

NOVEMBER 2002
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NUMBER 11

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: A low pressure system moved along the mid-Atlantic coast and brought a mixture of rain and snow to New Hampshire. With a high astronomical tide and northeasterly winds, tidal flooding occurred, particularly in the Hampton Beach area (shown). (Photo courtesy: John Jensenius, WCM, NWS Gray, Maine.)

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STORM DATA

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National Climatic Data Center

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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.

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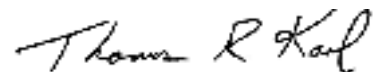
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The editor of **STORM DATA** solicit your help in acquiring photographs (prints or slides; black and white, or color), maps, clippings, etc. of significant or severe weather events (past or present) for use in the "Outstanding Storms of the Month"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

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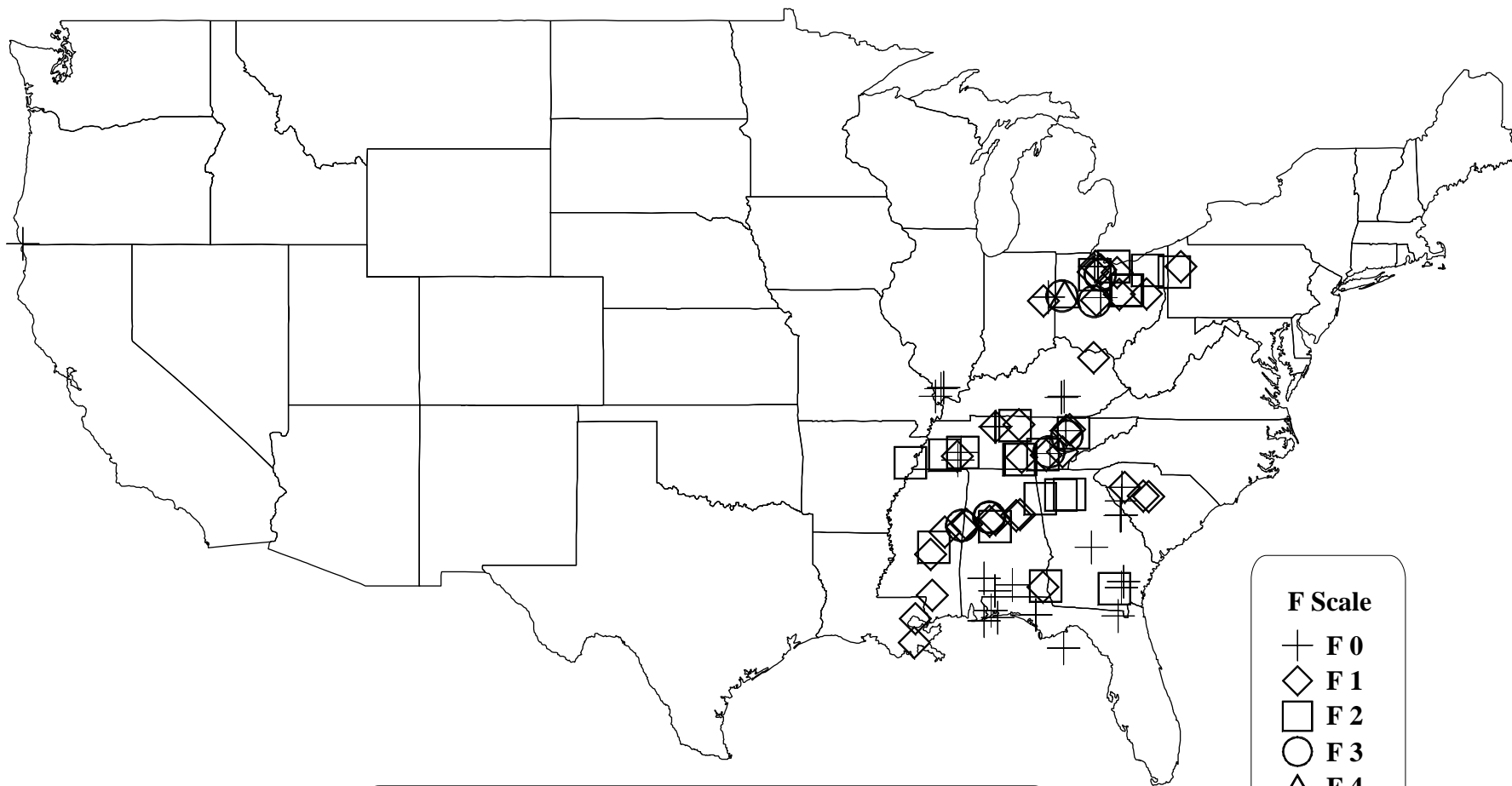
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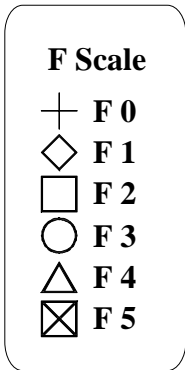


Thomas R. Karl
Director,
National Climatic Data Center

November 2002 Confirmed Tornadoes



3



F Scale	F0	F1	F2	F3	F4	F5	Total
Number	31	33	21	8	1	0	94

OUTSTANDING STORMS OF THE MONTH

1. Tidal Flooding in New Hampshire on November 6

A low pressure system that moved along the mid-Atlantic coast brought snow and rain to the state of New Hampshire on November 6, 2002. Around eight inches of snow fell over much of Sullivan County, and two to six inches fell across Merrimack, Belknap, Grafton, Carroll, and Coos Counties before the precipitation changed to rain. Along the immediate coast, the precipitation fell mostly as rain. A high astronomical tide combined with northeasterly winds caused tidal flooding. The Hampton Beach area was particularly hard hit as many roads were flooded.



Above(both): Tidal flooding in the Hampton Beach area caused many roadways to be water-covered. *(Photo courtesy: John Jensenius, WCM, NWS Gray, Maine.)*

Tornadoes in Tennessee on November 10

Numerous tornadoes were reported on November 10 in one of the worst tornadic outbreaks ever in Tennessee in November where 15 deaths and 79 injuries occurred. Damage to houses and cars were the primary losses. Damage estimates were placed at \$160 million dollars. More than 900 families across the state applied for storm aid.



Below: An F3 tornado struck the Lake Tansi and the southern sections of Crossville, Tennessee at 2143 (9:43 pm) CST. Four people were killed and 18 other were injured. Two people were killed when the mobile home was lifted off the ground and landed nearly on top of a nearby mobile home. *(Photo courtesy: William Earl King, HMT, NWS Nashville, Tennessee.)*

Above: An F2 tornado, as defined by the Fujita Tornado Scale with wind speeds between 113 and 157 mph hit the Bedford County community of Bugscuffle at 1745 (5:45 pm) CST. Several houses were damaged and destroyed. *(Photo courtesy: Ralph Troutman, DAPM, NWS Nashville, Tennessee.)*



Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
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ALABAMA, Central
ALZ002-006-019-
023>024-044

Colbert - Madison - Calhoun - Tuscaloosa - Jefferson - Montgomery

10 1500CST 0 0 0 0 Excessive Heat

Unseasonably warm air surged northward from the Gulf of Mexico and covered most of north and central Alabama. Record high temperatures of 80 to 85 degrees were recorded across the entire area. As a direct result of this very warm air, a large severe weather outbreak occurred where violent tornadoes developed by early evening. Record high temperatures were measured at the following locations;

Muscle Shoals Municipal Airport 83
 Huntsville International Airport 82
 Tuscaloosa Municipal Airport 83
 Birmingham International Airport 82
 Anniston Municipal Airport 82
 Montgomery Dannelly Field 85

Other temperatures measured included:
 Pryor Field Decatur 83
 Shelby County Airport Calera 83
 Troy 83

Fayette County

5.6 NNW Fayette to 10 1852CST 16.1 1175 0 3 500K 0 Tornado (F3)
2.3 WNW Howard 1910CST

Walker County

4.5 SW Carbon Hill to 10 1910CST 16.9 1175 3 20 2.5M 0 Tornado (F3)
8 E Nauvoo 1931CST
 M53OU, M61MH, F62MH

Winston County

3.7 SE Poplar Spgs to 10 1931CST 11.3 1175 1 15 200K 0 Tornado (F3)
2.5 ESE Arley 1945CST

M91PH

The Carbon Hill Tornado was the first tornado of the evening. It began in Fayette County at 6:52 pm, about 5.6 miles north-northwest of the city of Fayette, and 2.8 miles west of US Highway 43. The tornado moved on a northeast track crossing US 43, State Route 129, and SR 13, and then moved into Walker County just southwest of Carbon Hill at 7:10 pm.

It then crossed the western and northern sections of Carbon Hill, downing trees and power lines and damaging many residential structures. Carbon Hill Elementary School was also heavily damaged. The tornado continued northeast, crossing SR5, and exited the county at SR 195. The two deaths associated with this tornado occurred just south of SR 195.

Entering Winston County at 7:31 pm, the tornado continued on a northeast path traveling across mostly sparsely populated areas of Bankhead National Forest and several fingers of Smith Lake. It crossed County Road 41 about 1.8 miles south of Arley and then crossed CR 12, finally lifting at 7:45 pm.

This tornado was rated an F3 on the Fujita scale, with winds estimated to be in the 150 to 200 mph range. Much of the damage along the track was lesser intensity (F1 and F2). F3 damage occurred in both Fayette and Walker Counties.

Total path length for the Carbon Hill Tornado was 44.3 miles, with a width of 1175 yards. Four deaths were reported with this tornado, three in the Rose Hill community of Walker County and one near Arley in Winston County. Injury figures are approximate with three in Fayette County, 20 in Walker County, and 15 in Winston County. About 40 percent of the injuries were treated at local hospitals while about 60 percent of the injuries were considered minor.

Structural damage along the path included approximately 47 in Fayette County, 135 in Walker County, and 35 in Winston County. Numbers are approximate because most reports from Red Cross and EMA were made based on the whole county not by tornado.

Beg: 33 45.949/87 51.069 End: 34 03.992/87 10.409

Franklin County

Russellville 10 1910CST 0 0 2K 0 Thunderstorm Wind (G55)
 Trees and power lines were blown down along CR 48 in Russellville.

Lauderdale County

Rogersville 10 1925CST 0 0 0 0 Hail (0.75)
 Dime size hail fell in Rogersville.

Storm Data and Unusual Weather Phenomena

November 2002

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

Lamar County

7.6 WSW Fernbank to 1.5 NNW Fernbank	10	1931CST 1942CST	7.2	150	0	2	200K	0	Tornado (F2)
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The Fernbank Tornado was the second tornado of the evening in Alabama, but it actually began in Mississippi. The tornado crossed the Alabama-Mississippi State Line at 7:31 pm, downing trees in Luxapallila Creek. When it reached County Road 12, a well built home was derooft along with damage to the upper floor of the house and tremendous tree destruction. The tornado continued on a northeast track, damaging mostly trees before knocking over head stones at the Ebenezer Church and flipping automobiles. The tornado weakened fairly quickly after it passed the church and ended about 7:42 pm.

This tornado was rated an F2 in Alabama but was rated an F3 in Mississippi. No deaths and two injuries were reported in the Alabama portion of this tornado.

The path length was 7.2 miles with an estimated width of 150 yards.

Winston County

Double Spgs	10	1932CST			0	0	0	0	Hail (0.88)
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Nickel size hail was observed near Double Springs.

Winston County

Double Spgs to Addison	10	1940CST 1950CST			0	0	0	0	Hail (0.75)
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Dime size hail fell along US 278 between Double Springs and Addison.

Pickens County

2.5 NW Stafford to 2.9 NE Stafford	10	1942CST 1948CST	4.5	75	0	0	5K	0	Tornado (F1)
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The third tornado of the evening in Alabama, the Stafford Tornado, moved into Pickens County from Mississippi, at 7:42 pm just northwest of Stafford. This tornado, rated an F1 in Alabama, stayed over mostly rural land downing trees. The path length in Alabama was 4.5 miles, and the width about 75 yards. No deaths or injuries were reported in Alabama.

Beg: 33 27.623/88 17.036 End: 33 28.267/88 12.269

Cullman County

Crane Hill	10	1955CST			0	0	0	0	Hail (0.75)
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Dime size hail was reported across western Cullman County.

Fayette County

6 NNE Fayette to 2.7 SE Howard	10	2015CST 2034CST	14.6	1175	0	0	200K	0	Tornado (F3)
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Walker County

5.8 W Townley to 13.3 NE Jasper	10	2034CST 2103CST	24.7	1175	7	40	2.5M	0	Tornado (F3)
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F39MH, F15MH, M50MH, M51MH, F73MH, F38MH, F61MH

Winston County

6.9 SSE Arley to 7.6 SE Arley	10	2103CST 2108CST	2.4	1175	0	5	300K	0	Tornado (F3)
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Cullman County

8.2 W Bremen to 1 SE Holly Pond	10	2108CST 2152CST	30.9	1175	0	8	1.3M	0	Tornado (F3)
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The Saragossa Tornado was the fourth tornado to occur in Alabama and the longest track of the severe weather episode. It began in Fayette County, just east of the Sipsey River about 6 miles north-northeast of the city of Fayette at 8:15 pm. The tornado moved northeast, crossing portions of State Routes 102 and 13, and then SR 102 again around Stoddards Crossroads.

The tornado crossed into Walker County at 8:34 pm and traveled through sparsely populated areas of western Walker County. It crossed the interchange of US Highway 78 about 5.5 miles east-southeast of Carbon Hill, and became very strong as it traveled through the Saragossa area. It crossed State Roads 5, 195, and 257, before entering Winston County.

The tornado appeared to be at its most intense during the travel from US 78/SR 118 interchange across Saragossa and the areas near SR 5 and SR 195. Seven deaths occurred in this 10 mile stretch of the tornado track, along with an estimated 40 injuries.

At 9:03 pm the tornado crossed the extreme southeastern tip of Winston County, crossing a part of Smith Lake.

The tornado entered Cullman County at 9:08 pm, moving across portions of Smith Lake and across CR 222. Tornado intensity remained high during the first several miles after it entered Cullman County. Continuing northeast, it crossed Interstate 65 and US 31 just south of Cullman on the southside of the Cullman Golf Course.

The tornado seemed to be significantly less intense as it continued to travel northeasterly toward Holly Pond. Damage from just east

Storm Data and Unusual Weather Phenomena

November 2002

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

ALABAMA, Central

of US 31 to just south of Holly Pond was not nearly as intense as it was west of Interstate 65. Traveling through mostly rural areas downing trees and powerlines, and damaging scattered structures along the way, the tornado finally ended just south-southeast of Holly Pond at 9:52 pm,

This was the longest tornado of the outbreak, with a path length of 72.6 miles and a width of 1100 yards. It was the second F3 tornado of the day. Seven deaths were reported with the storm, all in Walker County, along with an estimated 45 injuries.

Structural damage details are difficult to report since reporting is based primarily on county and not by individual tornadoes. Based on EMA and Red Cross data, structures damaged or destroyed were approximately 20 in Fayette County, 300 in Walker County, 5 in Winston County, and 164 in Cullman County.

This is also one of the longest tornadoes tracks in recent history. At 72.6 miles in length, this becomes the fourth longest tornado in Alabama since 1950.

Beg: 33 45.072/87 45.991 End: 34 09.775/86 36.403

Pickens County

**4.3 WSW Ethelsville to
2.3 WSW Ethelsville**

10	2015CST	2	40	0	0	0	0	0	Tornado (F0)
	2018CST								

An F1 tornado moved out of Mississippi into Alabama about 4.3 miles west-southwest of Ethelsville. The weak tornado was the fifth tornado of the evening in Alabama and moved across mostly wooded and clear cut areas downing a few trees. The tornado damage in Alabama was only F0.

Beg: 33 24.268/88 17.425 End: 33 24.682/88 15.352

Lawrence County

Moulton

10	2015CST			0	0	1K	0	Thunderstorm Wind (G50)
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A few trees were blown down around Moulton.

Cullman County

Vinemont

10	2017CST			0	0	0	0	Hail (0.75)
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Dime size hail fell near Folsom Field.

Franklin County

Countywide

10	2035CST			0	0	4K	0	Thunderstorm Wind (G55)
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Franklin County

Red Bay

10	2035CST			0	0	0	0	Hail (0.75)
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Dime size hail was reported in Red Bay. A few trees and power lines were knocked over in other parts of the county.

Marshall County

4 E Union Grove

10	2046CST			0	0	0	0	Funnel Cloud
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A funnel cloud was reported 4 miles east of Union Grove.

Tuscaloosa County

5 SE Moores Bridge

10	2057CST			0	0	0	0	Funnel Cloud
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A funnel cloud was sighted by spotters near the Brownville Community.

Fayette County

**4.6 ESE Berry to
9 E Berry**

10	2110CST	4.3	90	0	0	45K	0	Tornado (F1)
	2115CST							

The sixth tornado of the evening, the Boley Springs Tornado, occurred in extreme southeast Fayette County beginning at 9:10 pm. The tornado first touched down on the south side of County Road 46 about a mile west of Boley Springs. The tornado crossed CR 46 going across the north side of Boley Springs. A lumber mill was damaged along with a mobile home. Numerous trees were downed.

The tornado then moved into open country where additional trees were downed. It ended around 9:15 pm about 3.9 miles east-northeast of Boley Springs. This was rated an F1 tornado, with a path length of 4.3 miles and width of 90 yards. No injuries or deaths were reported with this tornado.

Storm Data and Unusual Weather Phenomena

November 2002

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

Walker County

**3.5 SW Dora to
.8 NE Dora**

10 2138CST 4.3 300 0 0 400K 0 Tornado (F1)
2147CST

The Dora Tornado, the seventh tornado of the evening, began at 9:38 pm, when the tornado touched down on the banks of the Mulberry Fork of the Black Warrior River southwest of Dora. The initial touchdown was in an area of open fields and woods and the first structural damage occurred as the tornado reached the southwest side of Dora. Trees were downed with a good deal of roof damage to homes as the tornado traveled through the middle of Dora. Traveling northeast the tornado damaged a number of structures in Dora, before ending fairly abruptly on the northeast side of town at 9:47 pm.

The total path length was 4.3 miles, with a width of 300 yards. No deaths were reported, and any injuries were minor. This tornado was rated an F1.

Beg: 33 42.221/87 08.654 End: 33 44.096/87 04.761

Marshall County

5 SE Arab

10 2145CST 0 0 125K 0 Thunderstorm Wind (G65)

Two chicken houses were heavily damaged on Fry Gap Road (CR 44).

Dekalb County

Countywide

10 2145CST 0 0 3K 0 Thunderstorm Wind (G55)

A few trees and power lines were blown down across the county.

Tuscaloosa County

**4.7 NNE Northport to
9.5 NE Northport**

10 2159CST 0 0 200K 0 Thunderstorm Wind (G65)
2206CST

The roof was blown off an apartment complex on Rice Mine Road. Ten apartments were subsequently damaged by heavy rain. The roof pieces landed on 7 automobiles causing major damage to the vehicles. A gas station awning was ripped off and carried several hundred yards away. Several trees and power lines were blown down in the area. The Collins-Riverside School sustained moderate damage as part of the roof was torn off and the rooms were flooded.

Blount County

**1.4 SW Allgood to
6 E Oneonta**

10 2222CST 9.8 300 0 0 400K 2K Tornado (F1)
2231CST

Etowah County

**8.1 SW Gallant to
7.4 SW Gallant**

10 2231CST 0.8 300 0 0 4K 1K Tornado (F1)
2232CST

The F1 rated Oneonta Tornado began at 10:22 pm, about 1.4 miles southwest of Allgood just west of State Route (SR) 75. The tornado traveled across Allgood, downing trees and doing some damage to structures. It traveled across Boat Landing Road where trees were downed and then crossed Springville Boulevard where several structures were damaged. The tornado then clipped the southeastern sections of Oneonta before turning more easterly.

The tornado crossed County Road 29, where two more structures were damaged, and then crossed US Highway 231. Additional trees were downed along Montgomery Drive. The tornado continued to down trees as it dissipated just after moving into Etowah County, ending at 10:32 pm.

The path length of this tornado was 10.6 miles, with a width of about 300 yards. No deaths or injuries were reported. However, Blount County Emergency Management did report that two cows were killed by falling trees.

Beg: 33 53.764/86 31.771 End: 33 56.588/86 21.437

Tuscaloosa County

**3.2 NW Abernant to
3.6 NNE Abernant**

10 2222CST 2.9 450 0 3 300K 0 Tornado (F2)
2229CST

Jefferson County

**9.6 W Mc Calla to
1.8 SSW Bessemer**

10 2229CST 12.3 450 0 0 500K 0 Tornado (F2)
2243CST

The Abernant Tornado first touched down in Tuscaloosa County in a wooded area west of County Road 99 around 10:22 pm. The tornado traveled east-northeast, damaging structures on Ridge Road before crossing into Jefferson County.

The tornado entered Jefferson County at 10:29 pm, and damaged structures in the North Johns and Sumter areas before damaging a manufacturing facility just southwest of VisionLand Theme Park. The tornado crossed Interstate 59 and US Highway 11 where additional houses and businesses sustained minor damage. The tornado ended at this point at 10:43 pm.

This F2 tornado had a path length of 15.2 miles, 2.9 miles in Tuscaloosa County and 12.3 miles in Jefferson County. The path width was about 450 yards. Three injuries were reported in Tuscaloosa County.

Beg: 33 19.740/87 13.724 End: 33 22.873/86 58.362

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
ALABAMA, Central									
Etowah County									
Countywide	10	2230CST 2300CST			0	0	5K	0	Thunderstorm Wind (G55)
A few trees and power lines were blown down across the county.									
St. Clair County									
3.1 WNW Steele to 1.3 N Steele	10	2241CST 2244CST	3.2	50	0	0	40K	0	Tornado (F1)
A weak tornado touched down on Chandler Mountain causing minor damage to about three houses and downing several trees. The tornado came off the mountain (plateau) and damaged one structured and downed trees at the base of the mountain before dissipating. No injuries were reported.									
Beg: 33 57.002/86 15.331 End: 33 57.482/86 11.950									
St. Clair County									
Countywide	10	2250CST 2315CST			0	0	2K	0	Thunderstorm Wind (G55)
A few trees and power lines were blown down across the county. One home suffered minor roof damage, one home had major roof damage, and two out buildings were destroyed.									
Cherokee County									
3.4 SE Centre to 12.3 E Centre	10	2320CST 2332CST	10.5	440	1	4	1.2M	0	Tornado (F2)
The Centre Tornado touched down near Highway 411, just to the east of the Cherokee Country Club. It then traveled northeast, crossed over Cowan Creek, and damaged houses along County Road 40 at approximately 1122 pm CST. The tornado continued its northeastward movement and crossed over County Road 16 at approximately 1125 pm CST. One death was reported in a mobile home at the point where the tornado crossed over County Road 16. From this point, the tornado crossed County Road 31, damaging more homes before moving over Spring Creek. The tornado turned more to the east-northeast, damaging even more homes, before finally lifting near the eastern end of Weiss Lake near Mud Creek.									
The Cherokee County Emergency Management Agency estimates that 88 homes were either damaged or destroyed as this tornado moved across the county. In addition to the one fatality, there were also 4 injuries reported.									
The tornado was on the ground from 1120 pm CST to approximately 1132 pm CST. It had a path 10.5 miles long, and at its widest point was 440 yards wide.									
Beg: 34 07.176/85 38.020 End: 34 10.010/85 27.928 F72MH									
Talladega County									
Lincoln	11	0000CST			0	0	0	0	Hail (0.75)
Dime size hail was reported at the intersection of CR 207 and Interstate 20.									
Calhoun County									
Bynum	11	0010CST			0	0	0	0	Hail (1.00)
Quarter size hail was observed near Bynum.									
Calhoun County									
6 SE Jacksonville	11	0015CST			0	0	0	0	Funnel Cloud
A funnel cloud was observed near the White Plains Community.									
Shelby County									
Calera	11	0033CST			0	0	0	0	Hail (1.00)
Dime size hail was observed by NWS personnel at the Shelby County Airport. Quarter size hail was reported on CR 12 at CR 24.									
Calhoun County									
Anniston	11	0045CST			0	0	0	0	Hail (0.88)
Nickel size hail was reported in Oxford and in Anniston.									
Talladega County									
Sycamore	11	0115CST			0	0	0	0	Hail (0.75)
Dime size hail was reported near Sycamore.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>ALABAMA, Central</u>									
Autauga County									
4.2 SW Marbury to 3 S Marbury	11	0200CST 0204CST			0	0	75K	0	Thunderstorm Wind (G60)
Based on the pattern of damage, and reports from witnesses, the damage near the Marbury community in northeastern Autauga County was assessed as being caused by straight line winds. The damage area begins near the intersection of County Roads 68 and 69, just west of Interstate 65, and continues in a fan-shaped pattern eastward about 1.5 miles across US Highway 31. The damage area was about 400 yards wide, at its widest point.									
A total of 5 homes, 2 travel trailers, 1 barn, and one vehicle sustained damage. Also, powerlines were down across the entire damage area. There were no injuries reported. Based on witness accounts and radar signatures, the damage occurred around 2 AM Monday morning.									
Tallapoosa County									
Jacksons Gap	11	0245CST			0	0	3K	0	Thunderstorm Wind (G55)
Several trees and power lines were blown down across central Tallapoosa County. A funnel cloud was reported near Jackson's Gap.									
Randolph County									
Roanoke	11	0256CST			0	0	0	0	Hail (0.75)
Dime size hail fell in Roanoke.									
Elmore County									
Titus	11	0315CST			0	0	20K	0	Thunderstorm Wind (G60)
One home had its roof blown off in Titus. Several trees were blown down across the county.									
<u>ALABAMA, North</u>									
NOT RECEIVED.									
<u>ALABAMA, Southeast</u>									
Dale County									
2 N Echo to 2 S Bertha	05	1815EST 1820EST	2	100	0	3	150K		Tornado (F1)
A tornado touched down just north of the intersection of County Road 69 and Highway 27 in northeast Dale County. It damaged several homes, an automobile, and several storage sheds. Three people suffered minor injuries. Two goats were killed by the flying debris. Dale County was declared a state disaster area. Reported by the Dale County EMA.									
Henry County									
3 W Abbeville to 3 NE Abbeville	05	1835EST 1845EST	6	200	1	20	3M		Tornado (F2)
The supercell thunderstorm which spawned the tornado in Dale County, produced another tornado which touched down just west of U.S. Highway 431, and tore through the center of Abbeville. It destroyed several single-family homes and mobile homes, and severely damaged numerous other homes and businesses, including the high school. Uprooted trees and power lines littered city streets, with nearly 2,000 residents without electricity. Twenty people were injured, with a half of those hospitalized. A man died when the tornado destroyed his home on Rock Hill Circle. Henry County was declared a state disaster area. Reported by the Henry County EMA. M54PH									
<u>ALABAMA, Southwest</u>									
Clarke County									
Bashi	05	1040CST 1045CST	0.1	20	0	0	8K		Tornado (F0)
A weak tornado briefly touched down just east of the community near County Road 48. A few trees were blown down or uprooted by the tornado.									
Conecuh County									
Lenox	05	1130CST 1135CST	0.1	20	0	0	8K		Tornado (F0)
A weak tornado briefly touched down near the community, blowing down or uprooting several trees.									
Butler County									
Georgiana	05	1200CST 1205CST	0.5	50	0	0	8K		Tornado (F0)
A weak tornado resulted in a swath of downed trees in a wooded area between Georgiana and Avant.									
Mobile County									
Tillmans Corner	05	1255CST 1300CST			0	0	2K		Thunderstorm Wind (G55)
Strong thunderstorm winds downed several large tree limbs in the area of Schillinger and Three Notch Roads. A funnel cloud was also reported by the public in the same general area.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>ALABAMA, Southwest</u>									
Mobile County									
Theodore	05	1255CST 1259CST			0	0	1K		Thunderstorm Wind (G55)
Gusty thunderstorm winds blew large limbs down around the area.									
Baldwin County									
Daphne	05	1330CST 1335CST			0	0	15K		Thunderstorm Wind (G60)
Strong thunderstorm winds damaged the roof of a condo.									
Baldwin County									
Barnwell	05	1340CST 1345CST	0.1	20	0	0	10K		Tornado (F0)
A weak tornado downed trees and power lines near the Barnwell community. The same storm produced some minor roof damage and downed more trees near Elsanor a few minutes later.									
Choctaw County									
Gilbertown	10	1615CST 1616CST			0	0	5K		Thunderstorm Wind (G50)
Trees were blown down by high winds from a thunderstorm just west of Gilbertown.									
Mobile County									
Georgetown	15	1645CST 1646CST			0	0	5K		Thunderstorm Wind (G50)
A few trees were blown down just north of Georgetown.									
Choctaw County									
Wimberly	15	1700CST 1702CST			0	0	5K		Thunderstorm Wind (G50)
Trees were blown down by high winds from a thunderstorm.									
<u>ALASKA, Northern</u>									
AKZ223									
Deltana And Tanana									
	04	1253AST 1653AST			0	0			High Wind (G45) ^M
An occlusion moving over southwest Alaska with an existing ridge of high pressure over the upper Tanana Valley produced strong easterly winds at Delta Junction, where the ASOS recorded gusts to 52 mph.									
AKZ201-204									
Western Arctic Coast - Eastern Beaufort Sea Coast									
	05	0155AST 1215AST			0	0			High Wind (G52) ^M
Large high pressure over the Arctic Ocean strengthened while a weakening occlusion moved north over western Alaska, causing increasing east winds over the area. High Winds were reported at: Zone 201: Point Lay AWOS recorded gusts around 50 mph. Zone 204: Barter Island AWOS recorded gusts to 60 mph.									
AKZ213-217									
St Lawrence Is. Bering Strait - Upper Kobuk And Noatak Vlys									
	17	0535AST 2352AST			0	0			High Wind (G57) ^M
AKZ213									
St Lawrence Is. Bering Strait									
	18	0415AST 0515AST			0	0			Blizzard
With a moderate pressure gradient across western Alaska due to strong stationary high pressure over Russia, a disturbance moved from a low pressure center over the Alaska Peninsula north over the west coast, increasing winds and producing local blizzard conditions. High wind and Blizzard occurred at: Zone 213 Gambell AWOS peak gust to 66 mph. High wind occurred at: Zone 217 Makpik Creek Remote Automated Weather Station (RAWS) peak gust to 55 mph.									
AKZ223									
Deltana And Tanana									
	19	1405AST			0	0			Flood
	20	0600AST							
An ice jam formed on a channel of the Tanana River in the Salcha Area just downstream from the former location of the Boondox Bar and just downstream of the upper outlet of the Piledriver Slough. Water began rising overnight November 18-19 and had completed surrounded one home in the old Boondox area by early afternoon on the 19th. During the middle afternoon of the 19th, water from the Tanana got quickly diverted into Piledriver Slough, overflowing and covering the driveways across the slough. Damage: At least one home surrounded, though water did not enter it's basement. Driveways crossing the upstream portion of Piledriver slough were covered with water; a few were impassable during the event.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm	
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops		
<u>ALASKA, Northern</u>										
AKZ201		Western Arctic Coast								
	20	1257AST 1425AST			0	0				Blizzard
		Strong stationary high pressure over the Arctic Ocean and a weak disturbance moving north over western Alaska caused east winds to increase to near 45 mph over the Western Arctic coast and produce blowing snow resulting in blizzard conditions at Point Lay.								
AKZ223-225>226		Deltana And Tanana - Denali - Ne. Slopes Of The Ern Ak Rng								
	23	0100AST 0453AST			0	0				High Wind (G45) ^M
		A low pressure center moving north in the western Gulf of Alaska brought increasing south winds to the Alaska Range and nearby areas. High winds were reported in zone 223 at the Delta Junction ASOS, where the peak gust was 52 mph. Winds over zones 225 and 226 were estimated to be gusting to 50 mph due to the pressure gradient over the region; winds at Healy did not gust beyond 23 mph.								
		As the low pressure center moved rapidly northwest on the afternoon of the 23rd, winds and blowing snow increased over far western Alaska, resulting in blizzard condition at Gambell on St. Lawrence Island.								
AKZ213		St Lawrence Is. Bering Strait								
	23	1815AST			0	0				Blizzard
	24	0155AST								
		A 977 mb low moved from southwest Alaska to St. Lawrence Island during the night of the 23rd, bringing increasing winds and snow to zone 213 resulting in blizzard conditions at Gambell. Wind gusts reached 59 mph at the Gambell AWOS.								
AKZ222-224		Middle Tanana Valley - Upr Tanana Vly Fortymile								
	26	0542AST			0	0				Ice Storm
	27	1853AST								
AKZ223-225>226		Deltana And Tanana - Denali - Ne. Slopes Of The Ern Ak Rng								
	26	0600AST 1953AST			0	0				High Wind (G51) ^M
		An approaching occlusion moving north from the Gulf of Alaska brought high winds briefly to areas near the Alaska Range, and provided brief freezing rain and then rain to the Middle Tanana Valley and Yukon Flats. As the system moved north over the middle interior, it then began a slow movement to the east toward the Canada Border later on the 26th and into the morning of the 27th.								
		High Winds were reported in zone 223 by the Delta Junction ASOS, with peak gusts to 50 mph, while winds of 52 mph were estimated from the pressure gradient over zones 225 and 226. High winds briefly occurred again at Delta Junction in the evening of the 26th, with peak gusts at the ASOS of 59 mph.								
		Although the Freezing Rain and then Rain amounted to only 0.03 of an inch in the Middle Tanana Valley, it occurred at a time in the morning across Fairbanks North Star Borough such that school buses had extreme problems completing their routes. All public schools were closed that day across the Fairbanks North Star Borough. In zone 224 at Northway, 0.11 of an inch of Freezing Rain occurred the evening of the 26th. Eagle received 0.62 inches of rain, as temperatures remained above freezing during the evening of the 26th through the morning of the 27th.								
AKZ203		Central Beaufort Sea Coast								
	29	1452AST 1550AST			0	0				Blizzard
		A strong warm front moving north over the Brooks Range and North Slope brought brief blizzard conditions to Kuparuk.								
AKZ223		Deltana And Tanana								
	30	0711AST 0859AST			0	0				High Wind (G43) ^M
		A small low pressure center formed north of Delta Junction while a ridge of high pressure existed to the south over the Copper River Basin. This created high winds at the Delta Junction ASOS, which reported gust to 50 mph from the south.								
<u>ALASKA, Southeast</u>										
AKZ023		Cape Decision To Cape Fairweather-Coastal Area								
	05	1553AST 2100AST			0	0				High Wind (G52) ^M
		High winds resulted from a southerly swell along the Northeast Gulf Coast from Cape Suckling to Point Manby. Several automated remote sensors detected peak wind gusts to 52 knots (60 mph). No damage nor injuries were reported along this largely uninhabited stretch of coastline.								
AKZ027>028		Southern Southeast Alaska Ernest Sound To Dixon Entrance - Dixon Entrance To Cape Decision-Coastal Area								
	13	0800AST 1200AST			0	0	2K			High Wind (G60)
		A low pressure system and associated front moved into the Southern Panhandle on this date. Winds were estimated to be at least 60 mph based on the size of downed branches in both Ketchikan and Craig. Other minor damage such as broken mooring lines was reported.								

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
ALASKA, Southeast									
AKZ024			Northern Lynn Canal						
	26	2204AST			0	0			High Wind (G53) M
	27	0120AST							
	A strong, high pressure center in the Yukon tightened the pressure gradient in the Northern Lynn Canal Region. A downslope wind event developed in the town of Skagway as a result. A peak wind gust to 61 mph was measured at the Skagway Airport ASOS. No damage nor injuries were reported.								
ALASKA, Southern									
AKZ181-185			Alaska Peninsula - Eastern Aleutians						
	03	0915AST			0	0	0		High Wind (G61) M
	04	0430AST							
	An intense low pressure system moved northeast from the eastern North Pacific over the Alaska Peninsula. The low intensified and stalled on the 4th. A strong pressure gradient stretched from the Alaska Peninsula to the Prince William Sound area. High pressure building in from Western Canada late on the 4th strengthened the pressure gradient across the area. East to southeast winds 60 to 85 mph were reported through much of the Northeast Kenai mountains area from early morning to the evening hours on the 5th. At the Max's mountain site in the Alyeska resort winds peaked (at the 3400 ft level) at 107 mph in the evening of the 5th.								
AKZ161-171			Bristol Bay - Kodiak Peninsula						
	03	1400AST			0	0			High Wind (G62) M
	04	0145AST							
	An intense low moved into the Alaska Peninsula with a strong pressure gradient from Kodiak to Bristol Bay. Pre-Frontal winds briefly exceeded 60 mph on the southern half of Kodiak Island late Sunday afternoon and in the Western Bristol Bay area early Sunday morning.								
AKZ101-125			Anchorage Muni To Bird Creek - Wrn P.W. Snd & Kenai Mtns						
	04	1230AST			0	0	0		High Wind (G85) M
	06	0100AST							
	An intense low pressure system moved northeast from the eastern North Pacific over the Alaska Peninsula. The low intensified and stalled on the 4th. A strong pressure gradient stretched from the Alaska Peninsula to the Prince William Sound area. High pressure building in from Western Canada late on the 4th strengthened the pressure gradient across the area. East to southeast winds 60 to 85 mph were reported through much of the Northeast Kenai mountains area from early morning to the evening hours on the 5th. At the Max's mountain site in the Alyeska resort winds peaked (at the 3400 ft level) at 107 mph in the evening of the 5th.								
AKZ171			Kodiak Peninsula						
	05	1400AST 1700AST			0	0	1M		High Wind (G70)
	A strengthening low pressure system in the southern Gulf of Alaska tracked further south and west of numerical progs and ended up moving to south of Kodiak Island, strengthening further, by mid day on the 5th. Winds channeled through the mountains reached the far western parts of Kodiak Island--particularly the Larsen Bay area--suddenly, just at the time of high tide. Winds were estimated at 40 to 50 mph with gusts to 70 mph. Many people reported that just standing up in the wind was difficult. One "old timer" said the easterlies were the worst he'd ever seen. The tidal surge, over a very short stretch of bay, was 1 to 2 feet on top of the high tide. The Larsen Bay breakwater, consisting of 4" by 12" timbers was destroyed. Major damage to the dock, pier, and messhall and bunkhouse floors (being smashed by waves from below) was reported. Water over the road made the shoreline road impassable. This "freak" event, having blown up suddenly--and exactly at the time of high tide, caused widespread damage to the Larsen Bay dock area--but was over shortly after the high tide.								
AKZ101			Anchorage Muni To Bird Creek						
	12	0415AST 0900AST			0	0	40K		Ice Storm
	Intermittent rain fell around the Anchorage bowl, while temperatures near sea level were still at or just below freezing. Numerous accidents were reported (43), 5 of which produced injuries. Temperatures rose into the mid and upper 30s later in the morning.								
AKZ101			Anchorage Muni To Bird Creek						
	13	2315AST			0	0	4K		Ice Storm
	14	0915AST							
	Occasional rain around the Anchorage bowl fell while temperatures near sea level were just under 32. Anchorage police reported 4 accidents due to slick roads between 11 pm AST Wednesday and 9 am AST Thursday.								
AKZ101			Anchorage Muni To Bird Creek						
	15	0020AST 0845AST			0	0			Ice Storm
	Another episode of local freezing rain observed around the Anchorage bowl. Rain showers passing across the area locally fell across sub-freezing areas.								
AKZ121			Kenai Peninsula						
	15	0120AST 0600AST			0	0			Heavy Snow
	Spotter reports indicated 1 foot of new snow just outside the city of Homer Friday. Snowfall resulted from a weakening low near Middleton Island producing moisture across the arctic front which was located near Kachemak Bay during the event. Snowfall at the Homer airport was light, with only an inch or two of new snow reported.								

Storm Data and Unusual Weather Phenomena

November 2002

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

AKZ191			Western Aleutians						
	15	0710AST 1245AST			0	0			High Wind (G52) ^M
		Gusty southwest winds reached 60 mph across the western Aleutians at 7:56 am Friday. The strong winds were observed along the southwest quadrant of a 978 mb low that moved through the area in the southwest Bering Sea.							
AKZ101-125-135			Anchorage Muni To Bird Creek - Wrn P.W. Snd & Kenai Mtns - Sern P.W. Snd						
	22	0235AST			0	0	50K		High Wind (G96) ^M
	24	0205AST							
		Strong pressure gradients, set up by a 973 low that developed in the eastern Pacific and a significant high over northern British Columbia produced strong easterly winds around Turnagain Arm and along the upper Anchorage Hillside. The low, located just south of Sitkinak Island early Saturday, re-developed in Bristol Bay later Saturday afternoon and evening...slowly weakening thereafter.							
		Winds gusted at or above 60 mph from Friday morning through very early Sunday.							
		In zone 101, peak winds reached 64 mph at Glen Alps, 75 mph at the Bird Point RWIS site and 81 mph at McHugh Creek, also an RWIS site. Gusts as high as 66 mph were recorded at Site Summit. Trees were blown down in Girdwood, Hope and Tyonek, some causing downed power lines. Power was reportedly out to 2000 people. In Girdwood, several folks awoke to a mess of felled trees, some lying across cars and homes. Additionally, gusts of 55 mph were reported near the National Guard building on Fort Richardson. Gusts reached 58 mph at Rabbit Creek, part of the Upper Anchorage Hillside.							
		Across zone 125, peak winds were estimated at around 100 mph near the Portage Visitor Center, were reported gusting to 74 mph at the old Portage railroad station, 63 mph at Whittier and 111 mph at the summit of Max's Mountain (3200'). Windows were reportedly blown out at the Whittier tunnel entrance, forcing maintenance workers to huddle in the control center. Water, driven through gaps in window frames, reportedly entered the Portage Visitor Center.							
		Across zone 135, peak winds were reported at 72 mph by a weather system at the Prince William Sound Science Center at 5:03 pm Saturday. Cordova airport winds peaked at 43 mph less than an hour prior.							
AKZ191			Western Aleutians						
	22	1010AST 1428AST			0	0			High Wind (G54) ^M
		A strong, 968 mb low, located off the southern tip of Kamchatka early Thursday, produced strong southerly winds across the extreme western Aleutians. Shemya recorded peak winds of 62 mph between 10 am AST and noon AST.							
AKZ121			Kenai Peninsula						
	23	1000AST			0	0	100K		Flood
	25	1000AST							
		Heavy rains again brought river levels up above flood stage on the Anchor River, which crested close to 8 feet on November 23. Access to Homer was cut off for at least several hours. Storm total rainfall ranged from 2 to 4.5 inches in the greater Homer area. Mud slides were also reported along East End Road.							
		Due to the October flood (22 and 23), the channel in the Anchor River had changed, rendering stage level action points uncertain. Gauge was destroyed around 3 am November 24.							
		Reports from the State Troopers suggested water over the Sterling Highway between mile 160.5 and 162. High water eroded the northwestern approach to the bridge. There was also flooding reported on the Old Sterling Highway. No feedback was received regarding streams further north.							
AKZ125			Wrn P.W. Snd & Kenai Mtns						
	23	1200AST			0	0	5K		Flood
	24	0500AST							
		Heavy rains, from 2.5 to 3.5 inches in a 24 hour period brought creeks and streams up to minor flood stages. Glacier Creek rose to near bankfull around noon November 23, however no flooding was reported. Minor flooding occurred along Salmon Creek, but no reports of damage were received.							
AKZ101-125			Anchorage Muni To Bird Creek - Wrn P.W. Snd & Kenai Mtns						
	25	0700AST			0	0			High Wind (G72) ^M
	27	0600AST							
		Tight pressure gradients between an area of high pressure in western Canada and an extremely large low in the Gulf of Alaska produced locally strong winds along the Anchorage Hillside and through Turnagain Arm. A frontal low which moved toward Kodiak Island rapidly intensified, reaching a minimum central pressure of 975 mbs as it crossed Shelikof Strait early Tuesday morning.							
		Around zone 101, easterly wind gusts reached 76 mph at Glen Alps around noon Tuesday, and southeast 83 mph at the McHugh Creek Road Weather Information System at 6:05 am Tuesday. Several trees fell during the event. One of the local t.v. weather-casters reported that a large spruce tree snapped off in his yard.							

Storm Data and Unusual Weather Phenomena

November 2002

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

ALASKA, Southern

Across zone 125 around Turnagain Arm, easterly winds locally gusted into the 60+ mph range. Strongest winds reported were around Bird Point. Winds in the Portage Valley were less significant.

AKZ101-125-135

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

28	2226AST								
30	0100AST			0	0			High Wind (G71)	M

A strong front, associated with an intense 954 mb low 200 miles southwest of Kodiak, was preceded by strong east and southeast winds along portions of the Upper Anchorage Hillside, through Turnagain Arm, in portions of Prince William Sound and out of the Eyak Lake gap in Cordova.

Gusts reached 82 mph at the Prince William Sound Science Center (zone135) very late Friday, after reaching 80+ mph much earlier in the day.

Gusts at the Site Summit Forest Service site (zone 101) above Alpenglow peaked at 62 mph at 1 am Friday. Gusts were primarily confined to very high elevations, peaking at only 43 mph at the Glen Alps site at 9 am Friday. In western Turnagain Arm, gusts of 61 mph were reported at the McHugh Creek mesonet site at 4:05 am Friday.

AKZ111

In zone 125, gusts peaked at 60 mph at the Portage ASOS near the visitor center.

Matanuska Valley

29	0130AST								
	0230AST			0	0			High Wind (G53)	M

A Matanuska wind event began Saturday evening, continuing through the next day. Winds developed when pressure gradients built up between inland high pressure and a strong 954 mb low southwest of Kodiak Island. Winds of 60+ mph, however, were very short-lived in the area.

AKZ101-125

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

29	1400AST								
30	0235AST			0	0			High Wind (G55)	M

A vigorous low that was southwest of Kodiak Island on Friday moved northeast into Cook Inlet by the morning of the 30th. By late in the day Saturday, the low dissipated near Kenai.

Across zone 125, gusts reached 63 mph briefly at Whittier at 7:50 pm Friday. Gusts remained below 60 mph at the Portage ASOS, however, during the event.

Across zone 101, gusts as high as 63 mph were recorded at McHugh Creek at 1:35 am Saturday. Glen Alps also reported strong winds, gusting to 62 mph between 1 and 2 am Saturday.

AMERICAN SAMOA

Tutuila

Countywide	15	1000SST							
		1300SST		0	0			Urban/Sml Stream Fld	

Heavy showers dumped more than 3 inches of rainfall in less than 3 hours causing overrun of streams and overflow ditches creating widespread flooding of low lying areas and streets. Some land and mud slides were reported with debris decorating much of the island. Very little damage was reported except for usual clean-up.

ARIZONA, Central and Northeast

AZZ015

Western Mogollon Rim

15	0517MST								
				0	0			High Wind (G45)	

Strong winds blew a 18 by 25 foot sheet metal building onto the roof of a hotel. There was damage to the hotel, to materials inside of the metal building, and to nearby power lines. Local power outages were also reported.

ARIZONA, Northwest

NONE REPORTED.

ARIZONA, South

NONE REPORTED.

ARIZONA, Southwest

NONE REPORTED.

ARKANSAS, Central and North Central

Drew County

2 S Cominto	10	1713CST							
				0	0			Thunderstorm Wind (G50)	

Thunderstorm winds knocked down some large tree limbs.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>ARKANSAS, Central and North Central</u>									
Drew County .5 W Collins	10	1716CST			0	0			Thunderstorm Wind (G50)
			Some large tree limbs were blown down.						
Drew County 1.7 S Collins	10	1716CST			0	0			Thunderstorm Wind (G50)
			Several large tree limbs were blown down.						
Drew County 3.3 NNE Collins	10	1719CST			0	0			Thunderstorm Wind (G50)
			Some large trees were knocked down.						
Drew County 5 NNE Baxter	10	1725CST			0	0			Thunderstorm Wind (G50)
			Thunderstorm winds downed a few trees and a number of large tree limbs.						
Desha County Mc Gehee	10	1730CST			0	0			Hail (1.75)
Desha County Mc Gehee	10	1730CST			0	0			Thunderstorm Wind (G50)
			Several large trees were blown down.						
Desha County 3 E Mc Gehee	10	1733CST			0	0			Hail (1.75)
<u>ARKANSAS, East</u>									
Cross County 1 W Vanndale	09	2050CST 2055CST			0	0	0.10K		Hail (1.00)
Cross County 1 SW Twist to 1 S Twist	09	2115CST 2123CST	1.5	440	0	0	25K		Tornado (F2)



A chicken house was destroyed near the town of Twist, Arkansas by a tornado on November 9th.

The tornado touched down just southwest of Twist and moved northeast and later moved into Crittenden County. Some farm buildings were damaged. Several trees and power poles were blown down.

Storm Data and Unusual Weather Phenomena

November 2002

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

Crittenden County

7 NW Earle to
1 NE Meneshea

09	2123CST 2150CST	17.6	440	0	0	600K			Tornado (F2)
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A church and parsonage near the town of Heafer were badly damaged by a tornado on November 9th.

The tornado moved into Crittenden county from Cross county and continued to move northeast. The tornado produced some damage near the town of Heafer. A mobile home and 2 farm shops were destroyed. A church and parsonage, three mobile homes and five houses were also damaged. The tornado then continued across the county and reached the town of Gilmore. Fourteen mobile homes were destroyed or suffered major damage. Nineteen houses and several cars were also damaged. Numerous trees and power lines were knocked down across the county. The tornado eventually moved out of the county near Meneshea and entered Mississippi county.

Mississippi County

2 SW Frenchmans Bayo
2 S Nodena

09	2150CST 2205CST	14.5	440	0	0	10K			Tornado (F2)
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The tornado moved into Mississippi county from Crittenden county and continued northeast and eventually moved into Tipton county in Tennessee. Some trees were knocked down near the Crittenden county border.

Mississippi County

Blytheville

09	2200CST 2205CST			0	0	0.01K			Hail (0.75)
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Mississippi County

Joiner to
Wilson

09	2205CST 2215CST			0	0	15K			Thunderstorm Wind
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Numerous trees and power lines were knocked down in the towns of Joiner, Bassett and Wilson.

ARKANSAS, Northwest

NONE REPORTED.

ARKANSAS, Southeast

Chicot County

Dewey

10	1930CST			0	0	2K			Thunderstorm Wind
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Thunderstorm winds resulted in several trees and powerlines being blown down across the city.

ARKANSAS, Southwest

NONE REPORTED.

ATLANTIC OCEAN

Tidal Potomac Indian

Hd To Cobb Is Md

Route 301 Bridge

11	0900EST			0	0				Marine Tstm Wind
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Morning thunderstorms produced high winds that downed trees near the King George County shoreline. Winds in excess of 35 knots

Storm Data and Unusual Weather Phenomena

November 2002

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

ATLANTIC OCEAN

crossed the river shortly after.

**Cp Charles Lt Va To
Nc-Va Bdr Out 20Nm
Cape Charles Light to
Nc-Va Border**

	11	1400EST			0	0			Marine Tstm Wind
--	----	---------	--	--	---	---	--	--	-------------------------

Wind gust of 40 knots measured at CHLV2.

**De Bay Waters N Of E
Pt Nj To Slaughter
Beach De**

	30	1554EST			0	0	0		Marine Tstm Wind
--	----	---------	--	--	---	---	---	--	-------------------------

A line of showers produced strong wind gusts in Delaware Bay. Ship John Shoal Lighthouse measured a wind gust to 43 knots (49 mph).

**Sandy Hook To
Manasquan Inlet Nj
Out 20Nm**

	30	1605EST			0	0	0		Marine Tstm Wind
--	----	---------	--	--	---	---	---	--	-------------------------

A line of showers produced strong wind gusts along the New Jersey shore. A peak wind gust of 37 knots (43 mph) occurred in Sandy Hook.

**De Bay Waters S Of E
Pt Nj To Slaughter
Beach De**

	30	1636EST			0	0	0		Marine Tstm Wind
--	----	---------	--	--	---	---	---	--	-------------------------

A line of showers with strong wind gusts moved through Delaware Bay. The peak wind gust at the Cape May Ferry Terminal was 34 knots (39 mph).

**Cp Henlopen To
Fenwick Is De Out
20Nm**

	30	1720EST			0	0	0		Marine Tstm Wind
--	----	---------	--	--	---	---	---	--	-------------------------

A line of showers with strong wind gusts moved through the coastal waters of Delaware. At the Delaware Bay Buoy, the peak wind gust was 43 knots (49 mph).

CALIFORNIA, Extreme Southeast

NONE REPORTED.

CALIFORNIA, North Central

NONE REPORTED.

CALIFORNIA, Northeast

CAZ071 Lassen/Eastern Plumas/Eastern Sierra

	07	0200PST 0400PST			0	0	150K		High Wind (G70)
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A storm spotter reported scattered property damage from strong winds estimated at over 80 mph. Most damage occurred on the west side of Sierra Valley in eastern Sierra County, CA. In addition to numerous downed trees, two barns were destroyed, one damaging a combine. Falling tree limbs damaged several parked vehicles and buildings in the towns of Sierraville and Clio.

CAZ072 Greater Lake Tahoe Area

	07	0215PST 0315PST			0	0	300K		High Wind (G70)
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Wind gusts estimated at over 80 mph blew down trees in the South Lake Tahoe, CA area. Falling trees severely damaged one home and two vehicles. Tree limbs damaged four other homes and downed several power lines, causing scattered power outages. Sparking electric lines caused two brush fires, the largest of which scorched 30 acres.

**Sierra County
Sattley**

	07	0600PST			0	0			Heavy Rain
	10	1200PST							

A spotter reported a storm precipitation total from the morning of November 7 to noon on November 10 of 10.25 inches.

**Sierra County
Sattley**

	07	0800PST			0	0			Heavy Rain
	08	0800PST							

Spotter reported a 24 hour rainfall total of 4.41 inches.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
CALIFORNIA, Northeast									
Plumas County									
Countywide	07	0900PST			0	0			Heavy Rain
	08	0900PST							
	Numerous spotter reports of heavy rain overnight with totals of over 2 inches common. No flooding reported.								
Lassen County									
Countywide	07	0900PST			0	0			Heavy Rain
	08	0900PST							
	Numerous spotter reports of heavy rain overnight. Rainfall total of 2 to 3 inches were common. No flooding reported.								
Nevada County									
Hobart Mills	07	1200PST			0	0			Heavy Rain
	08	1200PST							
	Spotter report of 24 hour rainfall total of 2.70 inches.								
Placer County									
Homewood	07	1500PST			0	0			Heavy Rain
	08	0830PST							
	Spotter reported rainfall total of 3 inches.								
Lassen County									
Doyle	07	1800PST			0	0			Heavy Rain
	08	0730PST							
	Spotter reported overnight rainfall total of 1.62 inches.								
Plumas County									
Graeagle	07	1800PST			0	0			Heavy Rain
	08	0745PST							
	Spotter reported overnight rainfall total of 3.25 inches.								
Mono County									
Countywide	07	1800PST			0	0			Heavy Rain
	08	1200PST							
	Numerous reports of heavy rain from spotters. 24 hour amounts from 1-2 inches were common. The greatest amount reported was over 4.5 inches in Mammoth Lakes, CA.								
CAZ072	Greater Lake Tahoe Area								
	08	0000PST			0	0			High Wind (G100) ^M
		0100PST							
	Automated weather stations along the Sierra Crest measured wind gusts in excess of 120 mph.								
CAZ072	Greater Lake Tahoe Area								
	08	0000PST			0	0			High Wind (G50) ^M
		0200PST							
	Numerous wind gusts in excess of 60 mph reported by automated weather stations.								
CAZ072	Greater Lake Tahoe Area								
	08	0000PST			0	0	50K		High Wind (G70)
		0600PST							
	Strong winds around the north shore of Lake Tahoe caused numerous power outages due to falling pine trees and limbs downing power lines. Some customers were without power for three days. Downed power lines also caused several small brush fires.								
CAZ072	Greater Lake Tahoe Area								
	08	0000PST			0	0	100K		High Wind (G70)
		0600PST							
	Strong winds blew down or damaged hundreds of pine trees in the Donner Lake area near Truckee. Ten telephone poles were destroyed by the falling trees along with power lines. Several homes also suffered minor roof damage.								
CAZ072	Greater Lake Tahoe Area								
	08	0000PST			0	0	50K		High Wind (G70)
		0600PST							
	Strong winds blew a pine tree down on a storage building at the U.C. Berkeley Sagehen Creek Field Station about 10 miles north of Truckee, CA. The outbuilding was destroyed.								
CAZ072	Greater Lake Tahoe Area								
	08	0000PST			0	0	50K		High Wind (G60)
		0600PST							
	Strong winds blew a 3 foot diameter pine tree onto a garage in the Tahoe Donner area just north of Truckee, CA. The garage was destroyed.								
CAZ073	Mono								
	08	0115PST			0	0			High Wind (G65)
		0120PST							
	Spotter report of wind gusts estimated around 75 mph.								

Storm Data and Unusual Weather Phenomena

November 2002

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

CAZ072			Greater Lake Tahoe Area						
	08	1800PST			0	0			Heavy Snow
	10	0600PST							
	Heavy snow fell at times through this period. Ski resorts in the area reported 2 to 4 feet of new snow above the 7000 foot elevation.								
CAZ073			Mono						
	08	1800PST			0	0			Heavy Snow
	10	0700PST							
	Heavy snow fell in the mountains of Mono County during this time. Mammoth Mountain ski area reported 4 feet of new snow at the 9200 foot elevation.								
CAZ072			Greater Lake Tahoe Area						
	08	2330PST			0	0	50K		High Wind (G70)
	Strong winds blew a large fir tree into a home in the community of Granlibakken on the northwest shore of Lake Tahoe. The home's roof and a bedroom were damaged.								
CAZ072			Greater Lake Tahoe Area						
	09	1200PST			0	0			Heavy Snow
	10	1200PST							
	CALTRANS reported 18 inches of snow in 24 hours at Echo Summit on U.S. Highway 50 near Lake Tahoe.								
CAZ071			Lassen/Eastern Plumas/Eastern Sierra						
	09	1700PST			0	0			Heavy Snow
	10	0500PST							
	CALTRANS reported 11 inches of new snow in 12 hours at Yuba Pass.								
CAZ072			Greater Lake Tahoe Area						
	09	2245PST			0	0			Heavy Snow
	10	1045PST							
	The U.S. Coast Guard in Tahoe City, CA reported 10 inches of new snow in 12 hours at the 6200 foot elevation. CALTRANS reported a similar amount, 9 inches in 12 hours, in Meyers, CA, on the south shore of Lake Tahoe.								

CALIFORNIA, Northwest

CAZ001>002			Redwood Coast - Mendocino Coast						
	07	1700PST			0	0			High Wind (G53)
		2300PST							
	High winds blew numerous trees, branches and power lines down along the coast. Two trees landed on a house in Fort Bragg causing minor damage.								
CAZ001			Redwood Coast						
	07	1935PST			1	0			High Surf
	A young boy was swept to sea by large surf while walking on the beach with his parents.								
	M4OU								
CAZ001-003>004			Redwood Coast - North Coast Interior - Upper Trinity River						
	21	1700PST			0	0			Fog
	22	1000PST							
	Widespread visibility of 1/8 mile or less along the coast and in valleys.								

CALIFORNIA, South Central

CAZ096>097			S Sierra Mtns - Tulare Cty Mtns						
	07	0600PST			0	0			Winter Storm
	09	1600PST							
Fresno County									
Fresno	08	1600PST			0	0			Urban/Sml Stream Fld
	09	1600PST							
Kern County									
Bakersfield	08	1600PST			0	0	23K		Urban/Sml Stream Fld
	09	1600PST							

After a relatively benign active weather month in October, November 2002 also started slow for Interior Central California. However, the first major trough off from the East Pacific combined with tropical moisture from Hurricane Huko at southern latitudes brought copious amounts of rain (snow levels at or above 9,000 feet Mean Sea Level) and gusty wind at higher elevations from the 7th until early on the 9th. What was unusual for this area was the change from the normal summer/fall dry conditions to the wet season in such dramatic fashion with little in the way of transition. During the period in the Southern Sierra Nevada 46" of new snow fell at Volcanic Knob and Upper Burnt Corral; and in the Tulare County Mountains 80" fell at Chagoopa Plateau. Numerous foothill locations received 5-10" of rain within the 3-day period in the foothills of the Southern Sierra Nevada. Johnsondale, in Tulare County received 16.38" of rain in the 3-day period. On the San Joaquin Valley floor Merced received 1.80" in 3 days, Fresno 1.76"; Hanford 1.44"; and, Bakersfield 1.29." Rainfall amounts for the 8th were over 1" at several Valley locations thereby establishing new 24-hour rainfall records, e.g. Fresno's old record for the 8th was 0.23" ... new record 0.98". There were 23 pole fires caused by wind and arcing reported by Southern California Edison utility and ultimately affected 102,000 residents in the Central and Southern S.J.

Storm Data and Unusual Weather Phenomena

November 2002

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

CALIFORNIA, South Central

CAZ095>098>099 **Kern Cty Mtns - Indian Wells Vly - Se Kern Cty Desert**
 Valley.
07 1800PST **0 0** **Wind**
08 1800PST
 The first storm of the winter season moved onshore bringing heavy rain and windy conditions for Interior Central California on the 7th. Numerous locations reported gusty wind with damage reported to powerlines due to arcing and felled trees. In the Kern Mountains poles were downed in the Weldon and Onyx area east of Lake Isabella and around Mt.Mesa and Southlake around 3:30 AM on the 8th. In the Kern Desert, Indian Wells Canyon and Laural Mountain reported wind in excess of 50 MPH at both locations.

CAZ089>090-093 **W Central S.J. Valley - E Central S.J. Valley - S Sierra Foothills**
07 2103PST **0 0** **Wind**
08 0400PST
 Significant frontal passage brought gusty wind with speeds of 40 to 44 MPH across the Central San Joaquin Valley and into the neighboring foothills of the Southern Sierra Nevada.

CAZ093>097 **S Sierra Foothills - Tulare Cty Foothills - Kern Cty Mtns - S Sierra Mtns - Tulare Cty Mtns**
08 1000PST **0 0 200K** **Flood**
09 1800PST
 Tehachapi in Kern County reported 4.67" of rain and Lodgepole in Tulare County received 11.55" of rain in the 3-day period from the 7th to the 9th along with the 16.38" at Johnsondale. Despite the very dry antecedent conditions, this amount of rainfall lead to flooding problems...especially in and around the Tulare County Mountains. Snow levels were relatively high, at 9000 feet MSL. Park Dispatch reported washouts on Parker Pass Road and the Road below Durwood Resort in Southeast Tulare County, as well as the road that leads from Johnsondale southward to Kernville in Kern County. Flooding also occurred along Highway 178 near Kelso in Kern County (Glennville received 6" of rain); rock/mudslides occurred on Highway 168 and Highway 180 in the S.Sierra Nevada foothills; and, with numerous rock/mudslides, and road erosion problems, the Tulare County foothill roadways of the General's Highway and Mineral King were closed. Sequoia National Park had to evacuate folks from a flooded trailer park near Ash Mountain on the morning of the 9th. Due to erosion problems with the McNally Fire in Southeast Tulare and Northeast Kern Counties, debris was spread across many mountain roads in the area as well as contributing to a fish kill in the Kern River. Additional flooding and mudslide problems were noted along Highway 178 in Kern County. Peak flow into Lake Isabella from the Kern River was 26,500 CFS on Friday night, the 8th. The lake storage increased from 82,000 acre-feet to 109,000 acre-feet and increased in elevation 5 feet in a 2-day period from the 8th to 9th.

CAZ095-098>099 **Kern Cty Mtns - Indian Wells Vly - Se Kern Cty Desert**
08 1555PST **0 0** **Wind**
09 2100PST
 In conjunction with the multiple day precipitation event from the 7th through the 9th, gusty wind continued to buffet the Kern County Mountains and Deserts. Wind was often reported with 40+MPH gusts at several different automated reporting sites. There were spikes of 74 and 91 MPH at Indian Wells Canyon at 1613 PST and 1713 PST in the early afternoon of the 9th during the event. In the Mojave area winds again were generally around 40+MPH on the 8th into the 9th with a few gusts to 60 Knots at the Inyokern Airport during the afternoon of the 9th.

CAZ089>092 **W Central S.J. Valley - E Central S.J. Valley - Sw S.J. Valley - Se S.J. Valley**
14 0000PST **0 0 1.4M** **Fog**
22 0930PST
 Following the very substantial rain for the 3-day period from the 7th through the 9th of the month, high pressure aloft built and resided over Interior Central California. This weather regime, quite conducive to dense morning fog formation, established itself between the 10th and 13th, and maintained itself through the end of the month. The fog was especially widespread from the 14th through the morning of the 21st. Numerous vehicle accidents occurred due to the extremely poor visibilities on Central and Southern San Joaquin Valley roadways...especially during the week starting the 18th. During this week there were 4 indirect traffic fatalities due to the dense fog with at least 32 injuries. Specifically on the 20th, 50 trucks and cars were involved in multi-vehicle pile-ups in a 3-mile stretch of Highway 99 just north of the Merced-Madera County Line...and in Tulare County a couple of multi-vehicle pileups occurred in the dense fog. Also on the 20th, a series of 8 accidents occurred just north of the Madera-Fresno County Line on Highway 99 resulting in injuries and damage. On the morning of the 22nd, there were several separate accidents due to locally dense fog in North Kings and West Tulare Counties that resulted in indirect injuries.

CAZ096>098 **S Sierra Mtns - Tulare Cty Mtns - Indian Wells Vly**
25 0900PST **0 0** **Wind**
26 1600PST
 A closed low off the Southern California Coast provided for strong offshore pressure gradients resulting in gusty northeast wind flow over the upper elevations of the Southern Sierra Nevada and Tulare County Mountains, and the Indian Wells Valley in the Kern County Desert. In the S.Sierra, power outages were reported in Yosemite Valley as winds downed power lines and trees and trees were downed along Highway 140 down to El Portal. Wind speeds reached 40-50 MPH consistently with a gust to 61 MPH and Ellery Lake. Likewise in the Tulare County Mountains, speed in the range of 40-50 MPH were common with a gust to 62 MPH at Bear Peak. In the Indian Wells Valley, wind speeds of 40-50 MPH were observed with a few gusts over 60 MPH and an isolated gust to 79 MPH at Laural Mountain early in the afternoon of the 25th.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
CALIFORNIA, South Central									
CAZ092			Se S.J. Valley						
	26	0715PST 1000PST			0	0			Fog
			While fog was patchy within the Central and Southern San Joaquin Valley on the morning of the 26th, widespread dense fog did form with visibilities as low as 200 feet in the Southeast San Joaquin Valley.						
Madera County									
10 E North Fork	27	1200PST			0	0	22K		Wildfire
	29	1200PST							
			The cause of the Rock Creek fire is unknown but it burned 420 acres before containment by Sierra NF crews.						
CALIFORNIA, Southeast									
CAZ026			Owens Valley						
	07	1800PST			0	0			Heavy Snow
	08	1400PST							
			A strong Pacific storm brought heavy snow to the southern Sierra. Nearly a foot of snow was reported above 8500 feet.						
CAZ026			Owens Valley						
	10	1500PST 1740PST			0	0			High Wind (G62) ^M
			A powerful Pacific storm brought strong winds to the Sierra. A local spotter in Aspendell recorded a wind gust of 71 mph with sustained winds of 40 to 50 mph.						
CALIFORNIA, Southwest									
CAZ042			Orange County Coastal Plain						
	03	0742PST			0	0			Fog
			Dense fog with visibility less than 1/16 mile was observed from Laguna Beach to Seal Beach along Pacific Coast Highway 1.						
Orange County									
Huntington Beach	07	2359PST			1	0			Rip Currents
	08	1000PST							
		M76IW							
San Bernardino County									
Wrightwood to Forest Falls	08	0100PST			0	0			Heavy Rain
	09	2200PST							
CAZ048-055-060>061			San Bernardino County Valley/The Inland Empire - San Bernardino County Mountains - Apple And Yucca Valleys - Coachella Valley						
	08	0234PST			0	0	550K		High Wind (G81) ^M
	09	2334PST							
San Diego County									
Palomar Mtn to 7 E Rancho Bernardo	08	0400PST			0	0			Heavy Rain
	09	2300PST							
Orange County									
8 E Yorba Linda to 18 NE San Juan Capistrano	08	0700PST			0	0			Heavy Rain
	09	2200PST							
Riverside County									
8 N Pine Cove to Anza	08	0700PST			0	0			Heavy Rain
	09	2200PST							
Orange County									
10 NE San Juan Capistrano	08	0900PST			0	0	150K		Urban/Sml Stream Fld
18 NE San Juan Capistrano	09	2001PST							
CAZ060			Apple And Yucca Valleys						
	08	1036PST 2253PST			0	0			Dust Storm
San Bernardino County									
Wrightwood to Forest Falls	08	1200PST			0	3	200K		Urban/Sml Stream Fld
	10	1630PST							
San Diego County									
La Jolla to Ocean Beach	08	1200PST			0	2			Rip Currents
	09	1700PST							

The first strong cold front of the winter season moved slowly across Southwest California. Steady rain fell over a two day period. The

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Crops	Character of Storm
					Killed	Injured	Property		
CALIFORNIA, Southwest									
			heaviest amounts were in the mountains and ranged from over 10 inches in the San Bernardino Mountains to around 4 inches in the San Diego Mountains. Three men, living in a flood control channel in San Bernardino, suffered hypothermia after being trapped by runoff coming down from the mountains. Numerous rock slides were reported along roads traversing the San Bernardino and Santa Ana Mountains. Strong winds over the mountains and deserts caused downed power lines and some damage to roofs and signs. Heavy surf, ranging between 10 and 15 feet, created strong rip currents.						
CAZ049			Riverside County Valley/The Inland Empire						
	11	0321PST 0800PST			0	0			Fog
			Visibility less than 1/4 mile between Perris and March ARB.						
CAZ042			Orange County Coastal Plain						
	14	0530PST			0	0			Fog
			Visibility 100 feet in Fountain Valley.						
Orange County									
Yorba Linda	20	1930PST			0	2			Wild/Forest Fire
	22	1600PST							
			Dry vegetation and winds gusting to 35 mph caused a brush fire to grow to 477 acres. No structures were threatened. Two fire fighters suffered from heat exhaustion and dehydration.						
CAZ042-048			Orange County Coastal Plain - San Bernardino County Valley/The Inland Empire						
	25	0851PST 1630PST			0	0	900K		High Wind (G53) ^M
CAZ049			Riverside County Valley/The Inland Empire						
	25	1016PST 1648PST			0	6			Dust Storm
			Visibility was near zero in blowing dust from Perris to Moreno Valley. At Lake Elsinore, small rocks were blown across Highway 74. Wind gusts to 61 mph were measured in San Bernardino. Trees and power lines were blown down in Lake Forest, San Clemente, Laguna Beach, Garden Grove, Pedley, Moreno Valley, San Jacinto, Hemet, Redlands, Corona, and Victorville. In San Clemente and Laguna Beach, cars and roofs were damaged by falling trees. Power outages due to the wind also occurred in Tustin, Santa Ana, Huntington Beach, and La Brea.						
CAZ042-048>050			Orange County Coastal Plain - San Bernardino County Valley/The Inland Empire - Riverside County Valley/The Inland Empire - San Diego County Valleys						
	26	0200PST 1615PST			0	0	290K		High Wind (G70) ^M
Riverside County									
Norco	26	0410PST 1400PST			0	1	30K		Wild/Forest Fire
Orange County									
5 E Mission Viejo	26	1034PST 1115PST			0	0			Wild/Forest Fire
			Trees and power poles were knocked down in Redlands, Riverside, Tustin, Santa Ana, San Clemente, and Lakeside. Several cars and houses were damaged. Winds gusting between 30 and 40 mph fanned a 3 acre fire in Coto de Caza and a 7.5 acre brush fire near Norco, where three roofs of nearby homes caught fire. Three tractor trailers were blown over between Riverside and Rancho Cucamonga.						
CAZ049>050			Riverside County Valley/The Inland Empire - San Diego County Valleys						
	27	0630PST 1123PST			0	0	350K		High Wind (G52)
			Trees and signs were blown down in Escondido, Poway, El Cajon, Hemet, and San Jacinto.						
San Diego County									
Lakeside to El Cajon	29	1555PST 1612PST			0	0			Urban/Sml Stream Fld
San Diego County									
Alpine	29	1610PST 1621PST			0	0			Hail (1.00)
			A thunderstorm produced large hail in Alpine, and very heavy rain with street flooding in La Mesa, El Cajon, and Lakeside.						
San Diego County									
Lakeside to La Mesa	29	1613PST 1622PST			0	0			Urban/Sml Stream Fld
San Diego County									
El Cajon to Grantville	29	1809PST 1953PST			0	0	300K		Urban/Sml Stream Fld

Storm Data and Unusual Weather Phenomena

November 2002

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

San Diego County

2 N Fallbrook to 3 N Fallbrook 29 1832PST
1926PST 0 0 150K Urban/Sml Stream Fld

Riverside County

6 SE Lake Elsinore to 5 SE Lake Elsinore 29 2006PST
2046PST 0 0 Urban/Sml Stream Fld

San Diego County

2.5 SW La Mesa 29 2022PST 0 0 **Lightning**

Frequent lightning, heavy rain, and small hail were observed at many locations as a band of thunderstorms moved north and west across Southwest California. A roof collapsed from heavy rain in El Cajon. Several vehicles attempting to cross a flooded road way in Mission Valley became stranded. Four parked vehicles were washed into Alvarado Creek. At the junction of Alvarado Creek and the San Diego River, 18 vehicles in an Auto Dealership yard were flooded. North of Fallbrook, 15 vehicles were stuck in mudslides. Lightning struck several trees and power lines, causing minor fires

San Bernardino County

Yucaipa 30 1613PST
1622PST 0 0 Urban/Sml Stream Fld

CALIFORNIA, Upper

CAZ085

Modoc County

07 0352PST 0 0 **High Wind (G66)** ^M

A weather station at Adin recorded this gust.

No warning or wind advisory was in effect for this area. Some damage was reported, including several broken trees, a few peeled up roof panels, and blown over fences.

CAZ080-082

Western Siskiyou County - South Central Siskiyou County

07 0940PST 0 0 **Heavy Snow**

08 1435PST

See below.

A Winter Storm Warning was issued for the above areas and times for elevations at 6000 feet and was lowered to 5500 feet at 0815 PST on 11/8. This warning did not verify as heavy snowfall only occurred at elevations well above 6000 feet...elevations at which warnings are not issued. Lower elevations did get quite a bit of rainfall from this system, however.

CALIFORNIA, West South Central

CAZ041

Los Angeles County Coasts Including Downtown Los Angeles

03 0640PST 0 41 **Fog**

Dense fog contributed to a major collision on Interstate 710 in Los Angeles county. In total, 194 vehicles were involved in the accident. Forty-one people were injured.

Santa Barbara County

4 W Guadalupe 11 1528PST 2 0 **Rip Currents**

Two men who were fishing along Guadalupe Beach were swept out to sea by a large wave. Both men were presumed dead.

M22IW, M20IW

CAZ044>047-053>054

Ventura County Interior Valleys - Ventura County Coastal Valleys - Santa Monica Mountains Recreation Area - Los Angeles County Valleys - Ventura County Mountains - Los Angeles County Mountains Excluding The Santa Monica Range

25 0930PST 0 0 **High Wind (G70)**
2215PST

Powerful Santa Ana winds buffeted Los Angeles and Ventura counties. Thousands were left without power as the winds snapped power lines. Many communities reported numerous trees were blown down. In Glendale, snapped power lines sparked three house fires.

Ventura County

2 W Santa Paula 30 1528PST
1545PST 0 0 **Flash Flood**

Ventura County

2 W Santa Paula 30 1606PST
1636PST 0 0 **Flash Flood**

An intense thunderstorm produced heavy rain and flash flooding near the community of Santa Paula. Law enforcement officials reported the intersection of Foothill Boulevard and Briggs Road as well as the intersection of Telegraph Road and Briggs Road were inundated with over 2 feet of water.

CALIFORNIA, Western

CAZ005>007-007

Sonoma / Marin Counties - San Francisco County - Alameda / Contra Costa Counties

07 1600PST 0 0 1M **High Wind (G100)** ^M
2300PST

Storm Data and Unusual Weather Phenomena

November 2002

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

CALIFORNIA, Western

One very strong weather system affected central California during November. For a three-day period starting on the 7th of the month, rainfall totaling 2-5 inches fell across the North Bay counties, 2-4 inches fell across the San Francisco Peninsula, 1-3 inches fell across the East Bay, 1-4 inches fell across the South Bay and 1-2 inches fell across Monterey and San Benito Counties. The most rain fell across Santa Cruz County during this period where rainfall totals ranged from 2 inches to as much as 8 inches in the higher elevations of the coastal hills. Since this was the first appreciable rain of the season, no major flooding occurred with the ground absorbing most of the rain. Only urban and small stream advisories were needed. Strong winds at SFO blew the roof off a large aircraft hangar. Many trees and branches were down blocking roads and interrupting power. Winds also blew down power poles and lines, as many as 1 million homes were without power at one time. A number of trees fell on homes and automobiles. Total damage to the area has been estimated at 2.5 million dollars from this storm.

Summary of Thursday (November 7, 2002) Bay Area winds:

Strongest: 96 mph gust at Kregor Peak, Contra Costa County @ 8 PM

Other Peak Winds of note:

Pt. San Pablo, 87 mph
 Fort Funston, 77 mph
 Mt. Tamalpais, 65 mph
 San Francisco International Airport, 64 mph
 Richmond, 57 mph
 Sonoma (Baylands Raceway), 56 mph
 Sunol, 55 mph
 Lake Chabot (Castro Valley), 55 mph
 Oakland International Airport, 50 mph
 San Jose International Airport, 46 mph
 San Carlos Airport, 52 mph
 Buchanan Field (Concord), 46 mph

Summary of Bay Area Storm Total Rainfall (November 6-9):

CONCORD 2.00
 FREMONT 1.81
 KENTFIELD 3.79
 LIVERMORE AP 2.90
 MOFFETT FIELD 1.99
 NAPA 3.10
 OAKLAND 2.29
 OAKLAND AIRPORT 2.56
 PACIFICA 2.74
 REDWOOD CITY 1.96
 SAN JOSE ARPT 1.69
 SFO AIRPORT 2.85
 SAN FRANCISCO 1.91
 SANTA ROSA 3.05

OTHERS

BIG SUR STATION 6.64
 CARMEL VALLEY 3.92
 GILROY 3.36
 HOLLISTER 1.37
 MONTEREY NWSO 1.79
 MORGAN HILL 2.14
 SALINAS 1.73
 SANTA CRUZ 3.95
 WATSONVILLE AP 3.23

VENADO 6.04
 ANGWIN 4.96

Santa Lucia Mountains (Monterey County)

Three Peaks 11.89
 Black cone 10.98
 Ventana cone 10.47

Storm Data and Unusual Weather Phenomena

November 2002

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

Mining Ridge 10.24
 Chews Ridge 10.16
 Chalk Peak 9.92
 White Rock 8.78
 Arroyo Seco 8.27
 Anderson Peak 7.91
 Los Padres Reservoir 6.02

CARIBBEAN SEA AND TROPICAL ATLANTIC

Deerfield Beach To Ocean Reef Fl

5 E Miami Beach	02	1045EST			0	0			Waterspout
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The Beach Patrol sighted a waterspout in the Atlantic.

Pamlico Sound

5 SW Oriental	11	1345EST			0	0			Marine Tstm Wind
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Deerfield Beach To Ocean Reef Fl

15 NE Port Everglades	15	1000EST			0	0			Waterspout
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A pilot reported a waterspout in the Atlantic, 8 miles east of Hillsboro Beach.

Deerfield Beach To Ocean Reef Fl

1 E Port Everglades	16	1449EST			0	0			Waterspout
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The tower at Fort Lauderdale Executive Airport reported a waterspout in the Atlantic just offshore Port Everglades.

Flagler Beach To Cocoa Beach Fl 20 To 60Nm

20 E Port Canaveral	16	1800EST			0	0	0	0	Marine Tstm Wind
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Thunderstorm winds produced a wind gust of 37 knots at buoy 41009.

COLORADO, Central and Northeast

COZ032-038-043 Grand & Summit Counties Below 9000 Feet - Larimer County Below 6000 Feet / Nw Weld County - C & S Weld County

01	1500MST				0	0	0	0	Winter Storm
02	0300MST								

A band of heavy snow extended from near Tabernash in southeastern Grand County to Greeley in central Weld County. A storm spotter near Tabernash measured 13 inches of snow. Storm totals ranged from 5 to 9 inches around Fort Collins, with up to 6.5 inches reported in the Greeley area.

COZ032>034 Grand & Summit Counties Below 9000 Feet - S & E Jackson / Larimer / N & Ne Grand / Nw Boulder Counties Above 9000 Feet - S & Se Grand / W Central & Sw Boulder / Gilpin / Clear Creek / Summit / N & W Park Counties Above 9000 Feet

08	1700MST				0	0	0	0	Winter Storm
09	1700MST								

A winter storm produced heavy snow across portions of the north-central mountains. Storm totals included: 22 inches atop Hoosier Pass, 16 inches, 3 miles north of Alma, 14 inches at Berthoud and 12 inches at Jackwacker Gulch and 2 miles west of Fraser.

COZ034 S & Se Grand / W Central & Sw Boulder / Gilpin / Clear Creek / Summit / N & W Park Counties Above 9000 Feet

08	1912MST				0	0	0	0	High Wind (G77) ^M
09	0150MST								

Strong winds developed above timberline for a brief time. An automated weather station atop Corona Pass recorded a peak wind gust to 77 kts (89 mph), with a gust to 64 kts (74 mph) registered at Niwot Ridge.

COLORADO, East Central

NONE REPORTED.

COLORADO, South Central and Southeast

COZ085 Colorado Springs Vicinity / Southern El Paso County / Rampart Range Below 7500 Ft

01	0200MST				0	0			Heavy Snow
	1000MST								

A weather disturbance and chilly northerly upslope flow brought a burst of snow to the far southwestern part of Colorado Springs. Three to five inches of snow was received in the Skyway and Broadmoor areas.

Storm Data and Unusual Weather Phenomena

November 2002

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

COZ058>061-066-068-073-075 Eastern Lake County / Western Mosquito Range Above 11000 Ft - Leadville Vicinity / Lake County Below 11000 Ft - Eastern Sawatch Mountains Above 11000 Ft - Western Chaffee County Between 9000 & 11000 Ft - La Garita Mountains Above 10000 Ft - Eastern San Juan Mountains Above 10000 Ft - Northern Sangre De Cristo Mountains Above 11000 Ft - Southern Sangre De Cristo Mountains Above 11000 Ft

08	0600MST	0	0		Heavy Snow
10	0600MST				

A vigorous weather disturbance produced prodigious amounts of snow over mainly the highest mountains. Up to 20 inches of snow fell in the eastern San Juan and La Garita mountains, including 12 inches at Santa Maria Reservoir, and 20 inches near the summit of Wolf Creek Pass. Generally, one foot to nearly 3 feet of snow fell in the eastern Sawatch Range, including 31 inches on Monarch Pass in southwest Chaffee county. In Lake county, Leadville picked up 21 inches of snow, while Climax recorded 23 inches. Nearly a foot of snow fell above 10000 feet in the Sangre de Cristo range.

COZ072>075-080-082 Northern Sangre De Cristo Mountains Between 8500 & 11000 Ft - Northern Sangre De Cristo Mountains Above 11000 Ft - Southern Sangre De Cristo Mountains Between 7500 & 11000 Ft - Southern Sangre De Cristo Mountains Above 11000 Ft - Wet Mountains Above 10000 Ft - Pikes Peak Above 11000 Ft

08	0730MST	0	0		High Wind (G74) ^M
	1000MST				

Strong mid level winds with a potential storm system brought high winds to the eastern mountains. The strongest measured gust was 89 mph in the northern Sangre de Cristo mountains...7 miles west of Westcliffe. Wind gusts over 60 mph were also experienced near Walsenburg and in parts of El Paso county.

COLORADO, West

COZ004-009>010-013 Elkhead And Park Mountains - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys - Flattop Mountains

01	0000MST	0	0		Heavy Snow
	0900MST				

A nearly stationary upper low over the central Rockies produced 5 to 12 inches of new snow in most northern and central mountains of western Colorado. The heaviest reported snowfall was 14 inches at a location 5 miles south of Wolcott. A foot of snow prevailed along the Interstate 70 corridor in eastern Eagle County.

COZ001>014-017>023 Lower Yampa River Basin - Central Yampa River Basin - Roan And Tavaputs Plateaus - Elkhead And Park Mountains - Upper Yampa River Basin - Grand Valley - Debeque To Silt Corridor - Central Colorado River Basin - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys - Central Gunnison And Uncompahgre River Basin - West Elk And Sawatch Mountains - Flattop Mountains - Upper Gunnison River Valley - Uncompahgre Plateau And Dallas Divide - Northwestern San Juan Mountains - Southwestern San Juan Mountains - Paradox Valley / Lower Dolores River Basin - Four Corners / Upper Dolores River Basin - Animas River Basin - San Juan River Basin

01	0000MST	0	0		Drought
	30 2359MST				

An active weather regime early in November maintained near normal river basin precipitation across the area. However, mountain snowpack remained insufficient for improvement, and extreme drought conditions persisted across western Colorado. See the December 2002 Storm Data publication for a continuation of this drought chronicle for western Colorado.

COZ007>008 Debeque To Silt Corridor - Central Colorado River Basin

01	0000MST	0	0		Heavy Snow
	0800MST				

A slow moving upper level low moved across the central Rockies producing widespread significant snowfall. 4 to 6 inches of snow occurred along the Interstate 70 corridor from Rifle to Eagle.

COZ004-010-012>013-018 Elkhead And Park Mountains - Gore And Elk Mountains/Central Mountain Valleys - West Elk And Sawatch Mountains - Flattop Mountains - Northwestern San Juan Mountains

02	0600MST	0	0		Heavy Snow
	03 0400MST				

Another early season storm system and associated cold front moved across the area and produced snowfall totals of 5 to 9 inches.

COZ004-009>010-012>013-017>019 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

08	0500MST	0	0		Heavy Snow
	10 2300MST				

A moist westerly flow brought one disturbance after another across western Colorado resulting in heavy snow across the mountains. Widespread snowfall accumulations ranged from 12 to 36 inches. Some of the heaviest reported snowfall amounts included 29 inches at the Tower SNOTEL in the Park Range, 20 to 36 inches at the Crested Butte ski area in the Elk Mountains, 27 inches at Columbine Pass on the Uncompahgre Plateau, and 27 to 30 inches at Vallecito Reservoir and Columbus Basin in the San Juan Mountains.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm	
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops		Damage
<u>COLORADO, West</u>										
COZ003			Roan And Tavaputs Plateaus							
	08	0500MST			0	0			Winter Storm	
	10	1600MST								
	A moist westerly flow brought one disturbance after another across western Colorado resulting in heavy snow and strong winds across the Roan and Tavaputs Plateaus. 10 inches of snowfall occurred at Douglas Pass with winds greater than 50 miles an hour.									
COZ005			Upper Yampa River Basin							
	08	1200MST			0	0			Heavy Snow	
	10	2000MST								
	A moist westerly flow brought one disturbance after another across western Colorado resulting in heavy snow across the Upper Yampa River Basin. Snowfall amounts ranged from 3 to 8 inches, with the heaviest amount of 8 inches occurring at Yampa.									
Montezuma County										
12 NW Cortez	09	1600MST 1730MST			0	0			Urban/Sml Stream Fld	
	Heavy rain caused Brumley Draw to overflow resulting in mud, debris, and water 6 to 8 inches deep to run across U.S. Highway 666 at County Road W.									
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							
	14	1200MST			0	0			Heavy Snow	
	15	1200MST								
	An upper level disturbance moved across western Colorado in northwest flow and produced heavy snow across the mountains of western Colorado. Snowfall of 11 to 20 inches occurred in the Elkhead, Park, and Flattop Mountains. 8 to 16 inches fell across the Grand and Battlement Mesas, as well as the Gore, Elk, and Sawatch Mountains. The northwest San Juan Mountains received 8 to 19 inches of snow. Snowfall amounts were compiled primarily using SNOTEL data and ski resort reports.									
COZ007>008			Debeque To Silt Corridor - Central Colorado River Basin							
	24	1800MST			0	0			Heavy Snow	
	25	0700MST								
	A Pacific storm system combined with cold air from the north to produce heavy snow along the Interstate 70 corridor from De Beque to Avon. Snowfall amounts ranged from 3 to 6 inches causing roads to become snowpacked and icy.									
COZ004-013			Elkhead And Park Mountains - Flattop Mountains							
	24	1800MST			0	0			Heavy Snow	
	25	0700MST								
	A Pacific storm system combined with cold air from the north to produce heavy snow across the Elkhead, Park, and Flattop Mountains in northwest Colorado. Snowfall amounts ranged from 10 to 23 inches. The heaviest amounts were 23 inches at the Tower SNOTEL, and 16 inches at Trappers Lake, Rabbit Ears Pass, and Lynx Pass SNOTEL sites.									
<u>CONNECTICUT, Northeast</u>										
CTZ002>003			Hartford - Tolland							
	16	2200EST			0	0	2.5M		Ice Storm	
	17	1500EST								
CTZ002			Hartford							
	18	0700EST 1000EST			0	0	25K		High Wind (G50)	
	A major ice storm caused significant damage in north central Connecticut. There were numerous reports of downed trees, limbs, and power lines as a result of one-half to three-quarters of an inch of icing. An estimated 100,000 customers in Hartford and Tolland Counties were left without power because of the storm.									
	Damage was especially severe in western Hartford County, where entire communities such as Hartland, Granby, Simsbury, and Canton were left without power for as much as five days. Sections of Canton were completely isolated due to downed trees and wires, according to local police. In Burlington, widespread damage was reported. Trees crashed down on cars, punched through picture windows, ripped off electrical wires, stripped gutters, and shattered chimneys. Downed trees blocked roads in Bristol. The damage from the ice storm was compounded by high winds one day later. Gusts as high as 50 mph hampered the cleanup effort, downing more trees and branches which were weighted down by ice. Total damage from the storm in Hartford County was estimated at two million dollars.									
	The damage was less severe in neighboring Tolland County, but there were still many reports of downed trees, limbs, and wires countywide. Total damage was estimated at half a million dollars.									
CTZ002>004			Hartford - Tolland - Windham							
	27	0100EST 1300EST			0	0			Heavy Snow	
	A winter storm passing southeast of New England brought heavy snow to northern Connecticut. The highest totals were observed in western Hartford County, where nearly a foot of snow fell. On average, storm totals ranged from 6 to 10 inches. The storm occurred on the day before Thanksgiving, but impact on travel was minimal since most people traveled the day before, in anticipation of the									

Storm Data and Unusual Weather Phenomena

November 2002

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

CONNECTICUT, Northeast

storm. Still, several minor accidents were reported throughout the region, but no injuries were directly attributable to the storm.

Some specific snowfall totals include 10.5 inches in Canton; 10 inches in Burlington, Glastonbury, Wethersfield, and West Hartford; 9 inches in Granby, Suffield, Bristol, Farmington, Ellington, and Hebron; 8 inches in Avon, Stafford, and Mansfield; 7 inches in Hartford, Manchester, Columbia, Ashford, and Woodstock; and 6 inches in Newington, Union, Vernon, Thompson, and Pomfret.

Officially, the storm total at Bradley International Airport in Windsor Locks was 9.0 inches.

CONNECTICUT, Northwest

CTZ001

Litchfield

16	2200EST	0	0	100K	Winter Storm
17	0900EST				

A strong nor'easter developed off Cape Hatteras on November 16. The low pressure center then slowly moved north along the coast, reaching Cape Cod by late November 17. At the same time, a shallow layer of arctic air bled south from eastern Canada. This air was cold enough to produce a heavy wintery mix of precipitation during a good portion of the storm across Litchfield County. Generally speaking, 1-3 inches of snow fell as the precipitation arrived late on Saturday morning. As warmer air moved in aloft, the precipitation gradually changed to sleet, then an extended period of freezing rain. The freezing rain produced a buildup of ice between a half and one inch thick on many surfaces. Winds, frequently gusting to around 30 mph combined with the ice and residual leaves left on the trees, to bring many of them down. The ice and wind also brought down a number of power lines. The net result from this storm was one of the greatest power outages ever in Litchfield County. At one point, during the overnight hours of the 17th, well over 50 percent of customers in the county were without power! Many trees were uprooted and some roads were impassable due to the ice and downed debris. Surface temperatures finally rose above the freezing mark later on Sunday morning, thus ending additional icing. As colder air worked back in, some snow fell on the back side of the storm, but additional accumulations were fairly minor. Many businesses and schools were closed up to several days after the storm and it took the better part of a week to completely restore power.

CTZ001

Litchfield

27	0000EST	0	0		Winter Storm
	0300EST				

An area of low pressure developed along the Delmarva peninsula during the evening hours of November 26. Cold enough air was in place across northwest Connecticut, so that most precipitation associated with the storm was in the form of snow. The storm moved fairly quickly out to sea early on the 27th, but was still able to deposit a swath of heavy snow across portions of Litchfield County. Bakersville reported 8.6 inches of snow, while Thomston Dam reported 7.0 and Torrington 7.7 inches. Unlike the previous winter storm, no unusual weather related problems were reported to the National Weather Service with this one.

CONNECTICUT, Southern

CTZ005>008

Northern Fairfield - Northern New Haven - Northern Middlesex - Northern New London

27	0700EST	0	0		Heavy Snow
	0800EST				

With a high pressure system over New England, a low pressure system developed south of Long Island and intensified as it moved northeast.

Snow developed between midnight and 1 am. Bands of heavy snow swept across the region and reached accumulations of 6 to 9 inches between 7 am and 8 am across the area.

Here are selected snowfall amounts for:

Northern Fairfield County: between 6 and 7 inches reported in Ridgefield and Danbury.

Northern New Haven County: from 7 inches at Beacon Falls to 9 inches in Waterbury.

Northern Middlesex County: 7 inches was measured by a spotter in Haddam.

Northern New London County: from 7 inches at Norwich to 9 inches at Colchester.

A moderate snowfall occurred across the remainder of Southern Connecticut with amounts ranging from 3 inches at Sikorsky Airport in Bridgeport in Southern Fairfield County to around 4 inches at Groton and Laurel Hill along coastal New London County to around 5 inches at West Haven, Milford, and New Haven along coastal New Haven County.

DELAWARE

DEZ001>004

New Castle - Kent - Inland Sussex - Delaware Beaches

01	0000EST	0	0	0	Drought
25	0900EST				

An unseasonably wet November ended the meteorological drought across Delaware. A series of northeasters on November 5th and 6th, November 11th and 12th, November 16th and 17th dropped more precipitation than is normal for the month of November. Ironically the wet weather hampered farmers as it slowed the harvest of soybean crops and thwarted the planting of grain cover crops.

Storm Data and Unusual Weather Phenomena

November 2002

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

DELAWARE

On a county weighted average November monthly precipitation was 5.8 inches in Kent County, 5.4 inches in Sussex County and 4.8 inches in New Castle County. Normal is around 3.4 inches. On November 25th, the Delaware River Basin Commission dropped their drought emergency for the entire Delaware River Basin. Streamflows have returned to normal. Lower basin reservoirs in Pennsylvania returned to normal and there was no longer a need for water storage in the F.E. Walter Dam (in Pennsylvania) to supplement the base flow of the Delaware River south of Trenton. The New York City reservoirs at the headwaters of the Delaware River increased from 57.6 percent of capacity on November 1st to 71.5 percent of capacity on December 1st. Storage on December 1st was 13 percent above normal and 135 billion gallons greater (or 300 percent higher) than levels on December 1, 2001.

The November monthly precipitation in Georgetown was 6.26 inches and at the New Castle County Airport was 4.48 inches.

New Castle County Coochs Bridge

17	0046EST 0741EST	0	0			Flood
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A northeaster produced steady rain, heavy at times, across northern Delaware. This continued a trend of wetter than normal conditions that started in the first half of October and ended the drought. The rain began before dawn on the 16th and continued steadily through the morning of the 17th. The heaviest rain fell between 10 p.m. EST on the 16th and 2 a.m. EST on the 17th. At the New Castle County Airport, 0.57 fell during that four hour period. This was enough rain given the already near saturated soil conditions to produce flooding along the Christina River Basin. The Christina River at Coochs Bridge was above its 9 foot flood stage from 1246 a.m. EST through 741 a.m. EST. on the 17th. It crested at 11.25 feet at 245 a.m. EST on the 17th. Storm totals included 2.10 inches in Newark and 2.07 inches at the New Castle County Airport. The northeaster that affected the region moved from the eastern Gulf of Mexico the morning of the 16th, to near Cape May the morning of the 17th (central pressure about 1000 millibars) to Nova Scotia by the morning of the 18th. While the central pressure of this northeaster was not as low as some of the others so far this autumn, a high pressure system over New England and nearby Canada increased the pressure gradient which subsequently increased the amount of moisture that was ingested and then precipitated by this system.

DEZ003>004

Inland Sussex - Delaware Beaches

23	0100EST 1300EST	0	0			Strong Wind
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A rapidly intensifying low pressure system that went from the eastern Great Lakes through New England and the Canadian Maritimes produced strong winds across Sussex County Delaware. The strongest winds occurred between midnight EST and noon EST on the 23rd. The strongest recorded wind gusts were 52 mph in Lewes and 35 mph in Georgetown.

DISTRICT OF COLUMBIA

District Of Columbia Northwest Portion

11	0610EST	0	0	2K		Thunderstorm Wind
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Trees were downed in the Rock Creek Park area.

A thunderstorm which moved through D.C. around 6 AM on the 11th downed trees in the Rock Creek Park area.

FLORIDA, East Central

Brevard County West Melbourne

16	1615EST	0	0	5K	0	Thunderstorm Wind (G60)
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Thunderstorm winds damaged air-conditioner units on a large warehouse store in West Melbourne. Large pallets of boxing material were moved around in the parking lot.

FLORIDA, Extreme Southern

NONE REPORTED.

FLORIDA, Northeastern

Hamilton County Jasper

06	0503EST	0	0	2K		Thunderstorm Wind
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Large trees down over road and on power lines at SW 99th Street in Jasper.

Hamilton County Jasper

06	0519EST	0	0	2K		Thunderstorm Wind
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Large trees down on NW 44th Street in Jasper.

Gilchrist County 5 NE Bell

06	0600EST	0	0			Tstm Wind/Hail
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2 trees down with scattered power outages.

Suwannee County 5 S Dowling Park

12	0925EST	0	0			Funnel Cloud
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Several reports of funnel cloud sightings.

Columbia County Lake City

12	1130EST	0	0	5K		Thunderstorm Wind
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Several large trees down across roadways and power lines.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
<u>FLORIDA, Northeastern</u>									
Baker County									
Taylor to Macclenny	12	1200EST 1215EST			0	0	10K		Thunderstorm Wind
Several large trees blown down across roadways and power lines.									
Alachua County									
Countywide	12	1230EST			0	0	10K		Thunderstorm Wind
Numerous large trees down. Power lines down in Micanopy. Large trees down on NW 8th Ave in Gainesville.									
Alachua County									
Central Portion	12	1230EST			0	0			Funnel Cloud
Public reported funnel clouds in Newberry and LaCrosse.									
<u>FLORIDA, Northwest</u>									
Holmes County									
Ponce De Leon	05	1738EST	0.1	50	0	0	15K		Tornado (F0)
A small weak tornado briefly touched down near Interstate 10 and resulted in a few car accidents. There were no injuries. Reported by the Holmes County EMA.									
Franklin County									
6 SE East Pt	10	1815EST	0.1	50	0	0	15K		Tornado (F0)
A waterspout moved ashore and caused minor damage to an unoccupied house near intersection of 5th and West Gorrie Street on Saint George Island. Reported by the Franklin County Sheriff.									
Bay County									
(Pfn)Panama City Arp	11	2017EST			0	0			Thunderstorm Wind (G52) ^M
A 60-mph wind gust was recorded by the Panama City-Bay County Airport ASOS.									
Taylor County									
Steinhatchee	12	1330EST			0	0	50K		Lightning
Lightning destroyed the top floor of a two-story wood-frame house. Reported by the Perry News Herald.									
<u>FLORIDA, Southern</u>									
Broward County									
Pembroke Pines	16	1810EST			0	0			Thunderstorm Wind (G55)
A cluster of severe thunderstorms brought down trees in Pembroke Pines and Pompano Beach.									
<u>FLORIDA, West Central</u>									
FLZ039-042>043-048-055									
Levy - Citrus - Sumter - Hernando - Manatee									
	12	0200EST 0900EST			0	0			Fog
Dense fog formed over west central Florida. The Sarasota airport reported 1/4 miles visibility for six hours and the Hernando County airport reported it for four hours. Elsewhere across the area, the fog reduced visibilities to 1/2 to 2 miles.									
Polk County									
Auburndale	12	2330EST			0	0			Tstm Wind/Hail
Ceiling tiles blown down in concession stand and bleachers blown over at a sports complex.									
Manatee County									
Myakka City	16	0700EST 1800EST			0	0			Urban/Sml Stream Fld
Myakka City reported 4.8 inches of rain during an 11 hour period. All other rain fall reports in the county were 3.5 inches or less.									
Lee County									
Cape Coral to Ft Myers	16	0800EST 1800EST			0	0			Flash Flood
Charlotte County									
Punta Gorda to 3 SSE Englewood	16	1000EST 1600EST			0	0			Flash Flood
De Soto County									
14 E Ft Ogden	16	1100EST 1500EST			0	0			Flash Flood
Sarasota County									
North Port	16	1100EST 1500EST			0	0			Flash Flood

A slow moving storm system transported abundant tropical moisture across the Florida peninsula producing rainfall of 8.39 inches 14 miles east of Fort Ogden in De Soto county and 8.12 inches 3 miles south southeast of Englewood in Charlotte county. The Orange river in Lee County surpassed bankful. Water was reported in several homes in Englewood in Sarasota county. Other significant rainfall reports included Point Lonesome at 7.09 inches, Fort Ogden 6.81 inches, near Punta Gorda 5.38 inches, and North Port 5.13 inches.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
<u>FLORIDA, West Central</u>									
Hardee County									
2 N Gardner	16	1100EST 1500EST			0	0			Urban/Sml Stream Fld
		4.62 inches of rain.							
Highlands County									
Archbold	16	1100EST 1500EST			0	0			Urban/Sml Stream Fld
		4.38 inches of rain.							
FLZ048									
Hernando									
	17	1130EST			0	0	5K		High Wind
		Non-convective wind peeled first layer of a roof off of a trailer home.							
FLZ039-042-048									
Levy - Citrus - Hernando									
	24	0100EST 0600EST			0	0			Extreme Cold
		The first episode of freezing temperatures in west central Florida in late 2002 occurred on this date under clear skies and light winds. The freezing temperatures occurred in the inland areas with overnight low temperatures reaching 31 degrees in Chiefland, 28 in Inverness, and 29 in Brooksville.							
FLZ039-042>043-048>049									
Levy - Citrus - Sumter - Hernando - Pasco									
	29	0100EST 0700EST			0	0			Extreme Cold
		This freeze occurred over much of northern interior Florida with Inverness reaching 30 degrees and Brooksville reaching 26 degrees.							
FLZ039-042>043-048									
Levy - Citrus - Sumter - Hernando									
	30	0200EST 0600EST			0	0			Extreme Cold
		Cold high pressure remained in place for a second night causing freezing temperatures across inland areas of northern Florida. Some low temperatures included 28 degrees at Inverness and 26 degrees at the FAWN site northeast of Brooksville.							
<u>FLORIDA, West Panhandle</u>									
Escambia County									
Bratt	05	1115CST 1116CST	0.1	20	0	0			Tornado (F0)
		A weak tornado briefly touched down near Bratt. Law enforcement saw the tornado briefly touch down in an open field. The tornado caused no damage.							
Escambia County									
Cantonment	05	1440CST 1445CST			0	0	50K		Thunderstorm Wind (G65)
		Strong thunderstorm winds damaged a Mobile home and a travel trailer , as well as a barn. Some tree damage was also reported.							
Santa Rosa County									
Milton	05	1440CST 1442CST			0	0	5K		Thunderstorm Wind (G55)
		High thunderstorm winds downed a few trees near Milton.							
Santa Rosa County									
Bagdad	05	1510CST 1515CST	0.1	20	0	0	15K		Tornado (F0)
		A thunderstorm produced a weak tornado just North and East of Bagdad that resulted in some minor roof damage to several structures, as well as some downed trees and power lines.							
Escambia County									
Pensacola Beach	10	0842CST 0850CST			1	6			Rip Currents
		Several people swimming in rough water at Pensacola Beach were caught in a strong rip current. A male visitor from Nebraska jumped into the water to try and rescue the swimmers. He ended up drowning in the rough surf and six other people had to be rescued and were taken to the hospital and later released.. M43IW							
<u>GEORGIA, East Central</u>									
Lincoln County									
14 NNW Lincolnton	11	0538EST			0	0	12K	0	Thunderstorm Wind (G60)
		A microburst took down trees in the L.B.K. Circle subdivision with two trees falling on homes.							
Lincoln County									
5 NW Goshen to 5 NNW Goshen	11	0615EST 0617EST	1	50	0	0	0	0	Tornado (F0)
		A strong F0 took down trees about 1 mile east of Chennault in very rural area.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm	
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops		
<u>GEORGIA, East Central</u>										
Burke County										
4 ENE Gough	11	0825EST			0	0	0	0	Thunderstorm Wind (G50)	
Highway maintenance dept reported several trees down on rural roads.										
<u>GEORGIA, Lower</u>										
Coffee County										
2 N Douglas	05	2300EST 2330EST			0	0			Urban/Sml Stream Fld	
3 to 4 inches of rainfall reported with several county roads flooded.										
Coffee County										
2 N Douglas	05	2300EST			0	0			Tstm Wind/Hail	
One large tree down across county road.										
Coffee County										
Ambrose	05	2315EST			0	0	2K		Thunderstorm Wind	
Large trees down on power lines, poles down.										
Appling County										
2.5 N Baxley to 3.5 N Baxley	05	2345EST	0.8	80	0	2	200K		Tornado (F0)	
Along Ben Carter Road in Whispering Pines Mobile Home Park. Three mobile homes destroyed and four damaged. Two wood frame residential structures damaged. Pine trees snapped off and twisted. Numerous power lines down.										
Wayne County										
Odum to Mc Kinnon	06	0315EST			0	0	10K		Thunderstorm Wind	
Numerous large trees down on Brantley Road (Off Highway 301) near McKinnon. Large trees down in Odum.										
Echols County										
Needmore to 3 E Needmore	06	0500EST 0510EST	3	200	0	0	10K		Tornado (F0)	
Trees blown down along highway 94 between Needmore and Fargo. Discontinuous 200 Yard wide debris field reported.										
Camden County										
St Marys	06	0530EST			0	0	10K		Thunderstorm Wind	
Large trees down across various portions of the city.										
Ware County										
25 S Ft Mudge	06	0530EST 0540EST			0	0	2K		Thunderstorm Wind	
Many large trees down on power lines.										
Charlton County										
Moniac to St George	06	0540EST 0550EST			0	0	10K		Thunderstorm Wind	
Many large trees down across power lines.										
Atkinson County										
2 W Willacoochee	12	0745EST	0.1	50	0	0	10K		Tornado (F0)	
Brief tornado touchdown along Highway 82. Several tree tops snapped and twisted. Several large trees down across roadway.										
Coffee County										
7 SW Douglas to 4 S Douglas	12	0745EST 0810EST	3	200	0	2	500K	50K	Tornado (F2)	
Tornado touched down in field along the Atkinson-Coffee County line near Marshal Corbet Road. Just inside of Coffee county one wood frame structure had a portion of its roof removed. Three large 100 yard long chicken houses were totally destroyed and machinery tossed about. One automobile was picked up and landed on the roof of a brick structure. Extensive roof damage to brick structure. Several work sheds destroyed. Trees snapped off and twisted at tops with debris wrapped in tree tops. Numerous large live oak trees felled. Clear evidence of rotation was noted by investigating officials. The storm continued north in a discontinuous path doing damage to cotton fields. the tornado crossed Highway 135 at the Satilla River with trees again snapped and twisted at the tops. Approximately 1 mile north of the Satilla River the tornado passed over an airstrip destroying a hanger/office structure and severely damaging a crop dusting aircraft. Debris from the destroyed chicken houses was identified at this site some 3 miles from its point of origin. This was the final discernable touchdown, although there was some evidence from debris further north that the system continued as a funnel cloud just above tree top level into southeast Douglas.										
Bacon County										
3 SW Alma	12	0820EST	0.1	100	0	0	100K		Tornado (F0)	
One mobile home destroyed and a portion of the roof of an adjacent wood frame structure removed. Several large trees down across roadway. Several tree tops snapped off and twisted. Debris wrapped around tree tops.										
Appling County										
Pine Grove	12	0840EST			0	0	5K		Thunderstorm Wind	
Several large trees down across highway 341.										

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
GEORGIA, North and Central									
Heard County									
Frolona to Glenn	05	1900EST 1930EST			0	0	0.25K		Thunderstorm Wind
The Heard county Emergency Management Director reported that two trees were blown down in the extreme western part of the county near the Alabama border. One tree was blown down on Old Tennessee Road and the other on Glenn Road.									
Lamar County									
6 E Barnesville	10	1659EST			0	0			Funnel Cloud
The Lamar county sheriff sighted a possible funnel cloud near the Lamar/Monroe county line.									
Lamar County									
Barnesville	10	1700EST 1715EST			0	0	5K		Hail (1.00)
The public reported that quarter size hail fell. Some cars were damaged.									
Bibb County									
2 ENE Lorane to 2.2 ENE Lorane	10	1721EST 1722EST	0.6	200	0	0	400K		Tornado (F0)
A National Weather Service disaster survey team from the National Weather Service office in Peachtree City, Georgia, along with Bibb county emergency management officials confirmed that a short-lived F0 tornado touched down in extreme northern Bibb county in the Cross Creek and Sleepy Creek subdivisions which straddle the Bibb-Monroe county line. The tornado was estimated to have a path length of 1/2 to 3/4 mile and a path width of 1/4 mile or less. Numerous trees, mostly pines, were either broken off or uprooted. Some of the trees landed on homes and some shingles were also peeled off by the wind. However, damage to homes was minor. Most of the damage occurred in the Wesleyan Road, Riverside Road, and Bass Road areas. A couple of roads were blocked by downed trees.									
Monroe County									
3 SE Bolingbroke to 4 SE Bolingbroke	10	1722EST 1724EST	0.2	200	0	0	100K		Tornado (F0)
The National Weather Service disaster survey team continued its survey into extreme southern Monroe county and classified the damage here as F0 tornado damage as well. The same tornado that originated in extreme northern Bibb county moved east-northeast into extreme southern Monroe county, continuing to do damage in the Sleepy Creek and Cross Creek Subdivisions. The damage was confined mainly to numerous downed pine trees, a few on homes, and a few incidents of shingles blown off roofs. At least eight homes and four vehicles were damaged by downed trees. One four foot diameter tree was blown right through the bedroom of one home and at least two dozen trees were tossed about like twigs in another part of the subdivision. Two roads were blocked by downed trees as well.									
Jones County									
12 WSW Gray to 3 ENE Gray	10	1740EST			0	0	50K		Thunderstorm Wind
The Jones county Emergency Management Director reported that strong thunderstorm winds caused considerable damage to a trucking industry located in Pinesville, about halfway between Gray and Haddock on Georgia Highway 22. The winds removed a portion of the roof and ripped off the front doors of the main building at the industry. A shed attached to the main building was also blown away. Several trees fell down on the property as well, causing damage. A tree fell on a service truck, causing considerable damage to the vehicle, while another tree fell on a pontoon. Other trees and power lines were down in the county, especially near the Bibb county line.									
Jones County									
2 SW Gray	10	1743EST			0	0			Hail (0.75)
The public reported dime size hail.									
Dade County									
7 SE Trenton	10	2300EST			0	0	10K		Lightning
The Dade county Emergency Management Director reported that lightning struck and completely destroyed a small garage outbuilding located near Georgia Highway 136 at the foot of Lookout Mountain. The contents, which included numerous tools and implements, were destroyed as well.									
Walker County									
Rossville	10	2327EST			0	0			Tstm Wind/Hail
The Walker county 911 center reported pea size hail.									
Dade County									
Trenton	10	2330EST			0	0			Hail (1.00)
The Dade County 911 center reported nickel to quarter size hail.									
Dade County									
Trenton	10	2330EST			0	0	3K		Thunderstorm Wind
The Dade county 911 center reported that numerous trees were down in the Trenton area.									

Storm Data and Unusual Weather Phenomena

November 2002

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

Walker County

Kensington	10	2330EST			0	0	2K		Thunderstorm Wind
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The Walker county Emergency Management Director reported that a small metal shed was blown down, a few shingles were blown off roofs, and a few trees were blown down.

Chattooga County

Summerville	10	2345EST			0	0	15K		Tstm Wind/Hail
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The Summerville News reported that a large tree was blown down onto a camper parked at a residence. The camper suffered major damage as a result.

Troup County

Hogansville	11	0036EST			0	0			Tstm Wind/Hail
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An off duty National Weather Service employee reported pea size hail.

Floyd County

Countywide	11	0056EST			0	0	17K		Thunderstorm Wind
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The Floyd county Emergency Management Director reported that a small barn and tractor shed were damaged in the southwest part of the county, while a home in the southeast part of the county sustained moderate damage from wind and downed trees. Approximately six to seven trees were blown down scattered about the county.

Murray County

8 S Spring Place	11	0059EST			0	0			Tstm Wind/Hail
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The Murray county 911 center reported that one tree was blown down.

Polk County

Countywide	11	0108EST			0	0	1K		Thunderstorm Wind
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The Cedartown Standard newspaper reported that a few trees were blown down across the county.

Haralson County

Buchanan	11	0110EST			0	0	1.5K		Lightning
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The Haralson county Emergency Management Director reported that lightning struck a home setting the vinyl siding on fire. The fire was quickly put out, thus damage to the structure was limited to some of the vinyl siding. The county hospital also suffered a lightning strike, which caused a power outage. However, there was no structural damage to the facility.

Bartow County

3 W Halls to 5 WNW White	11	0135EST	12	100	0	0	1.5M		Tornado (F2)
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A National Weather Service disaster survey team and the Bartow county Emergency Management Director confirmed a 12 mile long west-east path of damage beginning on Barnsley Garden Road near Barnsley Gardens in northwest Bartow county continuing east to just south of Halls Station crossing U.S. Highway 41, then east across Pleasant Valley Road, to just east of Interstate 75 on Crowe Spring Road. The path of damage, up to 500 yards wide in some area, consisted mostly of damage caused by straight line winds with speeds of 80 to 100 mph, but there was definite evidence of tornadic damage of F2 intensity in an isolated area on Clear Creek Road. This portion of the tornado had a path length of 500 yards with a path width of 100 yards. Tornadic damage of F1 intensity was evident along a secondary segment of the damage path at the intersection of Cedar Creek Road and Hazel Road about 3 miles north of Cassville. This portion of the torando had a path length of 500 yards with a path width of 100 yards. Twelve to 15 residential homes suffered major structural damage, seven chicken houses were destroyed, including 7500 chickens, and a barn was completely destroyed. There were also numerous downed trees and power lines along and near the the damage path. Bartow county was one of five counties declared in a state of emergency by the governor.

Cherokee County

3 NW Waleska to 7 NE Waleska	11	0148EST 0154EST	6	100	0	0	1.8M		Tornado (F2)
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A National Weather Service disaster survey team and the Cherokee county Emergency Manager Director observed a 6-mile long path of damage, beginning near Beasley Gap in northwest Cherokee county, then continuing east-northeast toward the town of Worley Crossroads on the Pickens county border. While much of the damage along the path was determined as straight line wind damage with speeds of at least 70 mph, there was definite indication of a multi-segmented tornado. The most significant tornado damage occurred on Salacoa Road near Beasley Gap, where the tornado damage was classified as F2. The damage path was approximately 627 yards wide at its widest point, but the tornadic portion of this damage was limited to around 100 yards wide. Two homes were completely destroyed, three were severely damaged, and six were moderately damaged. Numerous trees and power lines were down along and near the damage path as well. Some livestock was also killed during the event. Cherokee county was one of five counties declared in a state of emergency by the governor.

Storm Data and Unusual Weather Phenomena

November 2002

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

Pickens County

**6 SW Tate to
2 NE Holcomb**

11 0154EST 14 100 0 10 5.6M Tornado (F2)
0220EST

The tornado that originated in Cherokee county near Beasley Gap, continued into and across Pickens county. Once again, the National Weather Service disaster survey team determined that this was a multi-segmented tornado, with much of the damage along the path caused by straight line winds of at least 70 mph. The tornado entered the county southwest of Cagle, then continued on to just north of Tate roughly paralleling Georgia Highway 108, then turned more eastward along Georgia Highway 53 to near Marblehill, through the Big Canoe golf course and recreation area, then east of Big Canoe into extreme western Dawson county. There was definite evidence of F2 tornadic damage just north of Tate where winds were estimated in the 113 to 157 mph range. Some of the hardest hit areas included homes on Pleasant Union Road near the Cherokee county border; the Mountain Lakes Estates area, where several homes suffered extensive damage; the Bethany-Salem district where at least 56 structures were damaged or destroyed; Refuge Road near Tate, the town suffering some of the greatest damage where several homes and business were destroyed; the Big Canoe area near the Dawson county border, where several homes were damaged and the tennis center suffered extensive damage. All together, a total of 26 structures, mostly residential homes were destroyed, 142 structures were partially damaged, 2 businesses were destroyed, and 14 vehicles were totally destroyed. In addition, ten people were injured, primarily in damaged homes or trapped in vehicles on which trees fell. One of the businesses destroyed was the popular Davis's Barbeque on Georgia Highway 108. The restaurant was completely blown away, including the 20-foot white columns that stood in front of the restaurant. Three of the injuries in the county occurred in new mobile homes behind the Barbeque restaurant when their homes were flattened by the winds and other debris from the restaurant. One of the children injured, a 4-year old girl, was found by a nearby pond. The Refuge Baptist Church suffered extensive damage and was left in shambles. The historic Big Canoe chapel was also among the structures suffering damage. The steeple and all of the windows were lost from the church along with other structural damage to both the exterior and interior walls. Numerous trees were uprooted and many power lines were damaged along the path. Thirty people had to be put up in shelters and at least 6000 people were left without power for an extended period. Pickens county was the hardest hit of five counties declared in a state of emergency by the governor.

Polk County

Rockmart

11 0154EST 0 0 Hail (0.75)

An amateur radio operator reported dime size hail.

Fannin County

Blue Ridge

11 0200EST 0 0 30K Thunderstorm Wind (G52)

The News Observer of Blue Ridge reported that a large pine tree fell on two pickup trucks at a residence in the city. One of the trucks was totaled and the other sustained significant damage. At another residence, large tree limbs fell on and damaged the corner of a front porch. Winds were estimated at 60 to 70 mph by a local resident.

Bartow County

Cartersville

11 0213EST 0 0 Hail (0.75)

The Bartow county 911 center reported dime size hail.

Dawson County

8 W Dawsonville

11 0215EST 0 0 250K Lightning

The Dawson News and Advertiser reported that lightning struck and destroyed two homes in extreme western Dawson county near the Pickens county border on Mulkey Road. Eight people were left homeless as a result. A vehicle also suffered extensive damage at one of the residences. In addition, one family lost one of their pets in the fire.

Dawson County

**5 SW Juno to
2 WSW Juno**

11 0220EST 3 100 0 3 200K Tornado (F2)
0225EST

The Dawson county Emergency Management Director reported that the tornado that originated in Cherokee county and traveled across Pickens county, entered Dawson county in the Big Canoe area and continued to just east-northeast of the Big Canoe area before dissipating. Two double-wide mobile homes were completely destroyed just east of the Big Canoe area as large trees fell on the structures. While the contents of one were salvagable, those of the other were destroyed. Three injuries occurred at one of these mobile homes as the residents were trapped by the downed trees on the structure. In addition, there were four other homes that received minor damage in the Big Canoe area. Numerous trees and power lines were blown down in the area of the tornado and some roads were temporarily blocked as a result. Dawson county was one of five counties declared in a state of emergency by the governor.

Haralson County

Buchanan

11 0230EST 0 0 Tstm Wind/Hail

The Haralson county Emergency Management Director reported that a tree was blown down.

Lumpkin County

Dahlonega

11 0240EST 0 0 2K Thunderstorm Wind

The Lumpkin county Emergency Management Director reported that several trees were blown down.

Cherokee County

**Canton to
Woodstock**

11 0244EST 0 0 Hail (1.00)
0249EST

A storm spotter reported quarter size hail in Canton and an amateur radio operator reported dime size hail in Woodstock.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
GEORGIA, North and Central									
Cobb County									
Acworth	11	0247EST			0	0	2K		Thunderstorm Wind
	The Cobb county 911 center reported that some trees and power lines were blown down.								
White County									
Countywide	11	0250EST 0315EST			0	0	5K		Thunderstorm Wind
	The White county Emergency Management Director reported that several trees were blown down in scattered areas about the county and there was also some minor structural damage.								
Cobb County									
Lost Mtn to Marietta	11	0255EST 0328EST			0	0			Hail (1.00)
	Several reports of dime to quarter size hail were received from the public in the Marietta area. The public also reported quarter size hail five miles west of Marietta and dime size hail at Lost Mountain near the Paulding county border.								
Forsyth County									
3 N Coal Mtn	11	0300EST 0320EST			0	0	2K		Thunderstorm Wind
	The Forsyth county Emergency Management Director reported that a few trees were blown down in the far northern part of the county, north of Coal Mountain.								
Forsyth County									
Cumming	11	0305EST			0	0			Tstm Wind/Hail
	A spotter for Channel 6 TV of Atlanta reported pea size hail.								
Hall County									
Gainesville	11	0320EST			0	0			Tstm Wind/Hail
	The Hall county Emergency Management Director reported pea size hail.								
Gwinnett County									
Duluth to Lilburn	11	0327EST 0347EST			0	0	15K		Thunderstorm Wind
	The Atlanta Journal-Constitution reported that a large 75-foot Poplar tree fell on a home causing considerable damage to the roof and front porch of the residence. Several other trees were reported down across the county, including some on Peachtree Industrial Boulevard, reported by a storm spotter. Several thousand residents of the county were without power much of the night and nearly 1200 were still without power well into the morning.								
Fulton County									
Alpharetta	11	0339EST			0	0			Hail (0.75)
	The Fulton county 911 center reported dime size hail.								
Barrow County									
Winder	11	0345EST			0	0	15K		Lightning
	The Barrow County News reported that a lightning strike on Patrick Mill Road caused something in the house to smoke, prompting a call to the 911 center. A mobile unit at Hope Christian School also caught fire, which was believed to be lightning related as well.								
Fulton County									
6 N Atlanta	11	0346EST			0	0	30K		Thunderstorm Wind
	The Fulton county Emergency Management Director reported that several trees were blown down in the North Atlanta and Buckhead areas. The Alpharetta/Roswell Neighbor newspaper reported that a large oak tree, covering an area of approximately 20 feet by 20 feet, literally destroyed a 150-year old two-story barn at the historic 1845 Smith Plantation in the historic Roswell District. The tree crushed the hand-split shingle roof and destroyed one side wall and the back wall. It was considered a total loss.								
Gwinnett County									
Duluth	11	0347EST			0	0			Hail (0.75)
	A storm spotter for the SkyWarn Network reported dime size hail.								
Hall County									
Countywide	11	0356EST			0	0	90K		Thunderstorm Wind
	The Hall county Emergency Management Director reported that a chicken house was blown down on Joe Chandelier Road about four miles east of Gainesville. The house and most of the chickens were destroyed. Trees were also blown down in scattered areas around the county. The Times newspaper of Gainesville reported that a very large oak tree was blown down behind Continental Tire on Atlanta Highway, which brought down four spans of electric transmission lines. There were a number of power outages reported across the county because of trees down on power lines.								
Banks County									
6 E Homer	11	0410EST			0	0			Urban/Sml Stream Fld
	The public reported street flooding.								

Storm Data and Unusual Weather Phenomena

November 2002

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

Banks County

Countywide	11	0413EST			0	0	7K		Thunderstorm Wind
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The Banks county Emergency Management Director reported that a roof was blown off a barn located on U.S. Highway 441 near Homer and landed in the yard of a home on Moss Mill Road nearly 0.8 mile away. In addition, there were trees down in scattered areas all over the county.

Fayette County

1 NW Brooks	11	0415EST			0	0	50K		Tstm Wind/Hail
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The Fayette county Emergency Management Director reported that thunderstorm winds blew a tree down on a house in Fayetteville causing considerable damage to the structure.

Fayette County

Brooks	11	0430EST			0	0	2K		Lightning
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The Fayette county Emergency Manager reported that lightning struck a home in Fayetteville on Doe Hollow Trace, causing minor damage.

Jasper County

Farrar	11	0430EST			0	0			Hail (1.75)
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The Jasper county Emergency Management Director reported golf ball size hail.

Morgan County

Rutledge to Godfrey	11	0430EST 0500EST			0	0	5K		Thunderstorm Wind
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The Morgan county 911 center reported that numerous trees were down across the south part of the county between Rutledge, Pennington, and Godfrey. At least 20 trees were reported to have been blown down in the Rutledge vicinity alone.

Jasper County

Farrar	11	0445EST			0	0	7K		Thunderstorm Wind
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The Jasper county Emergency Management Director reported that numerous trees and power lines were down at Farrar.

Morgan County

Madison	11	0445EST			0	0			Hail (0.75)
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The Morgan county Emergency Management Director reported dime size hail.

Gwinnett County

Duluth	11	0446EST			0	0			Urban/Sml Stream Fld
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The public reported some street flooding on North Hill Road.

Greene County

Greensboro	11	0500EST			0	0	100K		Thunderstorm Wind
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The Greene county Emergency Management Director reported that extensive wind damage occurred to a school. The roof sustained significant damage and the gymnasium suffered extensive damage.

Newton County

Countywide	11	0500EST 0515EST			0	0	30K		Thunderstorm Wind
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A National Weather Service damage survey and the Newton county Emergency Management Director determined that several trees and some power lines were down on Henderson Mill Road. The Rockdale Citizen newspaper reported that scattered trees and power lines were down across the county, but primarily in the areas from Covington south to High Point near Georgia Highway 142 and Georgia Highway 36. A tree fell on a mobile home in a mobile home park on Georgia Highway 142 near Covington and a large tree blocked a road to a Future Farmers of America camp just off Georgia Highway 36. Several electric meters were torn off homes. Around 10,000 people were without power during the height of the storm. Several hundred people were left without power well into the day Monday, particularly in the Covington area.

Henry County

Locust Grove	11	0501EST			0	0	75K		Thunderstorm Wind
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The Henry county Emergency Management Director and the Daily Herald of McDonough reported that numerous trees and power lines were blown down across the county, particularly in the central areas east of McDonough and in the Locust Grove area. This was confirmed by a National Weather Service disaster survey. Georgia Highway 42 in Locust Grove and East Knight Road northeast of McDonough were both blocked for several hours because of downed trees. Several roads were blocked in the Lake Dow area, where a tree also fell on a home, damaging the front porch, and crushing two vehicles.

Storm Data and Unusual Weather Phenomena

November 2002

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

Butts County

Jenkinsburg	11	0515EST			0	1	450K		Thunderstorm Wind
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The Butts county Emergency Management Director and the local newspaper, the Jackson Progress Argus, reported that extensive damage occurred to five homes and two apartment buildings. Two of the structures had the roofs removed. However, most of the damage was the result of downed trees, on the structures. Numerous trees and several power lines were also blown down. One tree fell on the city's new dump truck causing damage. The Jackson Progress Argus newspaper reported that the city of Jenkinsburg not only suffered substantial property loses, but also lost some of its most prized hardwood trees that had graced the city streets for over 100 years. These trees were uprooted and blown down on homes, barns (including a one year-old workshop) up and down Oak Street, one of the most historic streets in Jenkinsburg. Most of the storm damage occurred within a one mile square area within town. Several residents of the apartment buildings had to be moved to temporary shelters. One eight year-old girl at the Miller apartments was injured by debris and had to be taken to a local hospital. Several others received bruises and scratches from the storm debris. The governor declared Butts county to be in a state of emergency.

Wilkes County

Rayle to Tignall	11	0520EST 0530EST			0	0	10K		Thunderstorm Wind
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A TV news reporter indicated that the roof of a home was partially damaged by thunderstorms winds in Rayle and that approximately 25 trees were down in Tignall.

Rockdale County

6 NE Conyers	11	0529EST			0	0	250K		Lightning
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The Rockdale county Emergency Management Director reported that lightning struck a home in the northeast part of Rockdale county on Hightower Trail. The resulting fire completely destroyed the home and all of its contents.

Newton County

Covington	11	0545EST			0	0			Urban/Sml Stream Fld
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The Rockdale Citizen reported that there was some street flooding in the Covington area during the thunderstorms because of stopped up drainage systems.

Morgan County

Madison	11	0547EST			0	0	5K		Thunderstorm Wind
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The Morgan county Emergency Management Director reported several trees and some power lines were blown down in, just west, and just south of the city. Power was briefly lost at the 911 communications center.

Oglethorpe County

Lexington	11	0548EST			0	0			Hail (0.75)
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The Oglethorpe county Emergency Management Director reported dime size hail.

Wilkes County

2 W Washington to 2 N Washington	11	0600EST			0	0	115K		Thunderstorm Wind
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The Wilkes county Emergency Management Director reported that a vacant home north of Washington was destroyed and another home west of Washington suffered significant damage. A third home in Washington suffered minor damage. Numerous trees and power lines were also down in the area. Georgia Highway 17, Tignall Road, was completely blocked north of Washington. In addition, up to 3500 residents were without power for several hours.

Oglethorpe County

Maxeys	11	0615EST			0	0	5K		Thunderstorm Wind
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The Oglethorpe county 911 center reported that approximately 20 trees were blown down.

Rockdale County

8 SW Conyers	11	0701EST			0	0	40K		Lightning
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The Rockdale county Emergency Manager reported that lightning struck a home in southwest Rockdale county setting the attic on fire. The fire caused considerable damage to the home.

GEORGIA, Northeast

GAZ017>018-026

Habersham - Stephens - Franklin	06	1000EST 2000EST			0	0			High Wind (G50)
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High winds behind a cold front caused numerous trees to fall across the foothills and portions of the mountains of northeast Georgia.

Habersham County

Clarksville	11	0250EST			0	0			Thunderstorm Wind (G50)
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A few trees were blown down.

Rabun County

Clayton	11	0250EST			0	0			Thunderstorm Wind (G50)
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A few trees and a power pole were blown down.

Franklin County

Countywide	11	0420EST			0	0			Thunderstorm Wind (G50)
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Numerous trees were blown down across the county.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>GEORGIA, Northeast</u>									
Hart County									
Hartwell	11	0445EST			0	0	1K		Thunderstorm Wind (G50)
			A tree and a power line were blown down.						
Elbert County									
Elberton	11	0635EST			0	0			Thunderstorm Wind (G55)
			Numerous trees were blown down.						
Elbert County									
13 SE Elberton	11	0637EST			0	0			Thunderstorm Wind (G55)
			Numerous trees were blown down at the Bobby Brown State Park.						
<u>GEORGIA, Southeast</u>									
Bryan County									
3 SW Ellabell	06	0115EST			0	0			Thunderstorm Wind (G50)
			Several trees were down.						
Chatham County									
1 SW Bloomingdale	06	0130EST			0	0			Thunderstorm Wind (G50)
			Several trees and large limbs were down.						
Mcintosh County									
2 N Jones	06	0515EST			0	0			Thunderstorm Wind (G50)
			Several trees and large limbs were down.						
Bulloch County									
Brooklet	11	1340EST			0	0			Thunderstorm Wind (G50)
			Several trees, large limbs, and power lines were down.						
Bryan County									
8 E Pembroke	11	1350EST			0	0			Thunderstorm Wind (G50)
			Several trees were down.						
<u>GEORGIA, Southwest</u>									
Miller County									
10 S Colquitt	11	1715EST			0	0			Hail (1.00)
			Quarter size hail reported by the Miller County EMA.						
Colquitt County									
Norman Park	11	2127EST			0	0			Hail (0.75)
			Dime size hail reported by the public.						
Mitchell County									
10 E Camilla	12	0300EST			0	0	50K		Thunderstorm Wind
			Strong winds severely damaged the cotton crop on a farm located along State Road 37 near the Mitchell-Colquitt County line. Reported by the Camilla Enterprise.						
Mitchell County									
Pelham	12	0600EST			0	0	20K		Lightning
			Lightning struck the roof of a home, and severely damaged the attic and adjacent bedroom. Reported by the Pelham Journal.						
Mitchell County									
Camilla	12	0600EST			0	0	25K		Lightning
			Lightning struck and damaged the roof of a Camilla church. Reported by the Camilla Enterprise.						
<u>GULF OF MEXICO</u>									
Sw Pass Of The Ms R To Atchafalaya R La Out 20Nm									
20 S Venice	05	1154CST			0	0			Marine Tstm Wind
Pascagoula Ms To Sw Pass Of Ms R Out 20Nm									
22 SSE Biloxi	05	1232CST			0	0			Marine Tstm Wind
Mobile Bay									
Alabama Port to Point Clear	05	1235CST 1305CST			0	0			Marine Tstm Wind
Pensacola Fl To Pascagoula Ms Out 20Nm									
Dauphin Island	05	1245CST 1330CST			0	0			Marine Tstm Wind

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property Damage	Crops	
<u>GULF OF MEXICO</u>									
Sw Pass Of The Ms R To Atchafalaya R La Out 20Nm									
20 S Venice	05	1253CST			0	0			Marine Tstm Wind
Sw Pass Of The Ms R To Atchafalaya R La Out 20Nm									
20 S Venice	05	1302CST			0	0			Marine Tstm Wind
Destin To Pensacola Fl Out 20Nm									
Pensacola Beach	05	1510CST 1530CST			0	0			Marine Tstm Wind
Tampa Bay									
Middle Tampa Bay	06	0800EST			0	0			Marine Tstm Wind
Reported by the PORTS marine observation station on the St. Pete Pier.									
Tampa Bay									
Lower Tampa Bay	06	0834EST			0	0			Marine Tstm Wind
Trained spotter estimated 40 knot winds at Apollo Beach.									
Pascagoula Ms To Sw Pass Of Ms R Out 20Nm									
22 SSE Biloxi	11	0819CST			0	0			Marine Tstm Wind
Pensacola Fl To Pascagoula Ms Out 20Nm									
Dauphin Island	11	0900CST			0	0			Marine Tstm Wind
Pascagoula Ms To Sw Pass Of Ms R Out 20Nm									
22 SSE Biloxi	11	1427CST			0	0			Marine Tstm Wind
Pascagoula Ms To Sw Pass Of Ms R 20 To 60Nm									
45 E Venice	11	1446CST			0	0			Marine Tstm Wind
Sw Pass Of The Ms R To Atchafalaya R La Out 20Nm									
20 S Venice	11	2249CST			0	0			Marine Tstm Wind
Pascagoula Ms To Sw Pass Of Ms R 20 To 60Nm									
45 E Venice	12	0006CST			0	0			Marine Tstm Wind
Key W To Dry Tortugas Waters									
8 SE Boca Grande	13	0747EST			0	0			Marine Tstm Wind
Wind gust 38 knots (45 mph) recorded by Sand Key CMAN station.									
W End Of The 7 Mile Bridge To Key W Out 20Nm									
6 SE Key West	13	0747EST			0	0			Marine Tstm Wind
Wind gust 38 knots (44 mph) recorded at Sand Key CMAN station.									
Key W To Dry Tortugas Waters									
8 SE Boca Grande	13	0821EST			0	0			Marine Tstm Wind
Wind gust 35 knots (40 mph) recorded at Sand Key CMAN station.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	
GULF OF MEXICO									
W End Of The 7 Mile Bridge To Key W Out 20Nm									
6 SW Key West	13	0821EST			0	0			Marine Tstm Wind
					Wind gust 35 knots (40 mph) recorded at Sand Key CMAN station.				
Craig Key To The W End Of The 7 Mile Bridge Out 20Nm									
6 S Marathon	13	0850EST			0	0			Marine Tstm Wind
					Wind gust 37 knots (43 mph) recorded at Sombrero Key CMAN station.				
Florida Bay									
7 NE Duck Key	13	0851EST			0	0			Marine Tstm Wind
					Wind gust 34 knots (39 mph) recorded at Long Key CMAN station.				
Ocean Reef To Craig Key Fl Out 20Nm									
7 S Key Largo	13	0921EST			0	0			Marine Tstm Wind
					Wind gust 39 knots (45 mph) recorded at Molasses Reef CMAN station.				
Craig Key To The W End Of The 7 Mile Bridge Out 20Nm									
6 ENE Duck Key	13	1518EST			0	0			Waterspout
					Waterspout observed by storm spotter 1 mile southwest of Long Key				
Key W To Dry Tortugas Waters									
Dry Tortugas	16	1355EST			0	0			Marine Tstm Wind
					Wind gust 34 knots (39 mph) recorded at Dry Tortugas CMAN station				
Chokoloskee To Bonita Beach Fl 20 To 60Nm									
22 ESE Marco Island	16	1701EST			0	0			Marine Tstm Wind
					The Everglades City HANDAR observed a wind of 47 knots as a line of thunderstorms moved ashore.				
Key W To Dry Tortugas Waters									
8 SE Boca Grande	16	1949EST			0	0			Marine Tstm Wind
					Wind gust 42 knots (48 mph) recorded at Sand Key CMAN station				
W End Of The 7 Mile Bridge To Key W Out 20Nm									
6 SW Key West	16	1949EST			0	0			Marine Tstm Wind
					Wind gust 42 knots (48 mph) recorded at Sand Key CMAN station				
Gulf Side Of The Lower Keys Out 20Nm									
6 E Key West	16	2020EST			0	0			Marine Tstm Wind
					Wind gust 34 knots (39 mph) recorded at Key West Naval Air Station				
W End Of The 7 Mile Bridge To Key W Out 20Nm									
6 E Key West	16	2020EST			0	0			Marine Tstm Wind
					Wind gust 34 knots (39 mph) recorded at Key West Naval Air Station				
Key W To Dry Tortugas Waters									
8 SE Boca Grande	16	2052EST			0	0			Marine Tstm Wind
					Wind gust 48 knots (55 mph) recorded at Sand Key CMAN station				
W End Of The 7 Mile Bridge To Key W Out 20Nm									
6 SW Key West	16	2052EST			0	0			Marine Tstm Wind
					Wind gust 48 knots (55 mph) recorded at Sand Key CMAN station				

Storm Data and Unusual Weather Phenomena

November 2002

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

GULF OF MEXICO

**Craig Key To The W
End Of The 7 Mile
Bridge Out 20Nm
7 S Marathon to
6 S Marathon**

16 2151EST 0 0 Marine Tstm Wind

Wind gust 58 knots (67 mph) recorded at Sombrero Key CMAN station

**Craig Key To The W
End Of The 7 Mile
Bridge Out 20Nm
7 S Marathon**

16 2201EST 0 0 Marine Tstm Wind

Wind gust 59 knots (68 mph) recorded at Sombrero Key CMAN station

**Florida Bay
7 NE Duck Key**

16 2236EST 0 0 Marine Tstm Wind

Wind gust 38 knots (44 mph) recorded at Long Key CMAN station

**Ocean Reef To Craig
Key Fl Out 20Nm
7 S Key Largo**

16 2330EST 0 0 Marine Tstm Wind

Wind gust 45 knots (52 mph) recorded at Molasses Reef CMAN station

HAWAII

HIZ001

Kauai

15 0800HST 1 0 Strong Wind

Winds gusting to 40 mph, associated with a shear line moving through the isle of Kauai, were strong enough to snap off the top of a coconut tree on the Wailua Golf Course in Lihue. A worker standing under the tree was struck by the falling debris and fatally injured. M61GF

HIZ001>003-005>007

Kauai - Oahu - Maui - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona

20 0800HST 0 0 High Surf

21 0600HST

A storm low far north of the state near the Aleutian Islands generated surf of 10 to 15 feet along the northwest-facing shores of all the Hawaiian Islands. There were no reports of serious injuries or property damage.

HIZ001>007

Kauai - Oahu - Maui - North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona

23 0500HST 0 1 High Surf

24 1000HST

A storm low far northwest of Hawaii produced surf of 10 to 20 feet along the west- clockwise through north-facing shores of all the islands. One surfer, knocked off his board by high surf, was injured at Hapuna Beach in South Kohala on the Big Island of Hawaii. No serious property damage was reported, however.

HIZ001>007

Kauai - Oahu - Maui - North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona

25 0500HST 0 0 High Surf

27 2000HST

A deep storm low far northwest of the state caused surf of 15 to 30 feet along the west- clockwise through north-facing shores of all the Hawaiian Islands. The dangerous surf led to the closure of a few beaches on Kauai and Oahu, but there were no reports of serious property damage or injuries.

HIZ001>007

Kauai - Oahu - Maui - North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - Molokai - Lanai - West Hawaii Including Leeward Kohala And Kona

29 0200HST 0 0 High Surf

30 2000HST

A storm low north of Hawaii generated surf of 10 to 25 feet along the northwest- and north-facing shores of all the islands. No serious injuries or property damage were reported.

IDAHO, Extreme Southeast

NONE REPORTED.

IDAHO, North

IDZ005

Northern Clearwater Mountains

09 0000MST 0 0 Winter Storm

10 1200MST

The first of only two winter storm events during the month for western Montana and north central Idaho occurred over this weekend. Snowfall amounts ranged from around one foot in the northwest Montana mountains and the northern Idaho Clearwater Mountains; Elk Butte 10 inches, and Hemlock Butte 13 inches.

Storm Data and Unusual Weather Phenomena

November 2002

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

IDZ006

Southern Clearwater Mountains

23	0400MST 1600MST				0	0			Winter Storm
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An arctic cold front moved over the continental divide and stalled across southwest Montana. Heavy snows were reported near the front in Montana and near a Pacific disturbance across the southern Clearwater Mountains of Idaho. Some snow amounts with this storm system in Idaho were 6 inches at Dixie and Savage Pass.

IDAHO, Northwest

IDZ001-004

Northern Panhandle - Central Panhandle Mountains

08	0000PST 2359PST				0	0			Heavy Snow
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Winter got off to a late start in the mountains of the Idaho panhandle, but the first heavy snow of the 2002-2003 season finally fell on November 8. The following are snowfall totals from this storm: Bear Mountain SNOTEL...24", Lost Lake SNOTEL...20", Schweitzer Bowl SNOTEL...16", Mosquito Ridge SNOTEL...13", Mica Creek SNOTEL...13", Humboldt Gulch SNOTEL...10", and the Hidden Lake SNOTEL...9".

IDZ001-004

Northern Panhandle - Central Panhandle Mountains

18	0000PST 2359PST				0	0			Heavy Snow
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Heavy snow fell on the mountains of the Idaho panhandle on November 18, generally above 4000 feet. Snowfall totals include: Schweitzer Bowl SNOTEL...12", Bear Mountain SNOTEL...10", Mica Creek SNOTEL...8", Lost Lake SNOTEL...8", and the Humboldt Gulch SNOTEL...7".

IDAHO, Southeast

IDZ018>019-022>023-031

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

08	0000MST				0	0			Winter Storm
09	1200MST								

A very strong Pacific system brought extensive moisture and heavy snow amounts to the mountains of southeastern Idaho. SNOTEL sites above 6200 feet reported snow amounts of 10 to 20 inches. Other amounts were 12 inches at the Stanley Fish Hatchery, 10 inches at the Ketchum Ranger Station, 7 inches at Craters of the Moon, and 7 inches at Kilgore.

IDZ019

Upper Snake Highlands

09	2000MST				0	0			Heavy Snow
10	1200MST								

Localized heavy snow fell in Teton County. 6 inches was reported in Victor and 11 inches at Pine Creek Pass at 6,720 feet.

IDZ019

Upper Snake Highlands

23	0100MST 2000MST				0	0			Heavy Snow
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Locally heavy snow fell in the Upper Snake Highlands with 6 inches reported at Island Park and Driggs.

IDAHO, Southwest

NONE REPORTED.

ILLINOIS, Central

Clay County

Bible Grove

10	1230CST				0	0	0	0	Hail (0.75)
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Jasper County

1 W Newton

10	1245CST				0	0	0	0	Hail (0.75)
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ILLINOIS, Northeast

NONE REPORTED.

ILLINOIS, Northwest

NONE REPORTED.

ILLINOIS, South

Johnson County

Goreville

09	2225CST				0	0			Hail (1.00)
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Union County

2 NE Saratoga

09	2345CST				0	0	5K		Thunderstorm Wind (G52)
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A few trees were blown down, and lots of tree branches were down. The diameter of the downed trees was estimated to be 12 inches.

Johnson County

Goreville to

5 NE Goreville

09	2355CST				0	0			Thunderstorm Wind (G50)
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Several trees were blown down near Lake of Egypt and Goreville.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>ILLINOIS, South</u>									
Pope County									
3 N Eddyville	10	0008CST			0	0			Hail (1.75)
Golf-ball size hail fell on Illinois Route 145 north of Eddyville.									
Gallatin County									
3 SW Shawneetown	10	0030CST			0	0			Thunderstorm Wind (G50)
Saline County									
5 SE Harrisburg	10	0030CST			0	0			Thunderstorm Wind (G50)
Trees were blown down.									
Hardin County									
Countywide	10	0040CST			0	0			Thunderstorm Wind (G50)
Trees were blown down.									
Gallatin County									
Countywide	10	0125CST 0200CST			0	0			Flash Flood
A line of thunderstorms with very heavy rain became nearly stationary over southern Gallatin County for a few hours. Rainfall in excess of 3 inches in three hours was indicated. Flooding of many roads was reported, including Illinois Route 1. The worst flooding along Route 1 was near Peabody Road.									
Pope County									
2 N Eddyville	10	0130CST			0	0			Thunderstorm Wind (G50)
Trees were blown down.									
Jackson County									
3 NW De Soto to 5 E Elkhville	10	1332CST 1340CST	9	100	0	0	4K		Tornado (F0)
Damage was generally very light. Some shingles were blown off a barn near the end of the damage path. Other damage included tree tops broken off and power poles bent. Loose debris such as tin and paper was blown around.									
Jackson County									
Elkhville	10	1338CST			0	0			Hail (1.00)
Franklin County									
Royalton	10	1340CST			0	0			Hail (1.75)
Golf ball size hail was reported.									
Franklin County									
1.5 N Royalton to 2 NNE Royalton	10	1341CST 1342CST	0.5	50	0	0	1K		Tornado (F0)
A weak tornado caused some tree damage as it crossed a highway just north of Royalton. The tornado was spawned by the same supercell thunderstorm that produced a longer-track tornado in Jackson County.									
Hamilton County									
Mc Leansboro	10	1424CST			0	0			Hail (1.00)
Alexander County									
Olive Branch	10	1435CST			0	0	2K		Thunderstorm Wind (G50)
Three trees were down, blocking roads in and near Olive Branch.									
Pope County									
Delwood	10	1446CST			0	0			Hail (0.75)
<u>ILLINOIS, Southwest</u>									
Clinton County									
Carlyle	10	1210CST 1700CST			0	0			Flash Flood
Slow moving thunderstorms dumped several inches of rain on parts of Clinton County. The Clinton County Sheriff reported that Highways 50 and 161 near Carlyle were flooded.									
<u>INDIANA, Central</u>									
Fountain County									
7 E Attica	10	1245EST			0	0			Thunderstorm Wind (G50)
Montgomery County									
Waynetown	10	1320EST 1322EST			0	0			Hail (0.75)
Vigo County									
West Terre Haute	10	1342EST			0	0			Thunderstorm Wind (G50)
Vigo County									
10 NE Terre Haute to Fontanet	10	1350EST 1355EST			0	0			Hail (1.00)

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>INDIANA, Central</u>									
Putnam County 8 SW Greencastle	10	1405EST			0	0			Thunderstorm Wind (G50)
Madison County West Elwood to Elwood	10	1440EST 1450EST			0	0			Hail (0.75)
Hamilton County 2 N Fishers	10	1500EST 1502EST			0	0			Hail (0.75)
Hendricks County Plainfield	10	1500EST 1501EST			0	0			Hail (0.75)
Morgan County Paragon	10	1507EST 1509EST			0	0			Hail (1.00)
Marion County (Ind)Indnpls Intl Ar	10	1512EST 1513EST			0	0			Hail (1.00)
Owen County Freedom	10	1515EST 1520EST			0	0			Hail (1.75)
Morgan County 10 NW Martinsville	10	1525EST			0	0			Thunderstorm Wind (G50)
Greene County Worthington	10	1530EST 1531EST			0	0			Hail (0.75)
Monroe County 10 SW Bloomington	10	1530EST			0	0			Thunderstorm Wind (G50)
Owen County Freedom	10	1530EST 1531EST			0	0			Hail (0.75)
Delaware County Albany	10	1545EST 1546EST			0	0			Hail (0.75)
Bartholomew County Ogilville	10	1641EST 1642EST			0	0			Hail (0.75)
Bartholomew County Columbus	10	1656EST 1657EST			0	0			Hail (0.75)
Jackson County Brownstown	10	1700EST			0	0			Thunderstorm Wind (G50)
Lawrence County Needmore	10	1707EST			0	0			Thunderstorm Wind (G50)
A squall line moved across Central Indiana during the afternoon producing numerous dime size hail reports and a few tree damage reports.									
<u>INDIANA, Northeast</u>									
Blackford County 5 SW Hartford City to Hartford City	10	1430EST 1436EST	5	100	0	3	250K		Tornado (F1)
This tornado touched down 5 miles southwest of Hartford City and then moved into Hartford City before lifting. An NWS ground survey found F0 to F1 damage along its path with F1 damage to a supermarket and a motel. One home and 2 mobile homes were destroyed in Hartford City. 3 persons were injured, none seriously.									
Wells County 1 E Petroleum to 1 NE Petroleum	10	1446EST	1	100	0	0	5K		Tornado (F0)
This tornado touched down briefly in Wells county just east of Petroleum. An NWS areal survey found F0 damage occurred along a 1 mile path about 100 yards wide mainly to trees. Two small outbuildings were also damaged.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>INDIANA, Northeast</u>									
Adams County 2 NE Berne to 1 NE Salem	10	1459EST 1505EST	5	200	0	0	125K		Tornado (F3)
This tornado touched down 2 miles northeast of Berne and moved just northeast of Salem before lifting. An NWS ground survey found F3 damage at times 200 yards wide northeast of Berne. Much of the damage was to extremely well built Amish barns and homes. A mobile home was also destroyed near Salem.									
Adams County 1 N Decatur	10	1500EST			0	0	0		Thunderstorm Wind
A trained spotter reported numerous trees down just north of Decatur.									
Grant County 2 S Upland	10	1517EST			0	0	0		Hail (0.88)
A trained spotter reported nickel size hail south of Upland.									
<u>INDIANA, Northwest</u>									
NONE REPORTED.									
<u>INDIANA, South Central</u>									
Dubois County Huntingburg	10	1625EST 1800EST			0	0			Flash Flood
Parts of State Road 64 were under water and impassible.									
Dubois County Holland	10	1630EST 1800EST			0	0			Flash Flood
Water covered some roadways near Holland.									
Dubois County Ireland	10	1635EST			0	0			Thunderstorm Wind (G75)
Thunderstorm gusts blew down six inch diameter trees.									
Washington County Freddricksburg	10	1700EST			0	0	150K		Thunderstorm Wind (G75)
Thunderstorm winds took the roofs off numerous houses. Many trees were downed. Marble size hail covered the ground.									
Washington County New Pekin	10	1712EST			0	0			Thunderstorm Wind (G50)
Trees were downed.									
Harrison County 3 SW Corydon	10	1725EST			0	0			Hail (0.88)
Harrison County 3 S Corydon	10	1725EST			0	0			Thunderstorm Wind (G52) ^M
Crawford County Marengo	10	1730EST			0	0			Thunderstorm Wind (G50)
Trees were downed.									
Harrison County Lanesville	10	1740EST 1745EST			0	0			Hail (0.75)
Floyd County Georgetown	10	1745EST			0	0			Hail (0.75)
Clark County Clarksville	10	1750EST			0	0			Hail (0.88)
Clark County Countywide	10	1750EST			0	0			Thunderstorm Wind (G50)
Trees were downed in Jeffersonville, Clarksville, and Charlestown.									
Clark County Charlestown	10	1755EST			0	0			Hail (0.88)
Harrison County Palmyra	10	1823EST			0	0	15K		Thunderstorm Wind (G60)
The roof was torn off a barn. Power lines and several trees were downed.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>INDIANA, Southeast</u>									
Franklin County									
Countywide	10	1640EST 1655EST			0	0	5K		Thunderstorm Wind (G50)
			Trees were downed across the county.						
Wayne County									
Countywide	10	1640EST 1655EST			0	0	5K		Thunderstorm Wind (G50)
			Several trees were downed across the county.						
Fayette County									
Countywide	10	1656EST 1710EST			0	0	5K		Thunderstorm Wind (G50)
			Numerous trees were knocked down.						
INZ050-058-066-074>075-080									
	10	1730EST 2025EST			0	0			Flood
			An intense squall line with thunderstorms producing heavy rain tracked across southeast Indiana and the Whitewater Valley during the evening. Although the squall line was moving relatively quickly, thunderstorms produced two to locally four inches across the region. High water forced brief road closures and flooding of low-lying areas across the region.						
Dearborn County									
Lawrenceburg	10	1815EST 1819EST			0	0	2K		Thunderstorm Wind (G50)
			Several large limbs were blown down.						
Ripley County									
Milan	10	1815EST 1819EST			0	0			Hail (0.75)
Switzerland County									
Vevay	10	1819EST 1823EST			0	0	2K		Thunderstorm Wind (G50)
			Trees were downed throughout town.						
<u>INDIANA, Southwest</u>									
Posey County									
Wadesville	09	2340CST			0	0			Thunderstorm Wind (G56) ^M
			A wind gust to 64 MPH was measured by a spotter.						
Vanderburgh County									
Evansville	10	0010CST			0	0			Thunderstorm Wind (G50)
			Some trees were blown down.						
Warrick County									
Newburgh	10	0035CST			0	0			Thunderstorm Wind (G50)
			Trees were blown down.						
Spencer County									
Grandview	10	0100CST			0	0			Thunderstorm Wind (G50)
			Trees were uprooted.						
Pike County									
Winslow to Velpen	10	1508CST			0	0			Thunderstorm Wind (G50)
			Trees were blown down in the Vesper and Winslow areas.						
Spencer County									
Rockport	10	1539CST			0	0	5K		Thunderstorm Wind (G50)
			A severe thunderstorm moved northeast across Daviess County, KY to Owensboro, then along the Ohio River. Numerous trees were downed from the Owensboro bridge area to Rockport. A couple of trees fell on houses.						
Vanderburgh County									
Evansville	10	1548CST 1740CST			0	0			Flash Flood
			Thunderstorms with heavy rain persisted over urban areas of Evansville for a few hours, causing flooding of viaducts and low spots on roadways. Flooding was reported on the Lloyd Expressway, near Mesker Park, the Virginia Street viaduct, and on Diamond Avenue west of Highway 41.						

IOWA, Central

NONE REPORTED.

Storm Data and Unusual Weather Phenomena

November 2002

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

NONE REPORTED.

IOWA, Northeast

NONE REPORTED.

IOWA, Northwest

NONE REPORTED.

IOWA, Southwest

NONE REPORTED.

KANSAS, East

KSZ008>012-020>024-026-034>040-054>056-058>059 Republic - Washington - Marshall - Nemaha - Brown - Cloud - Clay - Riley - Pottawatomie - Jackson - Jefferson - Ottawa - Dickinson - Geary - Morris - Wabaunsee - Shawnee - Douglas - Lyon - Osage - Franklin - Coffey - Anderson

01	0001CST	0	0						Drought
30	2359CST								

After a brief respite from an unusually wet October the dry weather of this past Summer returned in November. Although temperatures averaged near normal over the area, precipitation amounts averaged 1.5 to 2 inches below normal. Only 0.03 of an inch was recorded all month at Concordia while only 0.27 of an inch fell at Topeka.

KANSAS, Extreme Southeast

NONE REPORTED.

KANSAS, North Central

NONE REPORTED.

KANSAS, Northeast

NONE REPORTED.

KANSAS, Northwest

NONE REPORTED.

KANSAS, Southeast

NONE REPORTED.

KANSAS, Southwest

NONE REPORTED.

KENTUCKY, Central

Warren County

Bowling Green	10	0220EST		0	0				Thunderstorm Wind (G50)
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Trees and power lines were downed by thunderstorm winds.

Warren County

Plano	10	0220EST		0	0				Hail (1.00)
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Logan County

Adairville	10	0225EST		0	0				Thunderstorm Wind (G50)
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Trees were downed.

Edmonson County

Brownsville	10	0250EST		0	0				Thunderstorm Wind (G70)
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Three power poles were downed.

Allen County

12 SW Scottsville to 10.8 SW Scottsville	10	0300EST 0302EST	1.5	25	0	0	65K		Tornado (F1)
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Near New Roe, KY, a large mobile home was lifted into the air, twisted, and tumbled down a hill. The home did have substantial tie downs which were ripped from the ground. One of the tie downs was bent into a "U" shape. Debris was blown across New Roe Road, about a quarter mile away. Other tree damage and minor structural damage was noted downwind from the mobile home site.

Allen County

Scottsville	10	0325EST		0	0				Thunderstorm Wind (G50)
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Trees were downed.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Central</u>									
Taylor County Campbellsville	10	0345EST			0	0			Hail (0.75)
Mercer County Burgin	10	0420EST			0	0	30K		Thunderstorm Wind (G75) Numerous trees and phone poles were blown down near Highway 152 and Kennedy Bridge Road. A roof was ripped off a house.
Mercer County Harrodsburg	10	0420EST			0	0			Thunderstorm Wind (G65) Power lines were downed and a telephone pole was snapped.
Jessamine County Camp Nelson	10	0430EST			0	0	5K		Thunderstorm Wind (G60) Four trees were blown down. One of them fell on a car.
Garrard County Buena Vista	10	0445EST			0	0	200K		Thunderstorm Wind (G65) Ten boats were overturned on Herrington Lake. Docks were overturned. There was roof damage to homes and garages.
Monroe County Tompkinsville	10	1655EST			0	0			Hail (0.75)
Clinton County Albany	10	1700EST			0	0			Thunderstorm Wind (G50) Trees were downed.
Meade County Battletown	10	1720EST			0	0			Hail (1.75)
Meade County Wolf Creek	10	1720EST			0	0			Thunderstorm Wind (G50) Power lines were downed.
Monroe County Tompkinsville	10	1720EST			0	0			Thunderstorm Wind (G50) Power lines were downed.
Russell County Creelsboro	10	1730EST			0	0			Thunderstorm Wind (G50) Trees were downed.
Breckinridge County Irvington	10	1805EST			0	0			Hail (0.75)
Jefferson County Kosmosdale	10	1805EST			0	0			Thunderstorm Wind (G65) A power pole was snapped.
Jefferson County Prospect	10	1805EST			0	0			Hail (1.00) Pea to quarter size hail was covering the ground.
Breckinridge County Countywide	10	1813EST			0	0			Thunderstorm Wind (G50) Trees were downed.
Jefferson County Prospect	10	1815EST			0	0			Hail (1.00) Hail fell near mile marker 15 on Interstate 71.
Trimble County Bedford	10	1819EST			0	0			Thunderstorm Wind (G50) Trees and power lines were downed.
Oldham County Countywide to La Grange	10	1820EST			0	0			Hail (1.00) 1.00 inch hail fell at La Grange. There were numerous reports of large hail from around the county.
Russell County Russell Spgs	10	1820EST			0	0			Thunderstorm Wind (G50) Trees and power lines were downed.
Jefferson County Indian Hills	10	1850EST			0	0			Thunderstorm Wind (G50) Trees were downed along River Road.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Central</u>									
Logan County									
Lewisburg	10	1900EST			0	0			Thunderstorm Wind (G50)
			Trees and power lines were downed.						
Shelby County									
3 E Shelbyville	10	1905EST			0	0			Hail (1.00)
Franklin County									
Switzer	10	1925EST			0	0	20K		Thunderstorm Wind (G75)
			A mobile home was blown off its foundation.						
Scott County									
Sadieville	10	1940EST			0	0			Hail (1.00)
Anderson County									
Countywide	10	1944EST			0	0			Thunderstorm Wind (G50)
			Trees and power lines were downed.						
Barren County									
Glasgow	10	1945EST			0	0	100K		Thunderstorm Wind (G75)
			Mobile homes were blown off their foundations.						
Woodford County									
Versailles	10	1945EST			0	0			Thunderstorm Wind (G57) ^M
Harrison County									
Berry	10	1950EST			0	0			Hail (0.75)
Woodford County									
Midway	10	1950EST			0	0			Hail (0.88)
Fayette County									
Countywide	10	1955EST			0	0			Thunderstorm Wind (G50)
			Trees were downed countywide.						
Green County									
Creal	10	1955EST			0	0			Thunderstorm Wind (G52) ^M
Allen County									
Halifax	10	2000EST			0	0			Thunderstorm Wind (G50)
			A couple of trees were downed.						
Allen County									
Scottsville	10	2000EST			0	0			Thunderstorm Wind (G50)
			Power lines were downed.						
Barren County									
Bon Ayr	10	2000EST			0	0	467K		Thunderstorm Wind (G85)
			Forty-seven homes had some damage, 6 had major damage, 2 homes were destroyed. Sixteen barns were destroyed. Two businesses and 2 garages had major damage. The damage area was estimated to be 2 miles long and one half mile wide.						
Hart County									
Horse Cave	10	2000EST			0	0			Hail (1.00)
Scott County									
Georgetown	10	2000EST			0	0			Hail (1.00)
Barren County									
Park City	10	2010EST			0	0			Hail (1.00)
Nicholas County									
Myers	10	2010EST			0	0	20K		Thunderstorm Wind (G70)
			A mobile home was blown off its foundation.						
Marion County									
2 N Lebanon	10	2015EST			0	0			Thunderstorm Wind (G50)
			Trees were blown on to Highway 55.						
Bourbon County									
Paris	10	2018EST			0	0			Thunderstorm Wind (G50)
			Power lines were downed.						
Mercer County									
Cornishville	10	2020EST			0	0			Thunderstorm Wind (G50)
			Trees were downed.						
Taylor County									
5 SW Campbellsville	10	2020EST			0	0			Thunderstorm Wind (G50)
			Numerous trees were downed.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>KENTUCKY, Central</u>									
Taylor County									
Elk Horn	10	2020EST			0	0			Hail (0.75)
Adair County									
Cane Vly	10	2030EST			0	0			Thunderstorm Wind (G87)
At Cane Valley, four barns were destroyed. One new home was destroyed. The roof was blown off an office building. A steeple was blown off a church. An NWS storm survey concluded that damage was due to a classic downburst system, with straight line winds in the vicinity of 100 mph.									
Casey County									
5 SE Jacktown	10	2030EST 2031EST	0.1	25	0	0			Tornado (F0)
A funnel cloud likely remained aloft for much of the duration of the storm, but spot F0 damage to trees was found on the ridge top along Peyton Ridge, at an elevation of about 1400 feet.									
Metcalfe County									
3 SW Sulphur Well	10	2030EST			0	0			Thunderstorm Wind (G50)
Five trees were downed.									
Lincoln County									
Hustonville	10	2040EST			0	0			Hail (1.00)
Monroe County									
Countywide	10	2040EST			0	0			Thunderstorm Wind (G50)
Trees were downed.									
Casey County									
Mintonville	10	2045EST			0	0	20K		Thunderstorm Wind (G70)
The roof was blown off a barn.									
Lincoln County									
3 SE Hustonville	10	2045EST 2046EST	0.1	25	0	0			Tornado (F0)
A funnel cloud briefly touched down on the ridge top of Angel Ridge at an elevation of about 1300 feet. Trees were uprooted in an area less than the size of a football field.									
Metcalfe County									
Edmonton	10	2045EST			0	0			Thunderstorm Wind (G50)
Trees were downed.									
Russell County									
Countywide	10	2115EST			0	0			Thunderstorm Wind (G50)
Trees and power lines were downed.									
<u>KENTUCKY, Eastern</u>									
Wayne County									
5 N Sunnybrook	10	0130EST			0	0	0	0	Thunderstorm Wind
Three trees were down across Kentucky Highway 200.									
Laurel County									
Tuttle	10	0330EST			0	0	0	0	Thunderstorm Wind
Several three inch diameter tree limbs were down.									
Lee County									
Heidelberg	10	0634EST			0	0	60K	0	Lightning
A vacant house on Kentucky State Highway 399 burned early Sunday morning after being hit by lightning from a thunderstorm. The lightning jolted a breaker loose on a nearby transformer that also served another house. By the time fire departments arrived at the scene, the structure was fully engulfed in flames and was a total loss.									
Lee County									
Ida May	10	0638EST			0	0	0	0	Thunderstorm Wind
Several trees were down.									
Wayne County									
Monticello	10	1715EST			0	0	0	0	Thunderstorm Wind
Several trees were down.									
Pulaski County									
Countywide	10	1740EST			0	0	0	0	Thunderstorm Wind
Numerous trees were down.									
Jackson County									
Mc Kee	10	1820EST			0	0	0	0	Thunderstorm Wind
Several trees were down.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Eastern</u>									
Rockcastle County									
Livingston	10	1825EST			0	0	0	0	Thunderstorm Wind
			Numerous trees were down.						
Laurel County									
Countywide	10	1830EST			0	0	0	0	Thunderstorm Wind
			Numerous trees were down.						
Pulaski County									
2 N Somerset	10	1847EST			0	0	0	0	Hail (0.75)
Mccreary County									
3 E Pine Knot	10	1849EST			0	0	250K	0	Thunderstorm Wind
			Straight line wind caused significant damage to the Pine Knot area. During a church service, the roof of a church was torn apart, along with terrible structural damage. The steeple was completely blown off and destroyed. The church was declared a total loss. The picnic shelter next door was completely flattened. Miraculously, nobody sustained injuries, omitting a couple of scrapes and bruises. Several outbuildings were damaged and blown off of foundations. Several trailer homes suffered roof damage and were blown off of their foundations. Numerous large trees in the area were blown down and several motor vehicles sustained damage.						
Rockcastle County									
Livingston	10	1910EST			0	0	0	0	Hail (0.75)
Breathitt County									
Wolverine	10	1915EST			0	0	0	0	Thunderstorm Wind
			One tree was down.						
Jackson County									
Cornelius	10	1920EST			0	0	0	0	Hail (0.75)
Pulaski County									
Woodstock	10	1920EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Breathitt County									
Guage	10	1925EST			0	0	3K	0	Thunderstorm Wind
			One power pole and power lines were blown down.						
Bell County									
Middlesboro	10	1940EST			0	0	0	0	Hail (1.75)
Knox County									
Erose	10	1950EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Leslie County									
Mozelle	10	1955EST			0	0	0	0	Thunderstorm Wind
			Numerous trees were down along Kentucky Highway 1780.						
Owsley County									
Levi	10	2002EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Bath County									
Sharpsburg	10	2036EST			0	0	0	0	Hail (0.75)
Fleming County									
Hillsboro	10	2100EST			0	0	0	0	Thunderstorm Wind
			One tree was down on Kentucky Highway 1013 South.						
Fleming County									
Poplar Plains	10	2100EST			0	0	0	0	Thunderstorm Wind
			One tree was down on Hope Hill Road.						
Pulaski County									
Faubush	10	2113EST			0	0	0	0	Hail (0.88)
Bell County									
Middlesboro	10	2115EST			0	0	0	0	Hail (1.00)
Rockcastle County									
Conway	10	2118EST			0	0	0	0	Hail (1.00)
Pulaski County									
Nancy	10	2120EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Pulaski County									
2 N Naomi	10	2120EST			0	0	0	0	Thunderstorm Wind
			Trees were down.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Eastern</u>									
Estill County 2 SE Irvine	10	2131EST			0	0	0	0	Hail (0.75)
Menifee County Frenchburg	10	2132EST			0	0	0	0	Hail (0.75)
Lee County 3 N Beattyville	10	2135EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Rockcastle County Conway	10	2135EST			0	0	0	0	Hail (1.00)
Rockcastle County Livingston	10	2145EST			0	0	0	0	Hail (0.75)
Wolfe County Campton	10	2150EST			0	0	0	0	Hail (0.75)
Wolfe County Trent	10	2157EST			0	0	0	0	Hail (1.00)
Rowan County Bangor	10	2200EST			0	0	0	0	Hail (0.75)
Laurel County London	10	2200EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Laurel County East Bernstadt	10	2200EST			0	0	0	0	Thunderstorm Wind
			Several trees were down.						
Morgan County 10 N West Liberty	10	2205EST			0	0	0	0	Thunderstorm Wind (G52)
Morgan County Cannel City	10	2210EST			0	0	0	0	Hail (0.75)
Jackson County Annville	10	2215EST			0	0	0	0	Hail (0.75)
Jackson County Gray Hawk	10	2215EST			0	0	0	0	Hail (0.75)
Clay County 7 NW Manchester	10	2218EST			0	0	0	0	Thunderstorm Wind
			Numerous trees were down along United States Highway 421 between Burning Springs and Fall Rock.						
Bell County 2 E Middlesboro	10	2230EST			0	0	0	0	Hail (0.75)
			Three quarter inch diameter hail was reported along United States Highway 25 East.						
Johnson County Paintsville	10	2235EST			0	0	0	0	Hail (1.00)
<u>KENTUCKY, Northeast</u>									
Greenup County Bellefonte	10	2130EST			0	0			Hail (0.88)
Greenup County Flatwoods	10	2130EST			0	0			Hail (0.88)
Carter County 3 NE Grayson	10	2140EST			0	0	1K		Thunderstorm Wind
			Numerous trees were knocked down along Route 207.						
Boyd County Ashland	10	2155EST			0	0			Hail (0.75)
Greenup County 1 S Greenup	10	2200EST			0	0	1K		Thunderstorm Wind
			Fallen trees were along Route 2.						
Lawrence County Blaine	10	2235EST			0	0			Hail (0.88)

This episode was part of a large outbreak of severe weather in the Ohio and Tennessee River Valleys. Temperatures had reached the 75 to 80 degree range in northeast Kentucky during the afternoon. Dew points were in the 55 to 60 degree range. A squall line formed near a cold frontal boundary, with a few storms out ahead of the main line. The storms did not reach northeast Kentucky until well after dark.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Northern</u>									
Carroll County									
Prestonville	10	1830EST 1833EST			0	0	2K		Thunderstorm Wind (G50)
			Several trees were downed and a church steeple was blown over.						
Owen County									
New Liberty	10	1833EST 1836EST			0	0			Hail (0.75)
Gallatin County									
5 SW Warsaw	10	1850EST 1855EST			0	10	375K		Thunderstorm Wind (G65)
			Several mobile homes were demolished along State Route 184 between Interstate 71 and the Ohio River. Damage was caused by a microburst.						
Grant County									
Crittenden	10	1852EST 1855EST			0	0			Hail (0.75)
Boone County									
Verona	10	1900EST 1908EST			0	0	3K		Thunderstorm Wind (G50)
			Numerous trees were blown down across the southern part of the county.						
Campbell County									
Grants Lick	10	1900EST			0	0			Thunderstorm Wind (G57) ^M
Gallatin County									
Glencoe	10	1908EST 1912EST			0	0	15K		Thunderstorm Wind (G50)
			Several large trees were downed. Powerlines were also knocked down and the roof was taken off of a house.						
KYZ092>093									
Kenton - Campbell									
	10	1910EST 2025EST			0	0			Flood
			An intense line of thunderstorms tracked across northern Kentucky during the early evening, producing two to three inches of rain across the southern portions of the Cincinnati metro area. The heavy rain caused minor flooding of roadways and low-lying areas.						
Kenton County									
7 S Independence	10	1915EST 1919EST			0	0	3K		Thunderstorm Wind (G50)
			Trees were downed across southern parts of the county.						
Bracken County									
Countywide	10	1945EST 2005EST			0	0			Hail (0.75)
Robertson County									
Mt Olivet	10	2010EST 2014EST			0	0			Hail (1.75)
Mason County									
Maysville	10	2020EST 2024EST			0	0			Hail (1.00)
Lewis County									
Vanceburg to Central Portion	10	2100EST 2104EST			0	0	1K		Thunderstorm Wind (G50)
			Two trees were downed near the intersection of State Route 10 and Boman Springs Road.						
<u>KENTUCKY, Southwest</u>									
Fulton County									
Fulton	09	2335CST			0	0	2K		Thunderstorm Wind (G50)
			A few small trees were blown down in the city of Fulton. A few more trees were downed between Hickman and Fulton.						
Union County									
Countywide	10	0002CST 0016CST			0	0	10K		Thunderstorm Wind (G50)
			A utility company reported trees blown down countywide, including the Morganfield, Sturgis, and Uniontown areas.						
Henderson County									
2 S Henderson	10	0010CST			0	0			Thunderstorm Wind (G50)
			A couple of trees were blown down.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
KENTUCKY, Southwest									
Union County									
Morganfield to Uniontown	10	0045CST			0	0			Thunderstorm Wind (G50)
			A couple of trees were blown down.						
Webster County									
2 W Sebree	10	0045CST			0	0			Thunderstorm Wind (G50)
			A few trees were blown down.						
Crittenden County									
Countywide	10	0100CST			0	0			Thunderstorm Wind (G50)
			A utility company reported some tree damage across the county.						
Henderson County									
Henderson	10	0106CST			0	0			Thunderstorm Wind (G50)
			Trees were blown down.						
Union County									
Morganfield	10	0224CST 0300CST			0	0	10K		Flash Flood
			A line of thunderstorms with very heavy rain became nearly stationary over northern and central Union County for a few hours. Rainfall from 3 to 4 inches in three hours was indicated. A few vehicles became stranded on flooded roads near Morganfield.						
Crittenden County									
3 N Marion	10	1432CST			0	0			Thunderstorm Wind (G50)
			A few trees were blown down.						
Webster County									
Sebree	10	1508CST			0	0			Hail (1.00)
Mclean County									
Beech Grove	10	1512CST			0	0			Hail (1.75)
			A severe thunderstorm moved northeast from Webster County, producing golf-ball size hail as it moved over the northwest corner of Mclean County.						
Daviess County									
St Joseph to Owensboro	10	1515CST 1530CST			0	0			Hail (1.25)
			A severe thunderstorm moved northeast from Mclean County, producing a swath of large hail across western Daviess County. Dime to half-dollar size hail was reported.						
Daviess County									
Owensboro	10	1530CST 1535CST			0	0	150K		Thunderstorm Wind (G65)
			A severe thunderstorm moved east northeast from Mclean County, passing directly over Owensboro. Extensive thunderstorm wind damage was reported in the city of Owensboro. A barn was blown down on the west side of Owensboro near the intersection of Highways 56 and 81. Within the city of Owensboro, the roof of an equipment repair shop was blown off, and a church steeple was damaged. Trees and power lines were blown down, knocking out power to about 700 city residences. At least 12 city residences were damaged, with the majority of damage caused by trees falling on houses and vehicles. Damage was reported at Brescia University when roofing from the science building was blown into other buildings on campus. Hundreds of trees were down across the county, including 71 reports of trees blocking roads or falling on power lines or structures. A carport was flipped onto a car at Maceo.						
Calloway County									
Hamlin	10	1645CST			0	0	5K		Thunderstorm Wind (G50)
			On Highway 444 near Hamlin, a few trees were pushed over onto power lines. In a forested area on the north side of Hamlin, about a dozen trees were blown down.						
Christian County									
Hopkinsville	10	1725CST			0	0			Hail (1.75)
			Hail up to golf ball size fell from a severe thunderstorm. Golf-ball size hail was reported in downtown Hopkinsville.						
Christian County									
Hopkinsville	10	1725CST			0	0	10K		Thunderstorm Wind (G55)
			Trees and utility poles were toppled in several locations around Hopkinsville, blocking traffic.						
Todd County									
Fairview	10	1739CST			0	0			Hail (0.75)
KYZ021									
Muhlenberg	12	1300CST			0	0			Flood
	13	1100CST							
			The Green River rose slightly above flood stage at the Paradise Fossil Plant, causing only minor flooding of rural bottomland. The river crested at 380.34 feet, just above the flood stage of 380 feet.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>LAKE ERIE</u>									
Avon Point To Willowick Oh									
Avon Point to Willowick	10	1740EST 1940EST			0	0			Marine Tstm Wind
Le Avon Pt To Willowick Oh Byd 5Nm Offshore To Intl Border									
Avon Point to Willowick	10	1740EST 1940EST			0	0			Marine Tstm Wind
Le Detroit R Lt To Reno Beach Oh Byd 5Nm Offshore To Intl Border									
Maumee Bay to Reno Beach	10	1740EST 1940EST			0	0			Marine Tstm Wind
Le Reno Beach To The Islands Oh Byd 5Nm Offshore To Intl Border									
Reno Beach to The Islands	10	1740EST 1940EST			0	0			Marine Tstm Wind
Le The Islands To Vermilion Oh Byd 5Nm Offshore To Intl Border									
The Islands to Vermilion	10	1740EST 1940EST			0	0			Marine Tstm Wind
Le Vermilion To Avon Pt Oh Byd 5Nm Offshore To Intl Border									
Vermilion to Avon Point	10	1740EST 1940EST			0	0			Marine Tstm Wind
Le Willowick To Geneva On The Lake Oh Byd 5Nm Offshore To Intl Border									
Willowick to Geneva-On-The-Lake	10	1740EST 1940EST			0	0			Marine Tstm Wind
Maumee Bay To Reno Beach Oh									
Maumee Bay to Reno Beach	10	1740EST 1940EST			0	0			Marine Tstm Wind
Reno Beach To The Islands Oh									
Reno Beach to The Islands	10	1740EST 1940EST			0	0			Marine Tstm Wind
The Islands To Vermilion Oh									
The Islands to Vermilion	10	1740EST 1940EST			0	0			Marine Tstm Wind
Vermilion To Avon Point Oh									
Vermilion to Avon Point	10	1740EST 1940EST			0	0			Marine Tstm Wind

Storm Data and Unusual Weather Phenomena

November 2002

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

LAKE ERIE

Willowick To Geneva On The Lake Oh

Willowick to Geneva-On-The-Lake	10	1740EST 1940EST			0	0			Marine Tstm Wind
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Scattered severe thunderstorms moved northeast across Lake Erie and produced wind gusts in excess of 50 knots. An F2 tornado moved across Lake Erie from Port Clinton to Catawba Island.

LOUISIANA, Northeast

NONE REPORTED.

LOUISIANA, Northwest

NONE REPORTED.

LOUISIANA, Southeast

St. Charles Parish

St Rose	05	0950CST	0.3	75	0	2	25K		Tornado (F1)
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A tornado destroyed one mobile home and heavily damaged another. Four other mobile homes received minor damage. Power lines were also knocked down.

St. Tammany Parish

3 NW Goodbee	11	0055CST	0.3	150	0	0	35K		Tornado (F1)
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A tornado touched down toppling a large number of trees...snapping large branches and causing moderate damage to three homes. In addition, several outbuilding structures were damaged by falling trees.

St. Tammany Parish

Bush	11	1800CST			0	0	1.5K		Thunderstorm Wind
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Several trees were blown down along Highway 40 near Bush.

LOUISIANA, Southwest

Cameron Parish

Creole	05	0230CST 0400CST			0	0	25K		Flash Flood
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Several homes were flooded near Creole, Little Chenier, and Chenier Pardue due to three inches of rain on already saturated grounds.

Allen Parish

Oakdale	05	0301CST 0500CST			0	0	25K		Flash Flood
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The sewage treatment plant was flooded, and several roads had to be closed due to high water.

Jefferson Davis Parish

Jennings	05	0330CST 0600CST			0	0	20K		Flash Flood
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A few homes had flood waters enter them after the region received 3 inches of rain on already saturated grounds.

Calcasieu Parish

Lake Charles	05	0340CST 0700CST			0	0	50K		Flash Flood
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Several homes and businesses had water enter them after 3 inches of rain fell on previously saturated ground.

St. Landry Parish

Eunice	05	0500CST 0700CST			0	0	25K		Flash Flood
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Several roads were closed due to high water after 3 inches of rain fell on previously saturated grounds.

Evangeline Parish

Ville Platte	05	0520CST 0700CST			0	0	10K		Flash Flood
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Several roads were closed due to high water after 3 inches of rain fell on saturated grounds.

Acadia Parish

Estherwood	05	0630CST 0700CST			0	0	10K		Flash Flood
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The pontoon bridge at Estherwood was closed, as well as several other roads due to flooding.

MAINE, North

MEZ017-029>030

Central Washington - Coastal Hancock - Coastal Washington

06	1800EST			0	0			Winter Storm
07	0200EST							

Rain changed to snow across Downeast Maine in the wake of low pressure tracking through the Gulf of Maine. The snow fell at the rate of 1 to 2 inches per hour at times. Snowfall totals across eastern portions of Downeast Maine ranged from 4 to 8 inches. The combination of heavy wet snow and winds of 20 to 30 mph snapped tree limbs which helped bring down power lines resulting in

Storm Data and Unusual Weather Phenomena

November 2002

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

MEZ001>006-011-015>017-031>032

power outages. At the height of the storm over 1500 customers were without power.

Northwest Aroostook - Northeast Aroostook - Northern Somerset - Northern Piscataquis - Northern Penobscot - Southeast Aroostook - Central Penobscot - Southern Penobscot - Interior Hancock - Central Washington - Southern Piscataquis - Northern Washington

17	0200EST	0	0	Winter Storm
18	1700EST			

Low pressure which originated over the Gulf of Mexico...lifted northeastward along the Atlantic coast...then through the Gulf of Maine to the Maritimes brought an extended interval of wintry precipitation to northern and eastern Maine. Precipitation began in the form of snow across much of the region during the early morning hours of the 17th. The precipitation then changed to sleet and freezing rain across central and Downeast areas during the afternoon and evening of the 17th. Snow continued across northern areas through the afternoon of the 18th. Total snow accumulations across the north and mountains generally ranged from 7 to 10 inches...although localized totals up to 14 inches were reported. Snowfall totals of 5 to 8 inches were common across central areas...with 3 to 6 inches Downeast. Sleet accumulations across eastern Maine generally ranged from 0.5 to 2.0 inches.

MEZ030

Coastal Washington

17	1600EST	0	0	High Wind (G62) ^M
18	0200EST			

Intense low pressure tracking through the Gulf of Maine to the Maritimes produced sustained winds of 35 to 45 mph...with gusts from 60 to around 70 mph.

MEZ011-015>016-029-031

Central Penobscot - Southern Penobscot - Interior Hancock - Coastal Hancock - Southern Piscataquis

23	1900EST	0	0	High Wind (G45) ^M
24	1500EST			

Strong winds developed in the wake of intense low pressure tracking through the Maritime Provinces. Sustained winds of 25 to 35 mph were common...with gusts to around 50 mph. The strong winds brought down some trees and tree limbs...along with power lines. Several thousand customers were without power at various times during the event.

MAINE, South

MEZ007>008-012>013

Northern Oxford - Northern Franklin - Southern Oxford - Southern Franklin

06	0300EST	0	0	Moderate Snowfall
	1600EST			

MEZ023>024

Coastal York - Coastal Cumberland

06	1020EST	0	0	Coastal Flood
	1252EST			

Low pressure moving northeastward along the coast from the Mid-Atlantic States brought a mixture of weather to the state. In general, about 3 to 6 inches of snow fell over much of Oxford and Franklin Counties before the precipitation turned to rain. Along the immediate coast, most of the precipitation fell as rain, but high astronomical tide combined with northeasterly winds caused tidal flooding in York and Cumberland Counties. The flooding temporarily cut off the Camp Ellis area of Saco. In Portland where the tide gauge reached 12.6 feet, parts of Marginal Way, Elm Street, Somerset Street, outer Congress Street, and the Portland Pier were flooded.

MEZ007>009-012>013

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

16	2100EST	0	0	Heavy Snow
17	1300EST			

MEZ014-018>022

Southern Somerset - Interior York - Interior Cumberland - Androscoggin - Kennebec - Interior Waldo

16	2100EST	0	0	Moderate Snowfall
17	1300EST			

MEZ014-018>026

Southern Somerset - Interior York - Interior Cumberland - Androscoggin - Kennebec - Interior Waldo - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln

17	0300EST	0	0	Freezing Rain
	1500EST			

A rapidly intensifying area of low pressure moving northeastward from the Florida Panhandle on the morning of the 16th to the Delmarva Peninsula on the morning of the 17th to near Nova Scotia by the morning of the 18th, brought a mixture of precipitation to the state. About 5 to 10 inches of snow fell in the mountains and foothills of western Maine with 3 to 6 inches across most of the remainder of the western Maine, except along the coast where accumulations were generally 3 inches or less. The snow changed to sleet and/or freezing rain in most areas before the precipitation ended. Across coastal sections of Cumberland and York Counties, the weight of the freezing rain caused branches and trees to fall onto power lines causing scattered power outages. About 15,000 customers lost electrical service during the storm due to freezing rain, with some customers without power for two days. Strong northeast winds from the storm broke four lobster boats from their moorings in the Rockland-Owls Head area.

MARYLAND, Central

Montgomery County

1 SE Silver Spg

11	0630EST	0	0	75K	Thunderstorm Wind
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Large trees were downed onto a house and an apartment building in Takoma Park.

A thunderstorm with high winds moved through Takoma Park around 6:30 AM on the 11th. The storm downed a large oak tree onto

Storm Data and Unusual Weather Phenomena

November 2002

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

MARYLAND, Central

MDZ002

a home on Garland Avenue. Another large downed tree significantly damaged an apartment building.

Allegany

30	2000EST				0	0			Winter Weather
	2359EST								

A strong cold front pushed through during the afternoon of the 30th. This turned winds to the northwest and moisture from the Great Lakes was blown into the region. The winds deposited the moisture in the form of snow in the Appalachian Mountains between 8 PM on the 30th through 8 AM on the 1st of December. A total of 1 to 3 inches of snow accumulated in the western portion of the county. Reports included 2.5 inches in higher elevations just west of Frostburg and 1.2 inches in downtown Frostburg. Winds gusting as high as 45 MPH caused the newly fallen snow to blow around and dropped wind chills into the single digits above zero.

MARYLAND, Northeast

MDZ008-012-015-019>020

Cecil - Kent - Queen Annes - Talbot - Caroline

01	0000EST				0	0	0		Drought
25	0900EST								

An unseasonably wet November ended the meteorological drought across the Maryland Eastern Shore. A series of northeasters on November 5th and 6th, November 11th and 12th, November 16th and 17th dropped more precipitation than is normal for the month of November. Ironically the wet weather hampered farmers as it slowed the harvest of soybean crops and thwarted the planting of grain cover crops. On a county weighted average November monthly precipitation ranged from 4.6 inches in Talbot County to 5.6 inches in Caroline County. Normal is around 3.4 inches. Even groundwater levels, which are normally the last to recover, were rising across the Eastern Shore. Governor Parris N. Glendening lifted the drought emergency and the watering restrictions across most of the Eastern Shore in December.

One last result of the recent drought was the improvement of water quality and clarity in Chesapeake Bay. The less rain resulted in less runoff of nitrogen and phosphorus and fewer algae blooms. The water quality caused the greatest sea grass spurt since 1978. The downside for the bay was the increased salinity which also increased the incidence of diseases that kill oysters. One of the worst oyster harvests in history is expected to occur this upcoming winter.

At the Baltimore-Washington International Airport, November monthly precipitation was 3.78 inches, 0.66 inches above normal.

MDZ019

Talbot

06	1900EST				0	0			Strong Wind
07	0500EST								

A strong northwest flow between a departing northeaster and a building high pressure system from the Gulf Coast States produced wind gusts to around 35 mph. The combination of the persistence of the wind and the recent heavy rains (which loosened the soil) knocked over a couple of trees in Talbot County. Two trees were knocked down in Saint Michael's and one in Easton. A few phone lines and power outages occurred.

MARYLAND, South

NONE REPORTED.

MARYLAND, West

NONE REPORTED.

MASSACHUSETTS, Central and East

MAZ002

Western Franklin

05	1100EST				0	0			Heavy Snow
06	0600EST								

MAZ002

Western Franklin

05	1100EST				0	0	10K		Winter Storm
06	0600EST								

Barnstable County

Eastham to
Chatham

06	1200EST				0	0	15K		Storm Surge
	1400EST								

Essex County

Salisbury to
Marblehead

06	1200EST				0	0	25K		Storm Surge
	1400EST								

Norfolk County

Quincy to
Cohasset

06	1200EST				0	0	15K		Storm Surge
	1400EST								

Plymouth County

Hingham to
Duxbury

06	1200EST				0	0	10K		Storm Surge
	1400EST								

Storm Data and Unusual Weather Phenomena

November 2002

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

Suffolk County

Revere to Boston	06	1200EST 1400EST			0	0	10K		Storm Surge
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The combination of high astronomical tides and an intensifying coastal storm tracking south of New England caused some of the worst flooding along the eastern Massachusetts coast in over a decade. Salisbury in coastal Essex County was hardest hit, where about 30 homes were surrounded by flood waters. Widespread minor to moderate flooding was reported in coastal communities from Gloucester to Duxbury. The high tide caused flooding in many basements and forced temporary road closures in Hingham, Marshfield, Quincy, and Revere. Morrisey Boulevard in Boston was closed around high tide at noon. In Hull, firefighters used a boat to rescue two residents after their house was inundated by several feet of water. At least two cars were stranded in Cohasset. On Cape Cod, flood waters surrounded several homes in Eastham and Chatham.

The storm also brought heavy, wet snow to western Franklin County, where amounts as high as 6 to 8 inches were reported. The weight of the snow brought down tree limbs, causing scattered power outages.

MAZ002>005-008>012 Western Franklin - Eastern Franklin - Northern Worcester - Western Middlesex - Western Hampshire - Western Hampden - Eastern Hampshire - Eastern Hampden - Southern Worcester

		16	2200EST		0	0	1.4M		Ice Storm
		17	1500EST						

MAZ004-011

Northern Worcester - Eastern Hampden

		18	0700EST 1000EST		0	0	30K		High Wind
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A major ice storm caused significant damage from the Connecticut River Valley into Worcester County and the Merrimack Valley. There were numerous reports of downed trees, limbs, and power lines as a result of one-half inch of icing. An estimated 18,000 customers were left without power because of the storm, some for as much as four days.

Damage was especially severe in central Massachusetts. This included, but was not limited to, communities such as Princeton, Paxton, Charlton, Spencer, Grafton, Millbury, Oxford, and the city of Worcester, where there were many reports of downed trees and limbs that smashed onto cars and houses, and blocked roads. The historic 220-year-old Crocker maple tree at Wachusett Meadows Wildlife Sanctuary fell victim to the ice storm.

The damage from the ice storm was compounded by high winds one day later. Gusts as high as 50 mph were reported in eastern Hampden and northern Worcester Counties, and hampered the cleanup effort, downing more trees and branches which were weighted down by ice.

MAZ011

Eastern Hampden

		23	1455EST		0	0		High Wind (G60) ^M
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A wind gust to 60 mph was reported at Barnes Municipal Airport in Westfield. No damage was reported.

MAZ011>012

Eastern Hampden - Southern Worcester

		27	0100EST 1300EST		0	0		Heavy Snow
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A winter storm passing southeast of New England brought heavy snow to south central Massachusetts. On average, storm totals ranged from 5 to 10 inches. The storm occurred on the day before Thanksgiving, but impact on travel was minimal since most people traveled the day before, in anticipation of the storm. Still, several minor accidents were reported throughout the region, but no injuries were directly attributable to the storm. Totals across the rest of Massachusetts averaged between 3 and 6 inches, with lesser amounts from coastal Plymouth County to Cape Cod and the Islands.

Some specific snowfall totals include 9.5 inches in Sturbridge; 8 inches in Springfield, Southwick and Longmeadow; 7 inches in Chicopee, Agawam, Monson, and Douglas; and 6 inches in Holyoke, downtown Worcester, and Westboro.

Officially, the storm total at Worcester Airport was 6.0 inches.

MASSACHUSETTS, West

MAZ001

Berkshire

		17	0000EST 0900EST		0	0	10K		Winter Storm
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A strong nor'easter developed off Cape Hatteras on November 16. The low pressure center then slowly moved north along the coast, reaching Cape Cod by late November 17. At the same time, a shallow layer of arctic air bled south from eastern Canada. This air was cold enough to produce a significant mix of wintry precipitation during a good portion of the storm across the Berkshires. Initially the precipitation fell primarily as snow across the county, with 1-3 inches of accumulation reported. As warmer air moved in overhead, the precipitation changed to sleet, then freezing rain. Freezing rain produced a coating of ice less than half an inch thick on most surfaces. The combination of the snow, sleet and ice, winds gusting over 30 mph, and the fact that some trees still had leaves on them, resulted in some downed trees and powerlines. There were spotty power outages and poor travel conditions associated with the storm as well. Temperatures finally rose above freezing later on Sunday morning, putting an end to the winter storm. Some minor snowfall accumulations were noted on the back side of the storm late on Sunday into early Monday.

Storm Data and Unusual Weather Phenomena

November 2002

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

MICHIGAN, East
MIZ055-063

Sanilac - St. Clair

26	1300EST			0	0		Heavy Snow
27	0400EST						



Residents of Port Huron shoveling out their driveways after the heavy snow.

During the afternoon of the 26th, an upper air disturbance passed across the southern Great Lakes region. A band of heavy lake-effect snow developed over Lake Huron as cold north-northeasterly winds passed over the relatively warm waters of the lake. The north-northeasterly wind flow allowed the band to extend across a large distance of water, thereby developing very heavy snow. This band moved onshore in eastern St Clair county and far southeastern Sanilac county on the afternoon of the 26th. The band then remained nearly stationary through the rest of the afternoon and into the early morning hours of the 27th. Snowfall was estimated to have fallen at a rate of two to three inches an hour in some locations. The snow was the heaviest and persisted the longest in the city of Port Huron. By the morning of the 27th, 12-hour snowfall totaled 17 inches across the northern half of the city of Port Huron, while the south half reported amounts around 13 inches. Snowfall amounts in other parts of St Clair county included; 15 inches in Fort Gratiot Township, 9 inches in eastern Clyde Township, 7 inches in Lakeport, and 6 inches in the city of St Clair. In Sanilac county, 12-hour snowfall amounts were reported as; 8 inches in Lexington, 8 inches in Crosswell, 8 inches in Applegate, and 6 inches in Port Sanilac.

MICHIGAN, Extreme Southwest

NONE REPORTED.

MICHIGAN, North

MIZ021>022-026>027-032>033 **Antrim - Otsego - Grand Traverse - Kalkaska - Wexford - Missaukee**

30	1800EST 2000EST			0	0		Heavy Snow
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Lake effect snows developed across much of northwest Lower Michigan during the day on the 30th. 2 to 4 inches of snow fell across much of the region, while a heavier band of 6 to 8 inches of snow fell across several locales.

MICHIGAN, Upper

MIZ002-002-005>006-009 **Ontonagon - Marquette - Alger - Gogebic**

25	0800EST			0	0		Heavy Snow
26	1700EST						

A low pressure system over eastern Canada pushed cold air across Lake Superior, generating lake effect snow showers over the lake shore counties of Michigan's Upper Peninsula. The snow began falling on the 24th and continued into the 27th with bursts of heavy snow (1 to 2 inches an hour) falling on the 25th and 26th. During the heaviest snowfall, Ironwood accumulated 11 inches, Ontonagon reported 15 inches, and Rockland received 17 inches. Further east, The National Weather Service Office recorded 13 inches of new snow, downtown Marquette reported 15 inches, 20 inches accumulated in Harvey and 24 inches covered Skandia. Downtown Munising only received 7 inches, but 10 inches fell at Sand Point and Chatham measured 11 inches of new snow. The

Storm Data and Unusual Weather Phenomena

November 2002

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

heaviest snowfalls were fairly localized, but 4 to 8 inches of snow fell over most parts of the lakeshore counties, contributing to numerous minor traffic accidents, a few school closings and difficult travel conditions along two of the major travel routes across the Upper Peninsula.

MIZ001>003-003>005-005>007-009 **Keweenaw - Ontonagon - Houghton - Baraga - Marquette - Alger - Luce - Gogebic**

30	0100EST 2100EST								Winter Storm
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Strong and gusty northwest winds behind a low pressure system and cold front moving across Ontario produced lake effect snow showers over Michigan's Upper Peninsula with considerable blowing and drifting snow. Wakefield measured 9 inches of snowfall in a 12 hour period, Bruce Crossing and Newberry accumulated 8 inches, and Skandia reported 12 inches of new snow. Only three to seven inches of snow fell over most parts of the northern lake shore counties, but the 20 to 30 mph winds with gusts to near 40 mph caused periods of blowing and drifting snow that reduced visibility to less than a quarter of a mile. Some local weekend events were cancelled or postponed due to the hazardous traveling conditions.

MICHIGAN, West

MIZ064-071>072 **Allegan - Van Buren - Kalamazoo**

30	0500EST 2359EST								Heavy Snow
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A very strong low pressure area tracked across central Canada. Heavy lake effect snow developed across extreme southwestern lower Michigan as northerly winds advected arctic air into the area. The heaviest snowfall report came from Paw Paw (Van Buren county), where 10 inches of snow fell from the early morning hours of November 30th to the early morning hours of December first. A band of six to eight inches of snow extended from the western sections of Kalamazoo (Kalamazoo county) northwest through the town of Allegan (Allegan county) and further northwest to near Holland. The majority of the snow fell during the daylight hours of the 30th.

MINNESOTA, Central and South Central

NONE REPORTED.

MINNESOTA, Northeast

NONE REPORTED.

MINNESOTA, Northwest

MNZ001>004-007-013>015-029 **West Polk - Norman - Clay - Kittson - West Marshall - Pennington - Red Lake - East Polk - Wilkin**

29	0415CST 1522CST								High Wind (G50) ^M
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A strong cold front moved through the northern plains, and produced a period of strong winds. The highest wind gust, 58 mph, was reported at St. Vincent, MN.

MINNESOTA, Southeast

NONE REPORTED.

MINNESOTA, Southwest

NONE REPORTED.

MINNESOTA, West

NONE REPORTED.

MINNESOTA, West Central

MNZ039-046 **Traverse - Big Stone**

29	1400CST 1600CST								High Wind (G52) ^M
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High winds of 30 to 50 mph gusting to 60 mph occurred across Big Stone and Traverse counties during the late afternoon hours.

MISSISSIPPI, Central

Yazoo County

Vaughan	10	1720CST							Thunderstorm Wind
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Several trees were blown down across the area.

Madison County

Loring	10	1725CST							Thunderstorm Wind
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Thunderstorm winds blew down several trees across the area.

Attala County

Kosciusko	10	1745CST							Thunderstorm Wind
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Several trees were uprooted near the city.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
MISSISSIPPI, Central									
Attala County									
Kosciusko	10	1758CST			0	0			Hail (0.75)
Attala County									
Kosciusko	10	1800CST			0	0			Hail (1.00)
Attala County									
Kosciusko	10	1800CST			0	0			Thunderstorm Wind (G60)
Choctaw County									
Countywide	10	1800CST			0	0	5K		Thunderstorm Wind
Strong winds associated with thunderstorms resulted in several trees being blown down across the county.									
Attala County									
Kosciusko	10	1820CST			0	0	3K		Thunderstorm Wind
Thunderstorm winds blew down several powerlines at the intersection of Love Road and Huntington Street.									
Winston County									
5 NW Louisville	10	1820CST			0	0	2K		Thunderstorm Wind
Several trees were blown down across the area.									
Attala County									
Kosciusko	10	1900CST			0	0			Hail (1.00)
Attala County									
Kosciusko	10	1900CST			0	0			Thunderstorm Wind (G60)
Lowndes County									
3 SE Artesia to 2.5 SE Steens	10	1908CST 1931CST	22	440	0	55	60M		Tornado (F3)
A tornado formed in Lowndes County, about 3 miles southeast of Artesia. It moved 22 miles across the county, resulting in numerous injuries. Most of the damage and injuries was seen in Columbus around 7:20 PM. Here, extensive damage was received by several buildings on the campuses of the Mississippi University for Women and the Mississippi School for Math and Science. Major damage was received by approximately 60 homes in the southern part of Columbus as the tornado moved through. The tornado then moved into Lamar County, Alabama 2.5 miles southeast of Steens, Mississippi.									
Lowndes County									
Countywide	10	1920CST			0	0			Hail (1.25)
Severe thunderstorms produced half dollar-sized hail across the county. Many of the reports were in the western part of the county, near the Mayhew area.									
Winston County									
7.7 NE Louisville to 1.5 SE Winston	10	1920CST 1934CST	12.5	400	0	0	15K		Tornado (F1)
A tornado touched down at 7:20 PM, about 2 miles northwest of the community of Webster. It moved northeast across rural areas of Northeast Winston County, resulting in tree damage. After travelling about 12.5 miles, this tornado moved into Noxubee County, about 1.5 miles southeast of Winston.									
Attala County									
9.5 S Boyette to 9 S Sallis	10	1930CST 1932CST	3	1000	0	0	15K		Tornado (F2)
A tornado developed near the Madison/Attala County line, about 9.5 miles south of Boyette (5 miles northeast of Cameron in Madison County). Travelling east-northeast, the tornado resulted in tree damage to rural areas of Southeast Attala County. The tornado moved into Leake County around 7:32 PM about 9 miles south of Sallis.									
Leake County									
4.5 NW Thomastown to 5.1 NNE Thomastown	10	1932CST 1934CST	4	1000	0	0	100K		Tornado (F2)
This tornado originally developed in Attala County, about 9.5 miles south of Boyette. It moved across rural areas of northern Leake County, damaging a house and a barn, as well as uprooting hundreds of trees. The tornado moved back into Attala County about 5 miles north-northeast of Thomastown (0.5 mile south of McVile in Attala County).									
Attala County									
9.5 SSW Kosciusko to 7 S Kosciusko	10	1934CST 1940CST	3	1000	0	0	20K		Tornado (F2)
This tornado initially developed near the Madison/Attala County line, about 9.5 miles south of Boyette around 7:30 PM. It briefly crossed into Leake County around 7:32 PM, before crossing back into Attala County at 7:34 PM. It moved north-northeast across the southern part of the county, resulting in many uprooted trees. The tornado dissipated about 7 miles south of Kosciusko around 7:40 PM.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
MISSISSIPPI, Central									
Noxubee County									
13.1 WNW Brooksville to 7 NW Brooksville	10	1934CST 1941CST	8	400	0	0	15K		Tornado (F1)
This tornado originally developed in Winston County, almost 8 miles northeast of Louisville. It moved about 8 miles across extreme northwestern Noxubee County before exiting the county 7 miles northwest of Brooksville around 7:41 PM. As the tornado moved through rural areas of Noxubee County, it destroyed numerous trees.									
Yazoo County									
Satartia	10	1935CST			0	0	2K		Thunderstorm Wind
Several trees were blown down across the area.									
Lowndes County									
2 SW New Hope to 3 ENE New Hope	10	1936CST 1942CST	5	400	0	0	15K		Tornado (F1)
A tornado formed in Lowndes County, about 2 miles southwest of New Hope, destroying many trees as it moved northeast. The tornado then moved into Pickens County, Alabama, about 3 miles east-northeast of New Hope (near Forest, Alabama).									
Oktibbeha County									
16 SE Starkville to 15.5 SE Starkville	10	1941CST 1945CST	1.5	400	0	0	10K		Tornado (F1)
This tornado originally developed in Winston County, almost 8 miles northeast of Louisville around 7:20 PM. After moving through northwestern parts of Noxubee County, it briefly moved across extreme Southeast Oktibbeha County, resulting in the destruction of many trees. The tornado moved out of Oktibbeha County around 7:45 PM about 15.5 miles southeast of Starkville.									
Lowndes County									
2 W Crawford to 4.5 SE New Hope	10	1945CST 2015CST	27	400	1	0	100K		Tornado (F1)
This tornado originally developed in Winston County, almost 8 miles northeast of Louisville around 7:20 PM. After moving through parts of Noxubee and Oktibbeha Counties, the tornado moved into Southwest Lowndes County around 7:45 PM. As it moved through the town of Crawford, a man was killed while trying to warn his neighbors of the impending storm. Several homes and trees were also destroyed. The tornado moved into Pickens County, Alabama about 4.5 miles southeast of New Hope around 8:15 PM. M52OU									
Leake County									
Thomastown	10	1951CST			0	0	5K		Thunderstorm Wind
Several trees were blown down around the city.									
Leake County									
Thomastown	10	1958CST			0	0	15K		Thunderstorm Wind
Severe thunderstorms moved across the city, causing minor damage to a home's roof, as well as knocking down several trees and powerlines.									
Attala County									
8 S Kosciusko	10	2000CST			0	0	2K		Thunderstorm Wind
Several trees were blown down across the area.									
Hinds County									
Edwards	10	2003CST			0	0			Hail (0.75)
Noxubee County									
Macon	10	2010CST			0	0	4K		Thunderstorm Wind
Several powerlines were blown down across the area.									
Winston County									
6 S Louisville to 12 E Louisville	10	2020CST 2040CST	15	500	0	0	200K		Tornado (F1)
The tornado formed about 6 miles south of Louisville around 8:20 PM. It moved east-northeast, completely destroying two mobile homes and damaging several other homes and outbuildings. Numerous trees were also snapped and uprooted. The tornado dissipated approximately 12 miles east of Louisville around 8:40 PM.									
Madison County									
7 SE Canton to 9 SE Canton	10	2034CST 2036CST	2	50	0	0	15K		Tornado (F1)
The tornado developed about 7 miles southeast of Canton around 8:34 PM. As it moved east, several trees were uprooted near the Natchez Trace Parkway. The tornado then briefly passed over part of the Ross Barnett Reservoir before dissipating around 8:36 PM.									
Kemper County									
12 W De Kalb	10	2125CST			0	0	25K		Thunderstorm Wind
Thunderstorm winds blew down a few trees in the area, resulting in minor structural damage to a few buildings.									
Rankin County									
Star	10	2127CST			0	0			Hail (1.00)

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>MISSISSIPPI, Central</u>									
Smith County									
5 N Raleigh	10	2200CST			0	0	2K		Thunderstorm Wind
		Several trees were blown down across the area.							
Marion County									
3 N Sandy Hook to 5 NE Sandy Hook	11	0050CST 0100CST	4	25	0	0	75K		Tornado (F1)
		This tornado initially developed 3 miles north of Sandy Hook and moved northeast before dissipating around 1:00 AM. One unoccupied mobile home was destroyed, with another mobile home receiving major damage from a fallen tree. One house had chimney damage from a fallen tree, with many other trees blown down.							
Simpson County									
Magee	15	1310CST			0	0			Hail (0.75)
Jefferson Davis County									
Bassfield	15	1446CST			0	0			Hail (0.75)
Jones County									
6 E Laurel	15	1528CST			0	0			Hail (0.75)
<u>MISSISSIPPI, North</u>									
Marshall County									
Byhalia	10	1730CST 1735CST			0	0	5K		Thunderstorm Wind
		A few trees were knocked down.							
Lafayette County									
Countywide	10	1845CST 1900CST			0	0	100K		Thunderstorm Wind
		Some trees were blown down on the University of Mississippi campus. One house was destroyed by a fire started when a fallen tree broke a gas line and a downed power line produced a spark. Some of the trees fell on cars. Trees and power lines were blown down across much of the remainder of the county.							
Union County									
Pinedale	10	1900CST 1905CST			0	0	5K		Thunderstorm Wind
		Several trees were blown down.							
Tippah County									
Countywide	10	1910CST 1915CST			0	0	10K		Thunderstorm Wind
		Several trees and power lines were knocked down.							
Alcorn County									
Corinth	10	1940CST 1945CST			0	0	50K		Thunderstorm Wind
		One mobile home used for storage was destroyed. A second mobile home was blown off its foundation. Some trees and power lines were blown down. Some of the downed trees fell on cars and temporarily trapped a few people in the cars.							
Tishomingo County									
Burnsville	10	1942CST 1950CST			0	0	5K		Thunderstorm Wind
		Some trees were knocked down.							
Lee County									
Tupelo	10	1945CST 1950CST			0	0	5K		Thunderstorm Wind
		Several trees were blown down.							
<u>MISSISSIPPI, South</u>									
Jackson County									
7 N Ocean Spgs	05	1220CST			0	0	1.5K		Thunderstorm Wind
		Trees and power lines were blown down.							
<u>MISSISSIPPI, Southeast</u>									
Wayne County									
Hiwannee	10	1600CST 1602CST			0	0	20K		Thunderstorm Wind (G55)
		High winds from a thunderstorm blew down several trees near the Coit community, which is east of Hiwannee. A couple of homes also had roof damage.							

MISSOURI, East

NONE REPORTED.

Storm Data and Unusual Weather Phenomena

November 2002

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

NONE REPORTED.

MISSOURI, Northeast

NONE REPORTED.

MISSOURI, Northwest

NONE REPORTED.

MISSOURI, Southeast

Mississippi County

Dogwood to East Prairie	09	2028CST 2030CST			0	0			Hail (1.50)
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A severe thunderstorm produced large hail, from the size of quarters at East Prairie to nearly golf-ball size at Dogwood.

Bollinger County

1.5 N Marble Hill	09	2050CST			0	0			Hail (1.00)
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Cape Girardeau County

2 SE Fruitland to 2.5 ESE Fruitland	09	2258CST 2259CST	0.8	50	0	0	25K		Tornado (F0)
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Near the intersection of Highway W and County Road 601, a trailer was demolished and blown into a building. Trees were blown down, a metal barn roof was blown off, and several homes lost shingles.

Cape Girardeau County

Fruitland	09	2300CST			0	0			Hail (0.75)
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Stoddard County

1 S Dudley	10	1417CST			0	0			Hail (1.00)
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MISSOURI, Southwest

NONE REPORTED.

MONTANA, Central

MTZ009>010-012-014-044-047>049-051 **North Rocky Mountain Front - Eastern Glacier - Cascade - Southern Lewis And Clark - Toole - Blaine - Southern Rocky Mountain Front - Eastern Teton - Fergus**

16	1600MST				0	0			High Wind (G63) ^M
17	1000MST								

A high wind event occurred over North Central Montana on the 16th and 17th. The winds began to pick up in intensity over the Rocky Mountain Front late in the afternoon on the 16th. The winds then continued through the night, before diminishing in intensity during the late morning hours of the 17th.

Here is a list of some peak wind speeds recorded:

On November 16th:

Lewistown 10NE 60 mph at 1610 MST; Browning 61 mph at 1650 MST; Pendroy 58 mph at 1940 MST; Chinook 11S wind gusts between 60 and 70 mph at 1945 MST; Cut Bank 66 mph at 2006 MST; and Cut Bank 71 mph at 2330 MST.

On November 17th:

Gold Butte 7N 59 mph at 0018 MST; Chouteau 2S 64 mph at 0230 MST; Sweetgrass sustained winds of 46 mph at 0300 MST; Pendroy 68 mph at 0400 MST; Augusta 20S 59 mph at 0440 MST; Chouteau 2S 71 mph at 0515 MST; and Cascade 5S 69 mph at 0530 MST.

MTZ009>010-012-046-048 **North Rocky Mountain Front - Eastern Glacier - Cascade - Eastern Pondera - Southern Rocky Mountain Front**

18	0400MST 1300MST				0	0			High Wind (G74) ^M
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A high wind event occurred over the northern Rocky Mountain Front and much of the adjacent Plains on the 18th. Winds picked up in intensity during the early morning hours of the 18th, and began to decrease in intensity around noon.

Here is a list of some peak wind speeds recorded:

Cascade 5S 70 mph at 0430 MST; Browning 59 mph at 0850 MST; Pendroy sustained winds of 47 mph at 1015 MST; Cut Bank 63 mph at 1155 MST; and Augusta 4W 85 mph at 1240 MST.

Storm Data and Unusual Weather Phenomena

November 2002

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

MTZ009>010-046-048			North Rocky Mountain Front - Eastern Glacier - Eastern Pondera - Southern Rocky Mountain Front						
	19	0000MST			0	0			High Wind (G57) ^M
		1200MST							

A high wind event occurred over the northern Rocky Mountain Front and the northern adjacent Plains on the 19th. Winds picked up in intensity during the early morning hours of the 19th, and began to decrease in intensity during the early afternoon hours.

Here is a list of some peak wind speeds recorded:

Cut Bank 60 mph at 0200 MST; Pendroy 18W 60 mph at 0400 MST; Dupuyer 60 mph at 0400 MST; Choteau 66 mph at 0428 MST; Saint Mary 9N 65 mph at 0500 MST; and Pendroy 18W 58 mph at 1120 MST.

MTZ014-052

			Southern Lewis And Clark - Jefferson						
	23	0000MST			0	0			Heavy Snow
		1200MST							

Heavy snow began to fall in the Helena Valley and over northern Jefferson County during the early morning hours of the 23rd. The snow began to let up by late morning. The heaviest snow fell near Helena, in the mountains west and north of Helena, and over northern Jefferson County.

Here is a list of some of the snow fall reports received:

Helena 6 to 9 inches; Helena 20NW 12 to 18 inches; and Clancy 8 to 10 inches.

MTZ050>051

			Judith Basin - Fergus						
	25	1000MST			0	0			High Wind (G58) ^M
		1400MST							

A cold front moved through Central Montana during the late morning and early afternoon hours on the 25th. Near and just behind the passage of the cold front, winds gusted to over 60 mph at times.

Here is a list of some peak wind speeds recorded:

Judith Gap 67 mph at 1150 MST; Forestgrove 19S 64 mph at 1200 MST; Garneill 6S 67 mph at 1200 MST; and Lewistown 22S 64 mph at 1200 MST.

MONTANA, East

MTZ060

			Little Rocky Mountains						
	26	0744MST			0	0			High Wind (G60) ^M
		0844MST							

69 mph wind gust was recorded at Zortman RAWS.

MONTANA, South

MTZ040

			Park						
	16	1838MST			0	0			High Wind (G51) ^M
			51 mph non-thunderstorm sustained wind						

MTZ034

			Stillwater						
	18	1700MST			0	0			High Wind (G63) ^M
			Sustained winds of 20-40 mph with a gust to 63 mph in Nye.						

MTZ040

			Park						
	23	1500MST			0	0			Heavy Snow
			6 inches of new snow in Gardiner						

MTZ034

			Stillwater						
	23	1500MST			0	0			Heavy Snow
			5 inches of new snow in Nye						

MTZ056

			Western Carbon						
	23	1500MST			0	0			Heavy Snow
			9 inches of new snow in Red Lodge						

MTZ056

			Western Carbon						
	23	1828MST			0	0			Heavy Snow
			5 inches of new snow in Belfry						

MTZ040

			Park						
	23	1900MST			0	0			Heavy Snow
			10 inches of new snow in Cooke City						

MTZ040

			Park						
	24	0956MST			0	0			Heavy Snow
			6 inches of new snow in Wilsall						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>MONTANA, South</u>									
MTZ037									
		Carter							
	29	1049MST			0	0			High Wind (G40) M
		40 mph non-thunderstorm sustained winds at Alzada							
MTZ033									
		Fallon							
	29	1154MST			0	0			High Wind (G40) M
		40 mph non-thunderstorm sustained winds at Baker							
<u>MONTANA, West</u>									
MTZ001>002-004-006									
		Kootenai/Cabinet Region - West Glacier Region - Lower Clark Fork Region - Bitterroot / Sapphire Mountains							
	09	0000MST			0	0			Winter Storm
	10	1200MST							
		The first of only two winter storm events during the month for western Montana and north central Idaho occurred over this weekend. Snowfall amounts ranged from 7 to 8 inches in the Bitterroot Mountains, to around one foot in the northwest Montana mountains; Flattop Mountain 10 inches, North Fork Jocko 13 inches, and Cool Creek 9 inches.							
MTZ004-006>007									
		Lower Clark Fork Region - Bitterroot / Sapphire Mountains - Butte / Pintlar Region							
	23	0400MST			0	0			Winter Storm
		1600MST							
		An arctic cold front moved over the continental divide and stalled across southwest Montana. Heavy snows were reported near the front across the Bitterroot Mountains and the Pintlar Mountain region. Gusty east to northeast winds occurred as the arctic air moved into western Montana, creating blowing and drifting snow. Some snow amounts with this storm were 8 inches at Anaconda and Hoodoo Basin, 7 inches at Lolo Hot Springs, and over 8 inches at Twelvemile Creek Snotel.							
<u>NEBRASKA, Central</u>									
		NONE REPORTED.							
<u>NEBRASKA, East</u>									
		NONE REPORTED.							
<u>NEBRASKA, Extreme Northeast</u>									
		NONE REPORTED.							
<u>NEBRASKA, Extreme Southwest</u>									
		NONE REPORTED.							
<u>NEBRASKA, South Central</u>									
		NONE REPORTED.							
<u>NEBRASKA, West</u>									
		NONE REPORTED.							
<u>NEVADA, North</u>									
NVZ030>031-034>035									
		Humboldt - N Elko Cnty - Ruby Mountains/E Humboldt Range - White Pine							
	08	0100PST			0	0			Heavy Snow
	09	0900PST							
		A moist Pacific storm system brought copious amounts of precipitation to northern and east central Nevada. The mountains and higher valley locations received significant amounts of snowfall. Some amounts include: Wild Horse and Wells 5 inches; Tuscarora and Charleston 4 inches; Lamoille Canyon snotel an estimated 31 inches; Hole-In-The-Mountain snotel an estimated 37 inches; Bear Creek snotel an estimated 20 inches; Ward Mountain Snotel an estimated 18 inches; and the Granite Peak snotel an estimated 14 inches.							
<u>NEVADA, South</u>									
Clark County									
		Las Vegas							
	30	1800PST			1	1			Flash Flood
		1900PST							
		A fast moving rain storm produced just over half an inch of rain over north Las Vegas. The runoff in the cities drainage system caused flash flooding which trapped four homeless men. One man drowned and another was injured.							
		M57OT							
<u>NEVADA, West</u>									
NVZ003									
		Greater Reno/Carson City/Minden Area							
	07	0300PST			0	0	0		High Wind (G65) M
		0600PST							
		Multiple wind gusts of 55-65 mph measured throughout the region by automated sensors.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	
NEVADA, West									
NVZ003		Greater Reno/Carson City/Minden Area							
	07	0345PST			0	0	0		High Wind (G73) ^M
NVZ004		Western Nevada Basin And Range							
	07	1500PST			1	6	250K		High Wind (G61)
		1600PST							
		Strong wind gusts estimated at 70 mph caused near zero visibility from blowing dust on U.S Highway 95 Alternate just south of Silver Springs in Lyon County. An 11 vehicle pile-up, including one semi-trailer rig , resulted from the reduced visibility. One person was killed in the accident and five others were injured.							
		M?VE							
Douglas County									
Minden	07	1600PST			0	0			Heavy Rain
	08	1600PST							
		24 hour rainfall total of 1.75 inches.							
Washoe County									
Reno	07	1800PST			0	0			Heavy Rain
	08	0830PST							
		Spotter in southwest Reno reported 1.25 inches of rain.							
NVZ002		Greater Lake Tahoe Area							
	07	1800PST			0	0			Heavy Snow
	08	1200PST							
		Mt. Rose Ski Area reported an overnight new snow total of 2 feet at the 9200 foot elevation.							
NVZ003		Greater Reno/Carson City/Minden Area							
	08	0000PST			0	0			High Wind (G100) ^M
		0100PST							
		An automated weather station on Virginia Peak near Nixon, NV measured wind gusts in excess of 120 mph.							
NVZ003		Greater Reno/Carson City/Minden Area							
	08	0000PST			0	0			High Wind (G50) ^M
		0200PST							
		Numerous wind gusts in excess of 60 mph reported by automated weather stations.							
Washoe County									
Washoe City	08	0000PST			0	0			Heavy Rain
		0800PST							
		Spotter in east side of Washoe Valley reported an 8 hour rainfall total of 1.5 inches.							
NVZ003		Greater Reno/Carson City/Minden Area							
	08	1600PST			0	0	5K		High Wind (G70)
		1800PST							
		Gusty winds damaged a roof at Western Nevada Community College in Carson City.							
NVZ003		Greater Reno/Carson City/Minden Area							
	08	1600PST			0	0	50K		High Wind (G70)
		1800PST							
		Strong winds blew a large cottonwood tree onto a home in Gardnerville, causing roof and porch damage.							
NVZ002		Greater Lake Tahoe Area							
	08	1800PST			0	0			Heavy Snow
	09	0600PST							
		Mt. Rose ski area reported 12 inches of new snow in 12 hours.							
NVZ003		Greater Reno/Carson City/Minden Area							
	08	2210PST			0	0			High Wind (G56) ^M
		Spotter report of wind gust to 64 mph.							
NVZ003		Greater Reno/Carson City/Minden Area							
	08	2215PST			0	0			High Wind (G61) ^M
		Report of 70 mph gust near Mogul, NV at the 5200 foot elevation.							
NVZ003		Greater Reno/Carson City/Minden Area							
	09	2300PST			0	0			High Wind (G52) ^M
		2330PST							
		Wind gusts to 60 mph recorded by automated sensors in southern Washoe County.							
NEW HAMPSHIRE, North and Central									
NVZ001>006-008>009		Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton - Southern Carroll - Merrimack - Belknap							
	06	0000EST			0	0			Moderate Snowfall
		1100EST							

Storm Data and Unusual Weather Phenomena

November 2002

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

NHZ007	Sullivan	06 0000EST			0	0			Heavy Snow
		0720EST							
NHZ014	Coastal Rockingham	06 1044EST			0	0			Coastal Flood
		1304EST							

Low pressure moving northeastward along the coast from the Mid-Atlantic States brought a mixture of weather to the state. About 8 inches of snow fell over much of Sullivan County before the precipitation changed to rain around daybreak. Across Merrimack, Belknap, Grafton, Carroll, and Coos Counties, 2 to 6 inches of snow fell before the precipitation turned to rain. Along the immediate coast, most of the precipitation fell as rain, but high astronomical tide combined with northeasterly winds caused tidal flooding. Particularly hard hit was the Hampton Beach area where many of the roads were flooded.

NHZ001>003-005>010 Northern Coos - Southern Coos - Northern Grafton - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford

		16 1900EST			0	0			Moderate Snowfall
		17 1100EST							
NHZ004	Northern Carroll	16 2100EST			0	0			Heavy Snow
		17 0900EST							

NHZ005>010-013>014 Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford - Interior Rockingham - Coastal Rockingham

		17 0000EST			0	0			Freezing Rain
		2300EST							

A rapidly intensifying area of low pressure moving northeastward from the Florida Panhandle on the morning of the 16th to the Delmarva Peninsula on the morning of the 17th to near Nova Scotia by the morning of the 18th brought a mixture of precipitation to the state. About 6 inches of snow fell in northern Carroll County with 2 to 6 inches across most of the remainder of the state, except Rockingham and Strafford Counties where accumulations were generally 2 inches or less. The snow changed to sleet and/or freezing rain in most areas before the precipitation ended. Across southern areas, the weight of the freezing rain caused branches and trees to fall onto power lines causing scattered power outages. Coastal areas and higher terrain were hardest hit.

NEW HAMPSHIRE, Southern

NHZ011>012	Cheshire - Hillsborough	16 2200EST			0	0	150K		Ice Storm
		17 1500EST							

A major ice storm caused significant damage in southwest New Hampshire. There were numerous reports of downed trees, limbs, and power lines as a result of one-half inch of icing. An estimated 7,000 customers in Cheshire and Hillsborough Counties were left without power because of the storm.

In the Monadnock Region, roads were nearly impassable from the wintry combination of snow and ice. A tree crashed through a house in Marlborough after being weighted down by ice. Power outages were reported in Jaffrey, Rindge, Fitzwilliam, and Troy, and as far east as Manchester.

NEW JERSEY, Northeast

NONE REPORTED.

NEW JERSEY, South and Northwest

NJZ001-007>010-012>027	Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Northwestern Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean - Southeastern Burlington	01 0000EST			0	0	0		Drought
		25 0900EST							

An unseasonably wet November ended the meteorological drought across New Jersey. A series of northeasters on November 5th and 6th, November 11th and 12th, November 16th and 17th dropped more precipitation than is normal for the month of November. The preliminary statewide average monthly precipitation for November was 5.27 inches. Normal is 3.71 inches. On a county weighted average November monthly precipitation ranged from 4.1 inches in Warren County to 6.2 inches in Atlantic County. The wettest part of the state in November was the southeast. On November 25th, the Delaware River Basin Commission dropped their drought emergency for the entire Delaware River Basin. Streamflows have returned to normal. Lower basin reservoirs in Eastern Pennsylvania (Beltzville, Blue Marsh and Nockamixon) returned to normal and there was no longer a need for water storage in the F.E. Walter Dam (in Pennsylvania) to supplement the base flow of the Delaware River south of Trenton. The New York City reservoirs at the headwaters of the Delaware River increased from 57.6 percent of capacity on November 1st to 71.5 percent of capacity on December 1st. Storage on December 1st was 13 percent above normal and 135 billion gallons greater (or 300 percent higher) than levels on December 1, 2001. By the middle of the month, the Monmouth County reservoirs (Manasquan, Swimming River and Glendola) were all between 90 and 100 percent of capacity. Even groundwater levels in the southern part of the state

Storm Data and Unusual Weather Phenomena

November 2002

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

NEW JERSEY, South and Northwest

(which normally are the last to respond) were rising. One last legacy of the drought was the death of thousands of Christmas tree saplings across the state. Christmas tree farms are not normally irrigated. It was estimated that 50 percent of seedlings and early age trees and 25 to 50 percent of young trees died of thirst.

The November monthly precipitation in Trenton was 4.63 inches, at the Atlantic City International Airport was 5.96 inches (6th wettest on record) and 6.57 inches at the Marina within Atlantic City.

NJZ012>014-014-023>024-024>026

Middlesex - Western Monmouth - Eastern Monmouth - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean

05	0700EST								
		0	0				0		Coastal Flooding
06	1100EST								

Some of the highest spring tides of the year combined with a weak onshore flow produced pockets of minor tidal flooding during the morning of the 5th. The following morning, a northeaster, combined with the spring tides, produced widespread minor tidal flooding as well as some isolated pockets of moderate flooding. The worst coastal flooding occurred in northern New Jersey and in the back bays. In Atlantic City, flooding occurred along the intersection of West End and Albany Avenues. The northeaster also produced some minor beach erosion, but less than what occurred with the mid-October northeaster. Highest tides included 7.60 feet above mean lower low water at Sandy Hook, 7.51 feet above mean lower low water at Cape May, 7.06 feet above mean lower low water in Atlantic City and 5.72 feet above mean lower low water in Sea Bright (Monmouth County). The northeaster responsible for the flooding moved from northeast Louisiana the morning of the 5th to Long Island by 7 a.m. EST on the 6th. The central pressure was about 995 millibars, slightly weaker than the mid-October northeaster. The northeaster's fast movement made this a one high tide cycle event which helped minimize the damage.

NJZ013>014-020-026

Western Monmouth - Eastern Monmouth - Western Ocean - Eastern Ocean

16	1700EST								
		0	0						Strong Wind
17	0500EST								

NJZ014-020-023>026

Eastern Monmouth - Western Ocean - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean

17	0400EST								
		0	0				0		Coastal Flooding
	0800EST								

A northeaster produced strong winds across Ocean and Monmouth Counties and some minor tidal flooding during the morning high tide on the 17th. The highest measured wind gust was 55 mph at Barnegat Light (Ocean County). Several trees were knocked down in Monmouth County. One downed tree in Middletown Township knocked out power for three blocks. During the morning high tide, minor flooding was reported on roads hugging Barnegat Bay and the Toms River in Ocean County. The tidal flooding was exacerbated by runoff from the heavy rain that fell during the night. Doppler Radar Storm Total Estimates ranged between one and three inches. Highest reported tides included 6.81 feet above mean lower low water at Sandy Hook and 6.80 feet above mean lower low water at Cape May. Minor tidal flooding normally begins with tides above 6.70 feet above mean lower low water. Only minor beach erosion was reported, but sand covered the boardwalk in Lavallette (Ocean County). The northeaster that affected the region moved from the eastern Gulf of Mexico the morning of the 16th, to near Cape May the morning of the 17th (central pressure about 1000 millibars) to Nova Scotia by the morning of the 18th. While the central pressure of this northeaster was not as low as some of the others so far this autumn, a high pressure system over New England and nearby Canada increased the pressure gradient which subsequently increased the wind and the onshore flow.

NJZ001

Sussex

16	1800EST								
		0	0						Ice Storm
17	0800EST								

An ice storm affected higher elevations (mainly above 1,000 feet) of Sussex County during the night of the 16th. Between one and two inches of ice accrued to exposed surfaces. Numerous trees were knocked down and they toppled onto electrical transmission lines. Hardest hit were Vernon and Wantage Townships. In Vernon Township, the hardest hit areas were Barry Lakes, Hidden Valley, Highland Lakes, Lake Panorama and Lake Wanda. Jersey Central Power and Light and Sussex Rural Electric Cooperative reported about 2,500 of their customers lost power. A shelter was opened at the Highland Lakes Country Club in Vernon. Power restoration was complicated by trees and wires which continued to fall through Monday the 18th. Schools were closed in Vernon on the 18th because of tree debris on the roads. A tree fell on a shed in Vernon and a meter was ripped from another home. Otherwise, very little property damage was reported. Because the ground was still relatively warm, little ice accrued to road surfaces. Precipitation started as rain before dawn on the 16th and fell as rain most of the day. Freezing rain began mixing with the rain around 6 p.m. EST and precipitation changed to freezing rain over the higher terrain between 7 and 10 p.m. EST. In the valleys, precipitation fell as plain rain throughout this event. As another northeaster was heading northeast along the Atlantic Seaboard, a high pressure system built into nearby Canada and New England. The circulation around these two systems brought colder air near the surface into the Poconos and helped change the rain to freezing rain and sleet.

**Somerset County
Countywide**

17	0432EST								
		0	0						Flood
19	0715EST								

A northeaster produced steady rain, heavy at times, across Somerset County. This continued a trend of wetter than normal conditions that started in the first half of October and ended the drought. The rain began around sunrise on the 16th and continued steadily through the morning of the 17th. The heaviest rain fell between 1 a.m. and 2 a.m. EST on the 17th when 0.40 fell at the Somerville Airport. Doppler Radar Storm Total Estimates averaged between 1.5 and 2.0 inches. This was enough rain given the already near

Storm Data and Unusual Weather Phenomena

November 2002

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

NEW JERSEY, South and Northwest

saturated soil conditions to produce flooding along the North Branch of the Raritan River and the Millstone River. The North Branch of the Raritan River at South Branch was above its 6.9 foot flood stage from 730 a.m. EST through 1209 p.m. EST on the 17th. It crested at 7.30 feet at 10 a.m. EST on the 17th. The Millstone River at Griggstown was above its 9 foot flood stage from 432 a.m. EST on the 17th through 715 a.m. EST on the 19th. It crested at 11.31 feet at 5 a.m. EST on the 18th. Storm totals included 1.90 inches in Somerville. The northeaster that affected the region moved from the eastern Gulf of Mexico the morning of the 16th, to near Cape May the morning of the 17th (central pressure about 1000 millibars) to Nova Scotia by the morning of the 18th. While the central pressure of this northeaster was not as low as some of the others so far this autumn, a high pressure system over New England and nearby Canada increased the pressure gradient which subsequently increased the amount of moisture that was ingested and then precipitated by this system.

NJZ013>014-020-022>023-025>026 **Western Monmouth - Eastern Monmouth - Western Ocean - Western Atlantic - Western Cape May - Eastern Atlantic - Eastern Ocean**

23	0100EST 1300EST				0	0			Strong Wind
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NJZ024 **Eastern Cape May**

23	0100EST 1300EST				0	0			High Wind (G50) ^M
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A rapidly intensifying low pressure system that went from the eastern Great Lakes through New England and the Canadian Maritimes produced strong and locally high winds across Eastern New Jersey. The strongest winds occurred between midnight EST and noon EST on the 23rd. The strongest recorded wind gust was 58 mph in Avalon (Cape May County). Other peak wind gusts included 52 mph in Keansburg (Monmouth County) and at the Atlantic City International Airport, 49 mph in Sandy Hook (Monmouth County), 47 mph at Barnegat Light (Ocean County) and 44 mph in Cape May (Cape May County).

NJZ001-007-009 **Sussex - Warren - Hunterdon**

26	2200EST				0	0			Snow
27	0800EST								

A weak low pressure system that developed on a stalled frontal boundary in the Tennessee Valley on the 26th brought snow to northwestern New Jersey. Accumulations ranged between 1 and 4 inches with the highest amounts in Sussex County. Precipitation began and fell as snow throughout the event in the higher terrain of Sussex County. Elsewhere, precipitation started as rain during the evening of the 26th and mixed with and changed over to snow between 11 p.m. EST on the 26th and 1 a.m. EST on the 27th. The cold air near the surface was limited and the changeover was elevation dependent and took longer in the valleys. Except for parts of Sussex County, the snow had a hard time sticking to roadways as temperatures were above freezing for several days prior to the snow's arrival. Cold air arrived after the low's passage and gave parts of Sussex County a White Thanksgiving (on the 28th). Accumulations included 3.9 inches in Barry Lakes (Sussex County), 3.5 inches in Wantage (Sussex County) and Chester (Morris County), 3.0 inches in Chatham (Morris County), 2.8 inches in Sussex (Sussex County), 2.7 inches in Marcella (Morris County) and 1.5 inches in Hackettstown (Warren County).

NEW MEXICO, Central and North

NONE REPORTED.

NEW MEXICO, South Central and Southwest

NMZ025 **Southern Sacramento Mountains**

26	0400MST 1100MST				0	0			Heavy Snow
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Snowfall amounts ranged from 6 inches in Cloudcroft to 11 inches in Mayhill, all within 12 hours.

NEW MEXICO, Southeast

NONE REPORTED.

NEW YORK, Central

NYZ009-036>037-045>046-057-062 **Northern Oneida - Madison - Southern Oneida - Chenango - Otsego - Delaware - Sullivan**

16	1300EST				0	0	85K		Ice Storm
17	0900EST								

Preceding this event a cold front went through the night of the 15th to the 16th. This dropped up to 4 inches of snow but more importantly sent temperatures into the 20s. At the start of the event temperatures were from the upper 20s to around 30 degrees Fahrenheit. During this event, low pressure moved up the Atlantic coast. The storm spread copious moisture north ahead of it. Water equivalents were between half an inch and an inch and a half. The higher amounts were in Sullivan County. In general the higher elevations had a thicker coat of ice. Above 1800 feet in Sullivan County the ice was one inch thick. Further north in Oneida and Madison Counties a northeast low level flow kept temperatures at or just below freezing for a longer period. The weight of the ice on the trees and wires brought down wires and closed roads. More snow the night of the 16th to the 17th brought more trees and wires down. Five to ten thousand customers lost power across the area. To a few hundred customers power was not restored for four days.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Property	Crops	Character of Storm
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NEW YORK, Central
NYZ018

Onondaga

30	2100EST				0	0			Heavy Snow
	2359EST								

A strong cold front moved through central New York during the evening of November 30th. This brought another blast of arctic air. Lake effect snow moved into northern Onondaga County late on the 30th. It continued well into the first of December. The snow was heavy at times accumulating 6 to 10 inches across northern Onondaga County. Locations which had this snowfall included Syracuse, North Syracuse, Clay, Camillus, and Lysander.

NEW YORK, Coastal

NONE REPORTED.

NEW YORK, East

NYZ032-039-041>043-050 Northern Herkimer - Fulton - Northern Saratoga - Warren - Washington - Southern Saratoga

05	1900EST				0	0	110K	Snow
06	0700EST							

A fast moving area of low pressure moved from the Mississippi Valley, east to off the Delmarva peninsula late November 5th. This storm then rapidly intensified as it moved off the Cape Cod coast on November 6. With enough cold air in place, this storm spread another round of unseasonably early snow across the Capital District and points northward. While snowfall amounts did not reach winter storm thresholds anywhere in eastern New York, the weight of a very wet snow on trees retaining their leaves unusually late into the fall season resulted in many downed limbs trees and power lines throughout the Lake George Saratoga region, as well as the northern portions of the Mohawk Valley. Snowfall amounts were generally in the 2-6 inch range from a Gloversville-Saratoga Springs line and points northward. However, power outages were widespread with as many as 46,000 people reported without power due to the storm.

NYZ032>033-038>043-047>054-058>061-063>066 Northern Herkimer - Hamilton - Southern Herkimer - Fulton - Montgomery - Northern Saratoga - Warren - Washington - Schoharie - Western Schenectady - Eastern Schenectady - Southern Saratoga - Western Albany - Eastern Albany - Western Rensselaer - Eastern Rensselaer - Western Greene - Eastern Greene - Western Columbia - Eastern Columbia - Western Ulster - Eastern Ulster - Western Dutchess - Eastern Dutchess

17	0000EST				0	0	270K	Winter Storm
	0900EST							

A strong nor'easter developed off Cape Hatteras on Saturday, November 16. The low pressure center then slowly moved north along the coast, reaching Cape Cod by late November 17. At the same time, a shallow layer of arctic air bled south from eastern Canada. The air was cold enough to produce a heavy wintery mix of precipitation during a good portion of the storm across eastern New York. Initially, the precipitation fell as snow, or snow and sleet mixed. A 1-3 inch swath of snow was observed from about Albany southward. A 3-6 inch swath of snow fell north of Albany. As warmer air worked in aloft, the snow changed to sleet, then freezing rain. Freezing rain was more extensive south of Albany, where up to 58,000 customers lost power in the Mid Hudson Valley. Ice accretion was between one-half and one inch. Western Ulster County was especially hard hit where in addition to the ice, winds frequently gusted to 30 mph and, with lingering leaves on the trees, brought many trees and power lines down. Further north, the combination of snow, sleet and freezing rain still caused up to 1,000 customers in the Lake George Saratoga region to loose power, and spotty power losses elsewhere in the Capital District. In addition, there was a loss of significant limbs on trees and dangerous travel conditions. As warmer air worked in, temperatures finally reached above the freezing mark across the region, putting an end to the winter precipitation on Sunday morning. However, on the back side of the storm, additional snow fell. While these additional accumulations were relatively minor, the snow did produce tricky travel again late Sunday into early Monday. Some customers in the Mid Hudson Valley were without power for several days.

NEW YORK, North

NYZ028-031-034>035 Northeast Clinton - Southwest Clinton - Western Essex - Eastern Essex

06	0100EST				0	0	4K	Light Snow
	0700EST							

An area of low pressure over the Ohio Valley weakened Tuesday evening (November 5th) as a new storm system organized along the Virginia coast. This new storm system moved northeast overnight, and passed across south coastal New England Wednesday morning (November 6th). Across this portion of northern New York, generally between 1 and 3 inches of snow fell.

NYZ026-029 Northern St. Lawrence - Southern St. Lawrence

17	0400EST				0	0	2K	Light Snow
18	0400EST							

A complex storm system which extended along the east coast of the US from Cape Cod south to Cape Hatteras spread a mixture of sleet, freezing rain and light snow across St Lawrence county during Sunday. Colder air moved in as the storm system intensified near Cape Cod Sunday night (November 17th) with snow accumulations Sunday night into early Monday morning (November 18th) generally 2 to 4 inches.

NYZ027-030-034>035 Northern Franklin - Southern Franklin - Western Essex - Eastern Essex

17	0400EST				0	0	20K	Winter Storm
18	0800EST							

A complex storm system which extended along the east coast of the US from Cape Cod south to Cape Hatteras spread a mixture of

Storm Data and Unusual Weather Phenomena

November 2002

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

sleet, freezing rain and light snow across much of northern New York during Sunday, November 17th. Colder air moved in as the storm system reorganized and intensified near Cape Cod Sunday night (November 17th) with periods of heavy snow. Accumulations Sunday night into early Monday morning (November 17-18th) were generally 5 to 8 inches. Several school districts closed in Franklin county, NY. A number of power outages were reported in Essex county, NY due to the heavy wet snow.

NYZ028-031

Northeast Clinton - Southwest Clinton

17	0400EST				0	0	10K		Winter Storm
18	0800EST								

A complex storm system which extended along the east coast of the US from Cape Cod south to Cape Hatteras spread a mixture of sleet, freezing rain and light snow across much of northern New York during Sunday, November 17th. Colder air moved in as the storm system reorganized and intensified near Cape Cod Sunday night (November 17th) with heavy snow. Accumulations Sunday night into Monday morning (November 17-18th) were generally 8 to 13 inches. The greatest amount reported was 12.7 inches in Peru.

NYZ026-029-031

Northern St. Lawrence - Southern St. Lawrence - Southwest Clinton

23	0000EST				0	0	2K		Light Snow
	0800EST								

Low pressure over western New York Friday afternoon (November 22nd) consolidated with a storm off the east coast Friday night. This system moved through Maine Saturday, November 23rd. Periods of snow fell across the St Lawrence Valley region of NY as well as in southwest portions of Clinton county, with accumulations generally 3 to 5 inches.

NYZ027>028-030-034

Northern Franklin - Northeast Clinton - Southern Franklin - Western Essex

23	0630EST				0	0	20K		Winter Storm
	0845EST								

Low pressure over western New York Friday afternoon (November 22nd) consolidated with a storm off the east coast Friday night. This system moved through Maine Saturday, November 23rd. Heavy snow in northern New York was generally restricted to the Adirondacks where most areas received between 6 and 9 inches of snow.

NYZ026>027-029>030-034

Northern St. Lawrence - Northern Franklin - Southern St. Lawrence - Southern Franklin - Western Essex

29	0400EST				0	0	5K		Light Snow
	1400EST								

A low pressure system moved east across southern Canada during Friday, November 29th. The associated Warm front moved across the area and along with moisture from Lake Ontario triggered light snow over the area. Generally around 4 inches of snow fell.

NEW YORK, West

NYZ006-008

Oswego - Lewis

01	1015EST				0	0	10K		Heavy Snow
02	2040EST								

A sharp arctic front dropped across the region and resulted in lake effect snows off Lake Ontario. The initial band of snow developed across the Tug Hill Plateau remaining nearly stationary for almost twelve hours. The plume became disorganized for awhile, but reorganized across parts of northeast Wayne, northern Cayuga and Oswego counties. Reported snow totals included: (in Lewis county) North Osceola 19 inches and Highmarket 18 inches; and (in Oswego county) Minetto 7 inches.

Cattaraugus County

Limestone

10	2245EST				0	0	15K		Thunderstorm Wind (G50)
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NYZ012>014-020>021

Wyoming - Livingston - Ontario - Cattaraugus - Allegany

17	0500EST				0	0	210K		Ice Storm
	0900EST								

Low pressure brought a mixture of rain, freezing rain and snow to the the southern tier and the western Finger Lakes region. The weight of the ice and snow brought down limbs and power lines. Power outages were reported in Livingston, Allegany and Ontario counties. Numerous automobile accidents, some with injuries, were blamed on the icy conditions.

NYZ006>008-019>020

Oswego - Jefferson - Lewis - Chautauqua - Cattaraugus

28	1805EST				0	0	25K		Heavy Snow
29	0700EST								

Cold westerly winds blowing across Lakes Erie and Ontario resulted in plumes of lake effect snow. The lake snows lasted for approximately 24 hours. Reported snow amounts off Lake Erie included: Dunkirk 8" and Perrysburg 7". Off Lake Ontario, reports included: North Osceola 20"; Highmarket 16"; Barnes Corners and Castorland 12"; and Lowville 10".

NORTH CAROLINA, Central

Harnett County

Lillington

05	2300EST				0	0		Thunderstorm Wind (G50)
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Steel studs at a construction site were blown down; large tree limbs were also blown down on Highway 401 north of Lillington.

Forsyth County

Winston Salem

11	0730EST				0	0		Thunderstorm Wind (G50)
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Trees were blown down on Glenn High Road and Salem Chapel Road.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>NORTH CAROLINA, Central</u>									
Moore County									
Carthage	11	0855EST			0	0			Thunderstorm Wind (G50)
			Trees and powerlines were blown down.						
Richmond County									
Ellerbe	11	0900EST			0	0			Thunderstorm Wind (G50)
			Trees were blown down just north of Ellerbe.						
Hoke County									
8 NW Raeford	11	0930EST			0	0			Thunderstorm Wind (G50)
			Trees were blown down along Highway 211.						
Lee County									
Tramway	11	0930EST			0	0			Thunderstorm Wind (G50)
			Trees and powerlines were blown down near South Plank Road and Highway 15-501.						
Wake County									
6 S Rolesville	11	1000EST			0	0			Thunderstorm Wind (G50)
			Several trees were blown down.						
Cumberland County									
6 SW Godwin	11	1015EST			0	0			Thunderstorm Wind (G50)
			Trees were blown down near Smithfield Road and Highway 82.						
Johnston County									
Clayton	11	1015EST			0	0			Thunderstorm Wind (G50)
			Trees were blown down on Winston Road.						
Sampson County									
Clinton	11	1025EST			0	0			Thunderstorm Wind (G50)
			Several trees were blown down on State Road 1317.						
Wayne County									
7 N Goldsboro	11	1100EST			0	0			Thunderstorm Wind (G50) ^M
			Trees and powerlines were blown down, and a tree fell onto a car.						
Sampson County									
7 N Clinton	11	1105EST			0	0			Thunderstorm Wind (G50)
			Several trees were blown down along State Road 1627.						
Wayne County									
5 SE Goldsboro	11	1120EST			0	0			Thunderstorm Wind (G50)
			Trees were blown down.						
Scotland County									
Wagram	12	0815EST 0930EST			0	0			Flash Flood
			Aberdeen Road was closed, flooded with a foot of water.						
<u>NORTH CAROLINA, Central Coastal</u>									
Greene County									
Snow Hill to Lizzie	11	1122EST 1130EST			0	0	20K		Thunderstorm Wind (G52)
			Severe thunderstorm with up to 80 mph wind blew down numerous trees from Snow Hill to Lizzie. One pickup truck was destroyed by a falling tree in Lizzie and a shed was blow away by the high winds.						
Pitt County									
Farmville	11	1125EST			0	0			Thunderstorm Wind (G52)
			Numerous trees and power lines were blown down across Pitt county. One tree caused minor roof damage to a home in Greeville.						
Pitt County									
Greenville	11	1140EST			0	0	1K		Thunderstorm Wind (G52)
Duplin County									
Warsaw	11	1133EST			0	0			Thunderstorm Wind (G52)
Lenoir County									
Kinston	11	1147EST			0	0			Thunderstorm Wind (G50)
Martin County									
Williamston to Jamesville	11	1202EST 1205EST			0	0			Thunderstorm Wind (G50)
			Severe thunderstorm winds knocked down numerous trees and power lines from Williamston to Jamesville.						
Duplin County									
Beulaville	11	1207EST			0	0			Thunderstorm Wind (G52) ^M

Storm Data and Unusual Weather Phenomena

November 2002

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

Jones County

Phillips Xrds to Comfort 11 1220EST
1230EST 0 0 **Thunderstorm Wind (G52)**

Severe thunderstorm winds blew down numerous trees and power lines across western Jones county.

Washington County

Plymouth 11 1225EST 0 0 **Thunderstorm Wind (G50)**

Several trees and power lines down in and around Plymouth.

Craven County

New Bern 11 1245EST 0 0 **Thunderstorm Wind (G52)**

Trees and power lines were knocked down by high winds in and around New Bern, reported by WCTI TV12.

Onslow County

North Topsail Beach 12 1155EST 0 0 **Thunderstorm Wind (G52)** ^M

Onslow County

Swansboro 12 1214EST 0 0 **Thunderstorm Wind (G54)** ^M

Carteret County

Cedar Pt to Salter Path 12 1223EST
1235EST 0 0 **Thunderstorm Wind (G52)** ^M

NORTH CAROLINA, Extreme Southwest

Cherokee County

Countywide 11 0137EST 0 0 15K **Thunderstorm Wind**

Several trees were reported down across the county.

NORTH CAROLINA, North Coastal

Bertie County

Windsor to Colerain 11 1230EST 0 0 2K **Thunderstorm Wind**

Trees down at Republican Road in Windsor, and Pine Ridge and Farless Roads in Colerain.

Camden County

Camden 11 1320EST 0 0 2K **Thunderstorm Wind**

Trees down.

NORTH CAROLINA, Northwest and North Central

NCZ001>002-018

Ashe - Alleghany - Watauga
06 1400EST
1930EST 0 0 10K **High Wind**

High winds during the afternoon and evening of the 6th downed trees across Ashe, Alleghany, and Watauga counties. One tree fell onto a house in West Jefferson damaging the roof.

Rockingham County

Stoneville 11 0755EST 0 0 0 **Thunderstorm Wind**

Thunderstorms winds during the morning of the 11th downed trees in Stoneville.

NCZ001-018

Ashe - Watauga
30 2000EST
2300EST 0 0 10K **High Wind**

High winds during the afternoon of the 30th downed trees in Ashe and Watauga counties. In Boone a roof was damaged by a fallen tree.

NORTH CAROLINA, South Coastal

New Hanover County

Wrightsville Beach 12 1125EST 0 0 **Thunderstorm Wind (G50)** ^M

Wrightsville Beach police department reported a measured 58 mph wind gust.

Pender County

2 NW Hampstead 12 1133EST 0 0 5K **Thunderstorm Wind (G56)**

NWS employee (off duty) estimated a 65 mph wind gust at his residence. The strong winds blew a tree down onto a car.

Pender County

Surf City 12 1145EST 0 0 **Thunderstorm Wind (G59)** ^M

Surf City bridge reported a measured 68 mph wind gust.

NORTH CAROLINA, Southwest

NCZ034-050-053-055>056-067

Caldwell - Mitchell - Buncombe - Burke - Catawba - Rutherford
06 1000EST
2000EST 0 0 **High Wind (G50)**

High winds behind a cold front caused numerous trees to fall across portions of the mountains and foothills of North Carolina.

Storm Data and Unusual Weather Phenomena

November 2002

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

Swain County									
Nantahala	11	0100EST			0	0	1K		Thunderstorm Wind (G50)
Trees were blown down in Nantahala gorge. Other scattered tree damage was reported across the county.									
Graham County									
Countywide	11	0100EST			0	0	2K		Thunderstorm Wind (G55)
Numerous trees were blown down and power outages occurred across the county.									
Macon County									
10 N Franklin	11	0130EST			0	0			Thunderstorm Wind (G50)
A few trees were blown down.									
Transylvania County									
5 S Brevard	11	0415EST			0	0	1K		Thunderstorm Wind (G50)
A number of tree and power lines were blown down.									
Henderson County									
Hendersonville	11	0430EST			0	0			Thunderstorm Wind (G50)
Several trees were blown down.									
Polk County									
Columbus	11	0500EST			0	0			Thunderstorm Wind (G50)
Several trees were blown down.									
Rutherford County									
Forest City	11	0525EST			0	0	3K		Thunderstorm Wind (G55)
Numerous trees and power lines were blown down in and near Forest City.									
Union County									
5 N Marshville	11	0820EST			0	0	1K		Thunderstorm Wind (G55)
Numerous trees were blown over or uprooted.									
Cleveland County									
Kings Mtn	12	1200EST			0	0			Urban/Sml Stream Fld
		1600EST							
Clogged storm drains contributed to flooding of several streets.									
NCZ033-048>050-052 Avery - Madison - Yancey - Mitchell - Haywood									
	17	0300EST			0	0			Gusty Winds
		2100EST							
NCZ033-048>050-052 Avery - Madison - Yancey - Mitchell - Haywood									
	17	0300EST			0	0			Snow
		2100EST							
The first snow of the season brought an inch or two of accumulation to the higher elevations of the North Carolina mountains. Winds also gusted to 45 mph in some loactions.									
NCZ033-048>050-052 Avery - Madison - Yancey - Mitchell - Haywood									
	22	0600EST			0	0			Gusty Winds
	23	0200EST							
NCZ033-048>050-052 Avery - Madison - Yancey - Mitchell - Haywood									
	22	0600EST			0	0			Snow
	23	0200EST							
Snow accumulated to as much as 5 inches on the highest peaks along the Tennessee border. Also, wind gusts resulted in scattered tree damage across the area.									
NCZ048-050-052>053 Madison - Mitchell - Haywood - Buncombe									
	30	1200EST			0	0			High Wind (G50)
		1800EST							
Numerous trees and large tree limbs were blown down. Power outages were also reported.									

NORTH DAKOTA, Central and West

NDZ001>005-009>013-017>023-025-031>037-040>048-050>051 Divide - Burke - Renville - Bottineau - Rolette - Williams - Mountrail - Ward - Mchenry - Pierce - Mckenzie - Dunn - Mercer - Oliver - Mclean - Sheridan - Wells - Foster - Golden Valley - Billings - Stark - Morton - Burleigh - Kidder - Stutsman - Slope - Hettinger - Grant - Bowman - Adams - Sioux - Emmons - Logan - La Moure - Mcintosh - Dickey									
	29	0800CST			0	0			High Wind (G61) ^M
		1915CST							
After record high temperatures on Thanksgiving day a strong Canadian cold front moved rapidly south through the state producing strong northwest winds of 40 to 70 mph over western and central North Dakota. The winds diminished during the evening hours. The cold front brought much colder air and a few snow showers to the region Friday night and Saturday.									

Storm Data and Unusual Weather Phenomena

November 2002

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

NDZ008-016-027-030-039 Pembina - Eastern Walsh - Grand Forks - Trail - Cass

	29	0415CST 1522CST			0	0			High Wind (G50) ^M
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A strong cold front moved through the northern plains and produced a period of strong winds. The highest gust was reported at St. Vincent, MN, at 58 mph.

OHIO, East

Coshocton County

Canal Lewisville	10	1840EST			0	0			Hail (2.50)
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Tuscarawas County

2 S New Philadelphia	10	1900EST			0	0			Hail (0.75)
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Carroll County

2.5 SW Sherrodsville	10	1930EST	IN QUEENSBORO		0	0			Hail (0.75)
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Carroll County

Dellroy	10	1935EST			0	0	5K		Thunderstorm Wind
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TREES DOWNED BY WIND

Coshocton County

Countywide	10	2045EST			0	0	10K		Thunderstorm Wind
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Trees and power lines down.

Columbiana County

2 N East Palestine	10	2056EST			0	0	10K		Thunderstorm Wind
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TREES AND UTILITY POLES DOWNED BY WIND

Guernsey County

Cambridge	10	2105EST			0	0			Hail (0.75)
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Tuscarawas County

3 S New Philadelphia	10	2108EST			0	0			Hail (0.75)
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Harrison County

Countywide	10	2120EST			0	0	5K		Thunderstorm Wind
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Several trees down.

Jefferson County

Adena	10	2143EST			0	0	15K		Thunderstorm Wind
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Parts of two roofs blown off on East Main St.

Belmont County

Colerain	10	2150EST			0	0	2K		Thunderstorm Wind
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Tree blown down, across route 250.

Jefferson County

Steubenville	10	2150EST			0	0			Thunderstorm Wind (G52) ^M
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60 mph gust knocked down power lines, cutting power to 800 customers.

Belmont County

Flushing	10	2200EST			0	0	2K		Thunderstorm Wind
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Tree blown down, across route 149.

Columbiana County

East Palestine	10	2204EST			0	0	1K		Thunderstorm Wind
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Power lines blown down.

Columbiana County

Wellsville	10	2228EST			0	0	2K		Thunderstorm Wind
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Trees blown down.

OHIO, North

Wood County

Countywide	10	1645EST 1725EST			0	0	500K		Thunderstorm Wind (G50)
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Straight line thunderstorm winds caused considerable damage across Wood County. Several homes and a garage were damaged in Tontogany. The Weston area was also hard hit. Several homes were damaged, a car was destroyed and 26 power poles were toppled on the northwest side of the town. Over a dozen trees were downed in Haskins and a semi truck was blown over on Interstate 75 near State Route 582. Scattered trees were also reported down elsewhere across the county.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North

Wood County

Jerry City

10	1654EST 1701EST	4.5	50	0	0	850K	Tornado (F1)
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A tornado touched down southwest of Jerry City and then moved northeast for approximately four and a half miles before dissipating. Seven homes sustained varying degrees of roof damage and three garages were destroyed on the southwest side of Jerry City. To the northeast a few hundred yards, the city maintenance garage was leveled. As the tornado exited Jerry City, it knocked a house off of its foundation. From Jerry City, the tornado moved northeast across open farmland and destroyed a large barn as it crossed Huffman Road. A home on Bloomdale Road was slightly damaged with the tornado finally lifting near Reynolds Road just north of State Route 281. Several vehicles were destroyed by this tornado and hundreds of trees downed along the damage path which was no more than 50 yards in width.

Wood County

Stony Ridge

10	1710EST	0.1	25	0	0	0	Tornado (F0)
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Law enforcement officers witnessed a small tornado touch down in an open area near the intersection of U.S. Highway 20 and Stoney Ridge Road in Troy Township. The tornado was only on the ground for a few hundred feet and caused no damage.

Wood County

Millbury

10	1719EST 1720EST	0.5	25	0	0	325K	Tornado (F1)
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A tornado touched down in a wooded area between Main Street and Hille Drive. The tornado then traveled northeast for approximately one half mile before dissipating along Fostoria Road just north of State Route 51. A home on Emily Drive lost its entire roof and had a wall collapse. Four other homes in the area lost sections of roof. Around a dozen trees were toppled along the damage path which was less than 25 yards in width.

Ottawa County

Port Clinton to Catawba Is

10	1730EST 1745EST	10	50	0	4	13.5M	Tornado (F2)
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Port Clinton tornado damage along Lake Erie near Lakeview Park.

A tornado touched down south of Port Clinton and then moved northeast entering the city just west of the intersection of Wilcox Road and Fulton Road. The tornado moved through the heart of the city reaching Lake Erie at Lakeview Park. From there, the tornado moved northeast over Lake Erie to Catawba Island where it finally dissipated after a ten mile long damage path. Four people suffered minor injuries as a result of the tornado. Hardest hit was the Lakeview Park area where two condominiums were blown off their stilts into Lake Erie and many other structures were destroyed. The initial storm damage in Port Clinton occurred along 11th Street where several homes were heavily damaged or destroyed. Significant damage also occurred near 8th and Fulton Streets. As the tornado moved through the city, it damaged the local high school and a hospital. Significant damage also occurred on Catawba Island with several homes damaged and destroyed before the tornado finally dissipated. A total of 24 homes and 16 apartments were destroyed along the damage path with approximately 60 additional homes damaged enough to be deemed uninhabitable. Another 80 structures sustained minor to moderate amounts of damage. The damage path was typically no more than 50 yards in width. Dozens of vehicles were damaged or destroyed by the tornado and hundreds of trees and power poles were toppled.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm	
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops		
OHIO, North										
Morrow County										
Denmark	10	1650EST			0	0	10K		Hail (1.75)	
			Golf ball size hail was observed near Denmark.							
Hancock County										
Findlay	10	1655EST			0	0	15K		Hail (1.50)	
			Walnut size hail was observed six miles southeast of Findlay.							
Hancock County										
Mt Blanchard	10	1655EST			0	0	20K		Thunderstorm Wind	
			Thunderstorm winds downed trees in Mount Blanchard.							
Lucas County										
Whitehouse	10	1655EST			0	0	10K		Thunderstorm Wind	
			Thunderstorm winds downed a few trees a mile south of Whitehouse.							
Morrow County										
Mt Gilead	10	1655EST			0	0	30K		Thunderstorm Wind	
			Thunderstorm winds downed several trees and a few power poles five miles north of Mount Gilead.							
Wood County										
Bowling Green	10	1701EST			0	0	100K		Thunderstorm Wind (G52)	
			Thunderstorm winds estimated to be in excess of 60 mph blew a semi truck over on Interstate 75 ten miles north of Bowling Green. A car was also damaged.							
Hancock County										
Jenera	10	1705EST			0	0	10K		Hail (1.00)	
			Quarter size hail was observed.							
Hancock County										
Findlay	10	1707EST			0	0			Hail (0.75)	
			Dime size hail was observed southwest of Findlay in Liberty Township.							
Seneca County										
New Riegel	10	1710EST			0	0	5K		Hail (1.00)	
			Quarter size hail was observed near New Riegel.							
Marion County										
Morral	10	1715EST			0	0	250K		Hail (2.50)	
			Tennis to golf ball size hail was observed in Salt Rock Township south of Morral. The hail caused an estimated \$25,000 in damage to a school building that had over thirty windows broken. Many vehicles in the area were also damaged.							
Seneca County										
Tiffin	10	1715EST			0	0	20K		Hail (1.25)	
			Half dollar size hail was observed seven miles east of Tiffin.							
Richland County										
Ontario	10	1716EST			0	0			Funnel Cloud	
			An off duty National Weather Service employee observed a funnel cloud over Ontario moving northeast. No damage occurred.							
Marion County										
Marion	10	1717EST			0	0	5K		Hail (1.00)	
			Quarter size hail was observed north of Marion.							
Richland County										
Mansfield	10	1720EST			0	0	5K		Hail (1.00)	
			Quarter size hail was observed two miles north of Mansfield.							
Crawford County										
Bucyrus	10	1730EST 1745EST			0	0	5K		Hail (0.75)	
			Dime size hail was observed.							
Marion County										
Countywide	10	1730EST 1800EST			0	0	100K		Thunderstorm Wind	
			Thunderstorm winds downed many trees in the western half of the county. At least two homes in Marion were damaged by fallen trees.							
Richland County										
Olivesburg	10	1730EST			0	0	5K		Hail (1.00)	
			Quarter size hail was observed three miles west of Olivesburg.							
Ashland County										
Savannah	10	1740EST			0	0			Hail (0.75)	
			Dime size hail was observed.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
OHIO, North									
Morrow County									
Mt Gilead	10	1740EST			0	0	30K		Thunderstorm Wind
									Thunderstorm winds downed several power poles six miles south of Mount Gilead.
Ashland County									
Nankin to Polk	10	1745EST 1750EST			0	0	5K		Hail (1.00)
									Quarter size hail was observed at Nankin and Polk.
Crawford County									
Countywide	10	1745EST			0	0	25K		Thunderstorm Wind
									Thunderstorm winds downed a few trees and large limbs in the county.
Huron County									
Countywide	10	1745EST 1815EST			0	0	100K		Thunderstorm Wind
									Thunderstorm winds downed many trees in Willard, North Fairfield and near Norwalk. Two homes were significantly damaged by fallen trees in Willard.
Sandusky County									
Bellevue	10	1745EST			0	0	15K		Thunderstorm Wind
									Thunderstorm winds downed many trees on the west side of Bellevue.
Richland County									
Olivesburg	10	1755EST 1758EST			0	0			Hail (1.75)
									Golf ball to quarter size hail was observed three miles west of Olivesburg.
Erie County									
Milan	10	1757EST			0	0	25K		Thunderstorm Wind
									Thunderstorm winds toppled five power poles along U.S. Route 250 north of Milan between Mason Road and State Route 13.
Erie County									
Vermilion	10	1810EST			0	0	600K		Thunderstorm Wind
									Thunderstorm winds caused extensive damage in Vermilion. Many trees and limbs were downed and a mobile home was knocked off it's foundation and heavily damaged. At a marina, several large boats were heavily damaged when the racks holding them were blown over by the high winds spilling the boats on to the ground.
Ashland County									
Ashland	10	1815EST			0	0	20K		Thunderstorm Wind
									Thunderstorm winds downed several trees on the west side of Ashland.
Lorain County									
Amherst	10	1815EST			0	0	30K		Thunderstorm Wind
									Thunderstorm winds downed several trees. At least one home was damaged by fallen trees.
Wayne County									
Wooster	10	1815EST 1830EST			0	0	15K		Thunderstorm Wind
									Thunderstorm winds downed several trees near Wooster.
Lorain County									
Amherst	10	1816EST			0	0	5K		Hail (1.00)
									Quarter size hail was observed.
Knox County									
Gambier	10	1828EST			0	0	100K		Thunderstorm Wind
									Thunderstorm winds downed several trees and large limbs near Gambier. A home lost large sections of roof and siding. A barn nearby also lost a roof. Debris from the barn damaged a second home.
Lorain County									
Lorain to Sheffield	10	1830EST 1850EST			0	0	2.4M		Thunderstorm Wind
									Thunderstorm winds well in excess of 60 mph caused extensive damage in the City of Lorain and Sheffield Lake. A school in Sheffield Lake lost a large section of roof and suffered extensive water damage. 46 homes in the area were damaged by the strong winds, flying debris and fallen trees. Of this total, eight homes were beyond repair and classified as being destroyed. Several homes in Lorain and surrounding areas were also damaged by fallen trees. Hundreds of trees were downed in the county.
Lorain County									
Vermilion On The Lk	10	1832EST			0	0	25K		Thunderstorm Wind (G56) ^M
									A 64 mph thunderstorm wind gust was measured. Many trees were downed.
Medina County									
Seville	10	1845EST			0	0	2K		Thunderstorm Wind
									Thunderstorm winds downed a large tree two miles north of Seville.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
OHIO, North									
Stark County									
Canton to Alliance	10	1845EST 1900EST			0	0	50K		Thunderstorm Wind
									Thunderstorm winds downed scattered trees from Canton and Plain Township eastward through the Louisville and Alliance areas. A few cars were damaged by fallen trees and limbs.
Stark County									
Hartville	10	1850EST			0	0	20K		Thunderstorm Wind (G54) ^M
									A 62 mph thunderstorm wind gust was measured near Hartville. Several trees and large limbs were downed in the area.
Cuyahoga County									
Bedford	10	1900EST			0	0	15K		Thunderstorm Wind
									Thunderstorm winds downed one tree and several large limbs.
Lake County									
Mentor	10	1920EST 1930EST			0	0	20K		Thunderstorm Wind
									Thunderstorm winds downed several trees south of Mentor.
Geauga County									
Chardon	10	1930EST 1940EST			0	0	35K		Thunderstorm Wind
									Thunderstorm winds downed many trees and large limbs northeast of Chardon in Hambden Township.
Mahoning County									
Berlin Center	10	1930EST			0	0	5K		Hail (1.00)
									Quarter size hail was observed.
Mahoning County									
Berlin Center to Austintown	10	1930EST 1940EST			0	0	25K		Thunderstorm Wind
									Thunderstorm winds downed two trees in Berlin Center and several more in Austintown.
Portage County									
Edinburg	10	1930EST			0	0	20K		Thunderstorm Wind
									Thunderstorm winds downed several power poles in Edinburg Township.
Holmes County									
Nashville to Millersburg	10	1940EST			0	0	150K		Thunderstorm Wind
									Thunderstorm winds downed several trees across the county. A barn was blown off it's foundation near Nashville. A nearby house and two cars were also damaged.
Trumbull County									
Niles to Warren	10	2030EST 2040EST			0	0	75K		Thunderstorm Wind (G52)
									Thunderstorm winds were estimated at 60 mph along Interstate 80 near Niles. Many trees were downed in Warren and Niles. At least one house was damaged by fallen trees in Warren.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North
Hancock County
 Arcadia

10	1657EST 1702EST	3.5	50	0	0	11M	Tornado (F2)
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Hancock County tornado damage on the southwest side of Fostoria along State Route 12.

An F1 tornado touched down to the northeast of Arcadia in northeastern Hancock County. The initial touchdown occurred just south of State Route 12 and to the east of County Road 330. From this location the tornado moved northeast and strengthened to F2 intensity as it entered the southwest end of Fostoria. Two businesses were heavily damaged on the outskirts of Fostoria along State Route 12. One of the two, a fertilizer business, had two of its four buildings completely leveled and the remaining two heavily damaged. A nearby gas storage facility had two large storage tanks damaged. Nearby, the tornado derailed two railroad cars near the West Tiffin Street crossing and toppled 19 high voltage transmission poles interrupting power for a large area. Extensive damage was done to neighborhoods on the southwest side of Tiffin with Jeannette Drive, Vickie Lane and West Tiffin Streets hardest hit. As the tornado neared downtown Fostoria it tore the roof off of a high school which allowed rain water to enter the building and damage all three floors. Total damage to the school was estimated to be well over \$500,000. Just east of the school, the community hospital was hit and sustained over \$1 million in damage. The tornado lifted just east of the hospital and touched down a second time on the northeast side of Fostoria (Seneca County). In Fostoria, eight homes were destroyed with nine more homes damaged enough to be declared uninhabitable. An additional 60 to 70 homes sustained minor damage with dozens of cars damaged in varying amounts. Hundreds of trees and power poles were downed along the damage path which was around 50 yards in width.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North

Seneca County

**Fostoria to
Amsden**

10 1702EST 5.5 25 0 0 1.1M Tornado (F1)
1710EST



Seneca County tornado damage northeast of Fostoria near the airport.

After lifting in downtown Fostoria (near the Hancock County border) the tornado touched down again on the northeastern edge of Fostoria. The tornado moved northeast from this location and damaged several homes before reaching the Fostoria Airport where a hanger and office building were damaged. From the airport, the tornado continued northeast across open farmland for a few miles and finally dissipated northwest of Amsden near the intersection of County Road 3 and Township Road 172. Several more homes and barns were damaged along the last half of the tornado track. Many cars were also damaged and hundreds of trees and power poles toppled. The damage path from this tornado in Seneca County was roughly five and a half miles in length and around 25 yards in width.

Sandusky County

**Fremont to
Kingsway**

10 1720EST 3.5 50 0 0 1.3M Tornado (F1)
1725EST

A tornado touched down just northwest of Fremont near the intersection of Shade Road and Four Mile House Road. A house was heavily damaged and a motor home destroyed near this location. From the initial touchdown site, the tornado traveled northeast for around three and a half miles and then dissipated east of State Route 19 just to the south of the Ohio Turnpike. A second home was heavily damaged near Booktown Road at State Route 19. Elsewhere along the damage path, a few homes sustained minor damage and seven barns were leveled. One of the barns contained a collection of antique cars which were destroyed. Many trees and power poles were also downed along the damage path which was generally no more than 50 yards in width.

Marion County

Marion

10 1710EST 0.1 25 0 0 10K Tornado (F0)

A small tornado touched down in rural Marion County about five miles north of Marion near the intersection of State Route 4 and U.S. Highway 23. The tornado was on the ground for only a couple hundred feet and caused no damage other than downing several trees.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North

Richland County

Ontario

10	1745EST 1746EST	1	25	0	0	200K		Tornado (F1)
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Richland County tornado damage along Flowers Road west of Ontario.

A tornado touched down three miles west of Ontario just north of Flowers Road and about a mile west of State Route 314. The tornado traveled northeast and leveled a cinder block building and caused extensive structural damage to a house. A car parked near the house was punctured in several spots by debris and hand tools blown from the cinder block building. Many trees were downed along the damage path which was nearly one mile in length and about 25 yards in width. The tornado lifted just before crossing State Route 314.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North
Ashland County
Polk

	10	1748EST 1758EST	5.5	50	0	0	1.6M	Tornado (F2)
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Tornado damage along Ashland County Road 620 just west of Albion.

A tornado touched down two miles southwest of Polk near the intersection of County Road 601 and Township Road 902. A new home at this location was destroyed. The tornado then traveled northeast across the western and northern portions of Polk. Two homes on the west side of Polk were heavily damaged and a small barn was leveled just north of town. Another 10 to 12 buildings, including two public buildings sustained minor damage in Polk. From Polk, the tornado traveled northeast across rural areas and passed just to the west of Albion. Two homes along County Road 620 just west of Township Road 521 lost entire roofs and had exterior walls partially or entirely knocked down. A nearby barn was leveled with debris thrown as much as one half mile. A small boat tethered in a pond near the barn was found a quarter mile away and the pond itself was filled with debris. A church in the area had its steeple toppled. The tornado continued northeast and damaged several more homes and buildings. The tornado moved into Medina County just east of County Road 175. In the county, a total of five homes were either completely destroyed or declared unlivable with another 11 homes sustaining enough damage to require significant repairs. Approximately 30 additional homes and buildings suffered minor damage. A few dozen cars sustained varying amounts of damage. The tornado was on the ground in Ashland County for approximately five and a half miles with the damage path no more than 50 yards in width.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North
Medina County
 Homerville

10	1758EST 1805EST	4	50	0	0	750K	Tornado (F2)
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Tornado damage along Williams Road in southwestern Medina County.

A tornado moved into the county from Ashland County just to the east of Firestone Road. The tornado then traveled northeast through Homerville and finally dissipated about a mile and a half northeast of the town. The first significant damage in the county occurred along Williams Road where a newer two story home lost its roof and most of the second floor. Several other homes and buildings in this area sustained minor damage. In Homerville, an auto repair shop was destroyed and several homes sustained moderate to minor damage. A barn was destroyed just southwest of town. Many cars were damaged and dozens of trees downed. The tornado was on the ground in Medina County for approximately four miles and had a damage path no more than 50 yards in width.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North
Wayne County
West Salem to
Burbank

10	1820EST 1827EST	5	100	0	0	1.2K		Tornado (F2)
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Wayne County tornado damage along Easton Road near West Salem.

A tornado touched down about four miles south of West Salem just east of State Route 301 along Pleasant Home Road. The tornado then traveled northeast for approximately five miles before dissipating two and one half miles southwest of Burbank near the intersection of Britton and Franchester Roads. Extensive damage was done along the damage path which was mostly around 50 yards in width but up to several hundred feet wide along Palmer Road. A home on Pleasant Home Road was heavily damaged as were three other homes on Easton Road to the west of Wohlganuth Road. Two more homes were severely damaged on Wohlganuth Road. A home and six outbuildings were destroyed as the tornado crossed Palmer Road about a mile east of State Route 539 (Wohlganuth Road). A second home was leveled on Ruff Road just to the west of Stratton Road. Finally, a home was heavily damaged near where the tornado dissipated. Several other homes and buildings sustained minor damage. Many vehicles were also damaged. At least 20 power poles were snapped and several hundred trees downed along the damage path.

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North
Seneca County

**Tiffin to
Fireside**

10 1715EST 21 100 1 2 12.8M Tornado (F3)
1738EST



The site of Seneca County tornado fatality. Located northwest of Republic near the intersection of County Roads 38 and 43.

An F1 tornado touched down southwest of Tiffin near the Seneca County Airport. The tornado moved east northeast and strengthened to F3 intensity as it crossed U.S. Highway 224 and moved into Tiffin. The Honey Creek subdivision along County Road 19 near US 224 was hard hit. Six homes on Nantucket Drive in the subdivision were destroyed and many other homes damaged. As the tornado continued across the southern part of Tiffin it leveled a business along State Route 231 and destroyed several homes on Siesta Drive just east of State Route 231. A retirement community along St. Francis Avenue and just north of Siesta Drive was also hard hit by the tornado. Eight homes in the community were destroyed with five more damaged enough to be declared uninhabitable. Another 25 homes sustained lesser amounts of damage and several cars were found lying upside down. The tornado weakened to F2 intensity as it crossed State Route 100 and moved over Greenlawn Cemetery. From the cemetery, the tornado began to move in more of a northeasterly direction and briefly weakened to F1 intensity as it passed to the east of Heidelberg College. The tornado reintensified to F2 as it crossed State Route 18 and continued northeast across open country where it damaged many more homes and buildings. The tornado reached strong F3 intensity for several miles to the northwest and north of Republic. A 24 year old male was killed and two other people seriously injured when a home in Scipio Township on County Road 38 near County Road 43 was swept off of its foundation. Two other homes nearby were also leveled. The tornado remained on the ground for another ten miles and gradually weakened to F2 intensity. It finally lifted south of State Route 18 near Fireside. Later, the same parent thunderstorm spawned another tornado a few miles away in Huron County. Overall, this tornado destroyed 32 homes and businesses, heavily damaged another eight and slightly damaged around 70 homes in Seneca County. Dozens of cars were also damaged and destroyed with downed trees and power poles numbering in the hundreds. The damage path from this tornado was roughly 21 miles in length and over 200 yards in width at times. M24PH

Huron County
**Hunts Corner to
Monroeville**

10 1742EST 7.5 50 0 0 800K Tornado (F1)
1750EST

The same thunderstorm that produced the deadly Seneca County tornado spawned another tornado in northwestern Huron County. This tornado touched down near the intersection of Young Road and State Route 4 southeast of Bellevue and northwest of Hunts Corners. The tornado moved northeast for around seven and a half miles before entering Erie County north of Monroeville near the intersection of Section Line Road and State Route 113. The tornado caused some damage in Lyme Township. The township hall and garage located on Young Road near Section Line Road were severely damaged. Trucks and other heavy equipment stored in the garage were destroyed. As the tornado continued northeast it destroyed a few barns and caused minor damage to some homes. Many trees and power poles were downed along the damage path which was mostly 25 to 50 yards in width.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
OHIO, North									
Erie County									
Kimball to Milan	10	1750EST 1756EST	5	50	0	0	500K		Tornado (F1)
A tornado moved into Erie County from Huron County to the southeast of Kimball near the intersection of Section Line Road and State Route 113. The tornado continued east northeast in the county for around five miles and dissipated north of Milan near the intersection of U.S. Highway 250 and State Route 13. Several high voltage transmission poles were toppled by the tornado in Milan Township. A few homes sustained minor damage and several barns were destroyed. Many trees were downed along the damage path which was generally 25 to 50 yards in width.									
Richland County									
Mansfield	10	1825EST			0	0	8K		Thunderstorm Wind
Thunderstorm winds downed three trees.									
Trumbull County									
Warren	10	1930EST			0	0	15K		Thunderstorm Wind
Thunderstorm winds downed five trees and many large limbs in the Warren area.									
Wayne County									
Wooster to Smithville	10	1930EST 1945EST			0	0	30K		Thunderstorm Wind
Thunderstorm winds downed many trees and large limbs in the Wooster and Smithville areas.									
Ashtabula County									
Jefferson	10	1940EST			0	0	5K		Thunderstorm Wind
Thunderstorm winds downed a few large tree limbs near Jefferson.									
Portage County									
Diamond	10	2000EST			0	0	10K		Thunderstorm Wind
Thunderstorm winds downed several trees and large limbs.									
Trumbull County									
Girard	10	2035EST 2040EST			0	0	15K		Thunderstorm Wind
Thunderstorm winds downed six large trees.									
Mahoning County									
Youngstown	10	2045EST			0	0	15K		Thunderstorm Wind
Thunderstorm winds downed several trees on the north side of Youngstown.									
Stark County									
Massillon	10	1827EST 1832EST	3.3	25	0	0	850K		Tornado (F1)
A tornado touched down in Massillon between Tremont Avenue SW and Lincoln Way West just west of State Route 21. From the initial touchdown site, the tornado traveled northeast along a track roughly parallel to Lincoln Way and lifted to the west of State Route 241 after being on the ground for about three quarters of a mile. The tornado touched down a second time in Perry Township north of Valerie Street NW. The tornado tracked northeast across Jackson Street and dissipated near the intersection of Perry Street and Harris Avenue. This segment was also roughly three quarters of a mile in length and around 25 yards in width. A home was damaged on Tremont Avenue and several businesses sustained window and roof damage as the tornado moved through downtown Massillon. A semi truck and several large signs were also blown over in this area. Further northeast in Perry Township, four homes lost entire roofs in the area between Nottingham and List Streets. Many cars, including one with a board driven through it's door, were damaged or destroyed by trees and flying debris in this same area. A total of 23 properties sustained either roof and siding damage or downed trees on List Street alone.									
Summit County									
Macedonia to Twinsburg	10	1900EST 1908EST	3.3	100	0	0	10.2M		Tornado (F2)
A small F0/F1 tornado touched down in Macedonia near the intersection of Valley View Drive (SR 631) and Aurora Road and moved northeast. The tornado gradually strengthened and reached F2 intensity as it crossed State Route 14 and moved into Twinsburg. After a track of just over three miles the tornado weakened to F1 intensity and crossed into Cuyahoga County south of Glenwillow. Extensive damage was done in Macedonia and Twinsburg. In Macedonia, 60 homes were damaged including two that were destroyed and 15 others were damaged enough to be declared uninhabitable. The most severe damage in the county occurred in the Glenwood Preserve neighborhood on the north side of Twinsburg. Extensive damage was done on Andover Drive and Deeplake Circle where several homes were leveled and a total of 45 homes damaged. Damage estimates in Twinsburg alone were well over \$5 million. The damage path was continuous and about 100 yards in width. Dozens of cars were damaged or destroyed and hundreds of trees and power poles downed in Summit County.									

Storm Data and Unusual Weather Phenomena

November 2002

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

OHIO, North

Cuyahoga County

Solon

10	1908EST 1915EST	4	100	0	0	6.8M	Tornado (F1)
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An F1 tornado crossed into Cuyahoga County from Summit County to the south of Glenwillow. The tornado traveled northeast for about four miles and dissipated to the east of Solon. The tornado caused some home damage in Glenwillow and tore the roof off of a business. After moving across a few open fields the tornado crossed into Solon along Pettibone Road. Several homes were damaged on Selworthy and Hollycock Lanes in the Liberty Hill subdivision just north of Pettibone. As the tornado continued northeast it damaged several more homes in the Hunt Club subdivision near the intersection of SOM Center and Arthur Roads. Next hit was the Solon Middle School on SOM Center Road just north of Arthur Road. The school sustained over \$2 million in roof and structural damages. As the tornado continued northeast it caused damage in the Ayleshire subdivision along Aurora Road. More home damage occurred along Liberty Street near the railroad tracks and on Windy Hill Lane. The tornado finally dissipated on the eastern edge of Solon near Bainbridge Road after damaging around 100 homes in the county. Most of the home damage was minor, but dozens of cars were damaged or destroyed and hundreds of trees and power poles downed. The damage path was generally 50 to 100 yards in width.

OHZ014

Ashtabula

27	2000EST					40K	Heavy Snow
28	1100EST						

Lake effect snow showers affected the northern half of Ashtabula County from late in the evening on the 27th through the morning of the 28th. Around 6 inches of snow accumulation was reported.

OHZ013>014

Geauga - Ashtabula

30	1200EST 2359EST					150K	Heavy Snow
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An arctic cold front dropped southeast across the region on the morning of the 30th. Cold west to northwest winds behind this front caused lake effect snow showers and squalls to develop during the afternoon of the 30th. These snow showers intensified during the evening of the 30th and continued through the afternoon of December 1st. Snowfall totals of up to 10 inches were reported. Gusty winds accompanying the snow caused whiteout conditions at times along with significant drifting.

OHIO, Northwest

Van Wert County

3.6 NE Willshire to
6.6 E Scott

10	1515EST 1543EST	21.6	880	2	17	30M	Tornado (F4)
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This picture is from the back seats of the Twin Cinemas. Cars from the parking lot are shown in the front rows of the cinema and where the projection screen had been. Photo courtesy of Paul Van Dyke.

This tornado touched down in the southwest corner of Van Wert County about 4 miles northeast of Willshire and moved northeast across the western portion of the city of Van Wert, and then crossed U.S. 30 and continued northeast before exiting the county about 7 miles east of Scott. NWS ground and aerial surveys showed the tornado quickly intensified to F4 about 5 miles southwest of the city of Van Wert near Zook road, where a 75 year old male was killed in his home. The tornado continued moving northeast as an F4 into the city of Van Wert, where it hit the Twin Cinemas and the Vision Industrial Park. At this point the tornado was about one half mile wide. 60 persons watching a movie in the cinemas, mostly children, took shelter before the tornado hit, with only minor injuries. Vehicles from the parking lot were thrown into the seats where the children had been sitting. An 18 year old male driving past the cinemas was thrown from his vehicle and killed. The tornado then destroyed five industries in the Vision Industrial Park, before moving north of U.S. 30, producing F4 damage to additional businesses and homes. The tornado weakened to F3 as it moved northeast and crossed into Paulding county. 164 homes were damaged in Van Wert county, and 43 were totally destroyed. 27 businesses sustained damage, with 5 totally destroyed in Vision Park. Three county engineer buildings were destroyed, with one house used by a township. Total damage in Van Wert county was near 30 million dollars. M18VE, M75PH

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
OHIO, Northwest									
Paulding County									
3 SW Roselms to 2.4 SE Oakwood	10	1543EST 1558EST	9	440	0	0	0		Tornado (F3)
This tornado originated in Van Wert county and crossed into Paulding county 3 miles southwest of Roselms and exited Paulding county about 2.5 miles southeast of Oakwood. NWS ground and aerial survey found F3 damage along the entire path in Paulding county, with only one structure remaining standing in the town of Roselms, in which the town residents had taken cover in the basement.									
Putnam County									
4.2 WSW Continental to 4.7 N Continental	10	1558EST 1603EST	7.2	440	2	0	0		Tornado (F3)
This tornado originated in Van Wert county and moved across Paulding county into Putnam county about 4 miles west southwest of Continental. NWS ground and aerial survey found F3 damage as the tornado entered Putnam county, striking a mobile home and killing a husband and wife. The tornado moved northeast across the northwest corner of Putnam county, quickly weakening to an F0 as it exited the county 4.5 miles north of Continental. M72MH, F67MH									
Defiance County									
5.3 SE Ayersville to 4.1 SE Ayersville	10	1603EST 1609EST	3	50	0	0	0		Tornado (F0)
This tornado originated in Van Wert county and moved across Paulding and Putnam counties before entering the extreme southwest corner of Defiance county about 5 miles southeast of Ayersville. NWS ground and aerial survey found the tornado was skipping, and produced F0 damage to five homes, some trees and a few barns and outbuildings. The tornado then exited Defiance county about 4 miles southeast of Ayersville.									
Henry County									
6.2 SE Holgate to 2.1 SE Malinta	10	1609EST 1625EST	12	50	0	0	0		Tornado (F0)
This tornado originated in Van Wert county and moved across Paulding, Putnam and Defiance counties before entering southwest Henry county about 6 miles southeast of Holgate. NWS ground and aerial survey found the tornado was skipping and producing F0 damage to trees and outbuildings as it moved northwest of Holgate. The tornado continued to move northeast before dissipating about 2 miles southeast of Malinta.									
On Sunday, November 10th, 2002 a cold front trailed from a deep surface low over northern Lake Michigan into central Missouri. Ahead of the cold front the KILN (Wilmington, OH) 1200 UTC sounding showed an unstable airmass with CAPE (Convectively Available Potential Energy) of 1148 J/kg and a Storm Relative Helicity (SRH) of 408 m/s ² . Another sounding at 1800 UTC showed CAPE had increased on a modified sounding to 1313 J/kg, with SRH increasing to 587 m/s ² . A broken squall line developed from Indianapolis to Fort Wayne Indiana and Defiance Ohio with the cold front. A small low topped supercell developed ahead of the line over Blackford county Indiana and was moving northeast at 50 MPH. This parent supercell produced 3 separate tornadoes in Indiana (see StormData, Indiana, Northeast for more information) before crossing into Ohio. There the supercell intensified and a tornado touched down in Van Wert County Ohio, reaching F4 in strength as it reached the city of Van Wert. The tornado then moved northeast with a total path length of 53 miles, producing F3 damage in Paulding and Putnam counties, and F0 damage in Defiance and Henry counties.									
Henry County									
2 SE Hamler	10	1630EST			0	0	0		Thunderstorm Wind (G70)
Emergency management reported a train was derailed by high winds estimated to be near 80 mph. This wind was likely downburst winds from the collapse of the parent supercell that produce a tornado farther west in Henry minutes earlier.									
Allen County									
Cairo	10	1634EST			0	0	0		Thunderstorm Wind
Sheriff reported trees and power lines down in Cairo.									
Allen County									
Lima	10	1640EST			0	0	0		Thunderstorm Wind
Sheriff reported trees and power lines down in and around Lima.									
OHIO, Southeast									
Lawrence County									
Ironton	10	2033EST			0	0	1K		Thunderstorm Wind
Numerous trees were blown down.									
Perry County									
Crooksville	10	2040EST			0	0	1K		Thunderstorm Wind
Several trees and large branches were knocked to the ground.									
Gallia County									
Gallipolis	10	2100EST			0	0	2K		Thunderstorm Wind
Large tree branches were snapped off.									
Jackson County									
Cove	10	2125EST			0	0			Hail (0.75)

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>OHIO, Southeast</u>									
Athens County									
Athens	10	2150EST			0	0	1K		Thunderstorm Wind
		Several trees were blown down.							
Lawrence County									
Coal Grove	10	2150EST			0	0			Hail (0.75)
Lawrence County									
Willow Wood	10	2200EST			0	0			Hail (0.75)
Lawrence County									
Ironton	10	2205EST			0	0			Hail (0.75)
Gallia County									
Gallipolis	10	2214EST			0	0			Hail (1.00)
Meigs County									
2.5 SE Rolandus	10	2240EST			0	0	1K		Thunderstorm Wind
		Several large branches and a few trees were knocked down in the Great Bend vicinity. This episode was part of a large outbreak of severe weather in the Ohio and Tennessee River Valleys. Temperatures across southeast Ohio reached into the 70s during the afternoon. Dew points were in the 55 to 60 degree range. A squall line developed along a strong cold frontal boundary, with a few storms forming ahead of the main line. The storms did not reach southeast Ohio until after dark. Strong low level winds accompanied the frontal zone.							
<u>OHIO, Southwest</u>									
Mercer County									
3 N Celina	10	1555EST 1558EST			0	0			Hail (1.00)
Logan County									
2 SE De Graff	10	1612EST 1616EST			0	0			Hail (1.00)
Montgomery County									
Riverside	10	1614EST 1618EST			0	0			Hail (1.75)
Darke County									
Greenville	10	1622EST 1626EST			0	0	2K		Thunderstorm Wind (G50)
		Numerous trees were downed between Greenville and Ansonia.							
Greene County									
Fairborn	10	1622EST 1626EST			0	0			Hail (1.00)
Clark County									
7 N Springfield	10	1630EST 1634EST			0	0			Hail (0.75)
Logan County									
2 NE East Liberty to 3 S West Mansfield	10	1638EST 1645EST	2	300	0	0	30K		Tornado (F3)
		The tornado touched down across the extreme eastern part of the county and moved northeast, continuing into Union County. Two semi trailers and a shed roof were damaged.							
Union County									
5 NW Raymond to 2 N York Center	10	1645EST 1649EST	7	300	0	2	500K		Tornado (F3)
		The tornado moved into the northwest part of the county from Logan County, tracking northeast across rural areas. Nine homes were damaged, four of which were completely destroyed. Half a dozen barn and sheds were destroyed. A 400-foot metal hi-tension cellular tower was toppled and destroyed and numerous cars were totalled. The worst damage occurred to a modular home along Newton-Perkins Road. Two individuals in the home were severely injured.							
Union County									
4 NE York Center	10	1651EST 1653EST	0.5	200	0	0	50K		Tornado (F1)
		A tornado briefly touched down near the intersection of Boundary and McPeek Roads, causing damage to a barn and the roof of a nearby home.							
Preble County									
6 SW Camden	10	1655EST 1700EST			0	0	2K		Thunderstorm Wind (G50)
		Large limbs were blown down across an access road in Hueston Woods State Park.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
OHIO, Southwest									
Champaign County									
Mechanicsburg	10	1658EST 1702EST			0	0			Hail (1.00)
Auglaize County									
Wapakoneta	10	1700EST 1705EST			0	0	2K		Thunderstorm Wind (G50)
Two trees were knocked down.									
Miami County									
West Milton	10	1709EST 1713EST			0	0	2K		Thunderstorm Wind (G50)
Trees limbs were downed.									
Hardin County									
Ada	10	1720EST 1723EST			0	0	50K		Thunderstorm Wind (G55)
Four outbuildings were damaged and a barn was destroyed.									
Logan County									
West Mansfield	10	1730EST 1734EST			0	0			Hail (1.00)
Montgomery County									
Oakwood	10	1730EST 1733EST			0	0			Hail (0.75)
Franklin County									
Port Columbus Arpt	10	1732EST 1735EST			0	0			Hail (1.00)
Champaign County									
Urbana	10	1745EST 1748EST			0	0	3K		Thunderstorm Wind (G50)
Numerous trees were knocked down.									
Hardin County									
Countywide	10	1745EST 1805EST			0	0	10K		Thunderstorm Wind (G50)
Numerous trees and power poles were downed.									
Licking County									
1 W Johnstown	10	1750EST 1754EST			0	0			Hail (1.00)
Miami County									
5 SE Tipp City	10	1753EST 1756EST			0	0	2K		Thunderstorm Wind (G50)
Several large concrete barriers were blown over at a construction site on State Route 202.									
Butler County									
Fairfield	10	1800EST 1805EST			0	0	1K		Thunderstorm Wind (G50)
Two trees were blown down.									
OHZ051>053-055-060>062-070>072-077>078									
Miami - Champaign - Clark - Franklin - Preble - Montgomery - Greene - Butler - Warren - Clinton - Hamilton - Clermont									
	10	1800EST 2045EST			0	0			Flood
A line of severe thunderstorms with torrential rainfall moved across southwest and central Ohio during the early evening hours. Rainfall amounts within the squall line ranged from one and a half to four inches in only three hours. The heavy rain caused high water on many roadways and in low-lying areas.									
Licking County									
St Louisville	10	1803EST 1807EST			0	0			Hail (0.88)
Clark County									
New Carlisle	10	1820EST 1824EST			0	0			Hail (1.00)
Delaware County									
Delaware	10	1840EST 1844EST			0	0	2K		Thunderstorm Wind (G50)
Powerlines were knocked down.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
OHIO, Southwest									
Greene County									
Xenia	10	1905EST 1908EST			0	0	3K		Thunderstorm Wind (G50)
Two trees were knocked down on a house.									
Brown County									
Russellville	10	2004EST 2008EST			0	0			Hail (0.75)
Adams County									
4 W West Union to 3 W West Union	10	2015EST 2020EST	1.3	50	0	0	100K		Tornado (F1)
A tornado touched down and tracked east along State Route 125. The greatest damaged occurred at a farm where four barns were damaged, one of which was completely destroyed. Two nearby homes and a church sustained minor structural damage. At least three dozen trees were also downed along the path of the tornado.									
Fairfield County									
Millersport	10	2018EST 2022EST			0	0	5K		Thunderstorm Wind (G55)
High winds caused minor structural damage to several homes.									
Licking County									
5 E Newark	10	2025EST 2028EST			0	0			Hail (0.75)
Adams County									
West Union	10	2030EST 2034EST			0	0			Hail (1.75)
Pike County									
Jasper	10	2030EST 2034EST			0	0	2K		Thunderstorm Wind (G50)
A few trees were knocked down.									
Scioto County									
Portsmouth	10	2030EST 2035EST			0	0			Hail (1.75)
Pike County									
Piketon	10	2045EST 2049EST			0	0	5K		Hail (1.00)
Large hail caused damage to several cars.									
Ross County									
Kingston	10	2100EST 2105EST			0	0	2K		Thunderstorm Wind (G50)
Trees and large limbs were downed across the northeast part of the county.									
Scioto County									
Lucasville	10	2100EST 2105EST			0	0			Hail (1.00)
Hocking County									
Logan	10	2130EST 2134EST			0	0	1K		Thunderstorm Wind (G50)
Two trees were downed.									
OHZ026-034>035- 042>045-054		Hardin - Mercer - Auglaize - Darke - Shelby - Logan - Union - Madison							
	22	0800EST 1630EST			0	0			Winter Storm
Lake effect snow bands developed in northwest flow and moved across west central Ohio during the morning, continuing into the afternoon across central Ohio. Most areas received two to four inches, with higher amounts of 6 to 7 inches from Bellefontaine north to Kenton.									

OKLAHOMA, Eastern

NONE REPORTED.

OKLAHOMA, Extreme Southeast

NONE REPORTED.

Storm Data and Unusual Weather Phenomena

November 2002

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

OKLAHOMA, Panhandle

NONE REPORTED.

OKLAHOMA, Western, Central and Southeast

NONE REPORTED.

OREGON, Central and East

ORZ041>050 Eastern Columbia River Gorge - North Central Oregon - Central Oregon - Lower Columbia Basin - Foothills Of The Blue Mountains - Blue Mountains - John Day Basin - Ochoco-John Day Highlands - Grand Ronde Valley - Wallowa County

01	0000PST								
04	2359PST			0	0	60K		Extreme Cold	

An arctic front moved through the state on October 29th, bringing much colder temperatures which lasted into the first four days in November. Some of the colder readings for the first four days of the month in degrees Fahrenheit included -9 at Seneca, -7 at Austin, -6 at Sunriver, -5 at Paulina, 0 at Madras, 6 at Joseph, and 8 at Union. Apples growers in Wasco county lost about 60,000 dollars worth of apples due to the cold temperatures.

ORZ043 Central Oregon

07	0300PST								
	0600PST			0	0	1K		High Wind	

Strong winds blew down several trees onto power lines, causing several small fires. Nearly 9,000 residents in the city of Bend were without electricity. The U.S. Forest Service was called in to maintain firelines.

ORZ047 John Day Basin

07	0530PST								
	0630PST			0	0	4K		High Wind	

Strong winds blew down several trees and power lines, blocking highway 395 south of John Day. Spotter reports indicated sustained wind speeds near 40 MPH with gusts to 53 MPH. A cottonwood tree fell on the roof of a Ford Taurus.

ORZ042 North Central Oregon

07	0700PST								
				0	0	2K		High Wind	

Strong wind gusts partially blew a roof off a barn 18 miles east of Ashwood.

ORZ049 Grand Ronde Valley

12	0500PST								
	1300PST			0	0	5K		High Wind (G43)	M

Strong winds in La Grande uprooted a tree, which fell onto a nearby house, creating cracks in the kitchen walls.

ORZ049 Grand Ronde Valley

16	0300PST								
	1000PST			0	0	1K		High Wind (G40)	M

Strong winds blew down numerous tree branches in the Union area. In addition, a 14 inch diameter tree broke in half five miles north of Ladd Canyon rest stop.

ORZ042>043 North Central Oregon - Central Oregon

16	1100PST								
	1600PST			0	0	2K		High Wind (G37)	M

Strong winds blew down some trees in the Redmond and La Pine areas, and reduced visibilities due to blowing dust. One such location was US Highway 97 near Madras where blowing dust was reported across the highway. A portion of highway 26 was blocked due to a fallen tree. A peak wind gust to 43 MPH was reported at the Redmond Airport at 1:57 PM PST.

ORZ044 Lower Columbia Basin

27	0800PST								
				0	2			Fog	

Freezing fog created icy road conditions on Interstate 84 near Stanfield, which led to a roll-over accident.

OREGON, Northwest

ORZ001>002 Northern Oregon Coast - Central Oregon Coast

06	1200PST								
08	1500PST			0	0			High Wind (G58)	M

A Pacific storm brought high winds and coastal flooding to the North and Central Oregon Coasts. Newport Jetty reported gusts to 62 mph, Florence gusts to 61 mph and Garibaldi gusts to 67 mph. The Hatfield Science Center in Newport and Gleneden Beach both reported gusts to 50 mph. Coastal water flooded 5 homes in the Depoe Bay area. Wind whipped waves hit Mo's Restaurant in Cannon Beach. 20 to 30 foot waves swept one family off a rock at Oceanside, swept a woman under a truck at Barview Jetty and deposited a berm of sand 6 foot high blocking the drainage of Hawk Creek. Hawk Creek flooded the road around the Neskowin Golf Course with 18 to 20 inches of water and backed water toward nearby homes in Neskowin, though none were reported to be flooded. Both the family and the woman were rescued, no injuries were reported.

ORZ011 Northern Oregon Cascades

08	1200PST								
10	1200PST			0	0			Heavy Snow	

Storm Data and Unusual Weather Phenomena

November 2002

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

Post-frontal cold air brought heavy snows to the Northern Oregon Cascades. Timberline received 22 inches, Mt. Hood Meadows 19 inches, Santiam Pass 15 inches, Mt. Bachelor 16 inches and Willamette Pass 12 inches.

ORZ001>002

Northern Oregon Coast - Central Oregon Coast

12	0500PST 0800PST				0	0			High Wind (G58) ^M
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Winds associated with a strong cold front approaching the coast knocked out power to 300 customers in Cannon Beach. Cannon Beach had gusts to 67 mph, Florence gusts to 54 mph, Lincoln City gusts to 47 mph and Newport Jetty gusts to 46 mph.

ORZ001>002

Northern Oregon Coast - Central Oregon Coast

15	0600PST				0	0			High Wind (G70) ^M
16	1300PST								

A Pacific storm brought strong winds to the Oregon Coast as it moved north along the coast to Vancouver Island. Garibaldi reported winds to 60 mph with gusts to 80 mph, Tillamook 58 mph, Florence 49 gusts to 62 mph, Lincoln County Courthouse 65 mph, Newport Airport gusts to 58 mph and Newport Jetty 48 gusts to 63 mph. Astoria Airport reported winds to 40 mph with gusts to 57 mph. Downed trees blocked roads and fallen limbs resulted in widespread power outages in the Newport and Lincoln City areas. Utility companies reported outages to 290 customers in Otter Rock, 600 in South beach, and 2000 in Lincoln City.

OREGON, Southeast

NONE REPORTED.

OREGON, Southwest

Coos County

Countywide

01	0001PST 1200PST				0	0			Wild/Forest Fire
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See below.

Curry County

Countywide

01	0001PST 1200PST				0	0			Wild/Forest Fire
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See below.

Douglas County

Countywide

01	0001PST 1200PST				0	0			Wild/Forest Fire
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Jackson County

Countywide

01	0001PST 1200PST				0	0			Wild/Forest Fire
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See below.

Josephine County

Countywide

01	0001PST 1200PST				0	0			Wild/Forest Fire
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See below.

A Red Flag Warning was issued at 1530 PDT on 10/31/02 and cancelled at 1200 PDT on 11/01/02. The warning was for strong ridgetop winds and poor relative humidity recoveries in fire weather zones 618/619/620/621 and southern zone 616. These zones include all or part of the above counties.

This warning verified well as RH and wind criteria were met at Red Mound RAWS (618), Onion Mountain RAWS (620), Evans Mountain RAWS (622), Squaw Peak RAWS (621), and Mount Sexton ASOS.

ORZ021>022

South Central Oregon Coast - Curry County Coast

07	0300PST				0	0			High Wind (G89) ^M
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Cape Blanco observation south winds 68 gusting to 89 mph.

A High Wind Warning was issued for the coastal headlands of zones ORZ021/022 at 0450 PST on 11/06. The warning was extended to the remainder of zone ORZ022 at 0535 PST on 11/07. The warning expired at 2100 PST on 11/07. The warning verified at two locations. Cape Blanco and Gold Beach met warning criteria for 11 continuous hours except for one observation at Cape Blanco. The highest wind speeds and gusts are listed above.

Curry County

Brookings

09	0605PST 0610PST	0.5	.1		0	0	500K		Tornado (F0)
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A spotter called at 1500 PST on 11/7 and reported the waterspout/tornado that occurred 9 hours earlier.

Just after 0600 PST on 11/09/02, a low-topped severe thunderstorm moved onshore east of Harbor, Oregon, and tracked east-northeast along Valley View Road. Large torpedo shaped hail approximately 3 inches long pelted Brookings and the Chetco river valley as far as 3 miles inland from Brookings. This was followed by a period of silence, after which the waterspout moved onshore and became a weak tornado. Damaged and partially removed roofs, relocated sheds, damaged fences, and damaged houses were reported for a distance of several blocks along Valley View Road. Additional damage was reported west of Highway 101 in Harbor. Large hail was collected 5 miles to the northeast of the second damaged area. Witness descriptions and a storm survey

Storm Data and Unusual Weather Phenomena

November 2002

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

indicated a tornadic event, with vacuum effects and the very loud noise. No injuries or fatalities were reported. No indication of this storm was seen on radar, and this office was not aware of this event until 9 hours after it occurred, so obviously no warning was issued.

ORZ021>022

South Central Oregon Coast - Curry County Coast

16	0500PST				0	0			High Wind (G69) ^M
	0724PST								

Cape Blanco reported winds 56 mph gusting to 64 mph.

A High Wind Warning was issued for the coastal headlands of Oregon zones ORZ021/022 at 0330 PST on 11/16. No cancellation statement was issued, an error, but the warning specified that winds would diminish the afternoon of 11/16. Cape Blanco verified the warning for 9 hours, from 0400-1300 PST. The strongest windspeed and gust at that location is listed above.

PACIFIC

NONE REPORTED.

PENNSYLVANIA, Central

PAZ004>005

Warren - Mckean

30	1200EST				0	0			Heavy Snow
	2359EST								

During the evening hours of Saturday, November 30th, cold arctic air spilled over the relatively tepid waters of Lake Erie, producing intense snow squalls across Warren and McKean Counties of northwest Pennsylvania. Snowfall rates of up to 2 inches per hour, combined with gusty west winds of 25 to 30 mph, created near blizzard conditions at times within the heaviest snow squalls. Total snowfall amounts generally ranged from 6 to 13 inches across Warren County, and 6 to 9 inches in McKean County, by the time the snow diminished during the mid-morning hours of Sunday, December 1st.

PENNSYLVANIA, East

PAZ060>062-067>071

Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia

01	0000EST				0	0	0		Drought
	0900EST								

An unseasonably wet November ended the meteorological drought across Eastern Pennsylvania. A series of northeasters on November 5th and 6th, November 11th and 12th, November 16th and 17th dropped more precipitation than is normal for the month of November. On a county weighted average November monthly precipitation ranged from 3.9 inches in Monroe, Berks and Northampton Counties to 4.8 inches in Delaware County. Normal is around 3.9 inches. On November 7th, Governor Mark Schweiker lifted the drought emergency in every eastern Pennsylvania county except Delaware and Chester because of low groundwater levels. The drought emergency was lifted in those counties in December. On November 25th, the Delaware River Basin Commission dropped their drought emergency for the entire Delaware River Basin. Streamflows have returned to normal. Lower basin reservoirs in Eastern Pennsylvania (Beltzville, Blue Marsh and Nockamixon) returned to normal and there was no longer a need for water storage in the F.E. Walter Dam (in Pennsylvania) to supplement the base flow of the Delaware River south of Trenton. The New York City reservoirs at the headwaters of the Delaware River increased from 57.6 percent of capacity on November 1st to 71.5 percent of capacity on December 1st. Storage on December 1st was 13 percent above normal and 135 billion gallons greater (or 300 percent higher) than levels on December 1, 2001.

The November monthly precipitation in Mount Pocono was 4.67 inches, in Reading was 4.09 inches, at the Lehigh Valley International Airport was 3.32 inches and at the Philadelphia International Airport was 4.61 inches.

PAZ055

Monroe

16	1700EST				0	0			Winter Storm
	0800EST								

A winter storm of sleet and freezing rain affected higher elevations of Monroe County during the night of the 16th. Around half an inch of ice accrued to exposed surfaces. Trees and limbs were knocked down. Pennsylvania Power and Light reported 23,000 of its customers lost power in Monroe, Pike and Wayne Counties. Most of the power was restored by midnight on the 17th. Because the ground was still relatively warm, little ice accrued to road surfaces. Precipitation started as rain during the pre dawn on the 16th and fell as rain most of the day. Sleet began mixing with the rain around 6 p.m. EST and precipitation changed to freezing rain over the higher terrain between 7 and 8 p.m. EST. A mixture of sleet and freezing rain fell overnight before it ended between 7 a.m. and 8 a.m. EST. In the valleys, precipitation fell as plain rain throughout this event. As another northeaster was heading northeast along the Atlantic Seaboard, a high pressure system built into nearby Canada and New England. The circulation around these two systems brought colder air near the surface into the Poconos and helped change the rain to freezing rain and sleet.

Chester County

Southeast Portion

17	0100EST				0	0			Flood
	0700EST								

Bucks County

Dublin

17	0211EST				0	0			Flood
	0301EST								

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>PENNSYLVANIA, Northwest</u>									
PAZ001>002		Northern Erie - Southern Erie							
	22	1100EST 2300EST			0	0	100K		Heavy Snow
		An area of low pressure moved east across Northern Pennsylvania during the afternoon hours causing light to moderate snow to fall from midday through the evening hours. Accumulations of up to 8 inches were reported near North East with around 6 inches of snow further inland in Erie County.							
PAZ001>002		Northern Erie - Southern Erie							
	27	2000EST			0	0	100K		Heavy Snow
	28	1100EST							
		Lake effect snow showers affected Erie County from late in the evening of the 27th through the morning of the 28th. Up to 9 inches of snow accumulation was reported in the county with 6.7 inches of snow falling at Erie International Airport.							
PAZ002>003		Southern Erie - Crawford							
	30	1200EST 2359EST			0	0	250K		Heavy Snow
		An arctic cold front dropped southeast across the region on the morning of the 30th. Cold west to northwest winds behind this front caused lake effect snow showers and squalls to develop during the afternoon of the 30th. These snow showers intensified during the evening of the 30th and continued through the afternoon of December 1st. The greatest snowfall amounts were across inland sections of Erie County where up to 17 inches of snow was reported. In Crawford County, snowfall totals ranged from over 12 inches in the north to as little as four inches near the southern border of the county. Gusty winds accompanying the snow caused whiteout conditions at times along with significant drifting.							
<u>PENNSYLVANIA, West</u>									
Mercer County Sharpsville to New Hamburg	10	1954EST 2002EST	7	500	1	19	1M		Tornado (F2)
		Starting about 7:54 PM, an F2 tornado touched down near Trout Island Road, east of Sharpsville. The tornado traveled northeast at 50 mph, crossed Route 18, then ripped into Clark. It crossed Shenango River Lake and tracked to New Hamburg, where it dissipated 8:02 PM. The tornado path was 7 miles long, about 500 yards wide at its maximum, in the town of Clark. Maximum winds estimated 155 mph. Majority of damage and all injuries occurred in Clark. Fifteen homes completely destroyed, 13 major damage, 29 had minor damage. One business destroyed; 1 suffered major damage. A large number of trees were snapped or toppled. Large truck was overturned. One van was thrown across Route 258. Several other vehicles were moved by the tornado or suffered considerable damage. Strongest tornado in Mercer county since May 31,1985. M81PH							
Mercer County Greenville	10	2020EST			0	0	5K		Thunderstorm Wind
		Two houses damaged by wind.							
Lawrence County Wilmington Jct	10	2045EST			0	0	2K		Thunderstorm Wind
		A few trees downed by wind.							
Venango County 2 S Oil City	10	2056EST			0	0	1K		Thunderstorm Wind
		Trees downed by wind.							
Venango County Fertigs	10	2204EST			0	0	1K		Thunderstorm Wind
		Trees downed by wind.							
Allegheny County 2 W Imperial	10	2216EST			0	0	5K		Thunderstorm Wind
		Wind blew down trees and damaged a roof.							
Beaver County Koppel	10	2220EST			0	0	1K		Thunderstorm Wind
		Two trees downed by wind.							
Butler County 2 N Harmony	10	2230EST			0	0			Hail (0.75)
Washington County Burgettstown	10	2230EST			0	0	2K		Thunderstorm Wind
		Several trees downed by wind.							
Butler County 2 NW Evans City	10	2233EST			0	0	2K		Thunderstorm Wind
		Trees downed by wind.							
Armstrong County 3 E Leechburg	10	2255EST			0	0	2K		Thunderstorm Wind
		Trees downed by wind.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>PENNSYLVANIA, West</u>									
Westmoreland County									
4 E Monessen	10	2300EST			0	0	2K		Thunderstorm Wind
			Trees downed by wind.						
PAZ030 Westmoreland									
	27	0500EST 0900EST			0	0			Heavy Snow
			Greensburg accumulated 6 inches of snow from the afternoon of the 26th to the morning of the 27th.						
<u>PUERTO RICO</u>									
Mayaguez And Vicinity									
Countywide	03	1600AST 1800AST			0	0			Urban/Sml Stream Fld
Ponce And Vicinity									
Countywide	03	1600AST 1800AST			0	0			Urban/Sml Stream Fld
			Heavy rains occurred across the southwest sections of Puerto Rico. The municipalities most affected were Penuelas and Mayaguez with urban flooding, landslides and blocked roads. Also, a small stream in Mayaguez went out of its banks and carried away a car with his occupant. He was later rescued unharmed.						
Ponce And Vicinity									
Penuelas	03	1900AST 1920AST			0	0	5K		Lightning
			Lightning struck a house in Penuelas causing some structural damage and injuring a child when a light bulb exploded.						
North Central									
Vega Alta	09	1800AST 1900AST			1	1			High Seas
			High seas overturned a fisherman's boat at the Vega Alta Coast. One of the occupants drowned while the other received injuries as he hit the reef. M33IW						
Northwest									
Countywide	13	1700AST 1830AST			0	0			Urban/Sml Stream Fld
Western Interior									
Countywide	13	1700AST 1830AST			0	0			Urban/Sml Stream Fld
			Heavy rains occurred over the northwest sections of Puerto Rico causing urban and small stream flooding. Small streams in Camuy and San Sebastian went out of their banks. A car with his occupant was carried away by a small stream in Camuy but he was later rescued unharmed.						
PRZ008>010 Northwest - Western Interior - Mayaguez And Vicinity									
	13	2300AST			0	0	125K		Flood
	14	1600AST							
			Torrential rains during the afternoon hours over the northwest sections of Puerto Rico caused The Culebrinas River to overflow its banks. The municipalities affected were: San Sebastian, Moca, Aguada and Aguadilla, where several roads, low lying areas and about 100 residences were affected by the waters.						
<u>RHODE ISLAND</u>									
RIZ001>004 Northwest Providence - Southeast Providence - Western Kent - Eastern Kent									
	27	0300EST 1400EST			0	0			Heavy Snow
			A winter storm passing southeast of New England brought heavy snow to northern Rhode Island. The highest totals were observed in the higher elevations of northwest Providence and western Kent Counties, where around 8 inches of snow fell. On average, storm totals ranged from 4 to 8 inches. The storm occurred on the day before Thanksgiving, but impact on travel was minimal since most people traveled the day before, in anticipation of the storm. Still, several minor accidents were reported throughout the region, but no injuries were directly attributable to the storm.						
			Some specific snowfall totals include 8 inches in Coventry and Burrillville; 7 inches in Warwick; and 6 inches in Foster, Cranston, Johnston, and downtown Providence.						
			Officially, the storm total at T.F. Green State Airport in West Warwick was 5.8 inches.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>SOUTH CAROLINA, Central</u>									
McCormick County									
1 E Mt Carmel to 10 E Mt Carmel	11	0545EST 0555EST	9	100	0	2		0	Tornado (F0)
An F0 tornado traveled along SC hwy 19 east of Mt Carmel and took down trees and powerlines. The tornado traveled 4 miles, skipped 2 miles, then was on the ground another 3 miles. Two people suffered minor injuries when a tree fell in front of their vehicle and they crashed into it.									
McCormick County									
3.7 W Bordeaux to 1.7 NE Bordeaux	11	0620EST 0625EST	5	100	0	0		0	Tornado (F0)
An F0 tornado took down trees and powerlines in rural McCormick County.									
Newberry County									
4.4 NW Silverstreet to 3.7 NNW Silverstreet	11	0642EST 0644EST	1.5	100	0	0		0	Tornado (F1)
An F1 tornado took down many trees and powerlines in rural Newberry county near SC hwy 48. No damage was done to what few homes that are out there.									
Edgefield County									
Countywide	11	0715EST			0	0		0	Thunderstorm Wind (G50)
Sheriff reported scattered trees down around the county.									
Lancaster County									
Van Wyck	11	0722EST			0	0		0	Thunderstorm Wind (G50)
Sheriff reported some trees down around the Van Wyck area.									
Fairfield County									
10 W Winnsboro	11	0730EST			0	0		0	Thunderstorm Wind (G60)
Sheriff reported many trees down on the west end of the county.									
Saluda County									
12 NE Saluda to 18 E Saluda	11	0730EST 0745EST			0	0	6K	0	Thunderstorm Wind (G50)
SKYWARN spotter reported trees down, one on a home that went through the roof near SC hwy 391 and 378.									
Newberry County									
2.7 S Pomaria to 2.5 SSE Pomaria	11	0735EST 0737EST	1.2	100	0	0	16K	0	Tornado (F1)
An F1 tornado blew down an 80 ft long farm shed, took down many trees, and did minor damage to a couple of homes. The path ran from Central School rd (SC hwy 320), across SC hwy 202 to SC hwy 514.									
Saluda County									
Countywide	11	0747EST			0	0		0	Thunderstorm Wind (G50)
Sheriff reported scattered trees down around the county.									
Lancaster County									
Lancaster to Kershaw	11	0830EST			0	0			Thunderstorm Wind (G60)
Sheriff reported trees down on the southeast side of the city of Lancaster on SC hwy 522 and in the city of Kershaw.									
Lexington County									
5 W Irmo	11	0745EST			0	0	0	0	Thunderstorm Wind (G50) ^M
NWS obs site at Flotilla Island recorded a 50kt gust.									
Lexington County									
8.3 NW Lexington	11	0812EST			0	0		0	Thunderstorm Wind (G50)
SKYWARN spotter reported trees down on Shull Island.									
Richland County									
Columbia	11	0812EST			0	0	3K	0	Thunderstorm Wind (G50)
SKYWARN spotter reported siding ripped from part of a home in the Summit subdivision									
Lexington County									
Countywide	11	0815EST			0	0		0	Thunderstorm Wind (G50)
Sheriff reported scattered trees down around the county.									
Richland County									
Blythewood	11	0820EST			0	0			Thunderstorm Wind (G70)
TV stations reported a mobile home severely damaged from a downburst.									
Fairfield County									
Winnsboro	11	0830EST			0	0	0	0	Thunderstorm Wind (G50)
SKYWARN spotter reported trees down on Gooding, Bratton, and Evans Streets.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>SOUTH CAROLINA, Central</u>									
Kershaw County									
Lugoff	11	0830EST			0	0		0	Thunderstorm Wind (G50)
			Sheriff reported trees down in Lugoff						
Chesterfield County									
Mt Croghan	11	0845EST			0	0		0	Thunderstorm Wind (G50)
			Sheriff reported trees down in Mt Croghan.						
Kershaw County									
11 NNW Bethune	11	0852EST			0	0	18K	0	Thunderstorm Wind (G80)
			Storm survey found a microburst tore the roof off a garage and home and collapsed the front porch of the home. At least 3 dozen trees were also taken down.						
<u>SOUTH CAROLINA, North Coastal</u>									
			NONE REPORTED.						
<u>SOUTH CAROLINA, Northwest</u>									
SCZ002-005 Pickens Mountains - Greater Pickens									
	06	1000EST			0	0			High Wind (G50)
		2000EST	High winds behind a cold front caused numerous trees to fall across portions of the mountains and foothills of South Carolina.						
Anderson County									
Anderson	11	0300EST			0	0			Urban/Sml Stream Fld
		0600EST	A part of Lakewood Road near Highway 24 caved in due to excessive rainfall.						
Oconee County									
Mountain Rest	11	0345EST			0	0			Hail (0.88)
		0353EST							
Oconee County									
Mountain Rest	11	0345EST			0	0			Thunderstorm Wind (G50)
		0353EST	Some trees were blown down.						
Pickens County									
8 N Pickens	11	0415EST			0	0	1K		Thunderstorm Wind (G50)
			A number of trees and power lines were blown down along Highway 11 in the Laurel Valley community.						
Greenville County									
Marietta	11	0430EST			0	0	10K		Thunderstorm Wind (G50)
			A few trees were blown down. One fell on a truck.						
Spartanburg County									
Landrum	11	0445EST			0	0			Thunderstorm Wind (G50)
			Numerous trees were blown down.						
Anderson County									
15 W Anderson	11	0450EST			0	0	100K		Thunderstorm Wind (G65)
		0500EST	Numerous trees were blown down, along with light structural damage to houses. An unoccupied, unanchored mobile home was destroyed by the wind. Another mobile home was shifted off of its foundation. Also, some trees fell on homes and vehicles.						
Oconee County									
Westminster to Fair Play	11	0450EST			0	0			Thunderstorm Wind (G55)
		0455EST	Numerous trees were blown down.						
Oconee County									
Salem to Seneca	11	0505EST			0	0			Thunderstorm Wind (G55)
			Numerous trees were blown down. One tree fell on a trailer.						
Anderson County									
Pendleton	11	0505EST			0	0			Thunderstorm Wind (G55)
			Some trees were blown down.						
Anderson County									
5 NW Piedmont	11	0510EST			0	0			Hail (0.75)
			Hail was reported along Highway 86.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
SOUTH CAROLINA, Northwest									
Anderson County									
2 SW Piedmont to Piedmont	11	0522EST 0525EST	3	50	0	0			Tornado (F0)
A weak tornado touched down west of the city of Piedmont. Numerous large trees were blown over or uprooted as the tornado moved into the city. The tornado moved into Greenville county at 5:25 AM.									
Greenville County									
Piedmont to 1 E Piedmont	11	0525EST 0527EST	3	50	0	0	2K		Tornado (F0)
As the tornado continued into the Greenville County portion of Piedmont, numerous trees and power lines continued to fall. One tree fell on a truck.									
Greenville County									
2 SW Simpsonville to 1 N Fountain Inn	11	0530EST 0534EST	4	100	0	0	250K		Tornado (F1)
This tornado touched down in the Westwood subdivision, where widespread tree damage and some minor structural damage occurred. More light structural damage and heavy tree damage occurred as the tornado passed through the Hunters Wood subdivision. In the I-385/Fairview Road area, the roof of a hotel received extensive damage, and 2 tractor trailers were blown over. The tornado damaged or destroyed outbuildings, fences, and a scoreboard at Bryson Middle School, then produced more extensive tree damage in the Bryson Elementary area before lifting.									
Anderson County									
Belton	11	0530EST			0	0	10K		Thunderstorm Wind (G60)
A home was reportedly knocked off its foundation along Highway 247. Also, a tree was blown down, and fell through a home.									
Greenville County									
5 W Simpsonville to 5 ENE Simpsonville	11	0530EST 0545EST			0	0	5K		Thunderstorm Wind (G55)
Numerous trees were blown down. An outbuilding was blown into a road west of Simpsonville.									
Laurens County									
4 NE Fountain Inn	11	0540EST			0	0	1K		Thunderstorm Wind (G55)
Several trees were blown down.									
Laurens County									
Gray Court	11	0540EST			0	0			Thunderstorm Wind (G50)
Some trees were blown down.									
Spartanburg County									
Spartanburg	11	0600EST			0	0	2K		Thunderstorm Wind (G55)
Numerous trees and power lines were blown down.									
Laurens County									
Clinton	11	0600EST			0	0			Thunderstorm Wind (G55)
Some trees were blown down.									
Spartanburg County									
Enoree	11	0610EST			0	0	1K		Thunderstorm Wind (G50)
Numerous trees were blown down.									
Union County									
Union	11	0625EST			0	0	15K		Thunderstorm Wind (G50)
Numerous trees were blown down. One fell on a house.									
Cherokee County									
Gaffney	11	0630EST			0	0			Thunderstorm Wind (G50)
A few trees were blown down.									
Greenwood County									
Verdery to 9 SSW Verdery	11	0635EST 0637EST			0	0	10K		Thunderstorm Wind (G60)
Numerous trees and power lines were blown down in a 3-mile wide swath across portions of southern Greenwood County. Although conclusive evidence of a tornado did not exist, there were at least 2 reports of a tornado, and it is possible that a weak tornado was embedded within the broader region of downburst winds.									
York County									
Clover	11	0635EST 0645EST			0	0	3K		Thunderstorm Wind (G55)
Numerous trees and power lines were blown down.									
York County									
Sharon	11	0635EST 0645EST			0	0	3K		Thunderstorm Wind (G55)
Numerous trees and power lines were blown down.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>SOUTH CAROLINA, Northwest</u>									
York County									
York	11	0635EST 0645EST			0	0	3K		Thunderstorm Wind (G55)
			Numerous trees and power lines were blown down.						
Abbeville County									
Abbeville	11	0645EST			0	0	10K		Thunderstorm Wind (G55)
			Numerous trees were blown down. Power and telephone poles were snapped.						
Greenwood County									
10 S Greenwood	11	0645EST			0	0	1K		Thunderstorm Wind (G55)
			Some trees were blown down.						
York County									
Rock Hill	11	0650EST			0	0	1K		Thunderstorm Wind (G50)
			Some trees and power lines were blown down.						
Greenwood County									
Dyson	11	0700EST			0	0	2K		Thunderstorm Wind (G55)
			Several large trees and some power lines were blown down.						
<u>SOUTH CAROLINA, South Coastal</u>									
Jasper County									
5 S Ridgeland	11	2140EST			0	0			Thunderstorm Wind (G50)
			Several trees and large limbs were down.						
Beaufort County									
5 E Dale	11	2233EST			0	0			Hail (0.75)
Colleton County									
8 E Wiggins	11	2305EST			0	0			Thunderstorm Wind (G50)
			Several trees and large limbs were down.						
Charleston County									
Hollywood	11	2310EST 2315EST			0	0			Hail (1.00)
<u>SOUTH DAKOTA, Central and North</u>									
SDZ003>004-009-015>016-033>035-045-048									
			Corson - Campbell - Walworth - Dewey - Potter - Stanley - Sully - Hughes - Jones - Lyman						
	29	1200CST 1600CST			0	0			High Wind (G59) ^M
			High winds of 30 to 50 mph gusting to nearly 70 mph occurred through much of the afternoon across central and north central South Dakota. A tractor-trailer, carrying a load of livestock, was overturned on Highway 12 about three miles east of Mobridge. The tractor was totaled, four cattle were killed, and the driver suffered minor injuries.						
SDZ008-021									
			Roberts - Grant						
	29	1400CST 1600CST			0	0			High Wind (G50)
			High winds of 30 to 50 mph with gusts to near 60 mph occurred across Roberts and Grant counties in the late afternoon hours.						
<u>SOUTH DAKOTA, Southeast</u>									
			NONE REPORTED.						
<u>SOUTH DAKOTA, West</u>									
SDZ001>002-012>014-031>032-073									
			Harding - Perkins - Butte - Northern Meade Co Plains - Ziebach - Pennington Co Plains - Haakon - Southern Meade Co Plains						
	29	1045MST 1538MST			0	0	0		High Wind (G69)
			A strong cold front pushed across western South Dakota during the morning. Behind this front a tight surface pressure gradient developed along with cold air advection and subsidence. Winds were sustained around 35 to 45 mph with gusts near 60 mph for a few hours during the early afternoon.						
<u>TENNESSEE, Central</u>									
Montgomery County									
8.8 E Clarksville to 8.9 E Clarksville	10	0050CST 0051CST	0.1	20	0	0			Tornado (F0)
			The first tornado was rated F0 (40-72 mph) and briefly touched down about 1.2 miles east of the I-24 interchange on Highway 76. Trees were trees twisted and snapped.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
TENNESSEE, Central									
Montgomery County									
.7 SSE Port Royal to .7 SE Port Royal	10	0100CST 0101CST	0.3	400	2	0	100K		Tornado (F1)
The husband, Dennis Tooby and his wife, Karen Tooby, were killed when their mobile home was blown off its foundation at the 3400 block of Port Royal Rd. Mr. Tooby was a Australian national and a welder. Mrs. Tooby taught first grade at Hazelwood Elementary School in Clarksville. Two mobile homes were lifted off their foundation and hurled across the road. The tornado damaged 60 homes and one public building. Most of the damages were minor. M45MH, F49MH									
Robertson County									
3 SW Adams to 2.9 SW Adams	10	0105CST 0106CST	0.1	20	0	0			Tornado (F0)
Trees were twisted off and insulation debris from the mobile homes in Port Royal were found in this location.									
Sumner County									
4.1 W Portland to 1.4 WNW Portland	10	0200CST 0206CST	2.6	900	0	6	500K		Tornado (F2)
One person was hospitalized due to injuries from the tornado. The other 5 people were treated and released for their injuries. 7 homes were destroyed, 15 homes had major damage and 14 had minor damage. 5 mobile homes were destroyed, 3 with major damage and 2 with minor damage. One business was destroyed and 3 other businesses were damaged. Several goats and cattle were killed. The heaviest damage was at 404 Glen Have Rd. 2 mobile homes were destroyed and blown off their foundation. 18 outbuildings, 16 barns and 2 churches were damaged.									
A Chrysler Cirrus LX sedan was flipped and pushed 20 feet. A Ford Ranger truck flipped and rolled 90 feet. A 6 inch by 6 inch board was hurled through the roof of a modular home.									
Kirby Building Services located at 124 Kirby Road in the industrial park area, sustained 50 percent damage according to the Portland Fire Dept.									
Coffee County									
4.4 NNW Fredonia to 5 NNE Fredonia	10	1742CST 1747CST	4.1	50	0	0			Tornado (F1)
Trees were blown down and uprooted.									
Bedford County									
1.4 SE Bugscuffle to 4 E Bugscuffle	10	1745CST 1750CST	3	500	0	3	100K		Tornado (F2)
An F2 tornado struck near Bugscuffle and caused very minor injuries. A second floor was torn off 2 late model frame houses. Several houses had roofs stripped and a couple of barns were demolished. This tornado went into Coffee county. TEMA reported 5 homes destroyed, 6 damaged, one mobile home destroyed and a TVA 500 KV tower was destroyed.									
Coffee County									
8.1 SW Fredonia to 1.4 E Fredonia	10	1750CST 1810CST	2	500	0	0	50K		Tornado (F2)
The F2 tornado blew down a tree and a light pole at 3737 Woodbury Highway at mile marker 9 on Woodbury Highway. Also, two fully loaded tracker trailer trucks were blown around on I-24 near Busy Corner or mile marker 105. One truck was in the east bound lane and the other tracker trailer truck in the west bound lane of I-24.									
Coffee County									
6.5 WSW Fredonia to 5.7 ENE Fredonia	10	1852CST	12.3	450	2	24	250K		Tornado (F2)
An F2 tornado killed 2 people and injured 24 others. The 2 people were inside their mobile home when the tornado struck. The mobile home was in the New Union Heights subdivision, off state Highway 53 north of Manchester. The boy was moved from his mobile home to the Hillcrest Baptist Church. He died in the church at 705 PM CST. A relative of the boy, a 43-year-old male, was also killed. He was impaled on the upright lid of a washing machine.									
24 homes were destroyed, 51 other homes were damaged. 9 mobile homes were destroyed and 5 were damaged. 14 outbuildings also were damaged. M10MH, M43MH									
Cumberland County									
.8 W Crab Orchard to 2.7 ENE Crab Orchard	10	1908CST 1913CST	3.4	400	0	0			Tornado (F1)
A tornado blew a tracker trailer truck on its side at the Crab Orchard interchange at I-40. This storm complex went on into Morgan county and spawned a tornado.									
Van Buren County									
.6 SE Spencer to 2.6 E Spencer	10	2010CST 2014CST	2.9	100	0	0	75K		Tornado (F2)
EMA reported a frame house was demolished at intersection of Highway 111 and Highway 30.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
TENNESSEE, Central									
Cumberland County									
Big Lick to .1 E Big Lick	10	2046CST 2047CST	0.1	20	0	0			Tornado (F0)
		Law enforcement reported a tornado. No damage reported.							
Cumberland County									
4.8 SW Crossville to 8.2 ESE Crossville	10	2143CST 2158CST	12.2	900	4	18	500K		Tornado (F3)
		An F3 tornado struck the Lake Tansi area and the southern sections of Crossville Sunday night, killing 4 people and injuring 18. 33 homes and mobile were destroyed and 128 homes and mobile homes were damaged. There was damage to one public building. The heaviest damage was along Lantana Drive, Dunbar Road, and Pigeon Ridge Road. 5 homes were damaged on U.S. Highway 127 and just south of Three Creek Road. One well built home lost an entire roof and several walls. The couple, their 3 children, and a guest, huddled under a mattress in the hallway.							
		50 acres of hardwoods were twisted and tangled. 100-year-old oak trees were snapped like wheat straws.							
		Mobile homes on the Ballyhoo Campground and modular homes in Lake Tansi were destroyed. The four fatalities occurred in mobile homes. A couple was killed at 298 Lantana Drive when their mobile home was lifted off its foundation and placed on another trailer. Edward, 80 and Mary Laffer 75 were killed. Another couple died at 4040 Lone Wolf Circle. Robert, 55 and Sandy Scarbrough, 52, were killed and their bodies were found across Lake Mohawk. F75MH, M80MH, M55MH, F52MH							
		11 tornadoes were reported in Middle Tennessee in one of the worst tornadic outbreaks ever in November. 8 people...and possibly a ninth victim...were killed in Middle Tennessee alone. Damage estimate for the tornadoes in Tennessee was placed at \$160 million. Primary losses were due to houses and cars.							
		The toll on government owned infrastructure is about \$6 million. The federal government is expected to reimburse the state and affected counties for 75% of the costs of responding to the disaster. The FEMA Public Assistance Program has obligated more than \$3.6 million to assist local governments. These funds will be used to reimburse local governments for debris removal, the repair of public buildings and utilities, and overtime paid to police officers, firefighters and other emergency personnel.							
		More than 900 families across the state applied for storm aid. This was the worst tornado disaster since the April 3-4 outbreak in 1974. The United States Small Business Administration has approved more than 9.7 million dollars in disaster loans to assist disaster victims with repairing their property or replacing lost personal items.							
		The 20 counties that are eligible for disaster assistance to individuals, households, and businesses were: Anderson, Bedford, Bledsoe, Carroll, Coffee, Crockett, Cumberland, Fentress, Gibson, Henderson, Madison, Marshall, Montgomery, Morgan, Roane, Rutherford, Scott, Sumner and Tipton and Van Buren.							
Maury County									
Spring Hill	10	1503CST			0	0			Hail (1.00)
		Spotter reported quarter size hail.							
Williamson County									
3 E Thompsons Station	10	1505CST			0	0			Hail (1.75)
		Spotter reported golfball size hail at the intersection of Interstate 65 and U.S. Highway 431.							
Rutherford County									
4 S Smyrna	10	1519CST			0	0			Hail (1.00)
		Spotter reported quarter size hail at intersection of Interstate 24 and Almadale Road.							
Rutherford County									
Smyrna	10	1526CST			0	0			Hail (1.25)
		Spotter reported half dollar size hail in Smyrna.							
Rutherford County									
Smyrna	10	1528CST			0	0			Hail (1.75)
		Spotter reported golf ball size hail in Smyrna.							
Rutherford County									
Smyrna	10	1529CST			0	0			Hail (0.88)
		Off duty NWS employee reported nickel size hail.							
Rutherford County									
Murfreesboro	10	1530CST			0	0			Thunderstorm Wind (G50)
		Emergency management reported wind damage to a home in the 1300 block of Lebanon Pike.							
Rutherford County									
Smyrna	10	1531CST			0	0			Hail (2.00)
		Spotter reported hen egg size hail at Wal Mart.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
TENNESSEE, Central									
Rutherford County									
5 N Walterhill	10	1533CST			0	0			Hail (0.75)
									Spotter reported dime size hail at the Highway 231 South and Highway 452 Intersection, near the Rutherford-Wilson county line.
Wilson County									
3.6 NE Mt Juliet	10	1534CST			0	0			Hail (0.75)
									Volunteer fire department reported dime size hail on Holly Mills Road.
Wilson County									
Gladeville	10	1535CST			0	0			Hail (1.75)
									Spotter reported golfball size hail.
Macon County									
Lafayette	10	1545CST			0	0			Hail (1.75)
									Law enforcement reported golf ball size hail on Scottville Road.
Macon County									
Lafayette	10	1545CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported tree down across Carter Branch Road.
Wilson County									
Norene	10	1553CST			0	0			Hail (0.75)
									Emergency management reported dime size hail along 8000 block of Highway 266.
Lawrence County									
Revalo	10	1600CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down across road.
Wayne County									
Waynesboro	10	1600CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down across Ross Creek Road.
Putnam County									
Cookeville	10	1623CST			0	0			Hail (0.75)
									Spotter reported dime size hail.
Maury County									
1 N Stiversville	10	1628CST			0	0			Hail (1.00)
									Spotter reported quarter size hail along Highway 31.
Giles County									
2.5 NW Lynnville	10	1629CST			0	0			Hail (1.00)
									Spotter reported quarter size hail.
Dekalb County									
Alexandria	10	1630CST			0	0			Thunderstorm Wind (G70)
									Newspaper story about a home having its roof peeled away by strong thunderstorm winds in Alexandria. There were several trees blown down and minor structural damage from Alexandria to Temperance Hall.
Dekalb County									
8 NE Smithville	10	1630CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down.
Overton County									
Alpine	10	1630CST			0	0			Hail (1.75)
									Law enforcement reported golf ball size hail.
Overton County									
Countywide	10	1630CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down on Dry Hollow Road, Upper Hilham Road. Power pole down on Highway 111.
Lewis County									
5 E Gordonsburg	10	1633CST			0	0			Hail (1.00)
									Spotter reported quarter size hail near the Lewis/Maury county line.
Putnam County									
Cookeville	10	1635CST			0	0			Hail (0.88)
									Spotter reported nickel size hail.
Putnam County									
Double Spgs	10	1635CST			0	0			Hail (1.75)
									Spotter reported golf ball size hail.
Marshall County									
Lewisburg	10	1637CST			0	0			Hail (0.75)
									Spotter reported dime size hail.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TENNESSEE, Central									
Marshall County									
Lewisburg	10	1642CST			0	0			Hail (1.75)
			Spotter reported golfball size hail.						
Putnam County									
Cookeville	10	1650CST			0	0			Thunderstorm Wind (G50)
			Spotter reported numerous trees down.						
Marshall County									
Lewisburg	10	1654CST			0	0			Hail (1.75)
			Spotter reported golfball size hail. A Lewisburg body shop performed 50 car estimates for hail damage by 10 AM. The Ridgetop Apartments on Mooresville Highway sustained damage from golf ball size hail. The hail damaged cars, broke lamps and the apartment building sidings were filled with holes .						
Marshall County									
Chapel Hill	10	1700CST			0	0			Thunderstorm Wind (G50)
			Amateur radio operator reported damage to a car, tree and a barn.						
Fentress County									
Banner Spgs	10	1715CST			0	0			Thunderstorm Wind (G50)
			NWS Storm Survey indicated straight line winds. Some damage to homes with numerous trees and power lines down. 2 chicken houses were destroyed on the Chella LaRue farm. 2 businesses were damaged on U.S. Highway 127 South. Susan's Quilt Shop sustained damage to the roof and siding. Across the street, the Fentress Auto Repair was practically destroyed when the back portion of the metal building was blown out. A large tree fell on a home on Wayman Beaty Rd.						
Fentress County									
7 SE Jamestown	10	1720CST			0	0			Hail (1.75)
			Spotter reported golfball size hail.						
Lawrence County									
10 SW Lawrenceburg	10	1726CST			0	0			Hail (1.00)
			Spotter reported quarter size hail.						
Coffee County									
4 N Beech Grove	10	1729CST			0	0			Hail (1.00)
			Spotter reported quarter size hail.						
Cannon County									
9 SSW Woodbury	10	1737CST			0	0			Hail (0.75)
			Emergency management reported dime size hail at Intersection of Hollow Springs Road and Burgan Road.						
Benton County									
Countywide	10	1740CST			0	0			Thunderstorm Wind (G50)
			Law enforcement reported trees down.						
Stewart County									
Indian Mound	10	1745CST			0	0			Thunderstorm Wind (G50)
			Law enforcement reported trees down.						
Houston County									
Countywide	10	1755CST			0	0			Hail (0.75)
			Law enforcement reported dime size hail.						
Houston County									
Countywide	10	1755CST			0	0			Thunderstorm Wind (G50)
			Law enforcement reported trees down.						
Humphreys County									
Countywide	10	1800CST			0	0			Thunderstorm Wind (G50)
			Law enforcement reported trees down.						
Montgomery County									
Countywide	10	1800CST			0	0			Thunderstorm Wind (G60)
			Law enforcement reported numerous trees, power lines down and street signs knocked over.						
Coffee County									
Manchester	10	1801CST			0	0			Thunderstorm Wind (G50)
			Emergency management reported trees down.						
Lawrence County									
6 W Lawrenceburg	10	1801CST			0	0			Hail (0.75)
			Emergency management reported dime size hail at the Intersection of Shotwell Road and Highway 64.						
Cumberland County									
Crossville	10	1845CST			0	0			Hail (0.75)
			Spotter reported dime size hail.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	
<u>TENNESSEE, Central</u>									
Perry County									
Lobelville	10	1845CST			0	0			Thunderstorm Wind (G60)
									Law enforcement reported trees and power lines down and two cars crushed.
Coffee County									
12 N Manchester	10	1856CST			0	0			Hail (1.00)
									Emergency management reported quarter size hail near the Coffee/Cannon county line on Highway 53.
Hickman County									
Countywide	10	1905CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down.
Bedford County									
4 N Shelbyville	10	1906CST			0	0			Hail (1.00)
									Emergency management reported quarter size hail along U.S. Highway 41A.
Robertson County									
1 E Springfield	10	1915CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported tree down on Highway 49 at Caars Creek Bridge.
Lewis County									
Countywide	10	1920CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down.
Warren County									
Countywide	10	1920CST			0	0			Hail (1.00)
									Law enforcement reported quarter size hail.
Warren County									
Countywide	10	1920CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down.
Williamson County									
Countywide	10	1930CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down.
Sumner County									
Westmoreland	10	1936CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported large tree limbs down.
Williamson County									
5 SE Franklin	10	1945CST			0	0			Hail (0.88)
									Emergency management reported nickel size hail along Interstate 65 at Exit 61.
Warren County									
Countywide	10	2000CST			0	0			Thunderstorm Wind (G60)
									Law enforcement reported numerous trees down.
Lawrence County									
Lawrenceburg	10	2020CST			0	0			Thunderstorm Wind (G50)
									Law enforcement reported trees down.
Cumberland County									
6 S Crossville	10	2046CST			0	0			Hail (2.75)
									Law enforcement reported baseball size hail on Highway 127 south.
Cumberland County									
Crossville	10	2054CST			0	0			Hail (0.75)
									Emergency management reported dime size hail.
Lawrence County									
Loretto	10	1530CST			0	0	1.9K		Lightning
									Lightning struck a home at 2860 Highway 43 South in Loretto. Deputies and the Leoma Fire Dept. discovered that their was no damage to the house other than that the fact the owner's home stereo equipment was damaged.
<u>TENNESSEE, East</u>									
Morgan County									
Countywide	10	1830EST			0	0	15K		Thunderstorm Wind
									Trees were reported down across the county.
Morgan County									
2.5 S Rugby to 2.7 SSE Rugby	10	1835EST 1837EST	1.5	25	0	0	20K		Tornado (F0)
									An F0 tornado touched down 2.5 miles south of Rugby producing a damage path 25 yards wide for a distance of one and a half miles. The tornado downed a number of trees along its path and ended 2.7 miles south southeast of Rugby.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
TENNESSEE, East									
Scott County									
1.8 W Elgin to 2.4 ENE Elgin	10	1840EST 1845EST	4.1	50	0	0	110K		Tornado (F1)
An F1 tornado touched down 1.8 miles west of Elgin producing a damage path 50 yards wide for a distance of 4.1 miles. The tornado damaged several homes and ended 2.4 miles east northeast of Elgin.									
Scott County									
1.5 WSW Winona to 2.6 ENE Winona	10	1850EST 1854EST	4.2	50	0	0	130K		Tornado (F1)
An F1 tornado touched down 1.5 miles west southwest of Winona damaging several homes and injuring several residents. The tornado produced a 50 yard wide damage path that continued for 4.2 miles ending 2.6 miles east northeast of Winona. During the entire time the tornado was on the ground in Scott county, losses were estimated at about \$240,000. In all, 24 homes, six mobile homes, one modular home and one business were damaged, including one home beyond repair and three mobile homes completely destroyed.									
Morgan County									
Petros	10	1850EST			0	0	15K		Thunderstorm Wind
Several trees were reported down in Petros.									
Bledsoe County									
Countywide	10	1915CST			0	0	20K		Thunderstorm Wind
Trees were reported down across the county.									
Claiborne County									
Clairfield	10	1920EST			0	0			Hail (0.75)
Dime size hail was reported at Clairfield.									
Mcminn County									
Niota	10	1920EST			0	0	15K		Thunderstorm Wind
Several trees were reported down in Niota.									
Monroe County									
Sweetwater	10	1925EST			0	0			Hail (1.75)
Golfball size hail was reported at Sweetwater.									
Monroe County									
Sweetwater	10	1925EST			0	0	2K		Thunderstorm Wind (G79) ^M
A trained spotter recorded a 91 mph wind gust at Sweetwater.									
Monroe County									
Sweetwater	10	1930EST			0	0	15K		Thunderstorm Wind
Several trees were reported down in Sweetwater.									
Meigs County									
Countywide	10	1930EST			0	0	30K		Thunderstorm Wind
Approximately 40 trees were downed on numerous county roads.									
Loudon County									
Philadelphia	10	1930EST			0	0	2K		Thunderstorm Wind
A tree was reported down on Spring Street in Philadelphia.									
Mcminn County									
Athens	10	1935EST			0	0	15K		Thunderstorm Wind
Several trees were reported down in Athens.									
Loudon County									
Lenoir City	10	1952EST			0	0	20K		Thunderstorm Wind
Several trees were reported down in Lenoir City including one that fell on a home producing some damage.									
Blount County									
Miser Station	10	2000EST			0	0	10K		Thunderstorm Wind
Trees were reported down on Wrights Ferry Road and Miser Station road.									
Blount County									
Louisville	10	2012EST			0	0			Hail (1.75)
Golfball size hail was reported at Louisville.									
Knox County									
Knoxville	10	2014EST			0	0			Hail (1.75)
Golfball size hail was reported at Knoxville.									
Blount County									
Louisville	10	2015EST			0	0	30K		Thunderstorm Wind
A tree fell onto a carport, a van and part of a house producing damage to each.									
Knox County									
Countywide	10	2020EST			0	0	25K		Thunderstorm Wind

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated	Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Damage Property Crops	
TENNESSEE, East								
Trees and power lines were downed in thunderstorm gusts across the county, including the Island Homes and Chapman Highway areas of South Knoxville, East Knoxville and parts of west Knox county.								
Bledsoe County								
9.4 NNW Pikeville to 10.8 N Pikeville	10	2030CST 2038CST	6.2	100	0	0	100K	Tornado (F1)
An F1 tornado (with wind speeds estimated between 85 and 90 mph) touched down just west of the intersection of highways 101 and 285 in northwest Bledsoe county. This tornado passed just north of the Bellview community. Five homes were damaged and numerous trees were downed along the tornado's path, which crossed Highway 101 and continued just north of Highway 285 from the Three-Way Market to the Tennessee Regional State Correctional Facility.								
Morgan County								
4.4 S Wartburg to 8.6 ESE Wartburg	10	2031EST 2042EST	8.3	300	7	28	968K	Tornado (F3)
A strong F3 tornado (with wind speeds estimated around 175 mph) touched down 4.4 miles south of Wartburg in the Mossy Grove community killing 5 people and injuring 28. This tornado then struck Joyner at 8:40 P.M. killing two more people for a total of 7 dead. The tornado damaged 63 homes while destroying 24 others. In addition, 18 mobile homes were damaged and 12 others were destroyed. M47PH, F36PH, F73PH, M55VE, F1VE, M45PH, F93PH								
Roane County								
Countywide	10	2035EST			0	0	20K	Thunderstorm Wind
Trees were reported down across the county.								
Jefferson County								
1 S White Pine	10	2040EST			0	0	5K	Thunderstorm Wind
A few trees were reported down across a road one mile south of White Pine.								
Sevier County								
Kodak	10	2045EST			0	0	15K	Thunderstorm Wind
Several trees were reported down on power lines in Kodak.								
Anderson County								
3.2 WSW Lake City to 4.2 ESE Lake City	10	2054EST 2105EST	5.5	75	0	0	213K	Tornado (F2)
An F2 tornado produced a damage path 75 yards wide for a distance of 5.5 miles from near Briceville to Medford. The Medford community received the brunt of the damage, which was concentrated along Highway 25W, Leinart Road, Bryant Circle and Old and New Clear Branch roads. In all, 32 homes were damaged while 3 were totally destroyed. In addition, 9 mobile homes were damaged.								
Campbell County								
Countywide	10	2110EST			0	0	20K	Thunderstorm Wind
Trees were reported down across the county.								
Claiborne County								
Countywide	10	2130EST			0	0	15K	Thunderstorm Wind
Numerous trees were reported down across the county.								
Claiborne County								
Arthur	10	2135EST			0	0	3K	Thunderstorm Wind
A tree was reported down on Arthur Road near Gap Creek Baptist Church.								
Claiborne County								
Forge Ridge	10	2145EST			0	0	30K	Thunderstorm Wind
Two barns in the Forge Ridge area were destroyed in thunderstorm wind gusts. The barns housed ten thousand pounds of hanging tobacco and several rolls of hay.								
Hancock County								
Treadway	10	2200EST			0	0		Hail (0.75)
Dime size hail was reported at Treadway.								
Roane County								
Pine Grove	10	2203EST			0	0	3K	Thunderstorm Wind (G74) ^M
A spotter reported a 85 mph wind gust in a thunderstorm.								
Sequatchie County								
Dunlap	10	2205CST			0	0	10K	Thunderstorm Wind
Trees were reported down in Dunlap.								
Campbell County								
Jacksboro	10	2210EST			0	0		Hail (0.75)
Dime size hail was reported at Jacksboro.								
Union County								
1 N New Loyston	10	2213EST			0	0	3K	Thunderstorm Wind
A tree was reported down on Big Ridge Park Road while another tree had fallen on Hickory Valley Road.								

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
TENNESSEE, East									
Anderson County									
Countywide	10	2215EST			0	0	15K		Thunderstorm Wind
			Trees and power lines were reported down across the county.						
Claiborne County									
Speedwell	10	2220EST			0	0	15K		Thunderstorm Wind
			Several trees were reported down in and around Speedwell.						
Marion County									
Jasper	10	2225CST			0	0	15K		Thunderstorm Wind
			Trees were reported down near Jasper and across the northern half of the county.						
Hancock County									
Countywide	10	2228EST			0	0	20K		Thunderstorm Wind
			Trees and power lines were reported down across the county.						
Roane County									
Countywide	10	2229EST			0	0	30K		Thunderstorm Wind
			Numerous trees were reported down across the county. Some trees had fallen on homes.						
Anderson County									
Countywide	10	2238EST			0	0	25K		Thunderstorm Wind
			Numerous trees and power lines were reported down across the county.						
Hawkins County									
Church Hill	10	2240EST			0	0	25K		Thunderstorm Wind
			Numerous trees and large limbs fell onto South Central Avenue between Main Street and Carters Valley Road.						
Hawkins County									
Countywide	10	2300EST			0	0	15K		Thunderstorm Wind
			Numerous trees were reported down across the county.						
Sullivan County									
Kingsport	10	2300EST			0	0	25K		Thunderstorm Wind
			Numerous trees and power lines were downed in and around Kingsport.						
Hancock County									
Countywide	10	2300EST			0	0	15K		Thunderstorm Wind
			Several trees were reported down across the county.						
Union County									
Maynardville	10	2305EST			0	0	15K		Thunderstorm Wind
			Numerous trees were reported down at Maynardville.						
Hamilton County									
Red Bank	10	2315EST			0	0			Hail (0.75)
			Dime size hail was reported at Red Bank.						
Hamilton County									
Signal Mtn	10	2325EST			0	0	10K		Thunderstorm Wind
			Trees were reported down near Signal Mountain.						
Roane County									
Kingston	10	2327EST			0	0	6K		Thunderstorm Wind
			A few trees fell on a house at 1104 Pineywood Road.						
Claiborne County									
New Tazewell	10	2330EST			0	0			Hail (1.75)
			Golf ball size hail fell at New Tazewell.						
Hancock County									
Countywide	10	2340EST			0	0	15K		Thunderstorm Wind
			Numerous trees and power lines were reported down across the county.						
Bradley County									
Countywide	10	2350EST			0	0	20K		Thunderstorm Wind
			Numerous trees were reported down across the county.						
Grainger County									
Rutledge	11	0001EST			0	0	10K		Thunderstorm Wind
			A few trees were reported down between Blaine and Rutledge.						
Jefferson County									
White Pine	11	0001EST			0	0	20K		Thunderstorm Wind
			Numerous trees and power lines were downed in an area stretching from White Pine and Dandridge (around Goose Creek Road) east to the Leadville community.						
Monroe County									
Sweetwater	11	0001EST			0	0	10K		Thunderstorm Wind

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Number of Persons	Estimated Damage Property	Crops	Character of Storm
<u>TENNESSEE, East</u>										
Several trees were reported down in and around Sweetwater.										
Polk County Countywide	11	0005EST			0	0		15K		Thunderstorm Wind
Several trees were reported down across the western half of the county.										
Hancock County Countywide	11	0005EST			0	0		20K		Thunderstorm Wind
Trees and power lines were reported down across the county.										
Roane County Kingston	11	0007EST			0	0		15K		Thunderstorm Wind
A tree was reported down on a home at 127 Sunset View Drive in Kingston.										
Union County Sharps Chapel	11	0012EST			0	0		15K		Thunderstorm Wind
Numerous trees were reported down in the Sharps Chapel area.										
Claiborne County New Tazewell	11	0015EST			0	0		20K		Thunderstorm Wind
Numerous trees were reported down across the southern half of the county.										
Anderson County Countywide	11	0015EST			0	0		20K		Thunderstorm Wind
Numerous trees and power lines were reported down throughout the county.										
Roane County Oliver Spgs	11	0019EST			0	0		15K		Thunderstorm Wind
A tree was reported down on a home at 467 Joel Road in Oliver Springs.										
Blount County Countywide	11	0020EST			0	0		15K		Thunderstorm Wind
Numerous trees were reported down across the county with a concentration across the southern portion.										
Knox County North Knoxville	11	0020EST			0	0		15K		Thunderstorm Wind
Numerous trees and power lines were downed across northern Knox county.										
Loudon County Loudon	11	0020EST			0	0		20K		Thunderstorm Wind
Numerous trees and power lines were downed between Loudon and Lenoir City.										
Union County 8 S Maynardville	11	0024EST			0	0		3K		Thunderstorm Wind
A large tree was reported down in the 3800 block of Hickory Valley Road 8 miles south of Maynardville.										
Polk County Countywide	11	0030EST			0	0		15K		Thunderstorm Wind
Several trees were reported down across the county.										
Monroe County Countywide	11	0035EST			0	0		15K		Thunderstorm Wind
Several trees were reported down across the county.										
<u>TENNESSEE, West</u>										
Tipton County .5 N Randolph to 3 NE Covington	09	2205CST 2230CST	17	440	0	1		6M		Tornado (F2)
The tornado moved into Tipton county from Mississippi county in Arkansas and moved northeast. The tornado produced significant damage across the county. One man was injured was injured by bricks blown down from the facade of a building in downtown Covington. Across the county, twenty-eight mobile homes, five houses and one business were destroyed. Approximately 275 homes and business were damaged. Numerous trees and power lines were blown down.										
Crockett County Bells	09	2215CST 2220CST			0	0		1.5M		Thunderstorm Wind
Strong straight line winds damaged a nursing home in the town of Bells. The damage forced 120 residents in the home to be evacuated. Some trees and power lines were also knocked down.										

Storm Data and Unusual Weather Phenomena

November 2002

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

TENNESSEE, West

Crockett County

2 NE Bells to
.5 W Fruitvale

09	2215CST	4	220	0	0	750K	Tornado (F2)
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A tornado touched down just northeast of Bells and tracked northeast. Six mobile homes and four houses were destroyed. Another 62 homes and several businesses were damaged. Many trees and power poles were blown down.

Storm Data and Unusual Weather Phenomena

November 2002

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

TENNESSEE, West

Carroll County

2 S Terry to
2 NW Leach

09	2226CST 2244CST		10	220	2	6	500K		Tornado (F2)
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One of the homes damaged by a tornado which went through Carroll county on November 9th.

The tornado touched down near the town of Terry and tracked northeast. The tornado hit a mobile home park near the town of Leach. Two persons were killed in one of mobile homes in the park. Three houses, two businesses and a farm building were destroyed. Forty homes and other buildings were damaged. M42MH, F65MH

Gibson County

Medina

09	2255CST 2305CST				0	0	1.4M		Thunderstorm Wind
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Strong straight-line winds produced significant damage in the town of Medina. The south wall of the Medina Elementary School gymnasium was blown down. The scoreboard at the Medina football field was blown down. Two homes and one public building were destroyed. Several semi-tractor trailer trucks and other vehicles were blown over. Sixty-two other homes were damaged.

Haywood County

7 E Belle Eagle

09	2300CST 2305CST				0	0	5K		Thunderstorm Wind
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A couple of trees were knocked down.

Obion County

2 W Rives

09	2325CST 2330CST				0	0	0.10K		Hail (1.00)
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Tipton County

3 NW Covington

09 10	2325CST 0100CST				0	0	1K		Flash Flood
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Several roads were flooded as Town Creek went over its banks.

Storm Data and Unusual Weather Phenomena

November 2002

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

TENNESSEE, West

Madison County
5 NW Jackson to
1 NW Jackson

10	0010CST 0020CST	4	220	0	0	3M	Tornado (F1)
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Some of the trees that were blown down when a tornado went through Madison county just north of Jackson during the early morning of November 10th.

The tornado touched down northwest of Jackson and moved northeast. The tornado hit a subdivision and also hit parts of Union University where several buildings on campus was badly damaged. Around 500 cars at the school were damaged. Overall, one home was destroyed and over 150 homes and businesses were damaged.

Carroll County
Lavinia

10	0045CST 0050CST			0	0	5K	Thunderstorm Wind
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Several trees were knocked down.

Henderson County
Mt Gilead

10	0100CST 0105CST			0	0	25K	Thunderstorm Wind
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A couple of homes had their roofs blown off. Some trees and power lines were knocked down.

Tipton County
5 S Covington

10	1550CST 1555CST			0	0	0.10K	Hail (1.00)
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Lauderdale County
Curve

10	1605CST 1610CST			0	0	0.01K	Hail (0.75)
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Tipton County
Covington

10	1620CST 1630CST			0	0	0.20K	Hail (1.00)
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Tipton County
Covington

10	1635CST 1800CST			0	0	1K	Flash Flood
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Several roads and ditches were flooded.

Shelby County
Memphis

10	1639CST 1640CST			0	1	0	Lightning
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A University of Memphis professor was injured by a lightning strike while leaving his car.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
TENNESSEE, West									
Haywood County									
Belle Eagle	10	1640CST 1645CST			0	0	5K		Thunderstorm Wind
		A few trees were blown down.							
Shelby County									
Memphis	10	1641CST 1650CST			0	0	0.01K		Hail (0.75)
Shelby County									
Memphis	10	1643CST 1655CST			0	0	10K		Thunderstorm Wind (G55)
		Some trees and power lines were blown down.							
Weakley County									
Dresden	10	1650CST 1655CST			0	0	0.01K		Hail (0.75)
Shelby County									
Memphis	10	1701CST 1830CST			0	0	1K		Flash Flood
		Several intersection were flooded.							
Gibson County									
2 SW Milan	10	1705CST 1710CST			0	0	0.01K		Hail (0.75)
Madison County									
Jackson	10	1707CST 1715CST			0	0	0.01K		Hail (0.75)
Fayette County									
Rossville	10	1715CST 1720CST			0	0	5K		Thunderstorm Wind
		Several trees were knocked down.							
Shelby County									
Arlington	10	1725CST 1730CST			0	0	5K		Thunderstorm Wind
		Some trees were blown down.							
Gibson County									
1 N Milan	10	1730CST 1735CST			0	0	5K		Thunderstorm Wind
		A couple of trees were blown down.							
Carroll County									
Lavinia	10	1740CST 1742CST	0.3	33	0	0	10K		Tornado (F0)
		A tornado briefly touched down near the town of Lavinia in southwest Carroll county. Some trees were blown down. One tree fell on a house.							
Madison County									
Medon	10	1755CST 1757CST	0.3	66	0	0	50K		Tornado (F0)
		The tornado briefly touched down in the town of Medon. A barn was demolished. A mobile home and tavern were damaged. Some trees were blown down.							
Chester County									
Henderson	10	1800CST 1805CST			0	0	15K		Thunderstorm Wind
		A horse barn had its roof blown off. A few trees were knocked down.							
Hardeman County									
Whiteville to Bolivar	10	1805CST 1815CST			0	0	0.20K		Hail (1.00)
Hardeman County									
Whiteville to Bolivar	10	1805CST 1815CST			0	0	0.10K		Hail (1.00)
Henderson County									
Lexington	10	1815CST 1820CST			0	0	5K		Thunderstorm Wind
		Several trees were knocked down.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<u>TENNESSEE, West</u>									
Hardeman County									
2 S Bolivar	10	1816CST 1820CST			0	0	10K		Thunderstorm Wind
			Several trees and power lines were knocked down.						
Henderson County									
Lexington	10	1820CST 1825CST			0	0	0.05K		Hail (0.88)
Decatur County									
Parsons	10	1830CST 1835CST			0	0	1K		Thunderstorm Wind
			A sign was blown off a building and fell on a car.						
<u>TEXAS, Central</u>									
NONE REPORTED.									
<u>TEXAS, Central Southeast</u>									
Washington County									
Countywide	04 05	1625CST 0410CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Madison County									
Countywide	04 05	1630CST 0415CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Brazos County									
Countywide	04 05	1640CST 0430CST			0	0	95K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Burleson County									
Countywide	04 05	1640CST 0430CST			0	0	30K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Grimes County									
Countywide	04 05	1640CST 0430CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Walker County									
Countywide	04 05	1640CST 0415CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Houston County									
Countywide	04 05	1645CST 0430CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Trinity County									
Countywide	04 05	1645CST 0410CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Polk County									
Countywide	04 05	1730CST 0405CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
San Jacinto County									
Countywide	04 05	1745CST 0410CST			0	0	20K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						
Montgomery County									
Countywide	04 05	2035CST 0415CST			0	0	25K		Flash Flood
			Numerous roads closed due to high water on extremely saturated grounds.						

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>TEXAS, Central Southeast</u>									
Waller County									
Countywide	04	2042CST			0	0	20K		Flash Flood
	05	0420CST							Numerous roads closed due to high water on extremely saturated grounds.
Colorado County									
Countywide	04	2045CST			0	0	20K		Flash Flood
	05	0420CST							Numerous roads closed due to high water on extremely saturated grounds.
Austin County									
Countywide	04	2100CST			0	0	20K		Flash Flood
	05	0420CST							Numerous roads closed due to high water on extremely saturated grounds.
Matagorda County									
Countywide	05	0120CST			0	0	20K		Flash Flood
		0415CST							Numerous roads closed due to high water on extremely saturated grounds.
Brazoria County									
Countywide	05	0125CST			0	0	35K		Flash Flood
		0420CST							Numerous roads closed due to high water on extremely saturated grounds.
Chambers County									
Countywide	05	0130CST			0	0	25K		Flash Flood
		0420CST							Numerous roads closed due to high water on extremely saturated grounds.
Galveston County									
Countywide	05	0130CST			0	0	55K		Flash Flood
		0420CST							Numerous roads closed due to high water on extremely saturated grounds.
<u>TEXAS, Extreme West</u>									
NONE REPORTED.									
<u>TEXAS, Mid - South</u>									
Calhoun County									
Central Portion	04	0223CST			0	0			Flash Flood
		0323CST							
Calhoun County									
North Portion	04	1119CST			0	0			Flash Flood
		1219CST							
<u>TEXAS, North</u>									
Leon County									
Leona	04	1055CST			0	0			Heavy Rain
		1155CST							The east bound feeder road on Interstate 45 was flooded at the 154 mile marker.
Robertson County									
Countywide	04	1620CST			0	0	5K		Flash Flood
		1720CST							Numerous county roads flooded. FM 50 from Watts Lane into Brazos county was flooded.
Milam County									
Thorndale	04	1625CST			0	0			Heavy Rain
		1725CST							FM 486 5 miles south of Thorndale was flooded, and FM 908 was flooded near Thorndale.
Leon County									
Centerville	04	2030CST			0	0			Flash Flood
		2130CST							Interstate 45 southbound between Centerville and Old San Antonio Road was closed in two places due to high water. Roads near Boggy Creek and Spring Creek also closed due to high water.
Robertson County									
Countywide	04	2042CST			0	0			Flash Flood
		2142CST							Water over FM 50 and Highway 231.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>TEXAS, North Panhandle</u>									
Potter County									
Amarillo	11	1455CST			0	0			Hail (0.88)
Randall County									
Umbarger	11	1515CST			0	0			Hail (0.75)
Severe thunderstorms developed over the south-central sections of the Texas panhandle during the afternoon hours producing hail.									
<u>TEXAS, Northeast</u>									
Angelina County									
2 SE Lufkin	04	2245CST			0	0			Flash Flood
	05	0250CST							
Flash flooding closed FM 841 to traffic in both directions.									
Angelina County									
5 S Lufkin	04	2245CST			0	0			Flash Flood
	05	0300CST							
Flash flooding closed FM 326 to traffic in both directions.									
Angelina County									
5 W Lufkin	04	2245CST			0	0			Flash Flood
	05	0145CST							
Flash flooding occurred across FM 2497 which closed the roadway to all travel.									
Angelina County									
2 S Lufkin	05	0005CST			0	0			Flash Flood
		0650CST							
Flash flooding closed FM 324 to traffic in both directions. Many other roads were also closed throughout the area.									
<u>TEXAS, South</u>									
Willacy County									
San Perlita	02	0700CST			0	0			Flood
	09	0700CST							
Heavy rains and runoff produced flash flooding and ponding of water in San Perlita. The flooding affected farmlands, homes and roads.									
Cameron County									
Brownsville	02	0800CST			0	0			Urban/Sml Stream Fld
		1600CST							
Heavy morning rainfall caused some small streams or resacas in Brownsville to overflow their banks.									
Cameron County									
Southeast Portion	02	1015CST			0	0			Flash Flood
		1800CST							
Torrential rains and saturated soil conditions produced flash flooding over much of southeast Cameron county. The rains produced flash flooding of roads on South Padre Island. Additionally, severe flash flooding of homes, businesses and roads was reported in Laguna Vista and Laguna Heights.									
Cameron County									
San Benito	04	0945CST			0	0			Flood
	09	0945CST							
Heavy rains and saturated soil conditions led to severe flooding of the Green Valley Acres housing area in San Benito. Homes and streets were flooded, prompting Cameron County officials to evacuate around 500 residents. Flood waters persisted over the area for several days after the initial flash flooding.									
<u>TEXAS, South Central</u>									
TXZ225									
Lavaca									
	04	0457CST			0	0			Flood
	06	1600CST							
The Navidad River at Sublime crested at 31.27 feet at 1600CST on November 5, where flood stage is 24.0 feet.									
Hays County									
Countywide	04	1245CST			0	0	0	0	Flash Flood
		2000CST							
General 1 inch rainfall with isolated totals to 2.5 inches produced flash flooding from early afternoon into the evening hours. No damage was indicated.									
Lee County									
Countywide	04	1300CST			0	0	0	0	Flash Flood
		2100CST							
General 1 to 2 inch rainfall with isolated totals to 3.5 inches near Dime Box produced flash flooding from early afternoon into the evening hours. No damage was indicated.									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, South Central									
Guadalupe County									
Countywide	04	1315CST 2200CST			0	0	10K	0	Flash Flood
		General 1 inch rainfall with isolated totals to 3.5 inches near Seguin and Kingsbury produced flash flooding from early afternoon into the evening hours. Only minor damage to county roads was reported.							
Travis County									
Countywide	04	1315CST 2000CST			0	0	10K	0	Flash Flood
		General 1 inch rainfall with isolated totals to 4 inches at Austin-Bergstrom Airport produced flash flooding through the mid afternoon into early evening. County roads had minor damage.							
Bastrop County									
Countywide	04	1400CST 2230CST			0	0	0	0	Flash Flood
		General 1 to 2 inch rainfall with isolated totals to 3.5 inches near Elgin and Smithville produced flash flooding from early afternoon into the evening hours. Only minor road damage was indicated.							
Caldwell County									
Countywide	04	1400CST 2100CST			0	0	10K	0	Flash Flood
		General 1 inch rainfall with isolated totals to 3.5 inches near Dime Box produced flash flooding from early afternoon into the late evening hours. Minor damage was reported to county roads.							
Fayette County									
Countywide	04	1430CST 2330CST			0	0	15K	0	Flash Flood
		General 1 to 2 inch rainfall with isolated totals to 3.5 inches at LaGrange and nearly 4 inches at Flatonia produced flash flooding from early afternoon through the late evening hours. Spotty damage was reported to area roads and bridges.							
Comal County									
Countywide	04	1530CST 2000CST			0	0	0	0	Flash Flood
		General 1 inch rainfall with isolated totals to 3 inches produced flash flooding from mid afternoon into the evening hours. No significant damage was indicated.							
Gonzales County									
Countywide	04	1530CST 2330CST			0	0	15K	0	Flash Flood
		General 1 to 2 inch rainfall with isolated totals to near 4 inches between Gonzales and Flatonia produced flash flooding from mid afternoon through late evening. Minor damage occurred to roads.							
Wilson County									
Countywide	04	1530CST 2100CST			0	0	0	0	Flash Flood
		General 1 inch rainfall with isolated totals to near 3 inches north of Stockdale produced flash flooding from early afternoon into the evening hours. No significant damage was indicated.							
Williamson County									
Countywide	04	1600CST 1900CST			0	0	0	0	Flash Flood
		General 1 inch rainfall with isolated totals to near 3 inches between Taylor and Elgin produced flash flooding from late afternoon into the early evening hours. No significant damage was indicated.							
De Witt County									
Countywide	04	1930CST 2330CST			0	0	10K	0	Flash Flood
		General 1 inch rainfall with isolated totals to 3 inches west of Yoakum produced flash flooding from evening until near midnight. Minor damage to area roads was reported.							
Lavaca County									
Countywide	04	1930CST 2330CST			0	0	10K	0	Flash Flood
		General 1 inch rainfall with isolated totals to 3 inches between Hallettsville and Flatonia produced flash flooding from evening until near midnight. Only minor damage was reported to area roads. A cold front moved across South Central Texas on Sunday, November 3. In its wake an area of widespread cold rain and showers developed along and east of the I-35 corridor. Although rain amounts in the following 24 hours were not excessive, the maximum being near 4 inches, the deeply saturated nature of the area soils due to previous rains produced far more severe than usual flash flooding problems. As little as 1 to 2 inches of rain in 3 hour periods were often enough to fill creeks and streams and begin flash flooding over low water crossings. The rain area was concentrated from Georgetown to Lexington to LaGrange and Hallettsville to Floresville, New Braunfels, San Marcos, Austin and back to Georgetown. General rain amounts were near 1 inch with widespread 2 inch totals and isolated maxima near 4 inches. Flash flooding developed in the afternoon and had generally ended by evening.							

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TEXAS, South Central									
TXZ208		Caldwell							
		04 1801CST			0	0			Flood
		06 0025CST							
		The San Marcos River at Luling crested at 31.10 feet at 0445CST on November 5, where flood stage is 20.0 feet.							
TXZ223		Gonzales							
		04 1940CST			0	0			Flood
		06 1711CST							
		The Guadalupe River at Gonzales crested at 41.93 feet at 0030CST on November 6, where flood stage is 31.0 feet.							
TXZ222		Karnes							
		04 2148CST			0	0			Flood
		06 1701CST							
		Cibolo Creek at Falls City crested at 24.00 feet at 0230CST on November 6, where flood stage is 17 feet.							
TXZ225		Lavaca							
		04 2157CST			0	0			Flood
		09 0545CST							
		The Navidad River at Strane Park crested at 28.14 feet at 0700CST on November 7, where flood stage is 24.0 feet.							
Bastrop County									
5 SW Bastrop		05 0515CST			1	0	0	0	Flash Flood
		0600CST							
		A Bastrop woman was swept away in her car as she attempted to drive through the Cedar Creek crossing at Lower Red Rock Road, just off FM304 southwest of Bastrop. She called police at 0525CST to say that she had driven into deep water and the car was beginning to flood. She was rescued by emergency personnel but died shortly afterward at the Smithville hospital. F52VE							
TXZ209		Fayette							
		05 0602CST			0	0			Flood
		06 1815CST							
		The Colorado River at LaGrange crested at 31.02 feet at 1800CST on November 5, where flood stage is 26.0 feet.							
TXZ225		Lavaca							
		05 0636CST			0	0			Flood
		07 0600CST							
		The Navidad River at Speaks crested at 30 feet at 0600CST on November 6, where flood stage is 24 feet.							
TXZ223		Gonzales							
		05 0705CST			0	0			Flood
		10 0609CST							
		The Guadalupe River at Cuero crested at 36.85 feet at 1200CST on November 7, where flood stage is 20.0 feet.							
TXZ224		De Witt							
		05 1110CST			0	0			Flood
		07 2224CST							
		Sandies Creek at Westhoff crested at 25.64 feet at 0630CST on November 6, where flood stage is 21.0 feet.							
TXZ225		Lavaca							
		05 1200CST			0	0			Flood
		07 1200CST							
		The Navidad River at Morales crested at 34 feet at 1230CST on November 6, where flood stage is 29 feet.							
Comal County									
Bulverde to	26	0235CST			0	0	0	0	Hail (1.75)
3 NE Bulverde		0250CST							
Travis County									
Lake Travis	26	0345CST			0	0	0	0	Hail (1.00)
		0350CST							
Williamson County									
Leander	26	0445CST			0	0	0	0	Hail (1.00)
		0455CST							
TEXAS, South Panhandle									
		NONE REPORTED.							
TEXAS, Southeast									
Jefferson County									
Beaumont	03	1110CST			0	0	1M		Flash Flood
		1300CST							
		Over 400 homes were flooded across Jefferson County. At least 200 of these homes had at least 6 inches of water. This was the result							

Storm Data and Unusual Weather Phenomena

November 2002

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

TEXAS, Southeast

of five inches of rain in less than four hours on top of already saturated grounds.

Orange County

Vidor

03	1200CST				0	0	500K		Flash Flood
	1300CST								

Nearly 200 homes in Vidor and Orange had flood waters enter them. Saturated grounds and five inches of rain in less than five hours resulted in widespread flooding.

TEXAS, West

NONE REPORTED.

TEXAS, Western North

NONE REPORTED.

UTAH, East

UTZ022>025-027>029 Southeast Utah - Eastern Uinta Mountains - Eastern Uinta Basin - Tavaputs Plateau - Grand Flat And Arches - La Sal & Abajo Mountains - Canyonlands / Natural Bridges

01	0000MST				0	0			Drought
30	2359MST								

An active weather regime early in November maintained near normal river basin precipitation across the area. However, mountain snowpack remained insufficient for improvement, and extreme drought conditions persisted across eastern Utah. See the December 2002 Storm Data publication for a continuation of this drought chronicle for eastern Utah.

UTZ023-025-028

Eastern Uinta Mountains - Tavaputs Plateau - La Sal & Abajo Mountains

08	0500MST				0	0			Heavy Snow
10	1600MST								

A moist westerly flow brought one disturbance after another across eastern Utah resulting in heavy snow across the mountains. Snowfall amounts ranged from 7 to 20 inches in the Abajo and La Sal Mountains, 10 to 16 inches across the eastern Uinta Mountains, and 8 to 10 inches across the Tavaputs Plateau. The westerly flow kept relatively warm air across the area with accumulating snow generally above 8000 feet. Most snowfall amounts were estimated using SNOTEL data.

UTZ023-028

Eastern Uinta Mountains - La Sal & Abajo Mountains

14	1200MST				0	0			Heavy Snow
15	1200MST								

An upper level disturbance moved across the area in northwest flow producing heavy snow across the mountains of eastern Utah. Snowfall amounts ranged from 10 to 22 inches in the La Sal, Abajo, and eastern Uinta Mountains. The heaviest reported amounts were 22 inches at the Camp Jackson SNOTEL and 12 inches at the Kings Cabin SNOTEL.

UTZ023

Eastern Uinta Mountains

24	1800MST				0	0			Heavy Snow
25	0600MST								

A Pacific storm system combined with cold air from the north to produce heavy snow across the eastern Uinta Mountains. SNOTEL data indicated amounts ranged from 6 inches at Trout Creek to 12 inches at Kings Cabin.

UTAH, West and Central

UTZ006>008

Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80

09	1200MST				0	0	0	0	Heavy Snow
11	1200MST								

A juicy winter-like storm moved into Northern Utah, bringing mainly wind and rain to the valleys, with heavy, wet snow to the higher mountains. Some of the storm totals included 35 inches on Ben Lomond Peak, 30 inches at Alta, 28 inches at Tony Grove Lake, 25 inches in Farmington Canyon, 24 inches at Brighton, 21 inches at Snowbird, and 10 inches in Liberty and at Snowbasin.

Washington County

St George Muni Arpt

09	1435MST				0	0	0	0	Thunderstorm Wind (G56) ^M
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A severe thunderstorm produced a wind gust of 65 mph (56 kts) at the Saint George Airport.

UTZ019

Utah'S Dixie And Zion National Park

25	1930MST				0	0	10K	0	High Wind (G65)
	2230MST								

Strong northeast gap winds blew through portions of Southwest Utah, causing minor damage. Winds gusts estimated at 75 mph (65 kts) damaged shingles on some homes in Pintura.

VERMONT, North and Central

VTZ003>004-006>008- Orleans - Essex - Lamoille - Caledonia - Washington - Orange

010

06	0300EST				0	0	6K		Light Snow
	0900EST								

An area of low pressure over the Ohio Valley weakened Tuesday evening (November 5th) as a new storm system organized along the

Storm Data and Unusual Weather Phenomena

November 2002

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

Virginia coast. This new storm system moved northeast overnight, and passed across south coastal New England Wednesday morning (November 6th). Across north central and northeast Vermont, generally 3 to 6 inches of snow fell. In Orange county, there were locally higher amounts in the mountains with 8 inches reported in Brookfield. The wet snow took down a tree in Randolph, VT.

VTZ011

Rutland

06	0300EST								
	0800EST			0	0	1K			Light Snow

An area of low pressure over the Ohio Valley weakened Tuesday evening (November 5th) as a new storm system organized along the Virginia coast. This new storm system moved northeast overnight, and passed across south coastal New England Wednesday morning (November 6th). Across Rutland county, generally a trace to 3 inches fell. However, in the mountainous southeast portion, between 6 and 9 inches locally accumulated with the greatest amount reported of 9 inches in East Wallingford.

VTZ012

Windsor

06	0500EST								
	0800EST			0	0	1K			Winter Storm

An area of low pressure over the Ohio Valley weakened Tuesday evening (November 5th) as a new storm system organized along the Virginia coast. This new storm system moved northeast overnight, and passed across south coastal New England Wednesday morning (November 6th). Across Windsor county, generally 5 to 7 inches of snow fell. The greatest amount reported was 7 1/2 inches in the town of Tyson.

VTZ002>003-006>012

Franklin - Orleans - Lamoille - Caledonia - Washington - Addison - Orange - Rutland - Windsor

17	0400EST								
	18 1000EST			0	0	45K			Winter Storm

A complex storm system which extended along the east coast of the US from Cape Cod south to Cape Hatteras spread a mixture of sleet, freezing rain and light snow across much of Vermont during Sunday, November 17th. Colder air moved in as the storm system reorganized and intensified near Cape Cod Sunday night (November 17th). Heavy snow fell Sunday night into Monday morning (November 17-18th) with accumulations generally between 6 and 10 inches. Numerous power outages were reported across the Vermont counties of Addison, Rutland and Washington. In Orange county there were a few power outages. The power outages were due to the weight of the heavy wet snow on tree limbs and power lines.

VTZ001-005

Grand Isle - Chittenden

17	0400EST								
	18 1000EST			0	0	10K			Winter Storm

A complex storm system which extended along the east coast of the US from Cape Cod south to Cape Hatteras spread a mixture of sleet, freezing rain and light snow across much of Vermont during Sunday, November 17th. Colder air moved in as the storm system reorganized and intensified near Cape Cod Sunday night (November 17th). Heavy snow fell Sunday night into Monday morning (November 17-18th), with accumulations generally 8 to 12 inches. Numerous power outages were reported in Chittenden county.

VTZ004

Essex

17	0400EST								
	18 1000EST			0	0	5K			Winter Storm

A complex storm system which extended along the east coast of the US from Cape Cod south to Cape Hatteras spread a mixture of sleet, freezing rain and light snow across much of Vermont during Sunday, November 17th. Colder air moved in as the storm system reorganized and intensified near Cape Cod Sunday night (November 17th) with periods of heavy snow Sunday night (November 17th) into Monday morning (November 18th), with accumulations generally 5 to 7 inches.

VTZ002-005-009

Franklin - Chittenden - Addison

23	0630EST								
	0845EST			0	0	15K			Winter Storm

Low pressure over western New York Friday afternoon (November 22nd) consolidated with a storm off the east coast Friday night. This system moved through Maine Saturday, November 23rd. Heavy snow fell along and west of the Green Mountains. In the eastern two thirds of these Vermont counties between 6 and 8 inches fell, with 3 to 5 inches elsewhere in these counties.

VTZ003-006

Orleans - Lamoille

23	0630EST								
	0845EST			0	0	10K			Winter Storm

Low pressure over western New York Friday afternoon (November 22nd) consolidated with a storm off the east coast Friday night. This system moved through Maine Saturday, November 23rd. Heavy snow fell across Lamoille and Orleans counties with accumulations generally between 5 and 9 inches.

VTZ006>008

Lamoille - Caledonia - Washington

29	0800EST								
	1400EST			0	0	3K			Light Snow

A low pressure system moved east across southern Canada during Friday, November 29th. The associated Warm front moved across the area and along with moisture from the eastern Great Lakes triggered light snow over the area. Generally around 3 inches of snow fell.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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VERMONT, South
VTZ013>014

Bennington - Windham

17	0000EST 0900EST				0	0	30K		Winter Storm
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A strong nor'easter developed off Cape Hatteras on November 16. The low pressure center then slowly moved north along the coast, reaching Cape Cod by late November 17. At the same time, a shallow layer of arctic air bled south from eastern Canada. This air was cold enough to produce a heavy wintery mix of precipitation during a good portion of the storm across extreme southern Vermont. Initially the precipitation fell primarily as snow across the county, with 2-4 inches of accumulation reported. As warmer air moved in overhead, the precipitation changed to sleet, then freezing rain. Freezing rain produced up to half an inch of ice accretion on most surfaces. The combination of the snow, sleet and ice, winds gusting over 30 mph, and the fact that some trees still had leaves on them, resulted in many downed trees and powerlines. There were numerous power outages, especially from Arlington to the New York State line. Travel conditions were poor as well. Temperatures finally rose above freezing later on Sunday morning, putting an end to the winter storm. Some minor additional snowfall accumulations were noted on the back side of the storm late on Sunday into early Monday.

VIRGIN ISLANDS

NONE REPORTED.

VIRGINIA, East
Fluvanna County

Troy	11	0555EST			0	0	2K		Thunderstorm Wind
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Trees and power lines down.

Louisa County
Countywide

11	0600EST				0	0	2K		Thunderstorm Wind
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Trees down.

Hanover County
Beaver Dam

11	0700EST				0	0	2K		Thunderstorm Wind
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Trees down.

Caroline County
Countywide

11	0705EST				0	0	2K		Thunderstorm Wind (G50)
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Trees down.

Chesapeake (C)
Chesapeake

11	1323EST				0	0	2K		Thunderstorm Wind
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Trees down in south end of city. Large tree (100 feet) down at the intersection of Benefit and Lake Drummond Causeway.

VIRGINIA, Extreme Southwest

Lee County

Pennington Gap	10	2205EST			0	0			Hail (1.75)
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Golf ball size hail was reported at Pennington Gap.

Scott County
Duffield

10	2245EST				0	0	10K		Thunderstorm Wind
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Trees were reported down around Duffield.

Norton (C)
Norton

10	2248EST				0	0	15K		Thunderstorm Wind
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Several trees were downed in and around the City of Norton.

Lee County
Robbins Chapel

10	2255EST				0	0			Hail (0.75)
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Dime size hail was reported at Robbins Chapel.

Wise County
Banner

10	2255EST				0	0			Hail (0.75)
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Dime size hail was reported at Banner.

Lee County
Robbins Chapel

10	2305EST				0	0			Hail (1.75)
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Golf ball size hail was reported at Robbins Chapel.

Lee County
Dryden

10	2310EST				0	0	15K		Thunderstorm Wind
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A tree fell on a truck in Dryden.

Washington County
Oak Grove

10	2321EST				0	0	2K		Thunderstorm Wind
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A tree was reported down on Reedy Creek Road north of Bristol.

Russell County
Countywide

10	2330EST				0	0	15K		Thunderstorm Wind
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Several trees were reported down across the county.

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	
<u>VIRGINIA, Extreme Southwest</u>									
Wise County									
Wise	10	2332EST			0	0	10K		Thunderstorm Wind
		A few trees were reported down in southern Wise County.							
Scott County									
Ft Blackmore	10	2335EST			0	0			Hail (1.75)
		Golfball size hail fell at Fort Blackmore.							
Norton (C)									
Norton	10	2335EST			0	0	10K		Thunderstorm Wind
		A few trees were reported down in Norton.							
Lee County									
Countywide	10	2345EST			0	0	15K		Thunderstorm Wind
		Several trees were reported down across the county.							
Russell County									
2.5 NW Banners Corner	10	2353EST			0	0			Hail (0.75)
		Dime size hail was reported 2.5 miles northwest of Banners Corner.							
Wise County									
Countywide	11	0015EST			0	0	15K		Thunderstorm Wind
		Several trees were reported down across the county.							
Scott County									
Countywide	11	0030EST			0	0	20K		Thunderstorm Wind
		Numerous trees and power lines were reported down across the county.							
Washington County									
Countywide	11	0030EST			0	0	15K		Thunderstorm Wind
		A few trees were reported down across the county.							
Lee County									
Dryden	11	0030EST			0	0	5K		Thunderstorm Wind
		A few trees and limbs were reported down in the Dryden area.							
<u>VIRGINIA, North</u>									
Culpeper County									
4 SW Culpeper	11	0515EST			0	0	0.50K		Thunderstorm Wind
		A tree was downed onto Route 29 near the Madison County border.							
Alexandria (C)									
Alexandria	11	0600EST			0	0	0.50K		Thunderstorm Wind
		A tree was downed onto Seminary Road.							
Arlington County									
Arlington	11	0600EST			0	0	3K		Thunderstorm Wind
		Power lines were downed.							
King George County									
King George	11	0900EST			0	0	2K		Thunderstorm Wind
		Trees were downed onto power lines. Thunderstorms with high wind moved through the region between 5 and 9 AM on the 11th. In Culpeper County, a tree was downed onto Route 29 about 4 miles southwest of Culpeper. In Arlington County, power lines were downed onto Dinwiddie Street and at the intersection of N 23rd and Nottingham in the city of Arlington. In Alexandria, a tree was downed onto Seminary Road. In King George County, trees were downed onto power lines in King George.							
<u>VIRGINIA, Northwest</u>									
		NONE REPORTED.							
<u>VIRGINIA, Southwest</u>									
VAZ015									
Grayson									
	06	1400EST			0	0	0		High Wind
		1930EST							
		High winds downed trees during the afternoon and early evening of the 6th across Grayson County.							
Tazewell County									
Springville	11	0047EST			0	0			Hail (1.75)
Tazewell County									
Tazewell	11	0100EST			0	0			Hail (0.75)
Bedford County									
Major	11	0135EST			0	0			Hail (0.75)

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>VIRGINIA, Southwest</u>									
Wythe County									
Speedwell	11	0245EST			0	0	0		Thunderstorm Wind
Roanoke (C)									
Roanoke	11	0345EST			0	0			Hail (0.88)
Bedford (C)									
Bedford	11	0405EST			0	0	5K		Thunderstorm Wind
Bedford County									
Stewartsville	11	0410EST			0	0	0		Thunderstorm Wind
Bedford (C)									
1 E Bedford	11	0412EST			0	0	10K		Thunderstorm Wind
Campbell County									
2 NE Rustburg	11	0712EST			0	0	0		Thunderstorm Wind
Thunderstorms during the morning of the 11th produced damaging winds and hail up to golf ball size.									
Thunderstorm winds downed trees in Speedwell, Stewartsville, and 2 miles northeast of Rustburg, downed large trees and blew over a mobile home in Bedford, and downed trees damaging a home 1 mile east of Bedford.									
VAZ015-034>035-045>046									
Grayson - Bedford - Amherst - Campbell - Appomattox									
	30	2000EST 2300EST			0	0	0		High Wind
High winds during the evening of the 30th downed trees and some power lines across Grayson, Bedford, Amherst, and Appomattox counties.									
<u>WASHINGTON, Northeast</u>									
WAZ037>038									
Northeast Mountains - Okanogan Highlands									
	08	0000PST 2359PST			0	0			Heavy Snow
The first heavy snow of the winter finally fell on the mountains of northeast Washington on November 8. Snows were generally confined to elevations above 4000 feet. Snowfall totals include: Bunchgrass Meadows SNOTEL...20", Quartz Peak SNOTEL...14", and the Moses Mountain SNOTEL...5".									
WAZ038									
Okanogan Highlands									
	18	0000PST 2359PST			0	0			Heavy Snow
Heavy snow fell on the mountains of northeast Washington, generally above 4000 feet, on November 18. The Bunchgrass Meadows SNOTEL received 12" of new snow.									
<u>WASHINGTON, Northwest</u>									
Grays Harbor County									
Westport	08	0300PST 0800PST			0	0	5K		Storm Surge
Coastal flooding damaged a restaurant and spilled debris over a few roads.									
<u>WASHINGTON, Southeast</u>									
WAZ024>030									
East Columbia River Gorge - East Slopes Southern Cascades - Kittitas Valley - Yakima Valley - Lower Columbia Basin - Blue Mountain Foothills - Northwest Blue Mountains									
	01	0000PST			0	0	65.0M		Extreme Cold
	04	2359PST							
An arctic front moved through the state on October 29th, bringing much colder temperatures into the first four days of November. Some of the colder readings in degrees Fahrenheit included 4 at Yakima, 6 at Goldendale and Selah, 8 at Whitman Mission, 9 at Easton, and 13 at Wapato. The Yakima Valley was hit hard by the freeze with an estimated 3.9 million boxes of apples lost. Some of the harder hit varieties included Pink Ladies, Fujis, Braeburn, and Granny Smith. Around \$50,000 damage was also done to apples in Klickitat county.									
WAZ028									
Lower Columbia Basin									
	16	1645PST			0	0			Dust Storm
Strong winds created areas of blowing dust along highway 224, reducing visibilities to one quarter mile.									
<u>WASHINGTON, Southwest</u>									
WAZ021									
South Coast									
	12	0500PST 0800PST			0	0			High Wind (G52) ^M
Cape Disappointment reported gusts to 60 mph as a strong Pacific cold front moved across the area.									
WAZ021									
South Coast									
	15	0900PST			0	0			High Wind (G46) ^M
	16	2100PST							

Storm Data and Unusual Weather Phenomena

November 2002

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

Cape Disappointment reported sustained winds of 52 mph and Ilwaco gusts to 53 mph as a Pacific storm moved north along the South Washington Coast.

WEST VIRGINIA, East

WVZ048>049

Grant - Mineral

**30 2000EST
2359EST**

0 0

Winter Weather

A strong cold front pushed through during the afternoon of the 30th. This turned winds to the northwest and moisture from the Great Lakes was blown into the region. The winds deposited the moisture in the form of snow in the Appalachian Mountains between 8 PM on the 30th through 8 AM on the 1st of December. A total of 1 to 6 inches of snow accumulated, with the highest amounts occurring in higher elevations in the western portion of the counties. Reports included 6.0 inches in Bayard, 2.3 inches in Keyser, and 1 inch in Romney. Winds gusting as high as 45 MPH caused the newly fallen snow to blow around and dropped wind chills into the single digits above zero.

WEST VIRGINIA, North

Ohio County

Wheeling Arpt

10 2152EST

59 mph wind gust.

0 0

Thunderstorm Wind (G51) ^M

Brooke County

Countywide

10 2200EST

Trees downed by wind.

0 0

5K

Thunderstorm Wind

Hancock County

New Cumberland

10 2200EST

A few trees blown down by wind.

0 0

2K

Thunderstorm Wind

WVZ023-041

Preston - Tucker

**23 0300EST
0700EST**

0 0

Heavy Snow

Snow started the afternoon of the 22nd, accumulating 8 inches in Terra Alta and 6 inches in Canaan Valley by the morning of the 23rd.

WVZ041

Tucker

**27 0300EST
0900EST**

0 0

Heavy Snow

Six inches of snow fell in Tucker county, especially on ridge tops.

WVZ023-041

Preston - Tucker

**30 1600EST
2359EST**

0 0

Heavy Snow

Snow started to fall during the evening of 30th, and tapered to flurries before dawn Dec 1. Canaan Valley reported 14 inches; Aurora 12; Terra Alta 8; Kingwood and Parsons 6 inches.

WEST VIRGINIA, Southeast

WVZ043-045

Summers - Greenbrier

**19 0600EST
0900EST**

0 0 0

Freezing Rain

A thin coating of freezing rain covered many roads across Greenbrier and Summers counties with numerous accidents reported.

WEST VIRGINIA, West

Wayne County

East Lynn

10 2015EST

Several trees were blown down.

0 0

1K

Thunderstorm Wind

Lincoln County

Branchland

10 2044EST

Trees and power lines were knocked down.

0 0

3K

Thunderstorm Wind

Kanawha County

Dunbar

10 2106EST

Power lines were snapped by fallen trees.

0 0

2K

Thunderstorm Wind

Mason County

Point Pleasant

10 2118EST

Several trees were blown down.

0 0

1K

Thunderstorm Wind

Mason County

Gallipolis Ferry

10 2220EST

Several trees were blown down.

0 0

1K

Thunderstorm Wind

Storm Data and Unusual Weather Phenomena

November 2002

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

Jackson County

Ravenswood	10	2250EST			0	0	200K		Thunderstorm Wind
Straight line winds, estimated around 80 mph, caused wind damage to 2 separate mobile home parks on Route 2. One apartment on Route 2 and one single family dwelling on Route 56 were also damaged. One mobile home was completely flipped over onto another mobile home. Luckily, there were no casualties or serious injuries. The woman and her children had evacuated the overturned trailer about 10 minutes prior to the incident. Several other mobile homes were shoved off their foundations. Eleven mobile homes were listed as destroyed by the state. The American Red Cross provided family assistance. About 16 families were relocated to a local motel. A piece of wood was embedded into a car windshield.									

Putnam County

Winfield	10	2300EST			0	0	1K		Thunderstorm Wind
Large tree branches were snapped off.									

Wood County

Rockport	10	2300EST			0	0	1K		Thunderstorm Wind
Numerous trees or large branches were blown down.									

Wayne County

Dunlow	10	2310EST			0	0	2K		Thunderstorm Wind
Power lines were knocked down by fallen trees.									

Wayne County

Lavalette	10	2310EST			0	0	2K		Thunderstorm Wind
An outbuilding was blown into a mobile home, damaging the dwelling.									

Roane County

5 W Spencer	10	2320EST			0	0	1K		Thunderstorm Wind
Trees were knocked down along Route 33.									

Wirt County

Creston	10	2320EST			0	0	1K		Thunderstorm Wind
Several trees were blown down.									

Calhoun County

Grantsville	10	2335EST			0	0	2K		Thunderstorm Wind
Trees and one power line were knocked down.									

Lewis County

Weston	11	0015EST			0	0	1K		Thunderstorm Wind
Scattered locations in the city had trees or large branches fall to the ground. This episode was part of a large outbreak of severe weather in the Ohio and Tennessee River Valleys. Record warmth preceded a strong cold front. Temperatures reached into the 75 to 80 degree range during the afternoon with dew points in the upper 50s. A squall line formed near the frontal boundary, with a few storms developing out ahead of the main line. Strong low level winds accompanied the frontal zone. Luckily for West Virginia, the activity did not reach the state until the late evening.									

WVZ047

Randolph	30	1700EST 2345EST			0	0			Heavy Snow
Snow accumulations of 4 to 6 inches were common, with as much as 10 inches in the vicinity of Kumbrabow State Forest. The snow fell in the wake of a strong cold frontal passage.									

WISCONSIN, Northeast

WIZ050

Manitowoc	26	1600CST			0	0			Heavy Snow
	27	0000CST							
A narrow band of lake effect snow moved onshore over the extreme northeast part of Manitowoc county late in the afternoon, and persisted until midnight. Eight inches of snow fell 3 miles northeast of Two Rivers. Other snowfall reports in northeast Manitowoc county ranged from 3.5 to 4.5 inches.									

WIZ005

Vilas	30	0200CST 1200CST			0	0			Winter Storm
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WIZ022-039>040

Door - Brown - Kewaunee	30	0800CST 1400CST			0	0			Strong Wind
Very cold air, behind a strong cold front, traveling over the warmer waters of Lake Superior caused heavy lake effect snow showers. Snowfall totals in northern Vilas county were as high as 8 inches at Presque Isle and 7 inches at Winchester. Winds behind the front were strong during the morning and early afternoon hours. The highest recorded gusts were, 58 mph at Gills Rock (Door co.), 44 mph at Green Bay (Brown co.) and 43 mph at Sturgeon Bay (Door co.).									

Storm Data and Unusual Weather Phenomena

November 2002

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>WISCONSIN, Northwest</u>									
WIZ004		Iron							
	24	1200CST			0	0			Heavy Snow
	25	1500CST							
	Nine inches of lake effect snow fell at Hurley. The heaviest snow fell early in the evening.								
WIZ004		Iron							
	29	1700CST			0	0			Heavy Snow
	30	1100CST							
	Lake effect snow brought 8 to 10 inches of snow to Iron County. Mercer and Hurley received 10 inches while Upson reported 8 inches. The heaviest snow fell during the evening.								
<u>WISCONSIN, Southeast</u>									
	NONE REPORTED.								
<u>WISCONSIN, Southwest</u>									
	NONE REPORTED.								
<u>WISCONSIN, West</u>									
	NONE REPORTED.								
<u>WYOMING, Central and West</u>									
WYZ012>014-024>025	Teton & Gros Ventre Mountains - Jackson Hole - Wind River Mountains West - Salt River & Wyoming Ranges - Upper Green River Basin Foothills								
	08	0000MST			0	0			Heavy Snow
	10	2359MST							
	A series of Pacific storms brought heavy snow to parts of western Wyoming. Snowfall amounts ranged from 13 to 24 inches in the mountains to 6 to 14 inches for Jackson Hole and Upper Green River Basin Foothills.								
WYZ001>002-005-007>010-012-014>015-017>018-020-025	Yellowstone National Park - Absaroka Mountains - Southwest Big Horn Basin - Owl Creek & Bridger Mountains - Bighorn Mountains West - Bighorn Mountains Southeast - Northeast Johnson County - Teton & Gros Ventre Mountains - Wind River Mountains West - Wind River Mountains East - Wind River Basin - Lander Foothills - Natrona County Lower Elevations - Upper Green River Basin Foothills								
	23	0200MST			0	2			Heavy Snow
	24	1000MST							
	A storm system brought heavy snow to much of central and western Wyoming. Snowfall amounts ranged from 6 to 9 inches in the lower elevations to 10 to 18 inches in the mountains. Also, two people were injured when icy conditions caused a van to slide off I-25 north of Casper.								
WYZ009>011	Bighorn Mountains Southeast - Northeast Johnson County - Southeast Johnson County								
	25	1100MST			0	0			Blizzard
		2145MST							
	The combination of strong northwest winds and fresh snow cover resulted in blizzard conditions across much of Johnson county. The visibility was reported near zero in open areas. A section of I-90 was closed for a few hours due to drifting snow. The Buffalo Airport ASOS reported a wind gust of around 60 mph at 131 pm and a wind gust of 67 mph was reported in the Big Horn mountains.								
<u>WYOMING, Extreme Southwest</u>									
	NONE REPORTED.								
<u>WYOMING, North Central</u>									
WYZ099	Sheridan Foothills								
	23	1500MST			0	0			Heavy Snow
	7 inches of new snow in Sheridan								
WYZ099	Sheridan Foothills								
	23	1540MST			0	0			Heavy Snow
	5 inches of new snow 10 miles south of Sheridan								
WYZ098	Northeast Bighorn Mountains								
	24	0956MST			0	0			Heavy Snow
	15 inches of new snow in Burgess Junction								
WYZ099	Sheridan Foothills								
	24	0956MST			0	0			Heavy Snow
	11 inches of new snow in Dayton								
WYZ099	Sheridan Foothills								
	24	0956MST			0	0			Heavy Snow
	10 inches of new snow in Story								

Storm Data and Unusual Weather Phenomena

November 2002

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

WYOMING, Northeast

NONE REPORTED.

WYOMING, Southeast

NONE REPORTED.

Storm Data and Unusual Weather Phenomena

March 2002

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

Additions/Corrections

PENNSYLVANIA, Central

PAZ012-041-045>046	Northern Clinton - Northern Lycoming - Southern Clinton - Southern Lycoming			
	26 1752EST	0	0	Flood
	27 0045EST			

A low pressure system over the Ohio Valley spread a large area of moderate to heavy rain across central Pennsylvania during Tuesday, March 26th. Total rainfall amounts averaged slightly in excess of 2 inches from this system. In Clinton and Lycoming counties, many roads were flooded as several small creeks exceeded bankful.

Storm Data and Unusual Weather Phenomena

May 2002

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

Additions/Corrections

KANSAS, Southeast

Russell County Paradise	05	1600CST			0	0			Hail (1.00)
Russell County Waldo	05	1604CST			0	0			Hail (1.00)
Russell County 2 SE Paradise to 3 E Paradise	05	1608CST 1612CST	3	250	0	0	170K		Tornado (F1)
Damaged outbuildings and power lines.									
Russell County 3 W Waldo	05	1617CST	0.5	110	0	0			Tornado (F0)
Brief touchdown.									
Russell County Gorham	05	1714CST			0	0			Hail (1.75)
Russell County 7 SE Russell	05	1727CST			0	0			Hail (1.25)
KSNW Channel 3.									
Russell County Russell	05	1733CST			0	0			Hail (1.75)
Russell County 4 S Russell	05	1742CST			0	0			Hail (0.88)
Russell County 4 S Russell	05	1742CST	0.5	110	0	0			Tornado (F0)
Brief touchdown.									
Russell County 2 E Russell	05	1744CST			0	0			Hail (1.00)
Lincoln County Lincoln	05	1750CST			0	0			Hail (1.00)
Russell County 4 S Russell	05	1752CST	0.5	110	0	0			Tornado (F0)
Brief touchdown.									
Lincoln County 4 N Lincoln	05	1800CST			0	0			Hail (0.75)
Lincoln County Vesper	05	1800CST			0	0			Hail (0.75)
Russell County Dorrance	05	1810CST			0	0			Hail (1.00)
Lincoln County 2 S Beverly	05	1820CST	1	220	0	0	5K		Tornado (F0)
Shed damaged.									

Storm Data and Unusual Weather Phenomena

May 2002

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

Additions/Corrections

KANSAS, Southeast

Saline County

2 N Hedville

05

1940CST

0

0

Hail (0.88)

PENNSYLVANIA, Central

PAZ012-045

Northern Clinton - Southern Clinton

13

2100EST

2200EST

0

0

Flood

Rising waters in Bald Eagle Creek at Beech Creek Station caused the river gauge to reach its flood stage of 11.0 feet briefly between 9 and 10 pm.

Storm Data and Unusual Weather Phenomena

June 2002

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

KANSAS, Southeast

Russell County 1 N Bunker Hill	11	1455CST			0	0			Hail (1.00)
Russell County 3 E Bunker Hill	11	1502CST			0	0			Hail (1.00)
Russell County Wilson Lake	11	1515CST			0	0			Hail (1.75)
Ellsworth County Wilson	11	1517CST			0	0			Hail (1.00)
Cooperative observer.									
Lincoln County 8 SW Lincoln to 4 SW Lincoln	11	1525CST 1527CST	4	110	0	0			Tornado (F0)
Remained in the country.									
Ellsworth County Wilson	11	1527CST			0	0			Hail (1.75)
Ellsworth County Wilson	11	1530CST			0	0			Hail (2.75)
No reports of damage, but one has to wonder.									
Ellsworth County Wilson	11	1530CST			0	0			Hail (1.75)
Cooperative observer.									
Lincoln County 10 SW Lincoln	11	1533CST	1	55	0	0			Tornado (F0)
Brief event that occurred in the country.									
Ellsworth County 3 E Wilson	11	1540CST			0	0	500K		Hail (2.75)
Numerous windows smashed out of homes, businesses and vehicles. Crop damage, especially to corn and wheat, was extensive. Area newspapers contributed greatly to this report.									
Ellsworth County 3 E Wilson	11	1542CST			0	0	500K		Thunderstorm Wind (G70)
Major roof damage, with some roofs completely blown off homes. Windows blown out off both homes and vehicles. In cases where roofs were blown off homes, the resultant water damage from rains was extensive. Area newspapers contributed greatly to this									
Russell County 4 S Dorrance	11	1542CST			0	0			Hail (1.00)
Ellsworth County 9 NE Black Wolf	11	1558CST			0	0			Thunderstorm Wind (G61)
Lincoln County 4 S Sylvan Grove	11	1605CST			0	0			Hail (0.75)
Lincoln County 10 S Sylvan Grove	11	1618CST			0	0			Hail (1.25)
Lincoln County 10 S Sylvan Grove	11	1618CST			0	0			Hail (1.75)

Storm Data and Unusual Weather Phenomena

June 2002

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

KANSAS, Southeast

Ellsworth County									
4 E Ellsworth	11	1702CST 1945CST			0	0			Flash Flood
Sections of Highway 111 flooded.									
Ellsworth County									
Ellsworth	11	1715CST			0	0			Thunderstorm Wind (G78)
Occurred at Rush Field. No damage was reported.									
Ellsworth County									
2 S Kanapolis Res	11	1715CST 1730CST			0	0	100K		Thunderstorm Wind (G78)
Camper overturned with many trees uprooted.									
Ellsworth County									
Kanapolis Res	11	1720CST			0	0	250K		Thunderstorm Wind (G74)
Unspecified number of campers tipped over, at least two boats broke loose from their moorings and an specified number of private docks were damaged.									
Ellsworth County									
1 S Kanapolis Res	11	1721CST 1730CST			0	0	125K		Thunderstorm Wind (G83)
Widespread damage to campers, trees, power lines and power poles.									
Mepherson County									
2 S Marquette	11	1722CST 1737CST			0	0	100K		Thunderstorm Wind (G78)
Widespread roof damage as well as downed power lines and power poles.									
Mepherson County									
5 S Marquette	11	1723CST 1738CST			0	0	100K		Thunderstorm Wind (G74)
Widespread roof damage as well as downed power lines and power poles.									
Mepherson County									
8 S Marquette	11	1730CST 1745CST			0	0	250K		Thunderstorm Wind (G87)
Two 80-85 foot silos collapsed, destroying the office building and milling operation. A 45-by-50 foot metal pole barn was destroyed, being picked up and hurled into a field southeast of where it had been located. Numerous businesses and residences sustained roof damage and had windows blown out. Obviously, tree damage was widespread and numerous power lines and power poles were downed. Area newspapers contributed greatly to this report.									
Rice County									
3 N Little River	11	1730CST 1740CST			0	0			Thunderstorm Wind (G52)
Mepherson County									
3 SW Mc Pherson	11	1735CST 1745CST			0	0	125K		Thunderstorm Wind (G74)
Widespread damage to roofs, trees, power lines and power poles.									
Rice County									
Galt	11	1735CST 1745CST			0	0	100K		Thunderstorm Wind (G70)
Widespread damage to roofs, power lines and power poles, and trees.									
Mepherson County									
Lindsborg	11	1744CST			0	0			Hail (0.75)
Mepherson County									
Lindsborg	11	1744CST 1755CST			0	0	125K		Thunderstorm Wind (G78)
Widespread damage to roofs, trees, power lines and power poles. (Cooperative observer).									

Storm Data and Unusual Weather Phenomena

June 2002

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

KANSAS, Southeast

Mcperson County									
1 S Galva	11	1804CST			0	0			Thunderstorm Wind (G52)
Mcperson County									
1 W Galva	11	1813CST			0	0			Thunderstorm Wind (G56)
Branches 3-5 inches in diameter downed.									
Mcperson County									
4 N Canton	11	1819CST			0	0			Thunderstorm Wind (G61)
Mcperson County									
9 E Roxbury	11	1820CST			0	0			Thunderstorm Wind (G56)
Downed limbs.									
Rice County									
5 SW Bushton	11	1830CST			0	0			Hail (1.00)
Rice County									
Bushton	11	1833CST			0	0			Hail (0.75)
Marion County									
Durham	11	1838CST			0	0			Hail (1.00)
Marion County									
Hillsboro	11	1838CST			0	0			Hail (0.75)
Marion County									
Tampa	11	1838CST			0	0			Thunderstorm Wind (G61)
Saline County									
2 W Bridgeport	11	1838CST			0	0			Hail (0.75)
Marion County									
Hillsboro	11	1840CST			0	0			Hail (0.88)
Marion County									
4 N Hillsboro	11	1840CST			0	0			Hail (1.50)
Mcperson County									
Mc Pherson	11	1840CST			0	0			Thunderstorm Wind (G52)
Ellsworth County									
Ellsworth	11	1845CST 1945CST			0	0			Flash Flood
Highway 14 flooded.									
Marion County									
5 NW Hillsboro	11	1854CST			0	0			Thunderstorm Wind (G65)
No reports of damage.									
Reno County									
Hutchinson	11	1854CST			0	0			Hail (0.75)
Mcperson County									
Mc Pherson	11	1902CST 12 0117CST			0	0			Flash Flood
Widespread street flooding.									

Storm Data and Unusual Weather Phenomena

June 2002

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

KANSAS, Southeast

Marion County									
Goessel	11	1924CST			0	0			Thunderstorm Wind (G56)
Rice County									
Silica	11	1925CST			0	0			Hail (1.00)
Rice County									
2 N Little River	11	1930CST			0	0			Thunderstorm Wind (G52)
Rice County									
2 N Little River	11	1930CST			0	0			Thunderstorm Wind (G52)
Rice County									
4 NW Alden	11	1949CST			0	0			Thunderstorm Wind (G56)
Tree damage. Area newspapers contributed to this report.									
Butler County									
4 E Potwin	11	1950CST			0	0			Thunderstorm Wind (G52)
Chase County									
1 NW Elmdale	11	1950CST			0	0			Thunderstorm Wind (G52)
Chase County									
2 SE Cottonwood Falls	11	2015CST			0	0			Thunderstorm Wind (G52)
Reno County									
Plevna	11	2028CST			0	0			Thunderstorm Wind (G52)
Reno County									
12 W Nickerson	11	2043CST			0	0			Thunderstorm Wind (G52)
Mcperson County									
Mc Pherson	11	2048CST			0	0			Flash Flood
	12	0117CST							
Many roads flooded across the county.									
Reno County									
2 N Buhler	11	2059CST			0	0			Flash Flood
		2200CST							
Buhler Road flooded.									
Reno County									
2 E Haven	11	2132CST			0	0			Thunderstorm Wind (G52)
Sedgwick County									
Mt Hope	11	2135CST			0	0			Thunderstorm Wind (G61)
Several limbs downed.									
Sedgwick County									
Mt Hope	11	2138CST			0	0			Hail (0.75)
Harvey County									
Newton	11	2150CST			0	0			Flash Flood
	12	0330CST							
U.S. Highway 50 flooded to 12 inch depth. By 2245, several roads across the county were barricaded.									
Sedgwick County									
Wichita	11	2258CST			0	0			Flash Flood
	12	0400CST							
Several intersections were flooded with one vehicle stranded.									

Storm Data and Unusual Weather Phenomena

June 2002

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

Additions/Corrections

KANSAS, Southeast

Reno County 1 NW Hutchinson	12	0400CST			0	0			Thunderstorm Wind (G52)
									Several limbs downed.
Reno County Hutchinson	12	0410CST			0	0			Thunderstorm Wind (G52)
									Six inch diameter limbs downed.
Sedgwick County Derby	12	0445CST			0	0			Thunderstorm Wind (G52)
Cowley County Winfield	12	0547CST			0	0			Thunderstorm Wind (G52) ^M
Cowley County Arkansas City	12	0550CST			0	0			Hail (1.00)
Cowley County Arkansas City	12	0557CST			0	0			Hail (0.75)

NEW YORK, East

Montgomery County Amsterdam	16	1150EST 1200EST	3.2	75	0	0	75K		Tornado (F0)
Rensselaer County East Greenbush	16	1230EST			0	75			Hail (0.75)
Albany County Coeymans	16	1235EST			0	0	2K		Thunderstorm Wind (G60)
Greene County Coxsackie	16	1245EST			0	0			Hail (0.75)
Columbia County Chatham	16	1300EST			0	0			Hail (1.50)
Dutchess County Wappingers Falls	16	1310EST			0	0			Hail (1.75)
Columbia County Canaan	16	1323EST			0	0			Hail (0.75)
Dutchess County Hopewell Jct	16	1323EST			0	0			Hail (0.75)
Columbia County Austerlitz	16	1325EST			0	0			Hail (0.75)
Dutchess County Pawling	16	1400EST 1410EST	1	125	0	0	20K		Tornado (F1)

Thunderstorms developed along an occluded frontal boundary by midday June 16. Their intensity was aided by a large cold pocket of air aloft combined with the strong June midday sunshine. As the storms approached the Hudson Valley of eastern New York, some of them became severe. Most of the reports were of hail damage. However, there two confirmed tornado touchdowns as well as one non-tornadic destructive wind report. The first of two tornados in eastern New York touched intermittently down in the town of Florida, Montgomery County between Klapmeyer and Hartley Roads, to the southwest of Amsterdam. The path of this tornado

Storm Data and Unusual Weather Phenomena

June 2002

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

PACIFIC GUZ002

Micronesia

29	0000SST				1	0	60K		Tropical Storm
30	2300SST								

A weak circulation was observed on the monsoon trough on the 27th of June. The system continued to develop and became Tropical Depression 08W on the morning of the 29th. Strong westerly winds south of the monsoon trough associated with the intensifying tropical depression were occurring. Weather observers on the island of Nukuro reported winds of up to 45 mph. The automated weather observing station on Nukuro ceased functioning after the building it was housed at blew down. The building was the Municipal Office on the island. The strong west winds also raised the seas in the region resulting in Hazardous surf in numerous locations. On Pohnpei a person on the southwest reef got taken out to sea because of the high swells and seas.

GUZ001

On the morning of the 30th the Tropical Depression 08W intensified to become Tropical Storm Chataan. M?IW

Belau

29	0000SST				0	0	100K		Tropical Storm
30	2300SST								

A tugboat and a barge carrying 7,400 tons of rock aggregate ran aground on the reef outside the Ngeremlengui Passage on Western Babeldaob in Palau during the evening. Early during the evening the tugboat, with barge in tow, was outside the passage when very high winds and heavy waves began to develop. Winds gusting to 40 knots and waves measuring 8 to 12 feet forced both the tugboat and barge to run aground on the reef. The tugboat and barge were from Indonesia and the aggregate was from the Philippines. The wind was the result of enhanced monsoon flow over Palau caused by the passage of Tropical Storm Rammasun to the north of Palau.

The monsoon trough had been active for a few days in the region. A circulation on the trough gained enough strength to become TD 09W late in the afternoon of the 28th. The tropical depression was located near 9.8N 135.0E at that time. The system further intensified and by the late afternoon of the 29th was classified by the Joint Typhoon Warning Center as Tropical Storm Ramassun.

Storm Data and Unusual Weather Phenomena

July 2002

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

Additions/Corrections

COLORADO, Central and Northeast

Adams County

13 NNW Bennett	23	1440MST 1447MST	0.1	50	0	0	0	0	Tornado (F0)
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A small tornado touched down briefly but did no damage.

KENTUCKY, Eastern

Pulaski County

Squib	02	1310EST			0	0	0	0	Hail (1.75)
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Jackson County

Clover Bottom	02	1510EST			0	0	0	0	Hail (0.75)
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Breathitt County

5 NW Jackson	02	1515EST			0	0	0	0	Hail (1.00)
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Pike County

Marrowbone	02	1800EST 1805EST			0	0	0	0	Thunderstorm Wind
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One tree was down in the town of Marrowbone and another tree was down in the Blackberry area, also near Marrowbone.

Letcher County

Mc Roberts	02	1800EST			0	0	0	0	Hail (1.75)
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Floyd County

Weeksbury	02	1900EST 2200EST			0	0	0	0	Lightning
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Water was across roads along Caleb Road and Skull Fork Road. High water was reported to be in people's yards.

Pike County

Dorton	02	1920EST 2120EST			0	0	0	0	Flash Flood
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People were cut off by rising water from Beehide Creek.

Pike County

Dorton	02	1935EST 2115EST			0	0	0	0	Flash Flood
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Flowing water covered Blaze Branch road.

Johnson County

Sitka	02	2000EST			0	0	0	0	Thunderstorm Wind
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One tree was down on Kentucky Highway 201.

Letcher County

Jenkins	02	2000EST 2130EST			0	0	0	0	Flash Flood
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Several county and city roads were closed due to flash flooding.

Johnson County

Oil Spgs	02	2015EST			0	0	0	0	Thunderstorm Wind
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One tree was down across Kentucky Highway 825.

Floyd County

Ivel	02	2130EST			0	0	0	0	Hail (0.75)
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Aside from 0.75 inch hail, 1 inch of rain fell within 20 minutes.

Rockcastle County

Brodhead	02	2230EST			0	0	0	0	Thunderstorm Wind
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Trees and power lines were down on Kentucky Highway 150.

Storm Data and Unusual Weather Phenomena

July 2002

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

Additions/Corrections

KENTUCKY, Eastern

Elliott County

Lyttlen	09	1635EST			0	0	0	0	Thunderstorm Wind
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Trees and tree limbs were down. Also small hail reported and 2.5 inches of rain in one hour.

Laurel County

London	20	1614EST			0	0	0	0	Hail (0.88)
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Laurel County

London	20	1621EST			0	0	0	0	Thunderstorm Wind
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One large tree was down on Pearl Street.

Laurel County

London	20	1625EST			0	0	0	0	Hail (0.75)
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Laurel County

London	20	1628EST			0	0	0	0	Thunderstorm Wind
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Several trees were down. One large Pine tree was uprooted and a couple of trees fell onto cars.

Laurel County

4 SW London	22	1530EST			0	0	0	0	Thunderstorm Wind
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Several trees were down.

Laurel County

6 SE London	22	1532EST			0	0	0	0	Thunderstorm Wind
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One large tree was down and blocking Kentucky Highway 229.

Laurel County

5 S London	22	1539EST			0	1	0	0	Lightning
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One woman was struck by lightning.

Mccreary County

Countywide	23	1825EST			0	0	0	0	Thunderstorm Wind
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Multiple trees were reported down countywide along with several power outages.

MINNESOTA, Southwest

Jackson County

10 NE Jackson	10	1907CST 1910CST	0.5	50	0	0			Tornado (F0)
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A tornado developed over open country and caused no reported damage before crossing into Martin County.

NEBRASKA, Central

Keya Paha County

11 SE Springview	02	1800CST			0	0			Hail (0.75)
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Rock County

4 N Bassett	02	1800CST			0	0			Hail (1.00)
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Brown County

2 NE Long Pine	02	1835CST 1836CST	0.1	5	0	0			Tornado (F0)
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The tornado...originally touching down in Rock County...moved into rural Brown County and lifted quickly causing no damage.

Rock County

9 W Bassett	02	1835CST	0.1	5	0	0			Tornado (F0)
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The tornado touched down briefly in a rural area approximately 8 miles west of Bassett in Rock County...near the Rock and Brown County line...and then entered Brown County. There was no damage.

Storm Data and Unusual Weather Phenomena

July 2002

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

Additions/Corrections

PACIFIC GUZ002

Micronesia

02	0000SST			47	0	100M	3M	Tropical Storm
04	0000SST							

On June 27, a disturbance embedded in an active monsoon trough began to organize about 350 miles southwest of Pohnpei and 275 miles southeast of Chuuk Lagoon. This disturbance was upgraded by the Joint Typhoon Warning Center (JTWC) to Tropical Depression (TD) 08W at 0000 UTC on 28 June and to Tropical Storm (TS) 08W, 24 hours later. TS 08W was named Tropical Storm Chataan (pronounced tsa-Ta-an) by RSMC-Tokyo at 0600 UTC on 29 June. The monsoon trough in which Chataan was embedded brought heavy rains and strong winds to a large portion of the tropical western North Pacific, including Pohnpei State and Chuuk State. From 27 June to 1 July, the system drifted slowly and erratically north, then east toward Pohnpei, then northwest toward Chuuk. On 1 July, Chataan, located near 6N156E, was forecast to maintain a northwest to west-northwest track and pass northeast of Chuuk Lagoon. However, the tropical storm, still poorly organized, began to take a more westward track, passing very close to, or just south of, the weather station at Weno Island (WMO 91334) in Chuuk Lagoon on the afternoon and evening of 3 July. On 1 and 2 July, the rain field associated with Chataan was very asymmetric, with an area of extremely heavy rainfall and deep convection on the west side of the circulation. This area of convection moved slowly over the Lagoon on 2 and 3 July, dropping nearly 20 inches of rain.

Chuuk

Eye Passage: An eye had not yet developed as Chataan approached and crossed Chuuk Lagoon.

The cyclone center passed very close to Weno Island, Chuuk Lagoon, Chuuk State at around 0500 UTC on 3 July. This path is based on a combination of surface wind and pressure observations from the Weather Service Office (WSO) at Chuuk, which suggest that the circulation center was just south of Weno Island. This path differs slightly from the JTWC track, which has the track slightly north of Weno Island.

Wind: Peak winds observed at WSO Chuuk were from 240 degrees at 29 knots (33 mph) with gusts to 44 knots (51 mph) at 0550 UTC on 3 July. This occurred just after the center passed the island. However, Chataan could have been somewhat more intense as the maximum winds may not have passed over the island. The JTWC intensity derived from satellite data was 40-45 knots (45-50 mph).

Pressure: The minimum pressure at WSO Chuuk was 999.5 hPa at 0555 UTC on 3 July. This corresponds to a tropical depression with about 30-kt intensity using the Atkinson-Holliday wind-pressure relationship. This pressure could support slightly stronger winds using other wind-pressure relationships. While this intensity is consistent with the maximum observed winds recorded at the Chuuk WSO, the maximum wind may not have been observed at the weather station.

Rainfall: Rainfall at Chuuk was extremely heavy, especially in the 24-hour period prior to the tropical storm passage. A large, persistent mesoscale convective area on the west side of Chataan produced very heavy rain, which persisted for a long period over the Lagoon due to its large size and the slow movement of the storm. From 1 July 1200 UTC until 2 July 1200 UTC, the speed of motion was around 7 knots (8 mph). Over the same period, 19.92 inches of rain were recorded at the weather station at Weno Island, Chuuk. In the 12 hours from 01 July 1800 UTC to 02 July 0600 UTC, the weather station recorded 14.21 inches.

Storm Surge: Storm surge and inundation associated directly with the tropical storm were not directly assessed, but were likely less than those produced on southern and western exposures by the monsoon surge to the south. This persistent surge produced a strong southwest swell several days earlier, creating hazardous surf on the southern and western reefs of the Lagoon. The persistent winds could have also generated some waves within the Lagoon. Inundation could have been up to 1 foot at high tide in some locations. Waves, surf, and inundation was likely more serious on the Southern and Northern Mortlock Islands.

Flooding and Mudslides: Due to the very heavy rainfall on 1 and 2 July and the saturated soil, there was extensive flooding of low-lying areas and at least 30 devastating mudslides. These mudslides on several Chuuk Lagoon high islands killed 47 people, creating the greatest natural loss of life on Chuuk in recorded history. The landslides buried people in their homes and carried some bodies to the shore. Most of those that died are in the homes, and dirt, rocks and trees just buried the home. About 1000 homes were destroyed and 1300 are homeless and are in great need of food, clothing, and medicine.

Winds snapped power lines and the floods caused drainage systems to overflow. Most of the villages on Weno have reported fatalities and injuries from the mudslides. The islands of Weno, Fefan, Tonoas, Udot, Fanapanges, and Uman and the municipalities of Dublon, Fefan, Udot and Tonoas as well as the villages of Mwan and Nupukos also have confirmed deaths and injuries. Tonoas reported the majority of the deaths, 21, with about half of these being children. Damage to both public and private property is estimated at more than \$10 million.

Storm Data and Unusual Weather Phenomena

July 2002

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

Additions/Corrections

PACIFIC

Damage to structures: Structural damage was constrained to poorly built structures or wooden structures weakened by wood rot or termite infestation. Even with these structures, most damage was to roofs. Concrete, sheet metal, and well-built wooden structures stood up well to the winds. Window damage was minimal, suggesting that the winds were insufficient to carry large debris or to dislodge window frames.

Damage to infrastructure: Most of the infrastructure weathered the storm well. Several un-guyed or rotten wooden poles were downed. A few un-guyed hollow-spun concrete poles were blown down or dragged down. A few of these poles that were un-guyed and set in concrete broke at the base due to strong vibrations created by the oscillating power lines. A few secondary power transmission and distribution lines were blown down, but the majority of these lines were dragged down as poles fell. Primary power transmission and distribution lines held up well. Even tertiary distribution lines to residences held up relatively well.

During Chataan's passage, many rivers flooded to levels not seen by long-time residents before. These swollen rivers scoured gorges and over-ran bridges, eroding areas of pavement on some of the roads. The heavy rains caused tremendous erosion, dislodging many old trees, and caused numerous landslides. The heavy runoff in the Fena Watershed caused severe silting in the Fena Reservoir, making lake waters unsuitable for drinking water production for several days.

Damage to vegetation: Palm trees weathered the winds relatively well. There were no indications of palms losing their crowns. Some palms were blown down, but primarily because the heavy rains softened the ground sufficiently. In coastal areas, a few palm trees were felled due to undermining by ocean waters. Some palms had twisted crowns, but these were near tall building or risen elevations, where the winds accelerated and formed strong eddies. Brittle trees, such as mango, African tulip, and shower trees lost many branches. There were some areas where vegetation was badly scoured, but these were generally in hilly/mountainous areas where funneling or up- and down-slope wind accelerations occurred. The island had a general green appearance rather than a brown appearance-Category 2 rather than Category 3. Damage to vegetation was consistent with that of a Category 2 typhoon, but some low-end Category 3 damage occurred in hilly/mountainous areas.

Other aspects of damage: There was little damage to the paint on automobiles, again suggesting that the winds were insufficient to carry debris capable of pitting the paint. Automobile damage was largely due to fallen trees and branches, but there were no reports of flipped automobiles. This suggests weaker than Category 3 winds. One small aircraft at the airport was flipped over.

Damage to power lines and utility poles, flooded roads, damaged buildings and left debris strewn across the island. Island wide power outage. 23 people injured during the peak of the storm. None of the injuries were considered serious.

Damage to the Agat and Barrigada fire stations. Severe damage to the GPD tactical operations command in Tiyan. The Antonio B. Won Pat International Airport incurred multi-million dollar damage to its jetways and administrative offices. The airport's ticketing area was flooded and its administrative office was completely destroyed. \$3 to \$4 million was the estimate for repairs.

A number of generators at water wells and sewage pumps were damaged by the storm and needed to be repaired. 34 of the islands 110 water wells and several of the sewage pump stations were not working just after the storm.

Power plants suffered only minor water damage, except for the Tenjo plant, which lost its doors during the storm and was swamped.

The Coast Guard reports that several navigational aids were damaged during the storm. The damage aids were located at Apra Harbor, Orote Point, the Glass Breakwater and the entrance to Agat Marina. The Coast Guard received reports of five vessels running aground or sunk in the harbor. Three sailboats broke free of their moorings at the Marianas Yacht Club.

A Navy barge was reported run aground behind Reserve Craft Beach, and a Navy barge containing waste oil and water was reported partially submerged in Apra Harbor. The damage resulted in an undetermined amount of oil spilling into inner Apra Harbor. Several ships waiting to pull into Guam's port were forced to wait outside. Thick puddles of oil could be seen on shores and vegetation surrounding Apra Harbor, including Ski Beach, Family Beach and Sasa Bay. The barge spilled 105,000 gallons of fuel into Apra Harbor.

Hotels reported rain damage to rooms and carpets.

More than 1600 people sought safety in 15 emergency school shelters. The government serves three meals per day at each shelter. The number of people in the shelters increased to 1718 people by the 8th. The additional people were probably from those who were

Storm Data and Unusual Weather Phenomena

July 2002

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

Additions/Corrections

PACIFIC

The number of people in the shelters increased to 1,716 people by the 6th. The additional people were probably from those who were sheltering with someone else more secure and came home to find their homes damaged, or people who tried to make do and found out that they couldn't. This figure rose to 3947 people on the 10th.

The Agfayan Bridge across from Bear Rock in Inarajan was damaged at its southbound abutments. The abutments were undermined.

The effects of the typhoon on Fena reservoir have caused increased sediment levels, which impede producing water to meet regulatory standards. The typhoon caused massive amounts of rainfall to deluge the Fena watershed, eroding the shoreline and stirring up the silt on the bottom of the reservoir. This created extremely high sediment levels in the reservoir, which exceeded the capability for removal by the

Public Works Center Guam water treatment plant. The Public Works Center tried to process and remove the sediment from the reservoir water but was not successful. The water treatment plant became overloaded with solids and the filters clogged. July 19th-Fena Reservoir started to supply water to the island again.

The John F. Kennedy High School football field and gym suffered major damage. The gym was flooded and outside lighting was damaged on the football field. The chain-link fence, several light poles and the bleachers were also severely damaged at the Hagatna Tennis Center. The Guerrero Stadium had its bleachers destroyed. The Oceanview Middle School's library and gym was heavily flooded.

3000 square feet of the Guam Adventist Academy in Talafofo was damaged

As of July 11 2000 people, mainly in southern sections of Guam, were without telephone service. Water from heavy rain damaged underground lines. As of the 13th 1,910 phone lines were damaged.

Some residents in Merizo had their houses flooded from a village river and became homeless for a while.

Crop damage: banana trees, sweetsop, peppers and cucumbers crops were severely damaged. One farmer lost \$70 to \$80 thousand worth of produce.

1,996 houses were severely damaged or destroyed according to the American Red Cross.

GUZ008

Rota

04	2100SST	0	0	2.1M	600K	Hurricane/Typhoon
05	2100SST					

ROTA

Damage occurred to crops, livestock and fisheries. This damage is estimated to total \$600,000.

60 percent of the farmers totally lost their crops. Fishermen had damage to boats, boat shelters and other equipment.

\$600,000 estimated for rehabilitation of infrastructure, particularly primary and secondary roads. Major cleanup was required for the road between San Francisco Songsong Village to the airport due to fallen trees. Also the roadway from Pona to Gagani to Sagua, which is considered to be the most heavily damaged road.

\$575,000 damage to parks and recreational facilities.

Typhoon Chataan permanently destroyed four thatched-roof huts at the Chamorro Village. At Talu' Park five hut and 24 trees and plants were damaged.

\$275,000 damage to seaports and the airport.

\$275,000 for debris cleaning and clearing

\$300,000 private sector damage

\$73,000 public utilities

GUZ006

Guam

10	0600SST	0	0	40K	Hurricane/Typhoon
11	0600SST				

A circulation was noted on Quick Scat scatterometer imagery near Bikini Atoll on the morning of the 5th. The circulation became TD 10W on the morning of the 7th as it was north of Pohnpei. The tropical depression intensified to Tropical Storm Halong on 8th. At this time it was about 220 miles north-northeast of Chuuk. The tropical storm gradually gained strength to become Typhoon Halong

Storm Data and Unusual Weather Phenomena

July 2002

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

Additions/Corrections

PACIFIC

on the evening of the 9th. Halong's closest point of approach of 95 miles south of the island occurred near 1600 on the 10th.

The maximum inundation observed on the south and southeast coasts occurred with Typhoon Halong on 10 July. The typhoon caused considerable beach erosion at Talofoto and Inarajan Bays. Surf exceeded 15 feet from Pago Bay to Talofoto Bay and 20 feet at the Inarajan Salt Water Pools. There was considerable erosion at Talofoto Bay, as the water rose 10 feet above normal heights. The sea wall at Inarajan held up very well. These waves are consistent with a medium-sized Category 2 typhoon passing to the south of Guam.

At the National Weather Service Office on Guam the maximum sustained wind was 43 mph from the east at 1436. The highest gust observed was 56 mph from the east-northeast at 1137.

GUZ006

Guam

23	1800SST 2300SST	0	0	50K	Flood
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Heavy rains and gusty winds moved across the island during the evening. Five residents in the village of Piti reported minor flooding. Debris from the hills dropped into the water channels that spill into the ocean. The heavy rains forced 20 families moved from temporary homes to Astumbo gymnasium in Dedeo. The families have been living in temporary housing since Typhoon Chataan damaged their homes.

Micronesia

Pohnpei

28	1330SST 1430SST	3	3		Flash Flood
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Claudia Ngrasob 41, Dawn Bachungar Rechemang 17, and Rita Gracia Sungino 32, all members of the Palau women's softball team died in a flash flood at Litedunyap Waterfall on the island of Pohnpei. The victims were among 20 Palauan athletes and trainers who went on an afternoon excursion to the waterfall to continue their celebrations as the winners of the most medals at the Micronesian Games. The three women were swimming at the falls around 1430 L when the flash flood hit. Six swimmers were caught by the surging waters. The other athletes pulled three of them to safety, but could not rescue the three ladies. Heavy rains had occurred across Pohnpei during the afternoon. A sudden downpour was followed almost simultaneously by a flashflood of a type known to the locals as Luwair, which means sneaky one. F41IW, F17IW, F32IW

GUZ006

Guam

28	1400SST 1700SST	0	0	50K	Flood
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Flooding occurred along Marine Drive in Piti. Debris from Typhoon Chataan clogged the Masso and Taguag rivers. Heavy rain from showers moving along the monsoon trough flowed down the debris clogged river and this flooded the village. Both northbound lanes on Marine Drive near Polaris Point had to be closed for more than an hour due to the flood. One house in Piti had six inches of water inside it.

Storm Data and Unusual Weather Phenomena

August 2002

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

Additions/Corrections

COLORADO, Central and Northeast

Jefferson County

1 S Evergreen	29	1350MST			0	0			Hail (1.00)
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Douglas County

2 NE Parker	29	1405MST 1419MST	0.1	50	0	0	100K		Tornado (F0)
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The first tornado, associated with a multi-vortex storm, touched down briefly near E-470 and South Jordan Road. Some fences were damaged and a few trees were blow down. A few of the homes also sustained minor roof damage.

Arapahoe County

3 E (Apa)Englwood Ara	29	1411MST 1430MST	0.1	50	0	1	6M		Tornado (F1)
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The second tornado, associated with the storm, touched down in a subdivision that was under construction at Gartrell and Arapahoe Road. Four large condominiums under construction were destroyed. The most heavily damaged portions of the structures had not been sheet rocked. Adjacent sections, where the walls were in place, were not destroyed. A man suffered four broken ribs and several cuts and bruises when the trailer he sought shelter in, was flipped three times and torn apart by the tornado.

Weld County

5 SW Prospect	29	1426MST			0	0			Hail (0.88)
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MICHIGAN, Upper

Gogebic County

10 NE Marenisco	01	0445EST			0	0			Hail (0.75)
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Three quarter inch hail was reported.

Houghton County

Donken	01	0453EST			0	0			Thunderstorm Wind (G61)
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A wind gust to 70 mph brought down trees across Highway 26 and knocked down electric power and telephone lines.

Ontonagon County

Ewen	01	0455EST			0	0			Thunderstorm Wind (G60)
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Winds to 65 mph blew the roof of a house.

Gogebic County

3 E Wakefield	01	0500EST			0	0			Thunderstorm Wind (G61)
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Numerous 6 inch diameter hardwood trees were blown down.

Houghton County

Dollar Bay	01	0500EST			0	0			Thunderstorm Wind (G52)
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Six inch diameter trees were blown down.

Ontonagon County

Bruce Crossing	01	0500EST			0	0			Thunderstorm Wind (G52)
----------------	----	---------	--	--	---	---	--	--	-------------------------

Winds to 60 mph blew down numerous trees and power lines.

Houghton County

Houghton	01	0503EST			0	0			Thunderstorm Wind (G80)
----------	----	---------	--	--	---	---	--	--	-------------------------

Numerous trees and power lines were blown down, a metal roof was peeled off a warehouse, an empty semi-trailer was overturned, and a camper trailer was tipped over.

Keweenaw County

Eagle Harbor to Gay	01	0508EST 0519EST			0	0			Thunderstorm Wind (G70)
------------------------	----	--------------------	--	--	---	---	--	--	-------------------------

Trees were downed at Eagle Harbor, Lac La Belle, Copper Harbor, Gay and Eagle River.

Baraga County

Covington	01	0518EST			0	0			Hail (1.00)
-----------	----	---------	--	--	---	---	--	--	-------------

One inch hail was reported.

Storm Data and Unusual Weather Phenomena

August 2002

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

MICHIGAN, Upper

Gogebic County

4 E Watersmeet	01	0527EST			0	0			Thunderstorm Wind (G61)
----------------	----	---------	--	--	---	---	--	--	--------------------------------

A two foot diameter pine tree was blown down across power lines.

Marquette County

7 W Marquette	01	0555EST			0	0			Thunderstorm Wind (G54) ^M
---------------	----	---------	--	--	---	---	--	--	---

A 62 mph wind gust was recorded.

Marquette County

Harvey	01	0606EST			0	0			Hail (0.75)
--------	----	---------	--	--	---	---	--	--	--------------------

Three quarter inch hail was reported.

Marquette County

Harvey	01	0615EST			0	0			Thunderstorm Wind (G52)
--------	----	---------	--	--	---	---	--	--	--------------------------------

A one foot diameter tree was blown down across power lines.

Dickinson County

Granite Bluff	01	0635EST			0	0			Hail (0.75)
---------------	----	---------	--	--	---	---	--	--	--------------------

Three quarter inch hail was reported.

Marquette County

Watson	01	0655EST			0	0			Thunderstorm Wind (G60)
--------	----	---------	--	--	---	---	--	--	--------------------------------

Four inch diameter branches were broken off.

Luce County

20 N Newberry	01	0700EST			0	0			Thunderstorm Wind (G52)
---------------	----	---------	--	--	---	---	--	--	--------------------------------

A 60 mph wind gust broke off a 16 inch diameter tree branch that fell on a motor home.

Menominee County

Hermansville	01	0710EST			0	0			Thunderstorm Wind (G65)
--------------	----	---------	--	--	---	---	--	--	--------------------------------

Numerous trees were blown down.

Delta County

Escanaba	01	0736EST			0	0			Hail (1.75)
----------	----	---------	--	--	---	---	--	--	--------------------

Golf ball sized hail was reported.

Delta County

4 E Bark River	01	0800EST			0	0			Hail (0.88)
----------------	----	---------	--	--	---	---	--	--	--------------------

Nickel sized hail was reported.

Delta County

Escanaba	01	0839EST 1045EST			0	0			Flash Flood
----------	----	--------------------	--	--	---	---	--	--	--------------------

Heavy rain flooded the intersection of US-2, M-35 and US-41 with a foot of water.

Marquette County

Republic	01	0850EST			0	0			Hail (0.75)
----------	----	---------	--	--	---	---	--	--	--------------------

Three quarter inch hail was reported.

Gogebic County

Watersmeet	01	1015EST			0	0			Hail (1.00)
------------	----	---------	--	--	---	---	--	--	--------------------

One inch hail was reported.

Iron County

16 N Iron River	01	1130EST			0	0			Hail (1.50)
-----------------	----	---------	--	--	---	---	--	--	--------------------

Golf ball sized hail was reported.

Storm Data and Unusual Weather Phenomena

August 2002

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

MICHIGAN, Upper

Iron County

12 NE Amasa	01	1209EST			0	0			Hail (1.00)
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Quarter sized hail was reported.

Gogebic County

7 SE Watersmeet	01	1254EST			0	0			Thunderstorm Wind (G65)
-----------------	----	---------	--	--	---	---	--	--	-------------------------

Numerous trees were blown down.

Iron County

Amasa	01	1255EST			0	0			Thunderstorm Wind (G70)
-------	----	---------	--	--	---	---	--	--	-------------------------

Several small trees were snapped off and 8 inch diameter branches were broken off.

Iron County

18 NE Iron River	01	1256EST			0	0			Thunderstorm Wind (G65)
------------------	----	---------	--	--	---	---	--	--	-------------------------

A 1 foot diameter tree was blown down.

Marquette County

Skandia	01	1300EST			0	0			Hail (1.00)
---------	----	---------	--	--	---	---	--	--	-------------

Quarter sized hail was reported.

Alger County

3 E Wetmore	01	1437EST			0	0			Thunderstorm Wind (G60)
-------------	----	---------	--	--	---	---	--	--	-------------------------

A 6 inch diameter tree was snapped off.

Delta County

17 N Isabella	01	1450EST			0	0			Thunderstorm Wind (G65)
---------------	----	---------	--	--	---	---	--	--	-------------------------

Nine inch diameter trees were blown down.

Delta County

18 NW Nahma	01	1450EST			0	0			Thunderstorm Wind (G65)
-------------	----	---------	--	--	---	---	--	--	-------------------------

Numerous trees were blown down.

Schoolcraft County

Steuben	01	1452EST			0	0			Thunderstorm Wind (G65)
---------	----	---------	--	--	---	---	--	--	-------------------------

A one four diameter tree was blown down.

Luce County

15 N Newberry	01	1525EST			0	0			Thunderstorm Wind (G60)
---------------	----	---------	--	--	---	---	--	--	-------------------------

A tree was blown down on M-123.

Widespread severe thunderstorms struck Upper Michigan on August 1st as a strong surface low pressure center moved northeast into Ontario and its attendant warm and cold fronts interacted with a warm, moist and unstable airmass over the northwest Great Lakes. Thunderstorms first developed in Upper Michigan during the pre-dawn hours over the west, then continued off and on through the day before exiting Luce and Schoolcraft Counties late in the afternoon. There were numerous reports of wind damage, large hail, and torrential flooding rains. Wind gusts estimated as high as 80 mph near Houghton peeled a roof off a warehouse, overturned a truck, and downed numerous trees and power lines. One thunderstorm bombarded Escanaba with golf ball-sized hail and dropped enough rain to inundate the intersection of US-2, M-35, and US-41 with a foot of water. Nearby Gladstone measured 2.06 inches of rain...and Wetmore in Alger County logged 2.40 inches in a short time.

PACIFIC

Guam

Tamuning	22	1142SST 1338SST			0	0			Lightning
----------	----	--------------------	--	--	---	---	--	--	-----------

Lightning reportedly struck the roof of the Oward Beach Resort in Tamuning. Smoke was seen rising from the roof. The Guam Fire Department responded, but there were no reports of injury or property damage.

Storm Data and Unusual Weather Phenomena

August 2002

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

PACIFIC

On the 30th a handful of Piti residents reported minor flooding in homes and backed-up sewage. Minor street flooding was also experienced across parts of Guam.

TEXAS, Mid - South

San Patricio County

Sinton to St Paul	14	1451CST 1615CST		0	0		Flash Flood
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Nueces County

Robstown to Petronila	14	1527CST 1700CST		0	0		Flash Flood
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Nueces County

Robstown to Driscoll	14	1658CST 1900CST		0	0		Flash Flood
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Storm Data and Unusual Weather Phenomena

September 2002

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

Additions/Corrections

MICHIGAN, Upper

Dickinson County

Iron Mtn	30	1500CST 1700CST			0	0			Flash Flood
-----------------	----	--------------------	--	--	---	---	--	--	--------------------

A foot of water was reported over highway US-2 from torrential rain.

Iron County

8 S Crystal Falls	30	1816EST			0	0			Hail (0.75)
-------------------	----	---------	--	--	---	---	--	--	--------------------

Three quarter inch diameter hail was reported.

Dickinson County

Kingsford to Iron Mtn	30	1911EST 1917EST	4.5	200	0	0	7M		Tornado (F1)
--------------------------	----	--------------------	-----	-----	---	---	----	--	---------------------

This tornado developed over northeast Florence County, WI (See Storm Data for Wisconsin, Northeastern, for more information on the beginning portion of this tornado) and crossed the Menominee River just south of the Iron Mountain-Kingsford airport. The storm moved east-northeast into Kingsford and Iron Mountain. As the storm moved into Iron Mountain, the track shifted more to the east and the damage path became more sporadic before the tornado lifted completely on the east side of Iron Mountain. Numerous trees and power lines were knocked down, blocking highway US-2 and disrupting electric power and telephone service. Gas lines were ruptured and several commercial buildings sustained substantial roof damage in Kingsford.

Dickinson County

Kingsford	30	1913EST			0	0			Thunderstorm Wind (G60)
-----------	----	---------	--	--	---	---	--	--	--------------------------------

Power lines were knocked down.

Dickinson County

Iron Mtn	30	1918EST			0	0			Hail (0.75)
----------	----	---------	--	--	---	---	--	--	--------------------

Three quarter inch diameter hail was reported.

Dickinson County

Iron Mtn	30	1919EST			0	0			Thunderstorm Wind (G70)
----------	----	---------	--	--	---	---	--	--	--------------------------------

Numerous trees were knocked down.

Dickinson County

Quinnesec to 2 NW Norway	30	1919EST 1923EST	3	100	0	0			Tornado (F0)
-----------------------------	----	--------------------	---	-----	---	---	--	--	---------------------

This tornado developed on the east side of Quinnesec along U.S. 2, and tracked to the east-southeast along the north side of the highway to just west-northwest of Norway. Damage was limited to minor roof damage (lifted shingles) in Quinnesec, trees downed and numerous branches broken.

Dickinson County

Quinnesec	30	1922EST			0	0			Thunderstorm Wind (G70)
-----------	----	---------	--	--	---	---	--	--	--------------------------------

Numerous trees were knocked down.

Dickinson County

5 NE Norway to 6 NE Norway	30	1925EST 1927EST	0.8	100	0	0			Tornado (F0)
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This tornado touched down approximately 5 miles northeast of Norway, crossing the Norway Truck Trail Road before dissipating 1/4 mile east of the road crossing. Damage was limited to downed trees and broken branches.

Menominee County

2.5 E La Branch	30	1958EST			0	0			Thunderstorm Wind (G70)
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A 10 inch diameter tree was blown down.

Ontonagon County

Ewen	30	2018EST			0	0			Hail (0.75)
------	----	---------	--	--	---	---	--	--	--------------------

Three quarter inch diameter hail was reported.

Baraga County

Covington	30	2045EST			0	0			Hail (1.75)
-----------	----	---------	--	--	---	---	--	--	--------------------

Golf ball sized hail was reported.

Storm Data and Unusual Weather Phenomena

September 2002

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

MICHIGAN, Upper

and Iron Mountain.

PACIFIC

Saipan

Saipan Intl Airport	10	0929SST 0941SST			0	0			Funnel Cloud
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On the 10th a Funnel cloud was observed west of the Saipan International Airport between 0929 and 0941

Guam

Central Portion	11	1240SST 1244SST			0	0			Funnel Cloud
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On the 11th a Funnel cloud was observed west of the Guam International Airport between 1240 and 1244

Saipan

Saipan Intl Airport	14	1513SST 1532SST			0	0			Funnel Cloud
----------------------------	----	--------------------	--	--	---	---	--	--	---------------------

On the 14th a Funnel cloud was observed west of the Saipan International Airport between 1513 and 1532

Saipan

Countywide	15	1200SST 1400SST			0	0	12K		Flash Flood
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Around noon time heavy showers fell over Saipan. Tree trunks, vegetation, rocks and all sorts of debris washed down by water from the As Mahetog hill filled two northbound lanes in Saipan.

Guam

Andersen Afb	18	1120SST 1140SST			0	0			Funnel Cloud
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On the 18th a Funnel cloud was observed north of the Andersen Air Force Base around 1120

GUZ007

Saipan

	20	0400SST 1600SST			0	0	40K		Flood
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Flooding occurred on Saipan. rocks and all sorts of debris were washed down by rainwater from the hills to nearby roads in Dandan, As Lito, Chalan Kiya, Chinatown, Garapan, Tanapag, San Roque, Achugao, Capital Hill and Kagman. A few people were temporarily evacuated from homes in Chinatown and Tanapag. The houses were not destroyed. They just had a big volume of water, coupled with mud, rushed into their houses.

On Guam 4.72 inches fell at the NWS office in Guam with 2.43 inches falling between 0400 to 1000.

GUZ006

Guam

	26	1000SST 1600SST			0	0	40K		Flood
--	----	--------------------	--	--	---	---	-----	--	--------------

4.93 inches fell on the 26th at NWS Guam with 3.65 inches falling between 1000 and 1600. Enhanced monsoon flow caused the rain over the Marañia Islands. Some streets and few houses in Barrigada were flooded.

TEXAS, Mid - South

Jim Wells County

Ben Bolt to Premont	08	0854CST	0.5	500	0	0			Tornado (F0)
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17 miles north of Falfurrias. Tornado was associated with Tropical Depression Fay. No damage reported.

Jim Wells County

Ben Bolt	08	0946CST	0.6	600	0	0			Tornado (F0)
-----------------	----	---------	-----	-----	---	---	--	--	---------------------

Tornado was associated with Tropical Depression Fay. No damage reported.

Bee County

Beeville	08	1406CST 1506CST	0.5	500	0	0			Tornado (F0)
-----------------	----	--------------------	-----	-----	---	---	--	--	---------------------

Multiple funnels reported nw of Beeville

Storm Data and Unusual Weather Phenomena

September 2002

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

Additions/Corrections

TEXAS, Mid - South

Goliad County

15 W Goliad

08	1545CST	0.6	500	0	0				Tornado (F0)
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Tornado was associated with Tropical Depression Fay. No damage reported.
 Multiple short lived tornadoes were spawned across the Coastal Bend from Tropical Depression Fay.
 In addition several reports of funnel clouds were received from law enforcement and the public.

Reference Notes:

Storm Data Disclosure

Storm Data is an official publication of the National Oceanic and Atmospheric Administration (NOAA) which documents the occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce. In addition, it is a partial record of other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occurs in connection with another event.

Some of the information appearing in Storm Data may have been provided by or gathered from sources outside the National Weather Service (NWS), such as the media, law enforcement and/or other government agencies, private companies, individuals, etc. An effort is made to use the best available information, but because of time and resource constraints, information from these sources may be unverified by the NWS. Therefore, when using information from Storm Data, customers should be cautious as the NWS does not guarantee the accuracy or validity of the information. Further, when it is apparent information appearing in Storm Data originated from a source outside the National Weather Service (frequently credit is provided), Storm Data customers requiring additional information should contact that source directly. In most cases, NWS employees will not have the knowledge to respond to such requests. In cases of legal proceedings, under Department of Commerce regulations and/or rules of the court, NWS employees are not legally obligated to provide written or verbal testimony.

Fatality Codes: For events that include a fatality, there is a code containing the gender, age and fatality location at the end of the event narrative.

1st letter: Gender (M/F) – 2nd numbers: Age – 3rd letters Fatality location (see table below)

Example: M51IW – Male, 51 years of age, fatality occurred In Water.

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:

NWS	- National Weather Service
NOAA	- National Oceanic and Atmospheric Administration
WCM	- Warning Coordination Meteorologist – The meteorologist at each NWS Office responsible for reporting severe weather events
LST	- Local Standard Time Storm Data attempts to always use “Standard Time”
EST	- Eastern Standard Time
EDT	- Eastern Daylight Time

CST - Central Standard Time
CDT - Central Daylight Time
PST - Pacific Standard Time
PDT - Pacific Daylight Time

Other Notes:

An “Episode” is an entire storm system and can contain many different types of events.

An “Event” is an individual type of storm event.

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. This number can be either E (estimated) by damage caused, or M (measured) by known calibrated anemometers. Ex. (M61) = measured 61 knots or E(75) = estimated at 75 knots.

All wind speeds listed are estimated by NWS personnel by the amount and type of damage unless otherwise noted with an “M” which represents an actual wind speed as measured by official NWS approved anemometer.

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 fatalities, injuries, and damage amounts appearing in tropical cyclone events are attributed only to wind damage experienced in the coastal counties/parishes listed. Other tropical cyclone related events such as tornadoes and flooding are listed within their separate event types.

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 (Suggested)
F0	Gale Tornado	40 - 72	Tree branches broken, chimneys damaged, shallow-rooted trees pushed over; sign boards damaged or destroyed, outbuildings and sheds destroyed
F1	Moderate	73 - 112	Roof surfaces peeled off, mobile homes pushed off foundations or overturned, moving autos pushed off the roads, garages may be destroyed. Category 1-2 hurricane wind speed
F2	Significant	113 - 157	Roofs blown off frame houses; mobile homes rolled and/or destroyed, train boxcars pushed over; large trees snapped or uprooted; airborne debris can cause damage. Category 3-4 hurricane wind speed
F3	Severe	158 - 206	Roofs and walls torn off well constructed houses; trains overturned; large trees uprooted, can knock down entire forest of trees. Category 5 hurricane wind speed
F4	Devastating	207 - 260	Well-constructed frame houses leveled; structures with weak foundations blown off some distance; automobiles thrown, large airborne objects can cause significant damage.
F5	Incredible	261 - 318	Brick, stone and cinderblock buildings destroyed, most debris is carried away by tornadic winds, large and heavy objects can be hurled in excess of 100 meters, trees debarked, asphalt peeled off of roads, steel reinforced 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 damage produced by F4 and F5 wind speeds that would surround the F6 winds.



Typical F0 Tornado Damage

Note the trees are stripped of leaves, but the trees remain standing. Only light roof damage and a few missing shingles.



Typical F1 Tornado Damage

Note the uprooted trees and missing shingles from the roof. There is significant roof damage.



Typical F2 Tornado Damage

This home is missing its entire roof but the exterior walls remain intact. Some of the stronger hardwood trees remain standing.



Typical F3 Tornado Damage

This home is missing the entire roof as well as some of the exterior walls. Trees are blown over or snapped near the base and outbuildings are destroyed.



Typical F4 Tornado Damage

This home is almost completely obliterated, with no walls standing. The debris from the home is where the house once stood.



Typical F5 Tornado Damage

These homes have been completely removed from their original locations. The debris field has been scattered some distance from their foundation.



Typical F5 Tornado Damage

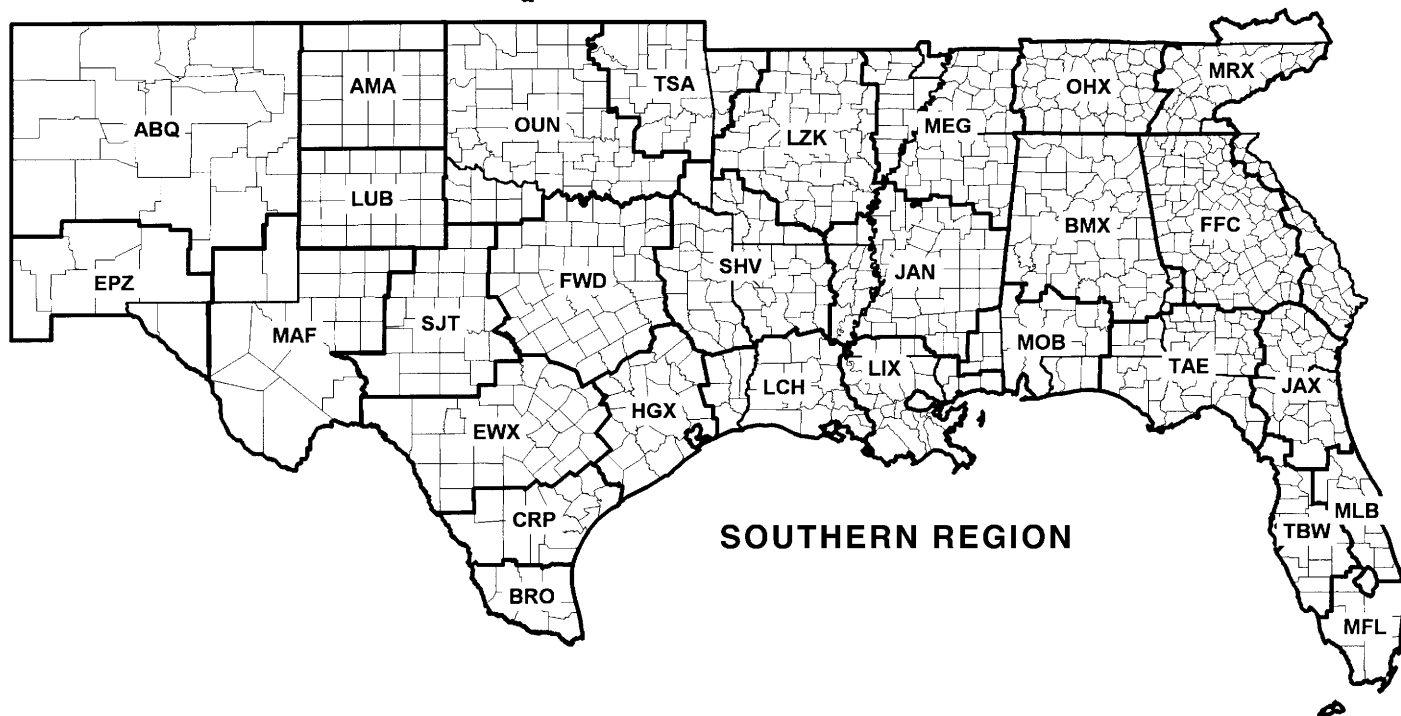
The asphalt surface has been peeled off of this road.

(All photographs courtesy of Brian Smith, Meteorologist, National Weather Service, Valley NE.)

COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS

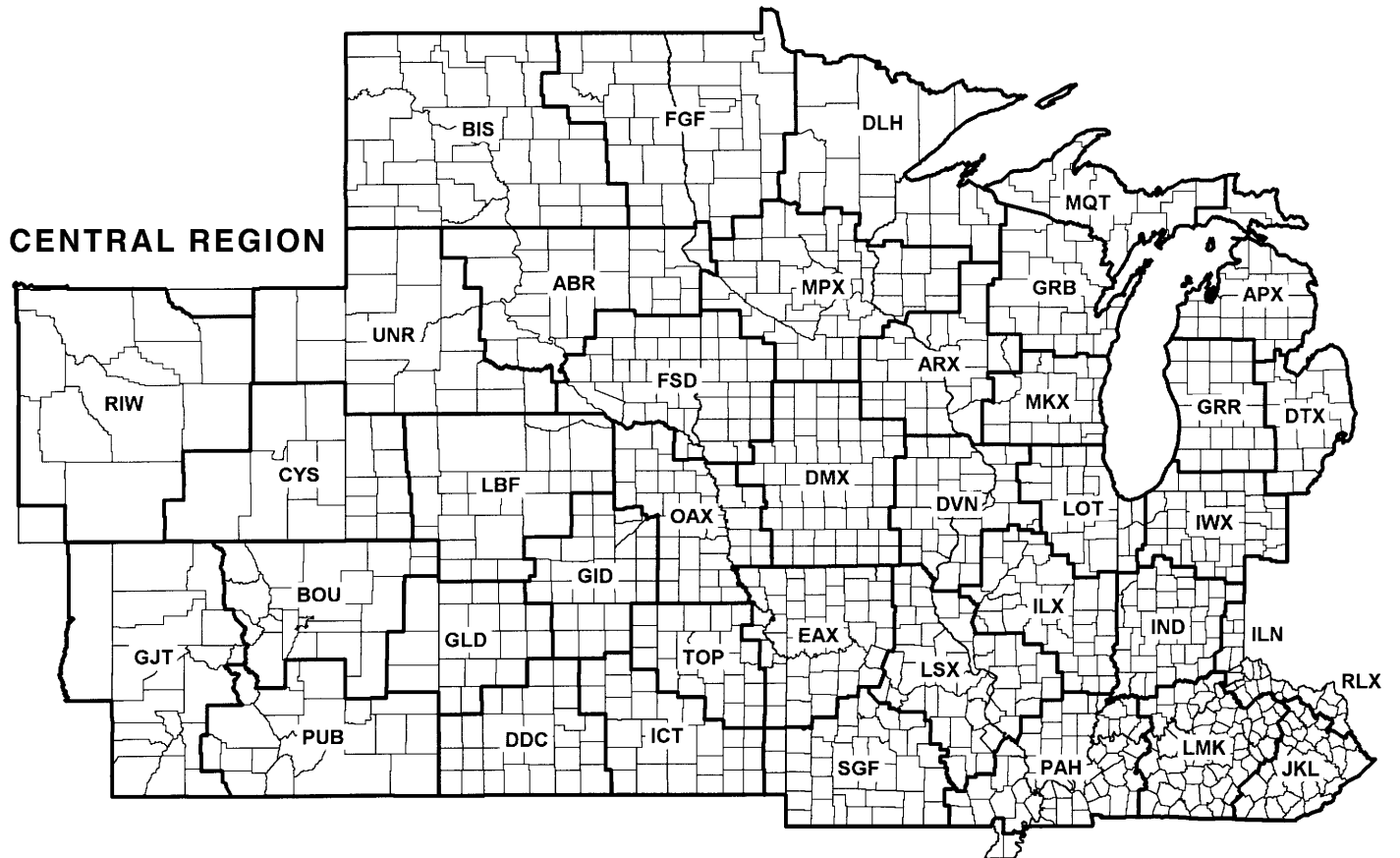
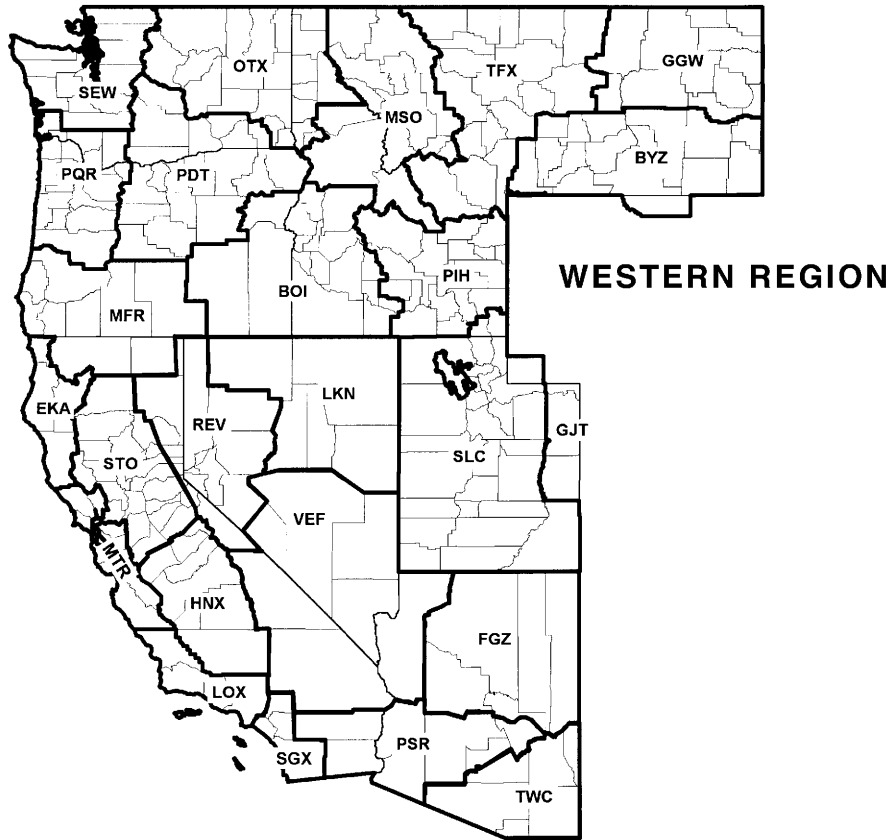


EASTERN REGION

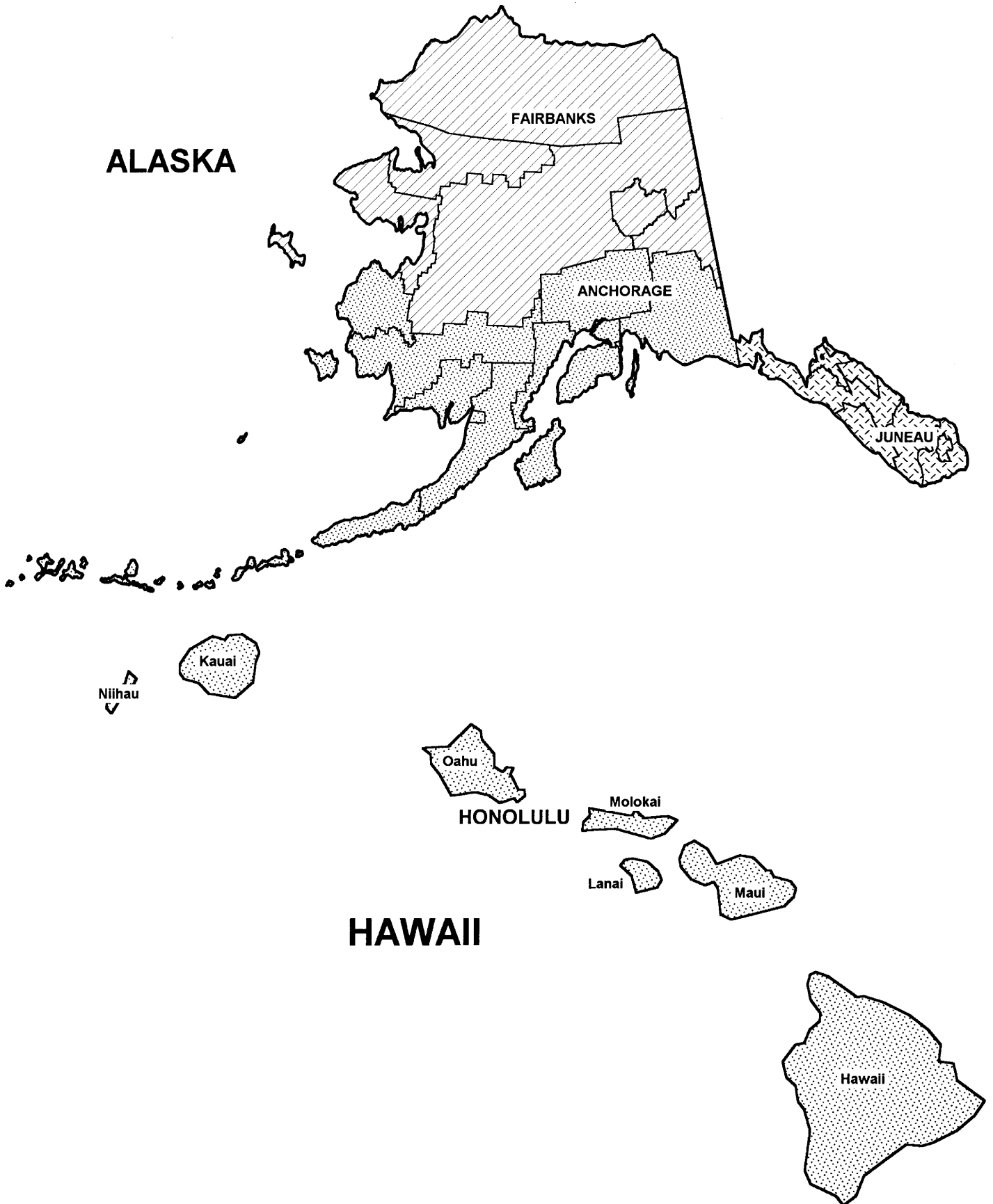


SOUTHERN REGION

COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS



MODERNIZED COUNTY WARNING AREAS



These and other publications are available from the National Climatic Data Center

Hourly Precipitation Data

This publication contains hourly precipitation amounts obtained from recording rain gages located at National Weather Service, Federal Aviation Administration, and cooperative observer stations. Published data are displayed in inches and tenths or inches and hundredths at local standard time. **HPD** includes maximum precipitation for nine (9) time periods from 15 minutes to 24 hours, for selected stations.

Climatological Data

Monthly editions contain station daily maximum and minimum temperatures and precipitation. Some stations provide daily snowfall, snow depth, evaporation, and soil temperature data. Each edition also contains monthly summaries for heating and cooling degree days (65 degree F base). The July issue contains a recap of monthly heating degree days and snow data for the preceding July through June.

The Annual issue contains monthly and annual averages of temperature, precipitation, temperature extremes, freeze data, soil temperatures, evaporation, and a recap of monthly cooling degree days.

Storm Data

Monthly issues contain a chronological listing, by states, of occurrences of storms and unusual weather phenomena. Reports contain information on storm paths, deaths, injuries, and property damage. An "Outstanding storms of the month" section highlights severe weather events with photographs, illustrations, and narratives. The December issue includes annual tornado, lightning, flash flood, and tropical cyclone summaries.

Monthly Climatic Data for the World

This publication contains monthly means for temperature, pressure, precipitation, vapor pressure, and sunshine for approximately 2,000 surface data collection stations worldwide and monthly mean upper air temperatures, dew point depressions, and wind velocities for approximately 500 observing sites.

Local Climatological Data

LCD publications summarize temperature, relative humidity, precipitation, cloudiness, wind speed and direction observations for several hundred cities in the U.S. and its territories. Each monthly publication also contains the 3 hourly weather observations for that month and an hourly summary of precipitation. Annual **LCD** publications contain a summary of the past calendar year as well as historical averages and extremes.

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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)
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