1630CST			0	0	?	?	Hail (1.00)
	05	1630CST- 2000CST			0	0	?	?	Flash Flood
									Thunderstorms with heavy rain produced flash flooding in northeast Pawnee and southeast Johnson counties. Several county roads and a highway were under water after six inches of rain fell.
Dawson County Lexington	06	2130CST			0	0	?	?	Thunderstorm Winds
									Strong thunderstorm winds accompanied by pea-size hail stripped 200 acres of corn around the northwest edge of Lexington.
Harlan County 5 N Orleans	07	0143CST			0	0	?	?	Thunderstorm Winds
									Strong winds knocked out an electrical transformer.
Harlan County Republican City	07	0215CST			0	0	?	?	Hail (0.75)
Jefferson County 2 SE Diller	09	0100CST			0	0	4	?	Lightning
									Lightning started a fire, which completely destroyed a trailer house.
Gage County Holmesville	09	0205CST			0	0	?	?	Thunderstorm Winds
									Thunderstorm winds toppled a row of cedar trees, which took out a power line and crushed the top of a car in the northwest corner of Holmesville.
Platte County 5 N Columbus	14	0310CST			0	0	?	?	Hail (1.50)
Douglas and Sarpy Counties	14	0440CST			0	0	6	?	Hail (1.75)
									Hail up to golf ball-size fell over south Omaha, Papillion, and Bellevue, causing over \$3 million in damage to cars and roofs.
Thayer County Brunning	16	1740CST			0	0	?	?	Hail (1.50)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
NEBRASKA Cont'd									
Holt County Page	17	1844CST			0	0	?	?	Hail (1.75)
Antelope County Orchard	17	1910CST			0	0	?	?	Hail (1.75)
Howard County Elba	17	1959CST			0	0	?	?	Hail (0.75)
2 NW Elba	17	2000CST			0	0	?	?	Hail (0.75)
St. Paul	17	2010CST			0	0	?	?	Hail (0.75)
Nemaha County Auburn	17	2030CST			0	0	?	?	Hail (1.00)
Sarpy County 2 N Offutt Air Force Base	17	2135CST			0	0	?	?	Hail (1.50)
Lancaster County 3 NE Lincoln	17	2200CST			0	0	?	0	Hail (1.75)
2 SE Lincoln	17	2215CST			0	0	?	0	Thunderstorm Winds
Gage County 2 W Wymore	17	2245CST			0	0	?	?	Thunderstorm Winds

Thunderstorms winds toppled a 15,000-bushel grain bin and moved it 100 yards, damaged trees, drove a tree limb through a window, destroyed an outbuilding, and twisted a garage off its foundation.

NEVADA

None reported.

NEW HAMPSHIRE

Grafton County Woodsville	10	2000EST- 2100EST			0	0	?	0	Thunderstorm Winds
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A line of thunderstorms produced gusty surface winds that caused several trees to fall in the Connecticut River Valley in and around the Woodsville area.

Merrimack County Concord Epsom Chichester	19	0500EST			0	0	?	0	Lightning
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Lightning and heavy rain caused numerous power outages, hardest hit were Airport Road and Manchester Street in Concord where 1,400 homes were without power.

Strafford County Dover Durham	22	2215EST- 2330EST			0	0	?	0	Thunderstorm Winds
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Thunderstorms moving across the area produced winds of sufficient intensity to knock down trees and tree limbs. Power outages resulted as the trees and limbs fell across power lines.

NEW JERSEY, Northern

Bergen County	03	1840EST-							
	04	0400EST			0	0	?	0	Flood
Passaic County	03	1920EST-							
	04	0400EST			0	0	?	0	Flood
Morris County	03	2000EST-							
	04	0900EST			0	0	?	0	Flood

Showers and thunderstorms that developed ahead of a cold front dumped heavy rains across sections of northern New Jersey. Urban flooding became a problem after two to nearly four inches fell. Runoff from these storms eventually produced flooding along the Rockaway and Saddle Rivers and along the Molly Ann, Ho-Ho-Kus, Wallace and Jackson Brooks.

NJZ005-007-015 Coastal New Jersey	25	0500EST-							
	26	1100EST			2	2	?	0	Coastal Flood

The combination of Tropical Storm Danielle approaching from the south and a strong high pressure system over New England, produced an extended period of onshore winds. The result was a very

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEW JERSEY, Northern Cont'd

rough surf and abnormally high tides. At times of astronomically high tides, localized coastal flooding and beach erosion was observed, however the damage was considered relatively minor. A 35-foot sailboat floundered after losing its mast and sails in the rough seas and strong winds. The 4-man crew was swept overboard as they neared the coast. Two managed to swim ashore but the other two drown. (M480) (M520)

NEW JERSEY, Southern

NJSESE	25	1300EST			2	0	7	0	Tropical Storm Danielle
Southeast New Jersey	26	0300EST							

Tropical Storm Danielle moved onshore over Maryland with the remnants of the center going across the Delaware Bay and up to the west of Philadelphia. High winds buffeted coastal sections of Southern New Jersey including Coastal Delaware Bay. The highest reported wind gust was 69 mph at Atlantic City at 1900 EST on Friday the 25th. But only minor wind damage resulted. However, high tides and the strong winds caused tidal flooding along the coast and along the back bays. Tides reached 2 1/2 and 1/2 feet above normal or 7 1/2 feet above mean low water along the coast. Along the back bays it reached 2 1/2 and 1/2 to 3 feet above normal or 8 feet above mean low water. Heavy rains combined with the high tides to cause considerable roadway flooding along coastal areas. Rainfall amounts over Southern New Jersey were from 1.75 to just under three inches, 2.94 at Atlantic City. The tides and wind driven waves caused moderate beach erosion which accounts for most of the damage. A 35 foot sailboat got caught in the storm just off Island Beach State Park, went out of control and was washed up on the beach. Three of the four crewmen were washed overboard as the boat approached the beach. One of the three managed to get to shore safely. One drowned and was washed up on the beach. The third is still missing. The crewman on the boat also reached shore safely. (M480) (M520)

NEW MEXICO

Lea County Crossroads	01	0006MST			0	0	0	0	Hail (1.25)
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A rainfall network observer reported half-dollar-size hail in Crossroads.

Jal	10	1420MST			0	0	0	0	Hail (0.75)
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The Jal Police Department observed dime-size hail in and around the city of Jal.

Socorro County 45 NE Socorro	19	1500MST			0	1	4	0	Hail (1.00)
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The National Park Service reported that a female visitor to the Gran Quivira mission of the Salinas National Monument was slightly injured when 1.00-inch-diameter hail struck her in the head. The hail dented three cars and two motorcycles, and broke a few windows/screens.

NEW YORK, Central

Oneida County Cassville	03	1525EST	0.5	50	0	0	4	3	Tornado (F0)
Broome County Endicott	03	1555EST- 1605EST	6.0	270	0	6	6	0	Tornado (F1)
Tioga County 4 SE Apalachin	03	1800EST	0.5	35	0	0	5	0	Tornado (F0)

Isolated severe thunderstorms developed ahead of a cold front which moved across central New York late on September 3, 1992. All three thunderstorms spawned tornadoes. The first tornado touched down in Cassville in Oneida County where it removed the roof of a house, knocked down at least six trees, hurled appliances into the driveway of the house, and damaged a nearby corn field. The second tornado touched down in the Endicott business district along North Street, 6 businesses sustained minor to major damage. At Shapiro's Uniform Rental three workers were injured when the building they were in collapsed on top of them. A gas station attendant was injured when struck by flying debris. Several homes and vehicles were damaged as well as trees and powerlines destroyed by the tornado. Damage estimates to the businesses alone exceeded \$2 million. The third tornado skipped three times along a 0.5-mile path in Apalachin destroying a garage, a camper, numerous trees and turning a car around.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
NEW YORK, Central Cont'd									
Franklin County Moria	10	1125EST			0	0	2	0	Thunderstorm Winds
Clinton County Chazy	10	1406EST			0	0	3	0	Thunderstorm Winds
Cortland County Cortland	10	1445EST			0	0	3	0	Lightning
Tioga County Tioga Center	10	1452EST			0	0	3	0	Thunderstorm Winds
Broome County Maine	10	1520EST			0	0	3	0	Thunderstorm Winds
Broome County Union Center	10	1520EST			0	0	3	0	Thunderstorm Winds
Broome County Binghamton	10	1545EST			0	0	3	0	Thunderstorm Winds
Chenango County Greene	10	1608EST			0	0	2	0	Thunderstorm Winds
Essex County Ticonderoga	10	1610EST			0	0	3	0	Thunderstorm Winds
Warren County Chestertown	10	1631EST			0	0	3	0	Thunderstorm Winds
Otsego County Laurens	10	1636EST			0	0	3	0	Thunderstorm Winds
Warren County Unadilla	10	1640EST			0	0	3	0	Thunderstorm Winds
Warren County Brant Lake	10	1640EST			0	0	4	0	Thunderstorm Winds
Warren County Bolton Landing	10	1640EST			0	0	4	0	Thunderstorm Winds
Warren County Diamond Point	10	1640EST			0	0	4	0	Thunderstorm Winds
Saratoga County Greenfield Center	10	1645EST			0	0	3	0	Thunderstorm Winds
Delaware County Wilton	10	1700EST			0	0	3	0	Thunderstorm Winds
Delaware County Andes	10	1714EST			0	0	3	0	Thunderstorm Winds
Delaware County Andes	10	1714EST			0	0	4	0	Lightning
Washington County Kingsbury	10	1723EST			0	0	4	0	Lightning
Washington County Fort Edward	10	1735EST			0	0	4	0	Lightning
Saratoga County S Glens Falls	10	1735EST			0	0	3	0	Thunderstorm Winds
Washington County Middle Granville	10	1740EST			0	0	3	0	Thunderstorm Winds
Schenectady County Schenectady	10	1745EST			0	0	3	0	Thunderstorm Winds
Greene County Ashland	10	1745EST			0	0	3	0	Thunderstorm Winds
Saratoga County Ganesvoort	10	1747EST			0	0	3	0	Thunderstorm Winds
Albany County New Salem	10	1750EST			0	0	3	0	Thunderstorm Winds
Rensselaer County Schaghticoke	10	1810EST			0	0	3	0	Thunderstorm Winds
Albany County New Scotland	10	1811EST			0	0	3	0	Thunderstorm Winds
Albany County Ravena	10	1820EST			0	0	3	0	Thunderstorm Winds
Columbia County Stuyvesant	10	1820EST			0	0	3	0	Thunderstorm Winds
Washington County Fort Ann	10	1825EST			0	0	3	0	Thunderstorm Winds
Columbia County Chatham	10	1825EST			0	0	2	0	Thunderstorm Winds
Columbia County Austerlitz	10	1830EST			0	0	3	0	Thunderstorm Winds
Columbia County Niverville	10	1830EST			0	0	3	0	Thunderstorm Winds
Columbia County Spencertown	10	1830EST			0	0	3	0	Thunderstorm Winds
Ulster County Kerhonkson	10	1830EST			0	0	3	0	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
NEW YORK, Central Cont'd									
Rensselaer County Nassau	10	1835EST			0	0	3	0	Thunderstorm Winds
Ulster County Accord	10	1840EST			0	0	3	0	Thunderstorm Winds
Columbia County Chatham Center	10	1840EST			0	0	3	0	Thunderstorm Winds
Ulster County Stone Ridge	10	1850EST			0	0	3	0	Thunderstorm Winds
Dutchess County Rhinebeck	10	1904EST			0	0	3	0	Thunderstorm Winds
Columbia County Chatham	10	1917EST			0	0	3	0	Thunderstorm Winds
Dutchess County Beekman	10	1930EST			0	0	3	0	Thunderstorm Winds
Pawling	10	1930EST			0	0	3	0	Thunderstorm Winds
Millerton	10	2000EST			0	0	3	0	Thunderstorm Winds
Amenia	10	2000EST			0	0	3	0	Thunderstorm Winds

Severe thunderstorms moved across much of eastern New York ahead of a strong cold front on the afternoon and evening of September 10th. Damage was mainly confined to trees and powerlines. The Warren County area between Diamond Point and Brant Lake appeared to be hardest hit. Route 9 North between Diamond Point and Bolton Landing was closed for a time due to downed powerlines, poles and trees. Other areas hard hit included parts of Columbia and Dutchess Counties.

Columbia County Greenport

13	0715EST			5	1	4	0	Fog
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Dense fog was apparently to blame for a two-vehicle accident which claimed the lives of five people at the intersection of Route 23 and Middle Road in Greenport (F12V) (M14V) (M16V) (M20V) (F59V)

Albany County Rensselaerville

14	0620EST			2	3	4	0	Fog
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Dense fog was apparently to blame for a one-vehicle accident which claimed the lives of two people and injured three others along Route 81 in Rensselaerville (M26V) (M26V)

Delaware County Columbia County Copake

22	1715EST			0	0	3	0	Thunderstorm Winds
22	2000EST			0	0	3	0	Lightning

A severe thunderstorm downed a couple of trees in Delaware County. Lightning from a thunderstorm took out a transformer bank in the Copake area leaving 300 customers without power.

Areawide Areawide

24	AM			0	0	0	?	Frost
25	AM			0	0	0	?	Frost

A large dome of high pressure covered eastern New York on the 24th and 25th allowing for ideal radiational cooling in the early morning hours of both days resulting in widespread frost. Temperatures on the 24th dipped to at or below freezing at many places with 32 degrees at Binghamton, 31 degrees at Utica, 30 degrees at Glens Falls, 29 degrees at Johnstown, 28 degrees at Massena and 22 degrees at Piseco. On the 25th temperatures dropped to similar levels with 32 degrees at Gloversville, 30 degrees at Berlin, 29 degrees at Cooperstown and 22 degrees at Piseco.

NEW YORK, Coastal

Westchester County Hastings-on-Hudson to Rye Brook

03	1710EST- 1730EST	12.0	70	0	0	?	0	Tornado (F0)
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A tornado skipped across sections of lower Westchester county. Although the path length was 12 miles long, it was actually on the ground for only about 4 miles during its eastward trek across the county. Most of the damage was caused by snapped and overturned trees falling upon cars and homes. Damage was first reported at the Hastings Pioneer Boat Club. Subsequent damage occurred in Ardsley, Greenville, Scarsdale, White Plains and finally Rye Brook before it lifted for good.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

NEW YORK, Coastal Cont'd

Westchester County	03	1900EST- 2400EST			0	2	?	0	Flood
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Heavy rain began falling across sections of Westchester county during the late afternoon. Considerable street/highway and poor drainage flooding began after a couple of inches fell. Runoff from these earlier storms and continuing episodes of heavy rain finally caused some flooding along the Saw Mill and Bronx River. Several motorists were stranded on the adjacent parkways after they attempted to drive through these flooded areas. Two people pulled from their cars were taken to a local hospital.

Westchester County Eastchester	10	1134EST			0	0	?	0	Lightning
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Two houses caught fire when they were struck by lightning during a passing storm.

NYZ015-016-017 Coastal New York	25 26	0500EST- 1100EST			1	0	?	0	Coastal Flood
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The combination of Tropical Storm Danielle approaching from the south and a strong high pressure system over New England, produced an extended period of onshore winds. The result was a very rough surf and abnormally high tides. At times of astronomically high tides, localized coastal flooding and beach erosion was observed, however damage was considered relatively minor. The heavy surf did contribute to the death of a body surfer on the morning of the 25th. (M62O)

NEW YORK, Western

Oswego County Palermo	10	1145EST			0	0	4	0	Thunderstorm Winds
Yates County Penn Yan	10	1235EST			0	0	4	0	Thunderstorm Winds
Onondaga County Baldwinsville	10	1245EST			0	0	4	0	Thunderstorm Winds
Skaneateles	10	1245EST			0	0	4	0	Thunderstorm Winds

A cold front which crossed the area was accompanied by severe thunderstorms. The thunderstorms downed trees and power lines. A portion of County Route 35 in Oswego County was temporarily closed by large limbs. Pea-size hail was reported in Skaneateles.

Niagara County Lewiston	18	1800EST			0	0	4	0	Thunderstorm Winds
Erie County Elma	18	1830EST			0	0	4	0	Thunderstorm Winds
Athol Springs	18	1858EST			0	0	4	0	Thunderstorm Winds

A cold front crossed Western New York during the evening hours. The thunderstorms which accompanied the front produced damaging winds which downed trees and power lines.

NYZ001	27	1145EST			0	0	5	0	High Winds
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A fast-moving cold front crossed the area and winds funneled along Lake Erie resulting in damaging winds during the afternoon hours. Winds gusted to 55 mph at the Buffalo Airport with sustained winds between 25 and 30 mph for 6 hours. The strong winds downed trees and power lines. Nearly 4,000 customers in the Buffalo metropolitan area were without power for nearly 2 hours.

NORTH CAROLINA

Onslow County 6 E Sneads Ferry	02	0635EST			0	0	0	0	Waterspout
Wake County 3 E Raleigh	04	1815EST			0	0	0	0	Hail (1.00)
Carteret County 15 SW Cape Lookout	05	0850EST			0	0	0	0	Waterspout
Brunswick County 1 SE Long Beach	05	0949EST			0	0	0	0	Waterspout

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
NORTH CAROLINA Cont'd									
New Hanover County 5 NE Wrights- ville Beach	05	0951EST			0	0	0	0	Waterspout
Dare County 1 W Oregon Inlet	05	1208EST			0	0	0	0	Waterspout
Cherokee County 8 SE Murphy	05	1800EST			0	0	0	0	Flash Flood
Streams overflowed their banks and caused flooding of roadways and bridges.									
Macon County Southern Portion	05	1911EST			0	0	0	0	Flash Flood
Haywood County 13 S Waynesville	05	1953EST			0	0	0	0	Flash Flood
Foot bridges were washed away along the Blue Ridge Parkway.									
Brunswick County 1 SE Long Beach	06	0810EST			0	0	0	0	Waterspout
Dare County 11 NE East Lake 1 W Duck	06	1150EST			0	0	0	0	Waterspout
Hyde County 3 SE Swanquarter	07	1045EST			0	0	0	0	Waterspout
Madison County 20 NW Mars Hill	07	2030EST			0	0	4	0	Flash Flood
Rain falling at a rate of about two inches per hour, for a 2-hour period caused flash flooding that washed out driveways, private bridges, and a trout farm. Over 15,000 fish were lost. Total damages were estimated at \$40,000.									
Swain County 2 E Needmore	07	2100EST			0	0	3	0	Flash Flood
A county road and several private bridges were washed out.									
Cherokee Indian Reservation 8 NE Cherokee	10	1820EST			0	0	6	0	Flash Flood
An estimated eight inches of rain fell in 3 hours from thunderstorms over the headwaters of the Oconaluftee River. A wall of water 10 to 20 feet high developed as the runoff cascaded through a narrow gorge known as Big Cove. The Cherokee Indian Reservation was hardest hit by the flash flood. Property damage estimates ranged between \$2 and \$5 million. A total of 26 homes, 7 businesses, and a large trout farm suffered major damage or were destroyed. But prompt notification and quick action prevented injuries and loss of life.									
Surry County Mount Airy	10	1825EST			0	0	0	0	Thunderstorm Winds
Cleveland County 7 N Shelby	10	2030EST			0	0	0	0	Hail (0.75)
Catawba County Claremont	10	2050EST			0	0	0	0	Thunderstorm Winds
Cleveland County 2 S Shelby	10	2055EST			0	0	0	0	Hail (0.75)
Carteret County 1 E Sea Level	11	1335EST			0	0	0	0	Waterspout
New Hanover County Near Wilmington	14	1830EST			0	0	0	0	Funnel Cloud
Harnett County Lillington	19	1355EST			0	1	0	0	Lightning
A 28-year-old man was struck and injured at a shopping center.									
McDowell County Old Fort	19	1400EST			1	1	0	0	Lightning

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

NORTH CAROLINA Cont'd

A 5-year-old girl was struck and killed and a 7-year-old boy was injured while playing outdoors near a large oak tree. (F050)

Rockingham County Madison Dare and Currituck Counties Outer Banks	19	2300EST			0	0	0	0	Thunderstorm Winds
	24 25	1900EST- 0600EST			0	0	0	0	Tropical Storm Danielle

Tropical Storm Danielle developed over the Gulf Stream of the Atlantic about 160 miles south-southeast of Cape Hatteras. The storm initially moved northeast, but suddenly turned toward land on the 24th. Danielle impacted the coastal sections of Dare and Currituck Counties, but the storm center remained about 15 miles offshore as the storm tracked northward parallel to the coast. Coastal flooding and beach erosion on the Outer Banks were the most notable effects of the storm. Three beach cottages, one in Rodanthe, two in Nags Head, all previously condemned because of erosion during the Halloween Storm in 1991, collapsed into the ocean. Highest recorded winds were 50 knots at Alligator River Bridge and 47 knots at Manteo in Dare County.

NORTH DAKOTA

Grant County 15 N Elgin Cass County Fargo Fargo (Hector I)	12	1710CST			0	0	4	4	Hail (1.75)
	16	1155CST			0	0	4	4	Thunderstorm Winds (G52)
	16	1155CST			0	0	0	0	Hail (0.75)

Winds up to 60 mph blew down some trees and power lines in the city of Fargo. Meanwhile, 0.75-inch hail was observed at the airport.

OHIO

Erie County	05	2125EST- 2325EST			0	0	4	0	Flash Flood
Huron County	05	2125EST- 2325EST			0	0	4	0	Flash Flood

Heavy rain from thunderstorms resulted in street flooding.

Hancock County Findlay	06	0300EST- 2000EST			0	0	2	0	Flood
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The Blanchard River went into flood stage. The river crested at a stage of 11.8 feet at 1000 EST, causing minor damage. Flood stage is 10 feet.

Putnam County Ottawa	07 08	1130EST- 0630EST			0	0	1	0	Flood
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The Blanchard River went above the flood stage of 15 feet at Ottawa. The river crested at 15.1 feet at 0200 EST on September 8th. Virtually no damage occurred.

Ashtabula County	07	1415EST- 1615EST			0	0	4	0	Flash Flood
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Thunderstorms caused considerable road flooding.

Seneca County Northeastern Portion	09	1520EST- 1720EST			0	0	4	0	Flash Flood
Mercer County 7 SW Rockford	09	1530EST			0	0	2	0	Hail (0.75)
Van Wert County Ohio City	09	1540EST			0	0	2	0	Hail (0.75)
Wood County Hoytville	09	1548EST			0	0	2	0	Hail (0.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OHIO Cont'd									
Wood County Bowling Green	09	1553EST			0	0	4	0	Thunderstorm Winds
Allen County Spencerville	09	1555EST			0	0	3	0	Hail (1.75)
Putnam County Eastern Portion	09	1600EST			0	0	4	0	Thunderstorm Winds
Hancock County Vanlue	09	1620EST			0	0	4	0	Thunderstorm Winds
Summit County 6 S Akron	09	1630EST			0	0	4	0	Thunderstorm Winds
Wyandot County 1 W Carey	09	1630EST	Short	10	0	0	0	0	Tornado (F0)
Putnam County Vaughnsville	09	1635EST			0	0	4	0	Thunderstorm Winds
Seneca County Tiffin	09	1645EST			0	0	3	0	Hail (1.75)
Wyandot County Northern Portion	09	1700EST			0	0	5	0	Thunderstorm Winds
Erie County Huron	09	1725EST			0	0	4	0	Thunderstorm Winds
Huron County Huron	09	1725EST			0	0	3	0	Hail (1.75)
Huron County Fitchville	09	1725EST			0	0	4	0	Thunderstorm Winds
Mercer County Mendon	09	1725EST			0	0	3	0	Hail (1.75)
Lorain County Stark County	09	1740EST			0	0	5	0	Thunderstorm Winds
Alliance	09	1754EST			0	0	2	0	Hail (0.75)
Cuyahoga County Northern Portion	09	1800EST			0	0	5	0	Thunderstorm Winds
Medina County Northwestern Portion	09	1800EST			0	0	4	0	Thunderstorm Winds
Allen County	09	1812EST- 2015EST			0	0	5	4	Flash Flood
Mercer County Rockford	09	1820EST- 2020EST			0	0	5	4	Flash Flood
Van Wert County	09	1830EST-							
Geauga County Newbury	09	1845EST			0	0	5	4	Flash Flood
Newbury	09	1845EST			0	0	4	0	Thunderstorm Winds
Lake County	09	1845EST			0	0	4	0	Thunderstorm Winds
Mahoning County Eastern Portion	09	1900EST			0	0	4	0	Thunderstorm Winds
Trumbull County Northern Portion	09	1900EST			0	0	4	0	Thunderstorm Winds
Fulton County 2 SW Wauseon	09	2020EST			0	0	4	0	Thunderstorm Winds
Fulton County Lyons	09	2036EST			0	0	5	0	Thunderstorm Winds
Lucas County Toledo	09	2100EST			1	0	6	0	Thunderstorm Winds

Thunderstorms in northern Ohio produced high winds, large hail, flooding rains, and even a small tornado. The worst damage was in the city of Toledo, where thousands of trees were destroyed. A 53-year-old man in Toledo was killed when a tree fell on his car. (M53V)

Erie County Milan	10	1030EST- 1400EST			0	0	1	0	Flood
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The Huron River briefly flooded at Milan. Flood stage is 14 feet, and the river crested at 14.3 feet at 1200 EST.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OHIO Cont'd									
Putnam County Ottawa	11	0000EST- 2200EST			0	0	1	0	Flood
A minor flood occurred along the Blanchard River. Flood stage is 15 feet, and the river crested at 15.2 feet at 0700 EST.									
Lake County Perry	21	0755EST			0	1	0	0	Lightning
A 35-year-old man suffered minor injuries as he was struck by lightning while digging a hole.									
Warren County 1 NW S Lebanon	21	1500EST			0	0	4	0	Thunderstorm Winds
2 N S Lebanon	21	1515EST			0	0	4	0	Thunderstorm Winds
Madison County London	21	1545EST			0	0	4	0	Thunderstorm Winds
Union County Marysville	21	1550EST			0	0	2	0	Hail (0.75)
Marysville	21	1550EST			0	0	4	0	Thunderstorm Winds
Thunderstorms over southwestern and west-central Ohio caused damage mainly by destroying trees and power lines.									
Columbiana County 2 SW Salem	21	1730EST	2.5	20	0	0	5	0	Tornado (F1)
A tornado damaged or destroyed several outbuildings.									
1 SW Salem	21	1755EST			0	0	4	0	Thunderstorm Winds
Clermont County	21	1800EST			0	0	5	0	Thunderstorm Winds
Mahoning County Poland	21	1900EST			0	0	4	0	Thunderstorm Winds
Thunderstorms felled trees and power lines.									
Sandusky County Woodville	22 23	0700EST- 1400EST			0	0	2	0	Flood
The Portage River flooded. Flood stage is 9 feet, and the river crested at 9.5 feet at 2100 EST on September 22nd.									
OKLAHOMA									
Harper County 9 S Buffalo	01	1905CST			0	0	?	?	Hail (0.75)
Woods County 2 S Lookout	01	1930CST			0	0	?	?	Hail (0.75)
Harper County 12 SSE Buffalo	01	1937CST			0	0	?	?	Hail (0.75)
Woodward County 8 N Woodward	01	2027CST			?	?	0	0	Hail (0.88)
Harper County 10 SE Selman	01	2030CST			0	0	?	?	Hail (0.75)
Woods County 2 S Lookout	01	2032CST			0	0	?	?	Hail (0.75)
Woodward County 5.5 NE Mooreland	01	2100CST			0	0	?	?	Hail (0.75)
Woodward County Mooreland	01	2106CST			0	0	?	?	Hail (0.88)
Woodward County 4 S Freedom	01	2215CST			0	0	?	?	Hail (0.75)
Woods County Freedom	01	2220CST			0	0	?	?	Hail (1.00)
Garfield County Enid	01	2245CST			?	?	0	0	Hail (0.88)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Woods County 1 NE Brace Station	01	2330CST			0	0	?	?	Hail (1.25)
Woods County Dacoma	02	0000CST			0	0	?	?	Hail (1.75)
Garfield County Wrn Enid	02	0003CST			0	0	?	?	Hail (0.75)
Garfield County Enid, East and Northeast Portion of Town	02	0020CST			0	0	6	?	Hail (2.50)
Alfalfa County 2 W Lambert	02	0025CST			0	0	?	?	Hail (0.75)
Garfield County Enid	02	0043CST			0	0	?	?	Hail (1.75)
Garfield County Enid	02	0050CST			1	0	?	?	Flash Flood
Alfalfa County 1 S Jet	02	0100CST			0	0	?	?	Hail (1.00)
Garfield County 1 N Garber	02	0115CST			0	0	?	?	Hail (0.75)
Noble County 3 SSE Billings	02	0140CST			0	0	?	?	Hail (1.00)
Garfield County Kremlin	02	0250CST			0	0	?	?	Hail (0.75)
Kingfisher County 1.5 E Cashion	02	0300CST			?	?	0	0	Hail (0.75)
Logan County .50 E Cashion	02	0300CST			?	?	0	0	Hail (0.75)
Penny-size hail in Cashion at 0300CST on the 2nd and 1.5 mile east of Cashion.									
Garfield County Hunter	02	0300CST			0	0	?	?	Hail (0.75)
Noble County Billings	02	0315CST			0	0	?	?	Hail (0.88)
Oklahoma County Deer Creek	02	0430CST			0	0	4	?	Lightning
Payne County Stillwater	02	0605CST			0	0	5	?	Lightning
Severe thunderstorms across northwest and north central Oklahoma brought reports of hail up to quarter-size on the evening of the 1st into the morning hours of the 2nd. Insurance adjusters set up temporary claim centers in the Enid area for what was expected to be around 3,000 claims for hail damage from hail up to 2.50 inches in diameter totalling \$3,000,000. Also in Enid, a 54 year old woman was killed when she tried to drive across a flooded bridge. In Stillwater, lightning struck a home, and the resulting fire caused an estimated \$60,000 to the home and its contents. In the Deer Creek area west of Edmond lightning struck a home and the resulting fire caused an estimated \$8,000 damage. (F54V)									
Comanche County Lawton	02	0835CST			0	0	?	?	Hail (0.75)
An isolated severe thunderstorm in southwest Oklahoma dropped dime-size hail over downtown Lawton.									
Atoka County Stringtown	02	1337CST			0	0	?	?	Hail (0.75)
Atoka County Farris	02	1425CST			0	0	?	?	Hail (0.88)
Pushmataha County 1.5 N Antlers	02	1430CST			?	?	0	0	Hail (1.00)
Choctaw County 10 S Antlers	02	1430CST			0	0	?	?	Hail (0.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Oklahoma County Midwest City	02	1450CST			0	1	?	?	Lightning
Choctaw County 6.5 W Frogville	02	1515CST			0	0	?	?	Hail (0.75)
Mc Clain County 2 E Cole	02	1630CST			0	0	?	?	Hail (1.00)
Mc Clain County 2 S Goldsby	02	1644CST			0	0	?	?	Hail (2.50)
Cleveland County Noble	02	1657CST			0	0	?	?	Hail (1.75)
Mc Clain County 2.5 SW Purcell 3 ENE Wayne	02	1715CST- 1745CST	8.0	400	0	1	5	3	Tornado (F2)
Mc Clain County 1 S Purcell	02	1720CST			0	0	?	?	Hail (2.50)
Cleveland County Lexington	02	1722CST			0	0	?	?	Hail (2.75)
Cleveland County 3 E 1 S Corbett	02	1745CST			0	0	?	?	Hail (1.75)
Garvin County 1.5 SW Straftord	02	1800CST			0	0	?	?	Hail (0.75)
McClain County Rosedale	02	1803CST			0	0	?	?	Hail (4.00)
Pittsburg County 2 W Indianola	02	1827CST			0	0	?	?	Hail (1.00)
Pittsburg County Crowder Indianola	02	1835CST			0	0	?	?	Hail (1.00)
Garvin County 1 S Stratford	02	1835CST			0	0	?	?	Hail (0.88)
	02	1830CST			0	0	?	?	Hail (0.88)
Mc Clain County Wayne	02	1852CST			0	0	?	?	Hail (0.75)
Pittsburg County 4 E Blocker	02	1910CST			0	0	?	?	Hail (1.00)
Carter County 4 S 3 W Wilson	02	1915CST			0	0	?	?	Hail (0.88)
Garvin County 5 E Elmore City	02	1919CST			0	0	?	?	Hail (0.75)
Jefferson County Ringling	02	1925CST			0	0	?	?	Hail (0.88)
Murray County 5 W Davis	02	1937CST			0	0	?	?	Hail (0.88)
Marshall County 3 S Madill	02	1945CST			0	0	?	?	Hail (1.75)
Jefferson County 6 S Ringling	02	1945CST			0	0	?	?	Hail (0.75)
Carter County 5 S Wilson	02	1959CST			0	0	?	?	Hail (0.75)
Love County 2 E Rubottom	02	2000CST			0	0	?	?	Hail (0.75)
Marshall County Kingston	02	2000CST			0	0	?	?	Hail (2.00)
Love County 11 W Marietta	02	2035CST			0	0	?	?	Hail (0.75)
Marshall County Kingston	02	2045CST			0	0	?	?	Hail (0.75)
Jefferson County 15 S Ringling	02	2045CST			0	0	?	?	Hail (1.00)
Bryan County Cartwright	02	2116CST			0	0	?	?	Hail (1.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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OKLAHOMA Cont'd

Severe thunderstorms were widespread across central and south central Oklahoma, with a few severe storms across the southeastern portion of the state.

A strong (F2) tornado developed across McClain County at 1715CST 2.5 miles southwest of Purcell. The tornado moved along an 8 mile path and dissipated 3 miles east northeast of Wayne at 1745CST. The tornado had an average path width of 300 to 500 yards. Most damage was confined to trees and crops, but 7 homes and several outbuildings received damage. One home on U.S. Route 77 lost about 80 percent of its roof. At Route 77 a pickup truck was overturned and its lone occupant was thrown from the vehicle. Other damage included downed high tension power lines, a trailer bed blown about 100 yards and a one ton propane tank blown and rolled about .25 mile. The storm producing the tornado dropped tennis ball-to softball-size hail across Mc Clain and southern Cleveland Counties. A 14 year old Midwest City boy was injured by lightning. The boy reached to turn off a television as lightning was striking the mobile home he lived in. The surge of current knocked the boy across the room and he was hospitalized for injuries.

Alfalfa County Cherokee	05	1655CST			0	0	?	?	Hail (1.00)
Alfalfa County Cherokee	05	1711CST			0	0	?	?	Hail (0.88)
Dewey County 1 E 3.5 S Cestos	05	1730CST			0	0	?	?	Hail (1.75)
Woods County 1 E Galena	05	1735CST			0	0	?	?	Hail (1.00)
Alfalfa County 2 E Carmen	05	1754CST			0	0	?	?	Hail (0.88)
Major County 6 NE Cedardale	05	1802CST			0	0	?	?	Hail (1.00)
Major County 3 N Chester	05	1815CST	.01	30	0	0	?	?	Tornado (F0)
Woodward County 4 NW Seiling	05	1850CST	.01	30	0	0	?	?	Tornado (F0)
Major County 2 W Chester	05	1850CST	.01	30	0	0	?	?	Tornado (F0)
Beckham County 4 NW Elk City	05	1855CST			0	0	?	?	Hail (0.75)
Alfalfa County 1 SSE Helena	05	1900CST			0	0	?	?	Hail (0.75)
Alfalfa County Carmen	05	1900CST			0	0	?	?	Flash Flood
Garfield County Carrier	05	1900CST			0	0	?	?	Hail (1.75)
Custer County 4 E Moorewood	05	1910CST			0	0	?	?	Hail (1.75)
Custer County 2 W Clinton	05	1923CST	.01	30	0	0	?	?	Tornado (F0)
Roger Mills County Hammon	05	1925CST			?	?	0	0	Hail (0.75)
Dewey County Taloga	05	1926CST	.01	30	0	0	?	?	Tornado (F0)
Garfield County Enid	05	1930CST			0	0	4	?	Flash Flood
Dewey County Taloga	05	1930CST			0	0	?	?	Hail (1.75)
Dewey County 1 W Taloga	05	1945CST	.01	30	0	0	?	?	Tornado (F0)
Custer County 2 W Clinton	05	1950CST			0	0	?	?	Hail (2.75)
Beckham County Elk City	05	1951CST			0	0	?	?	Hail (3.00)
Garfield County Garber	05	1955CST			0	0	?	?	Hail (0.75)
Custer County 8 S Taloga	05	1955CST	.25	40	0	0	3	3	Tornado (F0)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Washita County 9 S 1 W Canute	05	1955CST			0	0	?	?	Hail (1.00)
Noble County 5 S Billings	05	2010CST			0	0	?	?	Hail (0.75)
Noble County 2 W 10 N Perry	05	2010CST			0	0	?	?	Hail
Dewey County Taloga	05	2014CST			0	0	?	?	Hail (1.75)
Greer County 6 N Mangum	05	2030CST			0	0	?	?	Hail (1.00)
Noble County Perry	05	2030CST			0	0	3	?	Lightning
Beckham County 0.5 SE Delhi	05	2037CST			0	0	?	?	Hail (0.75)
Garfield County 1 SE Douglas	05	2050CST			0	0	3	?	Thunderstorm Winds
Washita County 8 SE Elk City	05	2100CST			0	0	?	?	Hail (1.00)
Noble County Perry	05	2100CST			0	0	?	?	Hail (0.75)
Noble County Perry	05	2100CST			0	0	?	?	Thunderstorm Winds
Washita County 2 SW Sentinel	05	2110CST			0	0	?	?	Hail (1.75)
Logan County Orlando	05	2112CST			0	0	?	?	Hail (1.00)
Beckham County Retrop	05	2119CST			0	0	?	?	Hail (1.00)
Tulsa County Tulsa	05	2130CST			0	1	3	?	Thunderstorm Winds
Washita County 9 S 1 W Canute	05	2130CST			0	0	?	?	Hail (1.00)
Pawnee County Maramec	05	2130CST			0	0	?	?	Thunderstorm Winds (G52)
Kiowa County 13 NW Lone Wolf	05	2130CST			0	0	?	?	Hail (0.88)
Creek County Oilton	05	2135CST			0	0	?	?	Thunderstorm Winds
Pawnee County Cleveland	05	2135CST			0	0	?	?	Thunderstorm Winds
Pawnee County Hallett	05	2135CST			0	0	?	?	Thunderstorm Winds (G70)
Greer County Willow	05	2144CST			0	0	?	?	Hail (1.75)
Greer County Willow	05	2144CST			0	0	?	?	Thunderstorm Winds (G52)
Washita County Rocky	05	2200CST			0	0	?	?	Hail (0.75)
Kiowa County Lone Wolf	05	2210CST			0	0	?	?	Hail (2.00)
Kiowa County Lone Wolf	05	2210CST			0	0	?	?	Thunderstorm Winds (G52)
Greer County 6 N Mangum	05	2210CST			0	0	?	?	Hail (1.75)
Payne County Lake Blackwell	05	2213CST			0	0	?	?	Hail (0.75)
Tulsa County Tulsa	05	2215CST- 2245CST			?	0	0	?	Thunderstorm Winds
Kingfisher County 4 W Kingfisher	05	2220CST			?	?	0	0	Thunderstorm Winds (G61)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Canadian County 6 N Piedmont	05	2220CST			0	0	?	?	Hail (0.75)
Logan County Guthrie	05	2225CST			0	0	?	?	Hail (0.75)
Caddo County Carnegie Mustang	05	2245CST			0	0	?	?	Hail (1.70)
Oklahoma County 7 W Edmond	05	2251CST			0	0	?	?	Thunderstorm Winds
Canadian County Mustang	05	2305CST			0	0	?	?	Thunderstorm Winds Hail (0.75)
Craig County 1 W Vinita	05	2315CST			0	0	?	?	Thunderstorm Winds (G52)
Craig County 1 W Vinita	05	2315CST			0	0	?	?	Hail (0.75)
Lincoln County 2 N Tryon	05	2315CST			0	0	?	?	Hail (0.88)
Kiowa County Roosevelt	05	2318CST			0	0	?	?	Hail (1.00)
Oklahoma County Oklahoma City N.W. 60th and Portland	05	2319CST			0	0	?	?	Thunderstorm Winds (G52)
Oklahoma County 1 N Edmond	05	2329CST			0	0	?	?	Thunderstorm Winds (G52)
Canadian County Mustang	05	2330CST			0	0	4	?	Lightning
Grady County Tuttle	05	2330CST			0	0	3	?	Thunderstorm Winds
Cleveland County 2 NE Norman	05	2350CST			0	0	5	?	Thunderstorm Winds (G74)
Cleveland County 2.5 NE Norman	05	2350CST			0	0	6	?	Thunderstorm Winds (G82)
Caddo County Cyril	05	2355CST			0	0	2	?	Thunderstorm Winds
Oklahoma County Tinker AFB	06	0009CST			0	0	?	?	Hail (1.25)
Comanche County 1.5 E Elgin	06	0010CST			0	0	?	?	Thunderstorm Winds
Caddo County Apache	06	0025CST			0	0	?	?	Hail (0.75)
Grady County 5 S 3W Alex	06	0040CST			0	0	?	?	Thunderstorm Winds
Lincoln County Jacktown	06	0045CST			0	0	?	?	Thunderstorm Winds (G52)
Oklahoma County SW Oklahoma City (Will Rogers Airport)	06	0050CST- 0205CST			?	0	0	?	Warm Air Burst
<p>A unusual temperature rise occurred at Will Rogers Airport during the early morning hours of the 6th. At 1250 CST the temperature was 71 degrees and a southerly wind prevailed. The warm air burst moved in on northwesterly winds and the temperature rose to 83 degrees at 0115CST, while the dew point fell to 48 degrees.</p> <p>By 0205CST the burst had ended. The temperature had fallen to 66 degrees with a dew point of 61 and the winds were again southerly.</p>									
Seminole County Konawa	06	0051CST			0	0	?	?	Thunderstorm Winds (G56)
Hughes County Lamar	06	0130CST			0	0	?	?	Thunderstorm Winds
Pontotoc County Ada	06	0135CST			0	0	?	?	Thunderstorm Winds (G56)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Canadian County 5 NE Piedmont	06	0230CST			0	0	?	?	Hail (1.00)
Oklahoma County Deer Creek	06	0235CST			0	0	?	?	Hail (0.88)
Oklahoma County SW Oklahoma City	06	0252CST			0	0	?	?	Hail (1.00)
Oklahoma County Oklahoma City Broadway and Britton Roads	06	0309CST			0	0	?	?	Hail (3.50)
Logan County 7 NE Edmond	06	0322CST			0	0	?	?	Hail (0.88)
Oklahoma County Oklahoma City	06	0332CST			0	0	?	?	Hail (2.75)
Pottawatomie County Dale	06	0410CST			?	?	0	0	Hail (0.75)
Pontotoc County 2 SE Ada	06	0555CST			0	0	?	?	Hail (0.88)

Severe thunderstorms developed along a cold front in northwest and north central Oklahoma during the late afternoon of the 5th. These storms spread southeastward over the northeast, central and southwest portions of the state during the late evening of the 5th and the morning hours of the 6th. These storms produced 7 tornadoes, hail to near baseball-size, flash flooding and straight line winds to near 95 mph causing an estimated \$2,700,000 in damages. In addition many storms contained frequent or continuous cloud to ground lightning which resulted in several fires and many power outages.

Tornadoes were reported 3 miles north of Chester, 4 miles northwest of Seiling, 2 miles west of Chester, 2 miles west of Clinton, near Taloga, 1 mile west of Taloga and 8 miles south of Taloga. The tornadoes were all brief F0 touchdowns and no damage was reported, except for the tornado 8 miles south of Taloga. This tornado passed close enough to a grain elevator to pull grain out of it and scatter it around.

Significant damage, however, was caused by straight line winds from severe thunderstorms in Norman. At Max Westheimer Field, winds at the National Weather Service Forecast Office were measured at 85 mph, while .50 mile to the north of the Forecast Office winds estimated at 95 mph damaged or destroyed 22 of the 42 aircraft at the airport. Roof damage was sustained to the NWS Office, while the nearby Cleveland County YMCA suffered significant window damage and some roof damage. Damage to aircraft, buildings and powerlines in the Norman area was estimated at \$2,700,000. Severe thunderstorm winds also caused roof damage and destroyed a storage building in Vinita, downed power lines in Cleveland and blew a tree onto a car in Oilton. In Tulsa, strong winds from a severe thunderstorm downed trees and powerlines and caused damage and 1 injury at a festival. An 8 year old girl suffered a broken ankle at the festival in Tulsa when a 10 foot by 10 foot tent was blown down on top of her by thunderstorm winds. Light towers and other tents at the festival were damaged by the storm. Other damage from severe thunderstorm winds was reported southeast of Douglas, where trees were downed and a roof was taken off a house. At Perry light poles were downed by the winds and power poles were downed in Edmond. Strong winds downed power poles and tore the roof off a trailer in Tuttle, trees and signs were downed in Cyril and in Lamar. Just east of Elgin, trees were also downed by the strong winds. Lightning struck a barn north-northwest of Perry causing a fire destroyed the barn and 700 bales of hay. In Perry, lightning struck a house, doing minor damage. Lightning also struck an oil tank battery in Mustang and started it on fire.

Flash flooding from the heavy rains in the thunderstorms caused road flooding in Carmen and in Enid a Sheriff's Police Car was destroyed when it was driven into flash flood waters.

Ellis County 4 S Arnett	07	1815CST			0	0	?	?	Hail (0.88)
Ellis County 10 S Arnett	07	1850CST			0	0	?	?	Hail (0.75)
Roger Mills County Roll	07	1906CST			?	?	0	0	Hail (1.50)
Roger Mills County Roll	07	1940CST			?	?	0	0	Hail (1.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Roger Mills County 2 N Roll	07	1955CST			?	?	0	0	Hail (2.75)
Roger Mills County Roll	07	2055CST			?	?	0	0	Hail (0.88)
Major County 3 S Cedar Springs	07	2120CST			0	0	?	?	Hail (2.00)
Blaine County Longdale	07	2130CST			0	0	?	?	Hail (0.88)
Roger Mills County 3 E Strong City	07	2130CST			?	?	0	0	Hail (1.75)
Blaine County Longdale	07	2145CST			0	0	?	?	Hail (1.75)
Severe thunderstorms produced large hail up to baseball size in northwest Oklahoma on the evening of the 7th.									
Ottawa County Afton	08	0923CST			0	0	?	?	Hail (0.75)
Rogers County Chelsea	08	1215CST			0	0	?	?	Hail (0.75)
Isolated severe thunderstorms in northeast Oklahoma during the morning and early afternoon dropped dime-size hail at Afton and Chelsea.									
Rogers County Claremore	08	1630CST			0	0	2	?	Lightning
Tulsa County Owasso	08	1708CST			0	0	?	?	Hail (0.75)
Rogers County Claremore	08	1712CST			0	0	?	?	Hail (1.00)
Tulsa County 2 E Owasso	08	1715CST			0	0	?	?	Hail (0.88)
Rogers County Nr Sequoyah	08	1756CST			0	0	?	?	Hail (0.75)
Rogers County 1 E Claremore	08	1810CST			0	0	5	?	Lightning
Rogers County Claremore	08	1812CST			0	0	?	?	Thunderstorm Winds
Rogers County 1 E Claremore	08	1820CST			0	0	?	?	Thunderstorm Winds
Rogers County 6 ENE Claremore	08	1825CST			0	0	?	?	Thunderstorm Winds (G87)
Rogers County 1 S Sequoyah	08	1828CST			0	0	?	?	Hail (1.75)
Rogers County 8 E Claremore	08	1830CST	.01	30	0	0	?	?	Tornado (F0)
Mayes County 7 W Pryor	08	1830CST			0	0	?	?	Hail (0.88)
Rogers County 5 W Foyil	08	1840CST			0	0	?	?	Hail (2.75)
Mayes County 2 W Pryor	08	1852CST	.01	30	0	0	?	?	Tornado (F0)
Rogers County 2 N Inola	08	1912CST	.01	30	0	0	?	?	Tornado (F0)
Mayes County 4 SW Pryor	08	1920CST	.01	30	0	0	?	?	Tornado (F0)
Mayes County 1 W Pryor	08	1921CST			0	0	?	?	Thunderstorm Winds (G70)
Mayes County Pryor	08	1927CST- 1958CST			?	0	0	?	Hail (1.75)
Mayes County 2 N Pryor	08	1947CST			0	0	?	?	Hail (1.00)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
Mayes County 2 SW Salina	08	1952CST			0	0	?	?	Hail (0.88)
Rogers County 0.1 E Oologah	08	2000CST	.01	30	0	0	?	?	Tornado (F0)
Mayes County 2 W Salina	08	2020CST			0	0	?	?	Hail (1.25)
Mayes County 4 SE Salina	08	2030CST	.01	30	0	0	?	?	Tornado (F0)
Mayes County Salina	08	2030CST			0	0	1	?	Thunderstorm Winds
Rogers County 2 N Chelsea	08	2050CST			0	0	?	?	Hail (1.00)

Isolated severe thunderstorms developed in northeast Oklahoma during the late afternoon and evening of September 8th. The storms mainly affected Rogers and Mayes Counties, although dime to nickel-size hail fell in and near Owasso in Tulsa County. The storms spawned six tornadoes, 3 in Rogers County and 3 in Mayes County. All were brief F0 touchdowns with tree damage being the only damage reported. Damaging winds and large hail also accompanied the storms. Thunderstorm winds gusted to 100 miles an hour 6 miles east-northeast of Claremore and to 80 miles an hour 1 mile west of Pryor. Strong thunderstorm winds blew the roof off a church 1 mile east of Claremore and blew down signs on the north side of Claremore. A window was blown out of a house in Salina. Baseball-size hail fell 5 miles west of Foyil and golf ball-size hail fell 1 mile south of Sequoyah. Hail ranging from quarter to golf ball-size fell in the town of Pryor for 31 minutes, from 1927CST to 1958CST. Half dollar-size hail fell 2 miles west of Salina. Lightning struck the Claremore Police Department, causing minor damage to the police radios and computers. Just east of Claremore, lightning struck a new home and the resulting fire destroyed the structure valued at \$95,000.

Kay County Newkirk	09	1736CST			0	0	?	?	Hail (0.75)
Kay County Nr Blackwell	09	1739CST			0	0	?	?	Flash Flood
Kay County Hardy	09	1745CST			0	0	?	?	Hail (2.75)
Kay County Newkirk	09	1757CST			0	0	?	?	Hail (2.75)
Dewey County Camargo	09	1800CST			0	0	?	?	Hail (0.75)
Kay County 2 S Hardy	09	1810CST			0	0	?	?	Hail (0.75)
Roger Mills County Crawford	09	1810CST			?	?	0	0	Hail (0.88)
Roger Mills County 2 NW Angora	09	1825CST			?	?	0	0	Hail (0.88)
Roger Mills County Leedy	09	1825CST			?	?	0	0	Hail (0.88)
Dewey County 7 SE Camargo	09	1830CST			0	0	?	?	Hail (0.75)
Osage County Shidler	09	1840CST			0	0	?	?	Hail (0.75)
Kay County 1 S Tonkawa	09	1845CST			0	0	?	?	Hail (0.75)
Roger Mills County Angora	09	1845CST			?	?	0	0	Hail (1.00)
Osage County 3 S Shidler	09	1855CST			0	0	?	?	Hail (1.75)
Garfield County 1 N Hayward	09	1900CST			0	0	?	?	Thunderstorm Winds (G52)
Roger Mills County Cheyenne	09	1915CST			?	?	0	0	Hail (0.88)
Osage County 2 N Pawhuska	09	1920CST			0	0	?	?	Hail (1.00)
Noble County 5 E Red Rock	09	1925CST			0	0	?	?	Hail (1.00)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Osage County Fairfax	09	1925CST			0	0	?	?	Thunderstorm Winds
Craig County 4.5 N Welch	09	1925CST			0	0	?	?	Hail (0.88)
Noble County Perry	09	1927CST			0	0	?	?	Hail (1.00)
Osage County 7 SW Bartlesville	09	1945CST			0	0	?	?	Hail (1.00)
Roger Mills County 11 E Cheyenne	09	1945CST			?	?	0	0	Thunderstorm Winds
Ottawa County Quapaw	09	1952CST			0	0	?	?	Hail (0.88)
Ottawa County Miami	09	1952CST			0	0	?	?	Hail (0.75)
Beckham County 7 NE Erick	09	2000CST			0	0	?	?	Thunderstorm Winds (G56)
Beckham County 7 NE Erick	09	2000CST			0	0	?	?	Hail (0.75)
Pawnee County Ralston	09	2000CST			0	0	?	?	Thunderstorm Winds (G52)
Nowata County 3 N New Allue	09	2000CST			0	0	?	?	Thunderstorm Winds
Ottawa County 1 S Miami	09	2012CST			0	0	?	?	Hail (0.88)
Noble County Perry	09	2013CST			0	0	?	?	Hail (0.88)
Craig County 7 N Vinita	09	2015CST			0	0	?	?	Hail (0.75)
Ottawa County Narcissa	09	2018CST			0	0	?	?	Thunderstorm Winds (G52)
Ottawa County Narcissa	09	2018CST			0	0	?	?	Hail (0.75)
Craig County 7 N Vinita	09	2018CST			0	0	?	?	Thunderstorm Winds (G52)
Washington County 3 SE Ramona	09	2025CST			?	?	0	0	Hail (1.00)
Roger Mills County 4 W Berlin	09	2025CST			?	?	0	0	Hail (0.88)
Pawnee County 7 W Hallett	09	2026CST			0	0	?	?	Thunderstorm Winds (G61)
Logan County Mulhall	09	2035CST			0	0	?	?	Hail (0.75)
Beckham County Erick	09	2115CST			0	0	?	?	Thunderstorm Winds
Pawnee County 5 NE Mannford	09	2123CST			0	0	?	?	Hail (0.88)
Osage County 10 W Skiatook	09	2125CST			0	0	?	?	Thunderstorm Winds (G52)
Tulsa County 5 W Sand Springs	09	2127CST			0	0	?	?	Hail (0.75)
Tulsa County W Tulsa	09	2128CST			0	0	?	?	Thunderstorm Winds (G61)
Creek County Mannford	09	2135CST			0	0	?	?	Hail (0.88)
Rogers County 1 S Chelsea	09	2142CST			0	0	?	?	Hail (0.88)
Mayes County 5 N Pryor	09	2143CST			0	0	?	?	Hail (0.75)
Tulsa County Tulsa	09	2145CST			0	0	?	?	Thunderstorm Winds (G52)
Mayes County 5 N Pryor	09	2200CST			0	0	?	?	Hail (0.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Mayes County Salina	09	2215CST			0	0	?	?	Thunderstorm Winds
Wagoner County 1 S Wagoner	09	2220CST			0	0	?	?	Thunderstorm Winds
Cherokee County Peggs	09	2230CST			0	0	?	?	Thunderstorm Winds (G61)
Cherokee County Hulbert	09	2230CST			0	0	?	?	Thunderstorm Winds (G61)
Rogers County 1 E Inola	09	2230CST			0	0	2	?	Thunderstorm Winds
Cherokee County Tahlequah	09	2235CST			0	0	?	?	Thunderstorm Winds (G56)
Cherokee County Tahlequah	09	2239CST			0	0	6	?	Lightning
Muskogee County Fort Gibson	09	2240CST			0	0	?	?	Thunderstorm Winds (G52)
Delaware County Oaks	09	2240CST			0	0	?	?	Thunderstorm Winds (G54)
Cherokee County Tahlequah	09	2244CST			0	0	?	?	Hail (0.75)
Adair County Stilwell	09	2300CST			0	0	?	?	Hail (0.75)
Sequoyah County Muldrow	09	2350CST			0	0	?	?	Thunderstorm Winds (G55)
<p>Severe thunderstorms moved across northwest, north central and northeast Oklahoma during the evening of September 9th. Dime-to quarter-size hail and 60 to 70 mile an hour wind gusts were common with these storms, with hail as large as golfball size 3 miles south of Shidler. Thunderstorm winds gusted to 80 miles an hour at Fairfax, where windows were blown out and large tree branches were downed. Thunderstorm winds downed trees and power lines at Salina and 11 miles east of Cheyenne and several power lines were downed in Tulsa and Fort Gibson. A tree was blown down across U.S. Highway 16, 1 mile south of Wagoner and large tree limbs were downed 3 miles north of New Allue and at Erick. Strong thunderstorm winds blew shingles off houses and barns and downed numerous tree limbs 1 mile east of Inola. In addition, substantial damage was reported from lightning. Lightning struck the Talequah Mill and Elevator in Talequah and the resulting fire caused damage estimated at \$1,000,000. Flash flooding in Blackwell caused water to wash over the road on U.S. Highway 11.</p>									
Tulsa County Glenpool	10	0208CST			0	0	4	?	Lightning
<p>Lightning struck a home in Glenpool and started a fire which resulted in \$17,500 damage to the building and contents.</p>									
Okmulgee County Nr Morris	10	0330CST- 0500CST		?	0	0	?		Flash Flood
<p>Heavy rainfall from persistent thunderstorms caused flash flooding near the town of Morris in Okmulgee County during the early morning of September 10th. U.S. Highway 52 near Morris was flooded, with water to a depth of one foot flowing across the highway.</p>									
Adair County 5 N Stilwell	20	0100CST			0	0	3	?	Lightning
<p>Lightning struck a home 5 miles north of Stilwell causing \$1500 in damage.</p>									
Rogers County Nr Chelsea	20	1800CST			0	0	?	?	Thunderstorm Winds
Comanche County 6 S Sterling	20	1810CST			0	0	?	?	Thunderstorm Winds
Craig County Nr White Oak	20	1810CST			0	0	?	?	Thunderstorm Winds
Caddo County Cyril	20	1815CST			0	0	?	?	Thunderstorm Winds (G52)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
OKLAHOMA Cont'd									
Stephens County 5.5 SW Marlow	20	1820CST			0	0	?	?	Hail (1.50)
Stephens County 6 SW Marlow	20	1820CST			0	0	4	?	Thunderstorm Winds
Jefferson County Ryan	20	1825CST			0	0	?	?	Hail (0.75)
Grady County Minco	20	1827CST			0	0	3	?	Thunderstorm Winds
Stephens County 2 N Duncan	20	1833CST			0	0	?	?	Thunderstorm Winds (G65)
Canadian County 1 SE Union City	20	1835CST			0	0	?	?	Thunderstorm Winds (G52)
Stephens County 5 E Bray	20	1845CST			0	0	?	?	Thunderstorm Winds (G52)
Jefferson County Oscar	20	1850CST			0	0	?	?	Hail (1.00)
Stephens County 13.5 E Marlow	20	1900CST			0	0	?	?	Thunderstorm Winds
Stephens County 5 E Bray	20	1900CST			0	0	?	?	Thunderstorm Winds (G52)
Garvin County Elmore City	20	1915CST			0	0	?	?	Thunderstorm Winds (G52)
Love County 2 W Rubottom	20	1915CST			0	0	?	?	Thunderstorm Winds (G52)
Murray County Davis	20	1915CST			0	0	3	?	Lightning
Oklahoma County Nrn Oklahoma City	20	1924CST			0	0	?	?	Thunderstorm Winds (G53)
Garvin County Elmore City	20	1930CST			0	0	?	?	Thunderstorm Winds (G52)
Love County 2 S Thackerville	20	1930CST			0	0	?	?	Thunderstorm Winds (G57)
Grady County 1 N Minco	20	1942CST			0	0	5	?	Thunderstorm Winds (G65)
Garvin County 5 S Elmore City	20	1945CST			0	0	?	?	Thunderstorm Winds (G56)
Marshall County 2 E Willis	20	2000CST			0	0	?	?	Thunderstorm Winds (G52)
Marshall County Kingston	20	2005CST			0	0	?	?	Thunderstorm Winds
Craig County Vinita	20	2050CST			0	0	?	?	Thunderstorm Winds (G52)
Delaware County 1 W Bernice	20	2120CST			0	0	?	?	Thunderstorm Winds (G52)
Rogers County 5 E Oologah	20	2125CST			0	0	?	?	Thunderstorm Winds

Thunderstorms moved across portions of northeast, central, south central and southeast Oklahoma on the 20th. These storms produced strong damaging winds and large hail.

The worst damage of the evening was at Minco. At 1827CST the winds from a severe thunderstorm took the roof off a barn. Then at 1940CST winds estimated in excess of 75 mph destroyed an auto repair shop. Southwest of Marlow strong winds from a severe thunderstorm blew the roof off a house. Six miles south of Sterling power poles were downed and trees were downed by the winds in Kingston and 15.50 miles east of Marlow. A telephone pole was blown down by strong winds near Oologah and strong winds also downed power lines 5 miles east of Oologah. Numerous tree limbs were blown down onto power lines near Chelsea and White Oak, resulting in power outages in these areas.

Lightning struck a tree next to a home in Davis. The lightning jumped from the tree to the home, blew a hole 5 inches in diameter in the roof, tore off siding, blew off sheetrock on the bathroom wall and burned up the phone lines.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
Haskell County Stigler	21	1410CST			0	0	?	?	Hail (0.88)
Haskell County 4 E Stigler	21	1420CST			0	0	?	?	Hail (0.75)
Le Flore County Le Flore Co	21	1502CST			0	0	?	?	Thunderstorm Winds (G52)
Le Flore County Pocola	21	1525CST			0	0	?	?	Hail (0.75)
Beckham County Elk City	21	1534CST			0	0	?	?	Hail (1.75)
Alfalfa County 1 NW Cherokee	21	1545CST	.01	30	0	0	?	?	Tornado (F0)
Bryan County 2 S Caddo	21	1555CST	.01	30	0	0	?	?	Tornado (F0)
Alfalfa County Cherokee	21	1603CST			0	0	?	?	Hail (1.75)
Major County 10 W Orienta	21	1607CST			0	0	?	?	Hail (1.25)
Bryan County 4 SSE Caddo	21	1620CST			0	0	?	?	Hail (1.75)
Dewey County 6 ESE Putnam	21	1625CST			0	0	?	?	Hail (0.75)
Custer County 2 N Weatherford	21	1630CST			0	0	?	?	Thunderstorm Winds (G52)
Alfalfa County Helena	21	1630CST			0	0	?	?	Thunderstorm Winds (G61)
Bryan County 7 NE Bokchito	21	1645CST			0	0	?	?	Hail (0.75)
Major County Ringwood	21	1645CST			0	0	?	?	Hail (0.75)
Grant County Sand Creek	21	1710CST			0	0	?	?	Hail (0.75)
Choctaw County 6 N Boswell	21	1715CST			0	0	?	?	Thunderstorm Winds (G52)
Kay County 1 N Tonkawa	21	1728CST			0	0	?	?	Hail (0.75)
Pushmataha County Nashoba	21	1740CST			?	?	0	0	Hail (0.75)
Choctaw County Boswell	21	1750CST			0	0	?	?	Thunderstorm Winds
Choctaw County 7 SE Boswell	21	1800CST			0	0	?	?	Thunderstorm Winds (G61)
Noble County Billings	21	1830CST			0	0	?	?	Thunderstorm Winds
McCurtain County 2 SE Battiest	21	1815CST			0	0	?	?	Thunderstorm Winds
McCurtain County 2 NE Broken Bow	21	1915CST			0	0	?	?	Thunderstorm Winds

Severe thunderstorms were scattered across many areas of the state. Large hail and strong winds accompanied the storms and 2 tornadoes were reported.

The first tornado was reported 1 miles north of Cherokee and the second 2 miles south of Caddo. They were both brief F0 touchdown with no damage reported.

Severe thunderstorm winds downed trees at Boswell, 2 miles southeast of Battiest and 2 miles northeast of Broken Bow.

OREGON

Jackson County Rogue River	02	1500PDT			1	?	?	?	Lightning
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A 21-year-old Rogue River man was killed in Rogue River when he was struck by lightning that apparently bounced off of another object and struck him while he was sitting under a tree during

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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OREGON Cont'd

a thunderstorm. The last reported lightning death in Oregon was in 1986 in Baker County. There have only been 13 lightning deaths reported in Oregon since 1979.

Central Point Gold Hill Lake County	03	1630PDT- 1700PDT			?	?	?	?	Hail (1.33)
Lakeview	03	1700PDT- 1730PDT			?	?	?	?	Hail (1.00)

Thunderstorms rumbled through southwestern and south-central Oregon producing hail up to 1.33 inches in diameter in Gold hill and up to 1.00 inch in diameter in Lakeview. Small tree branches were reported downed.

PENNSYLVANIA, Eastern

Bradford County Canton	10	1454EST			0	0	3	0	Thunderstorm Winds
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Thunderstorm wind gusts brought down numerous trees in Canton. A tree was down on an automobile in Ridgeway at 1500 EST. A tree was down on a house in Canton at 1510 EST. A tree was down in Leraysville at 1537 EST. Some street flooding was also reported.

Lycoming County Pennsdale	10	1543EST			0	0	3	0	Thunderstorm Winds
Lairdsville	10	1544EST			0	0	3	0	Thunderstorm Winds

Thunderstorm winds downed utility lines in Pennsdale and brought trees down on utility lines at Lairdsville. A tree was down on a mobile home in Hepburnville at 1459 EST. A tree was down on a house in Williamsport at 1508 EST.

Fulton County 1 W MC Connells- burg	10	1545EST			0	0	3	0	Thunderstorm Winds
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Thunderstorm wind gusts downed utility lines.

Franklin County Waynesboro	10	1640EST			0	0	3	0	Thunderstorm Winds
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Thunderstorm wind gusts downed utility lines and at least one tree. Pea-size hail also fell.

Wayne County Pleasant Mountain	10	1715EST			0	0	3	0	Thunderstorm Winds
	10	1715EST			0	0	?	0	Hail (1.00)
1.5 W Honesdale	10	1731EST			0	0	3	0	Thunderstorm Winds

At Pleasant Mountain thunderstorm wind gusts downed numerous trees. Nickel-size hail was also reported. Wind gusts were estimated to be frequently above 50 mph. Between Waymart and Honesdale some trees were down. There was some street flooding in Waymart where over an inch of rain (1.30) was reported in one hour.

Pike County Paupack	10	1815EST			0	0	3	0	Thunderstorm Winds(52)
	10	1815EST			0	0	?	0	Hail (1.00)

Thunderstorm wind gusts, estimated to be in excess of 60 mph, brought down large tree limbs. Three quarter to one inch hail was reported.

Monroe County 10 NW Pocono Summit	10	1820EST			0	0	3	0	Thunderstorm Winds
	10	1820EST			0	0	?	0	Hail (1.00)

Thunderstorm wind gusts with very strong winds brought down large tree limbs. Nickel-size hail was also reported.

Adams County Greenmount	22	1645EST			0	1	?	0	Lighting
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A man was knocked unconscious when lightning struck near the garage he was working in.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

PENNSYLVANIA, Eastern Cont'd

York County									
Dillsburg	22	1700EST			0	0	3	0	Thunderstorm Winds
1 S Wrightsville	22	1700EST			0	0	3	0	Thunderstorm Winds

Thunderstorm wind gusts brought down trees.

Berks County									
Virginville	22	1802EST			0	0	3	0	Thunderstorm Winds
	22	1802EST			0	0	?	0	Hail (0.75)

Thunderstorm wind gusts downed several trees, some large limbs and utility lines. Dime-size hail was also reported.

PENNSYLVANIA, Western

Fayette County									
Uniontown	08	1350EST			0	0	0	0	Thunderstorm Winds

Trees were downed in Uniontown by thunderstorm winds.

Westmoreland County									
15 SE Greensburg	08	1356EST- 1459EST			0	0	0	0	Flash Flood

Roadways were flooded in Ligonier and water was 1.5 feet deep on Route 30.

Bedford County									
Bedford	08	1521EST			0	0	0	0	Thunderstorm Winds

Trees were downed in Bedford by thunderstorm winds.

Erie County									
20 SE Erie	09	1710EST			0	0	0	0	Thunderstorm Winds

Powerlines and large limbs were downed in West Springfield and Fairview.

Crawford County									
13 NW to 8 NE Meadville	09	1718EST			0	0	0	0	Thunderstorm Winds

Powerlines were downed in Conneautville and Woodcock.

12 NE Meadville	09	1815EST			0	0	0	0	Thunderstorm Winds
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Powerlines and large tree limbs were downed east of Cambridge Springs.

27 NE Meadville	09	1840EST			0	0	0	0	Thunderstorm Winds
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Powerlines and tree limbs were downed in Spartansburg.

Erie County									
21 SW to 12 S Erie	09	1900EST- 2000EST			0	0	0	0	Flash Flood

Flooding occurred on Route 266 near Albion. The intersection of Route 19 and 77 South of Waterford was covered by 6 inches of water. Roads were closed in Erie, Edinboro, and Cherry Hill, and streams and creeks were out of their banks.

Crawford County									
Meadville to 15 NW Meadville	09	1900EST- 2000EST			0	0	0	0	Flash Flood

Roads were closed in Meadville, Springboro and Blooming Valley. Water was covering the streets and flooding underpasses.

Blair County									
5 N Altoona	09	1404EST			0	0	0	0	Hail (0.75) Thunderstorm Winds (G60)

Hail measuring 0.75 inch in diameter was reported 5 miles north of Altoona. Thunderstorm wind gusts to 69 mph were also reported.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
PENNSYLVANIA, Western Cont'd									
Mercer County 16 NE Mercer	21	1800EST- 1815EST	4.0	20	0	0	4	0	Tornado (F0)
Roofs were damaged and trees uprooted. Utility poles down on Route 19. The roof was blown off the grandstand at fire department fairgrounds. A mobile home was destroyed 4 miles east of Sheakleyville.									
Lawrence County	21	1845EST			0	0	0	0	Thunderstorm Winds
Five large trees were blown down by thunderstorm winds.									
Crawford County 10 E Meadville	21	1918EST			0	0	0	0	Flash Flood
Route 27 was flooded and closed in Guys Mills.									
Venango County Franklin	21	1920EST			0	0	0	0	Flash Flood
Street flooding occurred in Franklin.									
Erie County 24 SE Erie	21	1950EST			0	0	0	0	Flash Flood
Route 77 was closed by high water in Corry.									
Crawford County 27 NE to 13 NE Meadville	21	1950EST			0	0	0	0	Flash Flood
Route 77 was closed in Spartansburg by high water. Street flooding was reported in Eastwood and Townville.									
Venango County Franklin 7 NE Franklin	21	2020EST			0	0	0	0	Flash Flood
Several roads were closed in Franklin and Oil City area.									
Warren County 21 NW to 14 NW Warren	21	2038EST- 2053EST			0	0	0	0	Flash Flood
Flooding in Bear Lake. Flooding along route 6 in Warren at 2045EST. Roads closed in sugargrove at 2053EST.									
Lawrence County New Castle	21	2248EST			0	0	4	0	Heavy Rain
A car dealership building in New Castle collapsed from weight of water on roof.									
Butler County Butler 15SW Butler	21 22	2340EST- 0010EST			0	0	4	0	Flash Flood
Sullivan run out of banks in butler. At 0010EST flooding in eastern part of butler. In cranberry township basement wall buckled under pressure of water overflowing from nearby culvert. Water 7 feet deep in a basement in chicora. Ten thousand dollars in damage.									
Armstrong County 12NW Kittanning	22	0120EST			0	0	0	0	Flash Flood
Flooding at sugar creek with several houses surrounded by water near Kaylor.									
Elk County 12N Ridgway	22	0400EST			0	0	0	0	Flash Flood
Road flooding in Wilcox.									
Warren County Warren	22	0600EST			0	0	0	0	Flash Flood
Road flooding with washouts in Warren.									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
PENNSYLVANIA, Western Cont'd									
Venango County Franklin	22	0600EST			0	0	0	0	Flash Flood
									Road flooding in Franklin with streams full and overflowing.
Erie County 24SE Erie	22	0740EST			0	0	0	0	Flash Flood
									Trailer court evacuated in corry with flooding and road closings.
Elk County 12N Ridgway	22	1040EST- 1200EST			0	0	0	0	Flash Flood
									Road flooding in Wilcox from East Branch Creek overflowing.
Jefferson County 10NW Brookville	22	1045EST			0	0	0	0	Flash Flood
									Road flooding on route 36 in Barnett township.
RHODE ISLAND									
									None reported.
SOUTH CAROLINA									
Union County 3 S Santuck	03	PM			0	0	?	0	Lightning
									The cooperative observer at Santuck reported that Gilliam's Chapel Methodist Church was set ablaze by lightning.
Greenville County Northern Portion	10	1900EST- 2100EST			0	0	?	?	Lightning
Spartanburg County Northern Portion	10	1900EST- 2100EST			0	0	?	?	Lightning
									Thunderstorms moved from the mountains of North Carolina into the northern portions of Greenville and Spartanburg Counties. Intense lightning caused a number of power outages and damage.
Oconee County Seneca Westminster	22	1925EST			0	0	?	?	Lightning
									Lightning caused a number of power outages around Oconee County.
Bamberg County Denmark	23	1500EST			0	0	?	?	Thunderstorm Winds
									Trees were blown down and marble-sized hail was reported.
SOUTH DAKOTA									
Pennington County Rapid City	04	1725MST			0	0	4	0	Thunderstorm Winds (G56)
									High winds and considerable lightning downed numerous power lines and caused a couple of hay bale fires and a minor timber fire.
Jackson County 7 NE Cedar Pass	04	2000MST			0	0	0	0	Hail (1.00)
									One-inch-diameter hail and high winds moved through the Cactus Flats area along Interstate 90.
Dewey County Eagle Butte	04	2105MST			0	0	0	0	Thunderstorm Winds (G52)
Timber Lake	04	2105MST			0	0	3	0	Thunderstorm Winds (G65)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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SOUTH DAKOTA Cont'd

Strong thunderstorm winds caused damage to several houses.

Codington County 1 NE Watertown	05	0215CST			0 0	0 0	Hail (0.75)
Brown County 7 N Aberdeen	06	1531CST			0 0	1 2	Hail (1.75)
5 W Frederick	06	1536CST			0 0	0 1	Hail (0.75)
4 W Houghton	06	1610CST			0 0	0 1	Hail (0.75)
Houghton	06	1636CST- 1700CST			0 0	1 3	Hail (0.75)

Hail, mostly pea- to marble-size, covered the ground. Some tree branches and corn were stripped clean.

Marshall County 7 W Britton	06	1650CST			0 0	0 1	Hail (0.75)
Brown County 15 NE Aberdeen	06	1710CST			0 0	1 2	Hail (1.00)

One-inch-size hail occurred 2 miles north of Tacoma Park.

Warner	06	1733CST			0 0	1 2	Hail (1.00)
5 S Aberdeen	06	1747CST			0 0	0 1	Hail (0.75)
7 W Ferney	06	1759CST			0 0	0 0	Hail (0.75)
6 NE Stratford	06	1805CST			0 0	0 1	Hail (0.75)
4 S Groton	06	1819CST			0 0	0 1	Hail (0.75)
Day County 3 S Andover	06	1854CST			0 0	0 1	Hail (0.75)
Potter County Gettysburg	06	1925CST			0 0	0 1	Hail (0.75)
Hoven	06	1940CST			0 0	0 1	Hail (0.75)
Brown County 10 NW Aberdeen	06	2040CST			0 0	0 0	Hail (0.75)
Turner County Viborg	07	0350CST			0 0	3 0	Lightning

Lightning struck a house and damaged the roof, wiring, and appliances, but did not cause a fire.

Brookings County Brookings	09	1706CST			0 0	3 0	High Wind
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Winds gusted to over 45 mph causing a large tree to blow over and crush a car.

Butte County Belle Fourche	12	2030MST			0 0	4 0	High Wind
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A powerful wind gust, estimated at 65 mph, cut a narrow path from west to east across Belle Fourche. The wind blew a large tree onto the wing of a building which caused it to collapse. The wind blew out windows, battered trees, stripped shingles and gutters, and caused other damage to houses and cars.

Lincoln, Union, and Clay Counties	14	0115CST- 0145CST			0 0	2 2	Thunderstorm Winds
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Thunderstorms brought marble-sized hail and wind gusts around 50 mph that ripped limbs from trees in southern Lincoln County and the northern parts of Clay and Union Counties.

Jerauld County Wessington Springs	15	1000CST			0 0	4 0	Lightning
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A lightning bolt hit a power line in a neighborhood causing damage to the inside of a house. Many appliances in the neighborhood block area were damaged including almost every television, VCR, and cordless phone.

SDZ004-005- 011-012 Northeast SD	24	0800CST- 1600CST			0 0	3 0	High Winds
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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SOUTH DAKOTA Cont'd

Strong southerly winds gusted to 50 to 55 mph in northeast South Dakota during much of the daytime. The warm winds toppled trees and light poles. In Aberdeen, a front window was blown out at a store.

TENNESSEE

**Wayne County
Waynesboro**

03 0635 0 0 4 0 Flash Flood

Several roads were washed out. A few people were trapped in their homes by the flood water. Several trailers were washed off their foundations

Montgomery County

10 0220CST 0 0 2 0 Thunderstorm Winds

Several trees were knocked down in Montgomery County.

**Wayne County
Waynesboro**

10 0635CST 0 0 4 0 Thunderstorm Winds

Several roads were washed out. A few people were trapped in their homes by the flood water. Several mobile homes were washed off their foundations.

**Roane County
Rockwood**

10 1320CST 0 0 0 0 Hail (.75)

Dime-size hail was reported in Rockwood.

**Rhea County
Spring City**

10 1340CST 0 0 3 0 Thunderstorm Winds

Several trees and power lines were knocked down.

Evansville

10 1430CST 0 0 2 0 Thunderstorm Winds

Several trees were blown down.

**Knox County
Knoxville**

10 1445CST 0 0 2 0 Thunderstorm Winds

A few trees were knocked down.

**Washington County
Johnson City**

10 1630CST 0 0 4 0 Thunderstorm Winds

A few trees were knocked down. Some of the trees fell on power lines, homes and a car.

**Dyer County
Newbern**

18 1800CST 0 0 3 0 Thunderstorm Winds

Several trees were knocked down, damaging a fence and a house.

**Haywood County
Brownsville**

18 1930CST 0 0 4 0 Thunderstorm Winds

Some trees fell on power lines and a mobile home. A storage building was destroyed. The siding to a mobile home was damaged.

TEXAS, Panhandle

**Collingsworth County
I N Dodson**

09 2200 CST 0 0 0 0 Hail (0.75)

A thunderstorm became severe during the late night hours. The storm produced dime-size hail that was reported by the Collingsworth County Sheriff's Office.

TEXAS, Northern

Hamilton County

01 0000CST-
0200CST 0 0 ? ? Flash Flood

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

TEXAS, Northern Cont'd

Heavy rains of about three inches in one hour resulted in water rising over parts of State Highway 36 northwest of Hamilton, and U.S. Highway 281 north of Hamilton. Street flooding occurred in Hamilton.

Wichita County 9S Electra

01	1200CST-								
02	0600CST				?	0	0	?	Flood

Along Beaver Creek, minor overflows of short duration affected agricultural lands. The crest was below flood stage at Wichita Falls, where no urban areas were threatened by the Wichita River. Flood stage of 25 feet was reached by midday of September 1. The creek then crested near 27 feet during the late evening hours and ceased to flood by the following morning. No dollar loss were reported.

Rusk County 9 W Henderson 9 W Henderson 2 E New London 6 N Henderson 4 N Henderson Oak Hill

01	1610CST				0	0	3	?	Thunderstorm Winds
01	1610CST				0	0	3	?	Lightning
01	1620CST				0	0	3	?	Thunderstorm Winds
01	1625CST				0	0	4	?	Thunderstorm Winds
01	1630CST				0	0	4	?	Thunderstorm Winds
01	1635CST				0	0	3	?	Thunderstorm Winds

At 9 miles west of Henderson, strong winds overturned two oil tanks, one of which was set afire by lightning. At 2 miles east of New London, strong winds uprooted several trees and removed a portion of a barn's roof. At 6 miles north of Henderson, strong winds lifted the roofs from a home and a 20- x 50-foot workshop. Trees were uprooted and power lines were blown down. At 4 miles north of Henderson, thunderstorm winds tore the roofs from two homes and a barn, blew fences down, and blew large limbs from trees. At Oak Hill, strong winds peeled roofing from a house roof.

Gregg County 1 W Easton 6 E Kilgore

01	1630CST				0	0	3	?	Thunderstorm Winds
01	1648CST				?	?	?	?	Funnel Cloud

At 1 mile west of Easton, strong winds blew several trees down. At 1 mile southwest of Gregg County Airport (6 miles east of Kilgore), a funnel cloud was observed by a pilot.

Harrison County 6 SW Hallsville

01	1700CST				0	0	3	?	Thunderstorm Winds
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Strong winds uprooted numerous trees.

Marion County 5 N Kelleyville

01	1705CST				0	0	3	?	Thunderstorm Winds
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Strong winds caused numerous trees to be blown down.

Cass County 1 E Avinger

01	1717CST				0	0	3	?	Thunderstorm Winds
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Strong winds blew several trees down.

Panola County 8 WSW Carthage

01	1720CST				0	0	3	?	Thunderstorm Winds
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Strong winds blew numerous trees down, one of which fell on a barn, damaging its roof.

Lamar County Pat Mayse Lake Arthur City

02	1500CST				0	0	?	?	Thunderstorm Winds (G52)
02	1500CST				0	0	3	?	Thunderstorm Winds (G52)

At Arthur City, strong winds blew power lines down.

Red River County Avery 5 NW Avery

02	1639CST				0	0	3	?	Thunderstorm Winds (G50)
02	1640CST				0	0	?	?	Thunderstorm Winds (G52)

At Avery, strong winds blew large limbs from trees.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, Northern Cont'd									
Franklin County									
1 N Winnnsboro	02	1716CST			0	0	2	?	Thunderstorm Winds
									Strong winds blew down a telephone pole.
Bowie County									
2 S Old Boston	02	1720CST			0	0	3	?	Thunderstorm Winds
									Strong winds blew several trees down.
Titus County									
Mount Pleasant	02	1730CST			0	0	4	?	Thunderstorm Winds (G52)
Mount Pleasant	02	1735CST			0	0	?	?	Hail (0.75)
									Strong winds blew trees down upon power lines.
Morris County									
Naples	02	1742CST			0	0	?	?	Hail (0.75)
Cass County									
5 NE Avinger	02	1813CST			0	0	?	?	Hail (0.88)
3 E Avinger	02	1840CST			0	0	3	?	Thunderstorm Winds
									At 3 miles east of Avinger, strong winds blew several trees down.
Fannin County									
Ector	02	1835CST			0	0	?	?	Hail (0.75)
Bonham	02	1850CST			0	0	4	?	Hail (1.75)
Bonham	02	1900CST			0	0	?	?	Hail (1.00)
Edhube	02	1925CST			0	0	?	?	Hail (1.50)
									At Bonham at 1850 CST, large hail caused severe roof damage to at least two homes, allowing for subsequent water damage.
Marion County									
3 NE Kelleyville	02	1842CST			0	0	?	?	Hail (1.75)
3 S Smithland	02	1922CST			0	0	3	?	Thunderstorm Winds
									At 3 miles south of Smithland, strong winds blew several trees down.
Harrison County									
3 E Marshall	02	1900CST			0	0	?	?	Hail (1.00)
8 E Marshall	02	1905CST			0	0	?	?	Hail (1.50)
8 E Marshall	02	1905CST			0	0	?	?	Thunderstorm Winds (G50)
3 W Scottsville	02	1920CST			0	0	?	?	Hail (1.50)
3 W Scottsville	02	1920CST			0	0	?	?	Thunderstorm Winds (G50)
Grayson County									
Pottsboro	02	2113CST			0	0	?	?	Hail (0.75)
Pottsboro	02	2113CST			0	0	4	?	Thunderstorm Winds
Denison	02	2120CST			0	0	?	?	Hail (0.75)
3 NW Denison	02	2133CST			0	0	5	?	Thunderstorm Winds
Denison	02	2133CST			0	0	6	?	Thunderstorm Winds
3 N Denison	02	2135CST			0	0	?	?	Hail (0.88)
Denison	02	2140CST			0	0	4	?	Lightning
Denison	02	2145CST			0	0	4	?	Thunderstorm Winds
3 SW Denison	02	2145CST			0	0	4	?	Thunderstorm Winds
Gunter	02	2145CST			0	0	?	?	Hail (1.75)
Gunter	02	2145CST			0	0	4	?	Thunderstorm Winds
Sherman	02	2145CST-							
		2215CST			0	0	?	?	Flash Flood
3 N Sherman	02	2150CST			0	0	3	?	Thunderstorm Winds
Sherman	02	2155CST			0	0	5	?	Thunderstorm Winds (G62)
Sherman	02	2205CST			0	0	4	?	Thunderstorm Winds
2 E Sherman	02	2210CST			0	0	3	?	Thunderstorm Winds
Van Alstyne	02	2210CST			0	0	4	?	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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TEXAS, Northern Cont'd

At Pottsboro, strong winds lifted a large portion of the roof from the high school gymnasium, and the roof of a boathouse was blown away. Trees, television antennas, and signs were also blown down. At 3 miles northwest of Denison, strong winds demolished a boat storage facility containing about 150 boats, damaging several of them. A house was unroofed and one of its outside walls was pierced by a wind-blown 2 by 6 piece of lumber. A car was blown into a garage, and trees were blown down. A mobile home was blown over, and several houses had shingles blown away. On the north side of Denison strong winds overturned a parked tractor-semitrailer, and lifted a portion of a roof. In the downtown area of Denison, strong winds blew out north-facing plate glass windows from 27 businesses, and a drug store which was a converted building covering two-thirds of a city block, had a large portion of its roof and aluminum facade blown away, leading to extensive subsequent rainwater damage. Several signs and roofs were also damaged. Elsewhere in Denison, strong winds uprooted numerous trees, one of which fell into the living room of a house. Falling trees also brought down many power lines, some of which blocked roads. At 2145 CST, strong winds toppled a television transmitter tower and a microwave tower. Also in Denison, lightning struck a tree, dropping a branch, causing a gas line to rupture, setting a house fire which was brought quickly under control. At 3 miles southwest of Denison, strong winds uprooted several trees and lifted the roofs from houses. At Gunter, strong winds blew the roof from a mobile home, which severed power lines as it was carried away. At 3 miles north of Sherman, strong winds snapped trees and blew a carport away. At Sherman at 2155 CST, thunderstorm inflow winds lifted the entire metal roof from a 40- by 80-foot warehouse, and blew away a car wash bay. Many large trees and power lines were blown down. At 2205 CST in Sherman, thunderstorm outflow winds blew windows from businesses, and downed large trees and power lines. Heavy rains in Sherman resulted in street flooding. At 2 miles east of Sherman, strong winds blew trees down. At Van Alstyne, strong winds demolished a greenhouse and a barn, and peeled away part of an elementary school gymnasium roof. Trees measuring 2 to 4 feet in diameter were blown down, some of which fell upon houses.

Cooke County

Lindsay	02	2200CST	0	0	4	?	Thunderstorm Winds
Gainesville	02	2200CST	0	0	4	?	Thunderstorm Winds
10 NW Valley View	02	2210CST	0	0	4	?	Thunderstorm Winds (G53)

At Lindsay, strong winds unroofed the City Hall building, and blew trees and power lines down. At Gainesville, thunderstorm winds downed trees and power lines. At 10 miles northwest of Valley View, strong winds blew down trees and power lines.

Fannin County

Trenton	02	2230CST	0	0	4	?	Thunderstorm Winds
10 SW Bonham	02	2245CST	0	0	?	?	Thunderstorm Winds (G52)

At Trenton, strong winds ripped a carport from a house and carried it across the street, where it impacted with a parked pickup truck. A business had a section of its roof blown off, and large tree limbs were brought down.

Collin County

4 E Celina	02	2221CST	0	0	3	?	Thunderstorm Winds
Celina	02	2240CST	0	0	4	?	Thunderstorm Winds
12 N McKinney	02	2245CST	0	0	?	?	Thunderstorm Winds (G61)
1 SW Celina	02	2250CST	0	0	4	?	Thunderstorm Winds
2 S Weston	02	2300CST	0	0	4	?	Thunderstorm Winds
Rhea Mills	02	2305CST	0	0	4	?	Thunderstorm Winds
McKinney	02	2310CST	0	0	3	?	Thunderstorm Winds
Farmersville	02	2315CST	0	0	?	?	Hail (0.75)
Lucas	02	2320CST	0	0	?	?	Hail (0.75)
McKinney	02	2350CST	0	0	4	?	Thunderstorm Winds

At Cottage Hill (4 miles east of Celina), strong winds lifted a 70-foot-long porch and carport cover from a house. At Celina, strong winds uprooted a tree, and blew large branches down from several others, some of which fell upon parked vehicles, including a vintage truck being restored. At 1 mile southwest of Celina, strong winds demolished a barn and two outbuildings, and blew roof sections from three others. At 2 miles south of Weston, strong winds blew trees down, one of which fell upon a house. Six houses had portions of their roofs blown away, and windows were blown in. A 65-foot-tall tree was uprooted, falling onto a house under construction. At Rhea Mills, thunderstorm winds lifted the roof from a house, and peeled roofing from a church building. At McKinney at 2310 CST, strong winds blew large tree limbs down, and blew fences over. At

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, Northern Cont'd									
McKinney at 2350 CST, strong winds overturned a privately-owned Cessna airplane.									
Denton County Sanger	02	2250CST			0	0	3	?	Thunderstorm Winds
A mobile home was overturned by strong winds.									
Montague County Bowie	02	2300CST			0	0	?	?	Hail (0.75)
St. Jo	02	2305CST			0	0	?	?	Hail (0.75)
Montague	02	2325CST			0	0	?	?	Hail (0.75)
Hunt County Caddo Mills	02	2320CST			0	0	3	?	Thunderstorm Winds
Strong winds blew power lines down.									
Dallas County 3 E Sachse	02	2329CST			0	0	3	?	Thunderstorm Winds
Strong winds blew the porch off of a home, and brought large tree limbs down.									
Rockwall County Rockwall	02	2350CST			0	0	4	?	Thunderstorm Winds
Strong winds blew over a 28-foot windmill, and moved a 24-foot horse trailer a distance of 40 yards. Trees and power lines were downed, and signs were blown over.									
Bowie County 6 N New Boston	03	0000CST			0	0	3	?	Thunderstorm Winds
Strong winds blew a few trees down.									
Kaufman County Terrell	03	0010CST			0	0	4	?	Lightning
Terrell	03	0040CST			0	0	3	?	Thunderstorm Winds
Lightning struck transformers, resulting in power outages. Strong winds blew trees down, some of which fell upon power lines.									
Collin County Farmersville	03	0015CST			0	0	?	?	Hail (0.75)
Van Zandt County Wills Point	03	0030CST			0	0	3	?	Thunderstorm Winds (G50)
Strong winds blew a tree down into a power line.									
Cherokee County Jacksonville	03	0345CST- 0500CST			0	0	?	?	Flash Flood
Heavy rains resulted in street flooding.									
Nacogdoches County Douglass	03	0410CST			0	0	4	?	Thunderstorm Winds
2 N Nacogdoches	03	0415CST			0	0	3	?	Thunderstorm Winds
At Douglass, strong winds downed trees and power lines. At 2 miles north of Nacogdoches, strong winds blew down large tree limbs and a television antenna.									
Bell County 4 E Salado	03	1740CST			0	0	?	?	Hail (1.00)
Bosque County Clifton	03	1805CST			0	0	?	?	Hail (1.00)
1 W Clifton	03	1815CST			0	0	?	?	Hail (1.75)
Bell County 1 E Killeen	03	1930CST			0	0	?	?	Hail (1.00)
Denton County Denton	10	1200CST			0	1	3	?	Lightning
5 W Lewisville	10	1205CST			0	0	5	?	Lightning

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, Northern Cont'd									
At Denton, a man suffered minor injuries when lightning struck an automatic teller machine that he was using. At Flower Mound (5 miles west of Lewisville), lightning struck a house, setting it afire.									
Erath County Stephenville	10	1400CST			0	0	3	?	Thunderstorm Winds
	Strong winds blew awnings and signs from downtown store fronts.								
Hood County Granbury Countywide	10	1445CST			0	0	3	?	Thunderstorm Winds
	10	1445CST- 1630CST			0	0	?	?	Flash Flood
Thunderstorm winds uprooted large trees, snapped off tree limbs, and toppled signs and television antennas. A fireworks stand was also blown over. Heavy rains resulted in street flooding in Granbury, and the flooding of several roadways near Granbury.									
Tarrant County	10	1600CST- 1645CST			0	0	?	?	Flash Flood
Heavy rains resulted in street flooding in the downtown area of Fort Worth, and just south of Fort Worth.									
Bell County Fort Hood AAF	10	1650CST			0	0	3	?	Thunderstorm Winds
Strong winds blew a large section of the tin roof from a commissary building onto four cars parked nearby.									
Haskell County Rochester	20	1720CST			0	2	5	?	Thunderstorm Winds (G56)
Thunderstorm winds demolished two warehouses and a barn. A porch was blown away from a house, and a carport was lifted from another. Strong winds peeled away roofing from tin sheds and outbuildings, and also downed power poles. Two minor injuries resulted from cuts made by wind-blown debris.									
Wichita County Wichita Falls	20	1820CST			0	0	3	?	Thunderstorm Winds (G61)
Winds to around 70 mph ripped a door off a hanger at the Wichita Falls Airport.									
Young County 2 NE Olney Loving	20	1830CST			0	0	3	?	Thunderstorm Winds
	20	1915CST			0	0	?	?	Hail (0.75)
At 2 miles northeast of Olney, strong winds lifted sections of roof from several farm buildings, and blew large tree limbs down.									
Clay County Jolly to Dean	20	1857CST			0	0	4	?	Thunderstorm Winds
Winds estimated between 60 and 80 mph moved through the area from Jolly and Dean, causing damage to several barns and homes.									
Montague County Nocona	20	1900CST			0	0	5	?	Thunderstorm Winds
Strong winds lifted roofs from several businesses. One section of roof collided with a power pole, shattering the pole, and breaking the 65,000-volt line it supported. Sheds, outbuildings, and porches were demolished. A massive 18- x 20-foot stained glass window was blown into a church balcony. Trees were uprooted and large tree limbs were blown down.									
Cooke County 4 N Gainesville	20	1930CST			0	0	?	?	Thunderstorm Winds (G56)
Tarrant County Lake Worth Village	20	2357CST			0	0	?	?	Thunderstorm Winds (G52)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

TEXAS, Northern Cont'd

Countywide	21	0000CST- 0130CST			0	0	?	?	Flash Flood
Fort Worth	21	0013CST			0	0	?	?	Thunderstorm Winds (G61)
Bedford	21	0030CST			0	0	5	?	Lightning

Heavy rains of 1.40 inches in 40 minutes resulted in widespread street flooding over metropolitan Tarrant County. At Bedford, lightning struck three houses in the Mayfair Hills addition, causing fires that destroyed the top floors of two of the homes. The third house suffered the loss of its chimney.

Dallas County Dallas	21	0100CST			0	0	?	?	Thunderstorm Winds (G55)
Falls County Golinda	21	1658CST			0	0	?	?	Hail (1.75)
Bell County Temple	21	1710CST			0	0	4	?	Thunderstorm Winds
Temple	21	1720CST			0	0	3	?	Lightning
Temple	21	1730CST			0	0	?	?	Hail (0.75)

Strong winds lifted the roof from a plumbing supply store, causing it to be hurled into a church across the street. Lightning struck two trees, breaking the upper trunk from each.

Ellis County Ennis	21	1745CST			0	0	?	?	Hail (0.88)
2 SE Ennis	21	1820CST			0	0	3	?	Thunderstorm Winds
Ennis	21	1830CST			0	0	?	?	Hail (0.88)

At 2 miles southeast of Ennis, strong winds blew a barn down, and broke house windows.

Kaufman County Terrell	21	1815CST			0	0	?	?	Hail (1.25)
Terrell	21	1835CST			0	0	2	?	Hail (2.00)
					0	0	3	?	Thunderstorm Winds

At 1835 CST, large hail broke taillights from parked vehicles. Strong winds blew part of a construction sign off its mounting, causing it to collide with a pickup truck being driven. Trees were blown down.

Navarro County Corsicana	21	1840CST			0	0	3	?	Thunderstorm Winds
Corsicana	21	1920CST			0	0	?	?	Thunderstorm Winds (G60)

At 1840 CST, strong winds overturned a trailer parked at a loading dock. Trees were blown down, some of which fell upon houses.

Rains County Emory	21	1912CST			0	0	?	?	Hail (1.75)
Emory	21	1912CST			0	0	5	?	Thunderstorm Winds

Strong winds uprooted several trees, and caused large limbs to fall upon houses and vehicles. Windows were broken and fences were damaged. Shingles were stripped from a church roof, a roof was blown from a barn, and a small storage building was displaced four feet.

Lamar County Countywide	21	1910CST- 1930CST			0	0	?	?	Hail (0.75)
Powderly	21	1920CST			0	0	4	?	Thunderstorm Winds
Blossom	21	1925CST			0	0	3	?	Thunderstorm Winds

Marble- to dime-sized hail fell in an area extending northwest from Paris to the Red River. At Powderly, strong winds damaged a hangar at the airport, blew a tree down upon a building, and damaged awnings. At Blossom, strong winds peeled roofing from garages and patios, and downed large tree limbs.

Delta County 2 S Cooper	21	2010CST			0	0	3	?	Thunderstorm Winds
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Strong winds downed power lines.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, Northern Cont'd									
Cass County									
7 W Douglassville	21	2110CST			0	0	?	?	Thunderstorm Winds (G56)
2 N Marietta	21	2110CST			0	0	?	?	Hail (0.75)
5 W Linden	21	2235CST			0	0	?	?	Hail (0.88)
					0	0	?	?	Thunderstorm Winds (G56)
At 7 miles west of Douglassville, strong winds blew a truck off of State Highway 77.									
TEXAS, Southern									
Grimes County									
Richard	03	1330CST			0	0	3	3	Hail (1.00)
The Grimes County Sheriff's Office reported quarter-size hail. Cars dented and car windows broken. Trees reported damaged.									
Montgomery County									
10 S Dobbins	03	1325CST			0	0	3	3	Thunderstorm Winds
Montgomery County Sheriff's Department reported trees down on FM 1486 and on Jackson Road 10 miles South of Dobbins.									
Plantersville	03	1440CST			0	0	4	4	Hail (1.50)
Golf ball-size hail and trees reported blown down. Cars damaged and home windows broken.									
Harris County									
Hockley	03	1500CST			0	0	3	3	Thunderstorm Winds
Public reports trees broken and several cattle sheds destroyed between Hockley and Waller.									
Waller County									
Hempstead	03	1515CST			0	0	5	5	Thunderstorm Winds
The Waller County Sheriff's Office reported numerous trees and power lines down, carports blown down and a gas leak. The sheriff's office estimates thunderstorm wind gusts between 60 and 90 mph.									
Milam County									
Thorndale	03	1640CST			0	0	0	0	Hail (1.00)
Quarter-size hail was reported in Thorndale by the sheriff's office and a weather observer.									
Lee County									
Blue	03	1700CST			0	0	0	0	Hail (1.25)
Half dollar-size hail was reported by a store clerk in Blue.									
Williamson County									
5 S Thrall	03	1715CST			0	0	0	4	Hail (1.75)
5 S Thrall	03	1715CST			0	0	5	0	Thunderstorm Winds (G52)
Golf ball-size hail and wind gusts to 60 mph were reported at Noack. Several small barns in the area were blown down. Significant crop damage was reported in a few fields.									
Wharton County									
Wharton	03	1730CST			0	0	4	4	Thunderstorm Winds (G70)
Wharton	03	1730CST			0	0	3	0	Lightning
Wharton County Emergency management reported trees and power lines reported blown down near Wharton. Lightning exploded an oil tank.									
Matagorda County									
Van Vleck	03	1750CST			0	0	0	3	Thunderstorm Winds
Sheriff reported large tree limbs down east of Van Vleck.									
Bastrop County									
Elgin	03	1810CST			0	0	0	0	Hail (0.75)

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

TEXAS, Southern Cont'd

Dime-size hail was reported in Elgin by the police department.

Montgomery County 10 S Dobbins	03	1825CST			0	0	3	3	Thunderstorm Winds
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The Montgomery County Sheriff's Office reported trees down on Farm-to-Market Road 1486 and on Jackson Road 10 miles South of Dobbins.

Williamson County Round Rock	03	1840CST			0	0	0	0	Hail (0.75)
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The Round Rock Police Department reported dime-size hail on the east side of town.

Travis County Pflugerville	03	1840CST			0	0	4	0	Thunderstorm Winds
N Austin	03	1847CST			?	?	?	?	Hail (1.00)
Austin	03	1907CST			?	?	?	?	Hail (0.75)
Southwestern Portion	03	1910CST			?	?	?	?	Thunderstorm Winds (G52)

Thunderstorm winds tore the roofs off of several mobile homes in Pflugerville. Up to 1.00 inch hail was reported by HAM radio operators in the north part of Austin. Dime-size hail was reported by a Television 24 weather watcher in Lago Vista. Wind gusts to 60 mph were recorded at Bergstorm Air Force Base.

Hays County San Marcos	03	1945CST			0	0	4	0	Thunderstorm Winds (G50)
1 E San Marcos	03	2035CST			0	0	3	3	Thunderstorm Winds (G50)

The San Marcos Police Department reported wind gusts to 58 mph in the city. These winds blew down power transformers and lines. The winds blew down an 80-foot pecan tree and damaged a garage on the Hays Caldwell County line.

Caldwell County Martindale	03	2045CST			0	0	4	0	Thunderstorm Winds
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A mobile home had its roof blown off by thunderstorm winds along Highway 80 in Martindale.

Gillespie County 16 W Fredericks- burg	03	2100CST			0	0	4	3	Thunderstorm Winds
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Several large trees were uprooted and a few barns sustained roof damage. A few cattle were also injured.

Kerr County Kerrville	03	2319CST			0	0	3	3	Thunderstorm Winds
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Several trees in the Kerrville area were damaged by high winds. A few power lines in the city were downed.

Burnet County 1 N Bertram	10	1725CST			0	0	3	0	Thunderstorm Winds
1 N Bertram	10	1725CST			0	0	0	3	Lightning

Power lines were downed north of Bertram and several fields were set on fire by lightning.

Atascosa County 15 S Jourdanton	11	1520CST	0.3	30	0	0	4	0	Tornado (F1)
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A tornado damaged 14 vehicle and a building at the Atascosa Mining Company complex southeast of Christine. Most of the cars had windows shattered and dents from flying debris. Several automobile were blown into each other in the parking lot. All the windows on one side of a building were blown out. a flagpole was wrapped over the top of a building. Power and telephone lines were down in the area. A few workers watched the tornado from the mining pit a mile away.

Harris County Houston	11	1530CST			1	3	0	0	Lightning
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, Southern Cont'd									
Lightning struck four construction workers. One was critically injured and later died (M390).									
Lee County Gidding	13	1415CST			0	0	3	0	Lightning
Lightning hit a water tank destroying it. The tank was thrown over 360 feet from its pad sight.									
Jackson County Vanderbilt	16	1603CST			0	0	4	0	Thunderstorm Winds
Jackson County emergency management officials reported a roof blown off of a grocery store and power lines down in the Vanderbilt area.									
Val Verde County Langtry	20	1710CST			0	0	4	0	Thunderstorm Winds (G61)
8 NNW Del Rio	20	1750CST			0	0	0	0	Thunderstorm Winds (G52)
The County Sheriff's Office reported wind gusts to 70 mph in Langtry. Minor roof damage was reported to a home and a service station. A National Park Ranger recorded a wind gust to 60 mph at San Pedro Canyon Estates north northwest of Del Rio.									
Burnet County 2 SE Buchanan Dam	21	1530CST	0.3	40	0	0	4	3	Tornado (F1)
A tornado briefly touched down on the north shore of Inks Lake near the Colorado River. A restaurant was heavily damaged, several trees in the area were uprooted. Parts of a mobile home park were also damaged.									
Williamson County 1 W Georgetown	21	1729CST			0	0	0	0	Hail (0.75)
HAM radio operators reported dime-size hail at the intersection of Farm-to-Market Road 1431 and Interstate 35.									
Travis County NW Austin	21	1735CST			0	0	0	0	Thunderstorm Winds (G61)
Wind gusts to 70 mph were recorded at television station 24 in the northwest part of Austin.									
Williamson County Round Rock	21	1804CST			0	0	0	0	Hail (1.50)
Round Rock	21	1804CST			0	0	0	0	Thunderstorm Winds (G64)
Wind gusts to 73 mph were reported in Round Rock along with 1.5 inch hail.									
Travis County Austin	21	1838CST			0	0	0	0	Hail (0.75)
Dime-size hail was reported at Highway 183 and Loop 360 in Austin.									
Milam County 4 SE Buckholts	21	1840CST	0.3	40	0	3	4	3	Tornado (F1)
A tornado briefly touched down on Farm-to-Market Road 486 and Highway 190. It took the roof off a local club, several trees were uprooted and a barn was destroyed. The sheriff's office reported a few people injured in a car that a tree fell on.									
Travis County Austin	21	1858CST			0	0	0	0	Hail (1.75)
Oak Hill	21	1918CST			0	0	0	0	Hail (0.75)
Austin City Police reported golf ball-size hail at the intersection of interstate 35 and 51st Street. HAM radio operators reported dime-size hail in Oak Hill.									
Burleson County Caldwell	21	1930CST			0	0	5	3	Thunderstorm Winds
The County Sheriff's Office reported large cedar trees down, several windows broken out of downtown stores. Roof damage was reported to several buildings and power were lines down in									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

TEXAS, Southern Cont'd

Caldwell.

Bastrop County 6 SE Bastrop	22	0015CST			0	0	3	3	Thunderstorm Winds
Emergency management officials reported trees and power lines down along Highway 71 southeast of Bastrop.									

Colorado County Rock Island	22	0255CST			0	0	0	3	Thunderstorm Winds
The sheriff's office reported trees blown down in Rock Island.									

Wharton County Wharton	22	0315CST			0	0	3	3	Thunderstorm Winds
The Wharton County Sheriff's Office reported limbs and signs blown down in Wharton.									

Zapata County 8 NW Guerra	22	1320CST			0	0	0	2	Thunderstorm Winds
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Jim Hogg County 6 N Guerra	22	1330CST			0	0	0	2	Thunderstorm Winds
Several mesquite trees were damaged along the Zapata, Jim Hogg County line.									

Kleberg and Central Counties	22	2227CST			0	0	3	0	Flash Flood
The sheriff's office reported several roads closed due to flooding. The Kingsville Navel Air Station reported 3.50 inches of rain.									

TEXAS, Western

Crane County Crane	01	0000CST- 0034CST			0	0	3	0	Flash Flood
Flash flooding continued in Crane from late the previous evening. The flooding was reported by the Chief of Police.									

Lubbock County 4 S Lubbock	01	0320CST			0	0	4	0	Lightning
Lightning from an isolated thunderstorm struck and damaged a house in south-central Lubbock County.									

Gaines County Seminole	01	0545CST- 0630CST			0	0	2	0	Flash Flood
The Seminole Police Department reported that U.S. Highway 385 was closed on the north side of Seminole because of flash flooding.									

Gaines County Seagraves	01	1805CST			0	0	1	3	Hail (2.50)
Up to tennis ball-size hail fell in and east of Seagraves, according to the Seagraves Police Department. Minor damage resulted from the hail.									

Ector County Goldsmith	01	1940CST			0	0	0	1	Hail (1.25)
Goldsmith	01	1949CST			0	0	0	2	Hail (1.25)
SKYWARN spotters reported half-dollar-size hail near Goldsmith. Only minor damage resulted.									

Midland County 10 W Midland	01	2019CST			0	0	0	2	Hail (1.75)
A SKYWARN spotter observed golf ball-size hail in extreme northwestern Midland County.									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, Western Cont'd									
Lubbock County 4 NW Slaton	01	2218CST			0	0	0	0	Hail (1.75)
	The Lubbock County Sheriff's Office reported golf ball-size hail near the Posey community. No damage was observed.								
Tom Green County 3 E San Angelo	02	1655CST			0	0	0	0	Hail (1.00)
3 E San Angelo	02	1655CST			0	0	4	0	Thunderstorm Winds (G52)
16 SE San Angelo	02	1735CST			0	0	0	0	Hail (1.00)
	Amateur radio spotters reported quarter-size hail and downburst winds to 60 mph east of San Angelo. Spotters also reported quarter-size hail in southeastern Tom Green County. The downburst damaged cotton equipment in Wall, while no damage resulted from the hail.								
Ector County W Odessa	03	1735CST			0	0	0	0	Hail (1.75)
W Odessa	03	1801CST			0	0	0	0	Hail (1.25)
	Half-dollar- to golf ball-size hail was reported by the public and the West Odessa Volunteer Fire Department on the west side of Odessa. No damage resulted.								
Pecos County Fort Stockton	05	1730CST			0	0	3	0	Thunderstorm Winds
Fort Stockton	05	1730CST			0	0	0	0	Hail (0.75)
	The Fort Stockton Police Department reported downed power lines and dime-size hail in Fort Stockton.								
Martin County 2 NE Tarzan	05	1855CST			0	0	0	3	Hail (1.75)
	The public reported golf ball-size hail northeast of Tarzan. Minor crop damage resulted.								
Martin County 1 W Lenorah	05	1933CST			0	0	0	0	Hail (1.75)
	Golf ball-size hail fell just west of Lenorah, according to the Martin County Sheriff's Office. No damage was reported.								
Ward County Grandfalls	06	1733CST			0	0	0	0	Hail (0.75)
	A cooperative observer reported dime-size hail in Grandfalls.								
Dawson County 3 N Patricia	06	1754CST			0	0	0	3	Hail (1.75)
12 SW Lamesa	06	1815CST	0.2	15	0	0	0	2	Tornado (F0)
	The Dawson County Sheriff's Office reported golf ball-size hail north of Patricia. The public reported a small tornado in southwestern Dawson County. Minor crop damage resulted from the hail and the tornado.								
Midland County 8 ENE Midland	10	1532CST			0	0	0	0	Hail (0.75)
13 SW Midland	10	1544CST			0	0	3	0	Thunderstorm Winds
	The public observed dime-size hail in northeastern Midland County. In the southwestern part of the county, downburst winds unroofed a storage building.								
Ector County 5 S Goldsmith	10	1707CST			0	0	0	0	Hail (0.75)
W Odessa	10	1710CST			0	0	2	0	Hail (1.75)
	The Goldsmith Fire Department reported dime-size hail south of Goldsmith. No damage resulted. Golf ball-size hail was reported on the west side of Odessa. Minor damage to cars was noted.								
Reeves County Balmorhea	10	1831CST			0	0	5	0	Thunderstorm Winds
Pecos	10	1842CST			0	0	4	0	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

TEXAS, Western Cont'd

A strong downburst destroyed one building and damaged several homes in Balmorhea. Another strong downburst damaged a stadium pressbox and damaged the roofs of two businesses in Pecos. The downbursts were reported by the Texas Department of Public Safety.

**Presidio County
Marfa**

10	2254CST				0	0	0	0	Thunderstorm Winds (G53)
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Downburst winds to 62 mph were reported at Marfa Municipal Airport. No damage resulted.

UTAH

**Salt Lake County
Sandy**
**Utah County
Alpine**

04	0700MST				0	0	3	0	Lightning
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04	0700MST				0	3	2	0	Lightning
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An upper level low, an associated cold front, and a moist air mass combined to cause thunderstorms over northwestern Utah. These thunderstorms produced small hail, heavy rain, and frequent lightning. Hail covered the ground in a few areas. Approximately at the same time, lightning struck two separate structures. One bolt struck the chimney of a house in Sandy. The electric current followed an electrical wire and a television cable into the house. Damage to the house was about \$1,500. Most of the damage entailed burned out electrical wire with the rest of the damage going to the chimney. In Alpine, the lightning struck a candy manufacturing plant. The lightning apparently hit a metal vent on the roof that sent a current down the building into a metal table. Three women inside the building received minor injuries. One woman was holding onto the metal table, and another was leaning against it when the lightning struck. The third woman was upstairs near where the lightning struck. One woman was in the hospital for a short time. Only minor damage was done to the building.

**Wasatch County
Midway**

12	1600MST				0	1	0	0	Lightning
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Widely scattered thunderstorms developed over the northwest portion of the state. Lightning struck the ground near a group of four men playing golf. One man, 42-years-old, was injured. The man received slight burns, and remained conscious the entire time. He was listed in good condition at a local hospital, and was expected to recover from his injuries.

**Utah County
Orem**

12	1620MST				0	0	2	0	Lightning
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While a male was playing nintendo during a thunderstorm, lightning struck a 30-foot Cottonwood tree in his yard. The lightning arced to a water meter on the side of the home, and traveled through pipes into the living room. The electrical charge started a small fire in the carpet. That was the only damage caused, and the person was not injured by the incident.

**Tooele County
Lakeside**

23	1650MST				0	0	0	0	Thunderstorm Winds (G75)
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**Juab County
20 S Callao**

23	1700MST				2	0	0	0	Lightning
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**Tooele County
Grantsville**

23	1725MST				0	0	0	0	Thunderstorm Winds (G58)
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**Davis County
Syracuse**

23	1730MST	2.0	25		0	0	3	0	Tornado (F1)
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**Tooele County
Wendover**

23	1734MST				0	0	0	0	Thunderstorm Winds (G58)
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**Davis County
Bountiful**

23	1745MST				0	0	2	0	Thunderstorm Winds (G70)
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**Tooele County
Wendover**

23	1754MST				0	0	0	0	Thunderstorm Winds (G58)
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**Salt Lake County
Salt Lake City**

23	1756MST				0	0	3	0	Thunderstorm Winds (G61)
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Salt Lake City

23	1756MST				0	0	3	0	Thunderstorm Winds (G74)
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Salt Lake City

23	1800MST				0	0	2	0	Thunderstorm Winds (G69)
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Salt Lake City

23	1805MST				0	0	2	0	Thunderstorm Winds (G59)
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Salt Lake City

23	1810MST				0	0	2	0	Thunderstorm Winds (G70)
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Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

UTAH Cont'd

Tooele County

Wendover	23	1814MST			0	0	0	0	Thunderstorm Winds (G76)
1 E Wendover	23	1830MST			0	0	2	0	Thunderstorm Winds (G70)

A squall line formed in a moist southwest flow ahead of an approaching cold front. This line formed in eastern Nevada on the afternoon of the 23rd, and then moved into northwestern Utah later that afternoon and early evening. The main affect from the winds in Tooele County was reduced visibilities in blowing dust. However, a camper pulled by a pickup was blown over one mile east of Wendover.

Lightning from these storms struck two men in a remote area of extreme western Utah. These two men were geologists conducting research in a mountainous region. The last these two individuals was in contact with the outside world was on the 21st. Because this was the first thunderstorm activity in 1.5 weeks, and they were supposed to be at a nearby town on the 23rd, it can be reasonably assumed that it was the 23rd when the two men were killed. The time of day this occurred also has been assumed, and was based on surrounding observations during the time the squall line went through that area. (M370) (M420)

In Salt Lake County, the strong winds caused numerous power outages and widespread broken tree limbs. In the suburb of Rose Park, a tree fell on a car. In downtown Salt Lake City, a billboard was blown down.

The event of the day was a tornado in Syracuse. The tornado was witnessed by several people. It was on the ground for about ten minutes. On one house, it tore a 8- by 4-foot section from a roof, twisted a porch frame, and broke the picture window. Shingles were torn off of houses surrounding the house that suffered the main damage. Flying debris broke windows in three vehicles. Two trees were also uprooted. Precipitation amounts were light.

UTZ001-002-003,010	24	1545MST- 2000MST			0	0	4	0	High Winds
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The cold front mentioned in the previous narrative moved into northwestern Utah late on the afternoon of the 24th. Behind the front, numerous gusts of 50 mph or greater were reported through the evening. The highest gusts were in the 58- to 62-mph range. These winds caused numerous power outages, and visibilities were reduced in blowing dust to nearly zero in many areas. Major power structures were knocked down in Lehi in Utah County.

VERMONT

Grand Isle County

North Hero	10	1415EST			0	0	2	0	Thunderstorm Winds
South Alburg	10	1427EST			0	0	4	0	Thunderstorm Winds
Isle La Motte	10	1432EST			0	0	4	0	Thunderstorm Winds

Franklin County

St. Albans	10	1445EST			0	0	3	0	Thunderstorm Winds
Swanton	10	1520EST			0	0	3	0	Thunderstorm Winds
Sheldon	10	1520EST			0	0	3	0	Thunderstorm Winds
Fairfax	10	1520EST			0	0	3	0	Thunderstorm Winds
Highgate	10	1525EST			0	0	4	0	Thunderstorm Winds
Franklin	10	1541EST			0	0	4	0	Thunderstorm Winds
Franklin	10	1541EST			0	0	4	0	Lightning

Chittenden County

Burlington	10	1548EST			0	0	2	0	Thunderstorm Winds
Shelburne	10	1548EST			0	0	3	0	Thunderstorm Winds
Colchester	10	1548EST			0	0	2	0	Thunderstorm Winds
Charlotte	10	1550EST			0	0	4	0	Thunderstorm Winds

Rutland County

Brandon	10	1555EST			0	0	4	0	Thunderstorm Winds
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Chittenden County

Hinesburg	10	1558EST			0	0	3	0	Thunderstorm Winds
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Addison County

Middlebury	10	1615EST			0	0	4	0	Thunderstorm Winds
Shoreham	10	1615EST			0	0	4	0	Thunderstorm Winds
New Haven	10	1643EST			0	0	3	0	Thunderstorm Winds

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

VERMONT Cont'd

Orleans County Albany	10	1652EST			0	0	4	0	Thunderstorm Winds
Orange County Turnbridge	10	1721EST			0	0	3	0	Thunderstorm Winds
Randolph	10	1721EST			0	0	3	0	Thunderstorm Winds
Bradford	10	1748EST			0	0	4	0	Thunderstorm Winds
Wells River	10	1800EST			0	0	3	0	Thunderstorm Winds
Caledonia County Ryegate	10	1800EST			0	0	3	0	Thunderstorm Winds

Severe thunderstorms moved across much of Vermont ahead of a strong cold front on the afternoon and evening of September 10th. Hardest hit was the Albany area where a 40-foot by 24-foot garage was lifted off its foundation and thrown 60 feet, a barn had a 40-foot section of its roof removed and a pick-up truck was damaged. Other areas hard hit were parts of Franklin County where thunderstorm winds downed trees and powerlines and removed the roof of a mobile home and pushed it off its foundation in Highgate. In Franklin eight cows were killed by electrocution after lightning struck the tree under which they were standing.

VTZ003-005 Northeast and Southern Vermont	13	AM			0	0	0	?	Frost
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Scattered frost was reported on the morning of the 13th across northeastern and southern Vermont. Temperatures dipped to at or below freezing in places with 32 degrees at Dorset, 31 degrees at West Dover, Island Pond and West Barnet, 29 degrees at East Haven and West Burke, and 28 degrees at Sunderland.

Statewide	24	AM			0	0	0	?	Frost
Statewide	25	AM			0	0	0	?	Frost

A large dome of high pressure covered Vermont on the 24th and 25th allowing for ideal radiational cooling in the early morning hours of both days resulting in widespread frost. Temperatures on the 24th dipped below freezing at many locations with 31 degrees at Burlington, 29 degrees at Rutland and Saint Johnsbury, 27 degrees at Montpelier and Newport, and 19 degrees at Wallingford. On the 25th temperatures dropped to similar levels with 31 degrees at Saint Johnsbury, 29 degrees at Montpelier and Newport, and 20 degrees at Jay Peak.

VIRGINIA

Hanover County	02	1811EST			0	0	0	0	Flash Flood
Thunderstorms produced very heavy rain which led to flash flooding. Numerous roads were closed due to the flooding in the western part of the county.									
Virginia Beach	04	1400EST			0	0	0	0	Funnel Cloud
A funnel cloud was sighted over the City near the Princess Anne park area.									
Norfolk	04	1545EST			0	0	0	0	Funnel Cloud
A funnel cloud was sighted in the western part of the City.									
Warren County	06	0300EST			0	0	2	0	Flash Flood
Roads and low bridges had water flowing over them after two to five inches of rain fell. The southern part of the county had the most flooding.									
Frederick County Winchester	06	0300EST- 0500EST			0	0	0	0	Flash Flood
Thunderstorms moving over this areas produced very heavy rain that caused flash flooding. Roads in several rural areas as well as streets in the city of Winchester were closed due to flooding.									
Shenandoah County Strasbury	06	0300EST			0	0	0	0	Flash Flood

Approximately six inches of rain fell from 9 PM EDT Saturday night into the early morning hours Sunday morning causing flash flooding. Nearly two feet of water was flowing down Virginia Street at 4 AM EDT, and flooded several basements.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

VIRGINIA Cont'd

Rockingham County	10	1758EST-			0	0	2	0	Thunderstorm Winds
		1815EST							
Page County	10	1800EST			0	0	0	0	Flash Flood
	10	1847EST			0	0	2	0	Thunderstorm Winds
	10	1850EST			0	0	0	0	Flash Flood

Thunderstorms produced damaging winds in these two counties as they moved through. Trees were knocked down in various locations. Power lines were also knocked down about six miles southwest of Harrisonburg, near Broadway, in the towns of Shenandoah and Lurray. These thunderstorms also produced very heavy rain that caused flash flooding in several rural areas closing roads for a short period of time.

VAZ001 > 004 Southeastern Virginia	24- 26				0	0	4	0	Tropical Storm Danielle
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Tropical Storm Danielle was centered about 100 miles southeast of Cape Hatteras North Carolina late Thursday afternoon, while strong high pressure was over New England. The circulation around both of these systems caused strong winds and heavy surf in the Delaware, Maryland and Virginia coastal areas ahead of Danielle as the storm moved North-Northwest. Danielle's center reached the Wallops Island, Virginia area around 6 PM Friday the 25th, and passed about 25 miles east of Baltimore, MD around 2 AM Saturday morning the 26th. It continued to weaken and move north as it crossed Delaware and moved into eastern Pennsylvania around 4 AM. Damage was fairly minor as the Storm passed by this area. The main damage was beach erosion along the coast. There was widespread flooding of low lying areas, especially in the cities of Suffolk, Virginia Beach and Norfolk. In Sandfiddler, three to four houses sustained heavy damage to lower floors from flooding. Norfolk was left with debris and dead mussels and crabs to clean up.

WASHINGTON

Central Basin Northeast Washington WAZ006,009	04	1000PST- 2000PST			0	?	?	0	Dust Storm
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Westerly winds in the wake of a cold front combined with existing dry conditions causing blowing dust which reduced visibilities. The poor visibilities were responsible for several minor injury car accidents in northern Grant and Lincoln counties. Local roads in the area were closed during the afternoon and evening hours. Gusty winds to 35 mph at Spokane caused power outages when tree branches fell and knocked down about a dozen different power lines.

Eastern Washington WAZ007-009,013	12	1430PST- 2030PST			2	7	5	0	Dust Storm
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Winds of 25 to 35 mph were common as a vigorous cold front moved across eastern Washington. Wind gusts to 56 mph were recorded at Waterville in Douglas County. Winds picked up dust from newly harvested fields creating large areas of near zero visibilities. The blowing dust caused numerous traffic accidents. At 1630 PST a chain-reaction accident involving five vehicles occurred due to poor visibilities on Highway 2 near Waterville. Two people were injured and one person died. A two-car collision at approximately the same time left two people injured and one dead on Highway 262, 9 miles south of Moses Lake. Sections of six highways in central Washington were closed due to the dust storm. (M44V) (M34V)

Adams and Franklin Counties	15	1200PST			0	0	0	0	Funnel Cloud
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Funnel clouds were seen by the public near Pasco and 5 miles north of Ritzville. The funnel clouds dissipated without causing damage or injuries.

Eastern Washington WAZ006-009,013	26	1330PST- 2000PST			0	1	4	0	Dust Storm
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Strong winds with gusts to 51 mph at Ephrata and 50 mph in East Wenatchee created areas of reduced visibilities in blowing dust. Visibilities near zero forced the closure of numerous roads including sections of Highways 2, 17 and 172. One person was injured in an accident in Douglas County.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
WEST VIRGINIA									
Raleigh County 1 NW Glen Daniel	10	1430EST			0	0	0	0	Hail (0.88)
Berkeley County Hedgesville	10	1615EST			0	0	0	0	Thunderstorm Winds
Trees and power lines were blown down.									
WISCONSIN									
Walworth County 1.5 N Delavan	02	1725CST	0.5	25	0	0	4	?	Tornado (F1)
A tornado briefly set down just north of Delavan moving a 30- by 60-foot barn off its foundation and damaging trees and power lines.									
Marathon County Wausau	05	2040CST			0	0	4	5	Thunderstorm Winds
Unity	05	2045CST			0	0	5	0	Lightning
Severe thunderstorm winds caused \$70,000 damage to a ginseng garden and damaged a restaurant in Wausau. Lightning started a fire that destroyed a house in Unity.									
Marquette County 3 NE Montello	07	1800CST	0.1	25	0	0	0	?	Tornado (F0)
Green Lake County 6 SW Berlin to Berlin to 2 E Berlin	07	1820CST- 1840CST	8.5	400	0	1	6	?	Tornado (F2)
A tornado touched down in an open field near Montello (Marquette County) and damaged 20 trees. A strong tornado tracked over 8 miles across Green Lake County and hit the town of Berlin. Along the path around \$1 million in damage occurred to 63 homes, 5 businesses, and 2 factories. Numerous power lines and hundreds of trees were downed. A woman received a minor head injury from the storm.									
WIZ007-010-014-015 West Central and Southwest Wisconsin	14 23	Early Morning- Afternoon			0	0	6	7	Flood
Vernon County									
Coon Valley	14	Morning			0	0	3	?	Flash Flood
Hillsboro	14	Morning			0	0	3	?	Flash Flood
Viola	14	Morning			0	0	3	?	Flash Flood
La Farge	14	Early Afternoon			0	0	5	?	Flash Flood
Juneau County									
Mauston	14	Late Morning			0	0	3	?	Flash Flood
Union	14	Late Morning			0	0	3	?	Flash Flood
Wonewoc	14	Late Morning			0	0	3	?	Flash Flood
Lyndon Station	14	Late Morning			0	0	4	?	Flash Flood
Columbia County									
Portage	14	Late Morning			0	0	3	?	Flash Flood
Sauk County									
LaValle	14	Late Morning			0	0	5	?	Flash Flood
Reedsburg	14	Late Morning			0	0	3	?	Flash Flood
Rock Springs	14	Late Morning			0	0	4	?	Flash Flood
Wisconsin Dells	14	Late Morning			0	0	4	?	Flash Flood
Richland County									
Viola	14	Late Morning			0	0	4	?	Flash Flood
Excelsior	14	Late Morning			0	0	4	?	Flash Flood
Boaz	14	Late Morning			0	0	4	?	Flash Flood
Richland Center	14	Late Morning			0	0	5	?	Flash Flood
Yuba	14	Late Morning			0	0	4	?	Flash Flood
Rockbridge	14	Late Morning			0	0	4	?	Flash Flood
Monroe County									
Warrens	14	Late Morning			0	0	3	?	Flash Flood
Tomah	14	Late Morning			0	0	3	?	Flash Flood
Oakdale	14	Late Morning			0	0	3	?	Flash Flood

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
WISCONSIN Cont'd									
5 NW Sparta Crawford County	14	Late Morning			0	0	5	?	Flash Flood
Soldiers Grove Gays Mills	14	Early Afternoon			0	0	3	?	Flash Flood
Pierce County	14	Early Afternoon			0	0	3	?	Flash Flood
River Falls	16	Early Morning			0	0	4	?	Flash Flood
Plum City	16	Early Morning			0	0	4	?	Flash Flood
Hager City	16	Early Morning			0	0	4	?	Flash Flood
Maiden Rock	16	Early Morning			0	0	4	?	Flash Flood
Buffalo County									
Mondovi	16	Early Morning			0	0	5	?	Flash Flood
Montana	16	Early Morning			0	0	4	?	Flash Flood
Trempealeau County									
Independence	16	Early Morning			0	0	4	?	Flash Flood
Sturm	16	Early Morning			0	0	5	?	Flash Flood
Whitehall	16	Early Morning			0	0	5	?	Flash Flood
Arcadia	16	Early Morning			0	0	6	?	Flash Flood
Blair	16	Early Morning			0	0	6	?	Flash Flood
Dodge	16	Early Morning			0	0	5	?	Flash Flood
Jackson County									
Black River Falls	16	Early Morning			0	0	5	?	Flash Flood
Monroe County									
Oakdale	16	Early Morning			0	0	3	?	Flash Flood
Clifton	16	Early Morning			0	0	3	?	Flash Flood
Clark County									
5 S Neilsville	16	Early Morning			0	0	4	?	Flash Flood
Shortville	16	Early Morning			0	0	4	?	Flash Flood
Waushara County									
Coloma	16	Morning			0	0	5	?	Flash Flood
Wautoma	16	Morning			0	0	3	?	Flash Flood
Vernon County									
Hillsboro	16	Morning			0	0	5	?	Flash Flood
Liberty	16	Morning			0	0	6	?	Flash Flood
Viroqua	16	Morning			0	0	5	?	Flash Flood
Coon Valley	16	Morning			0	0	5	?	Flash Flood
La Farge	16	Morning			0	0	5	?	Flash Flood
Readstown	16	Morning			0	0	5	?	Flash Flood
La Crosse County									
Midway	16	Morning			0	0	3	?	Flash Flood
Crawford County									
Gays Mills	16	Late Morning			0	0	5	?	Flash Flood
Soldiers Grove	16	Late Morning			0	0	4	?	Flash Flood
Columbia County									
Portage	16	Late Morning			0	0	3	?	Flash Flood
Juneau County									
Mauston	16	Late Morning			0	0	4	?	Flash Flood
Union Center	16	Late Morning			0	0	4	?	Flash Flood
Adams County									
2 S Brooks	16	Late Morning			0	0	3	?	Flash Flood
Sauk County									
Reedsburg	16	Late Morning			0	0	4	?	Flash Flood
Rock Springs	16	Late Morning			0	0	5	?	Flash Flood
Lime Ridge	16	Late Morning			0	0	4	?	Flash Flood
Baraboo	16	Late Morning			0	0	4	?	Flash Flood
Loganville	16	Late Morning			0	0	4	?	Flash Flood

Heavy rains over a 3-day period brought flooding and flash flooding to west-central and southwest portions of Wisconsin. Numerous communities were affected by the flooding with several towns being hit more than once with a combination of flash flooding and river flooding. The first rain event was from the night of the 13th through the morning of the 14th. A second episode of heavy rain fell on the 16th. The greatest amounts of rainfall measured over the 3-day period were from 14 to 17 inches across Sauk county with surrounding areas receiving from seven to ten inches. Major flooding occurred on the Baraboo, Trempealeau, and Pine Rivers; moderate flooding took

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

WISCONSIN Cont'd

place on the Kickapoo River; and minor flooding was noted on the Black and Yellow Rivers. A record river crest was measured at Baraboo on the Baraboo River. Over \$11 million in damage took place to crops with another \$3 million in damage to property. Along the Trempealeau river the hardest hit communities were Arcadia and Blair. In Arcadia 58 homes and 13 businesses were damaged, while in Blair 5 homes were destroyed and another 200 sustained damage by the flood waters. Richland Center, along the Pine river, endured two separate river crests which caused evacuation of 400 people from 80 homes. Along the Kickapoo river, waters flooded Gays Mills washing out a bridge and damaging 40 homes and 4 businesses. Across the flooded region, tens of thousands of acres of farmland were inundated, numerous roads were washed out, schools were closed and basements in low-lying areas were flooded. Total damages by county include Richland \$5.4 million, Sauk \$3.7 million, Trempealeau \$1.6 million, Vernon \$650,000, Columbia \$342,000 and Pierce \$200,000.

Douglas County 4 W Patzau	16	1700CST			0	0	?	?	Hail (1.75)
Bayfield County Drummond	16	1750CST			0	0	?	?	Hail (1.00)
Mason	16	1800CST			0	0	?	?	Thunderstorm Winds
Ashland County 3 SE Highbridge to 6 NE Mellen	16	1820CST	6.5	75	0	0	4	0	Tornado (F0)

Scattered severe thunderstorms struck northwest Wisconsin with hail up to the size of golf balls and intense winds which knocked down many trees. A tornado tracked easterly along a 6.5-mile path from 3 miles southeast of Highbridge to 6 miles northeast of Mellen in Ashland County. The tornado damaged a barn roof and lean-to as well as numerous trees and power lines.

St. Croix County North Hudson	17	1630CST			0	2	3	0	Lightning
Trempealeau County Pleasantville	17	2150CST			0	0	?	?	Hail (1.75)
Clark County Greenwood	17	2230CST			0	0	?	?	Hail (0.75)
1 S Greenwood	17	2230CST			0	0	5	?	Thunderstorm Winds
Wood County Bakerville	17	2245CST			0	0	?	?	Hail (0.88)
Marathon County Mosinee	17	2325CST			0	0	?	?	Thunderstorm Winds
Portage County 5 NW Stevens Point	17	2340CST			0	0	?	?	Thunderstorm Winds
Juneau County 2 N Necedah	18	0000CST			0	0	?	?	Hail (1.00)
Adams County 2 N Friendship	18	0020CST			0	0	?	?	Hail (1.00)
Rock County Janesville	18	0300CST			0	0	4	?	Thunderstorm Winds
Fond du Lac County Campbellsport	18	0315CST			0	0	4	?	Thunderstorm Winds
Sheboygan County Cedar Grove	18	0340CST			0	0	3	?	Thunderstorm Winds
Oostburg	18	0340CST			0	0	?	?	Thunderstorm Winds
Sheboygan	18	0345CST			0	0	?	?	Thunderstorm Winds

Severe thunderstorms spread across Wisconsin producing hail up to golf ball size and damaging winds. The winds destroyed a barn and corn crib near Greenwood (Clark County) and a garage in Campbellsport (Fond du Lac County). Many trees were toppled by intense winds in Janesville (Rock County) and Cedar Grove (Sheboygan County). A father and son were injured by lightning when it struck their home in North Hudson (St. Croix County) while they were taking down a metal basketball hoop.

Marquette County 4.5 S Endeavor	26	1651CST	0.5	25	0	0	2	?	Tornado (F0)
Neshkoro	26	1710CST	0.5	25	0	0	2	?	Tornado (F0)
Briggsville	26	1730CST			0	0	0	0	Funnel Cloud

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

WISCONSIN Cont'd

Green Lake County									
1 E Berlin	26	1722CST	0.3	25	0	0	0	0	Tornado (F0)
1 W Berlin	26	1734CST			0	0	0	0	Funnel Cloud
Green Lake	26	1735CST			0	0	0	0	Funnel Cloud
Winnebago County									
10 NW Oshkosh	26	1802CST			0	0	0	0	Funnel Cloud

Three weak tornadoes and several funnel clouds were generated by thunderstorms over central and east-central Wisconsin. The first tornado briefly set down 4.5 miles south of Endeavor in Marquette County damaging some trees. A second tornado also knocked down a few trees near Neshkoro (Marquette County). A third tornado touched down in an open field just east of Berlin (Green Lake County).

WYOMING

Goshen County									
10 W LaGrange	04	1725MST			0	0	0	0	Thunderstorm Winds (G55)

An Air Force site reported gusty winds with no damage.

Sheridan County									
Sheridan Airport	12	1658MST			0	0	0	0	Thunderstorm Winds (G53)

Gust winds with no report of damage or injuries.

Park County									
Yellowstone Park	13	1500MST			0	0	?	0	Thunderstorm Windss

Winds gusting from 60 to 70 miles an hour ripped up trees and knocked out power in portions of Yellowstone National Park. This temporarily closed some roads and campgrounds. No injuries were reported.

Laramie County									
Cheyenne Airport	17	1349MST			0	0	0	0	Thunderstorm Winds (G50)

Laramie County									
Near Pine Bluffs	17	1530MST			0	0	0	0	Thunderstorm Winds (G56)

Thunderstorms brought gusty winds to southeast Wyoming during the afternoon. No injuries or damage were reported.

Teton County									
Jackson Airport	23	1753MST			0	0	0	0	Thunderstorm Winds (G56)

Wind gusts to 64 miles an hour were reported from the Jackson Airport.

Carbon County									
Rawlins Airport	24	1230MST			0	0	0	0	Thunderstorm Winds (G50)

Wind gusts to 58 miles an hour were noted at the Rawlins airport.

Laramie County									
Cheyenne Airport	25	0054MST			0	0	4	0	Thunderstorm Winds (G54)

An early morning cold front brought thunderstorms and gusty winds to the Cheyenne area. Some signs and a construction trailer were damaged with the gusty winds. No injuries were reported.

Alaska, Northern

None reported.

ALASKA, Southern

Alaska									
Southern Portion	15- 17								High wind Snow

A strong cold front moving southeastward toward the Gulf of Alaska brought heavy snow to the northern and eastern Copper River Basin. As the front passed southern portion of central Alaska

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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ALASKA, Southern Cont'd

north winds 3050 mph blew down trees and caused power outages. A tree that struck an Eagle river home caused \$12000 worth of damage. At Valdez strong winds, peak gust of 84 mph, smashed windows, toppled trees onto power lines, and created general mayhem as it picked up and carried trash cans, bicycles, summer lawn furniture, even an entire boat. The wind also carried the year's first snowfall to Valdez, about 20 days earlier than normal. The half inch that fell marked the first measurable September snowfall here in over 20 years.

Alaska

Southeast Portion

16 1700AST

Record Snowfall

Yakutat recorded their earliest snowfall ever. A 56 minute snow shower reduced visibility to 3/4 mile and dropped about an inch of snow on the ground. Before 1992 only trace amounts of snow were recorded during September.

Kuskokwim Valley

16-
17

Record Snowfall

A slow moving arctic front dropped enough snow on Mcgrath to set a new 24 hr and monthly record. The 7.5 inches falling on the 16th and 17th broke the old monthly record of 6.1 inches set in 1958. The 7.0 inches recorded on the 17th broke the old 24 hour record of 3.8 inches set on the 2930 1965.

Copper River Basin

18

Record Snowfall

A 12 inch snowfall recorded at Gulkana not only set a 24 hour snowfall record but also set a monthly record for September. The old monthly record was 6.4 inches set in 1970. Heavy snows struck the Copper River Basin again on the 19th with another 612 inches falling from Palmer to Glennallen.

Kodiak Island

21

Record Cold

The 26 degrees recorded at Kodiak State Airport broke the old daily low of 31 set in 1933 and tied the record for the month set in 1968.

Kuskokwim Valley

22

Record Cold

The 15 degrees recorded at Mcgrath broke the old daily record of 19 set in 1957.

Bering Sea

22

0 ? 5 0 Rough Seas

A storm with 10 foot seas and gusty winds left the five man crew only minutes to put on survival gear before the fishing boat Majestic sank. The crewmen bobbed amid the vessel's debris tuesday for more than six hours before they were found by a helicopter from a nearby Coast Guard cutter. The Majestic was about 75 miles from St. Paul when the boat started to list in rough seas. The schooner apparently caught a wave sideways.

Alaska Peninsula

Pribilofs

Kodiak Island

26-
27

0 ? 0 0 High Wind
Snow

A large 980 mb low tracking east along 53 N brought one to two inches of rain along with wind gusts to 50 mph to the Alaska Peninsula on the 26th. A peak gust of 56 mph was recorded at Kodiak State Airport. When the storm struck Kodiak Island late on the 26th high winds and seas during high tide snapped the mooring line of a 38 foot boat anchored at Mill Bay. The boat was then destroyed on the rocky beach. The loss was estimated at \$60,000. Cold air pouring across the Bering Sea behind this storm brought a very early first snowfall to St. Paul Island. During the evening of the 26th north winds gusting as high as 35 mph dropped the temperature to just above freezing changing rain to snow. From 8 pm ADT to midnight on the 26th snow fell and reduced visibility to less than 1 mile at times.

ALASKA, Southeastern

None reported.

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
HAWAII									
Kauai	11	1530HST			3	100	9	7	Hurricane Iniki
<p>The most powerful hurricane to strike the Hawaiian Islands in recent history, severe hurricane Iniki with winds as high as 140 mph, moved in from the south making a direct hit on the island of Kauai during the afternoon hours on September 11th. Damage on Kauai was very extensive and has been estimated at \$1.8 billion. Damage was mostly light on the other islands of the Hawaiian chain except for the small island of Niihau where damage was moderate. The south and southwest facing shores of the islands all received localized wave damage with Oahu's Waianae coast hard hit. The hurricane struck at the time of high spring tides and storm surges of 4 to 6 feet were estimated along the devastated south shore of Kauai. The eye of the hurricane moved inland near Waimea at about 1530HST and crossed northward across the western half of Kauai. Central pressure at the point of landfall was estimated at 945 mb. One life was lost on land, a Kilauea man, 77, who was struck by flying debris. Two fishermen, aged 57 and 33, drowned at sea. About 100 injuries were reported mainly cuts and bruises. Preliminary damage figures released by the Red Cross included 1421 dwellings completely destroyed, 5152 suffering major damage, and 7178 minor damage.</p>									
Hawaii	14	morning and afternoon			0	0	6	0	Flash Flooding
<p>Thunderstorms early in the morning and again in the afternoon and evening caused scattered flash flooding around the Big Island. Even the normally dry volcano summits above 10 thousand feet reported heavy rain and a washout of the road between the ranger station and the Mauna Kea observatories occurred as 4 inch of rain fell. Remnant moisture from dissipating tropical depression Orlene was blamed for the heavy rains.</p>									
Hawaii	17	1700HST			0	0	5	0	Flash Flooding
<p>Heavy thunderstorms along the Kona coast caused localized minor flash flooding.</p>									
PACIFIC									
None reported.									
PUERTO RICO									
Rincon	13	1400AST			0	0	3	0	Thunderstorm Winds
<p>Strong winds blew down the zinc roofs of six houses and a farm in the Atalaya and Cruces area.</p>									
Culebra	15	1425AST			0	0	0	0	Waterspout
<p>A small craft reported a waterspout about five miles southwest of Culebra.</p>									
Aguada	16	1500AST			0	0	2	0	Flash Flood
<p>Rio Culebrinas went out of its banks near Sector Desvio blocking off the road. There were also reports of downed trees and power lines.</p>									
PRZ002-003-005	21	1500AST			0	0	2	0	Flash Flood
<p>Flooding was reported in various parts of southeastern Puerto Rico as a result of heavy rains. In Yabucoa, Bo. Calabaza, Sector Guayanes and urbanization Jaime Rodriguez were affected due to clogged drainage and creeks overflowing their banks. In Las Piedras, Naguabo and Humacao there were reports of flooding of urbanizations and minor landslides.</p>									
San Sebastian	23	1400AST			0	0	3	0	Flash Flood
<p>Near five inches of rain fell in an hour in this municipality. As a result the Salada Brook overflowed into homes and damaged several cars. Several houses were flooded of which two were total loss. Pablo Nuevo Avenue was impassable and there were downed trees and mudslides along roads. There was also a report of pea-size hail but no damages were reported.</p>									
San Juan	30	1200AST			0	0	2	0	Urban Flooding
<p>Heavy rains flooded six streets of Bo. Israel and a residence was affected in Villalba Street. Other areas that were flooded were Puerto Nuevo, Parcelas Falu and Reporto Bechara.</p>									
Las Marias	30	1730AST			0	0	1	0	Mudslide
<p>Heavy rains of around two inches produced a mudslide in Road 431 which blocked traffic for two days.</p>									

Storm Data and Unusual Weather Phenomena

September 1992

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

U.S. VIRGIN ISLANDS

St. Croix	29	1000AST-			0	0	2	0	Flash Flood
	29	1500AST							

Around four inches of rain fell in the vicinity of Estate Salt River. There were overflowing gutters in the Hess Oil area, and tree branches fell along several roads in Fredericksted.

STORM DAMAGE CATAGORIES

REFERENCE NOTES

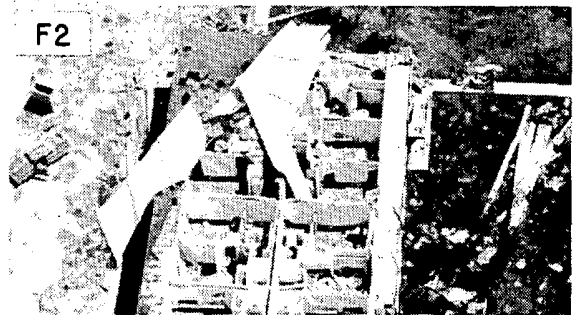
- 1 Less than \$50
- 2 \$50 to \$500
- 3 \$500 to \$5,000
- 4 \$5,000 to \$50,000
- 5 \$50,000 to \$500,000
- 6 \$500,000 to \$5 Million
- 7 \$5 Million to \$50 Million
- 8 \$50 Million to \$500 Million
- 9 \$500 Million to \$5 Billion

- 0/Blank None reported.
- * Miles instead of yards.
- ** Yards instead of miles.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- ≠ Report incomplete.
- ≠≠ Report not received.
- o/c Indicates Crop Damage amount is included in the value given for property damage.

When reports are not received or are incomplete, the Storm Summary National Death and Injury totals may also be incomplete.

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.

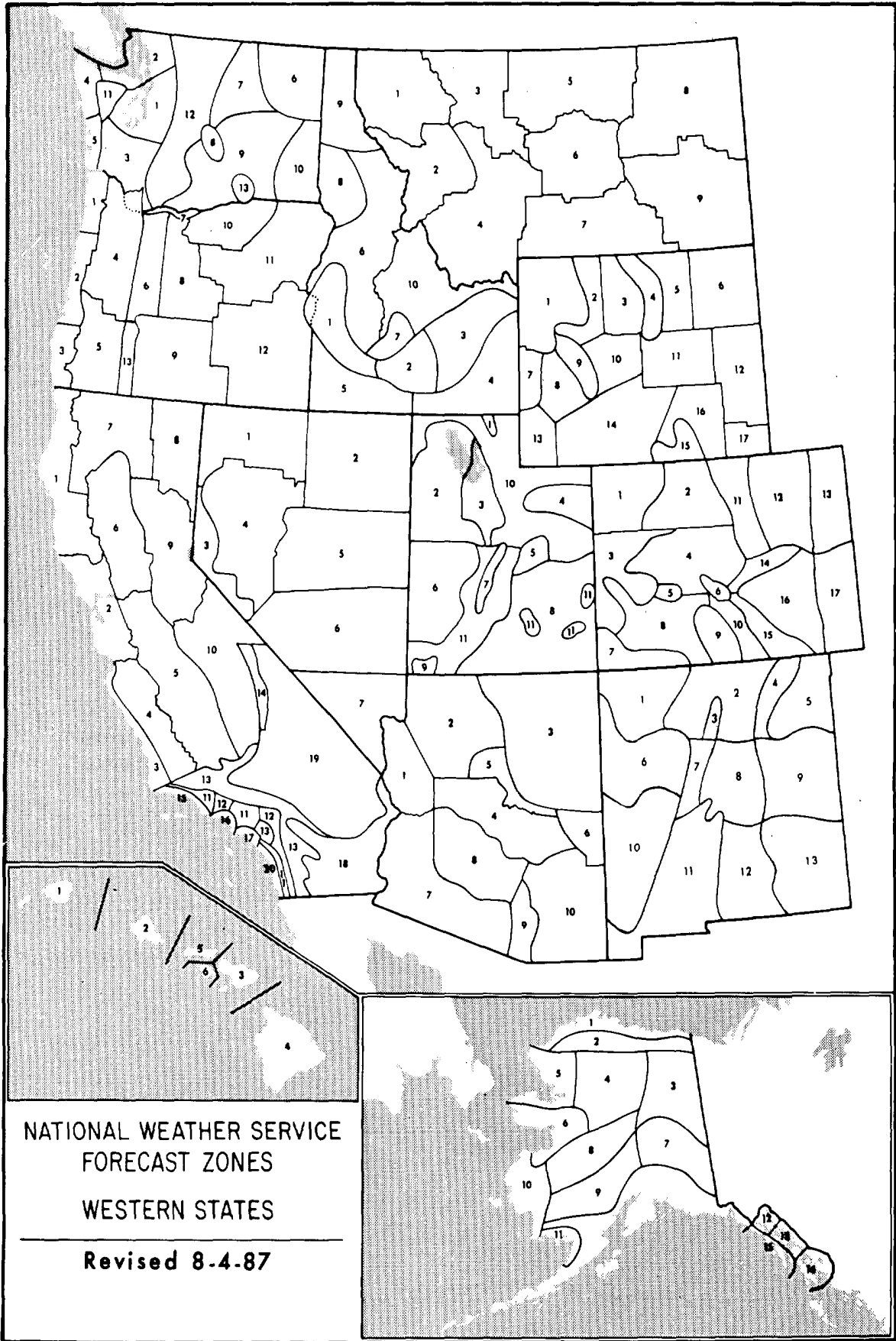
(F5) Incredible tornado (261-318 mph): Incredible damage
Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 m; trees debarked; incredible phenomena will occur.

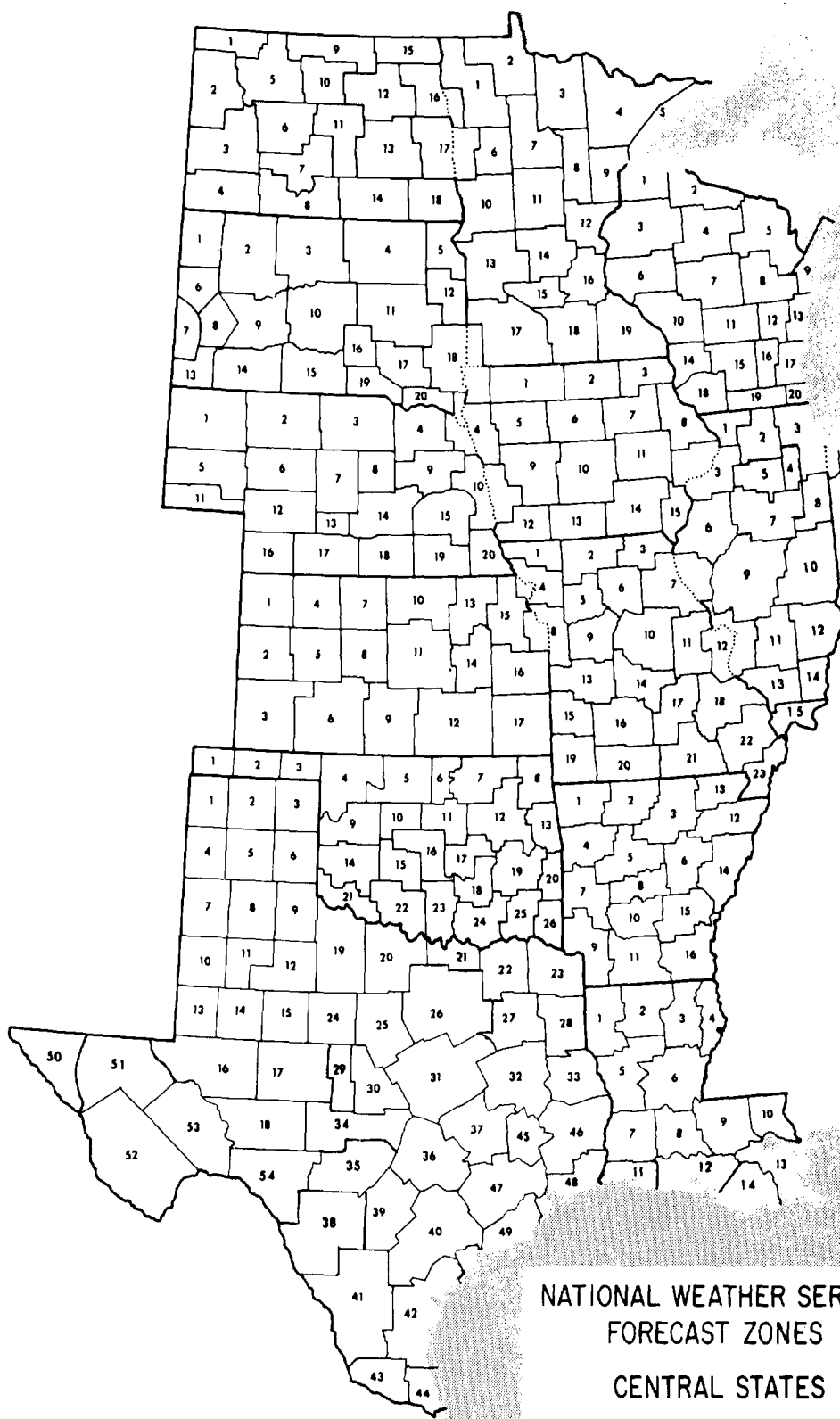


(F6-F12) (319 mph to Mach 1, the speed of sound):
The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.

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

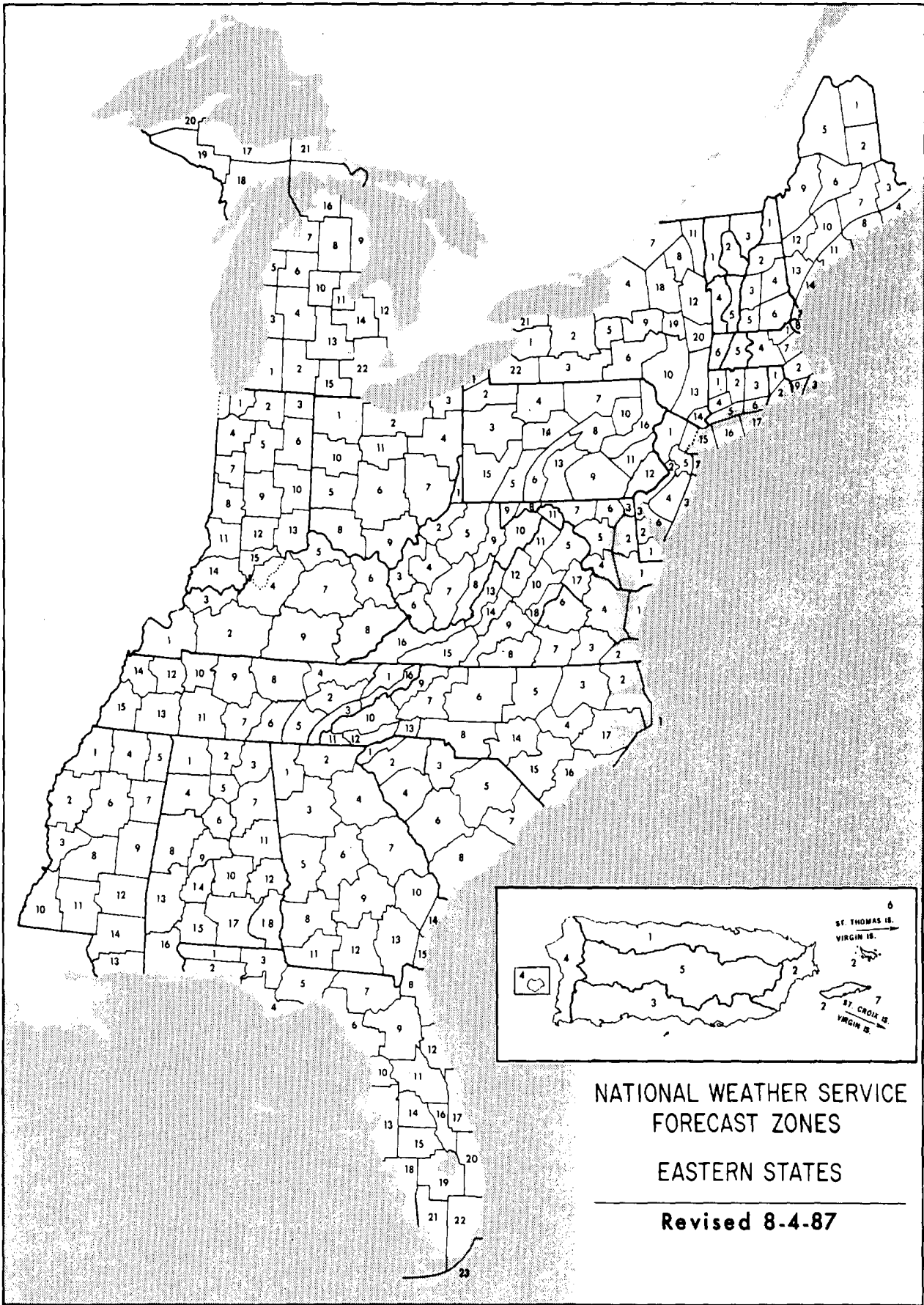
From J. Atmos. Sci., August 1981, p. 1517-1519





NATIONAL WEATHER SERVICE
FORECAST ZONES
CENTRAL STATES

Revised 8-4-87



STORM DATA

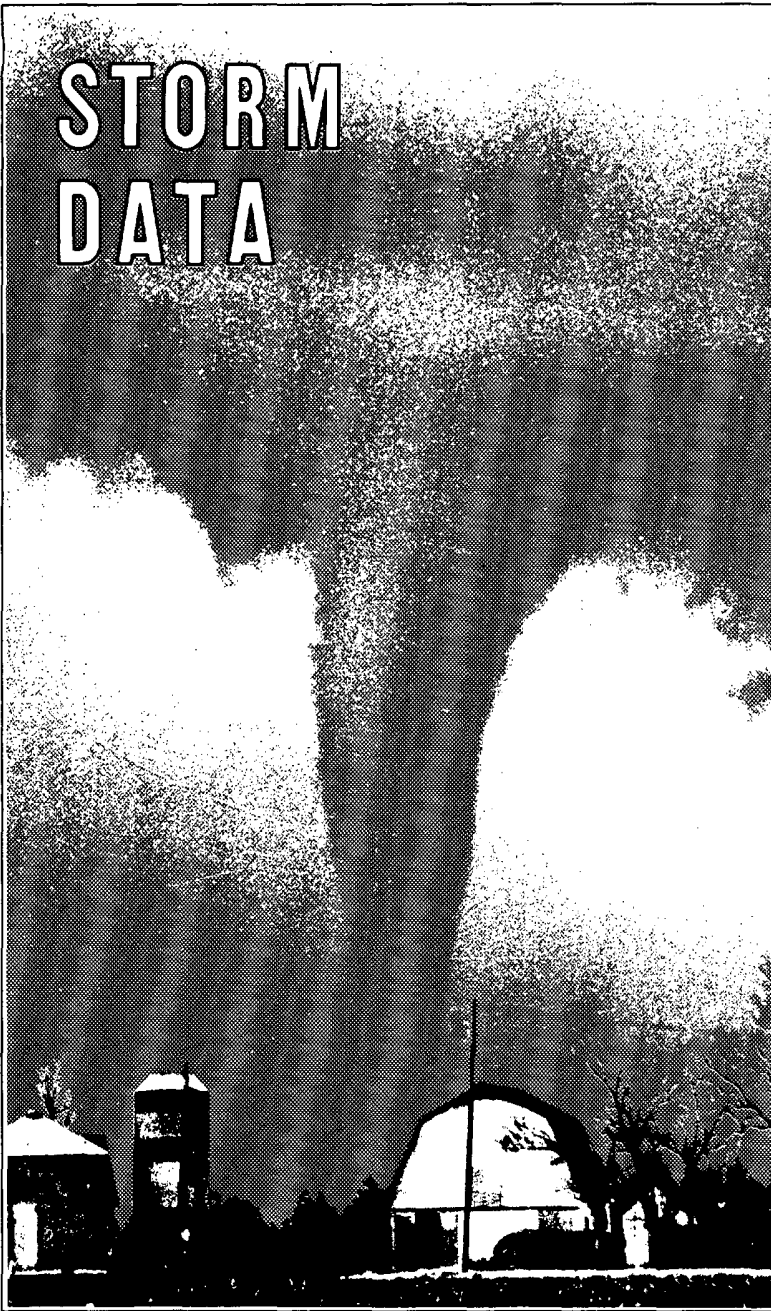


Photo courtesy: Larry Miller, Kansas Heritage Photography

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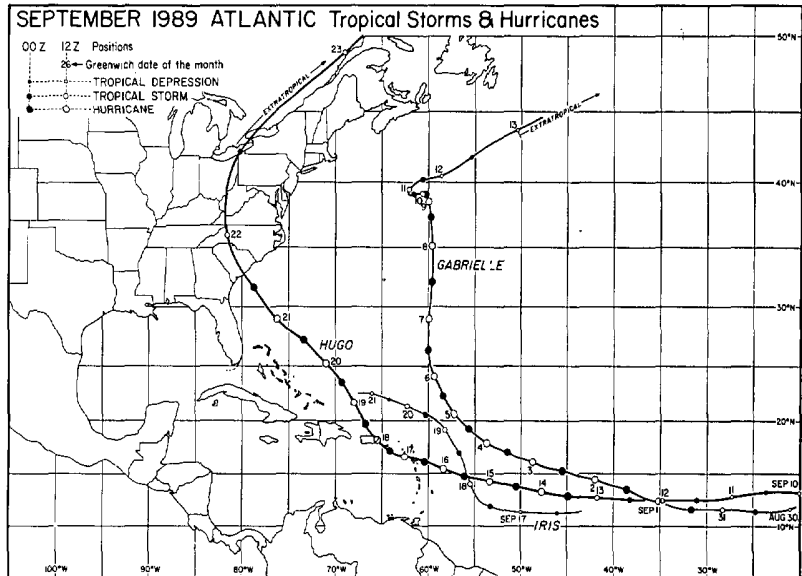
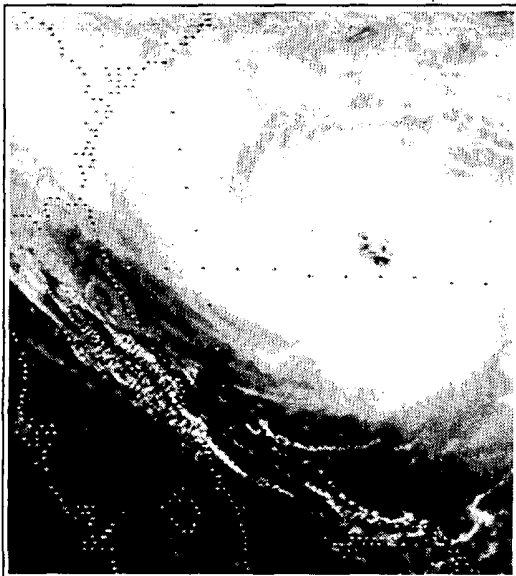
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HURRICANE HUGO, SEPTEMBER 10-22, 1989

Despite excellent warning lead times and excellent government and public response to the warnings, the fury of Hurricane Hugo took many by surprise and will undoubtedly haunt the memory of many Americans for years to come. Along with numerous deaths and injuries, HUGO brought large-scale devastation to much of the Carolinas, Puerto Rico, the Virgin Islands and other islands of the Caribbean, making it the costliest hurricane in U.S. history.

Over the course of slightly less than two weeks, HUGO followed a trajectory that was typical for an Atlantic Basin tropical system: originating near Africa in the vicinity of the Cape Verde Islands, traveling west across the tropical Atlantic to the Leeward Islands, turning northwest toward the U.S. coast until making landfall in the Carolinas, and once inland; turning northeast under the influence of the Westerlies and becoming extratropical while skirting the eastern U.S.-Canada border (see map below). The system originated from a cluster of thunderstorms that moved off the African coast on September 9th and organized into a tropical depression on the 10th just southeast of the Cape Verde Islands. The system moved west at 18 knots, attaining storm status on the 11th, and hurricane status on the 13th while located about 1100 nautical miles east of the Leeward Islands. HUGO gradually turned west-northwest and slowed in its translation as it headed for the Islands. While still several hundred miles east of the Islands on the 15th, the first reconnaissance aircraft reported HUGO as having a minimum central pressure of 918 mb and an estimated maximum surface wind of 140 knots. This turned out to be HUGO's maximum intensity.



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STORM DATA

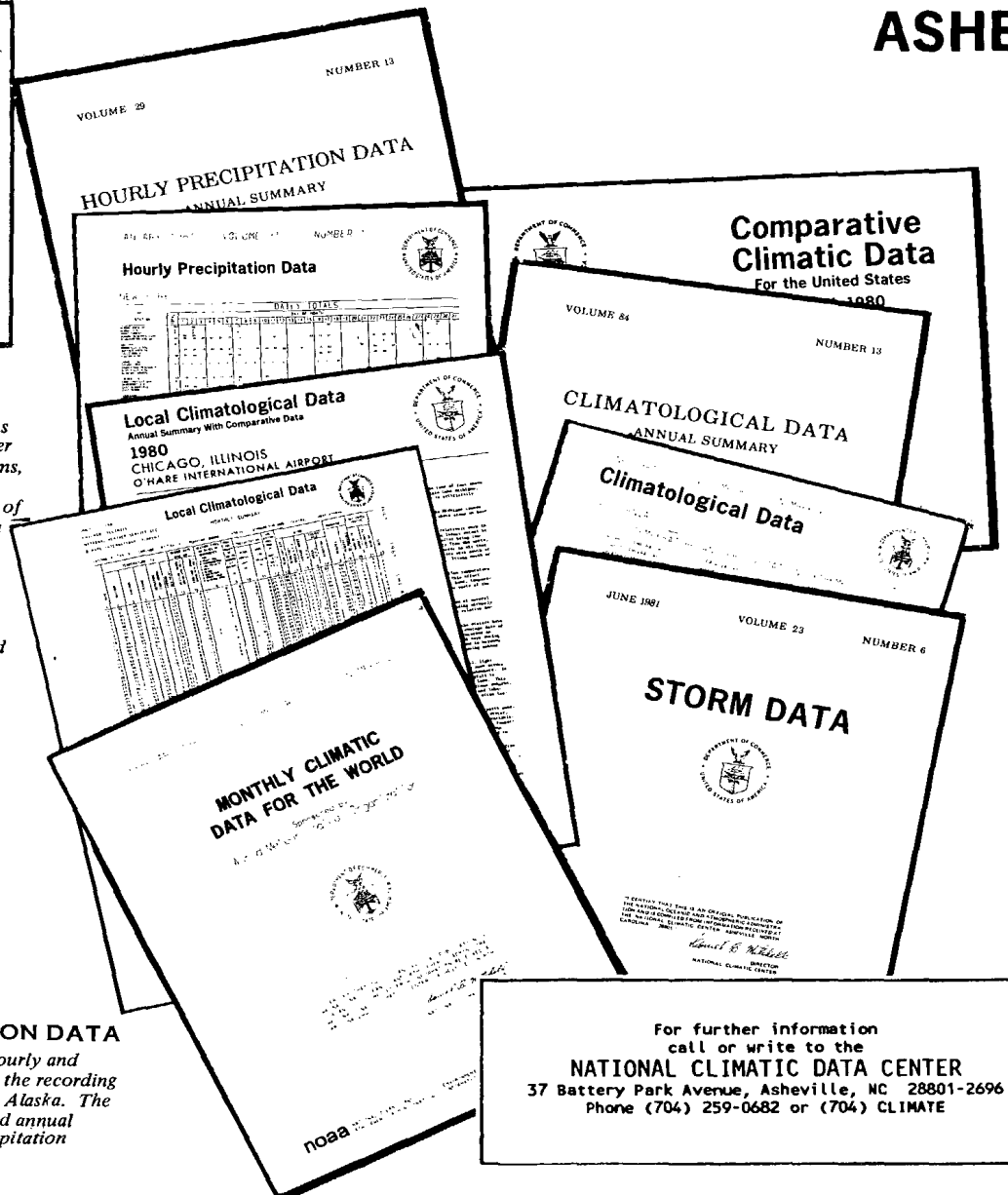
Monthly issue presents a chronological listing, by states, of occurrences of storms and unusual weather phenomena, together with data on the paths of individual storms, deaths, injuries, and estimated property damage, and a brief narrative description of each event. A new section in the bulletin entitled "OUTSTANDING STORMS OF THE MONTH" highlights severe weather and includes descriptive photographs of storms, their tracks, and analyzed maps. The December issue includes annual summaries of tornadoes and lightning and North Atlantic tropical cyclones.

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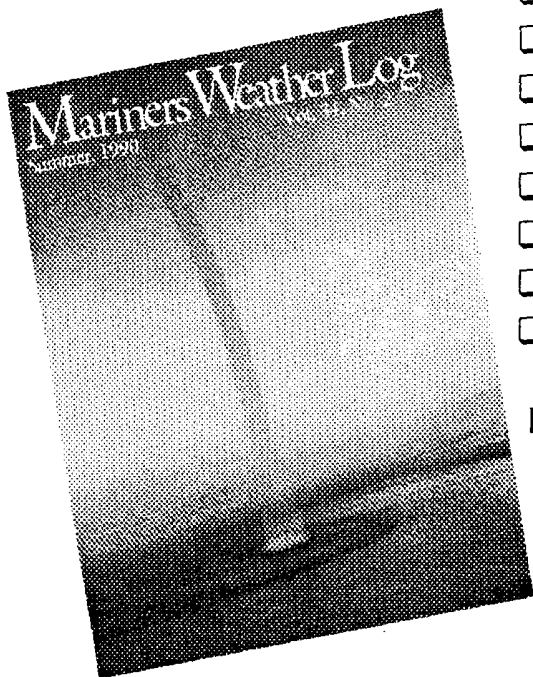
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