

STORM DATA



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NATIONAL CLIMATIC DATA CENTER, ASHEVILLE NORTH CAROLINA"
28801

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Cover: A Seattle area roadway that was eroded by floodwaters resulting from 36 continuous hours of heavy rain dropped by a Pacific storm on January 17th and 18th (see HEAVY RAINS in WESTERN WASHINGTON, pages 4-8). ---Photo by Cole Porter, The Seattle Times.

Maps of Zones used in the Storm Data and unusual weather phenomena section will be published in these editions of Storm Data:

Eastern States: January, April, July, & October.

Central States: February, May, August, & November.

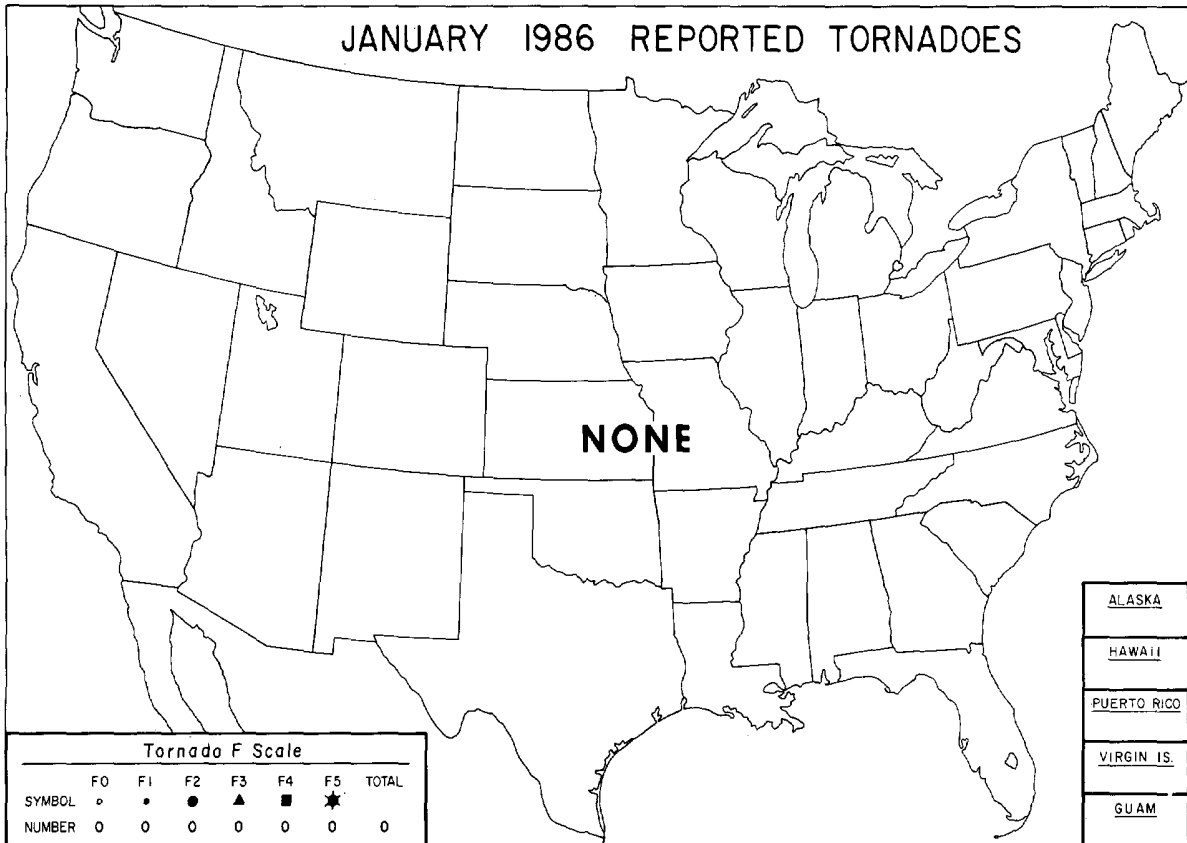
Western States: March, June, September, & December.

NOTE: The section on Outstanding Storms of the Month is prepared by Professor T. Theodore Fujita, editor, and Duane J. Stiegler, associate editor, University of Chicago. The narrative descriptions of Storms by State and Summaries of Hurricanes and Tropical Storms are prepared by the National Weather Service. The National Climatic Data Center compiles the statistics on deaths, injuries, and damage. This publication contains our best information on Storms, but, due to the difficulties inherent in collection of this type of data, it is not all-inclusive. Late reports and corrections will be carried quarterly.

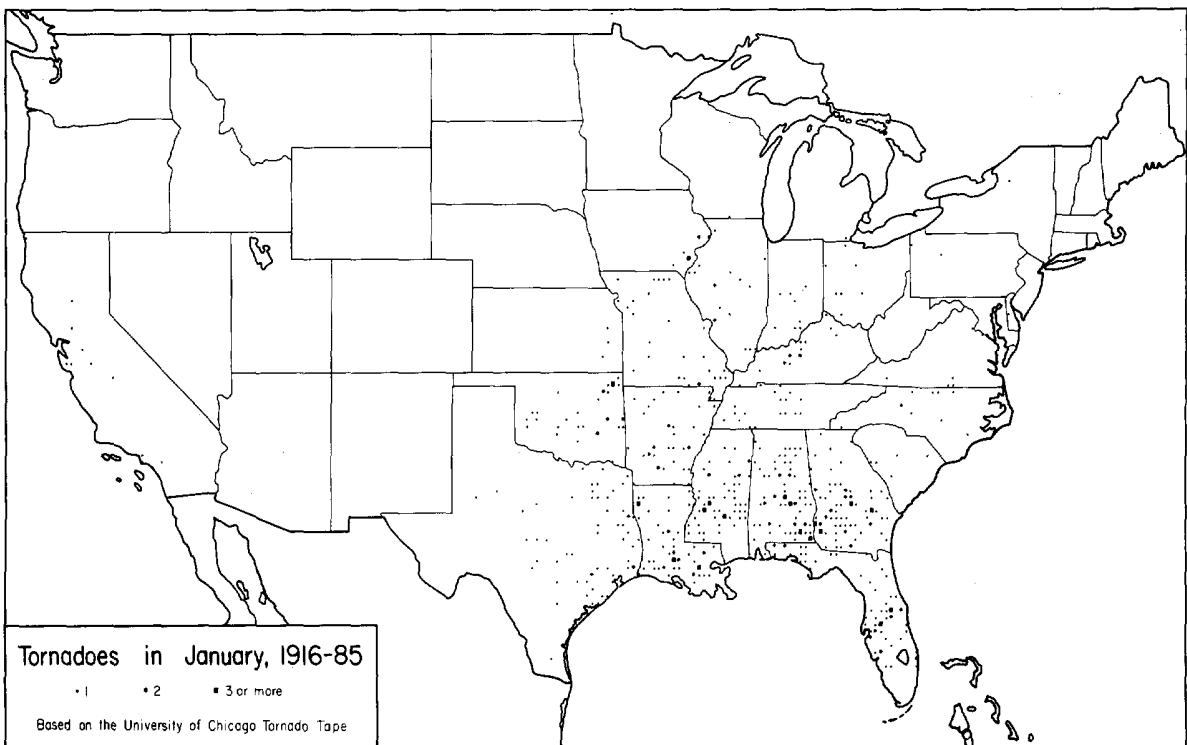
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OUTSTANDING STORMS OF THE MONTH

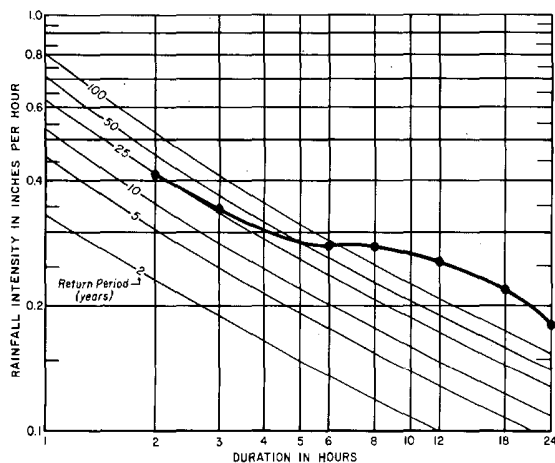
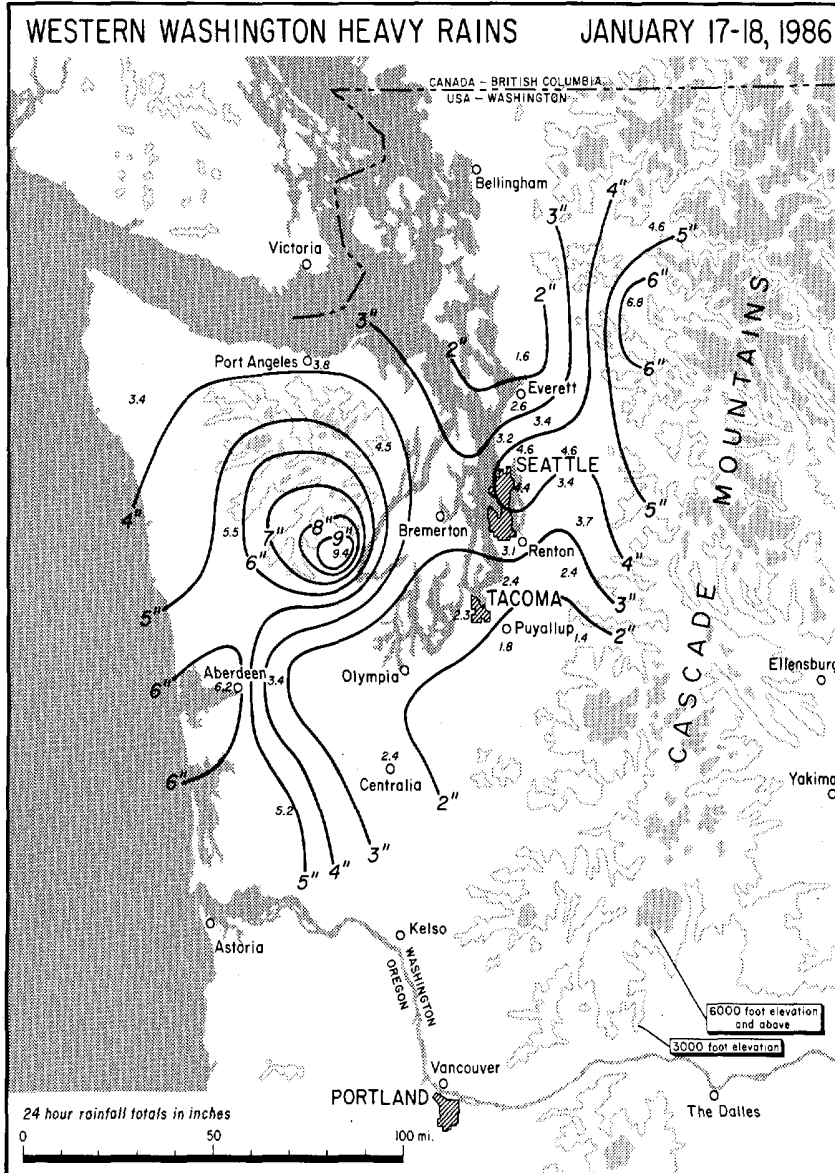


● COMPLETE REPORT RECEIVED	● 1AL	● 7DE	● 14KS	● 21MN	● 28NJ	● 33OH	● 39SD	● 44VA	● 49AK(SE)
○ PRELIMINARY REPORT RECEIVED	● 2AZ	● 8FL	● 15KY	● 22MS	● 29NM	● 34OK	● 40TN	● 45WA	● 50HI
○ REPORT NOT RECEIVED	● 3AR	● 9GA	● 16LA	● 23MO	● 30NY(O)	● 35OR	● 41TX(N)	● 46WV	● 51PR
(N) northern (W) western	● 4CA(N)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



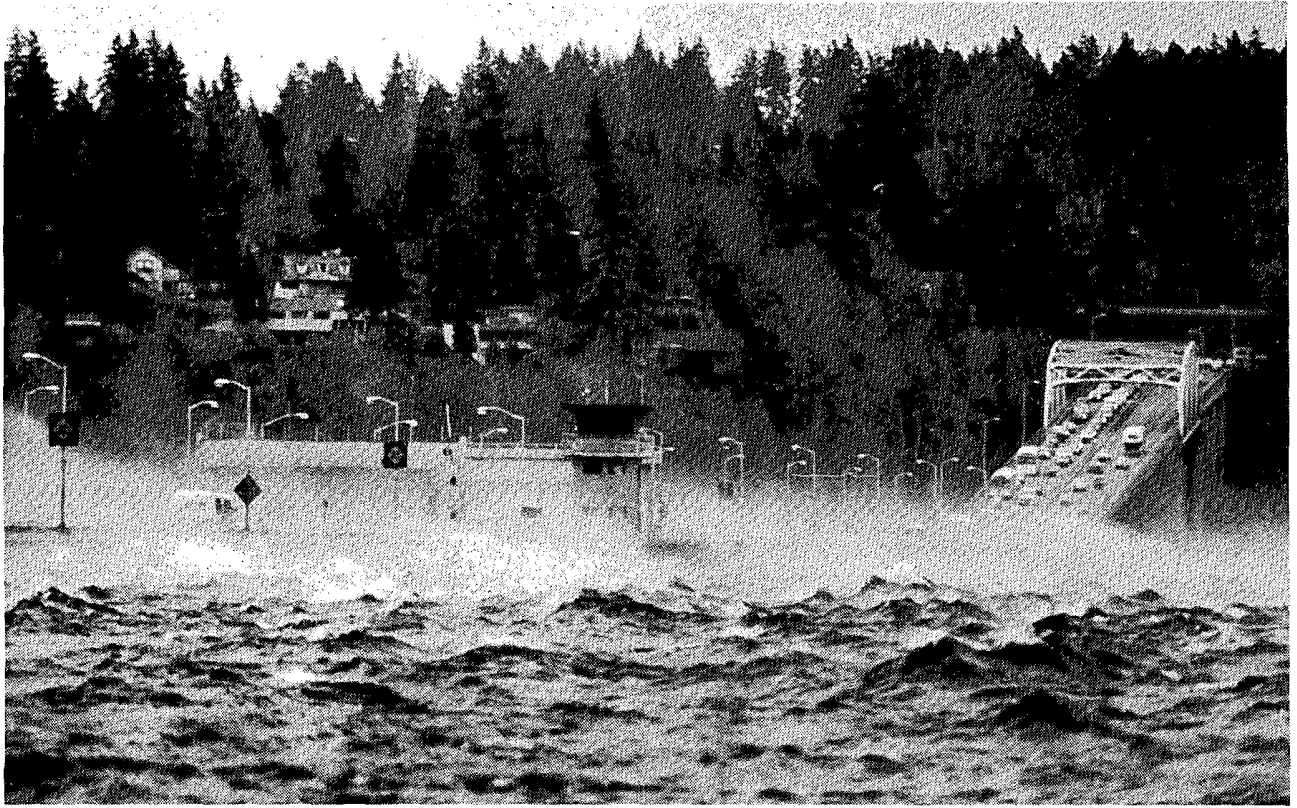
1. HEAVY RAINS in WESTERN WASHINGTON on January 17-18, 1986

On January 17th and 18th, a winter storm besieged the Puget Sound area of Western Washington with nearly 36 hours of continuous, often heavy rain, resulting in severe land erosion that caused roads to wash away and homes to fall over hillsides; mudslides that pushed debris into homes, stacked cars on top of each other, and moved buildings; and various forms of flooding, including the inundation of lowlands. Strong winds also peeled roofs and toppled trees. Area damage was estimated at between \$15 and \$20 million.



The graph at left demonstrates that precipitation totals equating to or surpassing the 100 year return interval were not uncommon. The graph depicts rainfall intensity versus duration during the storm (thick line) at the University of Washington at Portage Bay-Seattle. The return period or frequency curves are based on 1903-1951 data from the nearby NWSFO at Seattle. Rainfall rates in the 6 to 24 hour duration range generally exceeded an expected return period of 100 years.

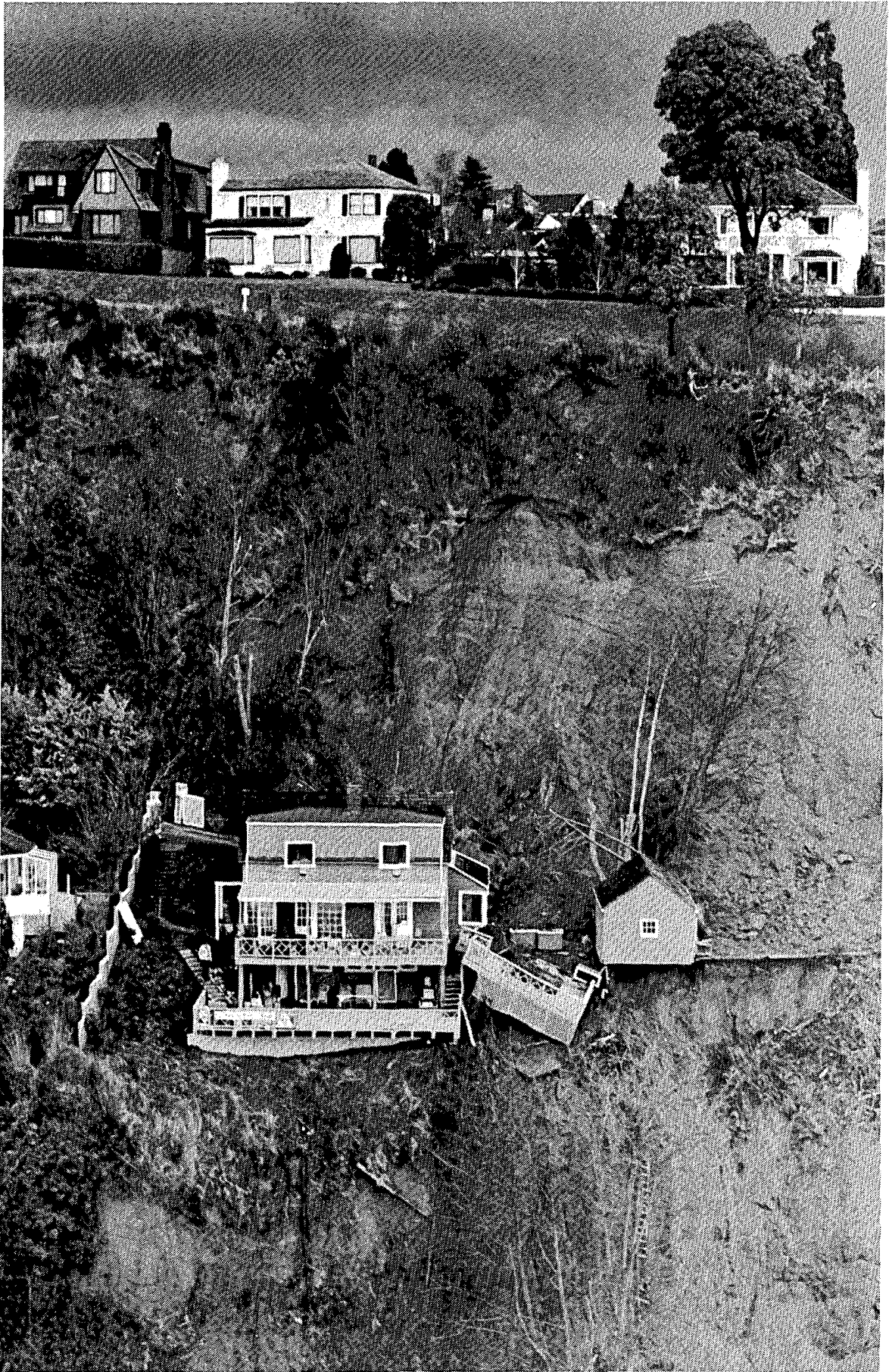
HEAVY RAINS in WESTERN WASHINGTON ---- continued



Traffic backs up at the entrance to one of the Seattle area's floating bridges as high winds created spray that reduced visibility. The bridges were closed in the late afternoon of the 18th, shortly after this picture was taken. ---(CP)



Erosional effects of stream flooding during the storm are well exemplified by this collapsed and fractured road surface. ---(CP)



A hillside home appears to hang perilously after the surrounding terrain had slid away and caused the partial collapse of an adjoining patio deck and the undermining of a garage. ---(MM)



A result of urban flooding around Seattle, this logging truck was engulfed under a viaduct. Note the nearly submerged vehicles to its right. ---(CP)

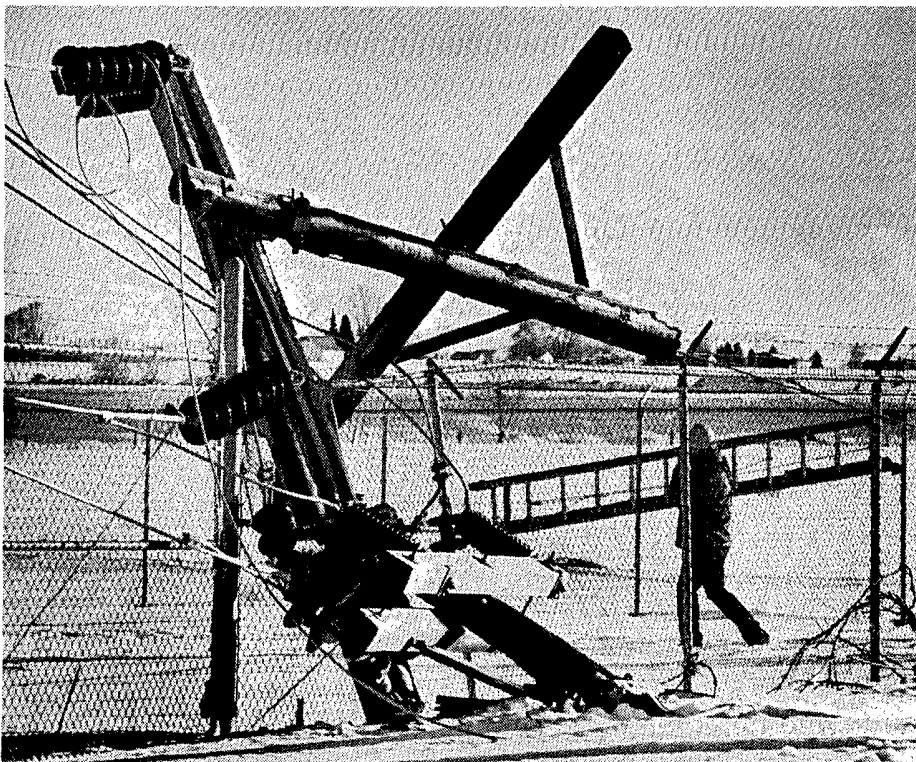
HEAVY RAINS in WESTERN WASHINGTON ---- continued



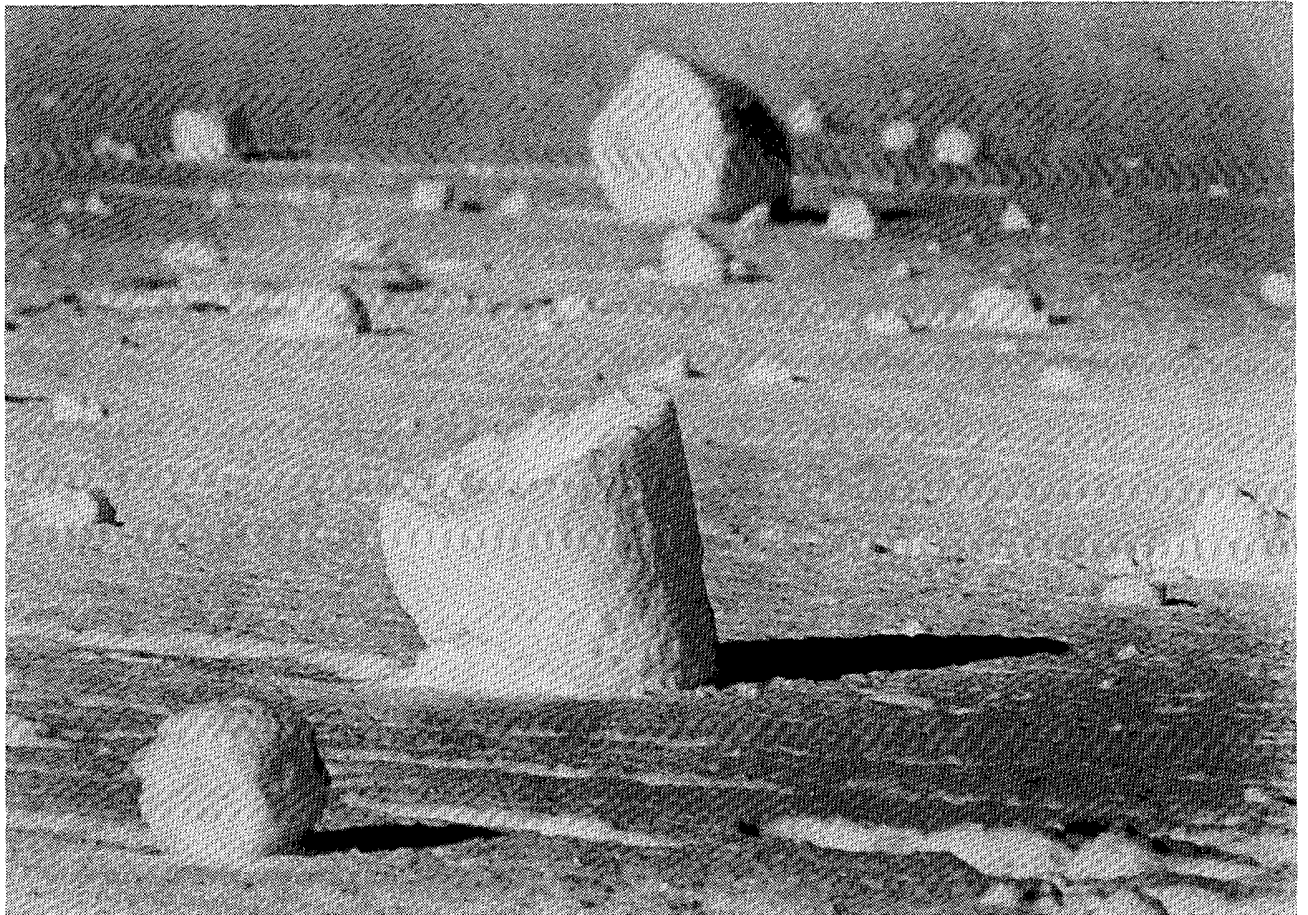
Floodwaters spread over lowlands in the Puget Sound area. ---(MM)

---Credits: Rainfall map and frequency diagram on page 4 from the NWSFO at Seattle, Washington. Damage photos on pages 5-8 by Cole Porter (CP) and Matt McVay (MM), The Seattle Times.

2. HIGH WINDS in SOUTHERN IDAHO on January 1 and 3, 1986

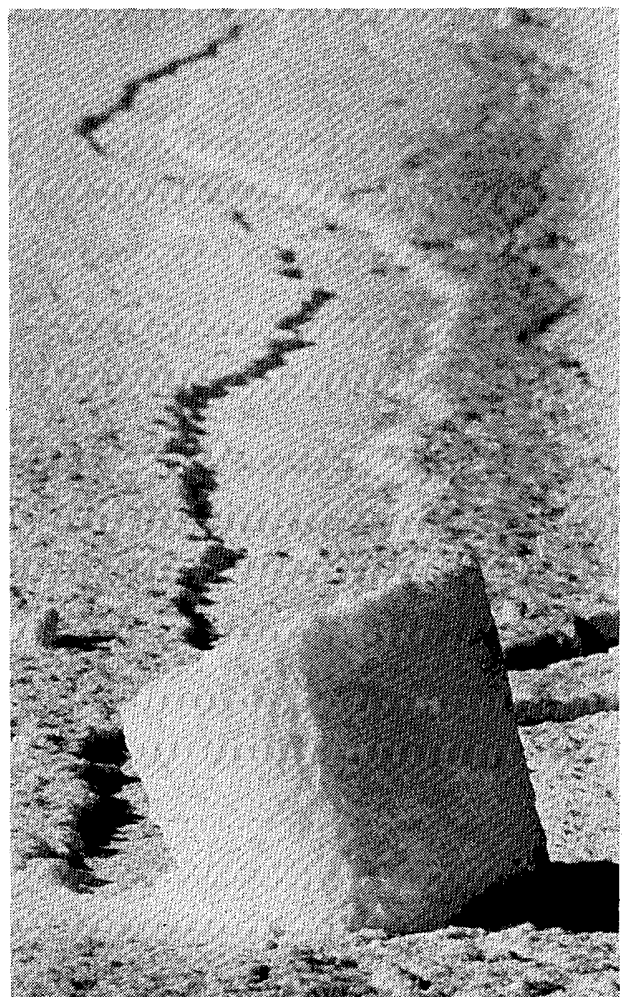


Meteorologically, the New Year came in with a fury in southern Idaho as strong winds accompanying a Pacific storm swept through the area on New Year's Day. Winds were especially damaging along the Snake River Valley; they reached 58 mph at Boise, and 49 mph winds at Twin Falls toppled 9 twin-wooden-pole power line structures, one of which is shown at left. ---Photo by Andy Arenz, The Twin Falls Times-News.



As a result of repeated high winds on January 3rd, this time restricted to the central portion of southern Idaho, snow rollers shown above and at right were created near Twin Falls. Snow rollers, an unusual phenomena though not uncommon in sloping areas, resemble a lady's hand muff and are created when snow, moist enough to be cohesive, is lifted by downslope or especially strong winds and is rolled, gathering additional snow into a cylindrical shape until it becomes too heavy for the wind to roll it further. Fields between Twin Falls and nearby Filer were covered with an array of multi-sized rollers, some hand-sized and others as large as 18 inches in diameter. Local media received numerous inquiries about the strange objects that dotted the landscape.

---Photos by Skye Saveson, The Twin Falls Times-News.



STORM DATA AND UNUSUAL WEATHER PHENOMENA

JANUARY 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
1 ALABAMA ————— NONE REPORTED									
2 ARIZONA ————— NONE REPORTED									
3 ARKANSAS									
Crittenden County	25	0920CST			0	0	-	-	Heavy Fog
<p>Very localized, heavy fog formed across Interstate 55 at the overpass across U. S. Highway 64 in the City of Marion. A southbound car slowed down to a very slow rate of speed. A second car struck the first car from the rear. The driver of the second car pulled off the driving lane, but the driver of the first vehicle got out and left the car on the freeway. Twenty-one other vehicles, including cars, trucks, tractor-trailers, and campers, struck one another in a horrible fiery wreck where eight persons died. Six of the people burned to death trapped in the wreckage. Sixteen individuals were injured seriously. Damages to vehicles and contents were estimated at \$540,000, not counting the damage done to the roadway by the ensuing fire. More than 23 vehicles were involved in the mishap because one of the trucks was transporting seven pick-up trucks. M63V-F59V-F60V-M24V-F20V-M62V-F31V-F38V.</p>									
4 CALIFORNIA, Northern ————— NONE REPORTED									
4 CALIFORNIA, Southern									
Ontario, San Bernardino and San Bernardino County	06	0430PST			1	0	?	0	High Winds
<p>A 37 year old truck driver was killed instantly when a wind gust caught his twin-trailer rig and threw it into a guard rail on Interstates 15 and 10 in Ontario. Gusts reached 60 mph in Ontario and 100 mph gusts were recorded at the Rialto airport.</p>									
Ventura, Los Angeles and San Bernardino Counties	06	0800-1600PST			0	0	0	0	High Winds
<p>Power lines blown down by high winds left nearly 90,000 people from Ventura County to San Bernardino County without power for varying periods during the day.</p>									
San Diego County	06	Morning			2	0	?	0	High Winds
<p>Two men from Florida died when their tractor-trailer rig was struck by a 75 mph wind gust that lifted the trailer off the pavement and flipped it over a guard rail. The 43 year old driver died enroute to the hospital and a 55 year old passenger was killed instantly.</p>									
Matilija Canyon, Ventura County	30-31	1200-0300PST			0	0	?	0	Heavy Rain/Mudslides
<p>A storm dropped up to 5 inches of rain over Southern California, creating mudslides of which 4 major ones occurred in the Matilija Canyon between 4 and 7 miles northwest of Ojai. The mudslides ripped one canyon home from its foundation, collapsed another home and seriously damaged a third. The slides deposited debris and mud 6 to 8 feet deep. Twenty-one residents were evacuated by sheriff's helicopter.</p>									
Decker Canyon, Ventura County and Malibu, Los Angeles County	31	1200PST			0	0	0	0	Mudslides
<p>Mud oozed across Decker Canyon Road, trapping a pick-up truck driver. Three other mudslides blocked Mulholland Highway in Malibu. Another slide closed the Pacific Coast Highway between Big Rock and Las Flores Canyon Road.</p>									
5 COLORADO									
Eastern Foothills	2	morning			0	0	4	0	High Winds
<p>Strong winds gusted along the eastern foothills from the Colorado Springs area northward to the Wyoming border. The strongest gust recorded was 82 mph at 8:25 AM on Table Mesa, a section of Boulder. Other spots in the Boulder area reported gusts ranging from 68 to 80 mph between 2AM and 8AM. In the Colorado Springs area, winds gusted to 65 mph at about 10AM at Cheyenne Mountain. There was a brief power outage in the city. A pickup camper lost its shell at the Air Force Academy.</p>									
Eastern Foothills	3	midday			0	0	0	0	High Winds
<p>A gust of 63 MPH was recorded at 10:45 AM at Jefferson County Airport, south of Boulder. Winds reached 73 mph early in the afternoon at Echo Lake, near Mount Evans in Clear Creek County.</p>									
COLORADO									
Boulder County	4	1000MST			0	0	0	0	High Winds
<p>Wind gusts at Longmont peaked at 61 MPH. The gusts forced cars off roads in the area. U.S. Highway 287 was closed for a time by drifting snow.</p>									
Most of State	6-7				0	0	0	0	Snow
<p>A fast-moving snowstorm hit many areas of Colorado. The heaviest amounts reported were at Vail and Beaver Creek ski areas in Eagle County, where 12 to 13 inches of fresh powder fell. In northwest Colorado, 11 inches buried Meeker in just 6 hours; 5 inches fell in a single hour. 2 to 4 inches fell at many spots in western Colorado, and along the Front Range east of the mountains. 5 to 8 inches were reported in the foothills west of Denver. Up to 4 inches fell in Pueblo, and Rye, in the foothills west of that city, received a foot.</p>									
Clear Creek County	17	0500MST			0	0	0	0	High Winds
<p>A gust of 73 MPH was recorded at Echo Lake.</p>									
Boulder County	18	1605MST			0	0	0	0	High Winds
<p>Winds peaked at 60 mph in Boulder.</p>									
Northeast Foothills	20	1100-2200MST			0	0	0	0	High Winds
<p>Strong winds buffeted the foothills from Denver northward. The peak recorded gust was 72 mph in the southern part of Fort Collins at 11 AM.</p>									
Grand County	23	1750MST			0	0	0	0	High Winds
<p>A gust of 63 mph was recorded at the Mary Jane ski area.</p>									
Larimer County	24	0045MST			0	0	0	0	High Winds
<p>Gusts reached 64 mph at Fort Collins.</p>									
Boulder County	28	1020MST			0	0	0	0	High Winds
<p>A gust of 67 mph was noted in Boulder.</p>									
Grand County	29	0103MST			0	0	0	0	High Winds
<p>A gust of 75 mph buffeted the Mary Jane ski area.</p>									
6 CONNECTICUT									
Madison, New Haven County	03	1100EST			0	0	4	0	Lightning
<p>A bolt of lightning struck a nature center building in the Hammonasset Beach State Park during a heavy thunderstorm. The resulting fire severely damaged the upper floor of the two story building. The damage was estimated at \$10,000.</p>									
7 DELAWARE ————— NONE REPORTED									
8 FLORIDA									
Zephyrhills, Pasco Co.	10	1530EST			0	0	3	-	Thunderstorm Wind
<p>A tool shed was blown off of its foundation and the roof of a mobile home was damaged by high wind.</p>									
Christmas, Orange Co.	10	1730EST			0	3	4	-	Thunderstorm Wind
<p>High wind destroyed two mobile homes and damaged a house. Three people in one of the mobile homes suffered minor cuts and bruises. A shed was blown 100 feet off its foundation.</p>									
FLZALL Statewide	27	daytime			1	0	-	-	High Wind
<p>A cold air outbreak over the state caused strong gusty wind. A three year old girl was killed on 195 near Palm Beach Gardens when wind broke loose a highway sign from its support and hurled it into a car.</p>									
9 GEORGIA ————— NONE REPORTED									

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10 IDAHO										
IDZ001-002-003 Boise, Magic Valley, Idaho Falls, and other parts of the Snake River Plain	1	1137MST (Boise) 1400MST (Burley) 1600MST (Idaho Falls)			0	0	4	0		High Wind
A Pacific storm carried high winds that reached 58 mph at Boise, 45 mph at Burley, and 49 mph at Idaho Falls. Nine, twin-wooden-pole power transmission towers were toppled near Twin Falls, and others were downed in Twin Falls, Minidoka and Cassia Counties.										
IDZ003-009 Upper Snake River Valley and Kootenai County	1	all day			0	0	0	0		Heavy Snow
A Pacific storm dumped 6 inches of snow on the Coeur d'Alene area and at St. Anthony. Island Park reported receiving 10 inches.										
IDZ002 Northern Twin Falls and Cassia Counties	3	0220MST			0	0	4	0		High Wind
Winds of up to 40 mph and accompanying a cold frontal passage blew snow off of the roof of the Longview Fibre Company in Twin Falls, which in turn tore down 12,500-volt power lines and blew out the power station transformer.										
IDZ004-009 North and Southeast	5-6	afternoon-morning			0	0	0	0		Heavy Snow
4-7 inches of heavy, wet snow fell in the Coeur d'Alene area, closing roads and schools. 6-8 inches of snow fell on Franklin and Oneida Counties.										
IDZ003-004 East	6	0800MST			0	0	0	0		High Wind
A Pacific storm brought winds of up to 42 mph. Several highways from Pocatello to the Utah border were closed by blowing and drifting snow.										
11 ILLINOIS ————— NONE REPORTED										
12 INDIANA										
INZ002 Extreme Northern Indiana near Lake Michigan	26-27	0030EST 2330EST			0	0	?	0		Heavy Snow
Heavy snow, primarily lake-induced, fell over Laporte and St. Joseph Counties of North-Central Indiana. Snowfall amounts ranged from 12.9 inches at the Weather Service office in South Bend to more than 18 inches in Laporte. Several schools in Laporte County were closed on the 27th due to the snow and blowing and drifting snow. Numerous minor auto accidents were reported in the area.										
13 IOWA										
Northeast and East-Central Iowa IA Z 003-007-008-011	02	Afternoon			0	0	5	0		Snow with Thunder
A line of convective storms moved up into Eastern Iowa and further developed. The snow that fell from these was locally heavy; it varied from 2-3 inches at Cedar Rapids and Waterloo to 7 inches at Dubuque to 12-13 inches at Parkersburg and Fayette. A few days later the roofs of several buildings in Northeast Iowa collapsed due to the weight of snow.										
Statewide IA Z ALL	04	Afternoon			0	0	4	0		Wind and Snow
A weather system that brought 1-5 inches of snow in combination with winds gusting to 35 miles an hour caused very treacherous driving as the visibility often dropped to near zero. Most of the snow fell north of Highway 20.										
Linn County IA Z 011	06	Morning			2	0	0	0		Cold
In separate incidents, two older men died of exposure when they couldn't get back into their homes. The cold weather undoubtedly contributed to their deaths, even though their age made them vulnerable to this sort of occurrence.										
Eastern Iowa IA Z 002-003-006-007-008-010-011-013-014-015	12	Afternoon			0	0	4	0		Strong Winds
Winds that gusted as strong as 55 MPH at Ottumwa caused blowing snow that made for difficult travel. Several traffic accidents ensued north of Waterloo. In Marshalltown, the supports for a billboard broke, a power line was felled, and an overhead traffic light was blown down.										
14 KANSAS ————— NONE REPORTED										
15 KENTUCKY										
East Kentucky	25-28	0400 EST 0000 EST			0	0	0	0		Snowstorm
Snow fell over the majority of East Kentucky, beginning on January 25th, around 4am EST, and continued off and on through January 28th, when it ended around midnight EST. The longest continuous duration of snow fell from mid afternoon on January 26th through midnight January 28th. For the period of the 25-28th, the average amount of snow on the ground was between 3 to 5 inches throughout East Kentucky. Some higher totals included: Harlan County reported an average of 5 inches over moderate elevation where best traveled roads were located. There was much deeper snowcover in the higher elevations...7 to 8 inches atop Black Mountain. Bell County reported 5 to 6 inches of snow on the ground with the exception of Pineville. Pineville dispatcher and local police both reported many locations having an average snow depth of 8 to 10 inches. Pike, Floyd, and Magoffin Counties all averaged from 3 to 4 inches of snow. The mountains of Letcher County along U.S. 23 near Jenkins, received 10 inches of snow. Five inches were reported in the city of Jenkins. The wet blanket of snow brought about the usual side effects of power outages, closings, cancellations, and traffic accidents and delays. No major problems were attributed directly to the snowstorm. Windchill temperatures plummeted to 45 degrees below zero on the 27th.										
16 LOUISIANA ————— NONE REPORTED										
17 MAINE										
Statewide	3-4	0700EST			1	6	5			Nor'easter
Snow began falling over the state, Friday morning and continued into early Saturday morning. However, coastal sections had sleet and freezing rain mixed, keeping snow accumulations in the 2 to 4 inch range. Snow amounts rose sharply away from the coast, with accumulations of 12 to 18 inches common over northern sections and the western mountains. The greatest depth was recorded at Ripogenus Dam, just west of Millinocket with 25 inches, and at Greenville, on Moosehead Lake, with 21 inches. It should be noted that Caribou broke its January record for snowfall in a 24-hour period when 15.9 inches was recorded. The old record was 15.6 inches set in 1961. Many schools closed early throughout the state. Mixed precipitation along the coast, and winds of 30 to 40 mph in northern Maine which caused considerable blowing and drifting snow, impeded travel and caused numerous fender benders. The storm produced about 6 serious injuries from auto accidents. A 37 year old Harmony man was crushed to death by his backhoe in a snowplowing accident. Coastal areas of Hancock County were hardest hit by the freezing rain which accumulated about one inch thick on trees in the Brooklin-Blue Hill-Sedgewick area, causing power outages that took most of the weekend to fix.										
Statewide	5	0800EST			0	0	5			Heavy Snow
Snow fell fast and furious across the state on Sunday, leaving a blanket of snow 6 to 12 inches deep. The Ellsworth area received the most with 12 inches. The storm itself was not bad, but it came on the heels of a bigger storm that ended one day earlier. Northern and mountain areas of Maine had accumulated from 20 to 32 inches from this one-two punch. Of interest, Portland recorded a snowfall rate of 3 inches an hour for one hour and ended up with 8.6 inches in 14 hours.										
18 MARYLAND and D.C.										
MDZ008-009 Western Maryland	20	1000EST			0	0	4	0		Heavy Snow
Snow began to fall, Sunday evening, but accumulated heavily as strong gusty winds developed, Monday morning. The snow ended on Tuesday morning, leaving 16 inches at McHenry, 12 inches at Oakland and 9 inches at Eagle Rock--all in Garrett County. Four inches fell in western portions of Allegany County. The strong winds caused a few power outages and the blowing snow closed roads. A few minor accidents were reported. Schools were closed, Monday and Tuesday.										
MDZ001 Southern Maryland	29	Afternoon			0	0	4	0		Heavy Snow
Moderate to heavy snow spread from southern St Mary's County to southern Delaware on Wednesday afternoon. A four inch snowfall was reported at the U.S. Coast Guard station at Taylor's Island, and also at Salisbury in Wicomico County. Dorchester County schools closed early, but two school bus accidents occurred nevertheless. There were no injuries.										

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					KILLED	INJURED	PROPERTY	CROPS							KILLED	INJURED	PROPERTY	CROPS	
19 MASSACHUSETTS										MONTANA									
Plymouth County	03	1300-1400EST			0	0	4	0	Lightning	MTZ004 Meagher County	19	0700-0900MST			0	0	4	0	High Winds
<p>Rare January thunderstorms brought some strong cloud-to-ground lightning strikes. In Whitman, a lightning bolt struck a tree and a nearby garage, blew out the rear wall of the garage, and sent an electrical surge through wiring, which then blew an electric meter off the wall. A small fire resulted and parts of the tree were found 150 feet away. In Marshfield, a bolt of lightning struck a house, blew an electric meter off the wall, sent shingles flying, fused parts of an oil burner, and ruptured a basement water pipe. Several windows were broken. Heavy rain accompanied the thunderstorms across the area, causing brief localized flooding.</p>										<p>High winds hit the White Sulphur Springs airport, destroying three airplanes and two hangars. A power line to the television repeater station had a number of power poles broken off and a transformer smashed.</p>									
Western Portion (Hampshire and Hampden Counties)	26-27	All Day			0	0	0	0	Heavy Rain and Flooding	25 NEBRASKA									
<p>The mixing of heavy rain and melting snow left the region awash in water with swelling streams, rising rivers, and flooding of many local roads and basements. About three inches of rain fell in two days over the area, where the National Weather Service had issued flood warnings. In Southampton, the Manhan River overflowed its banks, and in Easthampton, several roads were closed due to the flooding. In Williamsburg, chunks of ice threatened a local dam. This was the first significant flooding in this area since May, 1984 when the Connecticut River overflowed its banks.</p>										<p>NEZ001-005 Panhandle Nebraska</p> <p>02 0145CST-0250CST</p> <p>0 0 3 1 High Winds</p> <p>Strong northwest winds gusted to 77 m.p.h. at Harrison and 60 m.p.h. at Scottsbluff. Only minor property damage and a few power outages were reported. Some areas of blowing snow and drifted snow were reported.</p>									
20 MICHIGAN ————— NONE REPORTED										<p>NEZ012 West-Central Nebraska</p> <p>02 0510CST</p> <p>0 0 2 1 High Winds</p> <p>Northwest wind gusting to 53 m.p.h. caused some power outages around North Platte.</p>									
21 MINNESOTA										<p>NEZ007-014-015-017-018-019 Central and Southeast Nebraska</p> <p>02 0900CST-1500CST</p> <p>0 0 5 1 High Winds</p> <p>Strong northwest winds gusted to 67 m.p.h. at Broken Bow, 65 m.p.h. at Fairbury, 63 m.p.h. at Kearney, 56 m.p.h. at McCook and Beatrice, and 55 m.p.h. at Grand Island and Hastings. Portions of roofs were blown off of buildings at Fairbury and Hastings and windows were blown out of a Fairbury store. Scattered damage to tree limbs and signs, along with some power outages, were reported through the area. The winds kicked up clouds of blowing dust around Kearney.</p>									
MN ZONE-00C-00S Entire State	11-12	Evening through afternoon			0	0	5	0	High Wind	26 NEVADA									
<p>Strong winds moved into northwest Minnesota early during the evening of January 11th and spread to most sections of the state by the following morning. Reports of 45 to 50 mile per hour winds were common, but gusts reached 67 miles per hour in Minneapolis at 0827 CST and 69 miles per hour in Rochester at 1045 CST. An apartment building under construction collapsed in Bemidji during the evening of January 11th and a house also under construction was blown 15 feet off its concrete block foundation in Alexandria. Scattered power outages and broken trees were reported across the state. Many ice-fishing shelters were either blown across lakes or damaged.</p>										<p>Stead, Washoe County</p> <p>22 2000PST</p> <p>0 0 3 0 High Wind</p> <p>Prefrontal winds gusting up to 62 mph caused several power outages.</p>									
MN ZONE-00C-00S Northeast, Central and South	21				0	0	0	0	Freezing Rain, Snow	27 NEW HAMPSHIRE									
<p>Freezing rain in west-central Minnesota moved into southeast Minnesota during the morning while snow developed from southwest to northeast Minnesota. Winds increased across southwest Minnesota by mid-afternoon, causing near blizzard conditions and forcing schools to close. Numerous accidents occurred through central and southwest Minnesota and roads became obscured by blowing and falling snow which brought travel in some areas to a halt. Wind-driven snow replaced freezing drizzle in southeast Minnesota by evening. Three to six inches of snow accumulated from the southwest corner of the state into the Arrowhead region by evening.</p>										<p>Statewide</p> <p>3-4 0630EST</p> <p>1 6 5 Nor'easter</p> <p>Freezing rain began to fall over southern New Hampshire just before the morning commuting rush and highway road crews were on duty. The freezing rain came at the worst possible time and numerous skidding accidents were reported. The worst was a 20 car pileup on Interstate 93 in Concord, but there were no serious injuries. However, a 15 year old Greenfield girl was killed in an auto accident in which she was a passenger in her family's car. Four other family members were injured, 2 seriously. Many schools closed early or cancelled afternoon classes. Hundreds of Monadnock Region residents lost their electricity, as well as 225 customers in Concord. Precipitation turned quickly to snow over central sections of the state and it was all snow in the north. Snow amounts ranged from about 4 inches along the coast upwards to 10 inches in the north and mountains.</p>									
22 MISSISSIPPI ————— NONE REPORTED										<p>Statewide</p> <p>5 0700EST</p> <p>0 0 4 Heavy Snow</p> <p>Snow fell fast and furious over the state on Sunday, leaving a blanket of snow 6 to 14 inches deep across the state. The storm itself was not bad, but it came on the heels of another storm that had ended one day earlier. Northern and mountain sections of New Hampshire had accumulated up to 24 inches from this one-two punch, elating ski operators with the best skiing conditions in several years.</p>									
23 MISSOURI ————— NONE REPORTED										28 NEW JERSEY, Northern									
24 MONTANA										<p>Bergen, Middlesex, Somerset, and Morris Counties</p> <p>26 0900-1500EST</p> <p>0 0 ? 0 Flood</p> <p>Record heavy rainfall produced minor flooding along the Saddle River at Lodi in Bergen County, the Raritan River at Piscataway in Middlesex County and Branchburg in Somerset County, and the Rockaway River at Denville in Morris County.</p>									
MTZ004 Southern Lewis & Clark County and Northern Broadwater County	01	2000-2200MST			0	0	3	0	High Wind	28 NEW JERSEY, Southern ————— NONE REPORTED									
<p>Wind gusts of up to 52 mph destroyed trailers and small sheds, as well as some signs.</p>																			
MTZ003 Ponders and Teton Counties	18	Afternoon			0	0	3	0	High Winds										
<p>Wind gusts measured at up to 104 mph at Choteau caused damage to buildings, autos and trailers.</p>																			

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JANUARY 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
29 NEW MEXICO ————— NONE REPORTED									
30 NEW YORK, Coastal									
Westchester County	26	0900-1500EST			0	0	?	0	Flood
			Record heavy rainfall produced minor flooding in Westchester County along the Sawmill River at Mount Pleasant and Elmsford, and along the Hutchinson River at Dobbs Ferry.						
30 NEW YORK, Central									
NYZ009-018 Western Mohawk Valley and Western Adirondacks	05	0300EST			0	9	5	0	Snowstorm
			A lake-effect snowstorm moved across Herkimer and Oneida Counties, and parts of Hamilton County. Winds from the storm produced white-outs in some areas. A school bus and a snow plow collided during one such white-out, resulting in nine injuries. In Herkimer County, Routes 29 and 169 had to be closed by police for a time due to poor visibility. Wind gusts of over 50 mph and drifts of 3-5 feet were reported. One person was killed in an auto accident during the white-outs.						
			F??V						
Clinton County	22	PM			0	0	4	0	Flood
			An ice jam formed along the Chazy River, resulting in minor flooding in the Town of Champlain.						
Clinton and Essex Counties	22	PM			0	0	5	0	Flood
			Ice jams caused flooding on the Bouquet River along the Clinton and Essex county line. Local Department of Transportation engineers attempted to blow up the ice jam, but met with little success.						
Areawide	25	0800EST			2	26	8	0	Snowstorm
			A major winter snowstorm blasted Eastern New York on Super Bowl Sunday. 44 inches of snow was recorded in Warrensburg. Power lines were down in all Eastern New York counties. Some homes did not have power restored until four days later.						
			High winds at the end of the storm produced localized white-out conditions in the southern Adirondacks. Local Red Cross shelters were opened to handle the hundreds of persons unable to stay in their homes.						
			One person was killed in a weather related auto accident in Blooming Grove, Orange County, while a second was killed in Hillsdale, Columbia County. One baby boy was born in a pickup truck during the storm, when a requested ambulance became stuck in a snow drift.						
			A tense situation also developed on I-84 near Greenville Mountain when a truck of lime pellets spilled out onto the new snow cover. Local hazardous materials teams attended to the spill.						
			F34V, M40V						
Ulster County	27	0131EST			0	0	5	0	Flood
			The Walkill River overflowed its banks in New Paltz, Ulster County. A state of emergency was declared at 01:31 AM EST by local officials. A local sewerage plant was under water, as were some local roads.						
30 NEW YORK, Western									
NYZ-004 Lewis and Jefferson Counties	5	Evening to 6 Morning			0	0	4	0	Wind & Snow
			More than a foot of snow fell. Strong winds stirred the snow and created impossible traveling conditions. There were numerous vehicular accidents, one of which resulted in a fatality in Louville, Lewis County. Many schools were forced to close.						
			In Carthage, Jefferson County, the roof of a building collapsed under the weight of heavy snow that accumulated from December 1985 through early January 1986.						
NEW YORK, Western									
NYZ001 Erie County	20	0600 EST			0	0	5	0	Ice & Rain
			Warm temperatures and rain caused ice jams and floodings on some area streams. The most significant ice jam occurred at the mouth of Cattaraugus Creek at Sunset Bay. Water with ice slabs flooded streets, yards, and homes. Several hundred area residents were evacuated. Many homes were damaged.						
			Ice jam flooding also occurred along Buffalo Creek at Gardenville. A few residents were forced to leave home.						
NY002-004-005 Genesee, Monroe, Wayne, Jefferson, Ontario, Seneca, & Oneida Counties	20	Morning to 21 Evening			0	0	4	0	Ice & Rain
			Snowmelt and rain caused ice jams and minor floodings on quite a few streams. Among them were Oakta, Black, and Sulfur Creeks in Monroe County, Red Creek in Wayne County, Sandy Creek in Jefferson County, and Kendig Creek in Seneca County.						
			Many basements were flooded in Geneva, Ontario County; Waterloo, Seneca County; and in Newark, Wayne County.						
NYZ003-005 Oneida and Tompkins Counties	25	Evening to 27 Evening			0	0	4	0	Snow
			Up to 14 inches of snow fell. Traveling was hazardous. Many schools were forced to close. Meetings were postponed or cancelled. Slippery road conditions led to many crashes.						
NYZ001 Erie County	26	1045 EST			0	0	4	0	Snow & Wind
			Strong winds and snow caused "white-out" condition on the Father Baker Bridge. It caused a 40-car pile-up and dozens of fender-benders. There were no serious injuries but several persons were taken to hospitals. The bridge was closed. Countless motorists were delayed.						
31 NORTH CAROLINA									
NCZ007 Northwest Piedmont	02	0730EST			1	0	0	0	Cold
			At Graham in Alamance County, a man died from exposure after spending the night on the street in 10 degree weather. M350.						
NCZ009 Northern Mountains	19	0545EST			0	0	3	0	High Wind
			High, non-convective winds caused numerous power outages, and blew down trees and power lines throughout Ashe County. Some damage to outbuildings and property was also reported. The damage extended into Watauga County.						
NCZ010 Central Mountains	25	1700EST			0	0	?	0	Heavy Snow
NCZ009 Northern Mountains	27	0400EST			0	0	?	0	Heavy Snow
NCZ008 Western North Carolina	28	0600EST			2	?	5	?	Cold
			A man was found frozen in a wooded area in Charlotte. At Bostic, in Rutherford County, a man was found frozen in his home. A prolonged winter storm, lasting from the 25th through the 28th, brought heavy snow to portions of the mountains, and bitterly cold weather to the rest of the state. Other than a few problems with pipes and cars, the state seemed well prepared for the cold following the previous two years of cold weather. M350, M59P.						
32 NORTH DAKOTA									
North Half	11	Morning, Afternoon & Evening			0	0	3	0	High Winds
			Strong west to northwest winds occurred. Minot Air Force Base reported a peak wind gust of 52 mph, with unofficial reports of gusts over 80 mph in the northeast section of the state.						

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JANUARY 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
33 OHIO									
OHZ003 East Lakeshore of Ohio	13	1300EST			0	0	?	0	Heavy Snow
		Up to 10 inches of snow fell in Geauga County from 1pm est 1/13 to 1am est 1/14.							
OHZ006-007-009 Southeast and East-Central Ohio	19	1900EST			0	0	?	0	Heavy Snow
		Snow 4 to 9 inches deep fell from 7pm est 1/19 to 8am est 1/20. Many power lines were downed, with approximately 20,000 people losing electricity. The snow also caused hazardous driving conditions.							
OHZ002-003-004 Northeast Ohio	26	1900EST			0	0	?	0	Heavy Snow
		Snow 5 to 12 inches deep fell between 7pm est 1/26 and 1pm est 1/27. Another 7 inches fell on Ashtabula County from 1pm est 1/27 to 8am est 1/28. The snow was accompanied by winds that were strong enough to cause considerable blowing and drifting. Significant travel problems resulted.							
34 OKLAHOMA									
OKZALL Statewide		All Month			?	?	?	?	Drought
		Unseasonably warm temperatures and no precipitation caused serious problems across the state. The lack of precipitation along with parts of other months set many records for most consecutive days without measurable precipitation. Reports of damage to winter wheat were received. The state was also plagued by many grassland and forest fires.							
35 OREGON									
ORZ010 North-Central	05	all day			0	0	0	0	Ice
		An ice storm knocked out power to several thousand homes and sent cars skidding across ice-covered roads.							
ORZ010-011 Northwest	07	evening			0	0	4	0	Wind
		Strong gusty winds ripped portions of roof off a pair of Lexington storage hangars as well as a 30 foot wide strip from an Elgin High School gymnasium roof. Drifting snow closed Interstate 84 through Ladd Canyon during the evening. At Valley Air Service in La Grande, winds were reported holding steady between 80 and 90 miles per hour.							
ORZ001-002 North and Central Coast	16	all day			1	0	3	0	Wind
		Gale-force wind of up to 75 miles per hour knocked out power to 5000 residents along the coast. High winds were the apparent cause of a helicopter crash that killed a man. Also, there were reports of minor structural damage to buildings and of numerous uprooted trees. M33V							
ORZ001-002 North and Central Coast	18	all day			0	0	3	0	Wind
		A storm packing winds of more than 70 miles per hour downed trees and power lines and closed Highway 101 for about 2 hours between Cannon Beach Junction and Cannon Beach.							
36 PENNSYLVANIA, Eastern									
Susquehanna Township, Dauphin County	20	0714 EST			0	0	4	0	Lightning
		Lightning struck the transmission tower of WITF-TV, Channel 33, causing \$15,000 in damage. The station was off the air for 21 hours. The public broadcasting radio station WITF-FM was also off the air for an hour.							
— PENNSYLVANIA, Eastern									
PAZ009 Lower Susquehanna Valley	26	1300 EST			0	0	3	0	Heavy Snow
		Snow fell around mid day Saturday, the 25th, then changed to rain during the afternoon. Rain changed back to snow again before daybreak, Sunday the 26th. Snow ended mid day with total snowfall around 6 inches. The heavy wet snow brought down some tree limbs, which brought down utility lines.							
PAZ007-008 Middle and Upper Susquehanna Valley	26	1500 EST			0	0	3	0	Heavy Snow
		Snow fell Saturday the 25th through Sunday the 26th, with most of the snowfall occurring from late afternoon Saturday through late afternoon Sunday. Snowfall amounts reached 6 to 9 inches in the Middle Susquehanna and up to 12 inches in the Upper Susquehanna counties extending up to the New York border. Tree limbs brought down by the weight of the snow also brought down some utility lines.							
PAZ010-016 Northeast	27	0500 EST			0	0	3	0	Heavy Snow
		Snow fell Sunday the 26th and on through Monday morning. The heaviest snowfall was from around daybreak Sunday to daybreak Monday. Snowfall was around 10 inches in the Wilkes-Barre Scranton area, but ranged up to 12 inches over some portions of the Pocono Mountains. Tree limbs brought down by the weight of the snow also brought down some utility lines.							
36 PENNSYLVANIA, Western									
Blair County	06	0200EST			0	0	4	0	Wind (non-convective)
		High wind at Duncansville knocked down walls and trusses at an office and retail complex under construction.							
Venango County	19-	0200EST through late morning			0	0	4	0	Flash Flood
		Ice near Titusville in Crawford County was loosened by unusually warm temperatures and 3/4 inch rainfall, and moved down Oil Creek and jammed at Rouseville. The jam backed up the river northward, causing flooding at Rouseville and Rynd Farm. At Rynd Farm, 2 homes along the river received severe damage from high water and ice. Three homes were evacuated and 25 others had basement flooding. At Rouseville, one family evacuated at 0300EST on the 20th as floodwaters approached. Little damage occurred at Oil City where the Allegheny River and Oil Creek merge. The main jam on Oil Creek loosened at 0100EST on the 20th and the river was free-flowing by late morning of the 20th.							
Jefferson County	19	Late night			0	0	0	0	Flash Flood
		Flooding from an ice jam on Red Bank Creek affected Summerville and Sykesville with little damage.							
Clarion County	19-	Late night through late night			0	0	4	0	Flash Flood
		Street flooding occurred at New Bethlehem as an ice jam on Red Bank Creek backed water into Leisure Run. Ice flowing down the Allegheny and Clarion Rivers from Franklin jammed below East Brady at 1100EST. By afternoon, the flood stage of 32 feet was approached. Along the rivers' banks, 8 mobile homes were swept off their foundations and 30 more were damaged. At 2100EST, the Route 68 bridge was closed. At 2300EST, the ice jam broke and river levels lowered rapidly.							
Armstrong County	20-	2100EST through 0100EST			0	0	4	0	Flash Flood
		An ice jam caused Sugar Creek to overflow where it intersects the Allegheny River. The water and ice flooded restaurants, homes and summer cottages, and moved trailers off of their foundations. Water was three feet deep over roads in Parker. Damage occurred at Brady's Bend and Rimer. At 0100EST on the 21st, four residents, two at Rimer and two at Tarrtown, were evacuated. At 2300EST on the 20th, the waters upriver receded as the ice jam cleared, and the lowering of river levels proceeded downstream.							

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JANUARY 1986

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					KILLED	INJURED	PROPERTY	CROPS	
— PENNSYLVANIA, Western									
Westmoreland County	20	Early morning through Mid afternoon			0	3	4	0	Snow
Indiana County	20	Early morning through Mid afternoon			0	0	4	0	Snow
Cambria, Somerset, Fayette, Blair, Bedford, eastern Greene, and Washington Counties	20	Early morning through Mid afternoon			0	0	0	0	Snow
<p>A heavy, wet snow fell throughout the listed counties, causing sporadic light damage. In Westmoreland County, three employees at the Armbrust nursery were hurt when a roof collapsed under the weight of the snow. Schools were closed and 25,000 homes were without power. In Indiana County, trees were downed by the weight of the snow in White Township, and pine trees crashed through a home in Indiana. 7,500 homes were without power through the 21st. In Cambria County, power lines were downed, and roads, businesses and schools were closed. At one time, 45,000 homes were without power throughout Westmoreland, Fayette, Cambria, Somerset and Indiana Counties. A 60-mile stretch of the Pennsylvania Turnpike was closed between West Stanton and Bedford for several hours.</p> <p>Reported snowfall amounts were as follows:</p> <p><u>Westmoreland County</u> Derry - 20 inches Laurel Mountain area - 16 to 18 inches Latrobe - up to 12 inches Greensburg - 10 inches</p> <p><u>Indiana County</u> Armagh - 15 inches east of Uniontown - 12 inches</p> <p><u>Cambria County</u> countywide - 12 to 18 inches, heaviest amounts in the southern highlands</p> <p><u>Somerset County</u> Mt. Davis - 18 inches countywide - 12 to 16 inches</p> <p><u>Fayette County</u> southern mountains - up to 24 inches Chalk Hill - 14 inches Connellsville - 12 to 14 inches</p> <p><u>Blair County</u> Altoona - 8 inches</p> <p><u>Bedford, Washington, and eastern Greene Counties</u> areawide - 6 inches</p>									
Beaver, Allegheny, Erie, Indiana, Westmoreland, and Fayette Counties	26- 27	Evening through Evening			0	0	0	0	Snow
<p>Snow fell over the listed counties during a day-long period. Reported snowfall amounts were as follows:</p> <p><u>Beaver County</u> countywide - 6 inches</p> <p><u>Allegheny County</u> countywide - 7 inches</p> <p><u>Erie County</u> countywide - 13 inches</p> <p><u>Indiana County</u> Strongstown - 10 inches</p> <p><u>Westmoreland County</u> New Florence - 15 inches Latrobe - 10 inches</p> <p><u>Fayette County</u> Chalk Hill - 10 inches</p>									
37 RHODE ISLAND ————— NONE REPORTED									
38 SOUTH CAROLINA									
SC2001-002-003-004 SC2005-006-007-008 Statewide	27 28	EARLY			0	0	5	3	Cold
<p>Generally cold air accompanied by strong winds overspread South Carolina on the 27th. Low temperatures on the morning of the 28th were in the single digits over much of the state; and daily record lows were established at several locations. This was the coldest weather in the state since January, 1985. Damage from the extreme cold included burst water pipes, overworked heating facilities and damaged ornamentals. Schools were closed in some areas due to cold damage to water and heating facilities.</p>									
39 SOUTH DAKOTA									
SDZ00W Western South Dakota	03- 04	Evening through Morning			0	0	3	0	Blizzard
<p>Snowfall of one to three inches along with strong winds gusting to around 40 mph produced ground blizzard conditions. Visibility was near zero in many locations and the blowing and drifting snow blocked some roads. Interstate 90 west of Spearfish (Lawrence County) and Highway 85 north of Belle Fourche (Butte County) were closed overnight. No travel was advised in many locations. In the area, many accidents were reported and many cars ended up in ditches.</p>									
SDZ00E Eastern South Dakota	06- 07	Late Eve. through Morning			0	0	0	0	Cold
<p>Overnight low temperatures dropped to less than 20 below zero over parts of eastern South Dakota. The coldest readings were 25 below zero at Mellette (Spink County), Redfield (Spink County) and Waubay (Day County).</p>									
SDZALL Statewide	20- 21	Late Eve. through Late Eve.			0	2	3	0	Winter Storm
<p>A foot of snow fell in the northern Black Hills, with Terry Peak (Lawrence County) receiving twelve inches; Deadwood (Lawrence County) and Lead (Lawrence County), ten to twelve inches; and up to ten inches in the northwest corner of the state. Over the rest of the south and west, an average of three to seven inches of snow fell. Along with the snow were strong winds which gusted to between 40 and 50 mph and caused ground blizzard conditions. Several roads were closed and no travel was advised in many locations. Many schools were closed on January 21 and activities were cancelled. In the east, the precipitation began as freezing rain and freezing drizzle and, combined with the winds, knocked down power lines in the extreme northeast. Power was out for much of January 21 in an area from Ft. Sisseton (Marshall County) to Lily (Day County). Power was also out for part of January 21 around Clear Lake (Deuel County).</p>									
SDZALL Statewide	25	Morning- Early Eve.			0	3	0	0	Blizzard
<p>Winds pushed to 45 mph over the state and produced blowing snow. Visibilities dropped to near zero in parts of the east and local areas in the west.</p>									
40 TENNESSEE									
Cunningham, Montgomery County	18	1800CST			0	0	4	0	Lightning
<p>Lightning followed electrical wires into a house and knocked wiring out of the fuse box. The wiring shot out of the box into nearby walls "like bullets". The material around the wires smoldered for a few hours before igniting. The ensuing fire damaged two rooms, but smoke and water damage occurred throughout the house. Damage was assessed at \$25,000.</p>									
41 TEXAS, Northern ————— NONE REPORTED									
41 TEXAS, Southern									
Val Verde and Edwards Counties	7- 8	Night- All Day			0	0	4	0	Heavy Snow
<p>Heavy snow amounting up to 8 inches fell over the two counties. The City of Del Rio reported 8.2 inches of snowfall with a greatest depth on the ground at any one time of 5 inches. The average snow depth across the area was about 3-4 inches. Bakers Crossing in central Val Verde County reported a depth of 4-5 inches. The Rocksprings area in Edwards County had 5-6 inches. Lighter snowfall occurred in the surrounding counties to the east and south. Eagle Pass in Maverick County reported 2 inches, as did Utopia in Uvalde County. 2-3 inches also fell in Kinney and northern Real Counties. The heavy snowfall extended westward into the Big Bend area of west Texas. Many schools were closed in the area, as were city and county offices. Melting snow damaged the roof and walls of a theater in Del Rio. The heavy snowfall collapsed some carports, awnings and small metal sheds. Many roads in the area were closed and motorists were forced to seek temporary refuge in nearby motels and other housing.</p>									
41 TEXAS, Western ————— NONE REPORTED									
42 UTAH ————— NONE REPORTED									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

JANUARY 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	
43 VERMONT											
Statewide	05	AM			1	3	5	0			Snow
<p>A snowstorm hit the state of Vermont early on the 5th. Several inches of snow fell in southern sections while northern sections got slightly more than two inches. One female died during the storm due to blowing snow with poor visibility.</p> <p style="text-align: center;">F25V</p>											
Statewide	25	AM			2	17	7	0			Snow
<p>A major winter storm lasting two days blasted Vermont. Snow totals exceeded 12 inches in parts of southern Vermont. Northern sections received about 6-8 inches. Two females were killed when their car slid on a snow-covered road and flipped over. Both were killed immediately. Travelers advisories were posted at the time.</p>											
44 VIRGINIA											
VAZ013-014-015-016 Southwestern Virginia	25-	Late evening- 26 Early morning			0	0	4	0			Heavy Snow
<p>Heavy snow fell across southwest Virginia, leaving amounts of 2-5 inches in Zone 13 with the higher accumulations in the higher terrain. Zone 15, the southern highlands, received 3-10 inches. Zone 16, the southwestern mountains, received as little as 1-2 inches in the valleys, but up to 10 inches on the mountains.</p>											
VAZ002-004 Tidewater Virginia	27	1100- 1700EST			0	0	4	0			Heavy Snow
<p>Several snow squalls moved across the eastern half of the state, including a series of locally heavy squalls that occurred mainly in the tidewater areas near Chesapeake Bay. Up to 5 inches of snow fell in the Williamsburg area and 2-4 inches, in Greater Hampton Roads; causing numerous accidents and closing schools.</p>											
VAZ001-004-006-007 Eastern and Central Virginia	28-	Afternoon 29			0	0	4	0			Heavy Snow
<p>Heavy snow fell across the area, leaving amounts of 2-4 inches in central Virginia (Zone 6) and on the eastern shore (Zone 1). 3-5 inch amounts fell across the central tidewater and southeast piedmont areas, Zones 4 and 6, respectively. The snow caused many minor traffic accidents and closed schools throughout the area.</p>											
45 WASHINGTON											
Puget Sound	5	evening			0	?	5	?			Wind
<p>An intense Pacific storm moved inland over Washington, spawning thunderstorms and strong, gusty winds. Small planes were flipped over on the ground, even those that were chained down. Many homes and buildings were damaged from falling trees. Sustained winds of 40 miles an hour, common throughout the Sound, tore roofs off of many buildings. Boats were thrashed around marinas and one boat was reported as sunk in Puget Sound.</p>											
Western Washington	16	evening			0	?	6	?			Wind
<p>A stronger Pacific storm ripped into the state with hurricane strength. Winds were recorded up to 100 miles an hour along the ocean coast. The Puget Sound Region had sustained winds between 45-50 mph. An unconfirmed tornado was reported in Port Townsend, at the east end of the Strait of Juan de Fuca. A thunderstorm made a direct hit on a house north of Seattle, which shook the neighborhood and blew out windows in neighboring houses. Tents and exhibits outside Seattle's Kingdome, being used for the Seattle Boat Show, were blown over and some were destroyed. Homes and buildings again sustained heavy damages from falling trees or roof-removing winds.</p>											
Olympic Peninsula, Puget Sound and the Cascades	18	all day			0	?	7	?			Heavy Rain, Wind, Flooding
<p>A Pacific storm dumped heavy rains over northwest Washington, producing floods and mudslides that caused a variety of damage. Non stop precipitation for up to 36 hours led to as many as 30 mudslides around Seattle alone. There were washed out roads and hillsides, homes falling into rivers, tremendous land erosion and, of course, flooding. As much as six inches of rain fell in 24 hours, saturating and weakening the soil to where it could not support trees or homes. A period of strong winds late in the day forced the closure of floating bridges in the area. Then airport hangers were damaged along with some planes. Roads were closed because of mudslides or advancing flood waters. Land under a railroad track south of Seattle gave way, derailing an Amtrak train, causing at least 28 injuries. Lightning strikes caused several small fires, and an unconfirmed tornado was reported in Pierce County.</p>											
46 WEST VIRGINIA ————— NONE REPORTED											
47 WISCONSIN ————— NONE REPORTED											
48 WYOMING											
Carbon and Albany Counties	01	Day			0	0	0	0			High Wind Gusts to 70 mph were logged at Arlington, in Carbon County. Gusts to 65 mph were clocked at Vedaawoo, in Albany County.
Carbon and Albany Counties	02	Morning			0	0	0	0			High Wind Gusts to 73 mph were clocked at Arlington, in extreme east Carbon County. Gusts of 65 to 70 mph occurred at Vedaawoo, in eastern Albany County.
Natrona County	03	0945HST			0	0	0	0			High Wind Gusts of 60 to 70 mph occurred at Casper.
Carbon and Albany Counties	03	Afternoon			0	0	0	0			High Wind Gusts of 60 to 68 mph were clocked at Arlington and Vedaawoo, in Carbon and Albany Counties, respectively.
Carbon and Albany Counties	16	Midday			0	0	0	0			High Wind Gusts of 60 to 65 mph occurred at Arlington, in Carbon County, and Vedaawoo, in extreme east Albany County.
Natrona County	17	0430MST			0	0	0	0			High Wind Gusts to 61 mph were reported in downtown Casper.
Teton County	17	0645MST			0	0	0	0			High Wind Winds gusting to 80 mph were reported on Rendezvous Peak, west of Teton Village.
Albany and Carbon Counties	17	Day			0	0	0	0			High Wind Wind gusts to 60 mph were recorded at Vedaawoo, in Albany County, and at Arlington, Carbon County.
Laramie County	17	0830MST			0	0	0	0			High Wind Wind gusts to 60 mph were reported 10 miles west of Cheyenne.
Fremont County	17	1508MST			0	0	3	0			High Wind Wind gusts of 70 mph were logged at Lander airport. There was minor damage to roofs, guttering and satellite dishes in the Lander area.
Albany and Carbon Counties	18	Morning			0	0	0	0			High Wind Wind gusts of 60 to 65 mph were logged at Vedaawoo and Arlington, in Albany and Carbon Counties, respectively.
Campbell County	20	Day			0	0	0	0			Snow Seven inches of snow fell at Recluse.
Albany County	28	0815MST			0	0	0	0			High Wind Gusts to 70 mph were logged at Vedaawoo.
Albany County	31	1145MST			0	0	0	0			High Wind Gusts to around 60 mph were logged at Vedaawoo.
49 ALASKA, Northern ————— NO REPORT RECEIVED											
49 ALASKA, Southern ————— NO REPORT RECEIVED											
49 ALASKA, Southeastern											
All of Southeast Alaska	7	Morning			0	0	3	0			Winds A strong Pacific storm moved into Southeast Alaska, bringing winds of over 55 mph. The Sitka Airport was closed for a number of hours as the winds combined with relatively high tides to cover portions of the runway with rocks. Also, a 27 foot fishing boat near Ketchikan was damaged by the storm.
50 HAWAII ————— NONE REPORTED											
51 PUERTO RICO ————— NONE REPORTED											
52 VIRGIN ISLANDS ————— NONE REPORTED											
53 PACIFIC ————— NONE REPORTED											

STORM SUMMARY

JANUARY 1986

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				FLOODING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE					
								PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS			PROP. ERTY	CROPS	PROP. ERTY	CROPS		
Alabama																																	
Arizona																																	
Arkansas																																	
California																																	
Colorado									3			?																	?				
Connecticut																																	
Delaware																																	
Florida									1		3	4																					
Georgia																																	
Idaho																																	
Illinois																																	
Indiana																																	
Iowa												4																					
Kansas																																	
Kentucky																																	
Louisiana																																	
Maine																																	
Maryland & DC																																	
Massachusetts																																	
Michigan																																	
Minnesota												5																					
Mississippi																																	
Missouri																																	
Montana																																	
Nebraska																																	
Nevada																																	
New Hampshire																																	
New Jersey																																	
New Mexico																																	
New York																																	
North Carolina																																	
North Dakota																																	
Ohio																																	
Oklahoma																																	
Oregon									1			4																					
Pennsylvania																																	
Rhode Island																																	
South Carolina																																	
South Dakota																																	
Tennessee																																	
Texas																																	
Utah																																	
Vermont																																	
Virginia																																	
Washington																																	
West Virginia																																	
Wisconsin																																	
Wyoming																																	
Puerto Rico																																	
Virgin Islands																																	
Hawaii																																	
Pacific																																	
CORRECTIONS																																	
JULY 1985																																	
New Jersey																																	

STORM DATA AND UNUSUAL WEATHER PHENOMENA

CORRECTIONS

CORRECTIONS

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
1 ALABAMA									
<u>AUGUST 1985</u>									
DELETE: 2 TORNADOES									
									between 3 E Madison and 1 SE Jeff in Madison County at 1408-1500CST on August 16 (page 16), and between Redstone Arsenal and the Jeff area in Madison County at 1530-1625CST on August 16 (page 16).
ADD: 2 TORNADOES									
									listed below:
Redstone Arsenal to Jeff area, Madison County	16	1408-1500CST	13	100	0	0	5	0	Tornado (F2) A tornado apparently first touched down at about 1/4 mile west of the airfield at Redstone Arsenal and moved north to the Jeff area. A three-story test building was damaged at Redstone Arsenal and at least 4 homes and some mobile homes were damaged in the Monrovia and Jeff areas.
3 E Madison to 1 SE Jeff, Madison County	16	1530-1625CST	8.5	30	0	0	4	0	Tornado (F1) A small tornado apparently skipped along a path from near Alabama Route 20 east of Madison to near Jeff, very near the track of a tornado that had occurred less than an hour earlier. Reported damage included trees down near Alabama 20 and mobile homes damaged near Jeff.
13 IOWA									
<u>SEPTEMBER 1985</u>									
DELETE: ONE TORNADO									
									in Ringgold County at 2020CST on September 22 (page 32).
ADD: ONE TORNADO									
									listed below:
Wayne County	22	2020 CST	.5	50	0	1	6	0	Tornado (F2) A tornado touched down in Humeston, hitting the west part of town and moving into the southeast section. Many trees were felled, and 7 homes, 12 garages and several cars received substantial damage. One of the homes was completely destroyed, and in two others, the residents had to move elsewhere while repairing was done. Damage amounted to around \$500,000. One man was slightly injured.
28 NEW JERSEY, Southern									
<u>JUNE 1985</u>									
DELETE: ALL ENTRIES									
									as appear on page 25.
ADD: NEW ENTRIES									
									listed below:
Camden and Gloucester Counties	16	1700 EST			0	0	3	0	Wind High wind gusts downed trees and utility lines.
Mercer County	24	1500 to 1600 EST			0	0	5	0	Hail, Wind, Lightning Golf ball size hail was reported. Wind gusts downed trees and utility lines. A dog was killed in a house fire caused by lightning.
Ocean County	24	1623 EST			0	0	3	0	Hail, Wind Hail 3/4 inch in diameter was reported. Some trees were downed by wind gusts.
NEW JERSEY, Southern									
<u>JULY 1985</u>									
DELETE: ALL ENTRIES									
									as appear on page 26.
ADD: NEW ENTRIES									
									listed below:
Southern New Jersey	08	1700 to 2100 EST			2	1	4	0	Lightning, Wind Thunderstorms moving across southern New Jersey caused wind gusts that downed some trees and caused minor damage to utility lines and buildings. There were also some heavy downpours which caused some roadway flooding. Lightning strikes caused some structural damage to barns, houses and other buildings, along with starting a few minor fires. A man was seriously injured in Wildwood, Cape May County when struck by lightning at about 5:30 PM EST. A man and a woman were struck by lightning while walking on the beach in Wildwood Crest, Cape May County at around 8:30 PM EST. The man was killed and the woman was seriously injured. The 35-year old man injured in Wildwood died later in the hospital.
Salem County	31	1600 EST			0	0	3	0	Wind Thunderstorm wind gusts of up to 71 MPH were reported.
Cumberland County	31	1630 to 1700 EST			0	0	3	0	Wind High wind gusts with thunderstorms downed trees and utility poles and damaged the roof on a large building.
<u>SEPTEMBER 1985</u>									
DELETE: WIND AND LIGHTNING									
									in Southern New Jersey at 1200-1500EST on September 9 (page 37).
ADD: WIND AND LIGHTNING									
									listed below:
Southern New Jersey	09	1200 to 1500 EST			0	0	4	0	Wind, Lightning Thunderstorms moving across southern New Jersey were accompanied by gusty winds and lightning. Wind gusts downed some trees and utility lines and damaged some signs. Cape May airport reported wind gusts to 90 MPH at 2:10 PM EST. The thunderstorms also moved across Delaware Bay and at 2 PM EST, Lewes, Delaware had wind gusts to 64 MPH. Wind gusts hit 64 MPH in Atlantic County. The wind gusts and lightning strikes caused power outages to several thousand customers. Lightning strikes caused fires in a house in Manchester Township, Ocean County, in a Del Monte Plant at Swedesboro, Gloucester County, and in an apartment building in East Windsor, Mercer County.
Cape May County	09	1410 EST			0	0	4	0	Wind
Atlantic County	09	1445 EST			0	0	3	0	Wind

STORM DATA AND UNUSUAL WEATHER PHENOMENA

CORRECTIONS

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

36 PENNSYLVANIA, Eastern

MAY 1985

DELETE: LIGHTNING	at Berwick in Columbia County at 2200EST on May 31 (page 50).								
DELETE: WIND	in Columbia County at 2350EST on May 31 (page 50).								
ADD: WIND	listed below:								
Columbia County	31 2150 EST			0	0	4	0	0	Wind
	High winds accompanying thunderstorms brought down many trees through the center of the county. The trees were uprooted or broken off.								
ADD: HAIL and TORNADO	listed below (originally were listed as occurring on June 1):								
Carbon County	31 2245 EST			0	0	2	0	0	Hail
	Golf ball size hail was reported.								
Monroe County	31 2305 EST	short narrow	0	0	3	0	0	0	Tornado (F1)
	A tornado touched down briefly in the Tobyhanna-Mount Pocono area. FPP1-0								

JUNE 1985

DELETE: ALL ENTRIES	as appear on pages 35 and 36.								
ADD: NEW ENTRIES	listed below:								
Berks County	03 1250 EST			0	0	5	0	0	Hail, Wind, Lightning
	A lightning fire gutted a house in Exeter Township. Wind gusts up to 60 MPH brought down trees and utility poles. Hail 1/2 to 3/4 inch diameter fell in Exeter, Lower Alsace and Bern Townships.								
Chester County	03 1400 to 1500 EST			0	0	5	0	0	Lightning
	Lightning-caused fires destroyed a mobile home at Oxford and badly damaged a house at Tonerville.								
Saylorsburg, Monroe County	03 1410 EST	.25 17	0	0	4	0	0	0	Tornado (F1), Hail
	A tornado touched down briefly and badly damaged two mobile homes. Golf ball size hail also fell. FPP1-0								
Hegins Township, Schuylkill County	03 1430 EST			0	5	2	0	0	Lightning
	A lightning strike traveled deep into a coal mine, setting off explosives and injuring 5 men.								
Dauphin, Lancaster and York Counties	03 1740 to 1800 EST			0	0	3	0	0	Hail, Wind
	Strong wind gusts brought down trees and utility poles. The highest gust reported was 37 MPH at Harrisburg. Golf ball size hail and 3/4 inch hail fell at Harrisburg, and golf ball size hail fell at Linglestown.								

PENNSYLVANIA, Eastern

Penn Township, Huntingdon County	16 1210 EST	1	80	0	0	4	0	0	Tornado (F1)
	A tornado touched down several times, destroying a mobile home and damaging 6 houses. FPP102								
Huntingdon County	16 1210 EST			0	0	2	0	0	Hail
Mifflin County	16 1300 EST			0	0	2	0	0	Hail
Perry County	16 1340 EST			0	0	2	0	0	Hail
	Hail 3/4 inch in diameter was reported in all three counties. Some of the hail in Mifflin County was 1-3/4 inch in diameter.								
Lancaster County	16 1400 EST and 1600 EST			0	0	4	4	4	Hail, Lightning
Chester County	16 1515 EST			0	0	5	3	3	Hail, Lightning
	In both counties, hail up to 1 inch in diameter and golf ball size was reported. The hail broke some windows and shredded some crops. Lightning struck a house in Lancaster County, causing some damage but no fire. A lightning-caused fire in a house in West Whiteland Township, Chester County, killed a dog and caused \$200,000 damage.								
Delaware County	16 1600 EST			0	0	4	0	0	Wind
	Wind gusts brought down trees and utility lines in Yeason, Glenolden, Boothwyn and Folsem.								
Bucks County	16 1640 EST			0	0	2	0	0	Hail
	Hail up to 1 inch in diameter fell in the county.								
Carbon County	16 1600 EST			0	0	2	0	0	Hail, Wind
Lehigh County	16 1635 EST			0	0	2	0	0	Hail, Wind
Northampton County	16 1650 EST			0	0	2	0	0	Hail, Wind
	Hail 3/4 to 1 inch in diameter was reported in all three counties. Some large trees were uprooted. Some street flooding was reported in Northampton County.								
Coatesville, Chester County	16 2130 EST			0	0	4	0	0	Lightning
	Lightning caused fires in several homes. The damage was minor in all cases.								
Wyoming County	24 1050 EST			0	0	6	2	2	Large Hail, Wind
Lackawanna County	24 1130 EST			0	1	6	2	2	Large Hail, Wind
Northern Luzerne County	24 1130 EST and 1230 EST			0	0	6	2	2	Large Hail, Wind
Southern Wayne County	24 1130 EST			0	0	5	2	2	Large Hail, Wind
	Hail 3/4 to 2-3/4 inches in diameter or golf ball to tennis ball size was reported in these counties. Thousands of automobiles were damaged by the hail, some extensively. Houses and other buildings had siding, porches and windows damaged. Greenhouses had nearly all the glass broken. Trees, flowers and other plants were damaged. One woman was injured when she was struck on the head by a large hailstone. Strong wind gusts overturned camper trailers, took off parts of roofs and brought down trees.								
Monroe County	24 1140 EST			0	1	3	0	0	Hail, Wind, Lightning
	Golf ball size hail was reported and trees were uprooted. One man was struck by lightning.								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

CORRECTIONS

CORRECTIONS

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED* DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED* DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

— PENNSYLVANIA, Eastern

Cumberland County	24	1215 to 1235EST			0	0	2	0	Hail
Golf ball size hail was reported.									
Monroe County	24	1320 EST			0	0	2	0	Hail
Hail larger than golf ball size was reported.									
Nescopeck, Luzerne County	24	1230 to 1330 EST			0	0	4	0	Wind
High wind gusts brought down trees and fences and took off parts of roofs. The trees were uprooted and broken off.									
Carbon County	24	1300 EST			0	0	2	0	Hail
Hail larger than golf ball size was reported.									
Lehigh County	24	1355 EST			0	0	3	0	Hail, Wind, Funnel Cloud
Northampton County	24	1400 EST			0	0	3	0	Hail, Wind
Golf ball size hail was reported in both counties. Wind gusts caused downed utility lines which resulted in extensive power outages. A funnel cloud was also reported in Lehigh County.									
York County	24	1400 to 1435 EST			0	1	3	0	Hail, Lightning
Hail 1/2 to 1 inch diameter was reported, especially in Jackson and Springetsbury Townships. Lightning strikes resulted in some power outages. In Dover, a man was injured when struck by lightning.									
Northern Bucks County	24	1500 to 1600 EST			0	0	2	0	Hail, Wind
Hail the size of ping-pong balls was reported. Some trees were downed by wind gusts.									
JULY 1985									
DELETE: ALL ENTRIES as appear on pages 33 and 34.									
ADD: NEW ENTRIES listed below:									
Lackawanna County	03	1420 EST			0	0	2	0	Hail
Hail 1-1/2 inch in diameter was reported.									
Glenn Rock, York County	03	1500 EST			0	0	4	0	Lightning
A woodworking shop was destroyed by a lightning-caused fire.									
Campbelltown, Lebanon County	03	2100 EST			0	0	4	0	Lightning
A church steeple was badly damaged by a lightning-caused fire.									

— PENNSYLVANIA, Eastern

Montgomery County	08	1240 EST			0	0	4	0	Lightning
A lightning-caused fire resulted in considerable damage to a house.									
York County	08	1750EST			0	0	2	0	Wind
High wind gusts downed trees.									
Montgomery and Philadelphia Counties	08	1800 to 1900 EST			0	0	4	0	Lightning
Lightning damaged a house in Upper Providence Township, Montgomery County, but caused no fire. A lightning-caused fire damaged a church in Philadelphia.									
Susquehanna County	09	1635 EST			0	0	2	0	Hail
Hail up to 1 inch diameter was reported.									
Carbon County	09	1655 EST			0	0	3	0	Wind
Wind gusts destroyed several outbuildings and uprooted numerous trees.									
York County	10	1015 EST			0	0	5	0	Lightning
Lightning caused a fire that destroyed a large barn near New Park.									
Huntingdon County	12	1600 EST			0	0	4	0	Hail, Wind
Damaging winds brought down trees and caused some property damage. Hail was also reported, with 1/2 to 1 inch hail at Huntingdon.									
Fulton County	12	1705 EST			0	0	3	0	Wind
Strong wind gusts brought down trees.									
Perry County	12	1740 EST			0	0	3	0	Wind
Wind gusts brought down trees and utility lines.									
Luzerne County	12	1744 EST			0	0	3	0	Hail, Wind
Lackawanna County	12	1803 EST			0	0	3	0	Wind, Hail
Strong wind gusts brought down trees and caused minor property damage. In Luzerne County, 1 inch hail was reported in Ross Township and 1/2 inch hail at Sweet Valley.									
Adams County	12	1915 EST			0	0	3	0	Wind
Wind gusts brought down numerous trees.									
Monroe County	12	2001 EST			0	0	3	0	Wind, Hail
Damaging winds and large hail were reported.									
Lehigh County	14	1640 EST			0	0	3	0	Wind
Wind gusts up to 50 to 60 MPH uprooted trees.									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

CORRECTIONS

CORRECTIONS

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

— PENNSYLVANIA, Eastern

Northampton County	14	1652 EST	.75	660	0	0	3	0	Tornado (F0)	A tornado touched down briefly and caused only minor damage. FPP004
Berks County	14	1720 EST			0	0	3	0	Wind	High wind gusts uprooted trees and caused numerous power outages.
Chester and Montgomery Counties	15	2030 to 2130 EST			0	1	5	0	Lightning	In Montgomery County a lightning-caused fire destroyed a barn in Limerick Township and in Lower Providence Township lightning hit a house chimney and falling bricks damaged two vehicles. In Phoenixville, Chester County, a teenage boy was struck by lightning.
Hampton, Adams	22	1330 EST			0	0	4	0	Lightning	A lightning-caused fire destroyed a barn.
New Bridgeville, York County	25	1530 EST			0	0	4	0	Wind	Strong wind gusts destroyed a small barn and damaged siding and roofing on other farm buildings.
Luzerne County	26	1455 EST			0	0	3	0	Wind	Strong wind gusts caused some property damage and also downed trees.
Lebanon, Lebanon County	26	1615 EST			0	0	6	0	Lightning	A lightning-caused fire severely damaged a five-story building housing a formal wear business. About 10,000 tuxedos were lost in the fire.
Upper Allen Township, Cumberland County	31	1125 EST	3	20	0	0	5	3	Tornado (F1)	A tornado touched down sporadically along a 3-mile path ending at the village of Grantham. A barn was destroyed and 12 vehicles and buildings had minor to moderate damage. Trees were uprooted and broken off, with some falling on houses. FPP111
Lancaster County	31	1305 EST	3	20	0	2	5	3	Tornado (F2)	A tornado moved along a 3-mile path starting at Manheim and extending east toward Lititz. The tornado destroyed two, nearly completed, new homes under construction. Two of the construction workers working on the homes were injured. One was injured seriously. The tornado also damaged at least 5 other homes, several warehouses and other commercial buildings, and cut a path through some crops. Trees, vehicles, fences and other small structures were also damaged. FPP211
Philadelphia, Philadelphia County	31	1510 to 1545 EST	1.5	20	0	1	3	0	Tornado (F1), Thunderstorm Winds, Flooding, and Funnel Clouds	Thunderstorms rumbling across the Germantown section of Philadelphia produced tornadic and straight-line winds of 70 to 90 MPH. Several funnel clouds skipped through the area, being aloft most of the time; but definitely touching down in at least 3 locations. Most of the damage was to large trees twisted off, snapped off or uprooted. There also was some damage to street light poles, houses and to the Germantown Cricket Club. The thunderstorms also produced heavy rain of up to 4 inches which caused street flooding and flooding of small urbanized streams. One man was drowned after he was swept into a small stream. FPP101

— PENNSYLVANIA, Eastern

<u>AUGUST 1985</u>										
DELETE:		ONE TORNADO								at Quarryville in Lancaster County at 1400EST on August 30 (page 34).
ADD:		ONE TORNADO								listed below:
Quarryville, Lancaster County	30	1410 EST	2.0	33	0	0	5	3	Tornado (F1)	A tornado skipped across farm land near Quarryville, damaging two barns, a windmill and another farm building. Many trees and corn crops were also damaged. FPP111
<u>SEPTEMBER 1985</u>										
DELETE:		ONE WIND and LIGHTNING ENTRY								in Berks, Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties at 1200-1330EST on September 9 (page 41).
ADD:		TWO WIND and LIGHTNING ENTRIES								listed below:
Berks, Bucks, Chester, Delaware, Montgomery and Philadelphia Counties	09	1200 to 1330 EST			0	0	4	0	Wind, Lightning	Thunderstorms moving across the area were accompanied by wind gusts and lightning which downed trees, tree limbs and utility lines. Over 14,000 customers experienced power outages.
Unionville, Chester County	09	1311 EST			0	0	4	0	Wind, Lightning	A severe thunderstorm downed many trees and utility lines.
36 PENNSYLVANIA, Western										
<u>NOVEMBER 1985</u>										
DELETE:		ONE FLOOD								in Fayette County at 0100EST on the 5th (page 22).
ADD:		ONE FLOOD								listed below:
Fayette County	05	0100EST			0	0	7	?	Flood	Four days of heavy rains in the mountains of West Virginia and southwestern Pennsylvania caused streams to flood in Pennsylvania. Five to seven inches of rain with isolated reports of nine inches fell during this period. The flooding in western Pennsylvania began at Pt. Marion at the junctions of the Cheat River and the Monongahela. It resulted from floodwaters which had passed downstream, particularly along the Cheat River, into Pennsylvania from West Virginia. Early on the 4th, the flood surge passed through the Lake Lynn Dam which, being a hydroelectric dam and not a flood control dam, has no capacity to control or store floodwaters. As a result, as much as 8 feet of water inundated homes and small businesses in Pt. Marion. The Lake Lynn Dam was erroneously reported to have burst, causing an early evacuation with higher property losses. Waters at Pt. Marion crested at 40 feet, 14 feet above flood stage. At the Maxwell Lock and Dam at Brownsville, the Monongahela crested at 42.7 feet or 10.7 feet above flood stage. Both flood levels had not been seen in 50 years. In Brownsville alone, one million dollars in damage occurred to 35 businesses. In the afternoon, 23 barges broke loose of their moorings and wedged against the Maxwell Lock and Dam, closing a vital link in southwestern Pennsylvania between coal mines in the south and power plants, steel mills, and coke plants in the north. The estimated loss to the southwest Pennsylvania economy was \$500,000 per day. The dam was not cleared until mid December, and total losses were estimated at \$20 million. Property losses included 34 homes destroyed, 355 homes with major damage, and 572 homes with minor damage. The total loss was between 15 and 20 million dollars.

REFERENCE NOTES

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

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

Definition of Fujita Tornado Scale (F scale)

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

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

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

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

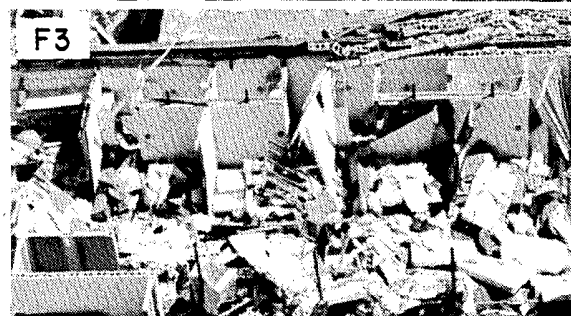
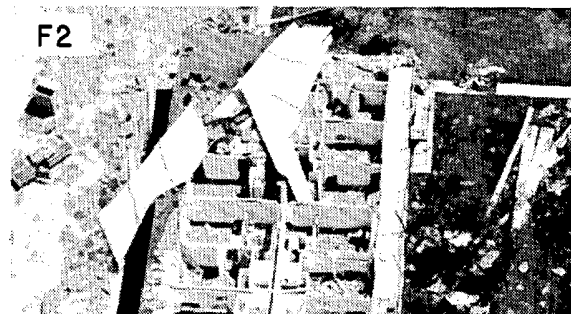
(F4) Devastating tornado (207-260 mph): Devastating damage
Well-constructed houses leveled; structure with weak foundation blown off some distance; cars thrown and large missiles generated.

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

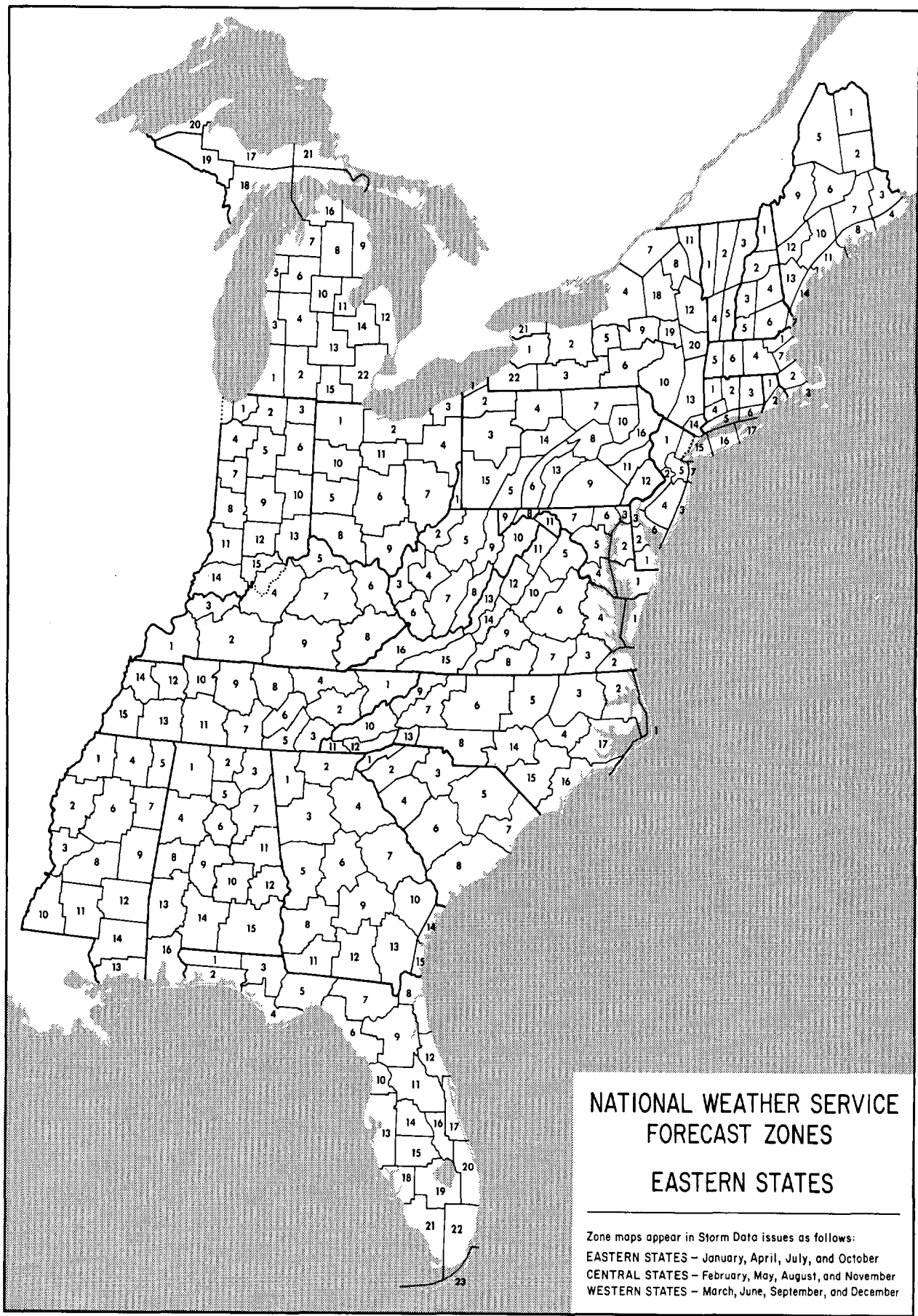
(F6-F12) (319 mph to Mach 1, the speed of sound):
The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.

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

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



USCOMM-NOAA-ASHEVILLE, NC 1985-2300



NATIONAL WEATHER SERVICE
 FORECAST ZONES
 EASTERN STATES

Zone maps appear in Storm Data issues as follows:
 EASTERN STATES - January, April, July, and October
 CENTRAL STATES - February, May, August, and November
 WESTERN STATES - March, June, September, and December

ARE YOU INTERESTED IN OTHER CLIMATE PUBLICATIONS?

In addition to STORM DATA, the National Climatic Center publishes a number of other climate-weather related bulletins.

COMPARATIVE CLIMATIC DATA

Presents tables of monthly and annual averages, totals or extreme climate conditions for approximately 300 major population centers. This publication is particularly helpful for comparing temperature, rainfall, snowfall, wind velocities, sunshine, cloudiness, and relative humidities for the principal cities. The cities are listed alphabetically by state in two sections: observed data and climatological normals. This is an annual publication.

LOCAL CLIMATOLOGICAL DATA

Published monthly for each first-order station. Presents daily maximum and minimum temperatures, degree day data, precipitation, station pressures, wind statistics, sunshine, and sky cover data, as well as 3-hourly data for certain parameters. An annual issue is available summarizing monthly data and including up to 40 years record, and featuring a narrative climatological summary and history of the station.

CLIMATOLOGICAL DATA

Published for each State. Supplies daily temperature and precipitation records, with monthly averages and totals, with departures from normal when available. Also, derived statistics such as heating and cooling degree days, counts of days equaling or exceeding given temperature and precipitation thresholds, extremes, etc., are published for cooperative and first-order stations. Evaporation and soil temperature data are given for reporting stations. Seasonal snowfall, heating and cooling degree day tables included in selected issues. Annual edition also available.

MONTHLY CLIMATIC DATA FOR THE WORLD

Contains monthly means of temperature, pressure, precipitation, vapor pressure, and sunshine for about 2,500 surface data stations worldwide.

Also contains monthly mean upper air temperatures, dew point depressions, and wind velocities for ten standard levels.

HOURLY PRECIPITATION DATA

Presents daily, hourly, and maximum short duration data for recording gage stations for each State except Alaska.

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NATIONAL CLIMATIC DATA CENTER
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