

DECEMBER 2001  
VOLUME 43  
NUMBER 12

# STORM DATA



AND UNUSUAL WEATHER PHENOMENA  
WITH LATE REPORTS AND CORRECTIONS



**noaa** NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE,  
DATA AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER  
ASHEVILLE, NC

**Cover:** Arkansas Highway 7 was under water at a railroad underpass in Arkadelphia (Clark County) on Dec 17, 2001. Flooding resulted from widespread heavy rains (three to five inches) over a 36-hour period across northern and western Arkansas. Numerous county roads were flooded or washed out. Homes and businesses also sustained damage from the floodwaters. *(Photo courtesy: John Robinson, WCM, Little Rock, AR.)*

## TABLE OF CONTENTS

	Page
Outstanding Storm of the Month .....	4
Storm Data and Unusual Weather Phenomena .....	5
Reference Notes .....	100

### STORM DATA

(ISSN 0039-1972)

National Climatic Data Center

Editor: William Angel

Assistant Editors: Stuart Hinson and Rhonda Mooring

**STORM DATA** is prepared, and distributed by the National Climatic Data Center (NCDC), National Environmental Satellite, Data and Information Service (NESDIS), National Oceanic and Atmospheric Administration (NOAA).

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 the National Climatic Data Center and the National Weather Service's (NWS) Storm Prediction Center.

**STORM DATA** contains all confirmed information on storms available to our staff at the time of publication. Late reports and corrections will be printed in each edition.

Except for limited editing to correct grammatical errors, the data in **Storm Data** are published as received.

Note: "None Reported" means that no severe weather occurred and "Not Received" means that no reports were received for this region at the time of printing.

Subscription, pricing, and ordering information is available from:

NCDC Subscription Services  
310 State Route 956  
Building 300  
Rocket Center, WV 26726  
(866) 742-3322 Toll Free

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

Storm Data  
National Climatic Data Center  
151 Patton Avenue  
Asheville, NC 28801  
e-mail: [storm.data@noaa.gov](mailto:storm.data@noaa.gov)

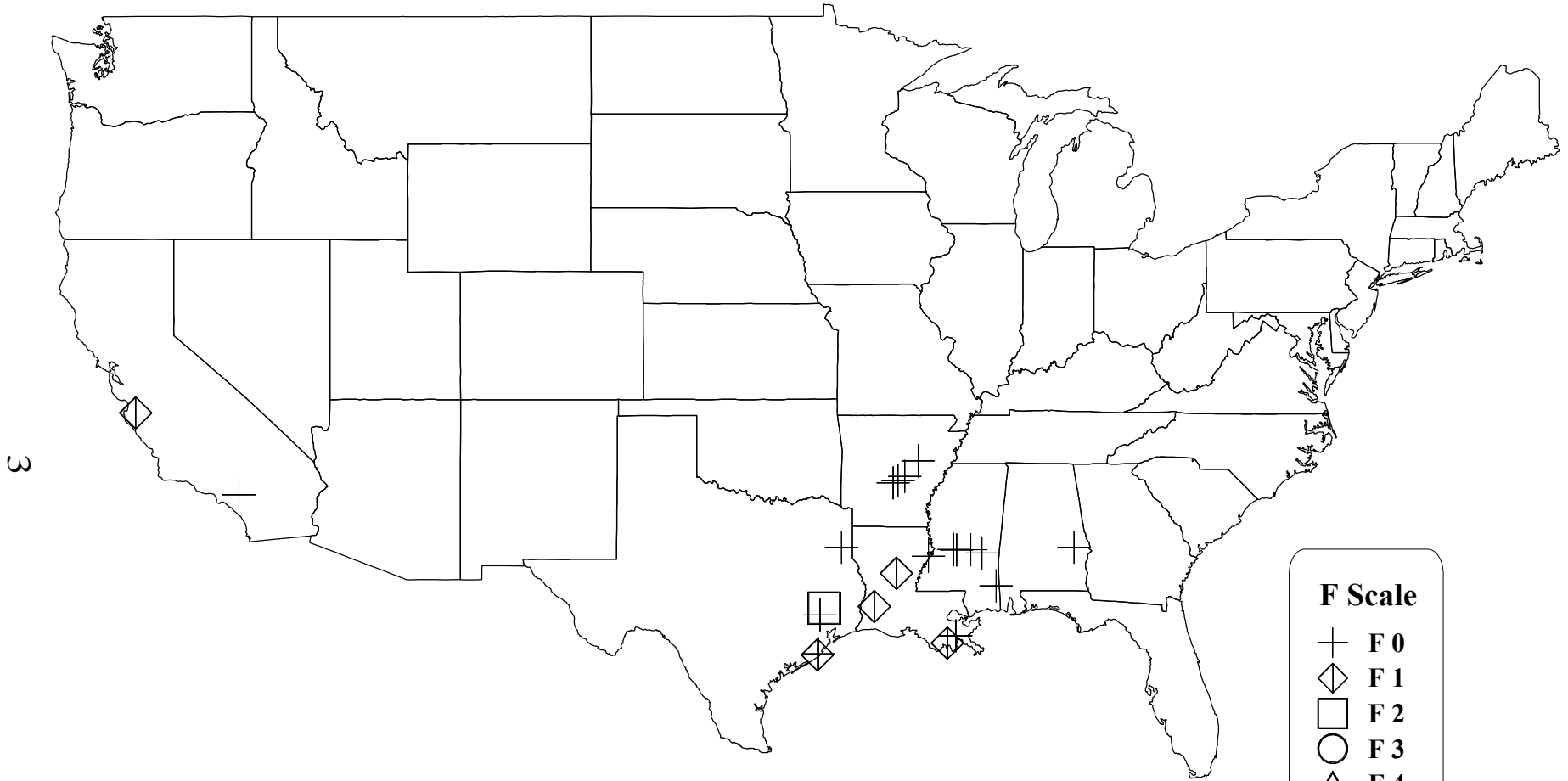
Any such items received by the editor will be for use in **STORM DATA** only. Any other use will be with the permission of the owner of said items. Materials will be returned if requested.

This is an official publication of the National Oceanic and Atmospheric Administration and is compiled from information received at the National Climatic Data Center Asheville, North Carolina 28801-2733.



Thomas R. Karl  
Director,  
National Climatic Data Center

# December 2001 Confirmed Tornadoes



**F Scale**

- + F0
- ◇ F1
- F2
- F3
- △ F4
- \* F5

F Scale	F0	F1	F2	F3	F4	F5	Total
Number	16	5	1	0	0	0	22

**OUTSTANDING STORMS OF THE MONTH**

**THERE IS NO  
“OUTSTANDING STORM OF THE MONTH”  
FOR THE MONTH OF DECEMBER 2001.**

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALABAMA, North Central

### **Elmore County**

**.3 E Kent**      14    0348CST      0.1    30      0    0      12K    0    **Tornado (F0)**

A weak tornado touched down briefly on CR 44 in the Kent community. Two homes sustained moderate roof damage and one motor home was blown over and damaged. The tornado path was very short, only about one tenth of a mile. The damage width was estimated at thirty yards. No injuries were reported. Beginning: 32 37.245/85 56.657 Ending: 32 37.285/85 56.566

### **Tuscaloosa County**

**3 N Northport**      17    2155CST                0    0      8K    0    **Thunderstorm Wind (G50)**

Trees and power lines were blown down just west of Lake Tuscaloosa. A trailer was blown off its foundation, a roof was partially torn off a house, and some shingles were removed from a church roof. All the damage was located just off SR 69.

## ALABAMA, Southeast

NONE REPORTED.

## ALABAMA, Southwest

### **Mobile County**

**Bucks**      14    0045CST  
                 0050CST      0    0      25K           **Thunderstorm Wind (G60)**

Strong thunderstorm winds produced minor damage to a manufactured home on Highway 43 near Bucks. Slightly more significant damage to a nearby outbuilding and a small boat which was sitting near the outbuilding also occurred.

## ALASKA, Northern

### **AKZ223**

#### **Deltana And Tanana**

20    0853AST      0    0                **High Wind (G48) <sup>M</sup>**  
21    0853AST

### **AKZ214**

#### **Yukon Delta**

20    1255AST      0    0                **Blizzard**  
21    2355AST

A 953 mb Low pressure center just southwest of Cold Bay on the Alaska Peninsula the morning of the 20th moved to the southwest interior of Alaska on the morning of the 21st, and weakened. A ridge of High pressure remained fairly strong over the Copper River Basin and Canada, creating a strong pressure gradient across the Tanana Valley, producing strong winds in the Deltana-Tanana Flats zone. Blizzard conditions occurred at Cape Romanzof, and High Winds with gusts to 55 mph were reported at the Delta Junction ASOS.

### **AKZ223-225**

#### **Deltana And Tanana - Denali**

21    1545AST      0    0                **High Wind (G48) <sup>M</sup>**  
22    0953AST

A 971 mb Low in the central Gulf of Alaska on the afternoon of the 21st moved northwest to near Galena by Noon on the 22nd and weakened to 982 mb. Strong southeast winds developed in the passes of the Alaska Range as the pressure gradient strengthened in response to the associated occluded front moving north towards the Alaska Range. Wind gusts to 55 mph were reported by the Delta Junction ASOS, and by the weather observer at Healy.

### **AKZ214**

#### **Yukon Delta**

23    1455AST      0    0                **Blizzard**  
                 1555AST

While strong High pressure remained over interior Alaska, a large storm over the central Aleutian chain drifted north, bringing blizzard conditions briefly to Cape Romanzof.

### **AKZ223**

#### **Deltana And Tanana**

25    0953AST      0    0                **High Wind (G48) <sup>M</sup>**  
                 1553AST

### **AKZ213**

#### **St Lawrence Is. Bering Strait**

25    1655AST      0    0                **Blizzard**  
26    1655AST

With High pressure over Canada, a 977 mb Low moved from the central gulf of Alaska northwest to Bristol Bay on the morning of the 26th, then to southwest Alaska on the afternoon of the 26th. This caused strong easterly winds to develop over the Deltana-Tanana Flats zone, and moderate northerly winds with blowing snow to develop through the Bering Strait. Wind gusts reached 55 mph at the Delta Junction ASOS, and blizzard conditions occurred at Tin City near the Bering Strait.

### **AKZ214**

#### **Yukon Delta**

29    2355AST      0    0                **Blizzard**  
30    0755AST

A large and complex Low pressure system over the North Pacific south of Kodiak Island drifted northwest while strong High pressure

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Northern

over the Chukotsk Peninsula of Russia held it's place. This produced blizzard conditions at Cape Romanzof.

## ALASKA, Southeast

### AKZ025

#### Juneau Borough-Eastern Chichagof-Admiralty Island

02	2100AST				0	0	0	0	Heavy Snow
03	0900AST								

Warm moist air being forced over colder air in Lynn Canal caused overrunning snow to fall over the northern portions of the Juneau Borough. A snowfall report from a spotter at Peterson Creek reported 9.4 inches in a 12 hour period.

### AKZ027

#### Southern Southeast Alaska Ernest Sound To Dixon Entrance

03	0700AST				0	0	0	0	High Wind (G56) <sup>M</sup>
	1130AST								

A strong weather front moving through the area brought strong gusty southeast winds to Ketchikan. Wind gusts from wind sensors a top the terminal at Ketchikan (64 mph) were reported several times.

### AKZ027-029

#### Southern Southeast Alaska Ernest Sound To Dixon Entrance - Misty Fjords

03	0715AST				0	0	0	0	Heavy Snow
04	0600AST								

A winter storm off of the Gulf of Alaska moved over Southeast Alaska. Overrunning snow fall coupled with strong gusty created blizzard like conditions at times during the day. Storm snowfall totals that were reported Annette (11"), also reporting significant new snowfall was Hyder (9.5")

### AKZ022

#### Cape Fairweather To Cape Suckling-Coastal Area

05	0915AST				0	0	0	0	Heavy Snow
	1500AST								

A series of locally heavy snow showers associated with a low pressure center over the northern Gulf of Alaska moved across the eastern gulf coast and the city of Yakutat. When the snow showers had diminished, 13" of snow had fallen by afternoon.

### AKZ024>025-029

#### Northern Lynn Canal - Juneau Borough-Eastern Chichagof-Admiralty Island - Misty Fjords

06	2130AST				0	0	0	0	Heavy Snow
08	0100AST								

Warm moist air moving off of the Gulf of Alaska across cold air entrenched in the inner channels of Southeast Alaska result in significant snow falls. The heavier snows were limited to the colder interior valley locations where the cold air was not eroded. Hyder reported 24" of snow for their climate day, other reports as Canyon Island on the Taku river had 17" and the Customs stations on the Haines roadway reported 10.8"

### AKZ024

#### Northern Lynn Canal

07	0800AST				0	0	4K	0	Avalanche
08	1600AST								

A minor avalanche resulting from the release of accumulated snow from previous snows blocked the Haines Highway for about 24 hours. An estimated cost to rent equipment and the time to clear the road was \$4000.

### AKZ024>025

#### Northern Lynn Canal - Juneau Borough-Eastern Chichagof-Admiralty Island

09	0800AST				0	0	0	0	Heavy Snow
	1800AST								

Moist air riding over the cold air in Lynn Canal and northern interior valleys resulted in snow over the area. Canyon Island on the Taku River report a snowfall of 9" and a report of 8" in Skagway.

### AKZ022

#### Cape Fairweather To Cape Suckling-Coastal Area

10	2340AST				0	0	0	0	Ice Storm
11	0525AST								

Rain falling through a cold layer near the surface in Yakutat was freezing upon the surfaces. Minor accumulations estimated at a thin layer of glaze coated objects.

### AKZ027

#### Southern Southeast Alaska Ernest Sound To Dixon Entrance

18	0300AST				0	0	0	0	Heavy Snow
	0900AST								

A band of moist air and spread snow across much of southern Southeast Alaska. Annette Island reported 14", Hollis reported 10", and a spotter at Saxman Island reported at least 6" of snow.

### AKZ022

#### Cape Fairweather To Cape Suckling-Coastal Area

20	0515AST				0	0	0	0	Heavy Snow
	1540AST								

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Southeast

**AKZ022**

**Cape Fairweather To Cape Suckling-Coastal Area**

20	0900AST 1700AST				0	0	0	0	High Wind (G63) <sup>M</sup>
----	--------------------	--	--	--	---	---	---	---	------------------------------

A vigorous pacific storm spreading into the Gulf of Alaska brought ample moisture and winds to the northeast gulf coast of the state. Snowfall reported in Yakutat were 7.4". A wind sensor near the Bering Glacier reported a wind gust of 73 mph.

**AKZ024**

**Northern Lynn Canal**

22	0000AST				0	0	4K	0	Avalanche
23	1600AST								

A release of snow from the mountains along the Haines Highway reached and covered the road to a between 19 and 20 mile on the 22nd. Department of highway crews had it cleaned up on the 23rd.

**AKZ027>028**

**Southern Southeast Alaska Ernest Sound To Dixon Entrance - Dixon Entrance To Cape Decision-Coastal Area**

23	1715AST				0	0	15K	0	High Wind (G81) <sup>M</sup>
24	1030AST								

A strong weather front moving into southern portion of Southeast Alaska brought strong gusty winds to that area during the evening hours. A second portion of the front came close enough to increase the winds again along the outer coast overnight. A peak gust of 93 mph was recorded in Craig near midnight, Cape Decision had 65 mph, Hydaburg had 64 mph, and Ketchikan terminal roof had 63 mph. Trees were blown over downing power lines in Craig. Also some trees fell on a shed, crushed some stairs, and blew a metal roof off of a trailer.

**AKZ024**

**Northern Lynn Canal**

23	2300AST				0	0	0	0	Heavy Snow
24	0715AST								

Warm moist air associated with low over the eastern Gulf of Alaska overrunning cold trapped in northern Lynn Canal produced moderate to heavy snow. Snowfall amounts at the Haines Customs station was 10.8" overnight and Skagway reported an estimated 9", and the Skagway Customs station reported 8".

**AKZ025**

**Juneau Borough-Eastern Chichagof-Admiralty Island**

24	0630AST 0940AST				0	0	0	0	High Wind (G60) <sup>M</sup>
----	--------------------	--	--	--	---	---	---	---	------------------------------

Strong gusty winds associated with a portion of a frontal band moved into the northern portion of the panhandle. The peak wind reported from the wind event was 69 mph at the Juneau Ranger Station, a spotter north of Juneau reported gusts of 58 mph or greater. Another notable wind gust was 92 mph at Eaglecrest.

## ALASKA, Southern

**AKZ135**

**Sern P.W. Snd**

01	0000AST				0	0			High Wind (G80)
02	0500AST								

Strong and cold high pressure near Dawson, Canada and across the Copper River Basin produced very strong, but localized outflow winds into the Gulf of Alaska. A computerized wind study, developed years ago, satellite imagery, Middleton Island radar information and profiler information near Glennallen helped determine when conditions would be ripe for the strong winds.

**AKZ191**

**Western Aleutians**

02	0356AST 1600AST				0	0			High Wind (G61) <sup>M</sup>
----	--------------------	--	--	--	---	---	--	--	------------------------------

A large 972 mb low moved northeast toward Shemya late Friday and Saturday. The front elongated north and east...crossing Atka around 3pm AST Saturday, December 1, 2001.

By late Sunday morning, the front had merged with the arctic front, extending from near Chignik, along the Alaska Peninsula, to 60 miles north of Saint Paul Island westward across the central Bering Sea. The low moved to about 250 miles north of Amchitka at the same time.

By Monday morning, the original low had split into two centers...one near the Bering Sea buoy (46035) and the other 250 miles north of Attu. Both lows had weakened considerably by this time and were no longer producing warning level wind conditions.

At Shemya - "back side of low" winds were west southwest peaking at 70 mph between 8:30 am and 9:00 am and also between 9:44 am and 9:56 am Saturday, 12/01/01.

At Adak, pre-frontal easterly winds Tuesday reached 62 mph between 2:00 am and 3:00 am AST. Warning level wind conditions there lasted from 2:00 am AST through 4:00 am AST. Heavy rains were also reported at the site. Adak remained just under area high wind levels (59 mph) on the back side of the low Saturday.

# Storm Data and Unusual Weather Phenomena

December 2001

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

**ALASKA, Southern**  
**AKZ125**

**Wrn P.W. Snd & Kenai Mtns**

**03 1000AST** **0** **0** **High Wind (G54) <sup>M</sup>**  
**1700AST**

"Outflow" westerly winds reached at least 62 mph according to the Whittier Harbormaster Monday midday. Gusty westerly winds, reaching 52 mph, were reported also on the 'official' Whittier observation during this time. Whittier observations are taken by a contract observer who monitors winds, remoted from the Whittier Harbor building, for brief periods during the hour. There is no peak wind equipment at the site. No specials are available from this site...and it typically does not record peak conditions.

In this case, cold "outflow" winds were likely stronger at the head of the bay...rather than at the boat harbor.

**AKZ185-191-195**

**Eastern Aleutians - Western Aleutians - Pribilof Islands**

**04 0200AST** **0** **0** **High Wind (G54) <sup>M</sup>**  
**2100AST**

An intense, large 954 mb storm near 42.5N/178E at 9 pm Monday moved to a position 120 miles south of Amchitka late Tuesday morning. By Tuesday afternoon, the low began to curve west and slowly weaken. By Wednesday morning, the center had moved to Attu...then to 180 miles southwest of Attu as a 982 mb center late Thursday morning.

The front associated with this storm moved into the central Aleutians early Tuesday, extending in a large arc from just west of Attu to Dutch Harbor and southeast late Tuesday. Prefrontal east and southeast winds just reached warning levels according to sparse observations at Adak and also at Dutch Harbor (the airport). Initially, however, Monday afternoon and Monday night surface maps depicted ships in the north Pacific south of the Aleutians with sustained pre-frontal winds 58 to 69 mph.

Adak briefly gusted 62 mph between 2:00 am and 3:00 am AST Tuesday, 12/04/01.

Dutch Harbor airport recorded an easterly gust 60 mph between 5:00 pm and 5:30 pm Tuesday (just prior to frontal passage).

At Shemya, westerly winds were estimated at 60+ mph Wednesday on the south side of low (missing observations again due continuing modem problems).

Pribilofs - Saint George recorded easterly wind gusts up to 58 mph several times between 4:00 pm - 9:00 pm AST Tuesday, 12/04/01.

**AKZ125**

**Wrn P.W. Snd & Kenai Mtns**

**06 0200AST** **0** **0** **Blizzard**  
**1400AST**

Cold air outflow winds and heavy snow showers produced blizzard conditions around the Whittier area. Observations from the contract observer recorded visibilities as low as 1/4 mile on nearly every observation during the 12 hour period. Reported winds of 46 mph from a southwesterly direction (glacier and Portage Valley combination) were frequent on the Whittier observation.

Greg Hall, at the Whittier tunnel, reported the "tunnel was closed due to visibility and drifting and blowing snow". Visibilities he reported were less than 1/4 mile. He could not see the tunnel from the mid point staging area on the west side. He reported winds of 45 mph.

The harbormaster reported visibilities so low she could not see the harbor office from her boat in the small boat harbor.

**AKZ171**

**Kodiak Peninsula**

**08 0000AST** **1** **1** **Blizzard**  
**2359AST**

Two Coast Guard crew from the cutter "Firebush" were "...apparently blown off a ridge by strong winds". A request for air support was made from the Alaska State Troopers just after midnight Saturday. An HH-60 attempted a night search, but had to turn back due to whiteout conditions. At first light, Sunday, the HH-60 conducted 3 sorties and located both crewmen.  
M21OU

**AKZ135**

**Sern P.W. Snd**

**12 0000AST** **1** **1** **Avalanche**  
**2359AST**

Fresh snowfall and apparent wind loading occurred during the days before the event. Five people were out on snowmachines in the Cordova area. One snowmachine became stuck, two individuals attempted to dig it out. An avalanche quickly ensued. Two were buried. One person was dug out and survived. The body of the other, Donovan J. Lee, 37, was recovered from under 3 feet of snow Thursday morning. The avalanche occurred between Heney and Hartney Creeks.  
M37OU

**AKZ125**

**Wrn P.W. Snd & Kenai Mtns**

**15 1032AST** **0** **0** **Blizzard**  
**2300AST**

**AKZ171**

**Kodiak Peninsula**

**15 1800AST** **0** **0** **High Wind (G70) <sup>M</sup>**  
**16 1600AST**



# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Southern

A deepening low in the northwest Gulf of Alaska brought strong northwest winds to parts of Kodiak Island. This same low also pulled cold arctic air seaward from the mainland through Resurrection Bay.

Brisk north winds, combined with heavy snow at times, were reported around the Seward area Saturday. Visibilities as low as 1/4 mile were reported by the Seward ASOS...however lower visibilities and whiteout conditions were phoned in by the Seward police. Worst visibilities reported at the Seward automated site were as low as a quarter of a mile due to heavy snow...along with north wind gusts up to 47 mph and apparent blowing snow.

Precipitation counter at the Seward ASOS again gave conflicting information. Total recorded snowfall from the automated system was a trace, however Seward police reported 6"-12" of new snow. Up around Moose Pass accumulations reached close to a foot, with snow falling at a rate of 2"-3" per hour at times.

On Kodiak Island, Sitkinak was the only station (of 2 currently available on Kodiak Island) that reached warning wind levels. Northwest wind gusts reached 81 mph at Sitkinak at 1:00 pm AST Sunday, 12/16/01. Indications are that criteria were met on the Shelikof Strait side of the Island also.

### AKZ181-185-191-195

#### Alaska Peninsula - Eastern Aleutians - Western Aleutians - Pribilof Islands

19	0200AST	0	0	<b>High Wind (G62)</b> <sup>M</sup>
20	0400AST			

### AKZ171

#### Kodiak Peninsula

19	1600AST	0	0	<b>Winter Storm</b>
20	0600AST			

A large low deepened and moved toward the Aleutians Monday morning. The storm moved up the Aleutian Chain later Monday and Tuesday. As the storm continued to develop and move east, its effects spread from the Aleutians through the Alaska Peninsula and into Kodiak Island. The storm moved across Kodiak Island Wednesday afternoon and into Wednesday night. Pre-frontal winds reached warning levels at many areas, accompanied by blizzard conditions in snow and blowing snow. Winds along the back side of the low also reached warning levels across the central and eastern Aleutians.

171 - Near blizzard conditions were reported at Chignik Wednesday afternoon and into Wednesday evening. Blizzard conditions were likely in several areas of Kodiak Island itself from late Wednesday afternoon through early Thursday. Peak winds likely reached the 60 mph warning level somewhere on the Island. Snowfall at the Kodiak observing site reached 8.4 inches in a 12 hour period...a tad over warning thresholds for the area.

191 - Blizzard conditions appear reached across the western Aleutians. Shemya ASOS reports used. On the back side of the low, wind gusts reached 71 mph from the north at Atka around 0835 AST Wednesday. Visibilities of 1/4 mile were reported after 4:15 am AST...with the visibility sensor inoperable during the event thereafter. Actual warning level north winds at Atka were very brief.

195 - High Wind criteria were met at Saint George, but not at Saint Paul, according to the ASOS reports. Visibilities reached at least 1/4 mile in snow and blowing snow (mostly blowing snow) at Saint Paul earlier in the day. Only 1 inch of new snow was reported from Wednesday night through Thursday morning.

185 - High Wind criteria likely first reached around 0200 AST Wednesday with pre-frontal easterlies (non-augmented AWOS observation). Visibilities of 1/4 mile reported by AWOS. Conditions improved with frontal passage just prior to noon Wednesday. On the back side of the low, northwest wind gusts peaked at 69 mph at 2:35 am AST Thursday. Strong northwest winds subsided below warning levels around 9:00 am AST Thursday.

Event Maxima...

171 - Winds pre-frontal winds reached 55 mph at Sitkinak between 6 and 7 pm Wednesday. At Kodiak, peak winds reached 43 mph between 9 pm and 10 pm Wed.

191 - Shemya recorded 1/4 mile in heavy snow and gusty northwest winds around 35 mph on the back side of the low Tuesday. Pre-frontal conditions there indicated heavy snow...however snowfall amounts are unavailable at the site. Blizzard conditions were likely reached there during the event. 71 mph north winds were reported at Atka on the back side of the storm.

195 - Pre-frontal north northeast winds at St. George reached 62 mph between 3 pm and 6 pm AST Wednesday. Gusty north northwest winds close to 60 mph were also reported early Thursday as the low moved to the east.

181 - Just north of the arctic front, east northeast winds reached 54 mph at the Cold Bay ASOS... indicating conditions peak winds likely reached close to 65 mph.

185 - Peak easterly winds at the Dutch Harbor ASOS reached 70 mph around 9 am Wednesday. Visibilities of 1/4 mile or less were apparent from around 2 am AST Wednesday to noon AST Wednesday.

### AKZ101

#### Anchorage Muni To Bird Creek

20	0000AST 1400AST	0	0	<b>High Wind (G90)</b> <sup>M</sup>
----	--------------------	---	---	-------------------------------------

Pre-frontal pressure gradient produced strong easterly winds through Turnagain Arm and along higher elevations of the Anchorage

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Southern

Municipality Thursday. Winds diminished below warning levels by 2 pm AST Thursday after frontal passage.

Event maxima...

Glen Alps williwaw gust 59 mph from the southwest between midnight and 1 am AST Thursday, 12/20/01.

Portage ASOS easterly gust of 79 mph between 4:53 am and 5:53 am AST Thursday.

Alyeska Ski Resort reported gusts of 80 mph at 2300' and 87 mph at 3300' around 9:30 am AST Thursday. At 12:35 pm AST Thursday, Max's Mountain recorded 104 mph (peak for the event).

Further south across southern Cook Inlet, Augustine Island C-Man observed peak wind from the northeast of 78 mph between midnight and 1:00 am AST Thursday and again a few hours later.

**AKZ125**

**Wrn P.W. Snd & Kenai Mtns**

20	0000AST	0	0		<b>High Wind (G96)</b>	<sup>M</sup>
21	0500AST					

**AKZ131**

**Nern P.W. Snd**

20	1200AST	0	0		<b>Winter Storm</b>
	2200AST				

A strong front approaching the area was preceded by locally strong easterly winds and heavy precipitation along east and southeast exposures.

Heavy snows were reported in many areas of western Prince William Sound, along the warning level winds and local blizzards. Poor visibilities in snow (and presumably blowing snow) were reported in Thompson Pass also.

Event maxima...

Easterly 79 mph at Portage ASOS 5:22 am AST Thursday.

Max's Mountain and Alyeska recorded 111 mph winds on Thursday.

12-18 inches of snow fell around Silvertip through 1300 AST Thursday, with occasional whiteout conditions and 50 mph winds. Calls Friday to DOT revealed that they "were too busy cleaning up the mess to give a report".

Heavy snow and whiteout conditions were reported in Moose Pass Thursday late morning through afternoon.

2 - 6 inches of snow were reported around Seward.

13 - 19 inches of snow were reported at Alyeska.

At Cooper Landing, heavy snow and whiteout conditions with high winds were reported from Thursday morning through Thursday evening.

13 inches of new snow and '#poor visibilities' were observed by the DOT in Thompson Pass.

**AKZ181**

**Alaska Peninsula**

20	0930AST	0	0		<b>Blizzard</b>
21	0100AST				

A large low deepened and moved toward the Aleutians Monday morning, moving up the Aleutian Chain through Tuesday. Lowest central pressure was estimated at 952 mbs. Gusty north and northwest winds on back side of the storm produced blizzard conditions across parts of the Alaska Peninsula.

Event maxima...

Northwest wind gusts of 44 mph, temperature 26, visibility 1/4 mile at Cold Bay (ASOS) around 1200 AST Thu.

**AKZ111**

**Matanuska Valley**

20	1200AST	0	0		<b>Winter Storm</b>
	1500AST				

Pre-frontal, arctic air overrunning, brought briefly heavy snows to portions of the Matanuska Valley. Although the event appears to have lasted only 3 hours at the Palmer ASOS, blizzard conditions were met and likely existed in other areas of the zone.

Event maxima...

At Palmer ASOS, 1/4 mile heavy snow (likely blowing snow also) northerly gusts 35 mph between noon and 12:53 pm AST Thursday. Peak wind at the ASOS reached 38 mph several hours later.

**AKZ121-125**

**Kenai Peninsula - Wrn P.W. Snd & Kenai Mtns**

21	1600AST	0	0		<b>High Wind (G76)</b>	<sup>M</sup>
22	1200AST					

**AKZ131**

**Nern P.W. Snd**

22	0000AST	0	0		<b>Winter Storm</b>
	0900AST				

A strong 978 mb low 600 miles south of the Kenai Peninsula Friday morning, intensified to 970 mbs and moved across Homer early Saturday, weakening north northwest into the Alaskan interior thereafter.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Southern

storm.

Homer Electric reported several thousand homes across the Kenai Peninsula cut off from electric power Friday night and Saturday. By Monday evening, with temperatures close to zero, pipes in some homes were in danger of freezing. According to utility officials and several residents..."it was the worst combination of extensive outages and cold weather in recent memory".

Around the Kachemak Bay and southeast Cook Inlet area, the winds and heavy snow knocked down hundreds of trees...taking power lines down with them. Ten workers from Chugach Electric Association were dispatched to help 16 Homer Electric Association lineman repair the lines Saturday. Major problems were reported along North Fork Road near Anchor Point, with homes near Soldotna and Seldovia also affected.

Six days later, an emergency shelter was set up by the American Red Cross at the Homer Middle School to help about 16 people. On Thursday, about 150 homes were still without power, mostly those on the North Fork Road between Homer and Anchor Point. It was also reported that about a dozen or so families had been staying at Homer motels, courtesy of the Red Cross.

Along the North Fork Road, powerful winds tore a roof off a deck and peeled back the metal roofing from the home.

Event maxima...

125 - Seward ASOS peak southeast 67 mph 2:53 am AST Sat. Alyeska peak 88 mph Max's Mountain 0200 AST Sat. Portage ASOS peak 82 mph 1:53 am to 2:37 am AST Sat.

131 - Valdez reported peak east wind 31 mph 1:00 am AST Sat...indicating stronger winds in Thompson Pass. Heavy snow was reported in Thompson Pass (17 inches).

121 - "Winds up to 80 mph" reported by Joe Gallagher of Homer Electric Association.

### AKZ101

#### **Anchorage Muni To Bird Creek**

22	0200AST		0	0	<b>High Wind (G61)</b>
	0900AST				

A strong 970 mb low near Homer at 3 am Saturday moved north northwest into the Alaskan interior and began to weaken later in the day. Strong southeast winds were observed in parts of Anchorage with the system. Very strong pressure rises accompanied passage of the storm.

Again, Glen Alps handar observations were missing in the database, due to faulty modem. A call to the system via phone between 7 am and 8 am Saturday picked up gusts of 64 mph. Undoubtedly, stronger winds hit the area earlier, estimated at least 70 mph. This was the same storm that produced reported 80 mph winds around Homer.

Event maxima...

At least 64 mph from the southeast between 7:00 am and 8:00 am AST Saturday, 12/22/01.

### AKZ185-191-195

#### **Eastern Aleutians - Western Aleutians - Pribilof Islands**

23	0300AST		0	0	<b>High Wind (G78) <sup>M</sup></b>
24	1800AST				

### AKZ181

#### **Alaska Peninsula**

23	1200AST		0	0	<b>Winter Storm</b>
24	1600AST				

A strong north Pacific front, moving east and northeast across the Aleutians, was preceded by warning level east and southeast winds across the Aleutians, Pribilofs and Alaska Peninsula late Saturday through Monday morning. The parent low moved to just south of Adak with a 936 mb center Sunday afternoon, beginning to weaken 120 miles south of Umnak Island late Monday. Strong northwesterly winds were observed on the back side of the storm.

181 - Visibilities at Cold Bay were frequently 1/4 mile in heavy snow and blowing snow. By late Monday, the front had weakened enough to improve conditions. Reported conditions at Sand Point were not as bad, due to protected location of the AWOS.

185 - At Dutch Harbor, winds quickly hit warning levels around noon Sunday. Visibilities as low as 1/4 mile were reported frequently from noon to midnight Sunday. Conditions rapidly improved early Monday afternoon. Frontal passage was around 1 am Monday, however observer reported pre-frontal winds reached at least 90 mph from the east southeast Sunday evening.

191 - Adak reported pre-frontal winds of 60 mph Sunday morning at 3 am, peaking at 64 mph a few hours later at 5 am. Atka peaked at 68 mph at 4 am Sunday.

195 - Pribilofs experienced both wind and snow, reaching blizzard conditions at times. High winds were recorded from 4:53 pm Sunday through 5 am Monday. No reports on snowfall for the period. Worst visibilities reached 1/4 mile in blowing snow for several hours Monday afternoon and into Monday evening.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Southern

Event maxima...

- 181 - Southeast gust 58 mph at Cold Bay 6 am - 7 am AST Mon, 12/24/01
- 185 - East southeast gust 90 mph at Dutch Harbor airport 6:30 pm - 8:15 pm AST Sunday.
- 191 - Peak winds reached 68 mph at Atka 4 am AST Sunday.
- 195 - 69 mph gusts across the Pribilofs 9 -10 pm AST Sunday.

### AKZ121

#### Kenai Peninsula

23	1300AST 1600AST			1	0	0.50K	Avalanche
----	--------------------	--	--	---	---	-------	-----------

Russel Foster, Anchorage, his girlfriend and five other snowmachiners were with a group riding in the Chugach National Forest off Palmer Creek Road near the old Swetmann Mine Sunday. Sometime after 1 p.m., Foster, 35, headed up a slope above the rest of the riders, according to State trooper reports. A friend, Bobby Frankson, was below him when the snowpack on the side of the mountain let loose. The avalanche buried Foster. Frankson went for help. Snowmachiners found foster through a signal emitted by his avalanche beacon. The searchers used probe poles to identify his precise location, and dug Foster out from about 3.5 to 4 feet of hard packed snow. At least 30 minutes had elapsed since the avalanche. Two hours of CPR failed to revive Foster, who became the third avalanche fatality in Alaska this winter.

Conditions were prime for avalanches for several weeks. This mix of extreme cold, punctuated by several 'warm' storms, has made the snowpack especially unstable, according to avalanche experts. On the bottom is a layer of very weak sugary snow (faceted snow) that formed during the cold periods. Above that is heavier, denser snow that fell during the warmer periods, and wind packed snow. In between are thin layers of surface hoarfrost and ice. Forecasts adequately reflected weather that developed across the area. A message from a private avalanche group regarding avalanche classes at the beginning of January was broadcast on "Alaska Weather", NWS produced television show that is broadcast Statewide on public TV.  
M35OU

### AKZ145

#### Susitna Valley

24	1200AST 1800AST			1	0	0.50K	Avalanche
----	--------------------	--	--	---	---	-------	-----------

Dwayne Dufford, 30, was snowmachining with several friends Monday. He was buried by an avalanche sometime during the afternoon...exact details are currently unavailable. He was located via an avalanche beacon within 18 minutes of the avalanche, but had already succumbed to his injuries.

LOCATION: 20 miles west of Milepost 185 on the Parks Highway, near Cantwell, Alaska.  
M30OU

### AKZ121

#### Kenai Peninsula

25	0300AST			0	0		Winter Storm
26	2100AST						

### AKZ101-125-135

#### Anchorage Muni To Bird Creek - Wrn P.W. Snd & Kenai Mtns - Sern P.W. Snd

25	0335AST			0	0		High Wind (G93) <sup>M</sup>
28	0300AST						

A strong front, with several lows along it, moved toward Kodiak Island late Monday. The front moved slowly north Tuesday and Wednesday, finally extending from the northern Susitna Valley, north of Prince William Sound to near Cape Yakataga early Thursday in a weakened form. Locally strong east and southeast winds accompanied, and preceded, the front.

12/25/01 - Tuesday

125 - Portage recorded east gust 87 mph 11:35 am AST - 12:27 pm AST.

Alyeska reported peak winds of 99 mph at 3300' 9:15 am AST.

Winds gusting 30 - 50 mph from Bird Point to Girdwood.

Heavy rains (24 hr total 3.47") at Seward. Police reported heavy rain all morning...with frozen culverts causing standing water on roads and urban flooding. The ex-mayor reported a flooded basement.

101 - Moderate freezing rain in Anchorage/Eagle River area. Motorists were advised not to travel unless necessary Tuesday. Police responded to 10 minor crashes and 12 vehicles in distress along the Glenn Highway and in Eagle River. Some involved overturned vehicles...but no one was seriously injured Tuesday.

12/26/01 - Wednesday

125 - Alyeska - 5.30" rain at the base, 25" of snow at the top with peak winds 107 mph overnight.

Portage - east gust 81 mph 7:53 am AST.

Seward - another 5" rain, bringing total rainfall close to 9" for the two day period.

Moose Pass - Water up to the running boards on semis in the area.

135 - Cordova city estimated 65+ mph around 10 pm AST.

101 - Gust 97 mph Bear Valley at 3:55 am AST, along with 3.11 inches of rain in 24 hour period.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ALASKA, Southern

12/27/01 - Thursday  
101 - Glen Alps recorded southeast gust of 68 mph.

12/25-27  
121 - Freezing rain reported around Kachemak Bay early Tuesday. Storm sewers choked with rain runoff and icy side roads were a concern to Homer officials. 1699 households were without power for more than two hours Wednesday between Ninilchik and Anchor Point, according to Homer Electric Association. Roads were reported bad in Soldotna. Alaska State troopers reported blizzard conditions and avalanche danger in the Turnagain and Summit Passes of the Seward Highway. Worst driving conditions on the Kenai Peninsula were on the Sterling Highway around Cooper Landing, outside Sterling and in Kasilof. According to a news report, "Drivers crept along highways at speeds that would embarrass some joggers, and some still said they couldn't help nosing into the ditch." Undoubtedly Skilak Lake area received strong winds and heavy rains. Very heavy snows, in excess of 2', were reported at higher elevations.

125 - Alyeska closed at least for a day.

### AKZ185

#### Eastern Aleutians

27	0800AST 1500AST	0	0		High Wind (G56) <sup>M</sup>
----	--------------------	---	---	--	------------------------------

A small, arctic airmass low just south of Dutch Harbor at 3 pm Wednesday, moved southeast and merged with a 978 mb center 300 miles south of Sand Point Thursday.

Winds actually came up late Wednesday at the Dutch Harbor airport after the observer left for the evening. Without the augmented observations, which incorporate additional wind information, there was no direct indication of how strong winds really were. Visibilities, however, disappeared from the AWOS observations after the 1:15 am observation Thursday morning. The observer began again augmenting AWOS observations at 7:35 am Thursday, immediately appending wind gusts, close to 20 mph more than the automated system reported, at 59 mph. Peak winds at the site reached 64 mph at 9:15 am that morning, finally decreasing later in the day.

### AKZ185

#### Eastern Aleutians

28	0935AST 1130AST	0	0		High Wind (G70) <sup>M</sup>
----	--------------------	---	---	--	------------------------------

An arctic airmass low moved from the Pribilofs by Dutch Harbor Friday morning, accompanied by another round of strong northerly winds.

This particular arctic low just happened to pass a reporting station...again showing the potential for strong winds from these meso-scale systems. Peak winds reached 81 mph at 9:55 am AST at the Dutch Harbor airport.

### AKZ125-135

#### Wrn P.W. Snd & Kenai Mtns - Sern P.W. Snd

31	2000AST 2359AST	0	0		High Wind (G56) <sup>M</sup>
----	--------------------	---	---	--	------------------------------

A moderate front, approaching the area from the south and southeast, was accompanied by locally strong easterly winds. Estimated gusts of 60 mph blew around Cordova for several hours with the frontal passage. Gusts at the Portage ASOS reached 64 mph just before 3 am Tuesday.

## AMERICAN SAMOA

### Tutuila

#### Countywide

03 07	0900SST 0300SST	0	0	200K	High Surf Advisory
----------	--------------------	---	---	------	--------------------

High surf generated by an intense low pressure area far south of Samoa washed out a temporary access road at Avau Point which cost about \$200,000.00 to construct. This access road was constructed to divert traffic to allow the Department of Public Works to make permanent fixtue to the road damage by lad slide casued the the heavy showers in November. The exceptionally high surf were reported through out the south shores of the Tutuila. No othelr major damages were reported besides debris being washed onto the roads along lower coastal areas.

### Tutuila

#### Countywide

25 26	2345SST 2000SST	0	0		Urban/Sml Stream Fld
----------	--------------------	---	---	--	----------------------

### Manu'A

#### Countywide

26	0000SST 2300SST	0	0		Urban/Sml Stream Fld
----	--------------------	---	---	--	----------------------

An active trough of low pressure was oriented northwest to southeast about 200-300 miles to the north of Samoa through the last 10 days. Various tropical systems developed within this rough, with the first of these tropical depression began spreading showers over the territory on Christmas day with heavier showers arriving on the 26th. The thunderstorms with heavy showers caused flooding of streams. The overflow streams and heavy runoff flooded roads and low lying areas across the territory. Total rainfall from this

# Storm Data and Unusual Weather Phenomena

December 2001

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

## AMERICAN SAMOA

tropical depression was 3.61 inches with 2.79 inches, falling on Wednesday, December 26, 2001.

### **Tutuila**

<b>Countywide</b>	<b>26</b>	<b>1800SST</b>			<b>0</b>	<b>0</b>				<b>High Surf Advisory</b>
	<b>31</b>	<b>0000SST</b>								

High surf generated by Tropical Cyclone Waka started affecting the north shores of the territory Saturday evening. The high surf then came from the west and later from the south as Waka continued southward.

### **ASZ002>003**

#### **Tutuila - Manu'A**

	<b>29</b>	<b>0600SST</b>			<b>0</b>	<b>0</b>	<b>50K</b>	<b>70K</b>		<b>High Wind</b>
	<b>31</b>	<b>1500SST</b>								

A tropical depression which was located about 400 nautical miles northwest of Tutuila on the 26th of December, 2001, remained nearly stationary for two days before it became Tropical Cyclone Waka at 7 PM Friday, December 28, 2001. TC Waka became a hurricane on Saturday afternoon. TC Waka's closest point to American Samoa was about 250 miles on Sunday morning. The highest peak gust recorded at the Weather Station was 56 mph, at 12:30 am Monday. The \$50,000.00 property damage was due mainly to a home which was damaged when a tree fell on it. Damages to bread fruit trees and banana tree was estimated at about \$70,000.00 on both Tutuila and Manua combined.

## ARIZONA, Central and Northeast

### **AZZ008-015>016-018 Yavapai County Mountains - Western Mogollon Rim - Eastern Mogollon Rim - Northern Gila County**

	<b>04</b>	<b>0700MST</b>			<b>0</b>	<b>0</b>				<b>Heavy Snow</b>
	<b>05</b>	<b>0000MST</b>								

A Pacific storm system moved across Arizona with widespread snowfall above 5500 feet. The heaviest snowfall amounts were on the Mogollon Rim mainly south and southeast of Flagstaff. The greatest storm total amount was 13 inches in Happy Jack. Other amounts were: Bellemont, Flagstaff, Hart Prairie, and Christopher Creek each had 7 inches; Crown King 6 inches, Forest Lakes 5 inches, Munds Park 9 inches, Pine 6 inches, Mormon Lake 12 inches, and Strawberry 8 inches.

## ARIZONA, Northwest

NONE REPORTED.

## ARIZONA, South

### **AZZ035**

#### **Cochise County**

	<b>11</b>	<b>0800MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
	<b>12</b>	<b>1545MST</b>								

Texas Canyon received 4 inches of snow. Tombstone and Bisbee received 2 to 4 inches of snow, and Mescal received 1.5 inches of snow.

### **AZZ034**

#### **Santa Cruz County**

	<b>11</b>	<b>0800MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
	<b>12</b>	<b>1545MST</b>								

Nogales received 2 to 4 inches of snow, while Rio Rico received 3 inches and Sonoita received 4 inches of snow.

### **AZZ033**

#### **Tucson Metro/Marana/Green Valley**

	<b>11</b>	<b>0800MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
	<b>13</b>	<b>0800MST</b>								

Kitt Peak received 6 inches of snow, while Mt Lemmon received 18 inches of snow. Vail received only 1 inch of snow through the event on the 11th through the 12th. On the morning of the 13th, there were over 30 traffic accidents and over a dozen road closures of heavily traveled bridges in the Tucson metro area. These closures were due to frost and black ice that had formed overnight. There was also a 15 mile backup on Interstate 10 between Marana and Tucson.

### **AZZ029**

#### **Southeast Pinal County**

	<b>11</b>	<b>0800MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
	<b>12</b>	<b>1545MST</b>								

Oracle received 4 to 6 inches of snow. Highway 77 was quickly covered with ice which made travel difficult on the 11th.

### **AZZ019**

#### **Northern Greenlee**

	<b>11</b>	<b>0800MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
	<b>12</b>	<b>1545MST</b>								

Hannagan Meadow received 20 inches of snow. Blue school received 5 inches and Rose Peak received 3 to 5 inches of snow. This low pressure system affected southeast Arizona from December 10th through the morning of the 13th. The storm originated over the Gulf of Alaska and dropped into southeast California on the morning of the 10th. This brought 40 to 50 mph wind gusts through all portions of county warning area except western Pima county. On the 11th, heavy precipitation began as the short wave moved across southern Arizona. Mountain snowfall rates increased to 3 inches per hour and snow levels dropped to 3000 feet. Rain

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ARIZONA, South

black ice developed over the bridges on the morning of the 13th causing traffic problems in the greater Tucson area.

## ARIZONA, Southwest

### **Maricopa County**

<b>Phoenix to 25 E Phoenix</b>	<b>04</b>	<b>0900MST 1600MST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
------------------------------------	-----------	----------------------------	--	--	----------	----------	--	--	-----------------------------

Locally heavy rainfall, with amounts up to 1.4 inches, spread across much of the East Valley during the day. Minor street flooding was reported as well as pea-size hail in Ahwatukee and Chandler.

## ARKANSAS, Central and North Central

### **Saline County**

<b>1 N Owensville to 1 NNE Owensville</b>	<b>07</b>	<b>1725CST 1726CST</b>	<b>0.3</b>	<b>25</b>	<b>0</b>	<b>0</b>			<b>Tornado (F0)</b>
---	-----------	----------------------------	------------	-----------	----------	----------	--	--	---------------------

A weak tornado (F0) briefly touched down about 1 mile north of Owensville in western Saline County. The tornado caused some minor property damage at a residence on a hilltop and clipped some treetops before it dissipated.

### **Pulaski County**

<b>3 SE Ferndale to 5 SW Maumelle</b>	<b>07</b>	<b>1816CST 1824CST</b>	<b>5</b>	<b>25</b>	<b>0</b>	<b>0</b>			<b>Tornado (F0)</b>
---	-----------	----------------------------	----------	-----------	----------	----------	--	--	---------------------



*A weak tornado (F0) downed at least a dozen pine trees about 3 miles southeast of Ferndale in western Pulaski County on 12/07/2001. A couple of the trees fell on a house, with minor structural damage noted.*

The storm that produced a weak tornado in western Saline County just north of Owensville spawned yet another weak tornado (F0) in western Pulaski County. The tornado touched down about 3 miles southeast of Ferndale and tracked northeast. The tornado mostly affected areas on hilltops, with trees uprooted and falling on at least one house. Some structural damage resulted at the home, with the roof mainly affected. The tornado dissipated roughly 5 miles southwest of Maumelle.

### **Pulaski County**

<b>6 NE Macon to 8 NE Macon</b>	<b>07</b>	<b>1920CST 1925CST</b>	<b>2</b>	<b>25</b>	<b>0</b>	<b>0</b>			<b>Tornado (F0)</b>
-------------------------------------	-----------	----------------------------	----------	-----------	----------	----------	--	--	---------------------

The storm that produced a weak tornado in western Pulaski County spawned another tornado in northeast sections of the county. The tornado (F0) touched down 6 miles northeast of Macon and had difficulty reaching the ground. Damage mostly consisted of tree tops, power lines and power poles...with some power outages occurring. The tornado moved 2 miles before crossing into Lonoke County.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ARKANSAS, Central and North Central

### **Lonoke County**

4 WNW Cabot to  
3 WNW Ward

07	1925CST 1937CST	5	25	0	0	<b>Tornado (F0)</b>
----	--------------------	---	----	---	---	---------------------

The weak tornado (F0) that was produced in northeast Pulaski County crossed into northwest Lonoke County about 4 miles west-northwest of Cabot. The tornado had difficulty reaching the ground and skipped at times. Damage mostly consisted of tree tops, power lines and power poles...with some power outages occurring. The tornado dissipated around 3 miles west-northwest of Ward.

### **White County**

3 N Beebe to  
2 N Garner

07	1953CST 2008CST	6	25	0	0	<b>Tornado (F0)</b>
----	--------------------	---	----	---	---	---------------------

The storm that produced a weak tornado in northwest Lonoke County spawned another weak tornado in White County. The tornado (F0) touched down about 3 miles north of Beebe and tracked northeast. The tornado had difficulty reaching the ground and skipped at times. Damage mostly consisted of tree tops, power lines and power poles...with some power outages occurring. The tornado moved 6 miles before dissipating around 2 miles north of Garner.

### **Desha County**

Dumas

12	1315CST 1600CST			0	0	<b>Flash Flood</b>
----	--------------------	--	--	---	---	--------------------

Heavy rains caused flash flooding in Dumas. Numerous streets were under water for several hours.

### **Bradley County**

Countywide

13	1230CST 1530CST			0	0	<b>Flash Flood</b>
----	--------------------	--	--	---	---	--------------------

### **Desha County**

Countywide

13	1230CST 1530CST			0	0	<b>Flash Flood</b>
----	--------------------	--	--	---	---	--------------------

### **Drew County**

Countywide

13	1230CST 1530CST			0	0	<b>Flash Flood</b>
----	--------------------	--	--	---	---	--------------------

Additional heavy rains fell over saturated ground across Southeast Arkansas. This resulted in more flash flooding over the region. A number of roads were covered by high water for several hours until the rainfall diminished.

### **Johnson County**

Countywide

16	1330CST			0	0	<b>Flash Flood</b>
17	0230CST					

### **Logan County**

Countywide

16	1330CST			0	0	<b>Flash Flood</b>
17	0230CST					

### **Montgomery County**

Countywide

16	1330CST			0	0	<b>Flash Flood</b>
17	0230CST					



# Storm Data and Unusual Weather Phenomena

December 2001

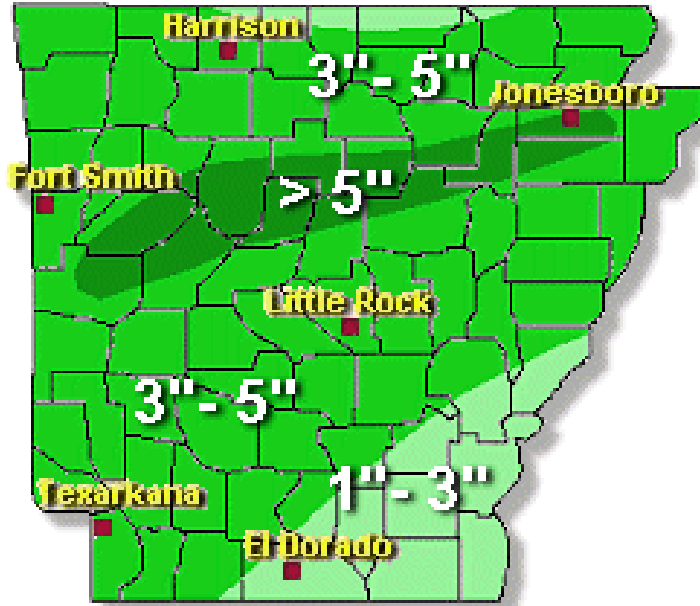
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
					Killed	Injured	Property
							Crops

## ARKANSAS, Central and North Central

### **Polk County**

Countywide

	16	1330CST			0	0	
	17	0230CST					<b>Flash Flood</b>



*Over 5 inches of rain fell across portions of northern and western Arkansas on December 16-17, 2001...with widespread flash flooding reported.*

### **Scott County**

Countywide

	16	1330CST			0	0	
	17	0230CST					<b>Flash Flood</b>

### **Yell County**

Countywide

	16	1330CST			0	0	
	17	0230CST					<b>Flash Flood</b>

Widespread heavy rains fell from the afternoon of the 16th through the early morning hours of the 17th. Between 3 and 5 inches of rainfall (with locally heavier amounts) over a 36 hour period was common across northern and western Arkansas. The heavy rains resulted in flash flooding over a large part of the region. Numerous county roads were flooded or washed out. A number of homes and businesses also sustained damage from the high flood waters.

### **Newton County**

Countywide

	16	1530CST			0	0	
	17	0300CST					<b>Flash Flood</b>

### **Pope County**

Countywide

	16	1530CST			0	0	
	17	0300CST					<b>Flash Flood</b>

### **Searcy County**

Countywide

	16	1530CST			0	0	
	17	0300CST					<b>Flash Flood</b>

Heavy rains fell across the area from the 16th through the morning hours of the 17th. Between 3 and 5 inches of rain occurred which resulted in widespread flash flooding. Numerous county roads were flooded and some homes and businesses also sustained damage from the high water.

### **Garland County**

Countywide

	16	1830CST			0	0	
	17	0230CST					<b>Flash Flood</b>

### **Clark County**

Countywide

	16	1900CST			0	0	
	17	0230CST					<b>Flash Flood</b>

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ARKANSAS, Central and North Central</b>									
<b>Dallas County</b>									
Dalark	16	1910CST			0	0			Flash Flood
	17	0230CST							
<b>Faulkner County</b>									
Countywide	16	1913CST			0	0			Flash Flood
	17	0230CST							
<b>Baxter County</b>									
Countywide	16	1920CST			0	0			Flash Flood
	17	0230CST							
<b>Boone County</b>									
Countywide	16	1940CST			0	0			Flash Flood
	17	0230CST							
<b>Grant County</b>									
Countywide	16	2000CST			0	0			Flash Flood
	17	0230CST							
<b>Marion County</b>									
Countywide	16	2000CST			0	0			Flash Flood
	17	0230CST							
<b>Fulton County</b>									
Countywide	16	2004CST			0	0			Flash Flood
	17	0230CST							
<b>Pulaski County</b>									
Countywide	16	2010CST			0	0			Flash Flood
	17	0230CST							



*Arkansas Highway 7 was under water at a railroad underpass in Arkadelphia (Clark County) on 12/17/2001.*

**Hot Spring County**

Countywide	16	2050CST			0	0			Flash Flood
	17	0230CST							

**Saline County**

North Portion	16	2050CST			0	0			Flash Flood
	17	0230CST							

Heavy rains occurred over much of Arkansas from the 16th through the early morning hours of the 17th. Between 2 and 4 inches of rain fell across the region, with some areas seeing over 5 inches of rainfall. This resulted in widespread flash flooding with many roads covered by high water. Numerous homes and businesses were also damaged by high flood waters.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ARKANSAS, Central and North Central

### Conway County

Countywide	16	2000CST			0	0	
	17	0300CST					Flash Flood

### Perry County

Countywide	16	2000CST			0	0	
	17	0300CST					Flash Flood

### Van Buren County

Countywide	16	2100CST			0	0	
	17	0300CST					Flash Flood

### Stone County

Mountain View	16	2110CST			0	0	
	17	0300CST					Flash Flood

### Cleburne County

Countywide	16	2115CST			0	0	
	17	0300CST					Flash Flood

### Independence County

Countywide	16	2130CST			0	0	
	17	0300CST					Flash Flood

### Izard County

Countywide	16	2130CST			0	0	
	17	0300CST					Flash Flood

### Sharp County

Countywide	16	2130CST			0	0	
	17	0300CST					Flash Flood

### Lonoke County

Countywide	16	2145CST			0	0	
	17	0400CST					Flash Flood

### White County

Countywide	16	2145CST			0	0	
	17	0300CST					Flash Flood

### Pike County

Countywide	16	2150CST			0	0	
	17	0300CST					Flash Flood

### Jackson County

Countywide	16	2200CST			0	0	
	17	0300CST					Flash Flood

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ARKANSAS, Central and North Central

### **Woodruff County**

Countywide	16	2230CST			0	0			<b>Flash Flood</b>
	17	0300CST							



*Sandbagging was necessary to hold back flood waters on Jackson County Road 82 (north of Grubbs) on 12/18/2001.*

Heavy rains, amounting to between 2 and 4 inches, fell across the area from the late afternoon hours on the 16th through early on the 17th. This resulted in widespread flash flooding in many areas. Numerous county roads were flooded for several hours. A number of homes also sustained damage from the flood waters.

### **Prairie County**

Hazen	17	0040CST			0	0			<b>Flash Flood</b>
		0400CST							

### **Jefferson County**

Countywide	17	0045CST			0	0			<b>Flash Flood</b>
		0400CST							

### **Calhoun County**

Hampton	17	0059CST			0	0			<b>Flash Flood</b>
		0400CST							

### **Arkansas County**

Countywide	17	0100CST			0	0			<b>Flash Flood</b>
		0400CST							

### **Cleveland County**

Countywide	17	0100CST			0	0			<b>Flash Flood</b>
		0400CST							

### **Monroe County**

Countywide	17	0100CST			0	0			<b>Flash Flood</b>
		0400CST							

### **Bradley County**

Countywide	17	0130CST			0	0			<b>Flash Flood</b>
		0430CST							

### **Lincoln County**

Countywide	17	0130CST			0	0			<b>Flash Flood</b>
		0430CST							

### **Desha County**

Countywide	17	0200CST			0	0			<b>Flash Flood</b>
		0430CST							

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ARKANSAS, Central and North Central

### Drew County

Countywide	17	0200CST 0430CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy rains fell over much of southeast Arkansas from the evening hours on the 16th through early on the 17th. Between 2 and 4 inches of rain fell which resulted in flash flooding. Numerous county roads were covered by high water. A number of homes and businesses also sustained damage from the flood waters.

### Drew County

15 ESE Monticello	22	2000CST 2200CST			0	0			<b>Flash Flood</b>
-------------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy rains resulted in flash flooding over parts of Drew County. Highway 35 between Monticello and Dermott was covered by high water for several hours.

## ARKANSAS, East

### Crittenden County

West Memphis	12	1450CST 1830CST			0	0	1K		<b>Urban/Sml Stream Fld</b>
--------------	----	--------------------	--	--	---	---	----	--	-----------------------------

Some roads had water over them.

### ARZ008>009-017>018-027>028-048 Randolph - Clay - Lawrence - Greene - Poinsett - Mississippi - St. Francis

	17	0015CST			0	0	110K		<b>Flood</b>
	18	2359CST							

Heavy rains produced widespread flooding over northeast Arkansas. Some homes were flooded. Several bridges were washed out and a few persons were evacuated.

## ARKANSAS, Northwest

### Madison County

5 S Kingston	16	0300CST 0500CST			0	0			<b>Flash Flood</b>
--------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused water to flow over a county road five miles south of Kingston.

### Carroll County

5 S Berryville	16	0400CST 0530CST			0	0			<b>Flash Flood</b>
----------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused water to flow over a county road five miles south of Berryville.

### Carroll County

East Portion	16	1825CST 2130CST			0	0			<b>Flash Flood</b>
--------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused several county roads and streets to be flooded in and around Green Forrest.

### Crawford County

Countywide	16	1855CST 1930CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused numerous county roads to be flooded across Crawford County.

### Sebastian County

West Central Portion	16	1900CST 2000CST			0	0			<b>Flash Flood</b>
----------------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused several county roads near Hackett to be flooded.

### Madison County

Countywide	16	2030CST 2200CST			0	0	50K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	-----	--	--------------------

Heavy thunderstorm rains caused numerous county roads across Madison County to be flooded. A few of the roads and their bridges were washed out.

### Franklin County

Southeast Portion	16	2035CST			0	0	50K		<b>Flash Flood</b>
-------------------	----	---------	--	--	---	---	-----	--	--------------------

Heavy thunderstorm rains caused several county roads to be washed out south of Altus.

## ARKANSAS, Southeast

### Ashley County

Countywide	12	1325CST 1530CST			0	0	5K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	----	--	--------------------

County road 12 was completely submerged in water in spots. Due to the standing water, many roads had to be repaired afterwards.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ARKANSAS, Southeast

### **Chicot County**

<b>Countywide</b>	12	1340CST 1600CST			0	0	5K		<b>Flash Flood</b>
-------------------	----	--------------------	--	--	---	---	----	--	--------------------

Upwards to 5 inches of rain fell over the county flooding several roads. Numerous roads reported completely underwater and in need of repair. Schools were also forced to close down.

### **Chicot County**

<b>Countywide</b>	13	1035CST 1700CST			0	0			<b>Flash Flood</b>
-------------------	----	--------------------	--	--	---	---	--	--	--------------------

Additional, heavy rainfall resulted in several roads flooding once again. This aggravated ongoing flood problems.

### **Ashley County**

<b>Countywide</b>	13	1230CST 1700CST			0	0			<b>Flash Flood</b>
-------------------	----	--------------------	--	--	---	---	--	--	--------------------

Roads reported flooded again due to another round of heavy rainfall.

### **Ashley County**

<b>Milo</b>	17	0055CST			0	0			<b>Flash Flood</b>
-------------	----	---------	--	--	---	---	--	--	--------------------

Highway 189 near town flooded due to heavy rainfall.

## ARKANSAS, Southwest

### **Union County**

<b>El Dorado</b>	12	1655CST			0	0			<b>Flash Flood</b>
------------------	----	---------	--	--	---	---	--	--	--------------------

South Jackson Road south of town was closed due to high water.

### **Union County**

<b>Strong</b>	12	1655CST			0	0			<b>Flash Flood</b>
---------------	----	---------	--	--	---	---	--	--	--------------------

Oarkland road near strong was closed due to high water.

### **Miller County**

<b>Texarkana</b>	15	1930CST			0	0			<b>Flash Flood</b>
------------------	----	---------	--	--	---	---	--	--	--------------------

Numerous roads closed and flooded throughout town.

### **Little River County**

<b>1 S Ashdown</b>	16	1905CST			0	0			<b>Flash Flood</b>
--------------------	----	---------	--	--	---	---	--	--	--------------------

U.S. Hwy 71 closed from high water. Numerous cars stalled out in the flooded roads.

### **Lafayette County**

<b>Lewisville</b>	16	2110CST 2300CST			0	0			<b>Flash Flood</b>
-------------------	----	--------------------	--	--	---	---	--	--	--------------------

U.S. Highway 29 and 82 were closed from flash flooding.

### **Miller County**

<b>Texarkana</b>	16	2110CST			0	0			<b>Flash Flood</b>
------------------	----	---------	--	--	---	---	--	--	--------------------

Numerous streets were closed and cars stalled in high water.

### **Columbia County**

<b>3 W Waldo</b>	16	2255CST			0	0			<b>Flash Flood</b>
------------------	----	---------	--	--	---	---	--	--	--------------------

Numerous roads were flooded and closed to traffic.

## ATLANTIC OCEAN

### **De Bay Waters S Of E**

### **Pt Nj To Slaughter**

### **Beach De**

<b>Lewes De to North Cape May</b>	18	0844EST			0	0	0		<b>Marine Tstm Wind</b>
---------------------------------------	----	---------	--	--	---	---	---	--	-------------------------

A line of showers preceding a cold front produced wind gusts to 60 knots or 69 mph as the Cape May-Lewes Ferry was crossing Delaware Bay and 52 knots or 60 mph in Cape May, New Jersey.

### **Cp Henlopen To**

### **Fenwick Is De Out**

### **20Nm**

<b>18 E Fenwick Island</b>	18	0900EST			0	0	0		<b>Marine Tstm Wind</b>
----------------------------	----	---------	--	--	---	---	---	--	-------------------------

A line of showers preceding a cold front produced wind gusts to 47 knots or 54 mph at the Delaware Bay Buoy.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, Extreme Southeast

NONE REPORTED.

## CALIFORNIA, North Central

NONE REPORTED.

## CALIFORNIA, Northeast

**CAZ072-072**

**Greater Lake Tahoe Area**

01	0530PST	0	0	0					
02	0700PST								<b>Heavy Snow</b>

Several ski areas reported heavy snow. Kirkwood Ski area reported 24 inches of snow in 24 hours at 7800 feet. Boreal Ski area reported 12-18 inches of snow in 24 hours at 8200 feet.

**CAZ071**

**Lassen/Eastern Plumas/Eastern Sierra**

01	0845PST	0	0	0					
									<b>High Wind (G56) <sup>M</sup></b>

The RAWS sensor in Doyle recorded a wind gust to 64 mph.

**CAZ072**

**Greater Lake Tahoe Area**

01	2110PST	0	0	0					
02	0910PST								<b>Heavy Snow</b>

Tahoe Donner ski area reported 12 inches of snow in 12 hours at 6500 feet.

**CAZ072**

**Greater Lake Tahoe Area**

01	2130PST	0	0	0					
02	0930PST								<b>Heavy Snow</b>

Northstar at Tahoe ski area reported 10 inches of snow at 7300 feet and 20 inches of snow at 8600 feet in 12 hours.

**CAZ071**

**Lassen/Eastern Plumas/Eastern Sierra**

01	2230PST	0	0	0					
02	2230PST								<b>Heavy Snow</b>

Spotter report of 20 inches of snow in 24 hours at 5100 feet in Westwood.

**CAZ072-072-072**

**Greater Lake Tahoe Area**

02	0454PST	0	0	0					
03	0500PST								<b>Heavy Snow</b>

Several ski resorts reported heavy snow. Kirkwood had 42 inches in 24 hours at 7800 feet for a storm total of 5.5 feet. Alpine Meadows had 12 inches in 12 hours at 7200 feet and 17 inches in 12 hours at 8600 feet. Northstar at Tahoe reported 28 inches of snow in 24 hours at 8600 feet for a storm total of 42 inches.

**CAZ073**

**Mono**

02	1047PST	0	0	0					
									<b>High Wind (G50) <sup>M</sup></b>

Spotter report of wind gust to 58 mph in Walker.

**CAZ073**

**Mono**

02	2035PST	0	0	0					
03	0535PST								<b>Heavy Snow</b>

Spotter report of 15 inches of snow in 9 hours at 7500 feet in Mammoth Lakes.

**CAZ072**

**Greater Lake Tahoe Area**

04	2120PST	0	0	0					
05	2120PST								<b>Heavy Snow</b>

California Department of Transportation reported 14 inches of snow in 24 hours at 6118 feet.

**CAZ071**

**Lassen/Eastern Plumas/Eastern Sierra**

05	1220PST	0	0	0					
									<b>High Wind (G57) <sup>M</sup></b>

Spotter report of wind gusting between 51 and 66 mph in Doyle.

**CAZ072**

**Greater Lake Tahoe Area**

05	1400PST	0	0	0					
									<b>High Wind (G95) <sup>M</sup></b>

An automated sensor on Ward Peak recorded sustained winds of 60-70 mph and gusting to 109 mph.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>CALIFORNIA, Northeast</b>									
<b>CAZ071</b>		<b>Lassen/Eastern Plumas/Eastern Sierra</b>							
	08	2015PST			0	0	0		<b>Heavy Snow</b>
	09	0815PST							
	California Department of Transportation reported 3-4 inches of snow on Fredonyer Pass (elevation 5748 feet) and up to one foot on Highway 44 in 12 hours.								
<b>CAZ072-072-072-072-072-072-072</b>		<b>Greater Lake Tahoe Area</b>							
	13	1800PST			0	0	0		<b>Heavy Snow</b>
	14	0630PST							
<b>CAZ071-071</b>		<b>Lassen/Eastern Plumas/Eastern Sierra</b>							
	13	1910PST			0	0	0		<b>Heavy Snow</b>
	14	1015PST							
	Several spotters reported heavy snow in a 15 hour period. Northern Sierra Valley had 12 inches at 4900 feet and Portola reported 12 inches at 4860 feet.								
<b>CAZ072</b>		<b>Greater Lake Tahoe Area</b>							
	13	1920PST			0	0	0		<b>Heavy Snow</b>
	14	1020PST							
	A spotter in the Tahoe/Donner area reported 12 inches of snow in 15 hours at 6500 feet.								
<b>CAZ073</b>		<b>Mono</b>							
	13	2030PST			0	0	0		<b>Heavy Snow</b>
	14	0830PST							
	Mammoth Ski Area reported 8 inches of snow at 8900 feet and 18 inches of snow above 9000 feet in 12 hours.								
<b>CAZ072-072</b>		<b>Greater Lake Tahoe Area</b>							
	13	2100PST			0	0	0		<b>High Wind (G74) <sup>M</sup></b>
		2125PST							
	Spotters in South Lake Tahoe and at Tahoe-Donner reported high wind gusts. At South Lake there was a wind gust of 80 mph and at Tahoe-Donner the wind was gusting to 60 mph reducing visibility to 50 feet and creating near blizzard conditions.								
<b>CAZ073</b>		<b>Mono</b>							
	14	0015PST			0	0	0		<b>High Wind (G52) <sup>M</sup></b>
	A spotter in Crowley Lake reported a wind gust to 61 mph.								
<b>CAZ073</b>		<b>Mono</b>							
	15	0143PST			0	0	0		<b>High Wind (G57) <sup>M</sup></b>
	A RAWS automated station recorded a wind gust of 66 mph in Crestview								
<b>CAZ072-072-072-072</b>		<b>Greater Lake Tahoe Area</b>							
	16	2145PST			0	0	0		<b>Heavy Snow</b>
	17	1240PST							
	Several spotters in the Truckee area reported heavy snow. At 5840 feet 10 inches feet in 12 hours. A spotter at 6350 feet reported 9-10 inches in 10 hours. Another spotter at 6500 feet had 8-12 inches in 12 hours. The California Department of Agriculture Inspection station reported 8-9 inches in 12 hours at 6350 feet.								
<b>CAZ071-071-071</b>		<b>Lassen/Eastern Plumas/Eastern Sierra</b>							
	16	2230PST			0	0	0		<b>Heavy Snow</b>
	17	1220PST							
	There were several reports of heavy snow in a 12 hour period. In Westwood 6 inches fell at 5500 feet and in Graeagle 6 inches fell at 4300 feet. The California Department of Transportation reported 12 inches at Yuba Pass (elevation 6780 feet).								
<b>CAZ072-072</b>		<b>Greater Lake Tahoe Area</b>							
	17	0200PST			0	0	0		<b>Heavy Snow</b>
		0900PST							
	Several ski resorts reported heavy snow. Alpine Meadows had 7 inches in 6 hours at 6500 feet and Squaw Valley reported 8 inches in 5 hours at 6200 feet.								
<b>CAZ071-071-071-071</b>		<b>Lassen/Eastern Plumas/Eastern Sierra</b>							
	19	2030PST			0	0	0		<b>Heavy Snow</b>
	20	0910PST							
	There were several reports of heavy snow in a 12 hour period. A spotter in Westwood reported 6 inches at 5100 feet. Graeagle reported 8 inches at 4300 feet and Portola reported 6 inches at 5000 feet. California Department of Transportation reported 6-8								



# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, Northeast

inches at 4950 feet in Sierraville.

**CAZ072-072-072**

**Greater Lake Tahoe Area**

19	2042PST				0	0	0		
20	0845PST								<b>Heavy Snow</b>

Several spotters reported heavy snow in a 12 hour period. South Lake Tahoe had 6-8 inches at 6230 feet, Kingvale had 11 inches at 6118 feet, and Northstar at Tahoe had 12 inches at 6330 feet.

**CAZ072**

**Greater Lake Tahoe Area**

20	0450PST				0	0	0		
21	0450PST								<b>Heavy Snow</b>

Kirkwood Ski Area reported 24 inches of snow in 24 hours at 7600 feet.

**CAZ073**

**Mono**

29	0630PST				0	0	0		
30	0630PST								<b>Heavy Snow</b>

Mammoth Ski Area reported 18 inches of snow in 24 hours at 8000 feet.

## CALIFORNIA, Northwest

**CAZ001**

**Redwood Coast**

05	1100PST				0	0			
06	1500PST								<b>Flood</b>

Flooding along Freshwater Creek, Jacoby Creek, and the Elk River.

**CAZ004**

**Upper Trinity River**

13	1500PST				0	0			
14	0900PST								<b>Heavy Snow</b>

Up to 10 inches of snow fell above 2500 feet elevation.

**CAZ001**

**Redwood Coast**

14	0304PST				0	0			
	0700PST								<b>High Wind (G54) <sup>M</sup></b>

**CAZ004**

**Upper Trinity River**

16	1900PST				0	0			
17	0300PST								<b>Heavy Snow</b>

About 8 inches of snow fell above 4500 feet elevation.

**CAZ001**

**Redwood Coast**

18	0900PST				0	0			
	1100PST								<b>High Wind (G51) <sup>M</sup></b>

**CAZ001**

**Redwood Coast**

27	1200PST				0	0			
	1700PST								<b>High Wind (G58) <sup>M</sup></b>

## CALIFORNIA, South Central

**CAZ093-096>097**

**S Sierra Foothills - S Sierra Mtns - Tulare Cty Mtns**

01	1800PST				0	0			
03	0400PST								<b>Winter Storm</b>

**CAZ095**

**Kern Cty Mtns**

02	1200PST				0	0			
	2300PST								<b>Snow</b>

A major winter storm provided significant snowfall amounts to relatively low levels in the Southern Sierra Nevada of Interior Central California: Yosemite Valley received 7" of snow in less than 10 hours; Gin Flat at 7000' in the South Sierra had 50" in 34 hours with other reported amounts varying from 32-53"; Big Meadows at 7600' in the Tulare County Mountains received 31" in 20 hours with other amounts ranging from 17 to 31." Alta Sierra in the Kern Mountains received 7" during the episode. Valley rainfall included 0.54" at Merced. Bass Lake had 1.27" of rain with Shaver Lake receiving 1.79" during the event at lower mountain elevations. Gusty wind accompanying the front downed some power lines for customers in the Oakhurst and Fish Camp areas of the S.Sierra.

**CAZ089>091**

**W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley**

02	0730PST				0	0			
	1730PST								<b>Wind</b>

Gusty south wind on the San Joaquin Valley was measured to 50 MPH at the Los Banos RAWS, 30 KTS at the Merced ASOS, and to 48 MPH at the Kettleman RAWS prior to frontal passage (FROPA) on the 2nd. Wind to 30 KTS occurred with FROPA at Merced

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, South Central

around 1700 PST as wind switched from south to west (and eventually northwest).

**CAZ089>092**

**W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley - Se S.J. Valley**

07	2300PST	0	0		Fog
08	1200PST				

Rather persistent fog formed around midnight in the Central and South San Joaquin Valley leading to widespread visibilities less than 1/4mile and locally as low as 200 feet.

**CAZ095-098>099**

**Kern Cty Mtns - Indian Wells Vly - Se Kern Cty Desert**

10	0900PST	0	0		Wind
	2030PST				

Within Kern County Mountains and Deserts northwest wind reached speeds of 55 KTS at Mojave, 50 MPH at Indian Wells Canyon, and 32 KTS at the Tehachapi Gliderport around mid-day on the 10th.

**CAZ089>092**

**W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley - Se S.J. Valley**

11	0400PST	0	0		Frost
12	0800PST				

Two consecutive mornings of frost on the Central and Southern San Joaquin Valley floor saw minimum temperatures generally around 30F with outlying areas at 28F and only the coldest, small pockets briefly touching 27F. No damage to the area citrus.

**CAZ096>097**

**S Sierra Mtns - Tulare Cty Mtns**

14	0000PST	0	0		Winter Storm
	1600PST				

**CAZ098>099**

**Indian Wells Vly - Se Kern Cty Desert**

14	0713PST	0	0		High Wind (G80) <sup>M</sup>
	2315PST				

**CAZ095**

**Kern Cty Mtns**

14	0953PST	0	0		Wind
	2359PST				

A classic winter storm moved through Central California on the 14th marked by substantial snowfall and high wind. In the higher elevations of the Southern Sierra Ostrander Lake received 23" of snow in 16 hours, while Chagoopa Plateau had 13" in less than 10 hours. Indian Wells Canyon recorded wind gusts to 63 KTS while Mojave Airport reached 80 KTS in the Kern County Deserts. Sandberg Weather Station had wind to 45 MPH in the Tehachapi Mountains.

**CAZ089>092**

**W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley - Se S.J. Valley**

16	0200PST	0	0		Frost
	0800PST				

Following the morning of the 15th when a few minimum temperatures were reported around 30 degrees, temperatures were rather consistent on the Central and South San Joaquin Valley floor on the morning of the 16th as minimums ranged from 28-32F with only a few isolated areas dropping lower than that range. No damage on the local citrus reported. Durations below 32F were close to 10 hours.

**CAZ089>090**

**W Central S.J. Valley - E Central S.J. Valley**

18	0530PST	0	0		Fog
	0930PST				

California Highway Patrol reported visibilities of 200-500 feet in Merced, Madera, and Fresno Counties.

**CAZ089>092**

**W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley - Se S.J. Valley**

18	1921PST	0	0		Fog
19	1135PST				

Particularly dense and early-forming fog was noted on the evening of the 18th through much of the morning of the 19th. Visibilities were less than 1/4 mile throughout the Central and Southern San Joaquin Valley.

**CAZ093>094-096>097**

**S Sierra Foothills - Tulare Cty Foothills - S Sierra Mtns - Tulare Cty Mtns**

19	2200PST	0	0		Winter Storm
21	1000PST				

**CAZ098>099**

**Indian Wells Vly - Se Kern Cty Desert**

20	1021PST	0	0		Wind
	1840PST				

Lodgepole reported 15" and Giant Forest with 16" of new snow in the Tulare County Mountains while Upper Burnt Corral in the Southern Sierra had 20." Park Service reported 9" new snow in Yosemite Valley and 8" from Sequoia Dispatch with snow levels as low as 2500 feet MSL in the foothills in Mariposa County and 3000 feet in the Tulare County foothills. With the episode, gusty wind was reported in the Kern County Desert areas with Government Peak measuring 54 MPH during the afternoon of the 20th.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, South Central

### **CAZ089>092 W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley - Se S.J. Valley**

24	0236PST				0	0			Fog
26	1100PST								

Consecutive mornings from the 24th through the 26th had reports of widespread dense fog in the Central and Southern San Joaquin Valley. Visibility was described as "critical" on the morning of the 25th and as low as 100 feet on the 26th in the South Valley in the vicinity of Bakersfield.

### **CAZ096>097 S Sierra Mtns - Tulare Cty Mtns**

28	1600PST				0	0			Winter Storm
29	1400PST								

Although snow levels were quite high (above 8500 feet MSL), snow amounts were quite significant such as the 36" of new snow at Wet Meadows in Tulare County and 31" at West Woodchuck Meadow in the Southern Sierra.

### **CAZ096>097 S Sierra Mtns - Tulare Cty Mtns**

30	1600PST				0	0			Winter Storm
31	0300PST								

A fast moving winter frontal passage deposited significant amounts of snow in less than 12 hours at only the high elevations of the Southern Sierra Nevada. Mitchell Meadow in the S.Sierra had 19" of new snow in 9 hours while Wet Meadows in Tulare County had 28" in 11 hours. Lodgepole received 0.94" of rain on Sunday the 30th (right at the snow line). Valley rainfall amounts: Exeter 1.44", Visalia 1.08", Fresno 0.63", and Porterville 0.43". While November and December were much above normal in precipitation for Interior Central California, Northern California indices showed rainfall at 152% of average-to-date.

## CALIFORNIA, Southeast

### **CAZ026 Owens Valley**

14	0810PST				0	0			High Wind (G80)
----	---------	--	--	--	---	---	--	--	-----------------

Very strong winds were reported in the town of Aspendell by a trained spotter. His wind equipment was destroyed by the winds and the house shook for several hours. He estimated wind speeds over 90 mph.

## CALIFORNIA, Southwest

### **CAZ055-058 San Bernardino County Mountains - San Diego County Mountains**

03	0059PST				0	0			Fog
	0858PST								

Dense fog with visibility less than 10 feet was reported along the south slopes of the San Bernardino Mountains from the Cajon Pass to Running Springs, and along the south and west slopes of the Laguna Mountains.

### **CAZ043 San Diego County Coasts**

03	1000PST				0	0	20K		Heavy Surf
04	1100PST								

Ocean Beach Pier was slightly damaged by waves breaking over the top of it. The Crystal Pier in Pacific Beach was also closed due to high waves.

### **CAZ042-048>050-057 Orange County Coastal Plain - San Bernardino County Valley/The Inland Empire - Riverside County Valley/The Inland Empire - San Diego County Valleys - Santa Ana Mountains And Foothills**

07	0950PST				0	3	250K		High Wind (G87) <sup>M</sup>
08	0345PST								

Moderate to strong Santa Ana winds affected most of Southwest California. Trees, power lines, and signs were toppled. Two constructions workers were injured when a 20 foot brick wall they were working next to collapsed. A driver was injured when his semi-tractor trailer rig was overturned. Several major Interstate Freeways were closed to high profile vehicles until the winds subsided. Power outages affected about 40,000 customers.

## **San Diego County**

<b>Potrero</b>	08 1045PST				0	1	2M		Wild/Forest Fire
	11 1500PST								

A brush fire, started by a house electrical fire, was pushed by Santa Ana winds that reached 50 mph. The blaze quickly grew out of control, consuming several hundred acres within a few hours. A total of 1200 acres were burned before it was fully contained three days later. Two houses, six mobile homes, several outbuildings, and motor vehicles were destroyed. Most of the town's residents were evacuated. Only one injury occurred to a resident from smoke inhalation. Over 300 firefighters fought to protect property and quench the fire, the estimated cost of fighting the fire was \$616,000.

### **CAZ055 San Bernardino County Mountains**

10	0900PST				0	0			Winter Weather Mix
11	0849PST								

Three to seven inches of snow fell at elevations above 4000 feet. Mountain highways were closed for several hours due to motor vehicle accidents and icy conditions.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, Southwest

**CAZ048>049 San Bernardino County Valley/The Inland Empire - Riverside County Valley/The Inland Empire**  
**15 1430PST 0 0 30K High Wind (G50)**  
**1845PST**  
 Power lines were blown down between Romoland and Homeland in Riverside County, affecting 2400 customers. In Rialto, sustained winds of 40 mph were measured.

**CAZ050-055>056-058 San Diego County Valleys - San Bernardino County Mountains - Riverside County Mountains - San Diego County Mountains**  
**20 1700PST 0 0 Winter Weather Mix**  
**21 1400PST**  
 Three to eight inches of snow fell above 4000 feet elevation. Visibility was less than 100 feet at times in fog. Winds were gusting over 25 mph. At the lower elevations brief heavy rain and hail fell, causing minor street flooding.

**CAZ057 Santa Ana Mountains And Foothills**  
**24 0200PST 0 0 High Wind (G59) <sup>M</sup>**  
**0400PST**

**San Diego County Lakeside**  
**27 1630PST 0 0 Wild/Forest Fire**  
**1730PST**  
 A brush fire along the south side of Interstate 8 near Dunbar Lane backed up commuter traffic for several hours.

**CAZ043 San Diego County Coasts**  
**30 1630PST 1 1 2.5K Heavy Surf**  
 A rogue wave capsized a 12 foot fishing boat at the mouth of Oceanside harbor. One man drowned, the other was injured when he and the boat were tossed onto the jetty by the wave. M42IW

## CALIFORNIA, Upper

**CAZ081-084 Central Siskiyou County - Northeast Siskiyou And Northwest Modoc Counties**  
**01 0752PST 0 0 Winter Storm**  
**02 1743PST**  
 Spotter SY39 reported 7 inches of snow in the 10 hours ending at 1700 PST. 0.68 inches water equivalent.  
 A Winter Storm Warning was issued for CAZ080/082 above 3000 feet at 2225 PST on 11/30/01 and raised to 3500 feet at 0430 PST on 12/01/01. At 1726 PST on 12/01, it was downgraded to a Heavy Snow Warning. At 0400 on 12/02/01, the warning was cancelled for CAZ080 and CAZ082 was upgraded to a Winter Storm Warning. It did snow and the wind did blow, but the reports from that zone only verified wind and snow advisories. The reports above actually came from zones CAZ081 and CAZ084, but conditions that met warning criteria were likely not widespread as the above reports were the only ones received. The warning was cancelled at 0430 PST on 12/03/01.

**CAZ082 South Central Siskiyou County**  
**05 0900PST 0 0 Heavy Snow**  
 A spotter at Mt. Shasta Ski Resort reported 12 to 18 inches of snow overnight.  
 The report above would verify a Heavy Snow Warning, but none were issued for this zone. Two adjacent zones were covered by Snow Advisories, but not this zone. Overall, this was a missed event as the snow amounts were greatly underpredicted.

**CAZ082 South Central Siskiyou County**  
**13 1429PST 0 0 Winter Storm**  
 Spotter SY39 reported near blizzard conditions with south winds 30 to 35 mph and heavy snow.

**CAZ081-081>082-082-082-082-085 Central Siskiyou County - South Central Siskiyou County - Modoc County**  
**13 2014PST 0 0 Heavy Snow**  
**14 1427PST**  
 Spotter SY05 2 W Weed reported 12 inches of snow today ending at 2100 PST.  
 The above reports all verified for a Heavy Snow Warning. However, a Winter Storm Warning was only issued in California for zones CAZ080/082 and a snow advisory was issued for the remaining California zones. The Winter Storm Warning and Snow Advisories were issued at 0520 PST on 12/13 and expired at 0520 PST on 12/14. It appears from the above reports that a Winter Storm Warning should have been issued for CAZ080/081/083/084/085 above 3500 feet or so.

**CAZ082-082-082 South Central Siskiyou County**  
**17 0616PST 0 0 Heavy Snow**  
**0810PST**  
 Spotter SY69 at 3300 feet reported 6 inches of new snow between 1930 PST 12/16 and 0630 12/17.  
 A Winter Storm Warning was issued for California zones CAZ080/081/082 and Oregon zones ORZ025/030 at 1555 PST on 12/16 and expired at 0400 PST on 12/17. The above reports, all from CAZ082, were the only reports received that verified the warning.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, Upper

**CAZ082**

**South Central Siskiyou County**

**19 0809PST** **0 0** **Heavy Snow**

Mt. Shasta Ski Park reported 10 inches of snow in 24 hours ending at 0800 PST.

The observation above verified a Heavy Snow Warning, but apparently a good bit of it fell "between" warnings. A Winter Storm Warning was issued for zone CAZ082 above 4000 feet at 1258 PST on 12/17, lowered to 3500 feet at 0422 PST on 12/18, and expired at 1900 PST on 12/18. The next Winter Storm Warning was issued at 0620 PST on 12/19. This report came in during the early hours of that warning, indicating that the snow fell in the previous 24 hours. A snow measuring device at Sand Flat at 6750 feet indicated that the bulk of the snow fell between 0600 PST and 1800 PST on 12/18, so it appears that this warning was cancelled prematurely. Other than the above report, however, all reported amounts did not meet Heavy Snow Warning criteria.

**CAZ081-081-081>082-082-082**

**Central Siskiyou County - South Central Siskiyou County**

**20 0600PST** **0 0** **Heavy Snow**  
**0930PST**

Spotter SY94 reported 13 inches of snow between 2100 on 12/19 and 0600 PST on 12/20.

A Winter Storm Warning was issued for California zones CAZ080/082 above 3000 feet at 0620 PST on 12/19 and expired at 2200 PST on 12/19. The above reports, which verified the warning amounts, also indicate that the bulk of the snow fell overnight. The warning should have included zone CAZ081, and was cancelled prematurely.

**CAZ081>082-082**

**Central Siskiyou County - South Central Siskiyou County**

**22 0800PST** **0 0** **Heavy Snow**  
**1000PST**

Spotter SY84 northeast of Weed at 4100 feet reported 10 inches snow in 10 hours ending at 1000 PST.

**CAZ081**

**Central Siskiyou County**

**22 1000PST** **0 0** **High Wind (G45) <sup>M</sup>**

Spotter SY84 also recorded a wind gust of 45 mph at 0830 PST on 12/22.

A Snow Advisory was issued at 2015 PST on 12/21 for California zones CAZ080/082 above 3000 feet. The advisory was upgraded to a Heavy Snow Warning for zone CAZ082 at 0930 on 12/22 in response to the first two reports above. In addition, a High Wind Warning was issued for CAZ081 at 0626 PST on 12/22. The warnings and advisory were expired at 1400 PST on 12/22.

Based on the above reports, a Heavy Snow Warning should have been issued for CAZ080/081/082 along with a Wind Advisory for CAZ081.

**CAZ081-081**

**Central Siskiyou County**

**27 1349PST** **0 0** **High Wind (G66)**  
**1512PST**

Spotter SY94 between Mt. Shasta and Weed reported southeast winds 40g61 mph.

The above reports exceeded High Wind Warning criteria in the Weed area, but only a wind advisory was in effect. Since these were the only reports that met the warning criteria, an advisory may have been the appropriate response to this event.

## CALIFORNIA, West South Central

**CAZ034**

**San Luis Obispo County Central Coast**

**07 0800PST** **0 0** **High Wind (G52)**  
**1300PST**

Gusty northeast winds knocked down power lines and small trees in the community of Morro Bay. Wind speeds were estimated between 25 and 35 mph with local gusts as high as 60 mph.

**Los Angeles County**

**3 W Malibu**

**07 1730PST** **1 1** **Rip Currents**

Gusty north winds generated dangerous rip currents off the coast of Malibu. The rip currents capsized a kayak. One kayaker died and another was injured.

M55IW

**CAZ040**

**Ventura County Coast**

**09 1100PST** **0 0** **Wind**  
**1700PST**

Gusty west winds between 25 and 35 mph knocked down several trees at the intersection Doris Avenue and Ventura Road in the community of Oxnard.

**CAZ047**

**Los Angeles County Valleys**

**14 1700PST** **0 0** **Wind**  
**1830PST**

West winds of 25 to 35 mph with local gusts to 52 mph knocked down some small trees and power lines in the community of Sylmar.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CALIFORNIA, West South Central

### **Ventura County**

Ventura	20	1913PST			0	0			Urban/Sml Stream Fld
---------	----	---------	--	--	---	---	--	--	----------------------

A weather spotter reported street flooding in the community of Ventura.

### **Los Angeles County**

Walnut	21	0040PST 0050PST	0.1	10	0	0			Tornado (F0)
--------	----	--------------------	-----	----	---	---	--	--	--------------

In the community of Walnut, a weak tornado touched down in the early morning hours. Several homes sustained minor roof damage and about 30 trees were knocked down. No injuries were reported.

## CALIFORNIA, Western

### **Santa Cruz County**

2 N Watsonville Muni A	20	1620PST 1638PST			0	0	100K		Hail (0.75)
------------------------	----	--------------------	--	--	---	---	------	--	-------------

From the same storm system 3/4 inch hail was reported covering the ground 2 nm n of Watsonville. The hail damaged a large greenhouse. In a separate report there was golf ball sized hail reported in the same area.

### **Santa Cruz County**

2 N Watsonville Muni A	20	1645PST	0.5	60	0	0	250K		Tornado (F1)
------------------------	----	---------	-----	----	---	---	------	--	--------------

3 NE Watsonville Muni  
Arp

A minor tornado was spawned from a line of convection across the Monterey bay that went ashore near Watsonville CA. The storm downed a power line by snapping off four poles, destroyed a green house and some trailers, then about a half a mile to the east tore the off off a barn as well as downing some mature ( 5 feet in diameter) euclyptus trees.

### **Santa Cruz County**

2 NE Watsonville	20	1900PST			0	0			Hail (1.00)
------------------	----	---------	--	--	---	---	--	--	-------------

### **Monterey County**

(Mry)Monterey Arpt	20	1920PST			0	0			Hail (0.75)
--------------------	----	---------	--	--	---	---	--	--	-------------

## COLORADO, Central and Northeast

**COZ033-035>036 S & E Jackson / Larimer / N & Ne Grand / Nw Boulder Counties Above 9000 Feet - Larimer & Boulder Counties Between 6000 & 9000 Feet - Jefferson & W Douglas Counties Above 6000 Feet / Gilpin / Clear Creek / Ne Park Counties Below 9000 Feet**

05	2353MST				0	0	0		High Wind (G89) <sup>M</sup>
----	---------	--	--	--	---	---	---	--	------------------------------

High winds developed across portions of the mountains and foothills. Peak wind reports included: 102 mph (89 kts) atop Niwot Ridge, 80 mph (70 kts) at Estes Park, 75 mph (66 kts) at Carter Lake, 74 mph (64 kts) at Aspen Springs and 72 mph (63 kts) at Red Feather Lakes.

### **COZ036**

**Jefferson & W Douglas Counties Above 6000 Feet / Gilpin / Clear Creek / Ne Park Counties Below 9000 Feet**

28	0700MST 0730MST				0	0	0	0	High Wind (G75) <sup>M</sup>
----	--------------------	--	--	--	---	---	---	---	------------------------------

A wind gust to 86 mph (75 kts) was recorded 1 mile south of Fritz Peak.

## COLORADO, East Central

NONE REPORTED.

## COLORADO, South Central and Southeast

### **COZ061**

**Eastern San Juan Mountains**

04	1600MST				0	0			Heavy Snow
----	---------	--	--	--	---	---	--	--	------------

An upper level disturbance brought heavy orographic snow to the summit of Wolf Creek Pass, which received up to 10 inches.

### **COZ065**

**Northern Sangre De Cristo Mountains**

05	2359MST				0	0			High Wind (G87) <sup>M</sup>
----	---------	--	--	--	---	---	--	--	------------------------------

An upper level disturbance generated high winds, which gusted up to 100 mph, 8 miles west of Westcliffe in Custer county.

### **COZ061**

**Eastern San Juan Mountains**

10	1800MST				0	0			Heavy Snow
----	---------	--	--	--	---	---	--	--	------------

An upper level disturbance produced some heavy snow. The highest snow amount reported was at the summit of Wolf Creek Pass in Mineral county where 15 inches of snow was noted. South Fork tallied 5 inches of snow.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## COLORADO, South Central and Southeast

**COZ070-074-076 Wet Mountains - Upper Huerfano River Basin/Walsenburg And Vicinity - Crowley And Otero Counties/La Junta And Vicinity**  
 12 0400MST 0 0 Heavy Snow  
 1700MST

A southward moving cold front produced areas of heavy snow along the eastern mountains and plains of southeastern Colorado. The heaviest snow amounts were as follows: 5 inches at Rye in Pueblo county and at La Veta in Huerfano county, 6 inches at Manzanola in Otero county.

**COZ061 Eastern San Juan Mountains**  
 15 0100MST 0 0 Heavy Snow  
 1600MST

As an upper level disturbance brought some heavy snow to the southwestern Colorado mountains. The most significant snow amount occurred at the summit of Wolf Creek Pass in Mineral county where 13 inches fell. In the lower elevations of Mineral county, 2 to 4 inches of snow fell.

## COLORADO, West

**COZ001>002-004-010-013-018>019 Lower Yampa River Basin - Central Yampa River Basin - Elkhead And Park Mountains - Gore And Elk Mountains/Central Mountain Valleys - Flattop Mountains - Northwestern San Juan Mountains - Southwestern San Juan Mountains**  
 04 1530MST 0 0 Heavy Snow  
 05 0600MST

A Pacific trough pushed into western Colorado, preceded by a moist southwest flow aloft. This resulted in up to a foot of new snow in the northern and central mountains of western Colorado, and 3 to 6 inches at lower elevations on the northwest plateau.

**COZ004-010-013 Elkhead And Park Mountains - Gore And Elk Mountains/Central Mountain Valleys - Flattop Mountains**  
 06 1800MST 0 0 Winter Storm  
 07 1300MST

A slow-moving upper level storm system brought over a foot of new snow to most mountain areas in northwest Colorado. Winds gusted to over 40 mph, creating near-blizzard conditions in some areas. The heaviest reported snow accumulations included 14 inches at Ripple Creek, 15 inches at Beaver Creek Ski Area, and 16 inches at the Tower SNOTEL site.

**COZ009-018>019 Grand And Battlement Mesas - Northwestern San Juan Mountains - Southwestern San Juan Mountains**  
 10 1500MST 0 0 Heavy Snow  
 11 1100MST

A Pacific trough produced 6 to 11 inches of new snow in the western San Juan Mountains and some central mountain areas of western Colorado.

**COZ003>004-009>010-012>013-017>019-021>023 Roan And Tavaputs Plateaus - Elkhead And Park Mountains - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys - West Elk And Sawatch Mountains - Flattop Mountains - Uncompahgre Plateau And Dallas Divide - Northwestern San Juan Mountains - Southwestern San Juan Mountains - Four Corners / Upper Dolores River Basin - Animas River Basin - San Juan River Basin**  
 14 1500MST 0 0 Winter Storm  
 15 2300MST

A strong storm system brought heavy snow to much of western Colorado. The moist southwest flow associated with this storm helped to produce 12 to 16 inches of snow over the southwest San Juan Mountains. Most other mountain areas in western Colorado received 5 to 8 inches of snow, while lower elevation areas in the southwest corner of Colorado received 3 to 8 inches. Wind gusts of 40 to 58 MPH were measured at some mountain locations and resulted in drifting of snow and reduced visibilities in blowing snow.

**COZ004-009>010-012>013-018 Elkhead And Park Mountains - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys - West Elk And Sawatch Mountains - Flattop Mountains - Northwestern San Juan Mountains**  
 21 1200MST 0 0 Heavy Snow  
 22 0400MST

An upper level low pressure system produced 6 to 12 inches of new snow over most mountain areas of western Colorado. The highest amount reported was 18 inches near Rabbit Ears Pass.

**COZ011-018-020>021 Central Gunnison And Uncompahgre River Basin - Northwestern San Juan Mountains - Paradox Valley / Lower Dolores River Basin - Four Corners / Upper Dolores River Basin**  
 29 1800MST 0 0 Heavy Snow  
 30 1200MST

A moist northwest flow produced 5 to 8 inches of new snow over the northwest San Juan Mountains, and 3 to 7 inches at some lower elevation areas in southwest Colorado. The exception was 9 inches at Northdale, just northwest of Dove Creek.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## CONNECTICUT, Northeast

NONE REPORTED.

## CONNECTICUT, Northwest

NONE REPORTED.

## CONNECTICUT, Southern

NONE REPORTED.

## DELAWARE

### DEZ001>004

#### **New Castle - Kent - Inland Sussex - Delaware Beaches**

<b>01</b>	<b>0800EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Dry</b>
<b>31</b>	<b>2359EST</b>				

December 2001 marked the sixth consecutive month of below normal precipitation for most of Delaware. While more precipitation fell in December than in October or November, it was still only about 60 percent of normal. On a county weighted average, monthly precipitation totals averaged 2.0 inches, while normal is around 3.5 inches. This was after the driest autumn on record at the New Castle County Airport near Wilmington. Only 4.29 inches of precipitation fell. Normal is 9.58 inches. The flow along the Brandywine Creek reached a 54 year low on December 3rd, flowing at one-third of its usual rate for the date. The dry weather affected winter crops as cereal grains and crops to protect the environment were not growing well. The Great Cypress Swamp near Gumboro and Selbyville was badly parched. The lack of precipitation in the Delaware River Basin prompted the Delaware River Basin Commission to declare a "drought" on December 3rd and a drought emergency on the 18th.

### DEZ001-001>002-002>003-003>004-004

#### **New Castle - Kent - Inland Sussex - Delaware Beaches**

<b>01</b>	<b>0800EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Warm</b>
<b>06</b>	<b>1800EST</b>					

A strong ridge of high pressure over the western Atlantic Ocean and adjacent parts of the United States brought unseasonably and record breaking warm weather from November 30th through December 6th to Delaware. Daily record breaking high temperatures were set on the 1st, 5th and 6th in many locations with high temperatures reaching into the 70s. A cold frontal passage on the 7th brought readings closer to seasonal levels. The warmest day for most areas was the 5th. Highest temperatures included 76 degrees in Greenwood (Sussex County), 75 degrees in Georgetown and Salisbury Maryland and 73 degrees at the New Castle County Airport.

### DEZ001>004

#### **New Castle - Kent - Inland Sussex - Delaware Beaches**

<b>31</b>	<b>2359EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Warm</b>
-----------	----------------	----------	----------	----------	--------------------------

December 2001 was an unseasonably warm month in the state of Delaware, in fact it was the warmest December on record at the New Castle County Airport. The monthly mean temperature of 42.5 degrees was 6.7 degrees above normal. The previous monthly record was 42.2 degrees set in 1931. In Georgetown, the monthly mean temperature of 43.7 degrees was 5.7 degrees warmer than normal.

## DISTRICT OF COLUMBIA

NONE REPORTED.

## FLORIDA, East Central

NONE REPORTED.

## FLORIDA, Extreme Southern

NONE REPORTED.

## FLORIDA, Northeastern

### Duval County

<b>Countywide</b>	<b>10</b>	<b>0830EST</b>	<b>0</b>	<b>0</b>	<b>Urban/Sml Stream Fld</b>
		<b>1200EST</b>			

Numerous roadway closings due to heavy rainfall during the morning hours.



# Storm Data and Unusual Weather Phenomena

December 2001

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

## FLORIDA, Northwest

<b>FLZ017</b>		<b>Leon</b>							
	27	0900EST			1	0			<b>Extreme Cold</b>
An elderly homeless man died of hypothermia in Tallahassee where the overnight low temperature was 24 degrees. His body was discovered near a shopping center on Apalachee Parkway early Thursday morning. Reported by the Tallahassee Democrat. M60OU									

## FLORIDA, Southern

<b>FLZ063-066&gt;067-070</b>		<b>Glades - Hendry - Inland Palm Beach - Inland Collier</b>							
	27	0400EST 0900EST			0	0			<b>Extreme Cold</b>
The first arctic air mass of the season dropped overnight air temperatures into the lower and mid 30s over interior sections of south Florida. Isolated areas of light frost occurred in the farming areas of Glades, Hendry, Eastern Collier and western Palm Beach counties but no crop damage was reported.									

## FLORIDA, West Central

<b>FLZ039-042&gt;043-048&gt;052-055&gt;056-060</b>		<b>Levy - Citrus - Sumter - Hernando - Pasco - Pinellas - Hillsborough - Polk - Manatee - Hardee - Sarasota</b>							
	09	0400EST 0900EST			0	0			<b>Fog</b>
Light east winds and ample surface moisture helped create a swath of early morning dense fog across west central Florida early on the 9th. Visibility was reduced to near zero in many locations, with many observing points recording 1/4 mile or less.									

<b>FLZ039-042&gt;043-048</b>		<b>Levy - Citrus - Sumter - Hernando</b>							
	27	0400EST 0800EST			0	0			<b>Freeze</b>
Waves of chilly air dropping into Florida around Christmas and beyond eventually led to a minor freeze event across the Nature Coast early on the 27th. Low temperatures fell into the mid and upper 20s in Levy County, and near 30 elsewhere. Coastal locations of Citrus and Hernando County were spared. No substantial crop damage was reported.									

## FLORIDA, West Panhandle

<b>Escambia County</b>									
<b>Pensacola Beach</b>		<b>17 1200CST</b>							
					1	0			<b>Rip Currents</b>
Rough surf and strong rip currents claimed the life of a man who drowned in the waters just off Pensacola Beach. M48IW									

## GEORGIA, East Central

<b>Columbia County</b>									
<b>Appling</b>		<b>17 1926EST</b>							
					0	0	0	0	<b>Thunderstorm Wind (G50)</b>
Sheriff reported trees down on Ray Owning road in Appling.									
<b>Richmond County</b>									
<b>Ft Gordon</b>		<b>17 2010EST</b>							
					0	0			<b>Thunderstorm Wind (G50)</b>
SKYWARN spotter reported powerlines and large branches down.									
<b>Columbia County</b>									
<b>Martinez</b>		<b>17 2022EST</b>							
					0	0			<b>Thunderstorm Wind (G50)</b>
SKYWARN spotter reported powerlines and large branches down.									

## GEORGIA, Lower

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## GEORGIA, North and Central

**GAZ001>009-011>016- Dade - Walker - Catoosa - Whitfield - Murray - Fannin - Gilmer - Union - Towns - Chattooga - Gordon - 019>025-027-030>039- Pickens - Dawson - Lumpkin - White - Floyd - Bartow - Cherokee - Forsyth - Hall - Banks - Jackson - Madison - 041>062-066>076- Polk - Paulding - Cobb - North Fulton - Gwinnett - Barrow - Clarke - Oconee - Oglethorpe - Wilkes - 078>086-089>098- Haralson - Carroll - Douglas - South Fulton - De Kalb - Rockdale - Walton - Newton - Morgan - Greene - 102>113 Taliaferro - Heard - Coweta - Fayette - Clayton - Spalding - Henry - Butts - Jasper - Putnam - Hancock - Warren - Troup - Meriwether - Pike - Upson - Lamar - Monroe - Jones - Baldwin - Washington - Glascock - Jefferson - Harris - Talbot - Taylor - Crawford - Bibb - Twiggs - Wilkinson - Johnson - Emanuel - Muscogee - Chattahoochee - Marion - Schley - Macon - Peach - Houston - Bleckley - Laurens - Treutlen - Stewart - Webster - Sumter - Dooly - Crisp - Pulaski - Wilcox - Dodge - Telfair - Wheeler - Montgomery - Toombs**

<b>01</b>	<b>0000EST</b>				<b>0</b>	<b>0</b>			<b>Unseasonably Warm</b>
<b>23</b>	<b>1200EST</b>								

Unseasonably warm temperatures prevailed across north and central Georgia throughout much of December. Only after a strong cold front moved through on the 23rd did temperatures drop to seasonal and below seasonal levels. High temperatures in the 60s and 70s were common during the first 23 days of the month, and there were very few days during this same period that high temperatures were below 60 degrees. Low temperatures were mainly in the 40s during this same period. Normal daily highs for much of north and central Georgia during December are in the lower 50s with normal daily lows in the middle 30s. In fact, a freezing temperature did not occur at Atlanta's Hartsfield International Airport until the 21st of December. Furthermore, the temperature exceeded 60 degrees at the Atlanta airport all but 3 days during the first 19 days of the month. For 5 consecutive days from the 4th through the 8th, the temperature in Atlanta reached or exceeded 70 degrees, with a 75 degree reading on December 6th only 4 degrees shy of the all time record high temperature for December of 79 degrees. For the first 19 days of the month, the mean daily temperature at Atlanta's Hartsfield International Airport averaged nearly 11 degrees above normal. Departures from average for major reporting stations in Georgia during the month included +5.6 degrees at Atlanta, +5.2 degrees at Athens, +3.4 degrees at Macon, and +4.8 degrees for Columbus.

**GAZ001>009-011>016- Dade - Walker - Catoosa - Whitfield - Murray - Fannin - Gilmer - Union - Towns - Chattooga - Gordon - 019>025-027-030>039- Pickens - Dawson - Lumpkin - White - Floyd - Bartow - Cherokee - Forsyth - Hall - Banks - Jackson - Madison - 041>062-066>076- Polk - Paulding - Cobb - North Fulton - Gwinnett - Barrow - Clarke - Oconee - Oglethorpe - Wilkes - 078>086-089>098- Haralson - Carroll - Douglas - South Fulton - De Kalb - Rockdale - Walton - Newton - Morgan - Greene - 102>113 Taliaferro - Heard - Coweta - Fayette - Clayton - Spalding - Henry - Butts - Jasper - Putnam - Hancock - Warren - Troup - Meriwether - Pike - Upson - Lamar - Monroe - Jones - Baldwin - Washington - Glascock - Jefferson - Harris - Talbot - Taylor - Crawford - Bibb - Twiggs - Wilkinson - Johnson - Emanuel - Muscogee - Chattahoochee - Marion - Schley - Macon - Peach - Houston - Bleckley - Laurens - Treutlen - Stewart - Webster - Sumter - Dooly - Crisp - Pulaski - Wilcox - Dodge - Telfair - Wheeler - Montgomery - Toombs**

<b>01</b>	<b>0000EST</b>				<b>0</b>	<b>0</b>			<b>Very Dry</b>
<b>31</b>	<b>2359EST</b>								

Very dry weather continued throughout December across all of north and central Georgia. December marked the 5th consecutive month of below normal rainfall for many locations, and the third consecutive month of much below normal rainfall for most of north and central Georgia. Significant rain fell on only 4 days at most locations across north and central Georgia, with daily amounts on these days averaging 0.50 inch or less. Monthly rainfall amounts for December were generally less than 2 inches. Specifically, rainfall amounts at the major reporting sites included 2.22 inches at Atlanta, 1.81 inches at Columbus, 1.58 inches at Macon, and 1.48 inches for Athens. October through December rainfall ranked among some of the lowest in history. Three month totals included 4.63 inches at Columbus, 4.18 inches at Macon, 4.02 inches at Atlanta, and 2.55 inches for Athens. The 3-month total of 2.55 inches recorded in Athens was the lowest amount of rainfall ever observed during these three months since 1931. For Atlanta, Macon, and Columbus, the October through December period ranked as the 2nd, 5th, and 3rd driest since 1931. Annual rainfall amounts for 2001 were below normal at many stations for the 4th consecutive year. Annual deficits averaged between 10 and 15 inches.

## GEORGIA, Northeast

**GAZ010-017>018-026- Rabun - Habersham - Stephens - Franklin - Hart - Elbert 028>029**

<b>01</b>	<b>0000EST</b>				<b>0</b>	<b>0</b>			<b>Drought</b>
<b>31</b>	<b>2359EST</b>								

Very little active weather during December signaled that the drought was still present - and becoming critically important to more and more people. Record low ground water supplies, lake levels, and stream flows were reported across all of Northeast Georgia.

**Elbert County  
12 SE Elberton**

<b>17</b>	<b>1811EST</b>				<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G50)</b>
-----------	----------------	--	--	--	----------	----------	--	--	--------------------------------

3 trees were blown down.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## GEORGIA, Southeast

**GAZ087>088-099>101-114>119-137>141** **Jenkins - Screven - Candler - Bulloch - Effingham - Tattnall - Evans - Inland Bryan - Coastal Bryan - Inland Chatham - Coastal Chatham - Long - Inland Liberty - Coastal Liberty - Inland McIntosh - Coastal McIntosh**

01	0000EST				0	0			Drought
31	2359EST								

Moderate drought conditions continued over southeast Georgia. Rainfall for the month was 2.47 inches below normal, which has continued a monthly trend of deficits throughout most of the year.

## GEORGIA, Southwest

NONE REPORTED.

## GULF OF MEXICO

**Lake Ponchartrain  
And Lake Maurepas**

Mid Lke Pontchartrain	13	2112CST			0	0			Marine Tstm Wind
-----------------------	----	---------	--	--	---	---	--	--	------------------

## HAWAII

**HIZ004-008** **North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - South Hawaii Including Kau**

01	1400HST				0	0			High Surf
17	1600HST								

A strong trade wind swell produced surf of 10 to 16 feet along the east-facing shores of the island of Hawaii. Water occasionally flowed across Route 137 near Pohoiki Bay in the Puna District, causing traffic delays from time to time over the 16-day period.

**HIZ004-007>008** **North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - West Hawaii Including Leeward Kohala And Kona - South Hawaii Including Kau**

02	0620HST				0	0			High Wind (G61)
	1600HST								

Strong mid-level ridging caused east winds of 50 to 70 mph near the summits of Mauna Kea and Mauna Loa on the Big Island of Hawaii. No serious property damage or injuries were reported.

**HIZ001>008** **Kauai - Oahu - Maui - North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona - South Hawaii Including Kau**

02	0915HST				0	0			Wind Advisory
03	1600HST								

A strong surface high north of the islands produced northeast to east winds of 30 to 40 mph, with gusts to 50 mph, across the state. The winds were strong enough to knock down some trees and power lines on the individual islands and blow the roofs off several structures. However, no serious injuries were reported.

**HIZ001>003-005** **Kauai - Oahu - Maui - Molokai**

03	1200HST				0	0			High Surf
16	0700HST								

A strong trade wind swell generated surf of 10 to 15 feet along the east-facing shores of Kauai, Oahu, Maui, and Molokai.

**HIZ001>003-005>007** **Kauai - Oahu - Maui - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona**

06	1300HST				0	0			High Surf
07	1000HST								

A storm low far northwest of Hawaii caused surf of 10 to 15 feet along the northwest shores of all the islands.

**HIZ001>008** **Kauai - Oahu - Maui - North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona - South Hawaii Including Kau**

11	1700HST				0	0			Wind Advisory
14	1000HST								

The combination of a strong surface high northeast of the islands and an upper low passing south of the Hawaii generated northeast to east winds of 30 to 40 mph, with gusts to 55 mph, statewide. Trees and power lines were felled in the state, especially in Maui and on Oahu. Also in Maui, police said the strong winds contributed to the death of a motorcyclist who was riding on Honoapiilani Highway near Maalaea Harbor on the afternoon of the 13th. The strong winds blew off roof shingles at the King Kekaulike High School in Maui as well, forcing administrators to close the school early on the 13th.

**HIZ004-007>008** **North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - West Hawaii Including Leeward Kohala And Kona - South Hawaii Including Kau**

12	0800HST				0	0			High Wind (G87)
14	1530HST								

An upper-level low passing south of the islands produced east to southeast winds of 60 to 80 mph, with gusts to 100 mph, near the

# Storm Data and Unusual Weather Phenomena

December 2001

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

## HAWAII

**HIZ004-007>008 North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - West Hawaii Including Leeward Kohala And Kona - South Hawaii Including Kau**

12	1000HST				0	0			Winter Storm
14	1530HST								

An upper-air low passing south of the islands produced east to southeast winds of 60 to 80 mph, with gusts to 100 mph, near the summits of Mauna Kea and Mauna Loa. The system dumped up to two feet of snow over the two days above the 12 thousand-foot level, and dropped wind chill temperatures well below zero degrees Fahrenheit. However, there were no reports of serious property damage or injuries.

**Maui County  
Countywide**

12	1600HST				0	0			Urban/Sml Stream Fld
14	1000HST								

Heavy showers and rain caused ponding of roadways and minor stream and drainage ditch flooding throughout Maui County. Kilohana Elementary School in East Molokai was closed on the 13th due to a nearby road being impassable because of heavy ponding. No serious injuries or property damage were reported, however.

**HIZ003**

**Maui**

12	1830HST				0	0			High Wind (G61)
14	1530HST								

An upper-air low passing south of the state caused east to southeast winds of 50 to 70 mph near the summit of Mt. Haleakala in East Maui. No serious injuries or property damage were reported, however.

**HIZ001>003-005>007 Kauai - Oahu - Maui - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona**

16	1200HST				0	0			High Surf
17	0200HST								

A storm low well northwest of the state generated surf of 12 to 20 feet along the northwest shores of all the islands.

**HIZ001>003-005>007 Kauai - Oahu - Maui - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona**

23	0800HST				0	0			High Surf
24	1400HST								

A storm low far northwest of Hawaii caused surf of 12 to 18 feet along the northwest shores of all the islands.

**HIZ001>003-005>007 Kauai - Oahu - Maui - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona**

25	1800HST				0	0			High Surf
28	1200HST								

A deep storm low south of the Aleutian Islands produced surf of 15 to 30 feet along the northwest-facing shores of all the Hawaiian Islands.

**HIZ001>008 Kauai - Oahu - Maui - North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona - South Hawaii Including Kau**

28	1700HST				0	0			Wind Advisory
31	0500HST								

Southwest winds ahead of an advancing cold front were in the 30- to 40-mph range near the end of the month across the Hawaiian Islands. However, there were no reports of serious property damage or injuries.

**HIZ001>003-005>007 Kauai - Oahu - Maui - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona**

29	1000HST				0	0			High Surf
31	2359HST								

A storm low far northwest of the state generated surf of 15 to 30 feet along the northwest-facing shores of all the islands.

## IDAHO, Extreme Southeast

NONE REPORTED.

## IDAHO, North

**IDZ005 Northern Clearwater Mountains**

01	0000MST				0	0			Heavy Snow
	2345MST								

Heavy snow fell over Clearwater County. 24 hour snowfall totals were: 11 inches at Hemlocke Butte, 18 inches at Elk Butte, and 7 inches at Pierce.

**IDZ005 Northern Clearwater Mountains**

03	0930MST				0	0			Heavy Snow
05	0930MST								

# Storm Data and Unusual Weather Phenomena

December 2001

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

## IDAHO, North

inches, Elk Butte 19 inches, Pierce 8 inches and Headquarters 9 inches.

<b>IDZ005&gt;006-010</b>	<b>Northern Clearwater Mountains - Southern Clearwater Mountains - Eastern Lemhi County</b>								
	<b>06 1200MST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>07 1200MST</b>								

Winter storm brought heavy snow to north central and eastern Idaho. 24 hour snowfall totals were: Cool Creek 12 inches, Hemlocke Butte 18 inches, Elk Butte 23 inches, Headquarters 6 inches, Savage Pass 12 inches, and Saddle Mountain 11 inches.

<b>IDZ005&gt;006-009&gt;010</b>	<b>Northern Clearwater Mountains - Southern Clearwater Mountains - Western Lemhi County - Eastern Lemhi County</b>								
	<b>12 1600MST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>14 1800MST</b>								

Major winter storm hit north central and eastern Idaho with wind gusts 40 to 50 mph and heavy snowfall for two days. Snowfall ranged from eight inches in the valleys with two to three feet of snow in the mountains. Some of the highest snowfall amounts in the mountains were Elk Butte 45 inches, Hemlocke Butte 36 inches, Cool Creek 34 inches, Mountain Meadows, Savage Pass and Saddle Mountain all recorded 15 inches. In the valleys, snowfall ranged from Elk City with 7 inches to 8 inches at Elk River and Shoup. Powell received 10 inches of snow.

<b>IDZ005&gt;006-010</b>	<b>Northern Clearwater Mountains - Southern Clearwater Mountains - Eastern Lemhi County</b>								
	<b>15 1600MST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>17 1600MST</b>								

Heavy snow hit the Clearwater and eastern Lemhi County mountains for two days. Snowfall totals ranged from one to two feet.

## IDAHO, Northwest

<b>IDZ001-004</b>	<b>Northern Panhandle - Central Panhandle Mountains</b>								
	<b>01 0000PST</b>				<b>0</b>	<b>0</b>	<b>100K</b>		<b>Winter Storm</b>
	<b>1200PST</b>								

An upper low level pressure trough moved across the Idaho panhandle, bringing heavy snow to the central and northern parts of the panhandle, mainly above 2500 feet elevation. The following are some of the heavier snowfall amounts: Silver Mountain Ski Area...21", Lookout Pass Ski Area...14", Schweitzer Ski Area...13", Saint Maries...5.4", and Priest River...5".

While heavy snow typically takes place in this area several times each winter, this storm was unusually damaging when it dumped heavy, wet, sticky snow followed by wind gusts of 20 to 30 miles an hour. Most problems in the Idaho panhandle took place in Bonner County, where dozens of downed trees and power lines knocked power out to most customers in the Priest Lake area.

<b>IDZ001&gt;004</b>	<b>Northern Panhandle - Coeur D'Alene Area - Idaho Palouse - Central Panhandle Mountains</b>								
	<b>04 0600PST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>1200PST</b>								

A warm front moved across the Idaho panhandle in advance of an upper trough on the morning of December 4, bringing heavy snow to the central and northern panhandle. The following is a roundup of snowfall totals: Silver Mountain Ski Area...19", Lookout Ski Area...22", Schweitzer Ski Area...15", Sandpoint...4-8", Kellogg...5.7", Priest River...5.5", Wallace...5.2", Bovill...5", 5 N Moscow...5", Athol...5", Coeur D'Alene...4", Coolin...4", 2 SW Bonners Ferry...4", Saint Maries...4", 2 N Rathdrum...4".

<b>IDZ003</b>	<b>Idaho Palouse</b>								
	<b>04 2200PST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>05 1000PST</b>								

A quick-moving low pressure system moved across the Palouse early on the morning of December 5, dumping heavy snow in a relatively small area near the path of the low pressure circulation center. Moscow measured 5" of snow.

<b>IDZ001-004</b>	<b>Northern Panhandle - Central Panhandle Mountains</b>								
	<b>06 0300PST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>1500PST</b>								

A low pressure system moving across British Columbia brought heavy snow to the central and northern Idaho panhandle on the morning of December 6 followed by snow showers continuing through the day. The following are snowfall totals associated with this storm: Lookout Pass Ski Area...18", Silver Mountain Ski Area...15", Schweitzer Ski Area...10", Alder Creek...6.3", Bovill...6", 7 N Athol...6", Wallace...5.6", Kellogg...5", Athol...4.8".

<b>IDZ001&gt;002-004</b>	<b>Northern Panhandle - Coeur D'Alene Area - Central Panhandle Mountains</b>								
	<b>12 1800PST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>13 0600PST</b>								

A warm front lifting across the area in advance of a moist Pacific storm system brought heavy snow to the central and northern Idaho panhandle on the night of December 12 and the morning of the 13th. The following is a list of the heavy snowfall totals: Lookout Pass Ski Area...8", Bovill...7", Rathdrum...6", Bonners Ferry...5", Sandpoint...4.5", Priest Lake...4", Moyie Springs...4", Wallace...4", Porthill...4", Deary...4", Alder Creek...4", and Saint Maries...4".

# Storm Data and Unusual Weather Phenomena

December 2001

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

## IDAHO, Northwest

**IDZ001-004**

### **Northern Panhandle - Central Panhandle Mountains**

13	1400PST				0	0			Heavy Snow
14	1400PST								

A strong low pressure system moving along the US/Canada border brought very heavy snow to the high elevations of the Idaho panhandle, generally above 4000 feet from the afternoon of December 13 through December 14. Following are some of the heavy two-day snowfall totals: Schweitzer Ski Area...30", Schweitzer Bowl SNOTEL site...26.4", Lookout Pass Ski Area...19", Silver Mountain Ski Area...18", and the Bear Mountain SNOTEL site...15.7",

**IDZ001-004**

### **Northern Panhandle - Central Panhandle Mountains**

15	2000PST				0	0			Heavy Snow
17	2000PST								

Two strong storm systems moved across British Columbia in quick succession from the evening of December 15 through December 17, bringing very heavy snowfall totals to mountain locations across the Idaho panhandle above 4000 feet. The following are 48-hour snowfall totals: Schweitzer Bowl SNOTEL site...32.7", Lookout Pass Ski Area...26", and the Bear Mountain SNOTEL site...25.9".

**IDZ001-004**

### **Northern Panhandle - Central Panhandle Mountains**

18	1200PST				0	0			Heavy Snow
19	2359PST								

More heavy snow fell across the Idaho panhandle, this time generally above 3000 feet. Snowfall totals over this 36-hour period include: Lookout Pass Ski Area...16", Schweitzer Bowl SNOTEL...12.9", Bear Mountain SNOTEL...11.7", Silver Mountain Ski Area...12", Athol...5.5", and Wallace...4.7".

**IDZ027**

### **Lewis And Southern Nez Perce**

28	0000PST				0	0			Heavy Snow
	1200PST								

A storm system moving up from the southwest brought a band of snow to Lewis and Nez Perce Counties with heavy amounts for parts of the area. Snowfall totals include: Winchester...5.1", Nez Perce...5", and Lewiston...3".

## IDAHO, Southeast

**IDZ018>019-022>023-031**

### **Sawtooth Mountains - Upper Snake Highlands - South Central Highlands - Caribou Highlands - Big And Little Wood River Region**

01	0800MST				0	0			Heavy Snow
02	0800MST								

The first winter storm of a snowy month dropped heavy snow on all of the mountains of southeastern Idaho. The heaviest snow fell in the central mountains and Upper Snake Highlands. Some of the higher snowfall amounts of the storm were 2 feet at Island Park and Lakeside Lodge, 16 inches at Macks Inn, 10 inches at Picabo, 12 inches at Sun Valley Tamarack Lodge, 26 inches at Lost Wood Divide, 16 inches at Galena Summit, 9 inches at Chesterfield, 15 inches at Sedgewick Peak, and 16 inches at Vienna Mine.

**IDZ018>019-021>023-031>032**

### **Sawtooth Mountains - Upper Snake Highlands - Lower Snake River Plain - South Central Highlands - Caribou Highlands - Big And Little Wood River Region - Lost River / Pahsimeroi**

02	0800MST				0	0			Heavy Snow
03	1000MST								

A second winter storm during the first weekend of December again affected nearly all of southeastern Idaho. Snow amounts from this storm were 9 inches on the benches of Pocatello with 3 to 4 inches in town, 16 inches in Ketchum, 11 inches at Mink Creek, 8 inches at Craters of the Moon, 6 inches at Howe, 10 inches at Soda Springs, 7 inches at Lava Hot Springs. Heavy snow was reported at SNOTEL sites above 6500 feet with 22 inches at Bear Canyon, 18 inches at Lost Divide, 20 inches at Crab Creek, 10 inches at Magic Mountain, 11 inches at Sedgewick Peak, 14 inches at Galena Summit.

**IDZ018-031>032**

### **Sawtooth Mountains - Big And Little Wood River Region - Lost River / Pahsimeroi**

05	0700MST				0	0			Heavy Snow
07	0700MST								

The third winter storm of the first week of December brought another round of heavy snow to the central mountains of Idaho. Snow totals from the morning of the 5th through the evening of the 6th were 10 inches at Obsidian and Sunbeam, 18 inches at Ketchum, 24 inches at Galena Summit, 6 inches at Hilts Creek.

**IDZ017-019>023**

### **Eastern Magic Valley - Upper Snake Highlands - Upper Snake River Plain - Lower Snake River Plain - South Central Highlands - Caribou Highlands**

05	0900MST				1	0			Blizzard
	2100MST								

The third winter storm of the first week of December brought snow, high winds and blizzard conditions to southeastern Idaho. Sustained winds greater than 25 mph at the Pocatello airport dropped visibility to less than a half mile from around noon through 4 pm. Snowfall through the day totaled about 2 to 4 inches in the city. Numerous traffic accidents were reported including one fatality when a 63 year old man slid off a bridge on interstate 15 near Inkom. The volume of accidents caused the shutdown of northbound interstate 15 north of Malad from about 5 pm to 9 pm in the evening. Some higher snow amounts from the storm were 12 inches at

# Storm Data and Unusual Weather Phenomena

December 2001

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

## IDAHO, Southeast

Island Park, 8 inches at Wild Horse Divide, 9 inches at Slug Creek, 6 inches at Pebble Creek Ski Resort, 14 inches at Howell Canyon. M63VE

### **IDZ018>019-022>023-031>032 Sawtooth Mountains - Upper Snake Highlands - South Central Highlands - Caribou Highlands - Big And Little Wood River Region - Lost River / Pahsimeroi**

13	0800MST				0	0			
14	1200MST								<b>Heavy Snow</b>

Heavy snow fell in the mountains of southeastern Idaho with 7 inches in Hailey, 9 inches in Victor, 8 inches in Sun Valley, 6 inches in Heglur, 11 inches in Stanley, 7 inches at Macks Inn, 9 inches at Island Park, 8 inches in Malad, 4 inches in Soda Springs, 4 inches in Rexburg, 3 inches on the Pocatello benches. Although snow amounts were light in the 1 to 3 inch range in the Lower Snake River Plain, strong winds in excess of 30 mph caused the shutdown of interstate 86 between American Falls and Pocatello on the morning of the 14th.

### **IDZ018>019-022>023-031>032 Sawtooth Mountains - Upper Snake Highlands - South Central Highlands - Caribou Highlands - Big And Little Wood River Region - Lost River / Pahsimeroi**

16	2300MST				0	0			
17	1600MST								<b>Heavy Snow</b>

6 to 12 inches of snow was recorded at SNOTEL sites between 6500 and 8000 feet in the central mountains and eastern highlands of southeast Idaho. Other reports were 7 inches at Driggs, 6 inches at Bellevue, 7 inches at Clayton, 6 inches at Chesterfield, 4 inches at Lava Hot Springs, 4 inches at Picabo, 4 inches at Swan Valley, 4 inches at Holbrook, 3 inches at Soda Springs, 3 inches at Island Park, and 3 inches at Sun Valley.

### **IDZ019-023-031 Upper Snake Highlands - Caribou Highlands - Big And Little Wood River Region**

18	1700MST				0	0			
19	0900MST								<b>Heavy Snow</b>

Heavy snow fell in the central and eastern mountains with 9 inches at Island Park, 8 inches at Galena Lodge, 6 inches at Macks Inn, 6 inches at Pebble Creek Ski Resort

## IDAHO, Southwest

### **IDZ013**

#### **Boise Mountains**

01	1100MST				0	0			
03	0200MST								<b>Heavy Snow</b>

Two closely-spaced Pacific storms dropped up to 18 inches of snow in the Boise Mountains over a 48 hour period. Heaviest snowfall was above 6000 feet in elevation. The heavy, wet snow snapped hundreds of tree limbs and brought down power lines serving 1200 homes from Garden Valley to Lowman. An accumulation of snow collapsed a carport in Terrace Lakes.

### **IDZ011-013 West Central Mountains - Boise Mountains**

04	2200MST				0	0			
05	0900MST								<b>Heavy Snow</b>

A strong Pacific storm brought between 4 and 12 inches of snow to the West Central Mountains and between 4 and 9 inches of snow to the Boise Mountains.

### **IDZ011-013-028 West Central Mountains - Boise Mountains - Camas Prairie**

05	1900MST				0	0			
06	0400MST								<b>Heavy Snow</b>

A potent cold-frontal system dropped 4 to 10 inches of snow to the West Central and Boise Mountains and the Camas Prairie.

### **IDZ011-013-028>029 West Central Mountains - Boise Mountains - Camas Prairie - Owyhee Mountains**

13	1500MST				0	0			
14	0800MST								<b>Heavy Snow</b>

A strong Pacific storm generated bands of heavy snow across the West Central and Boise Mountains. Between 8 and 20 inches of snow brought down trees that took out two transmission lines, cutting off power for several hours to over 12,000 customers in Valley and Boise Counties. Highway 21, between Boise and Stanley, was closed due to avalanche danger. The Owyhee Mountains received between 6 and 17 inches of snow. The Camas Prairie received 14 to 16 inches of snow.

### **IDZ011 West Central Mountains**

29	0945MST				0	0			
	1200MST								<b>Fog</b>

Locally dense fog and below freezing temperatures resulted in the formation of black ice on Highway 55 near Donnelly and also in Cascade, Idaho. An accident involving 14 vehicles closed the state highway for two hours between Lake Fork and Donnelly. Four people injured in the pile-up were treated and released at the local hospital. There were several slide-offs in Cascade, but no injuries were reported.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## ILLINOIS, Central

NONE REPORTED.

## ILLINOIS, Northeast

NONE REPORTED.

## ILLINOIS, Northwest

NONE REPORTED.

## ILLINOIS, South

### ILZ093>094

#### **Pulaski - Massac**

01	0300CST				0	0			<b>Flood</b>
04	2200CST								

The Ohio River crested one to two feet above flood stage at Grand Chain and Brookport early in December. The crest at Brookport was on the 2nd and at Grand Chain on the 3rd. Minor flooding of bottomland and low-lying areas occurred.

### ILZ081-084

#### **Franklin - Jackson**

16	1100CST				0	0			<b>Flood</b>
29	1500CST								

The Big Muddy River crested at 25.45 feet at Plumfield on December 19. Flood stage there is 20 feet. At Murphysboro, the crest of 28.69 feet occurred on December 21. Flood stage there is 16 feet. The flooding was mostly minor bottomland flooding. Some lowlands in the vicinity of houses on Bridge Street in Murphysboro were affected.

### ILZ076-082-084>094

#### **Wayne - Hamilton - Jackson - Williamson - Saline - Gallatin - Union - Johnson - Pope - Hardin - Alexander - Pulaski - Massac**

17	0200CST				0	0	8K		<b>Flood</b>
18	0900CST								

Numerous roads were flooded in most southern Illinois counties, including a few primary routes. In Hamilton County, Route 142 was closed south of Mcleansboro. In Alexander County, a residence near Tammms was evacuated. Rainfall amounts for December 16-17 were commonly 3 to 5 inches in the flooded areas. In Union County, 4.35 inches was measured at Anna. Flooding blocked railroad tracks in Union County. An Amtrak train was forced to make an unplanned stop at the Anna station, and all 75 passengers found alternate means of travel.

### ILZ083

#### **White**

17	0400CST				0	0			<b>Flood</b>
30	1100CST								

The Little Wabash River crested at 31.24 feet at Carmi on December 22. Flood stage there is 27 feet. Some county roads were inundated. Floodwaters approached Routes 1 and 14 in Carmi.

### **Johnson County**

Countywide	17	0905CST 1320CST			0	0	40K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	-----	--	--------------------

### **Pope County**

Countywide	17	1000CST 1320CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

### **Saline County**

Countywide	17	1000CST 1320CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

### **Union County**

Countywide	17	1000CST 1320CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

### **Gallatin County**

Countywide	17	1030CST 1320CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

### **Hardin County**

Countywide	17	1030CST 1320CST			0	0	20K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	-----	--	--------------------

### **Massac County**

Countywide	17	1030CST 1320CST			0	0	10K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	-----	--	--------------------



# Storm Data and Unusual Weather Phenomena

December 2001

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

## ILLINOIS, South

### **Pulaski County**

Countywide	17	1030CST 1320CST			0	0	10K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	-----	--	--------------------

### **Williamson County**

Countywide	17	1135CST 1320CST			0	0	10K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	-----	--	--------------------

Heavy rain falling on saturated ground caused water levels to rise quickly. After the initial rapid rises, a prolonged period of flooding set in as light to moderate rain continued to fall. In Williamson County, water was 3 feet deep over the Saline River bridge on a county road, and roads were washed out. In Hardin County, some bridges were washed out. Illinois Route 146 was closed near Anna, and Route 145 was barricaded north of Route 146 in Pope County. Pulaski County reported 15 to 20 road closures. Water entered at least two businesses in Vienna. A car dealership and a city park in Vienna were flooded by the Little Cache Creek. In Johnson County, a total of 20 road closures were reported, and the community of Flatwoods was completely cut off for a short time. Near Elba in Gallatin County, several families were forced from their homes due to backwater flooding. Water entered an elementary school in Metropolis. Water also entered a warehouse in Metropolis used to store Christmas toys for needy local children. Several hundred dollars worth of toys were damaged. Numerous roads were closed throughout southern Illinois.

### **ILZ087-092>094**

#### **Gallatin - Alexander - Pulaski - Massac**

18	0200CST				0	0			<b>Flood</b>
24	0800CST								

The Ohio River crested one to two feet above flood stage at Shawneetown, Brookport, Grand Chain, and Cairo on December 20 or early on December 21. Minor flooding of bottomland and low-lying areas occurred. This flood crest was the second of the month for Brookport and Grand Chain. This flooding was due to a series of heavy rainfall events that began in late November and ended around December 17. The heaviest rainfall event produced between 4 and 5 inches between the 15th and 17th.

### **ILZ078**

#### **Wabash**

18	1700CST				0	0			<b>Flood</b>
31	2000CST								

The Wabash River crested at 18.33 feet at New Harmony, Indiana on December 26. Flood stage there is 15 feet. This resulted in minor flooding of low-lying areas and bottomlands.

## ILLINOIS, Southwest

### **Marion County**

Countywide	16	0000CST			0	0			<b>Heavy Rain</b>
	17	1400CST							

A steady rain started on the 16th and continued until about midday the 17th. Rainfall amounts of 2 to 3 inches were common. The result was numerous roads that became impassable due to ponding of water, especially at intersections. Many area residents also discovered leaky basements due to the rain.

## INDIANA, Central

### **INZ053>054-061-067>068**

#### **Owen - Morgan - Greene - Knox - Daviess**

15	1200EST				0	0			<b>Flood</b>
23	2300EST								

Heavy rain from the 14th through the 17th resulted in the highest river levels along the lower portion of the White since January 1999. Flooding affected extensive agricultural areas and closed numerous local and state roads.

Crests:

Centerton:	13.5 feet on December 18 (FS = 12 feet)
Spencer:	19.1 feet on December 19 (FS = 14 feet)
Elliston:	24.4 feet on December 18 (FS = 18 feet)
Newberry:	18.7 feet on December 21 (FS = 13 feet)
Edwardsport:	20.9 feet on December 19 (FS = 15 feet)
Petersburg:	23.8 feet on December 24 (FS = 16 feet)
Hazleton:	24.5 feet on December 25 (FS = 16 feet)

### **INZ072**

#### **Jennings**

15	1200EST				0	0			<b>Flood</b>
20	1200EST								

Heavy rain from the 14th through the 17th resulted in the highest levels at some spots along the Muscatuck River since May 1996. Flooding affected extensive agricultural areas and closed numerous state and local roads. The river crested at 25.6 feet (FS = 15 feet) near Deputy on the 17th, 19.6 feet (FS = 17 feet) near Vernon on the 17th and 23.5 feet (FS = 16 feet) at Wheeler Hollow on the 19th.

# Storm Data and Unusual Weather Phenomena

December 2001

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

**INDIANA, Central**  
**INZ028>029-035-**  
**043>044-051-060-067**

**Warren - Tippecanoe - Fountain - Vermillion - Parke - Vigo - Sullivan - Knox**

16	0600EST								
30	0700EST				0	0			Flood

1 to 3 inches of rain fell on the 16th and 17th across all of the basin allowing for the highest river levels along the Wabash since January 1999. Numerous county and state roads were closed and extensive areas of agricultural bottomland were effected.

Crests:

Lafayette: 16.8 feet on December 18 (FS = 11 feet)  
 Covington: 20.6 feet on December 20 (FS = 16 feet)  
 Montezuma: 20.3 feet on December 18 (FS = 14 feet)  
 Terre Haute: 18.1 feet on December 20 (FS = 14 feet)  
 Hutsonville: 20.3 feet on December 23 (FS = 16 feet)  
 Riverton: 18.5 feet on December 23 (FS = 15 feet)  
 Vincennes: 18.5 feet on December 23 (FS = 17.5 feet)  
 Mount Carmel: 25.8 feet on December 25 (FS = 19 feet)

**INZ064-069>071**

**Bartholomew - Martin - Lawrence - Jackson**

16	0700EST								
27	0700EST				0	0			Flood

Heavy rain from the 14th through the 17th resulted in the highest river levels along the lower portion of the East Fork of the White River since June 1997. Flooding affected extensive agricultural areas and closed numerous state and local roads.

Crests:

Columbus: 10.5 feet on December 19 (FS = 9 feet)  
 Seymour: 18.3 feet on December 18 (FS = 12 feet)  
 Bedford: 30.8 feet on December 21 (FS = 20 feet)  
 Williams: 14.0 feet on December 21 (FS = 8 feet)

**INDIANA, Northeast**  
**INZ004**

**St. Joseph**

28	1700EST								
29	1700EST				0	0			Heavy Snow

A lake effect snow event produced snow bands over much of Southwest Lower Michigan and Northwest Indiana. Snowfall was heaviest across Berrien county Michigan and ST. Joseph county Indiana. Nine inches of snow fell across South Bend and ten inches fell in both Buchanan and Berrien Springs.

**INDIANA, Northwest**

NONE REPORTED.

**INDIANA, South Central**  
**INZ079**

**Jefferson**

17	0215EST								
18	1015EST				0	0			Flood

The Muscatatuck River at Deputy was above flood stage from early in the morning of the 17th until late morning on the 18th. Flood stage at Deputy is 20 feet. The river crested at 25.6 feet at 515 PM EST on the 17th, causing minor flooding. At this level, some county roads are under water in northeast Jefferson County.

**Washington County**

Countywide	17	0330EST							
					0	0			Flash Flood

**Dubois County**

Huntingburg	17	0430EST 1330EST							
					0	0			Flash Flood

**Orange County**

French Lick	17	0430EST 1700EST							
					0	0			Flash Flood

**Clark County**

Sellersburg	17	0915EST 1200EST							
					0	0			Flash Flood

Several roads were impassable in the Huntingburg area of Dubois County, along with the French Lick area of Orange County. Roads

# Storm Data and Unusual Weather Phenomena

December 2001

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

## INDIANA, South Central

were flooded countywide in Orange County. Weber Road near Sellersburg in Clark County was closed due to high water.

**INZ077**

**Washington**

17	1030EST				0	0	5K		<b>Flood</b>
18	0630EST								

The Blue River at Fredericksburg was above flood stage from late morning on the 17th until the morning of the 18th. Flood stage at Fredericksburg is 20 feet. The river crested at 21.98 feet at 800 PM EST on the evening of the 17th, causing minor flooding. At this level, water begins to enter basements. near the river edge.

## INDIANA, Southeast

**INZ050-058-058>059-059-066-066-066-073>075-080**     **Wayne - Fayette - Union - Franklin - Ripley - Dearborn - Ohio - Switzerland**

17	0620EST				1	0			<b>Flood</b>
	2150EST								

There were several reports of high water on roadways and creeks overflowing their banks throughout southeast Indiana and the Whitewater Valley. A woman attempted to cross a flooded slab bridge on Yellow Bank Creek. The automobile stalled and the woman was killed when she exited the vehicle and was swept downstream. Two children in the car were rescued by emergency personnel.  
F33VE

## INDIANA, Southwest

**INZ081**

**Gibson**

06	0500CST				0	0			<b>Flood</b>
08	1700CST								

The Patoka River crested a few inches above its 18-foot flood stage at Princeton on December 6. Minor flooding of lowlands occurred.

**INZ081>082-085>088**

**Gibson - Pike - Posey - Vanderburgh - Warrick - Spencer**

16	2130CST				0	0			<b>Flood</b>
18	1000CST								

Numerous roads were covered by water across southwestern Indiana, and some were closed. A few major routes were closed, including Highway 66 at Blairsville in Posey County. Spencer County reported as many as 34 roads closed at one time. In Vanderburgh County, the northern half of the county was the most affected by road flooding.

**INZ081**

**Gibson**

17	0800CST				0	0			<b>Flood</b>
30	1800CST								

The Patoka River crested at 21.62 feet at Princeton on December 23. Flood stage at Princeton is 18 feet. This resulted in minor flooding of bottomland and low-lying areas.

**INZ085**

**Posey**

18	0400CST				0	0			<b>Flood</b>
31	1900CST								

The Wabash River crested at 18.33 feet at New Harmony on December 26. Flood stage there is 15 feet. This resulted in minor flooding of low-lying areas and bottomlands.

**INZ081>082**

**Gibson - Pike**

18	1000CST				1	0			<b>Flood</b>
27	1400CST								

The White River rose above flood stage, inundating low-lying areas and bottomlands. A section of State Route 257 in Pike County was closed near the river. Motorists still drove through the closed area by going around barricades. At least four vehicles were swept off the roadway in fast currents. One motorist died. The victim likely died on Christmas night, his vehicle was found the next day, and his body was recovered two days after the mishap. M29VE

**INZ081>082-085>088**

**Gibson - Pike - Posey - Vanderburgh - Warrick - Spencer**

29	0200CST				0	0			<b>Snow</b>
	1000CST								

The first measurable snow of the season caused some minor traffic problems. About one inch of snow fell across most of southwest Indiana, including Evansville. Roads were snow-covered. Accidents were reported on Interstate 64 in Spencer County.

## IOWA, Central

**Butler County**

6 N Allison

05	1345CST				0	0	75K		<b>Thunderstorm Wind (G65)</b>
----	---------	--	--	--	---	---	-----	--	--------------------------------

# Storm Data and Unusual Weather Phenomena

December 2001

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

## IOWA, Central

Record high temperatures were brought into Iowa on strong southerly winds. Winds at the 850 mb level were in excess of 50 kts with dew point temperatures in the 10 to 12 degree C. range. Surface temperatures ahead of the front soared into the mid 60s to low 70s across the state, breaking record highs for the date. Des point temperatures reached the mid 50s to low 60s. Thunderstorms developed ahead of the front with a strong squall line along the leading edge of the cooler air. Most of the storms were a below severe levels, but did produce winds of 45 to 55 MPH in most areas along with heavy rain and pea size hail. The storms raced northeast at over 60 MPH across the state. An apparent microburst swept through Butler County. A barn was hit and destroyed north of Allison by the high winds. Pieces of the barn were strewn for one quarter to one half of a mile across the fields east of where the barn once stood. Though there were no human injuries, 4 calves sustained minor injuries.

### **Monroe County**

**7 SE Albia**

**22 1352CST 0 0 Hail (0.88)**

An intensifying low pressure lifted northeast out of Kansas through Iowa, into Minnesota during the day on the 22nd. Much of the heavy precipitation was cut off as the dry slot moved over Iowa. The atmosphere became unstable as rapid cooling took place aloft. A line of thunderstorms formed in the dry slot during the early afternoon. The thunderstorms produced hail, most of which was under one half inch in diameter and covered the ground. One cell became severe and produced nickle size hail southeast of Albia in Monroe County. No significant damage was reported with the hail however.

## IOWA, East Central and Southeast

### **Linn County**

**Walker**

**05 1245CST 0 0 Hail (1.00)**

1 inch hail reported by storm spotter.

### **Van Buren County**

**Keosauqua**

**05 1620CST 0 0 Thunderstorm Wind (G50)**

Law enforcement reported 4 inch diameter tree branches blown down.

### **Van Buren County**

**1 W Milton**

**05 1620CST 0 0 Thunderstorm Wind (G50)**

Law enforcement reported a machine shed blown down.

A strong cold front moved through Eastern Iowa the afternoon and evening of December 5, 2001. Unseasonably warm and unstable air was found over Eastern Iowa just ahead of the front. This air helped fuel a narrow line of thunderstorms across the region. A few of these storms produced large hail and high winds, as they passed through Eastern Iowa.

## IOWA, Northeast

NONE REPORTED.

## IOWA, Northwest

NONE REPORTED.

## IOWA, Southwest

NONE REPORTED.

## KANSAS, East

NONE REPORTED.

## KANSAS, Extreme Southeast

NONE REPORTED.

## KANSAS, North Central

NONE REPORTED.

## KANSAS, Northeast

NONE REPORTED.

## KANSAS, Northwest

**KSZ015>016-029**

**Sheridan - Graham - Gove**

**12 1500MST 0 0 Winter Storm**  
**1900MST**

# Storm Data and Unusual Weather Phenomena

December 2001

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

## KANSAS, Northwest

A quick winter storm brought a burst of 4 to 6 inches of heavy snow across eastern Sheridan and central Graham Counties. Also, northern Gove County was affected by the storm with up to 4 inches of snow, which caused minor accidents along Interstate 70.

## KANSAS, Southeast

NONE REPORTED.

## KANSAS, Southwest

NONE REPORTED.

## KENTUCKY, Central

### **KYZ061**

#### **Butler**

01 0000EST

0      0

**Flood**

02 1900EST

The Green River at Rochester was above flood stage from around midday on Nov. 30 until the evening of Dec. 2. Flood stage at Rochester is 17 feet. The river crested at 18.4 feet at 700 AM EST on the morning of Dec. 2, causing minor flooding.

### **KYZ056>057-065**

#### **Garrard - Madison - Taylor**

14 1020EST

0      0      10K

**High Wind (G70)**

1400EST

Trees and power lines were downed in Lancaster. There was isolated unspecified structural damage.

### **Hancock County**

#### **Countywide**

17 0430EST

0      0

**Flash Flood**

1330EST

### **Ohio County**

#### **Countywide**

17 0850EST

0      0

**Flash Flood**

1130EST

Several roads were impassable in the southern part of Hancock County. Three county roads were closed due to high water in Ohio County, along with some back roads in low lying areas that typically flood.

### **KYZ026**

#### **Ohio**

17 1330EST

0      0

**Flood**

18 1930EST

The Rough River at Dundee was above flood stage form early in the afternoon of Dec. 17 until the evening of Dec. 18. Flood stage at Dundee is 25 feet. The river crested at 25.30 feet at 230 AM EST on the morning of the 18th, causing minor flooding. At this level, a section of highway about a half mile long near the river bridge begins to flood.

## KENTUCKY, Eastern

### **KYZ069**

#### **Jackson**

14 1004EST

0      0      3K      0

**High Wind (G50)**

1130EST

Non thunderstorm wind damage occurred across the county. In Mckee several trees were blown down. In Clover Bottom winds blew a barn roof off on Robinson Road, several trees were down as well.

### **KYZ050**

#### **Montgomery**

14 1100EST

0      0      0      0

**High Wind (G50)**

1200EST

Non thunderstorm winds blew one tree down in the city of Mount Sterling.

### **KYZ059**

#### **Powell**

14 1112EST

0      0      0      0

**High Wind (G50)**

1200EST

Non thunderstorm winds blew 7 large trees down in the Clay City area.

### **KYZ051**

#### **Bath**

14 1126EST

0      0      0      0

**High Wind (G50)**

1200EST

Non thunderstorm winds blew one tree down on Highway 60 east of Owingsville.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## KENTUCKY, Eastern

**KYZ052**

**Rowan**

14	1130EST 1215EST				0	0	10K	0	High Wind (G50)
----	--------------------	--	--	--	---	---	-----	---	-----------------

Non thunderstorm winds blew a power pole down onto a mobile home, no damage was reported to the home. In Morehead an aluminum carport was picked up by the wind and thrown into a truck, the vehicle sustained a few dents and a shattered windshield. In Farmers, a barn located on Kentucky Highway 801 was destroyed by the wind. Trees were also reported down across many locations throughout the county.

**KYZ111**

**Lee**

14	1130EST 1215EST				0	0	0	0	High Wind (G50)
----	--------------------	--	--	--	---	---	---	---	-----------------

Non thunderstorm winds blew trees and power lines down all across the county.

**KYZ114**

**Owsley**

14	1130EST 1215EST				0	0	3K	0	High Wind (G52)
----	--------------------	--	--	--	---	---	----	---	-----------------

Non thunderstorm winds blew a large pine tree down onto a home in Island City, no injuries were reported. In the city of Booneville the high winds blew tin roofing off of a out building and tossed it 25 to 30 feet from the building. Trees were also reported down in the area.

**KYZ108**

**Wolfe**

14	1135EST 1215EST				0	0	2K	0	High Wind (G50)
----	--------------------	--	--	--	---	---	----	---	-----------------

Non thunderstorm winds blew trees down all across the county. One large pine tree fell onto a porch of a mobile home along Highway 15. The porch was totally destroyed.

**KYZ060**

**Menifee**

14	1136EST 1215EST				0	0	0	0	High Wind (G50)
----	--------------------	--	--	--	---	---	---	---	-----------------

Non thunderstorm winds blew several trees down along Highway 36 north of Frenchburg. The city of Wellington was without electricity for a time as trees fell on power lines.

## KENTUCKY, Northeast

**KYZ101>103-105**

**Greenup - Carter - Boyd - Lawrence**

01	0000EST				0	0			
23	1800EST								Prolong Warmth

An Indian summer environment lingered during most of this period. Daytime temperatures in the 50s and 60s were common. The warmest readings came on the 5th, when Ashland and Grayson both saw 77 degrees. Greenup Lock and Dam, plus Charley of Lawrence County, had 74 degrees on the 5th.

**KYZ101>103-105**

**Greenup - Carter - Boyd - Lawrence**

14	1200EST 1500EST				0	0			
									Wind

Wind gusts of 40 to 50 mph occurred as a strong cold front swept through northeast Kentucky. A few trees and power lines were fallen.

## KENTUCKY, Northern

NONE REPORTED.

## KENTUCKY, Southwest

**KYZ021**

**Muhlenberg**

01	0001CST				0	0			
04	1800CST								Flood

The Green River crested about 6 feet above flood stage at Paradise early on December 1. This resulted in minor flooding of bottomland and low-lying areas.

**KYZ005>006**

**Mccracken - Graves**

01	0345CST 1300CST				0	0			
									Flood

The Clarks River went over its banks due to very heavy rains during the last week of November. Several roads near the river were flooded, including Oaks Road, Bonds Road, and Said Road. The water came close to residences but did not enter them.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## KENTUCKY, Southwest

**KYZ001>009-012-014-016-018>019** **Fulton - Hickman - Carlisle - Ballard - Mccracken - Graves - Livingston - Marshall - Calloway - Trigg - Union - Hopkins - Henderson - Daviess**

16	1500CST				0	2	5K		<b>Flood</b>
18	1000CST								

Numerous roads were closed across western Kentucky, mostly secondary roads. Two persons were injured in Hickman County when a motorist drove into floodwaters along U.S. Highway 51. The motorist, who was unable to see a flagman in dense fog, drove through water on the road until she was swept into a 30-foot wide ditch. The car was swept downstream about 30 feet and began to fill with water. The flagman rescued the motorist from the vehicle. Both were taken to a local hospital for injuries that were not life-threatening. In Calloway County, twenty to 30 roads were closed, mainly near the Clarks River. Hopkins County reported 17 roads closed, mostly secondary. In Union County, schools were closed, and U.S. Highway 60 was closed near the Henderson County line. The Little River and the Muddy Fork went out of their banks and flooded roads in Trigg County. In Carlisle County, a section of U.S. Highway 62 was flooded. In Graves County, a wooden bridge was washed out near Mayfield. Highway 58 was closed at a low-lying area near the Graves/Hickman County line. In Fulton County, Highway 94 was flooded and barricaded.

## **KYZ021**

### **Muhlenberg**

17	0700CST				0	0			<b>Flood</b>
19	1800CST								

The Green River crested about a foot above flood stage at Paradise on December 18. This resulted in minor flooding of agricultural bottomland and low-lying areas.

**KYZ001>009-011-013** **Fulton - Hickman - Carlisle - Ballard - Mccracken - Graves - Livingston - Marshall - Calloway - Lyon - Caldwell**

18	0430CST				0	0			<b>Fog</b>
	1000CST								

Dense fog reduced visibility to less than a quarter mile across far western Kentucky. The fog was cited as the primary cause of a vehicle accident along U.S. Highway 60 just west of Paducah. A 77-year-old woman was killed when her car was struck by a tractor trailer rig. In a separate incident in Hickman County, a motorist who was unable to see a flagman in the fog drove into floodwaters along U.S. Highway 51. Her vehicle was swept downstream about 30 feet before she was rescued by the flagman. The fog formed as a result of soggy ground from heavy rain during previous days, along with clear skies and light winds.

## LOUISIANA, Northeast

### **Morehouse Parish**

Countywide	12	1330CST			0	0	10K		<b>Flash Flood</b>
		1700CST							

Extremely heavy rainfall in excess of 5 inches near Bonita flooded a church. Many roads were also flooded with some submerged under 2 feet of water.

### **Tensas Parish**

6 N Newellton	12	1555CST	0.2	30	0	0	1K		<b>Tornado (F0)</b>
		1557CST							

A brief tornado touchdown occurred over open country. No damage to structures was reported, but a few trees and powerlines were knocked down.

### **Morehouse Parish**

Countywide	13	1040CST			0	0			<b>Flash Flood</b>
		1830CST							

Periods of heavy rain resulted in widespread flooding across the parish.

### **East Carroll Parish**

Countywide	13	1330CST			0	0	25K		<b>Flash Flood</b>
		1845CST							

Several roads across the parish were flooded. A few homes near a levee were also flooded.

### **Richland Parish**

Countywide	13	1400CST			0	0			<b>Flash Flood</b>
		1830CST							

Several roads flooded throughout the parish, including numerous spots along highway 17 due to additional, heavy rainfall.

### **Franklin Parish**

Countywide	13	1530CST			0	0			<b>Flash Flood</b>
		1830CST							

Several roads throughout the parish were flooded due to additional, heavy rainfall. Northern portions of the parish were particularly hit hard by heavy rains and flooding.

### **Tensas Parish**

Newellton	13	1715CST			0	0	10K		<b>Thunderstorm Wind</b>
		1717CST							

Several trees reported down in town, with a few falling on cars and damaging them.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<b><u>LOUISIANA, Northeast</u></b>									
<b>West Carroll Parish</b>									
Countywide	13	1720CST 1830CST			0	0			Flash Flood
									Many roads were underwater. The high water also threatened a few homes.
<b>Catahoula Parish</b>									
Countywide	13	1745CST 1930CST			0	0			Flash Flood
									Several roads across the parish were underwater.
<b>Madison Parish</b>									
Countywide	13	1800CST 2000CST			0	0	40K		Flash Flood
									Heavy rainfall continued through the evening hours with eight homes flooded near the city of Tallulah.
<b>Tensas Parish</b>									
Countywide	13	1815CST 1930CST			0	0	5K		Flash Flood
									Several streets in the town of Waterproof were underwater. One house was flooded with a few other homes being threatened by flood waters.
<b><u>LOUISIANA, Northwest</u></b>									
<b>De Soto Parish</b>									
Stonewall	12	0750CST			0	0			Flash Flood
									Water over the road along Hwy 3276 causing traffic to detour.
<b>De Soto Parish</b>									
Mansfield	12	0930CST			0	0			Flash Flood
									Flooding along Hwy 84 stalled cars and caused traffic to detour.
<b>De Soto Parish</b>									
Carmel	12	0945CST			0	0			Flash Flood
									Flooding along I-49 and 509 ramp.
<b>Lincoln Parish</b>									
Ruston	12	1200CST			0	0	6K		Flash Flood
									Several Parish roads were closed and a restaurant near I-20 was flooded.
<b>Sabine Parish</b>									
Many	12	1200CST			0	0			Flash Flood
									Street flooding causing reroute of traffic in town.
<b>Red River Parish</b>									
Coushatta	12	1200CST			0	0			Flash Flood
									Several Parish roads closed due to high water.
<b>Jackson Parish</b>									
Clay	12	1230CST			0	0			Flash Flood
									Flash flooding along Hwy 167.
<b>Union Parish</b>									
Farmerville	12	1230CST			0	0			Flash Flood
									Several parish roads were closed due to high water.
<b>Bienville Parish</b>									
Arcadia	12	1230CST			0	0			Flash Flood
									Flooding along parish roads caused detours and minor inconvenience.
<b>Ouachita Parish</b>									
West Monroe	12	1255CST			0	0			Flash Flood
									Flooding of streets making travel difficult.
<b>Ouachita Parish</b>									
1 S Sterlington	12	1315CST			0	0			Flash Flood
									Flooding along Hwy 165 near Hwy 2 causing a reroute of traffic.



# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b><u>LOUISIANA, Northwest</u></b>									
<b>Lincoln Parish</b>									
Ruston	12	1645CST			0	0			Flash Flood
		U.S. Hwy 167 closed from flooding.							
<b>Jackson Parish</b>									
Jonesboro	12	1645CST			0	0			Flash Flood
		Hwy 167 closed north of town.							
<b>Natchitoches Parish</b>									
Cloutierville	13	1240CST			0	0			Hail (0.75)
<b>Winn Parish</b>									
Winnfield	13	1350CST 1641CST			0	0			Flash Flood
		Several roads closed in town.							
<b>Grant Parish</b>									
Coffax	13	1510CST			0	0			Hail (0.75)
<b>Natchitoches Parish</b>									
Cloutierville	13	1520CST 1615CST			0	0			Flash Flood
		Major streets closed in and around town.							
<b>Grant Parish</b>									
1 S Dry Prong	13	1520CST			0	0			Hail (0.75)
<b>Grant Parish</b>									
1 N Montgomery	13	1520CST			0	0			Thunderstorm Wind (G60)
		Several large trees down.							
<b>La Salle Parish</b>									
2 E Jena	13	1546CST			0	0			Thunderstorm Wind (G58)
		Powerlines down along Hwy 8.							
<b>La Salle Parish</b>									
3 E Jena	13	1550CST			0	0			Hail (0.75)
<b>Caddo Parish</b>									
Vivian	16	2200CST			0	0			Flash Flood
		A nursing home was flooded but damage was relatively minor.							
<b>Bossier Parish</b>									
Benton	16	2220CST			0	0			Urban/Sml Stream Fld
		Dole road flooded in town.							
<b>Caddo Parish</b>									
Greenwood	16	2220CST			0	0			Flash Flood
		High water at an apartment complex resulted in residents having to be evacuated.							
<b>Winn Parish</b>									
2 NE Winnfield to 10 ENE Winnfield	22	1621CST 1638CST	8.5	25	0	0	24K		Tornado (F1)
		A tornado developed in the southeast quadrant of an HP supercell associated with an eastward moving cold front. Damage was mostly confined to rural timberland with the exception of a few mobile homes which lost windows and portions of their roofs and one ranch style home which lost numerous shingles on the southwest half of the roof. Numerous small and moderate pine trees were snapped and pushed over. This tornado remained within the political boundaries of Winn Parish.							
<b>Ouachita Parish</b>									
West Monroe	22	1939CST			0	0			Hail (0.75)
<b><u>LOUISIANA, Southeast</u></b>									
<b>East Baton Rouge Parish</b>									
Baton Rouge	13	1800CST			0	0	1K		Lightning
		Lightning caused over 5,000 homes and businesses to lose power.							

# Storm Data and Unusual Weather Phenomena

December 2001

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

## LOUISIANA, Southeast

### **Terrebonne Parish**

<b>Houma</b>	13	2030CST 2040CST	0.2	25	0	0	100K		<b>Tornado (F1)</b>
--------------	----	--------------------	-----	----	---	---	------	--	---------------------

A tornado touched down in an industrial area on the east side of Houma and damaged seven buildings, including severe damage to three of the buildings.

### **Jefferson Parish**

<b>Metairie</b>	13	2105CST 2106CST	0.2	25	0	0	100K		<b>Tornado (F0)</b>
-----------------	----	--------------------	-----	----	---	---	------	--	---------------------

A tornado tore off the roof of an eight unit condominium building and partially removed the roof of another condominium building. In addition, a metal shed was destroyed, a fence knocked down, a tree and several large tree limbs blown down, and a window knocked out as a result of flying debris.

### **St. Tammany Parish**

<b>Mandeville</b>	13	2304CST			0	0	15K		<b>Lightning</b>
-------------------	----	---------	--	--	---	---	-----	--	------------------

A lightning strike caused a fire in an unoccupied building.

## LOUISIANA, Southwest

### **Beauregard Parish**

<b>5 W De Ridder to 2 NW De Ridder</b>	12	1112CST 1118CST	2	10	0	0	100K		<b>Tornado (F1)</b>
--	----	--------------------	---	----	---	---	------	--	---------------------

A small tornado touched down in wooded area near DeRidder, turning over an 18 wheeler and blowing down trees and power lines. One home received shingle damage to its roof. This tornado continued into Vernon Parish.

### **Vernon Parish**

<b>2 SW Rosepine to Rosepine</b>	12	1118CST 1120CST	2	20	0	0	50K		<b>Tornado (F1)</b>
--------------------------------------	----	--------------------	---	----	---	---	-----	--	---------------------

The tornado that originated in Beauregard Parish continued into rural Vernon Parish, blowing trees and power lines down on Planer Mill Road. A couple of homes in Rosepine lost shingles during the storm.

### **Vernon Parish**

<b>Evans</b>	13	1143CST			0	0			<b>Hail (0.88)</b>
--------------	----	---------	--	--	---	---	--	--	--------------------

### **Cameron Parish**

<b>Grand Lake</b>	13	1645CST			0	0	5K		<b>Thunderstorm Wind</b>
-------------------	----	---------	--	--	---	---	----	--	--------------------------

Numerous trees were blown down on power lines.

### **Allen Parish**

<b>5 S Oberlin</b>	13	1650CST			0	0	5K		<b>Thunderstorm Wind</b>
--------------------	----	---------	--	--	---	---	----	--	--------------------------

Trees were blown down on Cole Road.

### **Calcasieu Parish**

<b>Gillis</b>	22	2040CST			0	0			<b>Hail (0.88)</b>
---------------	----	---------	--	--	---	---	--	--	--------------------

### **Calcasieu Parish**

<b>Gillis</b>	22	2040CST			0	0	5K		<b>Thunderstorm Wind</b>
---------------	----	---------	--	--	---	---	----	--	--------------------------

A barn was damaged from high winds in a severe thunderstorm.

### **Rapides Parish**

<b>3 S Glenmora</b>	22	2215CST			0	0	5K		<b>Thunderstorm Wind</b>
---------------------	----	---------	--	--	---	---	----	--	--------------------------

Trees and power lines were blown down.

### **Rapides Parish**

<b>Gardner</b>	22	2233CST			0	0	2K		<b>Thunderstorm Wind</b>
----------------	----	---------	--	--	---	---	----	--	--------------------------

Tree blown down on Highway 121.

### **Rapides Parish**

<b>Alexandria</b>	22	2332CST			0	0	2K		<b>Thunderstorm Wind</b>
-------------------	----	---------	--	--	---	---	----	--	--------------------------

Tree blown down on Evergreen Drive.

## MAINE, North

**MEZ015>017-029>030 Southern Penobscot - Interior Hancock - Central Washington - Coastal Hancock - Coastal Washington**

17	1700EST			0	0			<b>Winter Storm</b>
18	1700EST							

Intensifying low pressure tracking just south of the Gulf of Maine brought 5 to 8 inches of snow to the region.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MAINE, North

**MEZ015>031**

**Southern Penobscot - Southern Piscataquis**

20 1400EST

21 0400EST

0 0

**Winter Storm**

A trof axis extending from low pressure over the Gulf of Maine to a second low across northwest New England...provided a focus for a small area of 6 to 10 inches of snow.

## MAINE, South

**MEZ007>009-**

**012>014-018>028**

**Northern Oxford - Northern Franklin - Central Somerset - Southern Oxford - Southern Franklin - Southern Somerset - Interior York - Interior Cumberland - Androscoggin - Kennebec - Interior Waldo - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln - Knox - Coastal Waldo**

01 0000EST

31 2359EST

0 0

**Drought**

December was another month in an unending string of drier than normal months. Precipitation ranged from 1.33 inches at Long Falls Dam (1.71 inches below normal) up to 3.89 inches at West Rockport (1.09 inches below normal). The Palmer Drought Severity Index was in the extreme category at the end of the month. Voluntary water restrictions continued in December in several towns while mandatory restrictions were still in place in Boothbay Harbor. Wells, mostly dug, were going dry at an alarming rate. Over 700 wells had been reported to the state as going dry. Well drillers were reporting brisk business with backlogs into March. Six ground water monitoring wells reached record low levels for December, with two of these reaching new all time record lows. The water level of Sebago Lake dropped to 24 percent below normal while reservoirs in the Kennebec and Androscoggin River basins were 30 percent and 17 percent below normal, respectively. Precipitation for the year was 19.66 inches below normal at Belfast, 18.20 inches below normal at Kingfield, 17.07 inches below normal at West Rockport, 15.93 inches below normal at Albion and Moosehead Lake, 15.59 inches below normal at Augusta, 15.27 inches below normal at Harmony, 15.15 inches below normal at Bingham, and 15.04 inches below normal at Waterville

**MEZ018>020-023>026**

**Interior York - Interior Cumberland - Androscoggin - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln**

09 0200EST

1100EST

0 0

**Moderate Snowfall**

Low pressure moving from central Tennessee on the morning of December 8th to off the Mid-Atlantic coast on the morning of the 9th brought from 3 to 6 inches of snow to southwestern Maine.

**MEZ007>009-012>014**

**Northern Oxford - Northern Franklin - Central Somerset - Southern Oxford - Southern Franklin - Southern Somerset**

14 2100EST

15 1000EST

0 0

**Moderate Snowfall**

Low pressure moving from western Kentucky on the morning of December 14th to south of Nova Scotia by the morning of the 15th brought from 2 to 5 inches of snow to the mountains and foothills. Areas farther south received mainly rain.

**MEZ007>009-**

**018>019-024>028**

**Northern Oxford - Northern Franklin - Central Somerset - Interior York - Interior Cumberland - Coastal Cumberland - Sagadahoc - Lincoln - Knox - Coastal Waldo**

17 1200EST

18 1500EST

0 0

**Moderate Snowfall**

**MEZ012>014-020>022**

**Southern Oxford - Southern Franklin - Southern Somerset - Androscoggin - Kennebec - Interior Waldo**

17 1200EST

18 1500EST

0 0

**Heavy Snow**

Low pressure moved from the Mississippi Valley on the morning of December 17th to near Long Island, New York by the morning of the 18th and then out to sea. The storm brought from 2 to 5 inches of snow across the mountains and 4 to 8 inches of snow in a band from southern Oxford County through northern Waldo County. Farther south, the snow mixed with or changed to freezing rain and rain and snowfall accumulations were generally from near nothing along the coast in York County to 2 to 5 inches.

**MEZ013>014**

**Southern Franklin - Southern Somerset**

20 1500EST

21 0700EST

0 0

**Moderate Snowfall**

**MEZ020>022**

**Androscoggin - Kennebec - Interior Waldo**

20 1500EST

21 0700EST

0 0

**Heavy Snow**

Low pressure moving through southern Quebec and a secondary low developing off the New England Coast brought from 4 to 8 inches of snow in Androscoggin, Kennebec, and northern Waldo Counties. In the foothills to the north, 3 to 6 inches of snow fell. Along the coast, a mixture of precipitation was reported and snowfall amounts were less.

# Storm Data and Unusual Weather Phenomena

December 2001

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

**MAINE, South**  
**MEZ007>009-012>014-018>028**

**Northern Oxford - Northern Franklin - Central Somerset - Southern Oxford - Southern Franklin - Southern Somerset - Interior York - Interior Cumberland - Androscoggin - Kennebec - Interior Waldo - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln - Knox - Coastal Waldo**

**24 0300EST 0 0 Freezing Rain**

A deep low pressure system over the Great Lakes on the 23rd weakened on the 24th as a secondary low developed off the Mid-Atlantic Coast on the 24th. The combination of the two systems brought warmer air northward across much of the area. Freezing rain developed over the area early in the morning on the 24th and caused slippery driving conditions until later in the day when temperatures warmed into the 40s along the coast and interior and the mid- to upper-30s in the mountains. In Cornish, a mail truck filled with holiday deliveries slid through construction barriers on Route 25 and landed nose-first in the Little River.

**MARYLAND, Central**  
**MDZ002**

**Allegany**

**20 0600EST 0 0 Strong Wind**  
**1600EST**

A cold front passed through the region just before sunrise on the 20th. Gusty winds of 35 to 50 MPH were ushered in behind the front and continued through mid-afternoon. A wind gust of 48 MPH was recorded in Cumberland.

**MARYLAND, Northeast**

**MDZ008-012-015-019>020**  
**Cecil - Kent - Queen Annes - Talbot - Caroline**

**01 0000EST 0 0 0 Drought**  
**31 2359EST**

December 2001 continued the dry pattern that established itself during the latter half of the year in Maryland. While the month was wetter than either October or November, only about half of the normal monthly precipitation fell during it. On a county weighted average, monthly precipitation totals ranged from 1.7 inches in Kent County to 2.1 inches in Caroline County. Normal is around 3.6 inches. The continued dry conditions forced the Maryland Department of the Environment on the 11th to extend the drought watch to include all of the Maryland Eastern Shore counties. Precipitation deficits, below normal streamflow and below normal ground water levels triggered the drought watch. The intent of the drought watch declaration is to minimize water usage, although no formal restrictions were in place.

**MDZ008-008-012-012-015-015-019-019>020-020**  
**Cecil - Kent - Queen Annes - Talbot - Caroline**

**01 0800EST 0 0 0 0 Unseasonably Warm**  
**06 1800EST**

A strong ridge of high pressure over the western Atlantic Ocean and adjacent parts of the United States brought unseasonably and record breaking warm weather from November 30th through December 6th along the Maryland Eastern Shore. Daily record breaking high temperatures were set on the 1st, 5th and 6th in many locations with high temperatures reaching into the 70s. A cold frontal passage on the 7th brought readings closer to seasonal levels. The warmest day for most areas was the 5th. Highest temperatures included 76 degrees in Easton, 75 degrees at the Baltimore-Washington International Airport and Salisbury and 70 degrees in Stevensville.

**MDZ008-012-015-019>020**  
**Cecil - Kent - Queen Annes - Talbot - Caroline**

**31 2359EST 0 0 0 0 Unseasonably Warm**

December 2001 was unseasonably warm. For most of the Middle Atlantic States, including the Maryland Eastern Shore, it was one of the ten warmest Decembers on record. The monthly mean temperature of 42.1 degrees at the Baltimore-Washington International was 5.4 degrees warmer than normal.

**MARYLAND, South**

NONE REPORTED.

**MARYLAND, West**  
**MDZ001**

**Garrett**

**14 1800EST 0 0 5K High Wind**  
**2000EST**

High winds associated with a deep area of low pressure passing over the region downed numerous trees and power lines across the Oakland area.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MASSACHUSETTS, Central and East

<b>MAZ002&gt;006-008&gt;010-012&gt;014</b>	<b>Western Franklin - Eastern Franklin - Northern Worcester - Western Middlesex - Western Essex - Western Hampshire - Western Hampden - Eastern Hampshire - Southern Worcester - Western Norfolk - Southeast Middlesex</b>								
	<b>08</b>	<b>2300EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>09</b>	<b>0800EST</b>							

The season's first winter storm brought 6 to 9 inches of snow to most of western, north central, and interior eastern Massachusetts. The highest totals, around 9 inches, were reported from Franklin County into northern Worcester and Middlesex Counties. Snowfall totals decreased dramatically along the coast, to less than 4 inches. Since the storm occurred from Saturday night into Sunday morning, its overall impact was minimal with only a few minor accidents reported.

## MASSACHUSETTS, West

<b>MAZ001</b>	<b>Berkshire</b>								
	<b>09</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Winter Storm</b>
		<b>0600EST</b>							

An area of low pressure developed along a stalled front, which was located south of the Mason-Dixon Line, late on December 8th. This low had lots of subtropical moisture to work with as it moved east along the front, then off the Mid Atlantic coast by Sunday, December 9th. The air was cold enough for mostly snow across interior eastern New York and adjacent western New England. A band of heavier snowfall, 4 to 8 inches, accumulated across northern Berkshire County. Specific snowfall amounts included 7.4 inches at Williamstown and 7.1 inches at Savoy.

## MICHIGAN, East

<b>MIZ049</b>	<b>Huron</b>								
	<b>27</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
		<b>0800EST</b>							

After a prolonged mild spell across the region, cold air moved into the Great Lakes region during the last week of December. This cold air over the relatively warm waters of the Great Lakes caused a week-long period of lake effect snow. While most of Southeast Michigan was blanketed by only 2 to 3 inches of snow, a portion of Huron County was harder hit. During the evening of the 26th, southwest winds allowed a band of heavy lake effect snow to develop over central Lake Huron and northern Saginaw Bay. Approximately around midnight, this band of heavy snow moved onshore in northwestern Huron County. The band remained nearly stationary along M-25 from Caseville to Port Austin until 8 am, when the band dissipated. Spotters and road crews reported 6 to 10 inches of snow had fallen by 8 am in this narrow portion of Huron County.

## MICHIGAN, Extreme Southwest

<b>MIZ077&gt;078</b>	<b>Berrien - Cass</b>								
	<b>23</b>	<b>2200EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>24</b>	<b>2200EST</b>							

Heavy lake effect snow began falling across Cass and Berrien counties the evening of December 23rd and continued throughout the day and night of the 24th. Snow accumulations in 24 hrs averaged one foot across the region. Niles in Berrien county reported 8 inches, with 14 inches in Dowagiac the greatest 24 hour total reported. This event was the first major lake effect snow of the season.

<b>MIZ077</b>	<b>Berrien</b>								
	<b>28</b>	<b>1700EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>29</b>	<b>1700EST</b>							

A lake effect snow event caused widespread snow across Southwest Lower Michigan and Northwest Indiana. The heaviest snow fell across Berrien county Michigan and ST. Joseph county Indiana. Ten inches of snow fell across Buchanan and Berrien Springs and nine inches fell across South Bend.

## MICHIGAN, North

<b>Leelanau County</b>									
<b>18 E Empire</b>	<b>05</b>	<b>1910EST</b>			<b>0</b>	<b>0</b>	<b>1K</b>		<b>Thunderstorm Wind (G50)</b>

A strong area of low pressure moved across the western Great Lakes region on the 5th. Ahead of the system, unseasonably warm and moist air moved into Michigan, causing showers and thunderstorms to develop. A few strong to severe wind gusts were associated with the thunderstorms, with a television station west of Traverse City reporting damage to a satellite dish. As the low passed east of Michigan strong non-convective wind gusts of 40 to 50 mph were common, causing some power outages across northern Michigan.

<b>MIZ008-016&gt;017-019&gt;022-025&gt;028-031&gt;032-034</b>	<b>Chippewa - Emmet - Cheboygan - Charlevoix - Leelanau - Antrim - Otsego - Benzie - Grand Traverse - Kalkaska - Crawford - Manistee - Wexford - Roscommon</b>								
---	--	--	--	--	--	--	--	--	--

	<b>24</b>	<b>0500EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>31</b>	<b>1600EST</b>							

A stalled out area of low pressure near the Ontario and Quebec border caused a prolonged period of lake effect snow across northern Michigan from December 24th to the 31st. While the heavy areas of snow shifted around from day to day, snow was falling across some portion of the region through the period. The most impressive snowfall totals were reported across Emmet and Charlevoix

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MICHIGAN, North

counties and to a lesser extent across Grand Traverse and Cheboygan counties. In fact, a State of Emergency was declared in Emmet and Charlevoix counties by Michigan Governor Engler so that equipment, personnel, and money would become available to assist with snow removal. The cities of Petoskey and Charlevoix broke their 2 and 3 day snowfall total records with amounts of 44 and 60 inches (on the 25th through the 27th) and 27 and 39 inches (on the 26th through the 28th) respectively. Emmet county requested \$59,538.34 in disaster assistance from the state for snow removal operations December 24th through the 29th and Charlevoix county requested \$15,906.85 for the same period. Traverse City tied their 2 day snowfall record with 20.5 inches from the 28th through the 29th. Many other areas saw snowfall totals of a foot or more during the last week of December.

## MICHIGAN, Upper

### Dickinson County

#### Iron Mtn

<b>05</b>	<b>1441CST</b>								
		<b>0</b>	<b>0</b>						<b>Hail (0.75)</b>

Penny sized hail was reported.

### Dickinson County

#### Granite Bluff

<b>05</b>	<b>1445CST</b>								
		<b>0</b>	<b>0</b>						<b>Hail (0.88)</b>

Nickle sized hail was reported.

### Dickinson County

#### Felch

<b>05</b>	<b>1448CST</b>								
		<b>0</b>	<b>0</b>						<b>Hail (0.75)</b>

Penny sized hail was reported.

### Iron County

#### 12 SE Crystal Falls

<b>05</b>	<b>1450CST</b>								
		<b>0</b>	<b>0</b>						<b>Hail (0.75)</b>

Penny sized hail was reported.

A storm system from the Plains moved into Minnesota on the afternoon of December 5. Strong southerly winds ahead of the low drew warm and very moist air into Upper Michigan. Rare December thunderstorms developed and produced 0.88 inch or larger hail over Iron and Dickinson counties.

## MIZ001>003

### Keweenaw - Ontonagon - Houghton

<b>06</b>	<b>0218EST</b>								
	<b>0500EST</b>	<b>0</b>	<b>0</b>						<b>High Wind (G60)</b>

A large spruce tree was blown down in Phoenix.

The storm that brought thunderstorms to Upper Michigan on the afternoon of the 5th also produced strong west winds across the Upper Peninsula later that night and early on the 6th. There were numerous reports of trees and branches blown down and power outages, especially over the exposed Keweenaw Peninsula. Storm force winds were reported on Lake Superior with the Stannard Rock lighthouse in south central Lake Superior reporting a gust to 72 knots.

## MIZ001>007-009

### Keweenaw - Ontonagon - Houghton - Baraga - Marquette - Alger - Luce - Gogebic

<b>23</b>	<b>2300EST</b>								
	<b>1800EST</b>	<b>0</b>	<b>0</b>						<b>Heavy Snow</b>

A storm organized in the central plains on 12/22 and headed towards Michigan's Upper Peninsula. A cold front associated with the storm moved through the U.P. during the early morning of 12/23. From 12/24 to 12/31, a prolonged lake effect snow event occurred with heavy amounts of snowfall reported each day in areas of the Lake Superior snowbelts. Snowfall amounts were highly dependent on the prevailing wind direction which was north or northwest. Marquette set a daily snowfall record of 13.0 inches of snow on 12/24, Ironwood had 17.5 Inches of snow, Wakefield 11 inches, Marenisco 10 inches, Watersmeet 12.5 inches and Shingleton 10.2 inches. On 12/25, Ironwood picked up another 14.5 inches of snow, Bessemer had 10 inches, Wakefield 12 inches and Rockland reported 21.1 inches of snow. Alger and Luce Counties also reported heavy snow with Two Heart reporting 9 inches of snow, Grand Marais 6 inches of snow, and a location just south of Munising saw 13.7 inches of snow. On 12/26, the lake effect snow let up slightly. Atlantic Mine reported 8-10 inches of snow and Wakefield reported 8 inches of snow. On 12/27, lake effect snow continued with Two Heart reporting 15 inches, Melstrand 13 inches, and Wakefield reported 12 inches. On 12/28, more lake effect snow fell. Rockland had 10.2 inches of new snow, Wakefield had 10 inches of new snow, Au Train 24 inches, and Melstrand 9.8 inches. On 12/29, heavy lake effect snow continued in places. NWS Marquette in Negaunee had 11.5 inches. On 12/30, lake effect snow diminished, but Munising received 7.0 more inches. Wakefield reported 72 inches of snow out of the lake effect snow event from 12/23-12/30. The lake effect snow showers finally came to an end over the eastern Upper Peninsula on 12/31.

## MICHIGAN, West

### MIZ037>038-043>044-050-056>057-064>065-071>072

<b>23</b>	<b>1500EST</b>								
	<b>0700EST</b>	<b>0</b>	<b>0</b>						<b>Winter Storm</b>

Moderate to heavy lake effect snow bands set up during the late afternoon hours of the 23rd. The snow continued through the early morning hours of the 25th. Anywhere from 6 inches to well over a foot of snow fell across the area. The heaviest snowfall totals were received from Grandville (Kent county), where 17.7 inches of snow fell, and from Bloomington (Van Buren county), where 17 inches of snow fell.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MICHIGAN, West

**MIZ050-056>057-064>065-071**

**Muskegon - Ottawa - Kent - Allegan - Barry - Van Buren**

25	1900EST				0	0			<b>Winter Storm</b>
27	1600EST								

Moderate to heavy lake effect snow redeveloped during the evening hours of the 25th and continued through the afternoon hours of the 27th. At least eight inches of snow fell across the area and many locations across Ottawa, Kent, Allegan, Barry, and Van Buren counties received well in excess of a foot. The highest snowfall totals were reported in Grandville (Kent county) where 26" of snow fell, and in Allegan (Allegan county), where 25.2 inches of snow fell. This snow added to significant snow that had already fallen since the 23rd. Up to 15 inches of snow fell in Grandville in less than 24 hours and around 24 to 25 inches of snow fell in a band from Grandville southwest to Allegan.

**MIZ050-056>057-064>065-071>073**

**Muskegon - Ottawa - Kent - Allegan - Barry - Van Buren - Kalamazoo - Calhoun**

28	1600EST				0	0			<b>Winter Storm</b>
29	0000EST								

Even more lake effect snow redeveloped on the 28th and continued through the 29th, producing additional snowfall of 8 to as much as twenty two inches across the area. The heaviest snow fell in Bloomingdale (Van Buren county), where 15 inches of snow fell in 24 hours and 22 inches of snow fell from the 28th through the 29th. The axis of heaviest snow set up south of Grand Rapids, mainly from Battle Creek west to the shore of Lake Michigan. 12 to 18 inches of snow was common across that area. There was also a narrow strip of around a foot of snow that fell about 25 miles inland from Ottawa county north to Mason county.

These were the final days of moderate to heavy lake effect snow which persisted through the week. Storm total snowfalls broke all previous records for snowfall in one week in several locations across southwest Michigan. Grandville (Kent county) ended up with 70.2 inches of snow for the week, which was the greatest reported snowfall total across the area. Bloomingdale (Van Buren county) ended up with a total of 60.2 inches of snowfall for the week. The National Weather Service Forecast Office in Grand Rapids (Kent county) had a storm total snowfall of 50.6 inches for the week. Generally speaking, the heaviest snow accumulations for the week occurred along the US-131 corridor from Grand Rapids down through Allegan county, where two to four feet of snow fell.

## MINNESOTA, Central and South Central

NONE REPORTED.

## MINNESOTA, Northeast

**MNZ021**

**Southern Cook**

05	2000CST				0	0			<b>High Wind (G46) <sup>M</sup></b>
	2300CST								

Very windy conditions caused power outages and downed trees. Winds were clocked at the Grand Marais ASOS (GNA) at a steady 41 mph with a peak wind of 53 mph.

## MINNESOTA, Northwest

**MNZ001-004>008-013>015**

**West Polk - Kittson - Roseau - Lake Of The Woods - West Marshall - East Marshall - Pennington - Red Lake - East Polk**

05	0900CST				0	0			<b>Winter Storm</b>
	1330CST								

A low pressure system moved out of Colorado to the Minnesota Arrowhead, bringing freezing rain, snow, and strong winds to northwest Minnesota. A quarter inch of ice built up on exposed surfaces, making driving extremely dangerous. Most locations only received one to two inches of snow.

**MNZ001>004-007**

**West Polk - Norman - Clay - Kittson - West Marshall**

22	1551CST				0	0			<b>Blizzard</b>
23	0400CST								

30 to 35 mph wind speeds, gusting as high as 45 mph, along with some light snow, dropped visibilities below a quarter mile along the Red River Valley. Travel was not recommended across the area, and many of those who ignored the cautions ended up in ditches, especially along Interstate 94.

## MINNESOTA, Southeast

**Olmsted County**

5 S Eyota

05	1140CST				0	0			<b>Hail (0.75)</b>
----	---------	--	--	--	---	---	--	--	--------------------

## MINNESOTA, Southwest

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MINNESOTA, West

NONE REPORTED.

## MINNESOTA, West Central

NONE REPORTED.

## MISSISSIPPI, Central

### **Bolivar County**

Countywide	12	1445CST 1700CST			0	0	1K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	----	--	--------------------

Many roads were flooded across the county.

### **Washington County**

Countywide	12	1445CST 1630CST			0	0	1K		<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	----	--	--------------------

Several roads were flooded, especially across northern portions of the county..

### **Bolivar County**

Countywide	13	1400CST 1900CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Flooding of roads and low-lying areas occurred, especially near the city of Cleveland.

### **Humphreys County**

Countywide	13	1500CST 1830CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Extensive flooding occurred county-wide due to very heavy rainfall.

### **Washington County**

Countywide	13	1600CST 1830CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy rainfall caused additional flooding of several roads.

### **Washington County**

5 SE Greenville Abide A	13	1600CST 1915CST			0	0			<b>Flash Flood</b>
-------------------------	----	--------------------	--	--	---	---	--	--	--------------------

Two roads were flooded across northern portions of the county.

### **Grenada County**

Countywide	13	1630CST 1830CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Several roads were inundated with water and impassable.

### **Leflore County**

Countywide	13	1630CST 1900CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Several roads were covered with water across the county.

### **Leflore County**

Countywide	13	1630CST 1930CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Several roads remained covered with water due to ongoing, heavy rainfall.

### **Sharkey County**

Countywide	13	1630CST 1830CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Numerous roads were covered with upwards to a foot of water.

### **Carroll County**

Countywide	13	1640CST 1930CST			0	0			<b>Flash Flood</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Many roads across the county were flooded due to torrential rainfall, especially in and around the city of Greenwood.

### **Sunflower County**

6 W Drew	13	1730CST 2000CST			0	0			<b>Flash Flood</b>
----------	----	--------------------	--	--	---	---	--	--	--------------------

Many roads across the northern portion of the county were inundated with water, up to a few feet deep in locales.

### **Warren County**

Yokena	13	1743CST 1747CST			0	0	1K		<b>Thunderstorm Wind</b>
--------	----	--------------------	--	--	---	---	----	--	--------------------------

Several trees and one powerline were knocked down across southern portions of the county.



# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSISSIPPI, Central</b>									
<b>Hinds County</b>									
Pocahontas	13	1758CST 1800CST			0	0	1K		Hail (1.25)
									Half dollar size hail fell across northern portions of the county. Some large limbs were broken off trees.
<b>Warren County</b>									
Countywide	13	1800CST 2000CST			0	0			Flash Flood
									Heavy rainfall near Vicksburg, Mississippi and over northern portions of the county resulted in the flooding over several roads.
<b>Adams County</b>									
Natchez	13	1820CST 1822CST			0	0			Hail (0.75)
<b>Hinds County</b>									
2 N Pocahontas	13	1822CST 1823CST	0.2	30	0	0	1K		Tornado (F0)
									A brief tornado touchdown was seen across far northern portion of the county. Several powerlines were knocked down along highway 49.
<b>Madison County</b>									
Madison	13	1830CST 1831CST	0.2	25	0	0	1K		Tornado (F0)
									A brief tornado touchdown occurred west of Interstate 55 in the southwest portion of the county. Several trees were knocked down and 4 inch diameter branches snapped off. Three-quarter inch hail also occurred at this time.
<b>Yazoo County</b>									
Countywide	13	1830CST 2000CST			0	0			Flash Flood
									Roads along the Sunflower River Basin and in the city of Yazoo City were flooded due to very heavy rainfall.
<b>Yazoo County</b>									
Yazoo City	13	1840CST			0	0	1K		Thunderstorm Wind
									Trees were reported down across the city. No damage to structures reported.
<b>Rankin County</b>									
Sand Hill	13	1845CST 1846CST	0.1	25	0	0	1K		Tornado (F0)
									A brief tornado touchdown was seen over open country. A few trees were knocked down.
<b>Rankin County</b>									
11 NE Brandon	13	1900CST			0	0	10K		Thunderstorm Wind
									Trees were reported to be blown down on a house near Pisgah.
<b>Holmes County</b>									
Countywide	13	1905CST 2000CST			0	0	200K		Flash Flood
									Several county roads and streets were reported flooded due to heavy rainfall, especially in and around the city of Tchula where up to 33 homes and mobile homes were affected by flood waters.
<b>Smith County</b>									
5 E Polkville	13	1930CST 1931CST			0	0	1K		Thunderstorm Wind
									Trees were downed at a community college near Center Ridge.
<b>Newton County</b>									
Newton	13	1945CST 1947CST			0	0	1K		Thunderstorm Wind
									Very large limbs were snapped off trees around town.
<b>Neshoba County</b>									
Philadelphia	13	2000CST 2002CST			0	0	1K		Thunderstorm Wind
									Trees were knocked down by high winds in the vicinity of Westside Park.
<b>Jones County</b>									
5 W Laurel	13	2003CST 2005CST			0	0	1K		Thunderstorm Wind
									Trees were knocked down west of town across a vast area.
<b>Jones County</b>									
Countywide	13 14	2050CST 0000CST			0	0			Flash Flood
									Several roads across the county were flooded.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MISSISSIPPI, Central

### **Forrest County**

<b>Hattiesburg</b>	13	2100CST			0	0	1K		<b>Thunderstorm Wind</b>
--------------------	----	---------	--	--	---	---	----	--	--------------------------

Trees were knocked down by high winds at Paul Johnson State Park.

### **Lamar County**

<b>Purvis</b>	13	2100CST 2102CST			0	0	5K		<b>Thunderstorm Wind</b>
---------------	----	--------------------	--	--	---	---	----	--	--------------------------

A house sustained roof damage from high winds.

### **Forrest County**

<b>10 S Hattiesburg to 12 S Hattiesburg</b>	13	2120CST 2122CST			0	0	1K		<b>Thunderstorm Wind</b>
---	----	--------------------	--	--	---	---	----	--	--------------------------

A few trees were knocked down in the vicinity of highway 49.

### **Forrest County**

<b>5 NE Hattiesburg</b>	13	2200CST			0	0			<b>Flash Flood</b>
-------------------------	----	---------	--	--	---	---	--	--	--------------------

Four county roads northeast of the city flooded and became impassable.

### **Lamar County**

<b>Purvis</b>	13	2200CST			0	0	500K		<b>Flash Flood</b>
---------------	----	---------	--	--	---	---	------	--	--------------------

Torrential rainfall flooded a total of 14 homes in Purvis, 9 of which sustained major damage and 5 which sustained minor damage.

### **Smith County**

<b>11 N Raleigh</b>	23	0300CST			0	0	2K		<b>Thunderstorm Wind</b>
---------------------	----	---------	--	--	---	---	----	--	--------------------------

Several trees were knocked down across the northern portion of the county. A porch roof was also blown off a mobile home.

### **Newton County**

<b>Newton</b>	23	0310CST 0312CST	0.2	30	0	0	1K		<b>Tornado (F0)</b>
---------------	----	--------------------	-----	----	---	---	----	--	---------------------

A brief tornado touchdown occurred west of city of Newton. It snapped off and twisted some trees in the area.

## MISSISSIPPI, North

### **MSZ010**

#### **Coahoma**

01	0001CST				0	0	10K		<b>Flood</b>
----	---------	--	--	--	---	---	-----	--	--------------

Flooding that was occurring in North Mississippi in late November continued in early December.

### **MSZ001-008-011**

#### **De Soto - Tate - Quitman**

12	1435CST 1835CST				0	0	3K		<b>Flood</b>
----	--------------------	--	--	--	---	---	----	--	--------------

Many roads in the county were under water.

### **MSZ014**

#### **Union**

13	1930CST 2300CST				0	0	1K		<b>Flood</b>
----	--------------------	--	--	--	---	---	----	--	--------------

A couple of roads in the county were flooded.

### **MSZ001**

#### **De Soto**

15	2000CST				0	0	5K		<b>Flood</b>
----	---------	--	--	--	---	---	----	--	--------------

A couple of roads were flooded after the emergency spillway from the Arkabutla Dam overflowed.

### **MSZ010**

#### **Coahoma**

18	1200CST 2359CST				0	0	10K		<b>Flood</b>
----	--------------------	--	--	--	---	---	-----	--	--------------

Water reached into several homes in the Clarksdale area.

## MISSISSIPPI, South

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MISSISSIPPI, Southeast

### **Perry County**

<b>Hintonville</b>	13	2150CST 2155CST	0.1	20	0	0	10K		<b>Tornado (F0)</b>
--------------------	----	--------------------	-----	----	---	---	-----	--	---------------------

A weak tornado briefly touched down along State Road 15 near Hintonville. The tornado did damage primarily to trees in a wooded area. No structures in the area were damaged.

### **Perry County**

<b>Richton</b>	13	2245CST 2250CST			0	0	10K		<b>Thunderstorm Wind (G55)</b>
----------------	----	--------------------	--	--	---	---	-----	--	--------------------------------

Strong thunderstorm winds blew down trees near the community.

## MISSOURI, East

### **Jefferson County**

<b>Countywide</b>	16	0000CST			0	0			<b>Heavy Rain</b>
	17	1200CST							

### **St. Charles County**

<b>Countywide</b>	16	0000CST			0	0			<b>Heavy Rain</b>
	17	1200CST							

### **St. Louis County**

<b>Countywide</b>	16	0000CST			0	0			<b>Heavy Rain</b>
	17	1200CST							

### **St. Louis (C)**

<b>Countywide</b>	16	0000CST			0	0			<b>Heavy Rain</b>
	17	1200CST							

### **Warren County**

<b>Countywide</b>	16	0000CST			0	0			<b>Heavy Rain</b>
	17	1200CST							

A steady rain started on the 16th and continued until about midday the 17th. Rainfall amounts around 2.00 inches were common across the area. The result was numerous areas of ponding water causing some roads to be closed. Many area residents discovered leaky basements due to the rainfall.

## **MOZ063**

### **St. Louis**

29	1000CST		1	0			<b>Extreme Cold</b>
----	---------	--	---	---	--	--	---------------------

An 87 year old Woodson Terrace resident froze to death outside her home. She apparently went outside to get the mail, then fell near the back porch and was unable to get inside. The high temperature that day was 30 and the low 18.  
F87OU

## MISSOURI, Lower

NONE REPORTED.

## MISSOURI, Northeast

NONE REPORTED.

## MISSOURI, Northwest

### **Chariton County**

<b>Brunswick</b>	05	1603CST			0	0			<b>Thunderstorm Wind (G57)</b>
------------------	----	---------	--	--	---	---	--	--	--------------------------------

Trees reported down by the public.

### **Chariton County**

<b>Keytesville</b>	05	1615CST			0	0	1K		<b>Thunderstorm Wind (G57)</b>
--------------------	----	---------	--	--	---	---	----	--	--------------------------------

Trees and power lines reported down by the public.

## MISSOURI, Southeast

**MOZ076-087-100-107>112-114 Perry - Cape Girardeau - Wayne - Carter - Ripley - Butler - Stoddard - Scott - Mississippi - New Madrid**

16	0930CST		0	0	180K		<b>Flood</b>
18	0900CST						

Numerous roads were flooded in most counties of southeast Missouri. At least 20 county roads were closed in Stoddard County. County Road 18 was washed out in Ripley County, and other road washouts were reported in Scott and Mississippi Counties. In Stoddard County, water was over U.S. Highway 60 near Highway 25. Creeks went out of their banks, and widespread flooding of low-lying areas occurred. In Butler County, a vehicle was swept away as it attempted to cross a low-water crossing. The vehicle was

# Storm Data and Unusual Weather Phenomena

December 2001

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

## MISSOURI, Southeast

Carter, Perry, and Cape Girardeau Counties.

### MOZ109

#### **Butler**

17	0400CST				0	0				
18	1000CST									<b>Flood</b>

The Black River crested less than half a foot above the 16-foot flood stage at Poplar Bluff. This resulted in minor flooding of bottomlands and a park. The park flooding prompted the cancellation of a Christmas light display.

### MOZ100

#### **Wayne**

17	0800CST				0	0				
18	1100CST									<b>Flood</b>

The St. Francis River crested at 18.84 feet at Patterson on December 17. Flood stage there is 16 feet. This resulted in minor flooding of bottomland and low-lying areas.

## MISSOURI, Southwest

### MOZ095>098-101>106 **Christian - Douglas - Howell - Shannon - McDonald - Barry - Stone - Taney - Ozark - Oregon**

16	1000CST				0	0	0			
17	1200CST									<b>Flood</b>

Low pressure developed early Sunday morning across the southern plains which pulled copious amounts of moisture northward across the lower Mississippi Valley area. As disturbances moved northeast across a frontal boundary moving east across the plains, a widespread continuous area of occasional heavy rainfall occurred over portions of southern Missouri and northern Arkansas for nearly two days. The first wave of precipitation developed early Sunday morning and moved mostly across north central Arkansas, into south central Missouri during the morning and early afternoon. It produced locally one to two inches of rain for areas east of a Branson to Rolla line. Early reports of small creeks rising and flooded low water crossings began over south central Missouri by 10 am, with Highway J near Kirbyville closed due to the flooded Trigger Creek. By 3 pm, Highway T east south of Gainesville was closed and several locations in Douglas County had roads closed due to flooded low water crossings. The second wave of heavier precipitation fell over southern Missouri by late in the afternoon and early Monday morning. It produced another one to two inches of rainfall over the already saturated grounds around the area. Southwest Missouri started to receive more rainfall from this system, which produced flooded low water crossings across McDonald and Barry Counties of southwest Missouri. The rainfall tapered off Monday morning with some residual runoff from the persistent rainfall that lasted nearly 36 hours straight. Two day rainfall totals ranged from nearly 4 to 5 inches in portions of south central Missouri to one to three inches across extreme southwest Missouri and areas along and south of Interstate 44.

## MONTANA, Central

### MTZ009>010

#### **North Rocky Mountain Front - Eastern Glacier**

01	1500MST				0	0				
----	---------	--	--	--	---	---	--	--	--	--

Reported at Browning HANDAR automated reporting site (along border between zones 9 (Northern Rocky Mountain Front) and 10 (Eastern Glacier County) in Glacier County).

### MTZ048

#### **Southern Rocky Mountain Front**

01	1700MST				0	0				
----	---------	--	--	--	---	---	--	--	--	--

Sustained wind speed of 35 kt (estimated) reported as well by spotter in Blackleaf (actual spotter location is Pendroy 7 W).

### MTZ048>049

#### **Southern Rocky Mountain Front - Eastern Teton**

02	0820MST				0	0				
----	---------	--	--	--	---	---	--	--	--	--

Reported by spotter at Choteau City Airport (along the border between zones 48 (Southern Rocky Mountain Front) and 49 (Eastern Teton County))...61 kt gust (measured) also occurred at same location at 0930 MST.

### MTZ009>010

#### **North Rocky Mountain Front - Eastern Glacier**

08	0456MST				0	0				
----	---------	--	--	--	---	---	--	--	--	--

Reported by Browning HANDAR automated observing site (along the border between zones 9 (Northern Rocky Mountain Front) and 10 (Eastern Glacier County))...55 kt gust (measured) also reported by Cut Bank ASOS (in zone 10 - Eastern Glacier County) at same time.

### MTZ048

#### **Southern Rocky Mountain Front**

08	0559MST				0	0				
----	---------	--	--	--	---	---	--	--	--	--

Sustained wind speed of 45 kt (measured) reported as well by Department of Transportation automated observation site in Pendroy.

### MTZ048

#### **Southern Rocky Mountain Front**

08	0735MST				0	0				
----	---------	--	--	--	---	---	--	--	--	--

Reported by spotter in Augusta.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<b><u>MONTANA, Central</u></b>									
<b>MTZ048</b>			<b>Southern Rocky Mountain Front</b>						
	12	2300MST			0	0			<b>High Wind (G52)</b>
	Sustained wind speed of 35 kt (estimated) reported as well by spotter at Pendroy 18 W.								
<b>MTZ009</b>			<b>North Rocky Mountain Front</b>						
	13	1000MST			0	0			<b>High Wind (G52)</b>
	Reported by WFO Great Falls electronics technician working in Heart Butte.								
<b>MTZ055</b>			<b>Gallatin</b>						
	13	1700MST			0	0			<b>Heavy Snow</b>
	14	2100MST							
	20 inches of snowfall reported by spotter at Hebgen Dam and 14 inches of snowfall reported by spotter in West Yellowstone...both occurring from the afternoon of 12/13/2001 through the evening of 12/14/2001.								
<b>MTZ009-048</b>			<b>North Rocky Mountain Front - Southern Rocky Mountain Front</b>						
	13	2000MST			0	0			<b>Winter Storm</b>
	14	0600MST							
	SNOTEL automated mountain observing sites reported widespread 0.50 liquid equivalent accumulations with strong winds across zones 9 (Northern Rocky Mountain Front) and 48 (Southern Rocky Mountain Front) from the evening of 12/13/2001 to the morning of 12/14/2001.								
<b>MTZ048</b>			<b>Southern Rocky Mountain Front</b>						
	14	0445MST			0	0			<b>High Wind (G52)</b>
	Reported by spotter at Pendroy 18 W.								
<b>MTZ046</b>			<b>Eastern Pondera</b>						
	14	0500MST			0	0			<b>High Wind (G52)</b>
	Reported by spotter in Dupuyer.								
<b>MTZ009</b>			<b>North Rocky Mountain Front</b>						
	14	1000MST			0	0			<b>High Wind (G52)</b>
	Reported by spotter in Browning.								
<b>MTZ010</b>			<b>Eastern Glacier</b>						
	14	1056MST			0	0			<b>High Wind (G49) <sup>M</sup></b>
	Sustained wind speed of 38 kt (measured) reported as well by Cut Bank ASOS.								
<b>MTZ044</b>			<b>Toole</b>						
	14	1115MST			0	0			<b>High Wind (G44) <sup>M</sup></b>
	Sustained wind speed of 39 kt (measured) reported as well by Department of Transportation automated observation site in Sweetgrass.								
<b>MTZ045</b>			<b>Liberty</b>						
	14	1240MST			0	0			<b>High Wind (G52)</b>
	Reported by spotter at Tiber Dam 5 NW (actual spotter location is Chester 13 SW).								
<b>MTZ009&gt;010</b>			<b>North Rocky Mountain Front - Eastern Glacier</b>						
	15	2255MST			0	0			<b>High Wind (G62) <sup>M</sup></b>
	Reported by Browning HANDAR automated observation site (along the border between zones 9 (Northern Rocky Mountain Front) and 10 (Eastern Glacier County))...Gusts of greater than 50 kt occurred at this site through 0755 MST on 12/16/2001.								
<b>MTZ045</b>			<b>Liberty</b>						
	16	0530MST			0	0			<b>High Wind (G43)</b>
	Sustained wind speed of 35 kt (measured) reported as well by employee of AgAir (a crop dusting business) in the town of Chester.								
<b>MTZ010</b>			<b>Eastern Glacier</b>						
	16	0956MST			0	0			<b>High Wind (G48) <sup>M</sup></b>
	Sustained wind speed of 42 kt (measured) reported as well by Cut Bank ASOS.								
<b>MTZ012</b>			<b>Cascade</b>						
	16	1302MST			0	0			<b>High Wind (G55) <sup>M</sup></b>
	Reported by spotter at Cascade 5 S.								

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>MONTANA, Central</u></b>									
<b>MTZ009&gt;010</b>			<b>North Rocky Mountain Front - Eastern Glacier</b>						
	17	0900MST			0	0			<b>High Wind (G51) <sup>M</sup></b>
	Reported at Browning HANDAR automated observing site (located along boundary between above zones in Glacier County).								
<b>MTZ046</b>			<b>Eastern Pondera</b>						
	17	0900MST			0	0			<b>High Wind (G43)</b>
	Estimated sustained wind of 35 kt reported as well by spotter in Dupuyer.								
<b>MTZ009</b>			<b>North Rocky Mountain Front</b>						
	17	0945MST			0	0			<b>High Wind (G52)</b>
	Reported by spotter at Babb 6 NE.								
<b>MTZ010</b>			<b>Eastern Glacier</b>						
	17	0956MST			0	0			<b>High Wind (G52) <sup>M</sup></b>
	Reported by Cut Bank ASOS.								
<b>MTZ048&gt;049</b>			<b>Southern Rocky Mountain Front - Eastern Teton</b>						
	17	1150MST			0	0			<b>High Wind (G57) <sup>M</sup></b>
	Reported by spotter at Choteau 2 N (along border between zones 48 (Southern Rocky Mountain Front) and 49 (Eastern Teton county)).								
<b>MTZ044</b>			<b>Toole</b>						
	17	1400MST			0	0			<b>High Wind (G52)</b>
	Reported by spotter at Devon 11 S.								
<b>MTZ009</b>			<b>North Rocky Mountain Front</b>						
	24	1155MST			0	0			<b>High Wind (G57) <sup>M</sup></b>
	Reported at Browning HANDAR automated observing site.								
<b>MTZ052</b>			<b>Jefferson</b>						
	28	0300MST 1500MST			0	0			<b>Heavy Snow</b>
	6 inches of snowfall reported by spotter in Jefferson City...2 to 5 inches of snowfall reported by other spotters elsewhere in the county.								
<b>MTZ055</b>			<b>Gallatin</b>						
	28	0300MST 1400MST			0	0			<b>Heavy Snow</b>
	8 inches of snowfall reported by spotter at Hebgen Dam...6 inches of snowfall reported by spotters at both Bozeman 5 W and at the Bozeman campus of Montana State University...2 to 5 inches of snowfall reported by spotters elsewhere across the county.								
<b>MTZ015</b>			<b>Madison</b>						
	28	0300MST 1000MST			0	0			<b>Heavy Snow</b>
	8 inches of snowfall reported by employee at the Quake Lake Visitor Center in southeastern Madison county (6 inches of this fell between 0400 and 0800 MST)...1 to 4 inches of snowfall reported by spotters elsewhere across the county.								
<b><u>MONTANA, East</u></b>									
	NONE REPORTED.								
<b><u>MONTANA, South</u></b>									
<b>MTZ028</b>			<b>Wheatland</b>						
	13	0343MST			0	0			<b>High Wind (G54) <sup>M</sup></b>
	54 mph sustained winds at Livingston								
<b>MTZ028</b>			<b>Wheatland</b>						
	14	1928MST			0	0			<b>High Wind (G53) <sup>M</sup></b>
	53 mph sustained winds in Livingston								
<b>MTZ028</b>			<b>Wheatland</b>						
	16	0744MST			0	0			<b>High Wind (G54) <sup>M</sup></b>
	54 mph sustained winds in Livingston								

# Storm Data and Unusual Weather Phenomena

December 2001

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

**MONTANA, South**  
**MTZ028-028**

**Wheatland**  
17 0353MST 0 0 **High Wind (G52) M**  
0653MST  
52 mph sustained winds in Livingston

**MONTANA, West**  
**MTZ001>002-004**

**Kootenai/Cabinet Region - West Glacier Region - Lower Clark Fork Region**  
01 0000MST 0 0 **Heavy Snow**  
2345MST

Winter storm hit northwest Montana with the following 24 hour snowfall totals: 16 inches at Hawkins Lake, 17 inches at Banfield Mountain, and 8 inches at Garver Creek in Lincoln County; 15 inches at Flattop Mountain and 7 inches at Essex in Flathead County; 13 inches at Hoodoo Basin, and 10 inches at Lookout Pass in Mineral County.

**MTZ004**

**Lower Clark Fork Region**  
02 1530MST 0 0 **Heavy Snow**  
04 1530MST

Heavy snow fell over Mineral County with 22 inches reported from Lookout Pass Ski Resort and 16 inches from Snotel site at Hoodoo Basin.

**MTZ002-004-006-043**

**West Glacier Region - Lower Clark Fork Region - Bitterroot / Sapphire Mountains - Blackfoot Region**  
06 1200MST 0 0 **Heavy Snow**  
07 1200MST

Winter storm brought heavy snow to western Montana. 24 hour snowfall totals were: Pike Creek 9 inches, Heron 6 inches, Hoodoo Basin 14 inches, North Fork Jocko and Lolo Pass 11 inches, and Twin Lakes 15 inches.

**MTZ001>002-004-006-043**

**Kootenai/Cabinet Region - West Glacier Region - Lower Clark Fork Region - Bitterroot / Sapphire Mountains - Blackfoot Region**  
12 1600MST 0 0 **Heavy Snow**  
14 1800MST

Major winter storm hit northwest and west central Montana for two days bringing strong gusty winds between 40 to 50 mph and heavy snowfall to the region. Snowfall ranged from six inches in the valleys of northwest Montana to one to two feet in the mountains. Some of the highest amounts in the mountains were 27 inches at Flattop Mountain, 26 inches at Hoodoo Basin, 23 inches at Lolo Pass, and 29 inches at Twin Lakes.

**MTZ001>002-004-006**

**Kootenai/Cabinet Region - West Glacier Region - Lower Clark Fork Region - Bitterroot / Sapphire Mountains**  
15 1600MST 0 0 **Heavy Snow**  
17 1600MST

Heavy snow fell for two days over the mountains of northwest and west central Montana. Snowfall totals ranged from one to two feet.

**NEBRASKA, Central**

NONE REPORTED.

**NEBRASKA, East**

NONE REPORTED.

**NEBRASKA, Extreme Northeast**

NONE REPORTED.

**NEBRASKA, Extreme Southwest**

NONE REPORTED.

**NEBRASKA, South Central**

NONE REPORTED.

**NEBRASKA, West**

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b>NEVADA, North</b>									
<b>NVZ032&gt;034-036&gt;037</b>			<b>Sw &amp; Sc Elko - X E Elko - Ruby Mountains/E Humboldt Range - N Lander &amp; N Eureka - S Lander &amp; S Eureka</b>						
		<b>02 2000PST</b>				<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
		<b>03 1000PST</b>							
		A winter storm dumped heavy snow across northeast Nevada. Amounts include; 24 inches at the Lamoille Canyon snotel, 10 inches at Spring Creek and Austin, 7 inches at Emigrant Pass and at the NWS office in Elko, 6 inches in Pine Valley south of Carlin, and 6 inches in Antelope Valley 40 miles south of West Wendover							
<b>NVZ031</b>			<b>N Elko Cnty</b>						
		<b>05 0900PST</b>				<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
		<b>2100PST</b>							
		A winter storm brought heavy snow and strong winds to northern Elko county. Mountain City highway between Wild Horse and Owyhee was closed due to blowing snow. In Tuscarora 7 inches of new snow was reported and 6 inches of new snow at Wild Horse.							
<b>NVZ030-035</b>			<b>Humboldt - White Pine</b>						
		<b>05 1100PST</b>				<b>0</b>	<b>0</b>		<b>High Wind (G55) <sup>M</sup></b>
		<b>1300PST</b>							
		A strong cold front moving across northern Nevada produced wind gusts to 63 mph at the Morey Creek RAWS 30 miles northwest of Winnemucca and a 61 mph gust at the Mather RAWS in Great Basin National Park.							
<b>NVZ031</b>			<b>N Elko Cnty</b>						
		<b>13 2200PST</b>				<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
		<b>14 1200PST</b>							
		Wild Horse reported 9 inches of new snow and Tuscarora 8 inches.							
<b>NVZ037</b>			<b>S Lander &amp; S Eureka</b>						
		<b>22 2100PST</b>				<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
		<b>23 0800PST</b>							
		Eight inches of new snow was reported in Austin.							
<b>NEVADA, South</b>									
<b>NVZ015</b>			<b>Lincoln County Except The Sheep Range</b>						
		<b>03 1350PST</b>				<b>0</b>	<b>0</b>		<b>Heavy Snow</b>
		<b>04 0715PST</b>							
		The Lincoln County Sheriff's Office reported a total of 8-10 inches of new snow in a 10 hour period throughout the town of Pioche.							
<b>NVZ015</b>			<b>Lincoln County Except The Sheep Range</b>						
		<b>23 0655PST</b>				<b>0</b>	<b>0</b>	<b>10K</b>	<b>Winter Storm</b>
		Two inches of snow fell in and around the town of Alamo causing several accidents and rollovers. No injuries were reported.							
<b>NEVADA, West</b>									
<b>NVZ003</b>			<b>Greater Reno/Carson City/Minden Area</b>						
		<b>01 0945PST</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>High Wind (G52) <sup>M</sup></b>
		Off duty NWS employee reported winds gusting 40-60 mph in the Red Rock area.							
<b>NVZ002-002</b>			<b>Greater Lake Tahoe Area</b>						
		<b>01 1445PST</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
		<b>02 1445PST</b>							
		Several reports of heavy snow in Incline Village. One reported 12 inches in 12 hours at 7623 feet and another reported 30 inches in 24 hours at 7600 feet.							
<b>NVZ003</b>			<b>Greater Reno/Carson City/Minden Area</b>						
		<b>02 0600PST</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
		<b>1800PST</b>							
		Off duty NWS employee reported 6 inches of snow in 12 hours at 4500 feet.							
<b>NVZ003</b>			<b>Greater Reno/Carson City/Minden Area</b>						
		<b>02 0800PST</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
		<b>2000PST</b>							
		Spotter report of 8-9 inches of snow in 12 hours at 4500 feet.							
<b>NVZ003</b>			<b>Greater Reno/Carson City/Minden Area</b>						
		<b>02 0900PST</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
		<b>2100PST</b>							
		Off duty NWS employee reported 4-5 inches of snow in 12 hours at 4500 feet							



# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>NEVADA, West</u></b>									
<b>NVZ003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	02	1200PST			0	0	0		<b>Heavy Snow</b>
	03	0700PST							
	An off duty NWS employee reported 5.3 inches of snow in 19 hours at 4900 feet.								
<b>NVZ003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	02	2015PST			0	0	0		<b>Heavy Snow</b>
	03	0815PST							
	Spotter report of 6.5 inches of snow in 12 hours at 4800 feet in Minden.								
<b>NVZ003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	05	1145PST			0	0	0		<b>High Wind (G56) <sup>M</sup></b>
	Spotter reported wind gust to 64 mph in Gardnerville.								
<b>NVZ003-003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	05	1202PST			0	0	0		<b>High Wind (G65) <sup>M</sup></b>
		1220PST							
	There were several reports of high wind. An off duty National Weather Service employee recorded a wind gust of 62 mph in South Reno and a spotter reported winds gusting between 70-75 mph in Southwest Reno.								
<b>NVZ003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	08	2105PST			0	0	0		<b>High Wind (G51) <sup>M</sup></b>
	Spotter report of a wind gust to 59 mph in Gardnerville.								
<b>NVZ002</b>	<b>Greater Lake Tahoe Area</b>								
	13	1700PST			0	0	0		<b>Heavy Snow</b>
	14	0500PST							
	The public in Incline Village reported over 12 inches of snow in 12 hours at 7600 feet.								
<b>NVZ003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	13	2210PST			0	0	0		<b>High Wind (G56) <sup>M</sup></b>
	A spotter in Washoe Valley reported a wind gust to 65 mph.								
<b>NVZ003</b>	<b>Greater Reno/Carson City/Minden Area</b>								
	15	0030PST			0	0	0		<b>High Wind (G55) <sup>M</sup></b>
	A Desert Research Institute automated sensor in Stead recorded a wind gust of 62.7 mph.								
<b>NVZ002</b>	<b>Greater Lake Tahoe Area</b>								
	22	0708PST			0	0	0		<b>Heavy Snow</b>
		2308PST							
	A spotter in Incline Village reported 14 inches of snow in 16 hours at 7600 feet.								
<b><u>NEW HAMPSHIRE, North and Central</u></b>									
<b>NHZ001&gt;010-013&gt;014</b>	<b>Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford - Interior Rockingham - Coastal Rockingham</b>								
	01	0000EST			0	0			<b>Drought</b>
	31	2359EST							
	December was another month in an unending string of drier than normal months. Precipitation ranged from 1.33 inches at Milan up to 3.38 inches at Laconia. The Palmer Drought Severity Index was in the moderate drought category at the end of the month. Lake Winnepesaukee was 63 percent below normal and outflow from Lakeport Dam was reduced to 30 cubic feet per second; this shut down 6 hydro power plants on the Winnepesaukee River. Eleven ground water monitoring wells reached new record lows for the month of December, with two of these reaching all time record low levels. Precipitation for the year was 29.98 inches below normal at Mount Washington, 17.90 inches below normal at Pinkham Notch, 15.24 inches below normal at Tamworth, 15.13 inches below normal at North Conway, 11.26 inches below normal at Epping, 10.11 inches below normal at Colebrook, and 10.04 inches below normal at Bethlehem.								
<b>NHZ005&gt;010-013&gt;014</b>	<b>Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford - Interior Rockingham - Coastal Rockingham</b>								
	08	2300EST			0	0			<b>Moderate Snowfall</b>
	09	1100EST							
	Low pressure moving from central Tennessee on the morning of December 8th to off the Mid-Atlantic coast on the morning of the 9th brought from 3 to 6 inches of snow to the southern part of the state.								

# Storm Data and Unusual Weather Phenomena

December 2001

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

## NEW HAMPSHIRE, North and Central

<b>NHZ001&gt;002-004</b>	<b>Northern Coos - Southern Coos - Northern Carroll</b>				<b>0</b>	<b>0</b>			<b>Moderate Snowfall</b>
	<b>14</b>	<b>2100EST</b>							
	<b>15</b>	<b>1000EST</b>							

Low pressure moving from western Kentucky on the morning of December 14th to south of Nova Scotia by the morning of the 15th brought from 2 to 5 inches of snow to the northern mountains. Areas farther south received mainly rain.

<b>NHZ001&gt;002-005&gt;010</b>	<b>Northern Coos - Southern Coos - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford</b>				<b>0</b>	<b>0</b>			<b>Moderate Snowfall</b>
	<b>17</b>	<b>1100EST</b>							
	<b>18</b>	<b>1400EST</b>							

<b>NHZ003&gt;004</b>	<b>Northern Grafton - Northern Carroll</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>17</b>	<b>1100EST</b>							
	<b>18</b>	<b>1400EST</b>							

Low pressure moved from the Mississippi Valley on the morning of December 17th to near Long Island, New York by the morning of the 18th and then out to sea. The storm brought from 2 to 5 inches of snow across Coos County with 4 to 8 inches of snow in northern Grafton and northern Carroll Counties. Farther south, the snow mixed with or changed to freezing rain and rain and snowfall accumulations were generally from near nothing along the coast to 2 to 5 inches inland.

<b>NHZ001&gt;010-013</b>	<b>Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford - Interior Rockingham</b>				<b>0</b>	<b>0</b>			<b>Freezing Rain</b>
	<b>24</b>	<b>0000EST</b>							
		<b>1600EST</b>							

A deep low pressure system over the Great Lakes on the 23rd weakened on the 24th as a secondary low developed off the Mid-Atlantic Coast on the 24th. The combination of the two systems brought warmer air northward across much of the area. Freezing rain developed over the area early in the morning on the 24th and caused slippery driving conditions until later in the day when temperatures warmed above freezing in most areas.

## NEW HAMPSHIRE, Southern

<b>NHZ011&gt;012</b>	<b>Cheshire - Hillsborough</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>08</b>	<b>2300EST</b>							
	<b>09</b>	<b>0900EST</b>							

The season's first winter storm brought 6 to 8 inches of snow to most of Cheshire and Hillsborough Counties. Since the storm occurred late Saturday night into Sunday morning, little significant impact was reported.

## NEW JERSEY, Northeast

<b>NJZ002&gt;006-011</b>	<b>Western Passaic - Bergen - Eastern Passaic - Essex - Hudson - Union</b>				<b>0</b>	<b>0</b>			<b>Drought</b>
	<b>01</b>	<b>0000EST</b>							
	<b>31</b>	<b>2359EST</b>							

Dry mild weather continued for the third consecutive month across the region. The total average rainfall for December was 2.35 inches or 58 percent of normal. The total average rainfall from October through December was 4.39 inches, which was a deficit of 7.50 inches. Rainfall was below average for the last six consecutive months, which yielded an average deficit of 10.36 inches.

The combined storage in the 13 major water supply reservoirs serving northeast New Jersey was 47.4 percent capacity, which was 30 percent below normal. Current levels stopped declining, comparable to the 1998-1999 drought levels. Capacities in the individual systems at the end of the month were:

Newark Reservoirs	44.2% (percent capacity)
Jersey City Reservoirs	53.1%
North Jersey District	44.5%
United Water of New Jersey	53.6%

Streamflows in New Jersey remained below normal at USGS index stations. The average monthly mean discharge at these index stations was 32.8 percent of normal.

Groundwater levels in New Jersey, as measured in water table observation wells, were below normal at all three USGS index wells.

The New Jersey State Department of Environmental Protection continued the drought watch for Passaic, Bergen, Essex, Hudson, and Union Counties during December. On December 18th, the Delaware River Basin Commission declared a drought emergency for the Delaware Watershed. Under this emergency declaration, the commission may call for releases from federal, state, and privately-owned reservoirs to bolster flows in the Delaware River and tributary streams.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## **NEW JERSEY, South and Northwest**

**NJZ001-007>010-012>026**     **Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**

<b>01</b>	<b>0000EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Drought</b>
<b>31</b>	<b>2359EST</b>					

Unseasonably dry weather continued across New Jersey during the month of December. While more precipitation fell during December than either October or November, it was still drier than normal. On a county weighted average, monthly precipitation totals ranged from 1.6 inches in Cape May County to 2.5 inches in Sussex County. Normal is around 3.7 inches. The continued dry weather, the drop in stream flow and groundwater levels and the reduced levels in the New York State reservoirs prompted the New Jersey State Department of Environmental Protection to upgrade the drought watch to a drought warning for counties in the Delaware River Basin and southern New Jersey on November 21st. The drought warning included all or part of the following counties: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex and Warren. The drought warning gives the state Department of Environmental Protection (DEP) greater authority to control water distribution and transfers among the major reservoir systems and to temporarily modify water allocation permits. Individual municipalities can also set their own restrictions. The DEP asked residents to use good water conservation practices but there were no mandatory restrictions unless required by an individual township.

The Delaware River Basin Commission, which oversees water supply throughout the Delaware River Basin declared a "drought" on December 3rd when the supply of water in the New York City reservoir system dropped below a designated level for early December. This triggered additional reductions in the amount of water released from the reservoirs into the Delaware River and the amount diverted out of the Delaware River Basin to New York City and New Jersey. Diversions to New York City dropped from 800 million gallons a day to 520 million gallons a day. Diversions to northern New Jersey through the Delaware and Raritan Canal was reduced to 65 million gallons a day from 100 million gallons a day. As precipitation continued to be below normal, the New York City reservoirs failed to rise and were about 50 percent below normal for December. They were at their lowest level since the last of the three reservoirs went on line in 1967. The Delaware River Basin Commission declared a drought emergency on December 18th. The emergency declaration gave the commission the power to restrict the amount of water suppliers could draw from the basin. It gave the commission the authority to take water from municipal reservoirs to maintain river levels. It could also call for water releases from federal, state and privately owned reservoirs. Water from Lake Nockamixon, the F.E. Walter Reservoir and Lake Wallenpaupack could be used to maintain river levels. All of these bodies of water are in Pennsylvania. They were last used for this purpose in the 1960s. The releases help protect the riverbank and aquatic life and also prevents salt water from flowing up the Delaware River. Salt water intrusion causes corrosion problems for industries and increases water treatment costs for municipalities that depend on the river for their water supply. Maintaining river levels are also important for groundwater reserves that are recharged by the river itself, especially in southern New Jersey. The salt front along the Delaware River was approximately 11 miles farther upstream than it normally is during December. The emergency declaration also gives the commission the power to request that utilities and other companies that use more than one million gallons of water a day to prepare contingency plans to use less water and submit the plans to the commission.

Signs of the drought were apparent across the state. On December 3rd, 20 percent of all streams were at record low flow for the calendar day. Another 40 percent were threatening record lows. As of December 5th, that number increased to 25 percent. Water was being released from the Round Valley Reservoir to meet mandatory flow requirements for the Raritan River. In Sussex County, both Hopatcong and Sussex Boroughs restricted water use. Wells in Morris County were below normal and the flow along the Rockaway River (on the 30th) was one fifth of normal.

During 2001, precipitation was well below average. The preliminary statewide average precipitation total of 35.84 inches was the fourth driest year on record and the driest year since 1965. Normal is 47.19 inches. On a county weighted average, yearly precipitation totals ranged from 31.3 inches in Cumberland County to 39.6 inches in Hunterdon County. The deficiencies ranged from 8.4 inches in Gloucester County to 13.5 inches in Morris County. Most of the deficit came in the second half of the year. The yearly precipitation total of 30.02 inches at the Atlantic City International Airport was 10.27 inches below normal and the third driest year on record.

**NJZ001-001-007-007>008-008>009-009>010-010-012-012>013-013>014-014>015-015>016-016>017-017>018-018>019-019>020-020>021-021>022-022>023-023>024-024>025-025>026-026**     **Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**

<b>01</b>	<b>0900EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Warm</b>
<b>06</b>	<b>1800EST</b>					

# Storm Data and Unusual Weather Phenomena

December 2001

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

## NEW JERSEY, South and Northwest

A strong ridge of high pressure over the western Atlantic Ocean and adjacent parts of the United States brought unseasonably and record breaking warm weather from November 30th through December 6th in New Jersey. Daily record breaking high temperatures were set on the 1st, 5th and 6th in many locations with high temperatures reaching into the 60s and 70s. A cold frontal passage on the 7th brought readings closer to seasonal levels. The warmest day for most areas was the 5th. Highest temperatures included 74 degrees in Trenton (Mercer County), New Brunswick (Middlesex County), and Belle Mead (Somerset County), 73 degrees at the Atlantic City International Airport and Freehold (Monmouth County), 72 degrees in Somerville (Somerset County), Flemington (Hunterdon County), and Mount Holly (Burlington County), 71 degrees in Chatham (Morris County), Walpack (Sussex County), and Iselin (Middlesex County), 70 degrees at the Marina within Atlantic City, Somerdale (Camden County), Hackettstown (Warren County), Millville (Cumberland County) and Marcella (Morris County). The 71 degree high temperature in Walpack (Sussex County) tied the all-time monthly record high for the county.

**NJZ001-007>008**

### **Sussex - Warren - Morris**

<b>08</b>	<b>1400EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Wintry Mix</b>
<b>09</b>	<b>0600EST</b>				

A cold front that moved through the region early on the 7th brought in sufficient cold air so that when a wave of low pressure developed on the frontal boundary, precipitation fell as a wintry mix over northwestern New Jersey. Snowfall accumulations were generally an inch or less in Morris and Warren Counties and between 1 and 4 inches in Sussex County. This was the first measurable snow of the season. The weak low pressure system traveled from the Tennessee Valley the morning of the 8th to just south of Cape Cod the morning of the 9th. Precipitation began mainly as light rain during the early afternoon on the 8th. As the intensity increased, it changed over to snow across much of Warren, Sussex and western Morris Counties. The snow changed to rain across much of the area during the evening of the 8th. Over the higher terrain of Sussex County, the snow changed to freezing rain during the evening of the 8th. A mixture of light rain, light freezing rain and snow fell overnight and ended by 6 a.m. EST the morning of the 9th. Slippery conditions on snow covered roads caused accidents. Accumulations included 4 inches in High Point (Sussex County), 3.5 inches in Wantage (Sussex County), 3 inches in Highland Lakes (Sussex County), 1.5 inches in Sparta (Sussex County), 1.4 inches in Newton (Sussex County), an inch in Morristown and Roxbury Township and 0.3 inches in Blairstown.

**NJZ001**

### **Sussex**

<b>17</b>	<b>0500EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Freezing Rain</b>
	<b>1230EST</b>				

A high pressure system over nearby Canada and a warm front approaching from the southwest combined to produce some light freezing rain mainly during the morning of the 17th in Sussex County. The high pressure system provided subfreezing temperatures near the surface while the warm front brought in warmer air (above freezing temperatures) aloft. The combination led to freezing rain. While precipitation amounts were light, generally less than one tenth of an inch, untreated roads were slippery. The slippery roads led to delayed school openings of up to two hours in Montague and Vernon.

**NJZ024**

### **Eastern Cape May**

<b>18</b>	<b>0844EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>High Wind (G52) <sup>M</sup></b>
-----------	----------------	----------	----------	----------	-------------------------------------

A line of showers preceding a cold front produced wind gusts of 60 mph in Cape May, New Jersey.

**NJZ001-007>010-012>026**

### **Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**

<b>31</b>	<b>2359EST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Warm</b>
-----------	----------------	----------	----------	----------	----------	--------------------------

December 2001 was the warmest December on record in New Jersey. The preliminary monthly mean temperature of 41.5 degrees surpassed December 1923 (state mean temperature of 41.0 degrees) as the warmest December on record for the state. The statewide normal is 35.4 degrees. At the Atlantic City International Airport, the December monthly mean temperature of 43.0 degrees (7.2 degrees above normal) was the second warmest December on record. At the Marina within Atlantic city, the monthly mean temperature of 46.3 degrees (7.2 degrees above normal) was also the second warmest December on record. The monthly mean temperature in Trenton was 41.3 degrees and was 5.5 degrees above normal.

## NEW MEXICO, Central and North

**NMZ008-014**

### **Westcentral Mountains - Southwest Mountains/Upper Gila Region**

<b>11</b>	<b>1400MST</b>	<b>0</b>	<b>0</b>		<b>Winter Storm</b>
	<b>2300MST</b>				

Heavy snow of 6 to 10 inches was reported along the continental divide and in the areas above 7500 feet across west central New Mexico.

**NMZ002-009-017**

### **Northwest Mountains Including Jemez - Middle Rio Grande Valley - Capitan/Northern Sacramento Mountains**

<b>21</b>	<b>1400MST</b>	<b>0</b>	<b>0</b>	<b>10K</b>	<b>High Wind (G45)</b>
	<b>1700MST</b>				

Gusty winds developed ahead of the passage of a strong, but dry cold front that moved northwest to southeast across the state. One building lost a roof in Los Alamos, while power outages were reported in Albuquerque from gusts over 50 mph.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## NEW MEXICO, South Central and Southwest

**NMZ022**

### **Southwest Mountains/Lower Gila Region**

	12	0200MST 0800MST			0	0			<b>Heavy Snow</b>
--	----	--------------------	--	--	---	---	--	--	-------------------

The New Mexico Highway Department reported 6 to 12 inches of snow had accumulated in the higher elevations of Grant County (mainly north and east of Silver City). NM Highways 15 and 152 were closed for several hours.

## NEW MEXICO, Southeast

NONE REPORTED.

## NEW YORK, Central

**NYZ056>057-062**

### **Broome - Delaware - Sullivan**

	08	1400EST			0	0			<b>Heavy Snow</b>
	09	0200EST							

Heavy snow spread north ahead of a low pressure area. The storm moved from West Virginia the afternoon of the 8th to the New Jersey coast early on the 9th. This was the first significant event of the season. Snowfall amounts were in the 4 to 7 inch range.

**NYZ009**

### **Northern Oneida**

	29	1900EST			0	0			<b>Heavy Snow</b>
	30	0700EST							

A west to east band of heavy lake effect snow off of Lake Ontario dropped south into extreme northern Oneida County during the evening of the 29th and morning of the 30th. The Oneida County sheriff's office reported 8 to 9 inches in Florence and 12 inches in Boonville during the event. The cooperative observer in Boonville reported 12.2 inches. Snowfall rates were up to 3 inches an hour. The event ended when the snow band moved back north out of the county.

**NYZ009**

### **Northern Oneida**

	31	2200EST 2359EST			0	0			<b>Heavy Snow</b>
--	----	--------------------	--	--	---	---	--	--	-------------------

A west to east lake effect band of heavy snow off of Lake Ontario moved south late on the 31st into extreme northern Oneida County. Snow totals for the entire event were 10.5 inches in Boonville by the cooperative observer and 8 inches also reported in Boonville by a snow spotter. Slightly further south a snow spotter in Point Rock reported 5 inches while the County Sheriff reported 6 inches in Florence. The event ended when a cold front pushed south late morning on the first.

## NEW YORK, Coastal

**NYZ067>071**

### **Orange - Putnam - Rockland - Northern Westchester - Southern Westchester**

	01	0000EST			0	0			<b>Drought</b>
	31	2359EST							

Dry mild weather continued for the third consecutive month across the region. The total average rainfall for December was 2.35 inches or 58 percent of normal. The total average rainfall from October through December was 4.39 inches, which was a deficit of 7.50 inches. Rainfall was below average for the last six consecutive months, which yielded an average deficit of 10.36 inches.

The combined storage in the New York City water supply reservoir system at the end of the month was 44.3 percent of capacity, which was 31.7 percent below normal. Capacities in the individual reservoirs at the end of the month were:

Croton System	83.5% (percent capacity)
Roundout Reservoir	93.1%
Ashokan Reservoir	43.2%
Schoharie Reservoir	16.6%
Cannonsville Reservoir	7.8%
Pepcaton Reservoir	34.3%
Neversink Reservoir	36.4%

The combined storage in the Upper Delaware River Basin at the Neversink, Pepcaton, and Cannonsville Reservoirs was less than 25 percent capacity (approximately 64 billion gallons). This was over 116 billion gallons below normal or 62.7 percent below normal levels. This was the lowest level since the last of the three reservoirs went on line in 1967.

Streamflows in Southeast NY remained below normal. The mean flow on the Wallkill River at Gardiner was in the deficit range for the fifth consecutive month.

As a consequence of declining water levels, on the 3rd, the New York State Department of Environmental Conservation (NYSDEC) upgraded the drought watch to a drought warning for Orange, Putnam, Rockland, and Westchester Counties.

# Storm Data and Unusual Weather Phenomena

December 2001

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, East**  
**NYZ052**

**Eastern Albany**

01	0000EST				0	0			<b>Record Warmth</b>
07	2359EST								

A Bermuda like high brought unseasonably mild conditions to eastern New York and adjacent Western New England during the first week of December. During the first 7 days of the month, the official maximum temperature at Albany reached at least 50 or higher on every day, which had never happened before in the 127 year history of record keeping. During those 7 days, two record high temperatures were established, 65 on the 5th and 68 on the 6th. The average mean temperature during the first week was 16.1 degrees above normal!

**NYZ049>050-052-054**

**Eastern Schenectady - Southern Saratoga - Eastern Albany - Eastern Rensselaer**

08	2200EST				0	0			<b>Winter Storm</b>
09	0600EST								

An area of low pressure developed along a stalled front, which was located south of the Mason-Dixon Line, late on December 8th. This low had lots of subtropical moisture to work with, as it moved east along the front, then off the Mid Atlantic coast by Sunday, December 9th. The air was cold enough for mostly snow across interior eastern New York and adjacent western New England. A band of heavier snowfall, 4 to 8 inches, accumulated across the Greater Capital District. Some specific snowfall amounts in Albany County included 7.4 inches at both Albany International Airport and the Town of Guilderland. In Rensselaer County, 7 inches fell at Melrose. In southern Saratoga County 7 inches of snow accumulated in Waterford, and 8 in Clifton Park. In eastern Schenectady County, 7 inches fell in Glenville and 8 in Niskayuna. Since the snow fell during a weekend, and much of it initially melted on roadways, travel disruptions were minimized.

**NYZ032**

**Northern Herkimer**

29	0400EST				0	0			<b>Lake Effect Snow</b>
31	2359EST								

Low pressure, anchored to the east of James Bay in Canada, circulated a persistent westerly fetch of polar air during the end of December. This air blew downwind of Lake Ontario, picking up moisture off the relatively warm lake waters which resulted in lake effect snow. By late Friday evening, the lake bands shifted so that the snow plume reached the western Adirondacks of northern Herkimer County. Disturbances enhanced the snow band, producing hard bursts of snow at times. Stillwater Reservoir reported 26 inches of new snowfall from Friday evening through Monday.

**NEW YORK, North**

**Clinton County**

Countywide	06	0600EST 1300EST			0	0			<b>Gusty Winds</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

**Essex County**

Countywide	06	0600EST 1300EST			0	0			<b>Gusty Winds</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

**Franklin County**

Countywide	06	0600EST 1300EST			0	0			<b>Gusty Winds</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

**St. Lawrence County**

Countywide	06	0600EST 1300EST			0	0			<b>Gusty Winds</b>
------------	----	--------------------	--	--	---	---	--	--	--------------------

Primary storm system moved across southern Canada during Thursday, December 6th. Gusty winds occurred with passage of the associated cold front during the morning and early afternoon. A number of locations reported wind gusts over 34 mph (30 kts). A few wind gust reports included: In St Lawrence county, Canton with 46 mph (40 kts) while Massena had 44 mph (38 kts). In Clinton county, Plattsburgh had 39 mph (34 kts) while in Essex county Saranac Lake reported 37 mph (32 kts). In addition, scattered power outages were reported in Malone located in Franklin county.

**NYZ027>028-030>031**

**Northern Franklin - Northeast Clinton - Southern Franklin - Southwest Clinton**

14	1700EST				0	0			<b>Light Snow</b>
15	0400EST								

An area of low pressure over the Ohio Valley Friday morning, December 14th, moved northeast and reorganized over southern New England the night of the 14th. The storm system then continued east and moved offshore by Saturday morning, December 15th. Light rain quickly changed to wet snow across the area Friday evening (December 14th) and tapered off to flurries early Saturday morning. Accumulations were generally 4 to 6 inches. Peru (Clinton county) received 5 1/2 inches while Malone (Franklin county) had 6 1/2 inches. Isolated higher amounts occurred in the higher elevations. It was a very wet snow.

**NYZ026-029-034>035**

**Northern St. Lawrence - Southern St. Lawrence - Western Essex - Eastern Essex**

14	1700EST				0	0			<b>Light Snow</b>
15	0400EST								

An area of low pressure over the Ohio Valley Friday morning, December 14th, moved northeast and reorganized over southern New England the night of the 14th. The storm system then continued east and moved offshore by Saturday morning, December 15th. Light

# Storm Data and Unusual Weather Phenomena

December 2001

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

## NEW YORK, North

rain quickly changed to wet snow across the area Friday evening (December 14th) and tapered off to flurries early Saturday morning. Accumulations were generally 2 to 5 inches. It was a very wet snow.

**NYZ027>028-031**

**Northern Franklin - Northeast Clinton - Southwest Clinton**

17	1500EST	0	0		<b>Light Snow</b>
18	0600EST				

An area of low pressure over the Ohio Valley Monday, December 17th moved to the New Jersey coast the night of the 17th and then to off the southern New England coast Tuesday morning, December 18th. Light snow spread north across the area during the afternoon...mixing with freezing rain during the evening hours then back to all snow. Accumulations were generally 3 to 5 inches. A few reports included: In Clinton county, Ellenburg Depot received 6 inches while Peru reported 2.9 inches. The City of Malone (Franklin county) received 3 1/2 inches.

**NYZ026>027**

**Northern St. Lawrence - Northern Franklin**

23	2000EST	0	0		<b>Light Freezing Rain</b>
24	0300EST				

A storm system moved into the Great Lakes region Sunday night, December 23rd. Another storm system organized over southern New England and moved east on Monday, December 24th. Light freezing rain and freezing drizzle fell during the night hours. Slippery spots developed.

**NYZ026**

**Northern St. Lawrence**

27	2200EST	0	0		<b>Heavy Snow</b>
28	1800EST				

Low pressure over southern Canada resulted in a westsouthwest wind flow of cold air across Lake Ontario. This setup heavy snow bands. The snow began in southern portions of St Lawrence county during midday on Thursday, December 27th and continued through the day of December 28th with the snow bands meandering. Across southern portions of the county, lake effect snow was generally 8 to 12 inches. However, there were some reports in excess of 12 inches along the extreme southern county border.

**NYZ029**

**Southern St. Lawrence**

28	1600EST	0	0		<b>Heavy Snow</b>
	2100EST				

Low pressure over southern Canada resulted in a westsouthwest wind flow of cold air across Lake Ontario. This setup heavy snow bands. Light snow began midday on the 27th of December, with the heavy snow bands spreading across this area on the 28th of December. Meandering snow bands resulted in accumulations of 6 to 12 inches.

**NYZ026>027**

**Northern St. Lawrence - Northern Franklin**

30	1200EST	0	0		<b>Light Snow</b>
31	0400EST				

A storm system over the Province of Quebec, coupled with an air flow across the eastern Great Lakes, enhanced the flow of moisture across the St Lawrence Valley and Adirondack regions of northern New York. Light snow fell across these areas with accumulations generally 3 to 6 inches. The greatest amounts were in southern portions of the zone, with locally higher amounts in a narrow band in extreme southern portions.

**NYZ030**

**Southern Franklin**

30	1200EST	0	0		<b>Light Snow</b>
31	1400EST				

A storm system over the Province of Quebec, coupled with an air flow across the eastern Great Lakes, enhanced the flow of moisture across the St Lawrence Valley and Adirondack regions of northern New York. Light snow fell across these areas with accumulations generally around 6 inches. The greatest amounts were in southern portions of the zone, with locally higher amounts in a narrow band in extreme southern portions.

**NYZ031-034**

**Southwest Clinton - Western Essex**

30	1200EST	0	0		<b>Light Snow</b>
31	1200EST				

A storm system over the Province of Quebec, coupled with an air flow across the eastern Great Lakes, enhanced the flow of moisture across the St Lawrence Valley and Adirondack regions of northern New York. Light snow fell across these areas with accumulations generally 2 to 5 inches. The greatest amounts were in the mountains.

**NYZ029**

**Southern St. Lawrence**

31	0200EST	0	0		<b>Heavy Snow</b>
	1500EST				

A storm system over the Province of Quebec, coupled with an air flow across the eastern Great Lakes, enhanced the flow of moisture across the St Lawrence Valley region of northern New York. Light snow fell across this zone with around 6 inches, however a narrow band in the southern portion of the zone received locally in excess of 12 inches, with up to 16 inches just east of Star Lake. The snow began around noon on December 30th...with the heaviest snow during the morning of the 31st.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## NEW YORK, West NYZ008

### Lewis

**20 1615EST** **0 0 5K** **Heavy Snow**

An area of low pressure moving across southern Ontario brought snow to the region. East of Lake Ontario snowfall amounts varied from barely a covering at low elevations to seventeen inches on the Tug Hill plateau.

## NYZ019>021

### Chautauqua - Cattaraugus - Allegany

**21 0806EST** **0 0 30K** **Heavy Snow**  
**0900EST**

A cold northwest flow resulted in narrow bands of lake effect snow downwind of Lake Erie, across the western southern tier of New York. Specific snowfall amounts included: 8" at Frewsburg and Rushford; and 10" at Friendship.

## NYZ001-010>012

### Niagara - Erie - Genesee - Wyoming

**24 1130EST** **0 0 14.3M** **Heavy Snow**  
**26 2200EST**

Lake effect snowbands developed and persisted for an unprecedented five days meandering north and south across the region. Multiple bands of snow developed over the Niagara peninsula during Monday, the 24th, morning and extended into Niagara and northern Erie counties into early afternoon dropping up to six inches. The activity consolidated into a single band during the mid-afternoon and dropped south across the Buffalo metro area through the evening and early overnight. Snowfall rates of 4" per hour and thunder were reported during the evening. The band drifted back north to the Niagara peninsula on Christmas day. On Wednesday the 26th, the band over the peninsula began to drift south and for the next two days continued to meander across Buffalo and its northern and southern suburbs. States of Emergency and driving bans were declared. The National Guard was called in to help in snow removal. Nearby cities including Rochester, New York and Toronto, Ontario sent snow removal crews and equipment to aid in the cleanup. The weight of the seven feet of snow caused roof collapses and in several cases entire buildings collapsed. On Grand Island, a storage building containing over one million dollars in boats collapsed. In Cheektowaga, Erie county, an 83-year-old man was killed when his carport collapsed on top of him. Specific storm totals included, in Niagara County: North Tonawanda 40"; Pendleton 39"; Wheatfield 31"; Middleport 26"; Niagara Falls 25"; Lewiston 25" and Lockport 24". In Erie County: Buffalo Airport 81.6"; West Seneca 72"; Lancaster/Depew 67"; Clarence 56"; Buffalo 49-63"; Amherst 46-55"; Boston 48"; Kenmore and Tonawanda 45"; Eden and Elma 43"; Grand Island 40"; East Aurora 38"; and Colden and Hamburg 36". In Genesee County: East Pembroke 29"; Darien 28"; Batavia 16"; and Alexander 14". In Wyoming county: Strykersville 49"; Warsaw 31"; Arcade 30"; Bennington 29" and Portageville 13".

## NYZ006>008

### Oswego - Jefferson - Lewis

**27 1630EST** **0 0 5M** **Heavy Snow**  
**28 0300EST**

During the night of the 26th and daytime hours of the 27th, lake effect snowbands intensified over northern Jefferson county. On the 28th the snowband settled south across southern Jefferson and Lewis counties. Thunder and lightning were reported during the evening with snowfall rates of two to four inches per hour. The band oscillated north and south across southern Jefferson and Lewis counties through the 28th. By late on the afternoon of the 29th, the band narrowed and moved into southern Lewis and northern Oswego counties. Specific storm totals included: in Jefferson county: Carthage 54"; Redwood 46"; Mannsville 43"; Alexandria Bay 36"; Watertown 30". In Lewis county: Montague 127"; Highmarket 104"; North Osceola 86"; Hooker 64"; Barnes Corners 62"; Lowville 48"; and Brantingham 42". In Oswego county: Lacona 38"; Bennetts Bridge 15" and West Monroe 12".

## NYZ019>021

### Chautauqua - Cattaraugus - Allegany

**29 0330EST** **0 0 3M** **Heavy Snow**  
**1900EST**

Lake effect snowbands shifted into the western southern tier area late on the 28th and persisted through the 30th. Specific storm totals included: in Chautauqua county: Arkwright 56"; Sherman 48"; Sinclairville 30"; Fredonia 28"; Ellington 25"; Dunkirk 22" and Silver Creek 20". In Cattaraugus county: South Dayton 54"; Perrysburg 51"; Yorkshire 46" and New Albion 21". In Allegany county: Rushford 15" and Angelica 11".

## NORTH CAROLINA, Central

NONE REPORTED.

## NORTH CAROLINA, Central Coastal

NONE REPORTED.

## NORTH CAROLINA, Extreme Southwest

NONE REPORTED.



# Storm Data and Unusual Weather Phenomena

December 2001

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

## NORTH CAROLINA, North Coastal

NONE REPORTED.

## NORTH CAROLINA, Northwest and North Central

**NCZ018**

**Watauga**

18 0700EST  
0900EST

0      0      0

**High Wind**

High winds during the morning of the 18th downed trees across Watauga County, blocking several roads.

## NORTH CAROLINA, South Coastal

NONE REPORTED.

## NORTH CAROLINA, Southwest

**NCZ033>037-048>059-062>072-082** Avery - Caldwell - Alexander - Iredell - Davie - Madison - Yancey - Mitchell - Swain - Haywood - Buncombe - McDowell - Burke - Catawba - Rowan - Graham - Northern Jackson - Macon - Southern Jackson - Transylvania - Henderson - Polk - Rutherford - Cleveland - Lincoln - Gaston - Mecklenburg - Cabarrus - Union

01 0000EST  
31 2359EST

0      0

**Drought**

Very little active weather during December signaled that the drought was still present - and becoming critically important to more and more people. The Charlotte area recorded an all-time record dry calendar year with just 26.23 inches of rainfall during 2001. Records have been kept in the area since 1878. Many communities initiated either mandatory or voluntary water restrictions. At Kings Mountain, NC - a new pump was required at Lake Moss because the water level dropped below 2 of the 3 existing pumps. Record low ground water supplies, lake levels, and stream flows were reported across all of Western North Carolina.

## NORTH DAKOTA, Central and West

**NDZ003>005-012>013** Renville - Bottineau - Rolette - McHenry - Pierce

05 0700CST  
2100CST

0      0

**Heavy Snow**

Low pressure over Nebraska moved northeast into Minnesota and intensified. The storm brought heavy snow to north central North Dakota with up to 10 inches reported. The heaviest band of snow, 6 to 10 inches fell from Divide and Williams counties expanding eastward to eastern Bottineau and western McHenry counties. The snow reports were from cooperative observers across northern North Dakota.

**NDZ023-025-037-048** Wells - Foster - Stutsman - La Moure

22 1200CST  
2200CST

0      0

**Blizzard**

Low pressure developed over the Colorado Rockies on the 20th of December and moved into the central plains on the 21st and intensified into a winter storm system. The storm moved northeast into western Minnesota on Saturday, the 22nd, and brought snow and wind across North Dakota. Although snow amounts only ranged from 1 to 3 inches, gusty northwest winds up to 35 mph caused considerable blowing and drifting snow to much of central North Dakota. Visibilities were reduced to less than a quarter mile, lowering to only a couple hundred feet at times, lasting 3 to 6 hours across the warned area.

## NORTH DAKOTA, East

**NDZ006>008-014>016-024>027-029>030-054** Towner - Cavalier - Pembina - Benson - Ramsey - Eastern Walsh - Nelson - Grand Forks - Steele - Traill - Western Walsh

05 0700CST  
1330CST

0      0

**Winter Storm**

A low pressure system moved out of Colorado into the Minnesota Arrowhead, bringing freezing rain, snow, and strong winds to northeast North Dakota. Many locations received a quarter inch of ice, making driving extremely dangerous. Lightning, thunder, and small hail were reported west of Fargo. One to 5 inches of snow fell across the area, with Cavalier reporting the 5 inches.

**NDZ006>008-014>016-024-026>030-038>039-054** Towner - Cavalier - Pembina - Benson - Ramsey - Eastern Walsh - Eddy - Nelson - Grand Forks - Griggs - Steele - Traill - Barnes - Cass - Western Walsh

22 1229CST  
23 0400CST

0      0

**Blizzard**

30 to 35 mph winds, gusting up to 45 mph, along with a little light snow, brought the visibility down below a quarter mile across the area. Many people were in Grand Forks to watch a basketball game at UND. With no travel recommended, motels quickly filled up and the Alerus Center had to be opened to accommodate people overnight. Numerous cars ended up in ditches, especially along Interstate 94. The blizzard warning was issued at 3:51 pm for Traill and Cass counties, as lower visibilities took longer to reach the southern Red River Valley. Conditions also improved earlier over the Devils Lake basin.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## OHIO, East

**OHZ039>040-049>050- Tuscarawas - Carroll - Harrison - Jefferson - Muskingum - Belmont  
057-059**

14	1600EST 1930EST				0	0	40K		<b>High Wind (G50)</b>
----	--------------------	--	--	--	---	---	-----	--	------------------------

High winds associated with a deep area of low pressure passing over the region downed numerous trees and power lines across east central Ohio.

## OHIO, North

**OHZ014-020>023- Ashtabula - Medina - Summit - Portage - Trumbull - Richland - Ashland - Wayne - Stark - Mahoning -  
029>033-037>038-047 Morrow - Holmes - Knox**

14	1500EST 1900EST				0	0	225K		<b>High Wind</b>
----	--------------------	--	--	--	---	---	------	--	------------------

Strong low pressure moved northeast across Ohio during the afternoon and early evening hours. Damaging southwest winds occurred late in the afternoon with winds quickly shifting to the northwest during the evening as a trailing cold front moved across the area. Many trees were downed and scattered power outages were also reported. Knox County was hardest hit with a barn blown off of its foundation and several dozen trees downed. Also hard hit were Portage and Trumbull Counties where widespread power outages occurred.

**OHZ011>014**

**Cuyahoga - Lake - Geauga - Ashtabula**

28	1400EST				0	0	950K		<b>Heavy Snow</b>
30	1200EST								

A cold front moved east across Northeast Ohio during the afternoon of the 28th. West winds behind this front caused lake effect snow showers to intensify during the late afternoon and evening hours. Initially, heavy snow fell along the immediate lakeshore with snowfall totals of up to 13 inches reported in northern Ashtabula County by daybreak on the 29th. During the day on the 29th, the flow became more northwesterly spreading the heavy snow into Geauga and inland sections of Ashtabula Counties. Daytime accumulations of up to 18 inches were reported in Ashtabula County with a maximum of 15 inches in Lake County and around six inches in northern Geauga County. Late on the 29th and early on the 30th, winds briefly became more northerly causing the lake effect bands to spread west into eastern Cuyahoga County. Greater than six inches of snow fell by daybreak on the 30th in Cuyahoga County with more than 10 additional inches of snowfall in Lake, Geauga and Ashtabula Counties. The snow showers gradually diminished on the 30th with no more than a couple inches of accumulation during the daylight hours. Snowfall totals for the three day storm ranged from just over six inches in southern Ashtabula and eastern Cuyahoga counties to over 30 inches in Lake and northern Ashtabula Counties.

## OHIO, Northwest

NONE REPORTED.

## OHIO, Southeast

**OHZ066>067-075>076- Perry - Morgan - Athens - Washington - Jackson - Vinton - Meigs - Gallia - Lawrence  
083>087**

01	0000EST				0	0			<b>Prolong Warmth</b>
23	1800EST								

Indian summer conditions lingered well into December. Daytime readings in the 50s and 60s were common. On the 5th, South Point reached 77 degrees, Gallipolis had 76 degrees, Marietta saw 75 degrees, New Lexington 74 degrees, while both Athens and Jackson observed 72 degrees.

**OHZ066>067-075>076- Perry - Morgan - Athens - Washington - Jackson - Vinton - Meigs - Gallia - Lawrence  
083>087**

14	1200EST 1600EST				0	0	65K		<b>Wind</b>
----	--------------------	--	--	--	---	---	-----	--	-------------

A strengthening low pressure storm lifted northeast from Kentucky into northeastern Ohio during the daylight hours. South of the storm center, brief wind gusts of 40 to 55 mph occurred as the associated cold front swept across southeast Ohio during the early afternoon. Ohio University at Athens measured a gust to 45 mph. Around 1330E, a concrete block wall, about 20 feet high and aligned perpendicular to the wind, was blown over in Athens. It was at a Walmart construction site. Luckily, nobody was hurt. Scattered power outages occurred as large branches or trees came down. Athens County reported 5,900 customers lost electric power.

## OHIO, Southwest

**OHZ046-055>056-065- Delaware - Franklin - Licking - Fairfield - Ross  
073**

14	1400EST 1500EST				0	1	147K		<b>High Wind (G57)</b>
----	--------------------	--	--	--	---	---	------	--	------------------------

A center of low pressure over central Ohio created localized strong winds in excess of 50 knots for several areas. Scores of trees and

# Storm Data and Unusual Weather Phenomena

December 2001

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

## OHIO, Southwest

power lines were down, causing numerous roads to be closed. At one point in time, 21,000 electric customers were without power. The hardest hit area was in Licking county between Granville and Newark where several large trees fell on houses and automobiles. One person was injured south of Newark when a tree fell on his pickup truck, fracturing his leg. In Franklin County, police responded to over 200 runs at one time.

### **OHZ042-051-060-062-070>071 Darke - Miami - Preble - Greene - Butler - Warren**

17	0910EST 2145EST				0	0			<b>Flood</b>
----	--------------------	--	--	--	---	---	--	--	--------------

High water forcer road closures throughout southwest Ohio and the Miami Valley. Creeks were reported out of their banks in Butler and Preble Counties.

## OKLAHOMA, Eastern

### **Choctaw County**

#### **East Portion**

16	0120CST 0630CST				0	0			<b>Flash Flood</b>
----	--------------------	--	--	--	---	---	--	--	--------------------

Heavy thunderstorms rains caused water to flow over several county roads in the eastern part of Choctaw County. In addition, water flowed over Highway 109 between Frogville and Fort Towson.

### **Latimer County**

#### **5 S Red Oak**

16	0500CST 0630CST				0	0			<b>Flash Flood</b>
----	--------------------	--	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused water to flow over Highway 82 five miles south of Red Oak.

### **Choctaw County**

#### **5 S Ft Towson**

16	1525CST 1730CST				0	0			<b>Flash Flood</b>
----	--------------------	--	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused water to flow over Highway 109 five miles south of Fort Towson.

### **Pushmataha County**

#### **3 E Finley**

16	1525CST 1730CST				0	0			<b>Flash Flood</b>
----	--------------------	--	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused water to flow over a bridge on a county road 3 miles miles east of Finley.

### **Latimer County**

#### **5 S Red Oak**

16	1530CST 1730CST				0	0			<b>Flash Flood</b>
----	--------------------	--	--	--	---	---	--	--	--------------------

Heavy thunderstorm rains caused water to flow over Highway 82 five miles south of Red Oak.

### **Le Flore County**

#### **South Portion**

16	1725CST 2300CST				0	0	10K		<b>Flash Flood</b>
----	--------------------	--	--	--	---	---	-----	--	--------------------

Heavy thunderstorm rains caused flash flooding across a large part of southern Le Flore county. Numerous county roads were flooded near Muse and Page. In addition to numerous county roads being flooded in the vicinity of Big Cedar, a few homes were also flooded.

### **OKZ069**

#### **Adair**

16	2000CST				0	0			<b>Flood</b>
18	0000CST								

The Illinois River near Watts rose above its flood stage of 13 feet at 8 pm cst on December 16. The river crested at 17.8 feet at 1 pm December 17 before falling below its flood stage at 12 am cst December 18.

### **OKZ076**

#### **Le Flore**

16	2300CST				0	0			<b>Flood</b>
17	2000CST								

The Poteau River near Poteau rose above its flood stage of 24 feet at 11 pm cst on December 16. The river crested at 26.4 feet at 8 am cst on December 17 before falling below its flood stage at 8 pm cst the same day.

### **OKZ076**

#### **Le Flore**

17	0000CST				0	0			<b>Flood</b>
19	1900CST								

The Poteau River near Panama rose above its flood stage of 29 feet at 12 am cst on December 17. The river crested at 36.6 feet at 4 am cst on December 18. The river fell below its flood stage at 7 pm cst on December 19.

### **OKZ068**

#### **Cherokee**

17	1400CST				0	0			<b>Flood</b>
18	2200CST								

The Illinois River near Tahlequah rose above its flood stage of 11 feet at 2 pm cst on December 17. The river crested at 14.0 feet at

# Storm Data and Unusual Weather Phenomena

December 2001

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

## OKLAHOMA, Eastern

10 am cst on December 18 before falling below its flood stage at 10 pm the same day.

## OKLAHOMA, Extreme Southeast

### Mccurtain County

<b>Golden</b>	16	1015CST			0	0			<b>Flash Flood</b>
---------------	----	---------	--	--	---	---	--	--	--------------------

Nearly 3 feet of water across county roads making travel impossible for many residents.

### Mccurtain County

<b>Broken Bow</b>	16	1450CST			0	0			<b>Flash Flood</b>
-------------------	----	---------	--	--	---	---	--	--	--------------------

A car was washed off the road on U.S. Hwy 70. No reports of injuries.

### Mccurtain County

<b>Idabel</b>	16	1825CST			0	0			<b>Flash Flood</b>
---------------	----	---------	--	--	---	---	--	--	--------------------

Hwy 37 flooded and closed. Many Farm to Market roads also closed.

## OKLAHOMA, Panhandle

NONE REPORTED.

## OKLAHOMA, Western, Central and Southeast

NONE REPORTED.

## OREGON, Central and East

### ORZ049

<b>Grand Ronde Valley</b>	01	0300PST 0900PST			0	0			<b>High Wind (G46) <sup>M</sup></b>
---------------------------	----	--------------------	--	--	---	---	--	--	-------------------------------------

Sustained winds of over 40 mph were measured for several hours north of Ladd Canyon by an automated wind sensor. Blowing snow during this time lowered visibilities, leading to the closure of Interstate 84 through Ladd Canyon for several hours.

### ORZ050

<b>Wallowa County</b>	01	0600PST 0800PST			0	0			<b>High Wind (G60) <sup>M</sup></b>
-----------------------	----	--------------------	--	--	---	---	--	--	-------------------------------------

Strong winds ahead of a cold front were felt around Joseph. A wind gust of 69 mph was measured at 6:20 am 3 miles north of town.

### ORZ045

<b>Foothills Of The Blue Mountains</b>	01	0700PST 1200PST			0	1	100K		<b>High Wind (G54) <sup>M</sup></b>
--	----	--------------------	--	--	---	---	------	--	-------------------------------------

High winds along the foothills of the Blue Mountains brought reports of tree damage and scattered power outages. A tractor trailer overturned after having been blown off Highway 11 near Athena. The driver reported only minor injuries. Sustained winds over 40 mph were reported during the morning hours by several spotters along Highway 11 between Pendleton and Milton - Freewater. An off duty NWS employee reported several trees and power lines down in southwest Pendleton. Other mature trees were downed near Milton - Freewater. At the Pendleton Airport, ASOS reported sustained winds of 50 mph with gusts up to 62 mph just before noon.

### ORZ045

<b>Foothills Of The Blue Mountains</b>	02	1130PST 1430PST			0	0	10K		<b>High Wind (G39)</b>
--	----	--------------------	--	--	---	---	-----	--	------------------------

High winds affected the Foothills of the Blue Mountains from Milton - Freewater to Pendleton. A spotter near Helix measured a 50 mph wind gust just before noon. Sustained 45 mph winds near Pendleton blew down several large branches. An landmark 3 foot diameter tree was downed in front of the Milton - Freewater Courthouse at 2 pm.

### ORZ046

<b>Blue Mountains</b>	04 05	1800PST 0800PST			0	0			<b>Heavy Snow</b>
-----------------------	----------	--------------------	--	--	---	---	--	--	-------------------

Heavy snow fell overnight at elevations above 4500 feet in the northern Blue Mountains. Tollgate, at an elevation of 5100 feet, reported 14 inches of snow.

### ORZ043

<b>Central Oregon</b>	04 05	2100PST 1700PST			0	0	0	0	<b>Heavy Snow</b>
-----------------------	----------	--------------------	--	--	---	---	---	---	-------------------

Heavy snow fell overnight in southern Deschutes County, generally from Bend southward. Bend, at an elevation of 4000 feet, received from 5 to 7 inches of snow according to law enforcement officials. Sunriver (4200 ft) accumulated 12 inches. La Pine, even farther south, reported 14 inches.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## OREGON, Central and East

<b>ORZ049</b>	<b>Grand Ronde Valley</b>				0	0			<b>High Wind (G53) <sup>M</sup></b>
	08	0700PST 1400PST							
	Sustained winds of over 40 mph were recorded for 7 hours north of Ladd Canyon. A peak gust of 61 mph occurred at 8:45 am.								
<b>ORZ049</b>	<b>Grand Ronde Valley</b>				0	0	100K		<b>Blizzard</b>
	12	2100PST							
	13	1200PST							
	A blizzard struck the Grande Ronde Valley, closing roads, schools and several businesses. Interstate 84 was closed from Ontario from Pendleton for 15 hours beginning at 10 pm on the 12th. Visibilities were reduced to less than 1/8 of a mile around Ladd Canyon, where winds gusted up to nearly 50 mph. Farther north, winds of 20 to 30 mph drifted snow across local highways, leading to numerous accidents. Snowfall amounts in the Grande Ronde Valley ranged from 4 to 8 inches, with La Grande and Imbler receiving 6 inches.								
<b>ORZ049</b>	<b>Grand Ronde Valley</b>				0	0			<b>High Wind (G36) <sup>M</sup></b>
	13	0040PST 0500PST							
	Sustained winds of greater than 40 mph were recorded for several hours by an Oregon Dept. of Transportation sensor along Interstate - 84 north of Ladd Canyon during the early morning hours. Snow accompanied these winds, leading to the closure of the interstate.								
<b>ORZ043</b>	<b>Central Oregon</b>				0	0	50K		<b>High Wind (G40) <sup>M</sup></b>
	13	0600PST 1000PST							
	A cold front brought damaging winds to central Oregon for several hours. Several large trees were toppled in Bend, leading to blocked streets and one isolated power outage. A construction fence also blew across a city road. In Prineville, part of a tin roof blew off an older house. A peak wind gust of 46 mph was measured at the airport in Redmond.								
<b>ORZ049</b>	<b>Grand Ronde Valley</b>				0	0			<b>High Wind (G35)</b>
	13	2300PST							
	14	0200PST							
	Sustained winds estimated at over 40 mph blew for several hours north of Ladd Canyon overnight..								
<b>ORZ049</b>	<b>Grand Ronde Valley</b>				0	0			<b>High Wind (G36) <sup>M</sup></b>
	16	0430PST 0630PST							
	Sustained winds greater than 40 mph were recorded by an Oregon Dept. of Transportation wind sensor.								

## OREGON, Northwest

<b>ORZ011</b>	<b>Northern Oregon Cascades</b>				0	0			<b>Heavy Snow</b>
	01	0000PST 1800PST							
	The first major Pacific storm of a stormy month dumped very heavy snow on the Cascades. Government Camp and Timberline received 26 inches, Bennett Pass and Tombstone 21 inches, Santiam Pass and Mt. Hood Meadows 18 inches each, and Blue Box Pass reported 13 inches of new snow.								
<b>ORZ001&gt;002</b>	<b>Northern Oregon Coast - Central Oregon Coast</b>				0	0	26K		<b>High Wind (G54) <sup>M</sup></b>
	01	0000PST 1800PST							
	A strong Pacific storm brought heavy rains and high winds to the area, causing widespread power outages, small landslides, and high waters. The Nehalem River flooded Highway 101 with a foot of water in the Nehalem area. A landslide on Highway 30, ten miles east of Astoria, resulted in the rerouting of traffic during cleanup, which is expected to cost about \$26K. Reported winds included Newport at 40 mph with gusts to 62 mph, Florence 48 mph with gusts to 62 mph, Yachats gusts to 61 mph, and Garibaldi winds 50 mph.								
<b>ORZ001&gt;002</b>	<b>Northern Oregon Coast - Central Oregon Coast</b>				0	0			<b>High Wind (G46) <sup>M</sup></b>
	03	1200PST							
	04	1500PST							
	Winds were measured in Garibaldi at 40 mph, and at Newport 40 mph with gusts to 53 mph.								
<b>ORZ003-009&gt;012</b>	<b>Coast Range Of Nw Oregon - Western Columbia River Gorge - North Oregon Cascades Foothills - Northern Oregon Cascades - Cascade Foothills In Lane County</b>				0	0			<b>Heavy Snow</b>
	03	1200PST							
	04	1500PST							
	Another powerful Pacific storm dumped very heavy snow in the Cascades again. Thirty five inches of snow fell at Santiam Pass, 38 inches at Mt. Hood Meadows, 34 inches at Timberline, 27 inches at Government Camp and Bennett Pass, 22 inches at Mt. Bachelor								

# Storm Data and Unusual Weather Phenomena

December 2001

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

## OREGON, Northwest

and 21 inches at Tombstone. In the Cascade Foothills, 3 to 5 inches were reported. In the Coastal Mountains. Both Sunset and Wilson Summits had 4 to 5 inches. In the Columbia River Gorge 3 to 4 inches of new snow was reported at Hood River, and both Bonneville Dam and Cascade Locks reported one inch accumulations.

**ORZ001>003-006 Northern Oregon Coast - Central Oregon Coast - Coast Range Of Nw Oregon - Greater Portland Metro Area**  
**12 1500PST 0 0 High Wind (G83)**  
**14 2100PST**

A strong winter storm brought high winds to the Oregon Coast, Coastal Mountains, and Willamette Valley resulting in widespread power outages and toppled trees. At Sea Lion Caves the wind gusts were estimated to be 70 to 75 with gusts 90 to 95 mph. Elsewhere winds were measured in Florence at 70 gusts to 79 mph, Newport Jetty 57 gust to 68 mph, Yachats gusts to 60 mph and Wheeler gusts to 90 mph. In the Coastal Mountains Cedar Creek RAWS reported gusts to 61 mph, The Dunes RAWS gusts to 62 mph and Cannibal RAWS gusts to 57 mph. In the Willamette Valley the Portland Airport recorded a gust to 47 mph. Central Lincoln P.U.D. reported 5000 customers lost power. In Astoria, the 66-foot crab boat Defiant was torn loose from its mooring...it drifted into shallow water and ran aground.

**ORZ011 Northern Oregon Cascades**  
**13 1400PST 0 0 Heavy Snow**  
**14 1800PST**

Snowfall amounts were 16 inches at Santiam Pass, Timberline, and Mt. Hood Meadows. Mt. Bachelor received 15 inches of snow.

**ORZ001>003 Northern Oregon Coast - Central Oregon Coast - Coast Range Of Nw Oregon**  
**15 0700PST 0 0 High Wind (G70) M**  
**16 2100PST**

A strong winter storm moved onshore bringing strong winds and heavy rains to the Oregon Coast and Coastal Mountains resulting in many downed trees, power outages and high waters. Bouy 29 at the mouth of the Columbia River reported winds 43 gusts to 56 mph, Newport Jetty 50 gusts to 70 mph, Florence 53 gusts to 68 mph, Garibaldi gusts to 68 mph, Netarts 40 to 50 gusts to 80 mph, Seaside gusts to 75 mph, Astoria gusts to 65 mph. In the Coastal Mountains Cedar Creek RAWS had gusts to 62 mph, Cannibal RAWS gusts to 65 mph, Wilkerson gusts to 57 mph. 17000 customers reported lost power. Small slides blocked Highway 30 at various points causing traffic detours. Thigh deep water covered Highway 101 South of Seaside. A tree fell across a private residence in Lincoln City, and estimated cost of repair was not available. No injuries were reported.

**ORZ006>007 Greater Portland Metro Area - Central Willamette Valley**  
**16 1500PST 0 0 High Wind (G52) M**  
**17 1700PST**

Trees were downed and power outages reported where wind gusts to 60 mph were reported at Portland, Salem, Silverton, Woodburn and Canby. 8500 customers reportedly lost power in the Salem-Woodburn area.

**ORZ009-011 Western Columbia River Gorge - Northern Oregon Cascades**  
**17 1200PST 0 0 Heavy Snow**  
**18 1500PST**

In the Cascades 11 inches of snow fell at Mt. Hood Meadows, 9 inches at Santiam Pass, 8 inches at Timberline, and 7 inches at Bennett Pass. In the Columbia River Gorge, Hood River had 4 inches of snow and Cascade Locks 1 to 2 inches.

**ORZ009-011 Western Columbia River Gorge - Northern Oregon Cascades**  
**27 0200PST 0 0 Winter Storm**  
**28 1500PST**

Heavy snows were reported in the Cascades, 8 inches fell at Mt. Bachelor and Warm Springs, 6 inches at Blue Box and Santiam Pass. In the Columbia River Gorge, Hood River reported 2 inches of snow, Freezing Rain was reported at Corbett, and Skamania reported both sleet and snow.

**ORZ009-011 Western Columbia River Gorge - Northern Oregon Cascades**  
**30 1200PST 0 0 Winter Storm**  
**31 2100PST**

In the Cascades, Freezing Rain was reported at Blue Box Pass, Government Camp, and Warm Springs. Willamette Pass received 2 inches of snow. In the Columbia River Gorge, Hood River reportedly received sleet, freezing rain, and one inch of snow.

## OREGON, Southeast

**ORZ062 Baker**  
**01 2045PST 0 0 High Wind (G63) M**  
**2115PST**

The passage of a cold front generated winds sustained to 31 knots and gusts to 37 knots at the Baker Municipal Airport and isolated gusts to 63 knots were recorded at a remote observation site on a ridge top above Baker City, Oregon. There was minor damage to roofs and highway road signs. Blowing and drifting snow resulted in the closure of local roads and a section of Interstate 84 from Pendleton to Ontario. There were numerous slide-offs but no injuries were reported.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b><u>OREGON, Southeast</u></b>									
<b>ORZ062</b>		<b>Baker</b>							
	04	2200PST			0	0			Heavy Snow
	05	0700PST							
	A strong Pacific storm brought between 4 and 12 inches of snow across Baker County.								
<b>ORZ062</b>		<b>Baker</b>							
	13	0730PST			0	0			Heavy Snow
	14	0300PST							
	Blowing and drifting snow caused the closure of Interstate 84 between Baker City and Ontario, Oregon for several hours after a storm dropped up to 10 inches of snow across Baker County.								
<b>ORZ061</b>		<b>Harney</b>							
	22	2030PST			0	0			Heavy Snow
	23	0300PST							
	A storm system brought up to 5 inches of snow across Harney County.								
<b><u>OREGON, Southwest</u></b>									
<b>ORZ021-021-021-021&gt;022</b>		<b>South Central Oregon Coast - Curry County Coast</b>							
	01	0100PST 0745PST			0	0			High Wind (G93) <sup>M</sup>
	Cape Blanco recorded a peak sustained speed of 65 mph. A High Wind Warning was issued for ORZ021/022 at 1424 PST on 11/30/01, restricted to the headlands at 2225 PST on 11/30/01, and cancelled at 0430 PST on 12/01/01. The above observation verified the warning, and it is evident that this warning should not have been limited to the headlands. In addition, Cape Blanco exceeded warning criteria continuously (except for one observation) from 1100 PST on 11/30/01 to 0300 PST on 12/01/01. The Cape Blanco peak gust of 93 mph was the highest of the season to that point in the Medford CWA. However, this warning was cancelled a bit prematurely, as winds at Cape Blanco increased once again and exceeded High Wind Warning criteria from 0600 to 1400 PST on 12/1/01.								
<b>ORZ031</b>		<b>Central &amp; Eastern Lake County</b>							
	01	0710PST			0	0			High Wind (G50)
	Spotter LA21 at Lakeview reported winds of 50 mph, blowing snow with visibilities 1/4 mile, 4-5 foot snowdrifts, and 5 inches of snow overnight. A High Wind Warning was issued for ORZ031 at 2225 PST on 11/30/01 and cancelled at 0430 PST on 12/01/01. Judging from the above spotter report, the cancellation was premature. A Blizzard Warning may have been a more appropriate product for this weather situation.								
<b>ORZ028</b>		<b>Siskiyou Mountains &amp; Southern Oregon Cascades</b>							
	01	1255PST			0	0			Heavy Snow
	Spotter JA84 above Siskiyou Summit reported 9-10 inches of snow overnight with water equivalent of 0.92 inches. A Winter Weather Advisory was in effect at the time of this report, and this was the only report that verified a warning. All other observations verified an advisory or less. Given the paucity of reports verifying a warning, it appears that warning conditions were not widespread.								
<b>ORZ026-026&gt;027-027-029-029&gt;030-030-030-030-030</b>		<b>Jackson County - South Central Oregon Cascades - Klamath Basin - Northern &amp; Eastern Klamath County &amp; Western Lake County</b>							
	05	0517PST 1600PST			0	0			Heavy Snow
	Spotter JA45 in Butte Falls reported 5 inches of snow overnight.								
<b>ORZ031</b>		<b>Central &amp; Eastern Lake County</b>							
	05	0725PST			0	0			Blizzard
	Spotter LA21 8W Lakeview reported whiteout conditions with winds SW 35-40 mph. All of the above reports verify either a Heavy Snow Warning or a Blizzard Warning. Unfortunately, the only warning issued was a Heavy Snow Warning for ORZ027 (Cascades of Douglas, Northwest Klamath, and Northeast Jackson counties). A snow advisory was in effect for ORZ030 north of Diamond Lake Junction, and two of the reports above came from that area (0749 and 0830 PST). Overall, this was pretty much a missed event with the exception of ORZ027.								
<b>ORZ021</b>		<b>South Central Oregon Coast</b>							
	13	1400PST			0	0			High Wind (G53) <sup>M</sup>
	Cape Blance recorded south winds 53 gusting to 77 mph. A High Wind Warning was issued for zones ORZ021/022 and CAZ081 at 0520 PST on 12/13/01 and expired at 0030 PST on 12/14/01.								

# Storm Data and Unusual Weather Phenomena

December 2001

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

## OREGON, Southwest

The above observation verified the warning for ORZ021, no verifying reports were received for the remaining two zones.

### **ORZ027>028**

#### **South Central Oregon Cascades - Siskiyou Mountains & Southern Oregon Cascades**

<b>14</b>	<b>0200PST 0900PST</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
-----------	----------------------------	----------	----------	-------------------

The cooperative observer at Lemolo lake reported 14 inches of snow in the 24 hours ending at 0900 PST.

A Winter Storm Warning was issued for Oregon zones ORZ027/028/030 at 0520 PST on 12/13 and expired at 0520 PST on 12/14. Numerous reports of significant snow were received, but the reports above are the only ones that verified the warning.

### **ORZ031-031-031**

#### **Central & Eastern Lake County**

<b>16</b>	<b>0756PST 1902PST</b>	<b>0</b>	<b>0</b>	<b>High Wind (G70)</b>
-----------	----------------------------	----------	----------	------------------------

Spotter LA20 at Summer Lake at 4272 feet reported southerly wind 35-40 MPH gusting to 64 MPH.

Based on the 0756 report above, a High Wind Warning was issued for zone ORZ031 at 0818 PST on 12/16/01 and expired at 0400 PST on 12/17/01. The other reports above verified the warning.

### **ORZ021-021**

#### **South Central Oregon Coast**

<b>16</b>	<b>1700PST 1900PST</b>	<b>0</b>	<b>0</b>	<b>High Wind (G77) <sup>M</sup></b>
-----------	----------------------------	----------	----------	-------------------------------------

Cape Blanco recorded a sustained wind of 57 mph.

A High Wind Warning was issued for the Southern Oregon coastal headlands (ORZ021/022) at 1915 PST on 12/15 and expired at 2255 PST on 12/16. The observations recorded above were the peak sustained and peak gust at Cape Blanco. Several other observations from Cape Blanco also verified the warning.

### **ORZ021**

#### **South Central Oregon Coast**

<b>18</b>	<b>0641PST</b>	<b>0</b>	<b>0</b>	<b>High Wind (G51) <sup>M</sup></b>
-----------	----------------	----------	----------	-------------------------------------

Cape Blanco reported a sustained wind of 60 mph and a gust of 72 mph between 0600 and 0700 PST on 12/18.

A High Wind Warning was issued for the headland of Oregon zones ORZ021/022 at 1329 PST on 12/17 and expired at 1100 PST on 12/18. The reports above verified the warning. Cape Blanco exceeded high wind warning criteria continuously between 0241 and 0811 PST on 12/18.

## PACIFIC

### GUZ003

#### **Marshall Islands**

<b>12</b>	<b>0000SST</b>	<b>1</b>	<b>0</b>	<b>500K</b>	<b>400K</b>	<b>Hurricane</b>
<b>20</b>	<b>1000SST</b>					

A trough of low pressure had been noted for days in synoptic and Quick Scat data between the equator and 10N and from 150E to 160E. By the evening of the 10th a circulation was observed in Quick Scat data near 5N156E. Between 16Z and 21Z on the morning of the 11th an automated weather observing station on Nukuror (3.85N 155.01E) observed wind westerly winds were consistently gusting near 40 kt with a peak gust of 42 kt at 1707Z. This indicated that the system was possibly strengthening and by the morning of the 12th it became Tropical Depression 31W 250 miles southeast of Chuuk. By the morning of the 13th the depression became Tropical Storm Faxai when it was located 115 miles southeast of Pohnpei. A westerly wind burst along the equator pushed the tropical storm further eastward and by the evening of the 13th Faxai was located near Kosrae(5.6N 163.0E).

On the morning of the 16th the storm was about 30 miles west-southwest of Kosrae. With weak steering currents Faxai was nearly stationary for a few days in the vicinity of Kosrae. This resulted in heavy rainfall over the island. The 24 hour rainfall total ending at 0757Z on the 15th was 10.74 inches with 24.76 inches falling from 13/1957Z to 18/2257Z. An automated wind sensor on Kosrae reported sustained winds of 36 mph twice on the 19th. The 1st at 1257 and the second at 2257. Both winds were from the southwest. A peak wind of 64 mph was recorded on the 15th at 1857. Only one indirect death occurred on Kosrae. Electrical power was knocked out on the island and because of the heavy rainfall a lot of flooding was reported. Because of the persistent southwest fetch caused by the storm the southern clockwise through western shore of Kosrae experienced some coastal inundation. Many rocks were thrown up on the road on that portion of the island. Damage was reported to the banana crops. By the 18th the storm had drifted west and was near Pingelap(6.2N 160.7E). An automated anemometer recorded a maximum sustained wind of 29 mph of 0758 and 1158 on the 18th. A peak gust of 48 mph was recorded early on the morning of the 18th at 0058. The center of the tropical storm passed very close to Pingelap on the afternoon of the 18th. Strong winds on Pingelap downed many banana trees. Runup of sea water caused by the tropical storm caused damage to some Taro patches.

The tropical storm continued on its slow northwest movement with the center passing 135 miles to the north of the island on morning of the 21st. Rainbands and a southwesterly monsoon flow created lower pressure and stronger winds along the right periphery of the tropical storm. As a result Pohnpei received strong winds on the 20th with a peak wind of 34 mph at 1352. On the 20 the 24 hour rainfall total at the Pohnpei WSO was 3.13 inches. The heavy rain caused flooding and two landslides in the Nett Municipality of Pohnpei. Shortly after making its closest approach to Pohnpei the tropical storm became Typhoon Faxai at 1000 on the 20th. M?OU



# Storm Data and Unusual Weather Phenomena

December 2001

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

## PACIFIC

### Guam

**Central Portion**

22	1400SST 1500SST				1	0			<b>Rip Currents</b>
----	--------------------	--	--	--	---	---	--	--	---------------------

Swells generated strong currents across parts of the shoreline. A 69 year old man drowned at Gun Beach in Tumon Bay as a result of strong currents along the reef line. At 1433 rescuers received a call of a distressed swimmer at Gun Beach. Rescuers from Tamuning, Tiyan and Dededo responded to the call and arrived to find bystanders performing CPR on the man. He was taken to Guam Memorial Hospital where he was pronounced dead at 1515. M691W

### **GUZ005**

#### **Northern Marianas**

23	0000SST				0	0	50K	50K	<b>Hurricane</b>
24	0000SST								

Early computer projects had the Typhoon Faxai passing near Guam on Christmas Eve and as a result Typhoon Watches were issued for Guam...Rota...Tinian and Saipan on the morning of the 22nd. The typhoon, however, curved and headed further north. It passed 355 miles to the northeast of Guam on the afternoon of the 23rd and 180 miles to the north-northeast of Saipan on the morning of the 24th. Typhoon Faxai passed close to northern Mariana Island of Agrihan. At 1400 on the 24th the typhoon was only 45 miles to the east of Agrihan. Despite being buffeted by strong winds, the small group of people (9 adults, one child) on Agrihan survived. The only reported damage was a water well being inundated by saltwater.

## PENNSYLVANIA, Central

**PAZ012-017>018-024-033-041>042-045>046** **Northern Clinton - Clearfield - Northern Centre - Cambria - Somerset - Northern Lycoming - Sullivan - Southern Clinton - Southern Lycoming**

14	1930EST				0	0			<b>High Wind (G60)</b>
15	0100EST								

Strong southwest winds developed across central Pennsylvania ahead of an approaching cold front during the late afternoon and evening of December 14th. Damaging winds were commonplace across the northern and western portions of the county warning area, with higher elevation locations being especially hard hit. Numerous reports of tree damage were received countywide over the affected areas. Power outages were also common in many communities.

## PENNSYLVANIA, East

**PAZ054>055-060>062-067>071** **Carbon - Monroe - Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia**

01	0000EST				0	0	0		<b>Drought</b>
31	2359EST								

Unseasonably dry weather continued across Eastern Pennsylvania during the month of December. While more precipitation fell during December than either October or November, it was still drier than normal. On a county weighted average, monthly precipitation totals ranged from 2.1 inches in Chester County to 2.9 inches in Carbon County. Normal is around 3.6 inches. On December 5th, Pennsylvania's Department of Environmental Protection Secretary David E. Hess upgraded the drought watch in Eastern Pennsylvania to a drought warning. Groundwater levels were continuing to decline with streamflow levels reaching near record low levels in some cases. A drought warning calls for a 10 to 15 percent voluntary reduction in water consumption. Methods to conserve water include fixing leaking toilets and faucets, running dishwashers and washing machines at full loads only, replacing old toilets with newer ones, installing water efficient showerheads and turning off the water while brushing teeth or shaving. Due to low groundwater supplies, Upper Makefield Township (Bucks County) declared a drought emergency.

The Delaware River Basin Commission, which oversees water supply throughout the Delaware River Basin declared a "drought" on December 3rd when the supply of water in the New York City reservoir system dropped below a designated level for early December. This triggered additional reductions in the amount of water released from the reservoirs into the Delaware River and the amount diverted out of the Delaware River Basin to New York City and New Jersey. Diversions to New York City dropped from 800 million gallons a day to 520 million gallons a day. As precipitation continued to be below normal, the New York City reservoirs failed to rise and were about 50 percent below normal for December. They were at their lowest level since the last of the three reservoirs went on line in 1967. The Delaware River Basin Commission declared a drought emergency on December 18th. The emergency declaration gave the commission the power to restrict the amount of water suppliers could draw from the basin. It gave the commission the authority to take water from municipal reservoirs to maintain river levels. It could also call for water releases from federal, state and privately owned reservoirs. Water from Lake Nockamixon, the F.E. Walter Reservoir and Lake Wallenpaupack could be used to maintain river levels. They were last used for this purpose in the 1960s. The releases help protect the riverbank and aquatic life and also prevents salt water from flowing up the Delaware River. Salt water intrusion causes corrosion problems for industries and increases water treatment costs for municipalities that depend on the river for their water supply. Maintaining river levels are also important for groundwater reserves that are recharged by the river itself. The salt front along the Delaware River was approximately 11 miles farther upstream than it normally is during December. The emergency declaration also gives the commission the power to request that utilities and other companies that use more than one million gallons of water a day to prepare contingency plans to use less water and submit the plans to the commission.

The dry weather during the fall caused a below normal (in size) potato crop in the state. The wetter weather during December did have one positive effect. The outdoor burning ban in West Penn Township was lifted on December 5th and the countywide burning

# Storm Data and Unusual Weather Phenomena

December 2001

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

## **PENNSYLVANIA, East**

ban in Monroe County was lifted on December 19th.

For the year 2001, precipitation was well below average. On a county weighted average, it ranged from 31.0 inches in Philadelphia County to 40.3 inches in Bucks County. The deficiencies ranged from 4.2 inches in Bucks County to 13.1 inches in Philadelphia County. Most of the deficit came in the second half of the year. The 30.99 inch total at the Philadelphia International Airport was 10.42 inches below normal and the sixth driest year on record.

**PAZ054-054>055-055-060-060>061-061>062-062-067-067>068-068>069-069>070-070>071-071**      **Carbon - Monroe - Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia**

<b>01</b>	<b>0800EST</b>								
<b>06</b>	<b>1800EST</b>				0	0	0	0	<b>Unseasonably Warm</b>

A strong ridge of high pressure over the western Atlantic Ocean and adjacent parts of the United States brought unseasonably and record breaking warm weather from November 30th through December 6th in Eastern Pennsylvania. Daily record breaking high temperatures were set on the 1st, 5th and 6th in many locations with high temperatures reaching well into the 60s and the 70s. A cold frontal passage on the 7th brought readings closer to seasonal levels. The warmest day for most areas was the 5th. Highest temperatures included 75 degrees in Neshaminy Falls (Bucks County), 73 degrees in Pottstown (Montgomery County), 72 degrees in Crum Creek (Delaware County), Doylestown (Bucks County), Reading (Berks County) and the Philadelphia International Airport, 71 degrees in Lehigh (Carbon County), 70 degrees at the Lehigh Valley International Airport and Perkasie (Bucks County), 64 degrees in Mount Pocono (Monroe County),

## **PAZ054>055**

### **Carbon - Monroe**

<b>08</b>	<b>1300EST</b>								
<b>09</b>	<b>0600EST</b>				0	0	0	0	<b>Wintry Mix</b>

A cold front that moved through the region early on the 7th brought in sufficient cold air so that when a wave of low pressure developed on the frontal boundary, precipitation fell as a wintry mix over the Poconos. Snowfall accumulations were generally between 1 and 3 inches. This was the first measurable snow of the season. The weak low pressure system traveled from the Tennessee Valley the morning of the 8th to just south of Cape Cod the morning of the 9th. Snow began falling during the early afternoon on the 8th. The snow mixed with rain over some of the southern valleys during the late afternoon and evening. Over the higher terrain, the snow changed to freezing rain during the evening of the 8th. A mixture of light rain and light freezing rain fell overnight and ended before 6 a.m. EST the morning of the 9th. Slippery conditions on snow covered roads contributed to accidents. The Pennsylvania State Police in Swiftwater (northern Monroe County) responded to 26 accidents (that caused 8 injuries) alone. Accumulations included 3 inches in Albrightsville (Carbon County), Canadensis (Monroe County) and Pocono Summit (Monroe County), 1.5 inches in Effort (Monroe County), 1 inch in Jim Thorpe (Carbon County) and 0.5 inches in Stroudsburg.

## **PAZ055**

### **Monroe**

<b>17</b>	<b>0500EST</b>								
	<b>1230EST</b>				0	0	0	0	<b>Freezing Rain</b>

A high pressure system over nearby Canada and a warm front approaching from the southwest combined to produce some light freezing rain mainly during the morning of the 17th in Monroe County. The high pressure system provided subfreezing temperatures near the surface while the warm front brought in warmer air (above freezing temperatures) aloft. The combination led to freezing rain. While precipitation amounts were light, generally less than one tenth of an inch, untreated roads were slippery.

## **PAZ071**

### **Philadelphia**

<b>28</b>	<b>0000EST</b>								
					0	0	0	0	<b>Snow Drought</b>

When no snow fell in Philadelphia on December 27th, it was the latest into the winter season that it did not snow in the city. All other seasons, at least a trace of snow had fallen by the 27th of December. The previous latest record was December 27, 1990. Snow did not fall (and only a trace at that) in the city until January 6, 2001.

## **PAZ054-061**

### **Carbon - Lehigh**

<b>28</b>	<b>1300EST</b>								
	<b>2000EST</b>				0	0	0	0	<b>Snow Showers</b>

Snow showers preceding a cold front produced slippery traveling conditions in the Poconos and Lehigh County. Accumulations were under an inch. But, the afternoon snow showers melted and then froze on untreated roadways as the sun set. In Carbon County, slippery roads were reported in Summit Hill, Lansford and Penn Forest. Pennsylvania State Route 902 was closed between Summit Hill and Lansford for an hour. A truck slid sideways on Pennsylvania State Route 902 in Nesquehoning. In Lehigh County, police in Upper Macungie Township closed Pennsylvania State Road 100 and secondary roads feeding into it because of slippery conditions.

**PAZ054>055-060>062-062-067-067>068-068>069-069>070-070>071-071**      **Carbon - Monroe - Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia**

<b>31</b>	<b>2359EST</b>								
					0	0	0	0	<b>Unseasonably Warm</b>

December 2001 was an unseasonably warm month across Eastern Pennsylvania. At both the Philadelphia and Lehigh Valley

# Storm Data and Unusual Weather Phenomena

December 2001

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

## PENNSYLVANIA, East

International Airports, it was the 3rd warmest December on record. The monthly mean temperature at the Philadelphia International Airport was 43.7 degrees and was 7.9 degrees above normal. The monthly mean temperature at the Lehigh Valley International Airport was 38.2 degrees and was 6.4 degrees above normal. The monthly mean temperature at Reading Regional Airport was 39.9 degrees and was 6.9 degrees above normal.

## PENNSYLVANIA, Northeast

### **PAZ038>040-043>044 Bradford - Susquehanna - Wayne - Wyoming - Lackawanna**

08	1300EST								
09	0100EST								<b>Heavy Snow</b>

Heavy snow spread north ahead of a low pressure area. The storm moved from West Virginia the afternoon of the 8th to the New Jersey coast early on the 9th. This was the first significant event of the season. Snowfall amounts were in the 4 to 6 inch range across the higher elevations. Lower elevations and areas further south, such as southern Wayne and southern Lackawanna counties had less snow. In these areas the snow was wetter and at times mixed with sleet and rain.

## PENNSYLVANIA, Northwest

### **PAZ002>003 Southern Erie - Crawford**

20	1500EST								
21	0900EST								<b>Heavy Snow</b>

Cold northwest flow across Lake Erie caused lake effect snow showers to intensify during the evening hours. Accumulations of six inches were reported in northern Erie County and southern Erie Counties by midnight. The snow showers gradually diminished during the morning hours on the 21st with little additional accumulation reported.

### **PAZ001>003 Northern Erie - Southern Erie - Crawford**

28	1100EST								
30	1800EST					<b>850K</b>			<b>Heavy Snow</b>

A cold front moved east across northwest Pennsylvania on the 28th. West winds behind this front caused lake effect snow showers to intensify during the afternoon and evening hours. Initially, heavy snow fell along the immediate lakeshore with snowfall totals of up to 10 inches reported in northern Erie County by daybreak on the 29th. During the day on the 29th, the flow became more northwesterly spreading the heavy snow into Crawford County. Daytime accumulations of up to 14 inches were reported in both Erie and Crawford Counties. An additional six to eight inches of snow fell from the evening of the 29th to daybreak on the 30th with a maximum of 11 inches in inland Erie County. The snow showers gradually diminished on the afternoon of 30th with daytime accumulations of five inches or less. Snowfall totals for the three day storm ranged from just over six inches in southern Crawford County to as much as three feet near Lake Erie. Officially, 30.0 inches of snow fell at Erie International Airport on the 28th through 30th.

### **PAZ001 Northern Erie**

31	0100EST								
	1600EST					<b>50K</b>			<b>Heavy Snow</b>

Westerly flow across Lake Erie caused lake effect snow showers to intensify during the early morning hours. Over six inches of snow fell along and near Lake Erie from just before daybreak through late afternoon. Officially, 6.1 inches of snow fell at Erie International Airport.

## PENNSYLVANIA, West

### **PAZ007>009-013>016-020>023-029>032 Mercer - Venango - Forest - Lawrence - Butler - Clarion - Jefferson - Beaver - Allegheny - Armstrong - Indiana - Washington - Westmoreland - Greene - Fayette**

14	1730EST								
	2130EST					<b>75K</b>			<b>High Wind (G50)</b>

High winds associated with a deep area of low pressure passing over the region downed numerous trees and power lines across western Pennsylvania.

## PUERTO RICO

### **Central Interior**

<b>Orocovis</b>	02	1300AST							
		1400AST							<b>Tstm Wind/Hail</b>

Emergency managers reported pea size hail near Botijas sector in Orocovis.

### **Central Interior**

<b>Ciales</b>	02	1500AST							
		1600AST							<b>Urban/Sml Stream Fld</b>

Emergency Managers reported that Rio La Vaja in Ciales went out of its banks flooding nearby areas.

### **Mayaguez And Vicinity**

<b>Moca</b>	03	1400AST							
		1500AST							<b>Hail (0.75)</b>

# Storm Data and Unusual Weather Phenomena

December 2001

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

## PUERTO RICO

Emergency Managers reported large hail, fallen trees and an electric pole on the ground near Maria sector in Moca.

### Northeast

West Portion	04	2100AST 2300AST			0	0			Urban/Sml Stream Fld
--------------	----	--------------------	--	--	---	---	--	--	----------------------

### San Juan And Vicinity

Countywide	04	2100AST 2300AST			0	0			Urban/Sml Stream Fld
------------	----	--------------------	--	--	---	---	--	--	----------------------

Heavy rains caused urban flooding at low and poor drainage areas in parts of Carolina, Loiza, San Juan and Guaynabo. Puerto Nuevo River went out of its banks in Guaynabo.

### Mayaguez And Vicinity

San German	17	1400AST 1600AST			0	0			Urban/Sml Stream Fld
------------	----	--------------------	--	--	---	---	--	--	----------------------

A spotter in San German reported around 2 inches of rain and street flooding.

### Mayaguez And Vicinity

Countywide	21	1200AST 1600AST			0	0			Urban/Sml Stream Fld
------------	----	--------------------	--	--	---	---	--	--	----------------------

### San Juan And Vicinity

Countywide	21	1200AST 1600AST			0	0			Urban/Sml Stream Fld
------------	----	--------------------	--	--	---	---	--	--	----------------------

A cold front located north of Puerto Rico in combination with daytime heating caused numerous showers and thunderstorms to develop during the afternoon hours over the the San Juan Metropolitan Area and West Sections of Puerto Rico. This activity caused urban and small stream flooding over sectors in Aguadilla, Moca and Hormigueros. In the San Juan Metropolitan Area many roads were reported flooded.

### Northeast

Naguabo	21	1500AST 1530AST			1	0			Heavy Rain
---------	----	--------------------	--	--	---	---	--	--	------------

A 19 year old male was at a family picnic along Blanco River in Naguabo, when a sudden water rush swept him away. M19IW

### Eastern Interior

Countywide	22	0700AST 2200AST			0	0			Flash Flood
------------	----	--------------------	--	--	---	---	--	--	-------------

### North Central

Countywide	22	0700AST 2200AST			0	0			Flash Flood
------------	----	--------------------	--	--	---	---	--	--	-------------

### Northeast

Countywide	22	0700AST 2200AST			0	0			Flash Flood
------------	----	--------------------	--	--	---	---	--	--	-------------

### San Juan And Vicinity

Countywide	22	0700AST 2200AST			0	0	300K		Flash Flood
------------	----	--------------------	--	--	---	---	------	--	-------------

A cold front became stationary north of Puerto Rico on Saturday 22. This system in combination with strong northeast winds caused intermittent showers over the north sections of Puerto Rico producing between three to four inches of rain. The area most affected was San Juan, where several sectors suffered extensive flooding. Many houses in Barrio Obrero and Condado were filled with water, major roads were impassable and a bridge collapsed in Carolina. Several roads in Vega Alta were impassable as Cibuco River went out of its banks and in Trujillo Alto and San Lorenzo some roads were blocked by landslides. In addition, many cars were stalled in water and many residents along the north sections were without running water and electricity.

## RHODE ISLAND

NONE REPORTED.

## SOUTH CAROLINA, Central

### Edgefield County

Colliers	17	2012EST			0	0	0	0	Thunderstorm Wind (G50)
----------	----	---------	--	--	---	---	---	---	-------------------------

Sheriff reported some trees down near hwys 230 and 23.

### Aiken County

North Augusta	17	2022EST			0	0	0	0	Thunderstorm Wind (G50)
---------------	----	---------	--	--	---	---	---	---	-------------------------

Highway Patrol reported a couple of trees down near North Augusta on I-20.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## SOUTH CAROLINA, Central

### Lexington County

**Pelion**                      17      2033EST                                      0      0      0      0      **Thunderstorm Wind (G50)**

Sheriff reported a couple of trees down in the Pelion area.

### Lexington County

**Irmo**                              17      2040EST                                      0      0      0      0      **Thunderstorm Wind (G50)**

Sheriff reported a couple fo trees down in the Ridgemont subdivision of Irmo.

## SOUTH CAROLINA, North Coastal

NONE REPORTED.

## SOUTH CAROLINA, Northwest

### SCZ001>014-019

**Oconee Mountains - Pickens Mountains - Greenville Mountains - Greater Oconee - Greater Pickens - Greater Greenville - Spartanburg - Cherokee - York - Anderson - Abbeville - Laurens - Union - Chester - Greenwood**  
 01      0000EST                                      0      0                                      **Drought**  
 31      2359EST

Very little active weather during December signaled that the drought was still present - and becoming critically important to more and more people. Record low ground water supplies, lake levels, and stream flows were reported across all of Upstate South Carolina.

### Laurens County

**3 W Gray Court**                      17      1830EST                                      0      0                                      **Thunderstorm Wind (G50)**

1838EST

3 trees were blown down across roads. Trees also reported down in other parts of the county.

### Anderson County

**8 E Anderson**                              17      1830EST                                      0      0                                      **Thunderstorm Wind (G50)**

4 trees were blown down.

### Union County

**5 W Union**                              17      1905EST                                      0      0                                      **Thunderstorm Wind (G50)**

2 trees were blown down along Hwy 49 near Tyger River. Another tree was blocking US 276.

### Union County

**6 E Union**                              17      1916EST                                      0      0                                      **Thunderstorm Wind (G50)**

2 trees were blow down.

### Chester County

**Lowrys**                              17      1948EST                                      0      0                                      **Thunderstorm Wind (G50)**

4 trees were blown down across roads.

## SOUTH CAROLINA, South Coastal

### SCZ040-042>045-047>050

**Allendale - Hampton - Northern Colleton - Dorchester - Berkeley - Jasper - Beaufort - Southern Colleton - Charleston**  
 01      0000EST                                      0      0                                      **Drought**  
 31      2359EST

Moderate drought conditions continued over south coastal South Carolina. For the month, rainfall was 1.43 inches below normal, which continued monthly trend of deficit rainfall through most of the year.

## SOUTH DAKOTA, Central and North

NONE REPORTED.

## SOUTH DAKOTA, Southeast

NONE REPORTED.

## SOUTH DAKOTA, West

### SDZ024>025

**Northern Black Hills - Northern Foot Hills**

01      1620MST                                      0      0      0                                      **High Wind (G70) <sup>M</sup>**  
 2134MST

An unusual high wind event occurred this day as strong southwesterly low-level winds combined with a strong surface pressure gradient to produce high winds. High wind events usually occur behind a cold front with strong northwest winds developing, southwest winds of this magnitude have not been noted over this area for several years.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## SOUTH DAKOTA, West

<b>SDZ025</b>	<b>Northern Foot Hills</b>								
	03	0412MST			0	0	0		<b>High Wind (G73) M</b>
	A spotter in the foothills west of Spearfish measured a wind gust of 84 mph.								
<b>SDZ001-013-031</b>	<b>Harding - Meade Co. Plains - Pennington Plains</b>								
	22	0955MST 1353MST			0	0	0		<b>High Wind (G51) M</b>
	A strong cold front moved across northwestern South Dakota during the morning. Behind this front, the surface pressure gradient tightened and strong low-level winds were able to reach the surface due to robust subsidence and boundary layer mixing.								
<b>SDZ013-031</b>	<b>Meade Co. Plains - Pennington Plains</b>								
	26	1056MST 1255MST			0	0	0		<b>High Wind (G50) M</b>
	A tight surface pressure gradient developed behind a cold front. Sustained winds reached 40 mph with gusts to 58 mph.								
<b>SDZ024</b>	<b>Northern Black Hills</b>								
	28	0800MST 1300MST			0	0	0		<b>Heavy Snow</b>
	Northwest winds and moisture combined to create topographically-enhanced snowfall over the northern Black Hills. Snow began in the morning and accumulated to six inches in Lead by noon. The snow quickly ended in the afternoon as winds weakened and drier air moved into the area.								

## TENNESSEE, Central

<b>TNZ005&gt;006-022</b>	<b>Stewart - Montgomery - Benton</b>								
	12	1655CST 2000CST			0	0			<b>Flood</b>
	Highway department reported that the intersection of Rorie Road and Indian Mound Road was closed due to high water.								
<b>TNZ094&gt;095</b>	<b>Lawrence - Giles</b>								
	13	2100CST			0	0			<b>Flood</b>
	14	0300CST							
	Flooding was occurring over low water crossings on some minor roads around the county.								

## TENNESSEE, East

NONE REPORTED.

## TENNESSEE, West

<b>TNZ019-050</b>	<b>Dyer - Haywood</b>								
	01	0001CST			0	0	15K		<b>Flood</b>
	03	2359CST							
	Flooding continued across parts of West Tennessee from the end of November.								
<b>TNZ049&gt;050-052-088</b>	<b>Tipton - Haywood - Madison - Shelby</b>								
	12	0950CST 1830CST			0	0	4K		<b>Flood</b>
	A few roads were under water.								

## TEXAS, Central

NONE REPORTED.

## TEXAS, Central Southeast

<b>Brazoria County</b>									
<b>5 SW Brazoria to 3 SW Brazoria</b>	12	0220CST 0225CST	1.5	75	0	0	200K		<b>Tornado (F1)</b>
An F1 Tornado touched down 5 miles southwest of Brazoria. Several homes in the Lazy Oak Ranch Subdivision on CR 461A had roof damage. A machine shop on CR 461 sustained heavy damage, along with the cars and boats in its parking lot. There were no injuries. Numerous trees were down from the San Bernard River to the Lazy Oak subdivision. Reported by Emergency Management.									

# Storm Data and Unusual Weather Phenomena

December 2001

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

## TEXAS, Central Southeast

### **Brazoria County**

<b>Brazoria</b>	<b>12</b>	<b>0230CST 0233CST</b>	<b>1</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>200K</b>		<b>Tornado (F0)</b>
-----------------	-----------	----------------------------	----------	-----------	----------	----------	-------------	--	---------------------

An F0 Tornado touched down in the city of Brazoria. There was roof and structural damage to homes and businesses, in a 10 block area, along TX Highway 36 in Brazoria. A 175 foot internet tower was blown down, signs were bent over, and minor roof damage to Brazoria Elementary school. No injuries. Reported by Emergency Management

### **Liberty County**

<b>Dayton</b>	<b>13</b>	<b>1110CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
---------------	-----------	----------------	--	--	----------	----------	----------	----------	--------------------

Liberty Sheriff reported 3/4 inch hail near Dayton, at Raywood and on State highway 321.

### **San Jacinto County**

<b>1 NE Pointblank to 4 NE Pointblank</b>	<b>16</b>	<b>1729CST 1732CST</b>	<b>3</b>	<b>200</b>	<b>0</b>	<b>2</b>	<b>2.5M</b>		<b>Tornado (F2)</b>
---	-----------	----------------------------	----------	------------	----------	----------	-------------	--	---------------------

An F2 Tornado touched down at the Point Lookout West Estates. There were 2 minor injuries. 15 homes were destroyed, with 15 to 20 other homes receiving major damage. Trees and power lines were down. Reported by the Sheriff's office.

### **Montgomery County**

<b>Willis</b>	<b>16</b>	<b>1944CST</b>	<b>0.1</b>	<b>70</b>	<b>0</b>	<b>0</b>	<b>30K</b>		<b>Tornado (F0)</b>
---------------	-----------	----------------	------------	-----------	----------	----------	------------	--	---------------------

An F0 Tornado touched down in Willis, along Montgomery Street, on FM 1097. Trees were uprooted, power lines were snapped with power outages in town, and there was minor roof damage to some homes. There were no injuries. Reported by Sheriff and public.

## TEXAS, Extreme West

NONE REPORTED.

## TEXAS, Mid - South

NONE REPORTED.

## TEXAS, North

### **Ellis County**

<b>Ennis</b>	<b>16</b>	<b>0034CST 1334CST</b>			<b>0</b>	<b>0</b>	<b>50K</b>		<b>Flash Flood</b>
--------------	-----------	----------------------------	--	--	----------	----------	------------	--	--------------------

County roads began to flood just after midnight. County roads crews were out until 0500 am putting up barricades where roads were flooded. Roads crews had to go out again and put up more barricades through early afternoon. 17 roads remain closed in the county through 134 pm. Substantial damage occurred to four bridges.

### **Ellis County**

<b>Palmer</b>	<b>16</b>	<b>0105CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
---------------	-----------	----------------	--	--	----------	----------	--	--	--------------------

Widespread street flooding was reported in Palmer, and numerous county roads flooded in surrounding areas.

### **Kaufman County**

<b>Terrell</b>	<b>16</b>	<b>0430CST 0600CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
----------------	-----------	----------------------------	--	--	----------	----------	--	--	--------------------

Highway 80 between Terrell and Forney was flooded. A storm spotter in the area reported 6.6 inches of rain. Also, FM 148 between Highway 80 and Interstate 20 was flooded and closed.

### **Lamar County**

<b>Pattonville</b>	<b>16</b>	<b>0530CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
--------------------	-----------	----------------	--	--	----------	----------	--	--	--------------------

FM 2715 at Pattonville creek closed due to flooding. Surrounding county roads were also closed due to flooding.

### **Leon County**

<b>Jewett</b>	<b>16</b>	<b>0910CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
---------------	-----------	----------------	--	--	----------	----------	--	--	--------------------

Highway 9 at Jewett was covered with high water.

### **Rains County**

<b>Emory</b>	<b>16</b>	<b>0910CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
--------------	-----------	----------------	--	--	----------	----------	--	--	--------------------

FM 275 north of Emory was closed due to high water.

### **Hopkins County**

<b>Weaver</b>	<b>16</b>	<b>0913CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
---------------	-----------	----------------	--	--	----------	----------	--	--	--------------------

Water was over several farm to market roads in the eastern part of the county.

### **Delta County**

<b>Cooper</b>	<b>16</b>	<b>0920CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
---------------	-----------	----------------	--	--	----------	----------	--	--	--------------------

County roads 1529 and 71 were closed due to high water.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, North</b>									
<b>Dallas County</b>									
Dallas	16	0930CST			0	0			Flash Flood
Numerous streets in the city of Dallas were closed and barricaded due to high water.									
<b>Hunt County</b>									
Quinlan	16	0936CST			0	0			Flash Flood
Highway 75 at Quinlan was closed due to high water.									
<b>Hunt County</b>									
Caddo Mills	16	1030CST			0	0			Flash Flood
Secondary roads around Caddo Mills that cross Brushy Creek were closed due to high water. Also, FM 36, FM1565, Highway 380, and Highway 276 had sections closed due to flooding.									
<b>McLennan County</b>									
Crawford	16	1030CST			1	0			Flash Flood
A nine year old boy drowned as he was attempting to abandon a vehicle at a low water crossing. M9VE									
<b>Navarro County</b>									
Blooming Grove	16	1030CST			0	0			Flash Flood
Several county road bridges were destroyed by high water.									
<b>Navarro County</b>									
Corsicana	16	1245CST			0	0			Flash Flood
The Interstate 45 service road north of Corsicana was flooded, numerous secondary roads were flooded, and FM 1839 was flooded.									
<b>Kaufman County</b>									
Kaufman	16	1250CST			0	0			Flash Flood
County roads 2578, 1390, 306, and 149 were flooded. Several people had to be rescued from vehicles on county road 149.									
<b>Rockwall County</b>									
Royse City	16	1419CST			0	0			Flash Flood
The service road on the north side of Interstate 30 was closed due to high water.									
<b>Lamar County</b>									
Paris	16	1440CST			0	0			Flash Flood
Numerous roads were closed in and around Paris, Pattonville, and across the county. The beaver creek addition north of Paris was flooded.									
<b>Delta County</b>									
Cooper	16	1445CST			0	0			Flash Flood
FM 224 remains closed from Cooper to the Hunt County line.									
<b>Hunt County</b>									
Greenville	16	1445CST			0	0			Flash Flood
Farm to market roads 276, 354, and 1565 remained closed due to flooding. Highway 380 west of Greenville remains closed due to flooding.									
<b>Henderson County</b>									
Tool	16	1452CST			0	0			Flash Flood
Seven county roads on the west side of Cedar Creek Lake are flooded.									
<b>Kaufman County</b>									
Terrell	16	1547CST			0	0			Flash Flood
Interstate 20 east and west bound, was closed between mile markers 497 and 501 just east of Terrell.									
A slow moving storm system dropped heavy rain across North Central Texas Saturday night, December 15th and during the day Sunday December 16th. Unofficial reports of four to ten inches of rain fell in 48 hours along and east of Interstate 35. Numerous county and farm to market roads were closed a prolonged period of time, due to sections of roadways and bridges being washed out. Many rural schools were closed Monday December 17th, as school buses were not able to pick up school children due to closed or flooded roads, and washed out bridges.									

## TEXAS, North Panhandle

TXZ006>007-011			<b>Hartley - Moore - Oldham</b>						
	30	0600CST 1800CST			0	0			Heavy Snow
A strong low pressure system in the upper atmosphere over the southwestern states moved eastward and approached the Oklahoma and Texas panhandles. A cold front moved through the panhandles ushering in colder canadian air. Snow began falling during the late night and early morning hours with accumulations for the most part in the one to three inch range. However...snowfall totals of around four inches were reported in the extreme western Texas panhandle by the time the snow ended during the afternoon and early evening hours. Hartley...Dumas...and Vega all reported four inches of snow.									





# Storm Data and Unusual Weather Phenomena

December 2001

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

## TEXAS, South

Falcon Dam...16.52 inches...which is 4.93 inches below normal.

## TEXAS, South Central

NONE REPORTED.

## TEXAS, South Panhandle

**TXZ021>044**

**Parmer - Castro - Swisher - Briscoe - Hall - Childress - Bailey - Lamb - Hale - Floyd - Motley - Cottle - Cochran - Hockley - Lubbock - Crosby - Dickens - King - Yoakum - Terry - Lynn - Garza - Kent - Stonewall**  
**01 0000CST 0 0 420M Drought**  
**31 2300CST**

The effects of this year's drought became better understood after year-end agricultural reports were completed. These reports, compiled by the Texas Agricultural Extension Service at Texas A&M University, indicated that total crop damage due to the drought of 2001 across the Texas South Plains area was about \$420 million. This figure is based on the total cash value of all crops in 2001, compared to the average of the same figure from 1999 to 2000. Dryland crops were hardest hit by the prolonged hot and dry weather that occurred during the early through middle summer months.

Cotton is the dominant crop in this region of the state, and not surprisingly, it accounted for roughly 70 percent (\$300 million) of the losses this year. Significant losses were also suffered in the wheat (\$60 million), grain sorghum (\$32 million), and corn (\$12 million) crops. Added irrigation costs that were directly related to the drought were estimated at an additional \$16 million across the South Plains area this year.

## TEXAS, Southeast

### Newton County

10 NE Newton

**13 0930CST 0 0 5K Thunderstorm Wind**  
 A few trees were blown down.

### Jasper County

Roganville

**13 1102CST 0 0 5K Thunderstorm Wind (G54)**  
 55 gallon drum filled with corn blown over by winds estimated of 62 mph. Power lines were also blown down.

### Newton County

Newton

**13 1118CST 0 0 Hail (0.88)**

### Hardin County

2 N Silsbee

**13 1220CST 0 0 5K Thunderstorm Wind**  
 Trees blown down across road.

### Tyler County

Spurger

**16 2155CST 0 0 20K Thunderstorm Wind**  
 Severe thunderstorm winds destroyed a hay barn, damaged the roof of a house, and snapped the tops of trees off.

### Jasper County

Kirbyville

**16 2215CST 0 0 25K Thunderstorm Wind**  
 Severe thunderstorm winds blew down many trees, one of which landed on the roof of a home, causing moderate damage to the structure.

### Newton County

Bleakwood

**16 2220CST 0 0 2K Thunderstorm Wind**  
 Trees were blown down in the Bleakwood area.

## TEXAS, West

NONE REPORTED.

## TEXAS, Western North

NONE REPORTED.

## UTAH, East

**UTZ028**

**La Sal & Abajo Mountains**

**04 1530MST 0 0 Heavy Snow**  
**05 0600MST**

A Pacific trough, preceded by a moist southwest flow aloft, produced 5 to 10 inches of new snow in the mountains of southeast Utah.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## UTAH, East

### **UTZ023>025-028 Eastern Uinta Mountains - Eastern Uinta Basin - Tavaputs Plateau - La Sal & Abajo Mountains**

14	0600MST				0	0			Winter Storm
15	2300MST								

A strong storm system produced 6 to 9 inches of snow in the mountains and 3 to 5 inches in the eastern Uinta Basin. Winds of 20 to 30 MPH occurred mainly at higher elevations and resulted in areas of blowing and drifting snow.

### **UTZ022-028**

#### **Southeast Utah - La Sal & Abajo Mountains**

29	1800MST				0	0			Heavy Snow
30	1200MST								

A moist northwest flow produced 5 to 8 inches of new snow in the southeast mountains and 3 to 5 inches at lower elevations in the southeast corner of Utah.

## UTAH, West and Central

### **UTZ001>004-006>008 Cache Valley/Utah Portion - Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Southern Wasatch Front/Lehi/Provo/Nephi - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80**

02	1200MST				0	0	50K	10K	Winter Storm
07	1200MST								

A series of fast moving storms brought periods of heavy snow and strong winds to most of Northern Utah. Winds gusted over 80 mph in Tooele on the 2nd, damaging fences and knocking down trees. Some of the heavier snowfall totals for the 5-day period included 57 inches at Powder Mountain, 56 inches at Brighton, 54 inches at Snowbasin, 17 inches in Heber City and 16 inches in Laketown.

### **UTZ002>003-005>008 Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Great Salt Lake Desert And Mountains/Wendover/Snowville - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80**

14	1100MST				0	0			Heavy Snow
15	1800MST								

Another strong storm brought heavy snow to Northern Utah. Most mountain locations picked up 10-20 inches of fresh powder, while the valleys and benches along the Wasatch Front received 5-10 inches.

## VERMONT, North and Central

### **Addison County**

Countywide	06	0800EST 1400EST			0	0			Gusty Winds
------------	----	--------------------	--	--	---	---	--	--	-------------

### **Chittenden County**

Countywide	06	0800EST 1400EST			0	0			Gusty Winds
------------	----	--------------------	--	--	---	---	--	--	-------------

### **Franklin County**

Countywide	06	0800EST 1400EST			0	0			Gusty Winds
------------	----	--------------------	--	--	---	---	--	--	-------------

### **Grand Isle County**

Countywide	06	0800EST 1400EST			0	0			Gusty Winds
------------	----	--------------------	--	--	---	---	--	--	-------------

### **Lamoille County**

Countywide	06	0800EST 1400EST			0	0			Gusty Winds
------------	----	--------------------	--	--	---	---	--	--	-------------

### **Rutland County**

Countywide	06	0800EST 1400EST			0	0			Gusty Winds
------------	----	--------------------	--	--	---	---	--	--	-------------

Primary storm system moved across southern Canada during Thursday, December 6th. Gusty winds occurred with passage of the associated cold front during the morning into the early afternoon. A number of locations reported wind gusts over 34 mph (30 kts). A few wind gust reports included: On Lake Champlain, Colchester Reef reported a gust of 50 mph (40 kts), Burlington Airport (Chittenden county) had 37 mph (32 kts), while Morrisville (Lamoille county) reported 36 mph (31 kts). North Clarendon (Rutland county) had 34 mph (30 kts).

### **VTZ011>012**

#### **Rutland - Windsor**

08	2100EST				0	0	20K		Light Snow
09	0500EST								

A storm system moved from the Tennessee Valley region on Saturday, December 8th to off the New Jersey coast during the night of December 8th. This system continued out to sea, passing south of New England on Sunday morning, December 9th. Light snow fell across this area with total accumulations 3 to 5 inches. A few reports included: In Rutland county, both East Wallingford and the city of Rutland received 4 inches. In Windsor county, Cavendish reported 4.8 inches while Ludlow received 4.9 inches. Numerous

# Storm Data and Unusual Weather Phenomena

December 2001

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

## VERMONT, North and Central

automobile accidents were reported in Windsor county.

### **VTZ001>002-007>010 Grand Isle - Franklin - Caledonia - Washington - Addison - Orange**

<b>14</b>	<b>1800EST</b>				<b>0</b>	<b>0</b>	<b>10K</b>		<b>Light Snow</b>
<b>15</b>	<b>0600EST</b>								

An area of low pressure over the Ohio Valley Friday morning, December 14th, moved northeast and reorganized over southern New England the night of the 14th. The storm system then continued east and moved offshore by Saturday morning, December 15th. Light rain quickly changed to wet snow across the area Friday evening (December 14th) and tapered off to flurries Saturday morning. Accumulations were generally 2 to 5 inches. A few reports included: Sutton (Caledonia county) 5.4 inches while Enosburg Falls (Franklin county) received 4 inches. Waitsfield (Washington county) reported 4 inches. It was a very wet snow. A few minor automobile accidents were reported in Addison and Caledonia counties.

### **VTZ003>006 Orleans - Essex - Chittenden - Lamoille**

<b>14</b>	<b>1800EST</b>				<b>0</b>	<b>0</b>		<b>Light Snow</b>
<b>15</b>	<b>0600EST</b>							

An area of low pressure over the Ohio Valley Friday morning, December 14th, moved northeast and reorganized over southern New England the night of the 14th. The storm system then continued east and moved offshore by Saturday morning, December 15th. Light rain quickly changed to wet snow across the area Friday evening (December 14th) and tapered off to flurries early Saturday morning. Accumulations were generally around 6 inches, with isolated higher amounts in the mountains. A few of the highest amounts were: In Chittenden county, Burlington Airport (NWS) reported 4.5 inches while Underhill reported 6.7 inches. In Essex county, Island Pond reported 6.5 inches while East Haven reported 5 inches. In Orleans county, East Albany reported 7 inches, while Greensboro received 4.5 inches. In Lamoille county, Eden received 6.1 inches. It was a very wet snow.

### **VTZ011>012 Rutland - Windsor**

<b>17</b>	<b>0900EST</b>				<b>0</b>	<b>0</b>		<b>Light Snow</b>
<b>18</b>	<b>0600EST</b>							

An area of low pressure over the Ohio Valley Monday, December 17th moved to the New Jersey coast the night of the 17th and then to off the southern New England coast Tuesday morning, December 18th. Light snow spread north across the area during the morning. The snow changed to freezing rain during the evening hours then back to all snow. Accumulations were generally 2 to 5 inches. A few reports included: In Rutland county, The City of Rutland reported 5 inches while East Wallingford only 1 inch. In Windsor county, Bethel received 5.5 inches while Ludlow received 1.9 inches.

### **VTZ001>003-005>006-008>009 Grand Isle - Franklin - Orleans - Chittenden - Lamoille - Washington - Addison**

<b>17</b>	<b>1500EST</b>				<b>0</b>	<b>0</b>	<b>65K</b>		<b>Light Snow</b>
<b>18</b>	<b>0900EST</b>								

An area of low pressure over the Ohio Valley Monday, December 17th moved to the New Jersey coast the night of the 17th and then to off the southern New England coast Tuesday morning, December 18th. Light snow spread north across the area during the afternoon...mixing with freezing rain during the evening hours then back to all snow. Accumulations were generally 3 to 6 inches. A few reports included: In Addison county, Cornwall reported 5.8 inches while in Chittenden county, Hanksville reported 4.8 inches. In Orleans county, Newport reported 5.5 inches with 5 inches in Waitsfield (Washington county). Numerous minor automobile accidents were reported across the entire area.

### **VTZ004-007-010 Essex - Caledonia - Orange**

<b>17</b>	<b>1600EST</b>				<b>0</b>	<b>0</b>	<b>15K</b>		<b>Light Snow</b>
<b>18</b>	<b>1200EST</b>								

An area of low pressure over the Ohio Valley Monday, December 17th moved to the New Jersey coast the night of the 17th and then to off the southern New England coast Tuesday morning, December 18th. Light snow spread north across the area during the afternoon...mixing with freezing rain during the evening hours then back to all snow. Accumulations were generally 4 to 6 inches. A few reports included: In Caledonia county, Waterford received 5.8 inches while in Orange county, both Chelsea and Brookfield reported 6 inches. There were a few automobile accidents reported.

### **VTZ003>004-006>008-010-012 Orleans - Essex - Lamoille - Caledonia - Washington - Orange - Windsor**

<b>24</b>	<b>0100EST</b>				<b>0</b>	<b>0</b>	<b>45K</b>		<b>Light Freezing Rain</b>
	<b>0800EST</b>								

A storm system moved into the Great Lakes region Sunday night, December 23rd. Another storm system organized over southern New England and moved east on Monday, December 24th. Light freezing rain and freezing drizzle fell during the night and early morning hours. Slippery spots developed. A number of automobile accidents were reported, with the most being in Caledonia county.

### **VTZ003>004-006>008 Orleans - Essex - Lamoille - Caledonia - Washington**

<b>30</b>	<b>1200EST</b>				<b>0</b>	<b>0</b>		<b>Light Snow</b>
<b>31</b>	<b>0900EST</b>							

# Storm Data and Unusual Weather Phenomena

December 2001

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

## VERMONT, North and Central

A storm system over the Province of Quebec, coupled with an air flow across the eastern Great Lakes region, enhanced the flow of moisture across the northern Green Mountains of Vermont. Light snow fell across north central and northeast Vermont, with accumulations generally 3 to 6 inches. A few reports included: In Caledonia county, Sutton received 7 inches while West Danville got 4 inches. In Orleans county, East Albany reported 7 inches while Newport received 4 inches.

## VERMONT, South

**VTZ013>014**

### **Bennington - Windham**

<b>09</b>	<b>0100EST</b>								
	<b>0800EST</b>			<b>0</b>	<b>0</b>				<b>Winter Storm</b>

An area of low pressure developed along a stalled front, which was located south of the Mason-Dixon Line, late on December 8th. This low had lots of subtropical moisture to work with, as it moved east along the front, then off the Mid Atlantic coast by Sunday, December 9th. The air was cold enough for all snow across southern Vermont. A band of heavier snowfall, 4 to 8 inches, accumulated across extreme southern Vermont. Seven inches of snow fell at Pownal, Bennington County and 8 fell at Marlboro in Windham County Vermont.

## VIRGIN ISLANDS

NONE REPORTED.

## VIRGINIA, East

**VAZ093**

### **Isle Of Wight**

<b>24</b>	<b>0315EST</b>								
				<b>0</b>	<b>0</b>	<b>15K</b>			<b>High Wind</b>

High winds with the passage of a cold front turned camper upside down and ripped siding off of house in the Smithfield area.

## VIRGINIA, Extreme Southwest

NONE REPORTED.

## VIRGINIA, North

**VAZ021**

### **Highland**

<b>20</b>	<b>0600EST</b>								
	<b>1600EST</b>			<b>0</b>	<b>0</b>				<b>Strong Wind</b>

A cold front passed through the region just before sunrise on the 20th. Gusty winds of 35 to 50 MPH were ushered in behind the front and continued through mid-afternoon.

## VIRGINIA, Northwest

**VAZ003>004**

### **Dickenson - Buchanan**

<b>01</b>	<b>0000EST</b>								
	<b>1800EST</b>			<b>0</b>	<b>0</b>				<b>Prolong Warmth</b>

The Indian Summer environment continued well into December. Daytime readings in the 50s and 60s were common. John Flannagan Lake reached 77 degrees on the 4th and the 5th. More normal temperatures arrive by Christmas.

## VIRGINIA, Southwest

**VAZ015**

### **Grayson**

<b>20</b>	<b>0400EST</b>								
	<b>0600EST</b>			<b>0</b>	<b>0</b>	<b>0</b>			<b>High Wind</b>

High winds during the predawn hours of the 20th downed several trees in Grayson County.

## WASHINGTON, Northeast

**WAZ037>038**

### **Northeast Mountains - Okanogan Highlands**

<b>01</b>	<b>0000PST</b>								
	<b>1200PST</b>			<b>0</b>	<b>0</b>	<b>300K</b>			<b>Winter Storm</b>

An upper low level pressure trough moved across eastern Washington, bringing heavy snow to the mountain areas in the northeast part of the state. The following area some of the heavier snowfall totals: 49 North Ski Area...31", Mount Spokane Ski Area...12", Republic...9.5", Bodie Mountain...9.5", Newport...8.5", Chesaw...5", Chewelah...4.5", and Colville...3".

While heavy snow typically takes place in this area several times each winter, this storm was unusually damaging when it dumped heavy, wet, sticky snow followed by wind gusts of 20 to 30 miles an hour. This combination was responsible for downing hundreds of trees and numerous power lines. Some trees fell on homes, causing mostly minor structural damage. The hardest hit area was in a corridor from Wellpinit to Springdale to Newport. In Pend Oreille County, three-quarters of the county lost electricity. Some residents were without power for around a week, and utility crews compared the amount of damage to that caused by the famous ice storm in November 1996.

# Storm Data and Unusual Weather Phenomena

December 2001

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<b>WASHINGTON, Northeast</b>									
<b>WAZ031</b>			<b>Northeast Blue Mountains</b>						
	<b>01</b>	<b>0300PST 0800PST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G57) <sup>M</sup></b>
			A strong low pressure system moved across British Columbia on December 1, bringing high winds to the northeast Blue Mountains. The Alder Ridge RAWs site measured a peak wind gust of 65 mph from the southwest at 700 AM PST.						
<b>WAZ033-036&gt;037</b>			<b>Washington Palouse - Spokane Area - Northeast Mountains</b>						
	<b>04</b>	<b>0600PST 1200PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
			A warm front moved across eastern Washington in advance of an upper trough on the morning of December 4, bringing heavy snow to the northeast mountains, the Spokane area and the Palouse. The following is a roundup of snowfall totals: 49-North Ski Area...8", Mount Spokane Ski Area...8", Springdale...7", Deer Park...6", Chewelah...4.5", 2 N Spokane...4", Pullman...4", Newport...4", and Oakesdale...3.5".						
<b>WAZ033</b>			<b>Washington Palouse</b>						
	<b>04</b>	<b>2200PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>05</b>	<b>1000PST</b>							
			A quick-moving low pressure system moved across the Palouse early on the morning of December 5, dumping heavy snow in a relatively small area near the path of the low pressure circulation center. Saint John measured 4.5" of snow.						
<b>WAZ031-037</b>			<b>Northeast Blue Mountains - Northeast Mountains</b>						
	<b>05</b>	<b>2200PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>06</b>	<b>1000PST</b>							
			A low pressure system moving across British Columbia brought heavy snow to the northeast Blue Mountains and to the northeast mountains of Washington on the morning of December 6 followed by snow showers continuing through the day. The following are snowfall totals associated with this storm: the nearby Bluewood Ski Area...13", Spruce Springs SNOTEL (elev 4700' in Blue Mtns)...10.3", Newport...4.3", and Deer Park...3.5".						
<b>WAZ031-037-042</b>			<b>Northeast Blue Mountains - Northeast Mountains - East Slopes Northern Cascades</b>						
	<b>06</b>	<b>0000PST 1500PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
			A strong low pressure system moved onshore in British Columbia on the evening of December 5 and dragged a front across eastern Washington on the morning of the 6th. Heavy snow resulted in the northeast Washington mountains, the northeast Blue Mountains, and in the upper reaches of some of the major valleys along the northern Cascade east slopes. The following are some of the heavy snowfall totals: Lake Wenatchee...16", Plain...15", the Bluewood Ski Area...15", Newport...4.8", Chewelah...4.5", Deer Park...4", and Colville...3.5", .						
<b>WAZ036&gt;038-043</b>			<b>Spokane Area - Northeast Mountains - Okanogan Highlands - Okanogan Valley</b>						
	<b>12</b>	<b>1800PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>13</b>	<b>0600PST</b>							
			A warm front lifting across the area in advance of a moist Pacific storm system brought heavy snow to parts of eastern Washington on the night of December 12 and early on the morning of the 13th. The following is a listing of the heavy snowfall totals: Moses Mountain SNOTEL site (elev 5300')...9.1", Mount Spokane Ski Area...8", Clayton...7", Tonasket...6", Chesaw...6", Oroville...6", Spokane Airport...5.7", Republic...5.3", Springdale...5", Omak...5", Keller...5", Boundary Dam...5", Spokane South Hill...4.5", Colville...4.5", Deer Park...4.3", Look Lake...4", Gifford...4", and Ione...4".						
<b>WAZ031-037</b>			<b>Northeast Blue Mountains - Northeast Mountains</b>						
	<b>13</b>	<b>1500PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>14</b>	<b>1500PST</b>							
			A strong low pressure system moving along the US/Canada border brought heavy snow to the high elevations of the northeast Blue Mountains and to the mountains of northeast Washington, generally above 4000 feet from the afternoon of December 13 through December 14. Following are some of the heavy two-day snowfall totals: Spruce Springs SNOTEL site...18.2", Mount Spokane Ski Area...12", 49 North Ski Area...11", and the Bluewood Ski Area...11".						
<b>WAZ037&gt;038-042</b>			<b>Northeast Mountains - Okanogan Highlands - East Slopes Northern Cascades</b>						
	<b>15</b>	<b>0600PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>17</b>	<b>0600PST</b>							
			Two strong storm systems moved across British Columbia in quick succession from the evening of December 15 through December 17, bringing heavy snowfall totals to mountain locations across mainly north-central Washington. The following is a listing of 48-hour snowfall totals: Holden Village...22", 49 North Ski Area...18" and the Moses Mountain SNOTEL site...16.7", Mazama...13", Lake Wenatchee...13", and Stehekin...11".						
<b>WAZ035</b>			<b>Upper Columbia Basin</b>						
	<b>16</b>	<b>2000PST</b>			<b>0</b>	<b>0</b>	<b>15K</b>		<b>High Wind</b>
	<b>17</b>	<b>0200PST</b>							

# Storm Data and Unusual Weather Phenomena

December 2001

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

## WASHINGTON, Northeast

A vigorous storm system moving across southern British Columbia brought high wind to parts of the upper Columbia Basin on the evening of December 16. In the town of Coulee Dam, a large tree was blown over onto a house. Numerous shingles were blown off the roof of Wright Elementary School.

## WASHINGTON, Northwest

**WAZ002-010>011-016 Western Whatcom - Hood Canal/Kitsap Peninsula - Southwest Interior - Central Coast**  
**01 1000PST 0 0 600K High Wind (G50) <sup>M</sup>**  
**2100PST**

Winds of about 40 mph with gust to around 60 mph knocked out power to about 10,000 homes across Western Washington.

**WAZ002-007-009-011-015>016 Western Whatcom - Seattle Metropolitan Area - Admiralty Inlet Area - Southwest Interior - North Coast - Central Coast**  
**13 1800PST 0 0 800K High Wind (G60) <sup>M</sup>**  
**14 1120PST**

Sustained winds of 40 to 50 mph blew over parts of Western Washington, knocking out power to about 12,000 homes. Several trees were downed, one fell on a house and another fell across I-405, blocking traffic for about an hour. Two mobile homes had part of their roofs ripped off.

**WAZ001>002-005-009-015>016 San Juan - Western Whatcom - Northwest Interior - Admiralty Inlet Area - North Coast - Central Coast**  
**15 1800PST 1 0 1.2M High Wind (G52) <sup>M</sup>**  
**16 1900PST**

A strong pressure gradient developed over NW Washington for several days. Sustained winds of 40 mph with gusts to 60 effected parts of Western Washington at times during the 15th and 16th. Keystone ferry service was suspended at times and power was knocked out over parts of Skagit and Island counties. One man died when a tree fell on his car while he was driving in Skagit County. M39VE

**WAZ006>008-010>013 Everett And Vicinity - Seattle Metropolitan Area - Tacoma Area - Hood Canal/Kitsap Peninsula - Southwest Interior - Olympics - Eastern Strait Of Juan De Fuca**  
**16 0500PST 0 0 150K Flood**  
**19 0200PST**

Storm total (48-hour) precipitation amounts were around 6 to 9 inches over the Olympics and Willapa Hills, 4 to 6 inches over the southern Cascades, 3 to 5 inches over the central Cascades, and 2 to 4 inches over the north Cascades. The Chehalis, Skookumchuck, Satsop, Dungeness, Skokomish, Deschutes, Puyallup, Snoqualmie, and Snohomish Rivers all flooded. The Elwha River crested 0.1 feet below flood stage. Most of the Olympic Peninsula and southwest Washington rivers reached their highest crests since the flood of December 1999, with recurrence intervals mostly in the 5 to 10 year range.

### **Whatcom County**

**Birch Bay 16 0530PST 0 0 250K Storm Surge**  
**1130PST**

Heavy surf struck the Sandy Point/Birch Bay area sending water flowing across patios, decks and into homes. The surf, driven by 50 mph winds, was up to 10 feet high. Advanced warning allowed people to board up windows and secure property.

## WASHINGTON, Southeast

**WAZ030 Northwest Blue Mountains**  
**01 0300PST 0 0 High Wind (G56) <sup>M</sup>**  
**1000PST**

High winds developed during the early morning over the Blue Mountains of southeastern Washington. Alder Ridge, located at 4600 feet, measured a peak wind gust of 65 mph at 6 am.

**WAZ029 Blue Mountain Foothills**  
**01 1200PST 0 0 High Wind (G46) <sup>M</sup>**  
**1400PST**

Sustained winds of 40 mph with a peak gust of 53 mph were recorded by ASOS at the Walla Walla Airport.

**WAZ028 Lower Columbia Basin**  
**01 1400PST 0 0 125K High Wind (G62)**  
**2030PST**

High winds brought scattered damage to the Lower Columbia Basin during the afternoon and evening. Widespread wind gusts of over 60 mph were felt over an area including Hanford, Mesa, Kennewick, and Richland. One of the automated wind sensors at Hanford measured a peak wind gust of 72 mph at 4 pm. Near Richland, several road signs were damaged along Interstate 82. Winds also blew part of a roof off of a house in Kennewick. Power was lost to parts of the Tri-Cities metropolitan area during the early evening, while several streets were temporarily closed due to downed trees and power lines.

# Storm Data and Unusual Weather Phenomena

December 2001

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

## WASHINGTON, Southeast

<b>WAZ025</b>		<b>East Slopes Southern Cascades</b>							
	<b>01</b>	<b>1900PST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>High Wind</b>
		<b>2200PST</b>							
		Strong winds caused power lines to come in contact , leading to a power outage. Residents in central Klickitat County, included the towns of Goldendale, Bickleton, and Wishram lost power for around one hour.							

<b>WAZ030</b>		<b>Northwest Blue Mountains</b>							
	<b>04</b>	<b>0500PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>05</b>	<b>0500PST</b>							
		26 inches of snow fell over a 24 hour period at Ski Bluewood at an elevation of 4500 feet.							

<b>WAZ025</b>		<b>East Slopes Southern Cascades</b>							
	<b>16</b>	<b>1700PST</b>			<b>0</b>	<b>0</b>	<b>25K</b>		<b>High Wind</b>
		<b>2100PST</b>							
		Windy conditions led to several power outages in Klickitat County. Around 600 customers in the towns of Bickleton, Roosevelt, and Goodnoe lost power for 2 to 3 hours.							

<b>WAZ029</b>		<b>Blue Mountain Foothills</b>							
	<b>16</b>	<b>1900PST</b>			<b>0</b>	<b>0</b>	<b>25K</b>		<b>High Wind (G41) <sup>M</sup></b>
		<b>2200PST</b>							
		Strong winds along the foothills of the Blue Mountains in Washington brought scattered power outages to residents around Walla Walla. Customers in Eureka lost power for around 4 hours. During this event, a peak wind gust of 47 mph was measured by ASOS at the Walla Walla Airport.							

## WASHINGTON, Southwest

<b>WAZ021</b>		<b>South Coast</b>							
	<b>01</b>	<b>0000PST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G64) <sup>M</sup></b>
		<b>1800PST</b>							
		Ilwaco reported gusts to 74 mph and Long Beach 55 to 60 mph as a strong Pacific Storm system moved through the area.							

<b>WAZ021-039</b>		<b>South Coast - Vancouver Area</b>							
	<b>12</b>	<b>1500PST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G48) <sup>M</sup></b>
	<b>14</b>	<b>2100PST</b>							
		A strong winter storm brought high winds to Southwest Washington resulting in gusts to 55 mph in Grays Harbor County. In Vancouver winds gusts reached 50 mph. Pacific County P.U.D. reported some power outages...the size of the outage was not reported.							

<b>WAZ021</b>		<b>South Coast</b>							
	<b>15</b>	<b>0700PST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G70) <sup>M</sup></b>
	<b>16</b>	<b>2100PST</b>							
		A strong winter time storm brought high winds to the area resulting in all of Pacific County losing power for a 10 to 15 minute period. Winds were reported at Long Beach at 40 to 50 gusts to 80 mph and at Ocean Shores gusts to 50 mph.							

## WEST VIRGINIA, East

<b>WVZ048&gt;049-054</b>		<b>Grant - Mineral - Pendleton</b>							
	<b>20</b>	<b>0600EST</b>			<b>0</b>	<b>0</b>			<b>Strong Wind</b>
		<b>1600EST</b>							
		A cold front passed through the region just before sunrise on the 20th. Gusty winds of 35 to 50 MPH were ushered in behind the front and continued through the afternoon. The strongest winds were reported at elevations above 2000 feet. The highest wind gust recorded at Petersburg was 55 MPH. A gust of 75 MPH was recorded by a wind sensor atop a 75-foot tower in Keyser, but winds at the surface were considerably less.							

<b>WVZ048&gt;049</b>		<b>Grant - Mineral</b>							
	<b>28</b>	<b>1300EST</b>			<b>0</b>	<b>0</b>			<b>Winter Weather</b>
	<b>29</b>	<b>1100EST</b>							
		A weak area of low pressure moved across the Appalachian Mountains early on the 29th. Snow showers were reported between early afternoon on the 28th and late morning on the 29th along the western slopes and ridge tops of the Appalachians. In the higher elevations of western Mineral and Grant Counties, 2 to 4 inches of snow accumulated. Totals included 3 inches in Elk Garden, 4 inches in Mt. Storm, and 3 to 4 inches in Bayard. East of the ridges, an inch or less of accumulation was recorded.							

## WEST VIRGINIA, North

<b>WVZ001&gt;004-023</b>		<b>Hancock - Brooke - Ohio - Marshall - Preston</b>							
	<b>14</b>	<b>1800EST</b>			<b>0</b>	<b>0</b>	<b>25K</b>		<b>High Wind</b>
		<b>2030EST</b>							





# Storm Data and Unusual Weather Phenomena

December 2001

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

## WISCONSIN, Northeast

received 9.0 inches. Snowfall totals across the rest of the county were mainly in the 4 to 6 inch range.

## WISCONSIN, Northwest

**WIZ002-004**

**Bayfield - Iron**

25 0800CST

0 0

**Heavy Snow**

26 0400CST

Heavy lake effect snow brought 11" of snow to Hurley and 8" to Mason.

**WIZ004**

**Iron**

28 0600CST

0 0

**Heavy Snow**

29 1300CST

Localized lake effect snow dumped 11.5" of snow in Hurley.

## WISCONSIN, Southeast

**WIZ067>069**

**Lafayette - Green - Rock**

02 0100CST

0 0

**Fog**

0600CST

Light winds, abundant low-level moisture, and clear skies led to the formation of dense fog which reduced visibilities to 1/8 to 1/4 mile. Several vehicle accidents were noted in local newspapers.

**WIZ056>059-062>065**

**Sauk - Columbia - Dodge - Washington - Iowa - Dane - Jefferson - Waukesha**

02 0230CST

0 0

**Fog**

1000CST

Light winds, abundant low-level moisture, and clear skies led to the formation of dense fog which reduced visibilities to 1/8 to 1/4 mile. Several vehicle accidents were noted, and airplane traffic was delayed.

**WIZ066-070>072**

**Milwaukee - Walworth - Racine - Kenosha**

02 0400CST

0 0

**Fog**

0900CST

Light winds, abundant low-level moisture, and clear skies led to the formation of dense fog which reduced visibilities to 1/8 to 1/4 mile. Several vehicle accidents were noted in local newspapers, and airplane traffic was delayed.

**WIZ046>047-051>052-060**

**Marquette - Green Lake - Fond Du Lac - Sheboygan - Ozaukee**

02 0600CST

0 0

**Fog**

1000CST

Light winds, abundant low-level moisture, and clear skies led to the formation of dense fog which reduced visibilities to 1/8 to 1/4 mile. Several vehicle accidents were noted in local newspapers, and airplane traffic was delayed.

**WIZ046>047-051>052-056>060-062>072**

**Marquette - Green Lake - Fond Du Lac - Sheboygan - Sauk - Columbia - Dodge - Washington - Ozaukee - Iowa - Dane - Jefferson - Waukesha - Milwaukee - Lafayette - Green - Rock - Walworth - Racine - Kenosha**

05 1200CST

0 0

105K

**Strong Winds**

2000CST

Strong, gradient, widespread winds from the south to southwest affected south-central and southeast Wisconsin during the afternoon and early evening hours of December 5, 2001. Sustained speeds were in the 22 to 26 kts range (25 to 30 mph), with gusts to 39 to 43 kts range (45 to 50 mph). Scattered power outages were noted due to the strong winds either breaking tree branches or pushing branches onto power lines. Some of the higher gusts were due to convective enhancement as a series of short lines or clusters to showers and thunderstorms moved west to east across southern Wisconsin. Individual thunderstorm cells moved northeast at 61 kts (70 mph)! The strong winds were related to a deep low pressure moving northeast through Minnesota to north of Lake Superior, with a trailing cold front moving east across Wisconsin. Daytime maximum temperatures ahead of the front were in the 60 to 70 degree range, or 28 to 35 degrees above average! Milwaukee's maximum of 68 set a new daily record for the 5th as well as a new all-time December maximum (old record was 64 on December 3, 1998). Madison's maximum of 64 set a new daily record for the 5th as well as a new all-time December maximum (old record was 62 on December 5, 1998). Janesville, Kenosha, West Allis, and Waukesha topped out at 70. Both Madison and Milwaukee tied or set new daily maximum temperatures and high minimum records on December 4, 2001, as well. Newspapers reported that golfers were still out on the links, some flowers were blooming, very little, if any, frost was in the ground, and inland lakes had no ice cover!

**WIZ046>047-051-056>058-062>064-067>069**

**Marquette - Green Lake - Fond Du Lac - Sauk - Columbia - Dodge - Iowa - Dane - Jefferson - Lafayette - Green - Rock**

16 1915CST

0 0

**Fog**

17 1915CST

Abundant low-level moisture and light winds led to the development of dense fog which reduced visibilities to 1/8 to 1/4 mile. Several vehicle accidents were noted in newspapers and some airplane traffic was delayed. On December 16, 2001, Madison and

# Storm Data and Unusual Weather Phenomena

December 2001

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

## WISCONSIN, Southeast

Milwaukee recorded new high minimums of 37 and 41, respectively. Through Dec 16th, Milwaukee average temperature was 40.4, or an incredible 13.5 degrees above normal, and 3 degrees above the warmest December on record (1877)! Colder air during the last week of December, 2001, lowered the monthly average several degrees. Madison recorded its latest measurable snowfall in a winter season when 2/10 of an inch of snow finally fell on December 23, 2001. By the end of December 2001, Milwaukee Mitchell Field would measure only 9.4 inches of snow for the entire calendar year of 2001, breaking the old "minimum" record of 14.5 inches set in 1922!

## WISCONSIN, Southwest

NONE REPORTED.

## WISCONSIN, West

NONE REPORTED.

## WYOMING, Central and West

**WYZ001-006>007-017>018** **Yellowstone National Park Mt Id - Teton/Moutains - Jackson Valley - Salt River Range - Kemmerer**

<b>05</b>	<b>1800MST</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
<b>07</b>	<b>0400MST</b>			

A storm system produced heavy snow across parts of western Wyoming. Snowfall amounts included 19 inches at the Jackson Hole Ski Resort, 16 inches at Bondurant and Togwotee Cowboy Lodge, 12 inches at Snake River in Yellowstone National Park, 10 to 12 inches at Jackson and 7 inches at Kemmerer.

## WYOMING, Extreme Southwest

NONE REPORTED.

## WYOMING, North Central

NONE REPORTED.

## WYOMING, Northeast

**WYZ054>055-058** **Gillette - South Campbell - Weston**

<b>01</b>	<b>1151MST</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>High Wind (G53)</b> <sup>M</sup>
	<b>1851MST</b>				

An unusual high wind event occurred this day as strong southwesterly low-level winds combined with a strong surface pressure gradient to produce high winds. High wind events usually occur behind a cold front with strong northwest winds developing, southwest winds of this magnitude have not been noted over this area for several years.

## WYOMING, Southeast

**WYZ063>064** **Snowy Range - North Laramie Range**

<b>01</b>	<b>1545MST</b>	<b>0</b>	<b>0</b>	<b>High Wind (G72)</b> <sup>M</sup>
<b>03</b>	<b>0440MST</b>			

Very strong winds blew across the mountains of southeast Wyoming. Gusts to 83 mph were recorded on Interstate 80 near Arlington, WY, while gusts to 66 mph were recorded at Esterbrook, WY.

**WYZ063-067-069** **Snowy Range - Platte - Cheyenne Foothills**

<b>05</b>	<b>2100MST</b>	<b>0</b>	<b>0</b>	<b>High Wind (G68)</b> <sup>M</sup>
<b>06</b>	<b>1600MST</b>			

Strong winds occurred across the mountains of southeast Wyoming extending into the adjacent high plains. Gusts as high as 78 mph were recorded on Interstate 80 near Arlington, WY. Gusts of 68 mph were noted on Interstate 25 near Chugwater, WY, while Cheyenne, WY, recorded gusts to 60 mph.

**WYZ063-067** **Snowy Range - Platte**

<b>12</b>	<b>2300MST</b>	<b>0</b>	<b>0</b>	<b>High Wind (G65)</b> <sup>M</sup>
<b>14</b>	<b>1230MST</b>			

Very strong winds raked across areas of southeast Wyoming over and near the mountains. Gusts to 75 mph were recorded near Arlington, WY, while gusts to 67 mph were recorded along Interstate 25 near Chugwater, WY.

## Reference Notes:

### Fatality Location Abbreviations:

BF	Ball Field	MH	Mobile Home
BO	Boating	OT	Other
BU	Business	OU	Outside/Open Areas
CA	Camping	PH	Permanent Home
EQ	Heavy Equipment/Construction	SC	School
GF	Golfing	TE	Telephone
IW	In Water	UT	Under Tree
LS	Long Span Roof	VE	Vehicle

### List of Acronyms:

WCM	- Warning Coordination Meteorologist
NWS	- National Weather Service
NOAA	- National Oceanic and Atmospheric Administration
DST	- Daylight Savings Time
LST	- Local Standard Time
LDT	- Local Daylight Time

### Other Notes:

When listing wind speed values under “Character of Storm”, ex. High Wind (G81), the “G” indicates a “Gust” which is a peak 5-second averaged wind speed in Knots (kts). 1 kt. = 1.152 mph.

When listing hail size under “Character of Storm”, ex. Hail (2.25), the hail size is given in inches and hundredths of inches.

When listing property and crop damage, the figures indicated are the best guess made by the NWS from the available sources of information at the time of the printing.

# The Saffir-Simpson Scale

## **Category One Hurricane:**

Winds 74-95 mph (64-82 kt or 119-153 kph). Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage.

## **Category Two Hurricane:**

Winds 96-110 mph (83-95 kt or 154-177 kph). Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of the hurricane center. Small craft in unprotected anchorages break moorings.

## **Category Three Hurricane:**

Winds 111-130 mph (96-113 kt or 178-209 kph). Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the hurricane center. Flooding near the coast destroys smaller structures with larger structures damaged by battering of floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low-lying residences with several blocks of the shoreline may be required.

## **Category Four Hurricane:**

Winds 131-155 mph (114-135 kt or 210-249 kph). Storm surge generally 13-18 ft above normal. More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water 3-5 hours before arrival of the hurricane center. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km).

## **Category Five Hurricane:**

Winds greater than 155 mph (135 kt or 249 kph). Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the hurricane center. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5-10 miles (8-16 km) of the shoreline may be required.

# The Fujita Scale

F-Scale	Intensity	Wind Speed (mph)	Typical Damage
F0	Gale Tornado	40 - 72	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.
F1	Moderate	73 - 112	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.
F2	Significant	113 - 157	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.
F3	Severe	158 - 206	Roof and some walls torn off well constructed houses; trains overturned; most trees in fores uprooted
F4	Devastating	207 - 260	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	Incredible	261 - 318	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 meters; trees debarked; steel re-inforced concrete structures badly damaged.
F6	Inconceivable	319 - 379	These winds are very unlikely. The small area of damage they might produce would probably not be recognizable along with the mess produced by F4 and F5 wind that would surround the F6 winds.

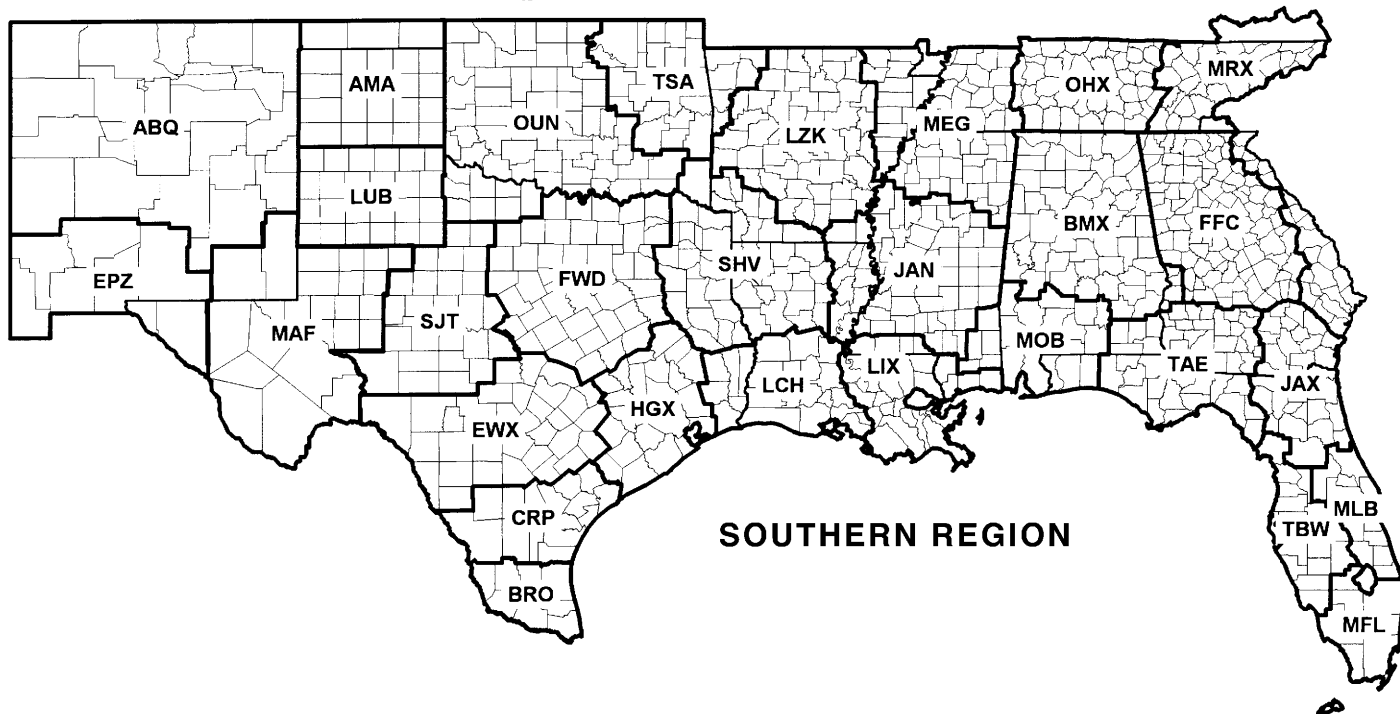


\* From the Journal of Atmospheric Science, August 1981, p. 1517-1519

# COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS

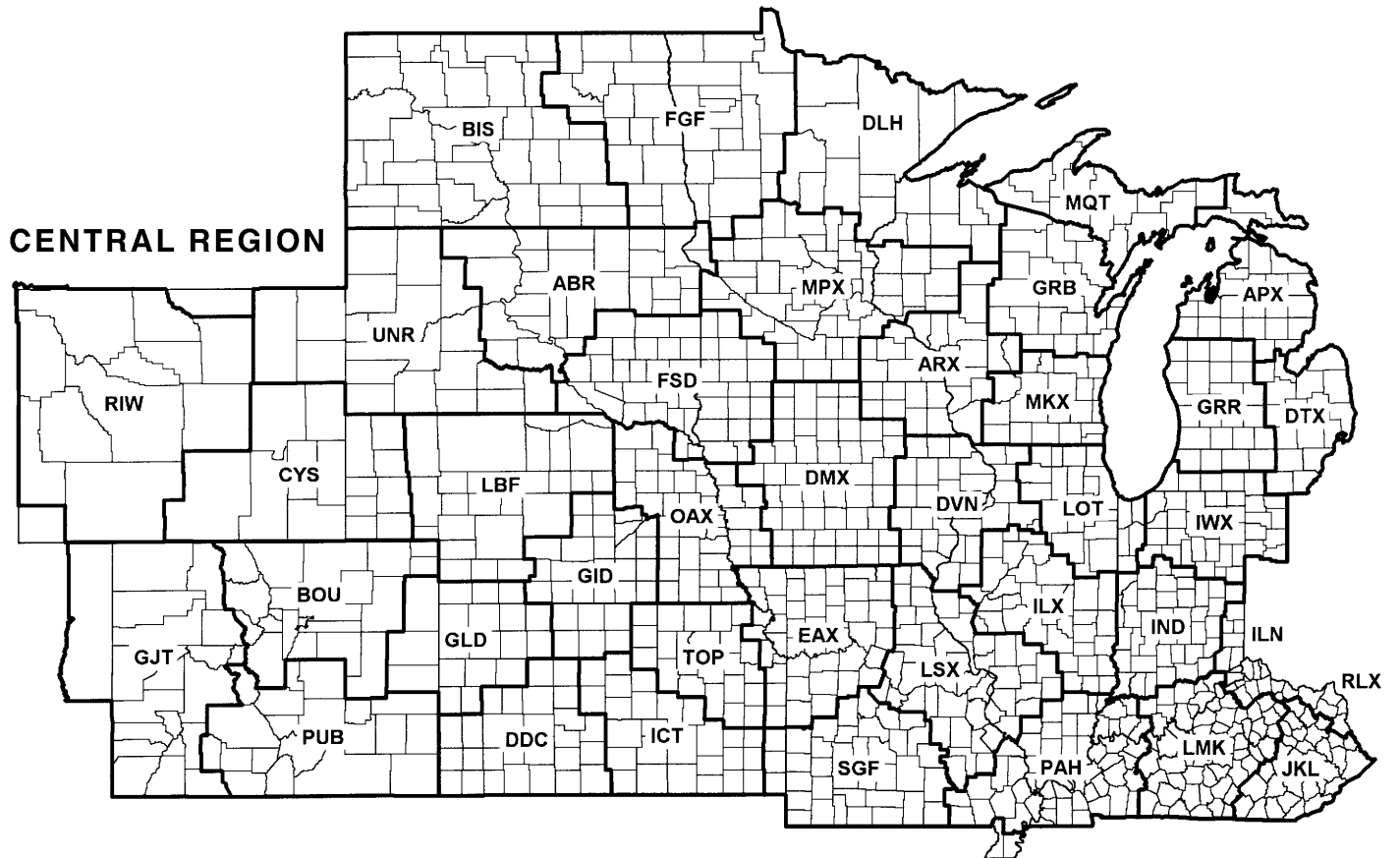
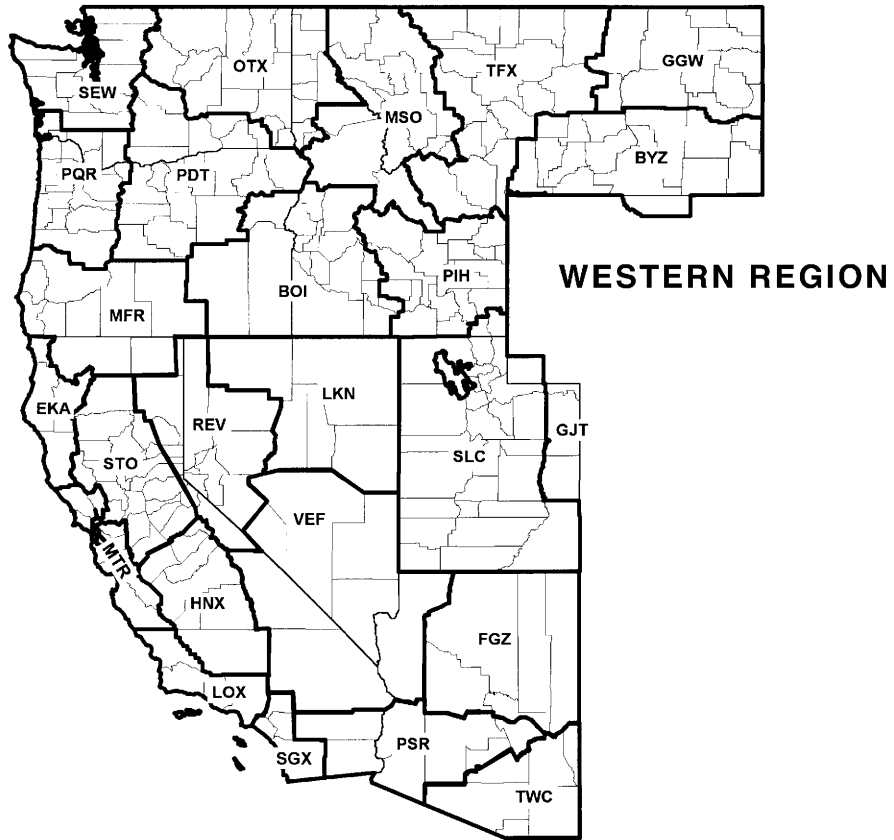


**EASTERN REGION**



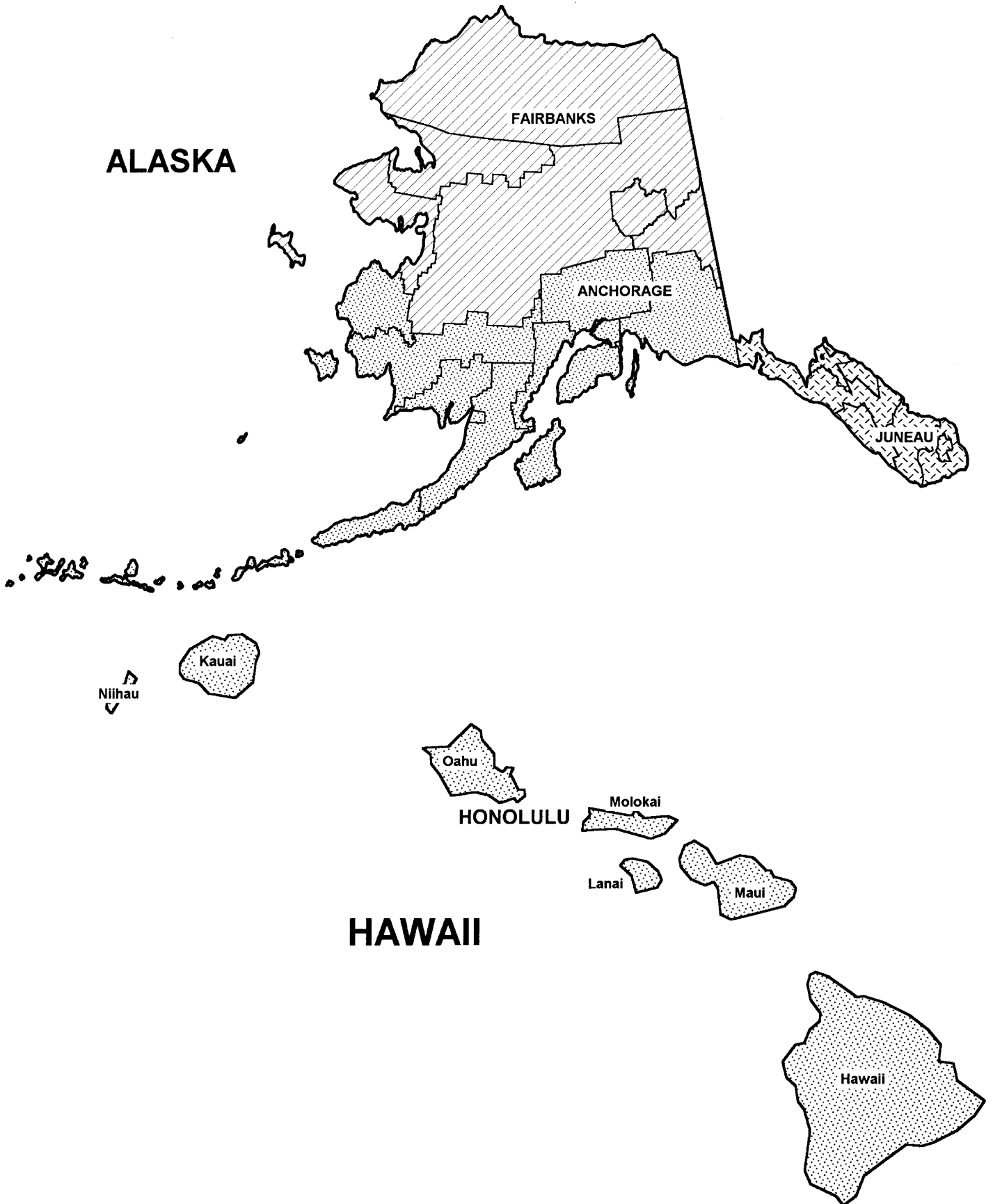
**SOUTHERN REGION**

# COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS





# MODERNIZED COUNTY WARNING AREAS



To change your address, please return a copy of the mailing label along with your new address to:

NCDC Subscription Services Center  
310 State Route 956  
Building 300  
Rocket Center, WV 26726

Toll free number: (866) 742-3322  
TDD: (828) 271-4010  
Fax number: (304) 726-4409

Inquiries/Comments Call: (866) 742-3322 (Toll free)  
(828) 271-4010 (TDD)  
(304) 726-4409 (Fax)

Subscription Services Center  
310 State Route 956  
Building 300  
Rocket Center, WV 26726

<p>PRSR STD POSTAGE &amp; FEES PAID United States Department of Commerce NOAA Permit No. G-19</p>
---

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE \$300  
CHANGE SERVICE REQUESTED