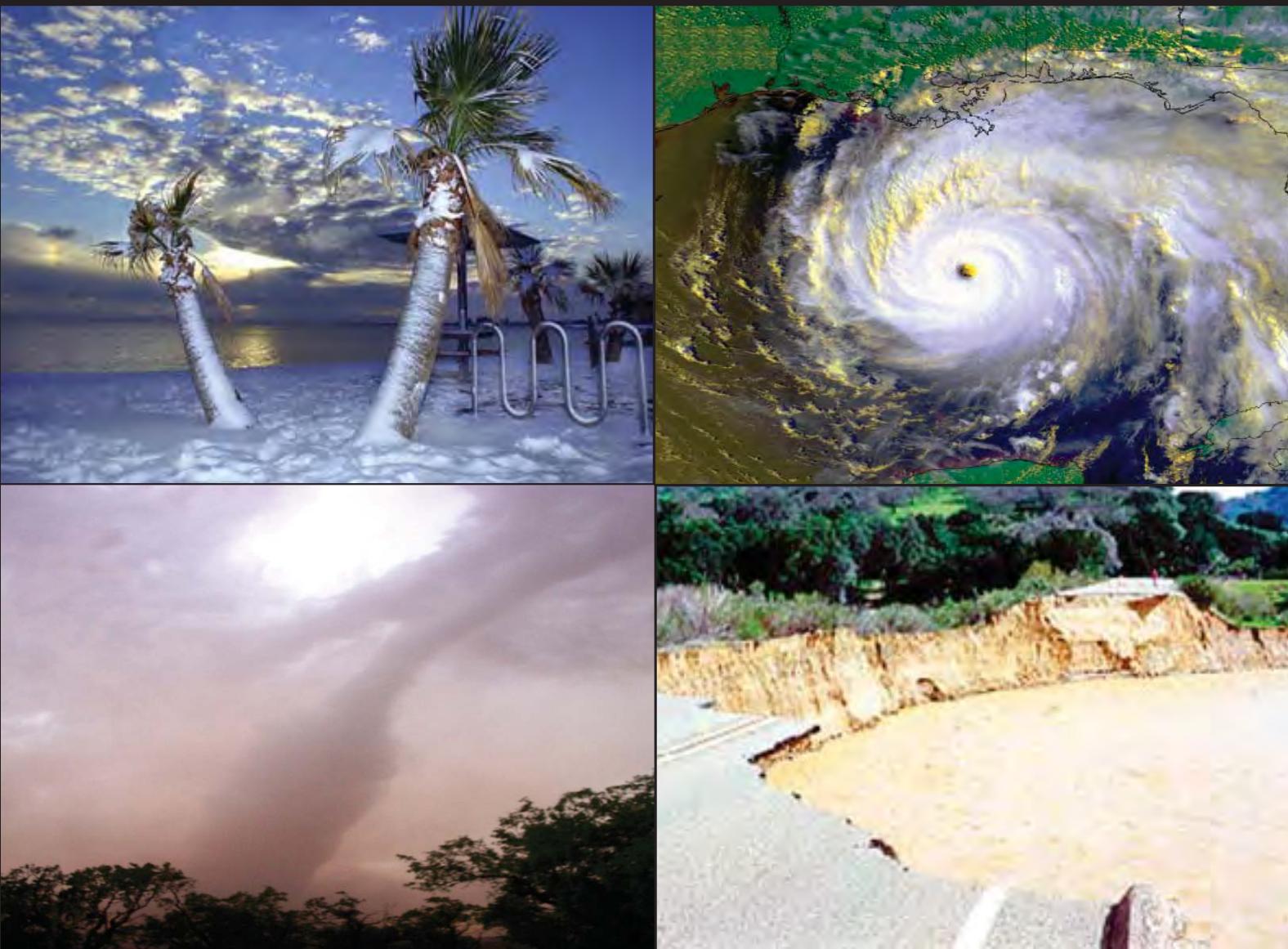


NOVEMBER 2018
VOLUME 60
NUMBER 11

STORM DATA



AND UNUSUAL WEATHER PHENOMENA
WITH LATE REPORTS AND CORRECTIONS



NCEI NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE
NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION

Cover: This cover represents a few weather conditions such as snow, hurricanes, tornadoes, heavy rain and flooding that may occur in any given location any month of the year.
(Photos courtesy of NCEI)

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STORM DATA
(ISSN 0039-1972)
National Centers For Environmental Information

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STORM DATA is prepared, and distributed by the National Centers For Environmental Information (NCEI), National Environmental Satellite, Data and Information Service (NESDIS), National Oceanic and Atmospheric Administration (NOAA).

The Storm Data and Unusual Weather Phenomena narratives and Hurricane/Tropical Storm summaries are prepared by the National Weather Service. Monthly and annual statistics and summaries of tornado and lightning events resulting in deaths, injuries, and damage are compiled by the National Centers For Environmental Information (NCEI) and the National Weather Service's (NWS) Storm Prediction Center.

STORM DATA contains all confirmed information on storms available to our staff at the time of publication.

Late reports and corrections will be printed in each edition.

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

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

Subscription, pricing, and ordering information is available from:

NOAA / National Centers For Environmental Information
Attn: Customer Engagement Branch
151 Patton Avenue
Asheville, NC 28801-5001
(828) 271-4800, option 1 (Customer Services)

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This is an official publication of the National Oceanic and Atmospheric Administration and is compiled from information received at the National Centers for Environmental Information Asheville, North Carolina 28801-5001.

Mary A. Wohlgemuth

Director,
National Centers For Environmental Information

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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ALABAMA, Central

Chambers County

3 S Cusseta

01	1112CST								
	1113CST	0.48	50	0	0	0.00K	0.00K	Tornado (EF0)	

National Weather Service meteorologists surveyed damage in extreme southern Chambers County and determined that it was consistent with an EF0 tornado, with maximum sustained winds near 65 mph. The tornado formed at the Wooshin USA plant between Chambers County Road 177 and Interstate 85. Lightweight bin liners were lofted into the air and strewn downstream, and some empty bins were blown over. The tornado moved over the Ajin USA plant where portions of the top of a rooftop air conditioning unit were peeled off, and the unit was shifted slightly, causing very minor damage to the roof. The tornado continued northeastward and entered the far northwest corner of Lee County.

Lee County

4 NNW Pine Grove

01	1113CST								
	1114CST	0.04	50	0	0	0.00K	0.00K	Tornado (EF0)	

This tornado was a continuation of the Chambers County tornado. It was on the ground in Lee County for less than one minute as it crossed through the extreme northwest tip of the county.

Chambers County

2 S Cusseta

01	1114CST								
	1116CST	2.13	50	0	0	0.00K	0.00K	Tornado (EF0)	

This tornado was a continuation of the Chambers County tornado. The tornado tracked northeastward, damaging the corner facade of the Shelton Fireworks Store located just west of Interstate 85. The tornado then crossed Interstate 85 at the Chambers County Road 388 exit, where little to no damage was apparent. The tornado greatly weakened at this time. One tree was blown down pointing upstream near the end of Chambers County Road 495. As the tornado approached Chambers County Road 519, one tree was uprooted and a tin overhang attached to a mobile home was completely removed and blown downstream. The tornado quickly dissipated near Chambers County Road 519.

A QLCS moved across Central Alabama during the morning and early afternoon hours on November 1st. Due to very limited instability, minimal lightning was observed with the convective line. However, low level shear and helicity values were high enough to produce a weak tornado over far eastern Alabama.

Lamar County

2 ESE Millport

06	0217CST								
	0219CST	1.01	115	0	0	0.00K	0.00K	Tornado (EF1)	

National Weather Service meteorologists surveyed minor damage in southern Lamar County and determined that it was consistent with an EF1 tornado, with maximum sustained winds near 85 mph. The tornado touched down in a wooded area about 150 yards west of Leonard Drive, and then uprooted and snapped a dozen pine trees across a utility right of way. The tornado then continued east-southeastward across Leonard Drive, producing minor sporadic tree damage for the remainder of the path, which crossed Evans Road/SLS Road, just south of South Lamar High School. Sporadic tree damage continued to Conklan Road, where several large limbs and tree tops were twisted but still intact.

A line of strong thunderstorms moved through northwest Alabama during the early morning hours of Tuesday, November 6th, 2018. Strong wind shear was already in place, with a northward moving instability axis that aided in storm intensification and more robust rotation. One of these storms moved into southern Lamar County from Mississippi. After some interaction between the storm's couplet and a southeastward moving wind shift, the couplet intensified as it moved into the Millport area and produced a weak tornado.

ALABAMA, North

Franklin County

1 SE Red Bay Muni Arpt

01	0445CST				0	0				Thunderstorm Wind (52EG)

Trees were knocked down around Red Bay.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Franklin County

2 SSW Pogo

01	0505CST									Tornado (EF0)
	0510CST	1.95	90	0	0					

Softwood trees were used as the primary damage indicator. A couple small trees were uprooted and several larger trees had large branches snapped. The path of the damage was generally north of CR 96, beginning at the Mississippi state line, extending northeast through CR 11, north of Pogo, AL.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
ALABAMA, North										
Franklin County 3 S Glasgow Corner	01	0512CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down on Alabama Highway 187.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 1 N Florence	01	0536CST		0	0		0.50K	0.00K	Thunderstorm Wind (43EG)	
		A power line was knocked down into trees.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 1 ESE St Florian	01	0546CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down onto CR 22 at Kasmeier Road.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 1 NNW Holloway	01	0548CST		0	0		0.50K	0.00K	Thunderstorm Wind (43EG)	
		A tree and power line were knocked down across the road at Cox Road at CR 65.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Marshall County Union Grove	01	0916CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down at New Friendship Road at Mobbs School Road.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Marshall County 2 NE Horton	01	0953CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down on Lazy Creek Circle.								
		A broken line of showers produced a brief tornado in northwest Alabama (Franklin County) about an hour before sunrise.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 1 NE Threet	05	2312CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down at CR 85 at CR 261.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 3 NW Oakland	05	2313CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down on CR 235 in Oakland. Time estimated by radar.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 2 NNE Threet 2 N Johnson Xrds	05	2316CST								Tornado (EF1)
		2323CST	3.54	200	0	0				
		A tornado touched down west of Alabama Highway 157 and north of Lauderdale County Road 141, northwest of the Cloverdale community. The tornado snapped multiple trees as it tracked to the northeast. A house off CR 141 had its windows broken and some roofing material removed, several vehicles were pushed aside, and two campers were lifted and moved. The inhabitants took shelter in their basement upon receiving the warning and were unharmed. The tornado tracked further northeast along CR 141, mainly snapping and uprooting trees. The tornado reached peak intensity of 105 mph off CR 10, where a single family home was more heavily damaged, and a nearby barn was completely destroyed. Fortunately nobody was in the home at the time. The tornado reached its peak width along CR 259, where numerous trees were snapped and uprooted in a wooded area. Additional tree damage was noted along CR 10, and again along CR 259 just south of where it crosses into Tennessee. At this point, the tornado crossed into Wayne County, Tennessee.								
Lauderdale County 2 NNW Johnson Xrds	05	2317CST		0	0		0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down on CR 259 near CR 10 in Cloverdale. Time estimated by radar.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
ALABAMA, North										
Lauderdale County 1 ESE Waterloo	05	2325CST		0	0	0	0.20K	0.00K	Thunderstorm Wind (43EG)	
		A tree was knocked down on CR 14 near CR 1.								
		Note: The estimated wind gust of 43 knots is equivalent to 49 mph.								
Lauderdale County 1 SW Killen	05	2340CST		0	0	0	0.20K	0.00K	Thunderstorm Wind (35EG)	
		Tree limbs were knocked down on CR 63 in Killen. Time estimated by radar.								
		Note: The estimated wind gust of 35 knots is equivalent to 40 mph.								
Lauderdale County 1 ENE Lexington	05	2347CST		0	0	0	0	0	Thunderstorm Wind (61EG)	
		Power lines and trees were knocked down on CR 59 about 3/4 mile off of Highway 64 in Lexington. Time estimated by radar.								
		Note: The estimated wind gust of 61 knots is equivalent to 70 mph.								
Colbert County Colbert Hgts	06	0002CST		0	0	0	0	0	Thunderstorm Wind (52EG)	
		Roof damage was reported at the field house at Colbert Heights High School.								
		Note: The estimated wind gust of 52 knots is equivalent to 60 mph.								
Colbert County 4 W Littleville	06	0018CST 0021CST	1.18	75	0	0	0	0	Tornado (EF0)	
		A tornado resulted in numerous trees being damaged in far southern Colbert County. The primary damage indicators were a combination of soft and hardwood trees. Much of the damaged trees had large branches snapped off with one tree fully uprooted south of the intersection of Cook Creek Road and Ligon Springs Road. Maximum wind, using an uprooted hardwood tree, was determined to be 76 mph.								
Jackson County Aspel 4 SSE Larkinsville	06	0235CST 0246CST	3.88	215	0	0	0	0	Tornado (EF1)	
		A tornado touchdown occurred on the lee side of an east-northeast facing ridge, south of U.S. Highway 72 off Jackson County Road 226. The main damage indicators were a mix of hard and soft wood trees, with a degree of damage ranging from large snapped branches to uproots and snapped trunks. The tornado appeared to slightly intensify near the intersection of U.S. Highway 72 and CR 110. Multiple large, healthy, and deeply rooted hard wood trees were uprooted. Maximum winds were estimated at 105 mph. The tornado crossed U.S. Highway 72 and tracked down CR 110 shearing off numerous the upper half of tree tops. Numerous trees were observed uprooted and snapped along a path leading up to North Sauty Creek. In this location, outside of tree damage, a small farm house and shed were completely destroyed and a large horse trailer was overturned. From U.S. Highway 72 looking north, continued tree damage was observed across North Sauty Creek and through Sauty Bottoms. The tornado likely lifted near Roberts Road at State Highway 79, where only small limb damage was observed on the western base of July Mountain.								
		A line of strong to severe thunderstorms moved east through across all of north Alabama during the late evening hours of the 5th and early morning hours of the 6th. Three tornadoes occurred in Colbert, Lauderdale and Jackson Counties. There were also a few other reports of damaging winds. In the Shoals, rainfall of 1-1.5 inches fell in an hour or less, producing multiple reports of brief flash flooding in Tuscumbia and Sheffield.								
ALZ001>010-016		Colbert - Cullman - Dekalb - Franklin - Jackson - Lauderdale - Lawrence - Limestone - Madison - Marshall - Morgan								
	10	2100CST								
	11	0800CST		0	0	0	0.00K	0.00K	Frost/Freeze	
		Temperatures dropped to 32 degrees or below for several consecutive hours beginning on the late evening of the 10th and lasting until the morning hours of the 11th. Lows on the 11th were in the middle to upper 20s.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
ALABAMA, Southeast										
Coffee County										
1 NE Danley	01	0930CST			0	0	1.00K	0.00K	Thunderstorm Wind (50EG)	
		Trees and limbs were blown down onto a power line, resulting in a power outage along County Road 372.								
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Coffee County										
1 SW Turner Crossroads	01	0937CST			0	0	1.00K	0.00K	Thunderstorm Wind (50EG)	
		Trees and limbs were blown down onto a power line, resulting in a power outage along County Road 603.								
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Dale County										
1 W Dillard	01	1005CST			0	0	0.00K	0.00K	Thunderstorm Wind (50EG)	
		A tree was blown down onto County Road 108.								
		Thunderstorms moved through the region ahead of a cold front with a few sporadic reports of trees and power lines down.								
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Houston County										
2 ESE Peterman	07	1727CST								
		1930CST			0	0	0.00K	0.00K	Flash Flood	
		A portion of Honeysuckle Road was reported underwater in the Dothan area.								
Geneva County										
1 W Slocomb	07	1833CST								
		1930CST			0	0	0.00K	0.00K	Flash Flood	
		Water entered the first floor of a residence at ground level along Arrington Street in Slocomb.								
Houston County										
1 WNW Sigma	08	0630CST			0	0	1.00K	0.00K	Heavy Rain	
		Previous heavy rainfall resulted in an embankment washing out near the intersection of Bill Yance Road and Benton Store Road. This resulted in a power pole falling on some trees, which caused a power outage to 267 customers. Radar estimated around 4 inches of rain had fallen overnight.								
		Training convection resulted in isolated flash flooding across portions of eastern Geneva county and Houston county.								
ALABAMA, Southwest										
Mobile County										
Dawes	01	0606CST								
		0608CST			0	0	10.00K	0.00K	Thunderstorm Wind (61EG)	
		A survey found sporadic damage consistent with 60 to 70 mph straight line winds south of Three Notch Road between Airport Road and McDonald Road. A few homes in the Dawes Oak subdivision had shingle damage with numerous fences damaged. A large garage door was also blown in. Minor tree damage was also noted in the area.								
Note: The estimated wind gust of 61 knots is equivalent to 70 mph.										
Choctaw County										
1 WNW Barrytown	01	0608CST								
1 SSE Lou		0609CST	0.14	100	0	0	0.00K	0.00K	Tornado (EF0)	
		A corridor of straight line wind damage was found starting near Highway 17 and Harrison Road and continuing northeast to County Road 8 and Barrytown Road. Significant tree damage was noted along portions of the path with winds estimated in the 60 to 80 mph range. There was a small, enhanced corridor of tree damage on County Road 8 where several large, healthy pine trees were snapped. Winds in this small areas area estimated to have been between 90 to 100 mph. Just northeast of this enhanced damage, a small EF-0 tornado was found in a wooded area along Woodbine Road. In total, 5 houses and 3 barns were damaged, mainly from downed trees. It should be noted that most of the damage observed was from straight line winds.								
Mobile County										
2 N Tillmans Corner	01	0609CST								
		0611CST			0	0	10.00K	0.00K	Thunderstorm Wind (61EG)	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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ALABAMA, Southwest

A survey found sporadic damage consistent with 60 to 70 mph straight line winds in the Lansdowne and Vista Ridge areas near Knollwood Dr and Government Blvd. Several large branches were downed. A few homes had minor shingle damage.

Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

Baldwin County Stockton

01	0635CST 0637CST	0	0	5.00K	0.00K	Thunderstorm Wind (52EG)
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High winds downed trees and power lines along CR 21.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Baldwin County Bay Minette

01	0640CST 0642CST	0	0	5.00K	0.00K	Thunderstorm Wind (52EG)
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High winds downed several trees and fences along highway 59.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Monroe County Monroeville

01	0715CST 0717CST	0	0	5.00K	0.00K	Thunderstorm Wind (52EG)
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High winds flipped a carport at a sporting goods store.

A line of thunderstorms moved across the area ahead of a strong cold front. The thunderstorms produced damaging winds and isolated tornadoes. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

ALASKA, Northern

AKZ213

St Lawrence Island Bering Strait

09	0000AKS	0	0	0.00K	0.00K	High Wind
10	0900AKS					

Tight pressure gradient produced local high winds along the Bering strait on November 9th through the morning of the 10th. Zone 213: Blizzard conditions were observed at the Gambell AWOS. There was a peak wind gust of 52 kt (60 mph) at the Gambell AWOS.

ALASKA, Southeast

AKZ018-019

Haines Borough and Lynn Canal - Taiya Inlet and Klondike Highway

08	0907AKS 1800AKS	0	0	0.00K	0.00K	Winter Storm
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A moderate low pressure center stalled in the western Gulf, but southwest flow aloft combined with a strong front caused 6-8 inches of new snow in a short period on 11/8. Moisture from this front moved up over cool wintry air to cause the snowfall. Impact was snow removal and poor inter driving on the Haines Road and Klondike Highways.

AKZ023-026-028

Astern Baranof Island and Southern Admiralty Island - Cape Decision to Salisbury Sound Coastal Area - Inner Channels from Kupreanof Island to Etolin Island - Southern Inner Channels

13	1014AKS 1800AKS	0	0	0.00K	0.00K	High Wind
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A short fused-short lived, strong surface low pressure system developed on a front along the outer coast during the late morning hours on 11/13. This system was unique in that it was poorly handled by numerical models and NOT on any surface analyses. This low cause brief strong wind gusts 60 to 70 mph for Northern Prince of Wales, Kuiu, and southern Baranof Islands. There were also hurricane force gusts at Five Finger Light in Stephens Passage. Some minor damage was reported.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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ALASKA, Southeast

AKZ019

Haines Borough and Lynn Canal

16	2100AKS									
17	1200AKS				0	0	0.00K	0.00K	Winter Storm	

Another front moved in off the Gulf of Alaska on the night of 11/16 causing snow, freezing rain, and rain on the night of 11/16 and the morning of 11/17. The impact was poor driving conditions early. The wintry mix changed to all rain on the afternoon of 11/17.

AKZ027-028

Dixon Entrance to Cape Decision Coastal Area - Southern Inner Channels

25	1800AKS									
26	0600AKS				0	0	0.00K	0.00K	High Wind	

A broad low pressure system covered the entire Gulf of Alaska on the evening of 11/25 and the early morning of 11/26 with arctic high pressure over the far northern Yukon. One of the low centers moved just off Prince of Wales Island on the afternoon of 11/15 to cause strong winds overnight for Ketchikan and Prince of Wales Island.

ALASKA, Southern

AKZ131

Northeastern Prince William Sound

11	0700AKS									
	2320AKS				0	0	0.00K	0.00K	Blizzard	

An area of high pressure formed over the Central Interior, causing cold air to build up over the Copper River Basin. Meanwhile, a weak trough from a lingering low just south of Yakutat caused the pressure gradient to increase through the Chugach Mountains. This caused blizzard conditions along Thompson Pass.

ARIZONA, Central and Northeast

AZZ004

Kaibab Plateau

29	1500MST									
30	1100MST				0	0	0.00K	0.00K	Heavy Snow	

AZZ014

Little Colorado River Valley in Apache County

30	0335MST				0	0	0.00K	0.00K	High Wind	
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Low pressure system and a cold front moving across northern Arizona brought snow and strong winds to the area. Some locations reported heavy snow.

ARIZONA, South

AZZ507

Upper San Pedro River Valley

14	1030MST									
16	1430MST				0	0	0.00K		Wildfire	

The human caused Babo Fire ignited southeast of Elgin during the morning of November 14th and was spread through grass by gusty east winds. The fire was contained on November 16th after consuming 2473 acres. Around 30 people were evacuated from the area.

ARKANSAS, Central and North Central

Saline County

2 WSW Benton Saline Co Arp	01	0338CST								
	02	0008CST			0	0	0.00K	0.00K	Flood	

Heavy rain caused flooding on the Saline River near Benton in early November.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
ARKANSAS, Central and North Central										
Yell County										
1 WNW Danville										
	01	0536CST								
	03	0510CST			0	0	0.00K	0.00K	Flood	
Heavy rain caused flooding on the Petit Jean River in early November.										
Clark County										
1 NE Arkadelphia										
	01	1306CST								
1 ENE Arkadelphia Muni Arp										
		2213CST			0	0	0.00K	0.00K	Flood	
Heavy rain caused flooding briefly on the Ouachita River near Arkadelphia in early November.										
Perry County										
2 WSW Houston										
	01	1322CST								
	03	2221CST			0	0	0.00K	0.00K	Flood	
Heavy rain caused flooding on the Fourche LaFave River in early November.										
Woodruff County										
1 WSW Riverside										
	02	0840CST								
1 NNE Cavell										
	20	2300CST			0	0	0.00K	0.00K	Flood	
Heavy rain caused flooding on the Cache River in early and mid November.										
Woodruff County										
3 WNW Augusta										
	03	1318CST								
3 W Ruffwood										
	05	2100CST			0	0	0.00K	0.00K	Flood	
Heavy rain caused flooding on the White River near Augusta in early November.										
Heavy rain brought flooding to parts of Arkansas for the first part of November. Flooding continued a little longer in the northeast.										
Pulaski County										
1 WSW Haig										
	05	1731CST								
		1831CST			0	0	0.00K	0.00K	Flash Flood	
Water was flowing over Crystal Hill Rd. near Crystal Hill.										
Lonoke County										
1 E Old Austin										
	05	1753CST								
		1853CST			0	0	0.00K	0.00K	Flash Flood	
Water was over Dogwood Lane, south of state highway 38.										
Lonoke County										
2 SE Cabot										
	05	1805CST								
		1905CST			0	0	0.00K	0.00K	Flash Flood	
Water was flowing over Campground Road southeast of Cabot.										
Heavy rain brought flash flooding on the 5th to parts of central Arkansas.										
ARZ004>008-014>017-021>022-024>025-031-033>034-039-041-043>047-052>057-062>066-068>069										
	14	0300CST								
		0200CST			0	0	0.00K	0.00K	Winter Weather	
A storm system brought significant snow to parts of Arkansas on the 14th and 15th. On the 14th, it remained cold when a storm system aloft headed this way from the west. The system strengthened along the way, and tried to pull moisture toward us from the southeast states (where rain was extensive).										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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ARKANSAS, Central and North Central

Temperatures failed to get above freezing at Harrison (Boone County), Newport (Jackson County), and North Little Rock (Pulaski County). At North Little Rock (Pulaski County), it was the coldest November day on record (going back to 1975).

While the system struggled to ingest moisture (most areas received less than a tenth of an inch of liquid), there was enough to produce two to more than four inches of snow in parts of the south and east. Some of the higher snowfall totals included 5 to 6 inches at Georgetown (White County), 3 to 4 inches near Des Arc (Prairie County), 3 inches around Rison (Cleveland County) and Patterson (Woodruff County), and 2 to 3 inches at Augusta (Woodruff County), southeast of Stuttgart (Arkansas County), south of Pine Bluff (Jefferson County), and Rye (Cleveland County).

Polk County

1 W Mena

30	2340CST	0	0	0.00K	0.00K	Thunderstorm Wind (52EG)
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A few trees were downed.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Logan County

3 SSW Driggs

30	2350CST	4.29	100	0	0	25.00K	0.00K	Tornado (EF0)
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The tornado blew down trees, and removed some roofing material from several homes. Some barns and outbuildings were damaged.

Logan County

1 NNE Subiaco

30	2358CST	0	0	0.00K	0.00K	Thunderstorm Wind (52EG)
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Some telephone lines were blown down in the town of Subiaco.

Isolated severe weather was noted on the 30th. A weak tornado was reported in the west and 3/4 inch hail in the north. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

ARKANSAS, East

**ARZ009-018-026>
028-035>036-048>
049-058**

Clay - Craighead - Crittenden - Cross - Greene - Lee - Mississippi - Phillips - Poinsett - St. Francis

14	1000CST	0	0	0.00K	0.00K	Winter Weather
	2000CST					

An upper low tracked across the Mid-South on November 14, 2018. A mixture of snow, sleet and freezing drizzle fell across the area making for dangerous travel conditions across eastern Arkansas. Up to 2 inches of snow fell from Harrisburg to Jonesboro.

ARZ009

Clay

25	1830CST	0	0	50.0K	0.00K	Strong Wind
	1900CST					

A deepening surface low tracking through the Midwest created strong west and northwesterly winds across portions of Northeast Arkansas during the early evening hours of November 25th.

ARKANSAS, Northwest

Benton County

1 NW Siloam Spgs Arpt

30	2249CST	0	0	0.00K	0.00K	Thunderstorm Wind (50MG)
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The surface observation system at Smith Field in Siloam Springs measured 58 mph thunderstorm wind gusts.

Note: The measured wind gust of 50 knots is equivalent to 58 mph.

Crawford County

3 NW Van Buren 2 NNW Furry

30	2309CST	5.6	600	0	2	2.50M	0.00K	Tornado (EF2)
	2314CST							

This tornado developed north of I-40 and just west of Lee Creek Road where homes sustained minor roof damage, trees were uprooted, and the roofs of several apartment complexes were damaged. The tornado moved northeast across Rena Road, damaging numerous homes, some severely, snapping three large wooden utility structures, and snapping and uprooting numerous trees. The tornado then crossed Uniontown Road and Fayetteville Road near Rena, and dissipated as it approached N Rudy Road. Based on this damage, maximum estimated wind in the tornado was 110 to 120 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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ARKANSAS, Northwest



An EF-2 tornado damaged or destroyed numerous homes in Van Buren, Arkansas during the late evening of November 30, 2018. Photo by Ed Calianese, WCM, NWS Tulsa Oklahoma.

Sebastian County

Ft Smith

30	2310CST	0	0	0.00K	0.00K	Thunderstorm Wind (56EG)
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Strong thunderstorm wind snapped large tree limbs.

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Washington County

3 W Marrow

30	2310CST	0	0	15.00K	0.00K	Thunderstorm Wind (65EG)
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Strong thunderstorm wind blew down trees, and damaged the roofs of homes and outbuildings.

Note: The estimated wind gust of 65 knots is equivalent to 75 mph.

Washington County

2 E Evansville

30	2315CST	0	0	10.00K	0.00K	Thunderstorm Wind (65EG)
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Strong thunderstorm wind damaged the roofs of poultry houses and blew down trees in Evansville.

Note: The estimated wind gust of 65 knots is equivalent to 75 mph.

Crawford County

1 ENE Rudy

2 SE Mountainburg

30	2317CST	8.7	700	0	0	75.00K	0.00K	Tornado (EF1)
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This tornado developed just north of Rudy, where trees were uprooted on Whitson Drive to the west of Highway 282. The tornado moved east-northeast uprooting more trees and destroying barns along Highway 282. Trees were uprooted as the tornado crossed Peach Drive, with extensive tree damage as it approached I-49 on Cozy Cove and Lancaster Road. Trees were uprooted on Gregory Chapel Road. Extensive tree and power pole damage occurred along Highway 71 near Winn Mountain Road and Cain Road. The tornado dissipated after crossing Old Turner Road, to the south of Highway 348, where barns were destroyed and trees were uprooted. Based on this damage, maximum estimated wind in the tornado was 90 to 100 mph.

Crawford County

2 NW Dean Spg

30	2318CST	0	0	0.00K	0.00K	Thunderstorm Wind (65EG)
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Strong thunderstorm wind uprooted trees south of the tornado.

Note: The estimated wind gust of 65 knots is equivalent to 75 mph.

Crawford County

Alma

30	2319CST	0	0	25.00K	0.00K	Thunderstorm Wind (65EG)
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Strong thunderstorm wind uprooted trees and damaged the roofs of homes.

Note: The estimated wind gust of 65 knots is equivalent to 75 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
ARKANSAS, Northwest										
Sebastian County										
Lavaca	30	2322CST			0	0	0.00K	0.00K	Thunderstorm Wind (61EG)	
		Strong thunderstorm wind uprooted trees.								
		Note: The estimated wind gust of 61 knots is equivalent to 70 mph.								
Washington County										
West Fork	30	2330CST			0	0	15.00K	0.00K	Thunderstorm Wind (61EG)	
		Strong thunderstorm wind destroyed an outbuilding and snapped large tree limbs.								
		Note: The estimated wind gust of 61 knots is equivalent to 70 mph.								
Washington County										
1 W Elkins	30	2341CST			0	0	25.00K	0.00K	Thunderstorm Wind (65EG)	
		Strong thunderstorm wind uprooted trees, and damaged the roofs of homes and outbuildings.								
		Note: The estimated wind gust of 65 knots is equivalent to 75 mph.								
Franklin County										
Ozark	30	2345CST			0	0	0.00K	0.00K	Thunderstorm Wind (56EG)	
		Strong thunderstorm wind snapped large tree limbs.								
		Note: The estimated wind gust of 56 knots is equivalent to 64 mph.								
Franklin County										
2 E Webb City	30	2346CST			0	0	15.00K	0.00K	Thunderstorm Wind (61EG)	
		Strong thunderstorm wind damaged the roofs of five homes and uprooted trees.								
		Note: The estimated wind gust of 61 knots is equivalent to 70 mph.								
Madison County										
1 W Whitener	30	2349CST								
1 NE Clifty		2356CST			0	0	75.00K	0.00K	Thunderstorm Wind (83EG)	
		Strong thunderstorm wind produced a swath of damage at least three miles wide from southwest of Hindsville to northeast of Clifty. Within this swath of damage, numerous homes were damaged, a mobile home was destroyed, businesses were damaged, outbuildings were destroyed, and numerous trees and power poles were snapped.								
		Note: The estimated wind gust of 83 knots is equivalent to 96 mph.								
Benton County										
Pea Ridge	30	2356CST			0	0	0.00K	0.00K	Thunderstorm Wind (56EG)	
		Strong thunderstorm wind snapped large tree limbs.								
		A strong low pressure trough translated from the southwestern United States into the Southern Plains on November 30th and December 1st. Warm and moist air had spread northward into northwestern Arkansas ahead of this system. Atmospheric instability became moderately strong during the afternoon and evening hours to the east of a cold front that was over western Oklahoma, and south of a stationary front that was located across northern Oklahoma into southern Missouri. As the strong storm system moved into the Southern Plains on the 30th, wind fields throughout the atmosphere increased substantially, which resulted in very strong deep-layer and low-level wind shear across northwestern Arkansas during the evening and overnight hours.								
		Thunderstorms developed during the evening hours of the 30th across central and eastern Oklahoma, and moved northeast across northwestern Arkansas during the late evening and overnight hours. Moderately strong atmospheric instability across the area combined with very strong wind shear to produce organized severe thunderstorms. A squall line moved rapidly across the area ahead of the surging cold front and produced several tornadoes and damaging wind gusts in northwest Arkansas. Note: The estimated wind gust of 56 knots is equivalent to 64 mph.								
ARKANSAS, Southeast										
Chicot County										
1 NW Dermott	05	1905CST			0	0	10.00K	0.00K	Thunderstorm Wind (50EG)	
		A few trees were blown down, and a couple of power lines were down in town.								
		Showers and thunderstorms developed in association with a cold front during the evening on November 5th. Some of these storms produced wind damage. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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ARKANSAS, Southwest

ARZ073

Union

14	0430CST 0900CST	0	0	0.00K	0.00K	Winter Weather
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A vigorous, closed, upper level low pressure system moved slowly east and northeast across Northeast Texas, Southwest Arkansas and Northern Louisiana during the morning hours of November 14th. The dynamics of this trough were so significant that an elevated area of lift or upward forcing formed on the east and northeast side of this trough over Southcentral Arkansas and Northcentral Louisiana. Despite drier air being entrained into this system from the south and west, enough moisture was able to feed into this system along its east and northeast flank such that precipitation fell in the form of light snow across portions of Northcentral and Northeast Louisiana, as well as Southcentral Arkansas. Small accumulations were noted, mainly less than one half inch. Thus, a Winter Weather Advisory was issued for this region for the morning hours of November 14th as a result.

In Union County, 0.5 inches of snow was measured at the Felsenthal Lock and Dam in Felsenthal, 0.3 inches at the HK Thatcher Lock and Dam in Calion, and 0.2 inches in El Dorado as well as the South Arkansas Regional Airport nine miles west of El Dorado.

The measurable snow that fell in El Dorado and Union County Arkansas on November 14th, 2018 was the earliest measurable snow to fall here on record, surpassing the previous record date of November 26th, 1980, where 0.7 inches of snow was recorded. Snowfall records in El Dorado date back to 1892.

CALIFORNIA, North Central

CAZ066

Northeast Foothills/Sacramento Valley

08	0633PST	172	12	17.0B	0.00K	Wildfire
25	1500PST					

An extended period of dry weather through the summer and fall with above normal temperatures coupled with a gusty north to northeast wind event created a situation for extremely rapid fire growth. A large wildfire developed, the deadliest and most destructive in history for California.



Photo of a home destroyed by the Camp Fire. Taken by Eric Kurth.

CAZ015-017>019-066

Carquinez Strait and Delta - Northeast Foothills/Sacramento Valley - Northern Sacramento Valley - Northern San Joaquin Valley - Southern Sacramento Valley

10	1500PST	0	0	0.00K	0.00K	Dense Smoke
11	0400PST					

Wildfire smoke brought areas of dense smoke, with visibility levels at times dropping to less than a half mile. Hazardous air quality was measured across much of the Central Valley and Delta, causing numerous school and outdoor event cancellations.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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CALIFORNIA, North Central

CAZ068-069

Mt Shasta/Western Plumas County - West Slope Northern Sierra Nevada

21	0900PST								
24	1600PST				0	0	0.00K	0.00K	Heavy Snow

Snow caused travel delays during the busy Thanksgiving holiday travel period. This was the first significant snow event of the season.

Butte County

**3 NNE Durham
1 NNW Chico**

28	0000PST				0	0	0.00K	0.00K	Flash Flood
29									

Flooding caused traffic delays and one hour of road closures on northbound and southbound Highway 99 from Neal Road to Estates Drive in Chico. Sheetflow was reported from heavy rain off of recently burned areas from the Camp Fire.

Butte County

10 SSW Merlin

28	1300PST								
	2100PST				0	0	100.00K	0.00K	Debris Flow

There were 10 slides into drainage systems along SR70, withing the Camp Fire burned area. The Concow/Pulga area was still under a mandatory evacuation order due to the Camp Fire. An automated gage at Durham reported very heavy rain from 1-2 pm of 1.64 and a second hour between 2-3 pm of 1.80.

Butte County

Pulga

29	1002PST				0	0	0.00K	0.00K	Flood
	1402PST								

Storms with heavy rain caused mudslides and debris flows on Highway 70 in the Pulga area. Debris flows clogged drains along the roadway. Trees along on roadway had to be removed. Highway 70 east of the West Branch of the Feather River was closed.

Butte County

1 SSE Mullberry

29	1200PST				0	0	0.00K	0.00K	Flood
	1419PST								

Flooding was reported at Honey Run Road and Horse Run Lane in Chico, due to local ponding of water and runoff from the Camp Fire burn scar.

Butte County

3 ENE Durham

29	1200PST				0	0	0.00K	0.00K	Flood
	1358PST								

Heavy rain caused sheet flow from the Camp Fire burn scar, which flooded Highway 99 near Neal Road.

Butte County

2 NNE Durham

29	1200PST				0	0	0.00K	0.00K	Flood
	1436PST								

A vehicle was reported stuck in flood waters up to mirrors in about 3.5 feet of water.

CAZ068-069

Mt Shasta/Western Plumas County - West Slope Northern Sierra Nevada

29	1200PST								
30	2359PST				0	0	0.00K	0.00K	Heavy Snow

Butte County

2 SSE Mullberry

29	1322PST				0	0	100.00K	0.00K	Debris Flow
	2100PST								

The Butte County Sheriff's Office issued an evacuation order for Honey Run Road due to flooding, from the 200 block to Skyway including Horse Run Lane. Nearly 100 cars were trapped for at least an hour on Honey Run Road, as two separate debris flows and flooding blocked cars from evacuating safely. Officials from the Butte County Sheriffs Office confirmed the backup was up to two miles long. An automated gage at Durham reported very heavy rain from 1-2 pm of 1.64 and a second hour between 2-3 pm of 1.80.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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CALIFORNIA, North Central

Water rescuers were later called out to Honey Run Road in the lower area of Butte Creek Canyon after a white Jeep Cherokee was reported floating down Butte Creek. The U.S. Army mobilized 19 high water vehicles to rescue the people who were trapped. Evacuation warnings were in place for the Hamlin Canyon and Lower Neal zones, and on the west side of the county at Hegan Lane south to Highway 162 to the Sacramento River.

Heavy snow brought travel delays in the mountains, with nearly 4 feet of snow at and above pass levels. Heavy rain brought ash flows and debris flows over some recently burned areas.



Road flooding on Honey Run Road, Camp Fire burn scar, Butte County. Courtesy Butte County Sheriff.

CALIFORNIA, Northeast

CAZ072-073

Greater Lake Tahoe Area - Mono

21	0700PST	0	0	Heavy Snow
23				

Plumas County 1 N Portola

21	0800PST	0	0	Heavy Rain
22				

CO-OP Observer PRAC1, Portola, reported 0.92 inches of heavy rain in a 24-hour period from 21 November 0800PST to 22 November 0800PST.

Sierra County 1 S Sierraville

21	0800PST	0	0	Heavy Rain
22	0700PST			

CoCoRaHS station CA-SI-2, 1 mile southwest of Sierraville, reported 1.04 inches of rainfall from 21 November 0800PST to 22 November 0700PST.

El Dorado County 1 S Pomins

21	1000PST	0	0	Heavy Rain
22	0700PST			

CO-OP Observer TAAC1, Tahoma, reported 0.87 inches of heavy rain from 21 November 1000PST to 22 November 0700PST.

El Dorado County Lake Tahoe Arpt

21	1950PST	0	0	Heavy Rain
22	1553PST			

ASOS Station KTVL, South Lake Tahoe Airport, reported 0.81 inches of heavy rain from 21 November 1950PST to 22 November 1553PST.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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CALIFORNIA, Northeast

El Dorado County

2 W Tahoe Paradise

21	1950PST									
22	0700PST				0	0				Heavy Rain

CoCoRaHS station CA-ED-20, 2 miles northwest of Meyers, reported 1.01 inches of rainfall from 21 November 1950PST to 22 November 0700PST.

CAZ072

Greater Lake Tahoe Area

23	1215PST									
	1216PST				0	0				High Wind

A shortwave trough lifted across California and the Great Basin the 21st into the 23rd. This weather system brought high winds, rain, and snow to the Sierra Nevada and parts of Eastern California.

28	0642PST				0	0				
29										Heavy Snow

CAZ072-073

Greater Lake Tahoe Area - Mono

28	0657PST									
29	0800PST				0	0	0.00K	0.00K		Heavy Snow

A cold upper-level low made its way into the region late on the 28th and produced rain and snow in the lower elevations of western Nevada and northeast California with snow in the Sierra Nevada.

CALIFORNIA, Northwest

CAZ107

Northern Trinity

21	1100PST									
22	1400PST				0	0	0.00K	0.00K		Winter Storm

A cold upper trough moved across northwest California during late November. Accumulating snow occurred for elevations above 5000 feet.

CALIFORNIA, South Central

CAZ098-099

Indian Wells Valley - Southeast Kern County Desert

10	0200PST									
	0900PST				0	0	0.00K	0.00K		Frost/Freeze

A dry cold front pushed southward through California during the evening over November 9. A cold airmass pushed into the area behind the front and as winds diminished overnight across the Kern County Deserts temperatures plummeted into the 20's at most locations. This resulted in the first hard freeze of the season in the Kern County Deserts.

CAZ096-097

South Sierra Mountains - Tulare County Mountains

21	1600PST									
22	0800PST				0	0	0.00K	0.00K		Heavy Snow

Madera County

The Pines

21	1917PST									
	2047PST				0	0	0.00K	0.00K		Flood

California Highway Patrol reported four trees fell onto Road 222 near Road 426 south of Bass Lake, likely due to rainfall.

Madera County

2 WSW The Forks

21	1932PST									
	2102PST				0	0	0.00K	0.00K		Flood

Public report of a tree blocking the entire roadway of Mountain Lakes Road just north of the intersection of Road 423. The fallen tree likely occurred due to rainfall.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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CALIFORNIA, South Central

Fresno County

2 NE (FCH) chandler Af	21	2019PST 2149PST			0	0	0.00K	0.00K	Flood
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California Highway Patrol reported the left lane flooded on State Route 180 near the Fulton Street off-ramp.

Mariposa County

4 S Usona	21	2151PST 2321PST			0	0	0.00K	0.00K	Flood
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California Highway Patrol reported a fallen tree blocking both lanes on Usona Road near Indian Peak Road. The fallen tree was likely due to rainfall.

After a significant dry period of 45 straight dry days across most of the central California interior. A low pressure system pushed inland over northern California on November 21 and brought a period of generally light to moderate precipitation to the area from the afternoon of November 21 through the morning of November 22 as an associated cold front pushed southward through central California. The precipitation fell mainly in the form of snow above 7000 feet resulting in this system being the first significant winter storm of the season for the higher elevations of the Southern Sierra Nevada where 8 to 16 inches of snow fell. Much of the San Joaquin Valley picked up between a quarter to three quarters of an inch of rainfall after going totally dry for a month and a half. There were several reports of nuisance flooding although damage was minimal.

CAZ099

Southeast Kern County Desert

23	1717PST			0	0	0.00K	0.00K	High Wind
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CAZ095

Kern County Mountains

24	0032PST			0	0	0.00K	0.00K	High Wind
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The storm that brought a soaking rain to much of the area and the first significant snowfall of the season to the higher elevations of the Southern Sierra Nevada was followed by a second storm which reached central California on November 23 and brought widespread rainfall to the area which continued through the early morning of November 24. Although this storm did not produce as much precipitation as the previous system, it still produced another half inch to locally two inches of additional rainfall to the Southern Sierra Nevada and adjacent foothills, and up to foot of new snow fell above 8000 feet. Much of the San Joaquin Valley was rain shadowed, but several stations measures between one and two tenths of an inch of additional rainfall. Meanwhile, strong winds impacted the Kern County Mountains from the afternoon of November 23 through the early morning of November 24. Several stations reported wind gusts exceeding 40 mph while a few low impact indicator sites measured gusts around 60 mph. By the afternoon of November 24, decreased winds and drying took place across the area as the storm moved to the east of the area with high pressure building in behind it.

CAZ090>092

East Central San Joaquin Valley - Southeast San Joaquin Valley - Southwest San Joaquin Valley

25	0430PST 1005PST			0	0	0.00K	0.00K	Dense Fog
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Skies cleared out over much of the San Joaquin Valley between during the evening of November 24 and the early morning hours of November 25 as high pressure build inland into central California. With recent rainfall and diminished winds fog formed toward daybreak over the San Joaquin Valley except for the far south end where upslope clouds persisted. Areas of dense fog with visibility between an eighth and a quarter mile were prevalent for a few hours in the morning across much of the valley between 700 am and 930 am. By 1000 am most of the fog had lifted into stratus and later burned off.

CAZ090>092

East Central San Joaquin Valley - Southeast San Joaquin Valley - Southwest San Joaquin Valley

26	0120PST 0905PST			0	0	0.00K	0.00K	Dense Fog
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As high pressure strengthened over the area on November 25, stronger radiational cooling took place on the morning for November 26 allowing for widespread dense fog to form in the San Joaquin Valley and prompted the first Dense Fog Advisory issuance of the season as travel on State Route 99 was adversely impacted by the fog. Fog reducing visibility from 1/16 to 1/8 of a mile was widespread by sunrise. The fog slowly burned off during the late morning hours and had completely dissipated by noon.

CAZ089>092

East Central San Joaquin Valley - Southeast San Joaquin Valley - Southwest San Joaquin Valley - West Central San Joaquin Valley

27	0630PST 0740PST			0	0	0.00K	0.00K	Dense Fog
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Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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CALIFORNIA, South Central

Although not as prevalent as the day before, patches of dense fog formed in the San Joaquin Valley toward daybreak. The fog impacted travel along State Route 99 between Turlock and Atwater and along State Route 198 between Visalia and Hanford. The fog also prompted several school districts in western Fresno County to delay morning bus service.

CAZ096-097

South Sierra Mountains - Tulare County Mountains

28	0400PST	0	0	0.00K	0.00K	Heavy Snow
30						

Mariposa County 1 WSW El Portal

28	0800PST	0	0	0.00K	0.00K	Debris Flow
	1200PST					

California Highway Patrol reported water and rocks covering State Route 140 near El Portal in the Ferguson Fire burn area.

CAZ089

West Central San Joaquin Valley

29	0320PST	0	0	0.00K	0.00K	High Wind
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CAZ096-097

South Sierra Mountains - Tulare County Mountains

29	0400PST	0	0	0.00K	0.00K	Heavy Snow
30						

CAZ091-095

Kern County Mountains - Southwest San Joaquin Valley

29	1132PST 1313PST	0	0	0.00K	0.00K	High Wind
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Tulare County 1 NW Goshen

29	1322PST 1422PST	0	0	0.00K	0.00K	Flood
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California highway Patrol reported roadway flooding on southbound State Route 99 just north of Goshen.

CAZ098

Indian Wells Valley

29	1326PST	0	0	0.00K	0.00K	High Wind
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Madera County 3 E Trigo

29	1700PST	0	0	10.00K	0.00K	Thunderstorm Wind (43EG) Public report of a large pepper tree falling onto a guest house in a backyard in Madera Ranchos.
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Note: The estimated wind gust of 43 knots is equivalent to 49 mph.

CAZ095-099

Kern County Mountains - Southeast Kern County Desert

30	0210PST 0214PST	0	0	0.00K	0.00K	High Wind
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A deep upper trough approached the California coast on November 28 spreading moisture into central California. A subtropical jet brought a deep moisture fetch into central California by the morning of November 28 producing moderate to heavy precipitation over the area which continued into the afternoon. The rainfall resulted in debris flows and mudslides near recently burned areas in the southern Sierra foothills including over the Ferguson Burn area which resulted in the closure of State Highway 140 near El Portal. The trough moved inland on November 29 producing another round of moderate to heavy precipitation with several stations in the Southern Sierra Nevada and adjacent foothills measuring between 2 and 5 inches of rainfall while much of the San Joaquin Valley and Kern County Mountains received half and inch to an inch and a half of rain during the two day period. Snow levels lowered to 5500 feet on November 29, and several reports of a foot and a half to 3 feet of new snowfall estimated by SNOTELs. Strong winds also impacted the area on November 29 and several stations measured winds gusts exceeding 55 mph while a few low impact indicator sites measured gusts around 70 mph. As a colder, unstable post-frontal airmass pushed into the area during the afternoon of November 29, isolated thunderstorms moved through the San Joaquin Valley producing brief downpours, small hail and gusty winds. The precipitation tapered off by the early morning of November 30 as the trough moved out of the area.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
CALIFORNIA, Southwest										
CAZ048-554		Orange County Inland - San Bernardino County Valley/The Inland Empire								
	08	1200PST 1900PST			0	0	0.00K	0.00K	High Wind	
	11	1200PST 1300PST			0	0	0.00K	0.00K	High Wind	
CAZ048-050-057-062		San Bernardino County Valley/The Inland Empire - San Diego County Deserts - San Diego County Mountains - San Diego County Valleys - Santa Ana Mountains and Foothills								
	12	0600PST 1300PST			0	0	0.00K	0.00K	High Wind	
CAZ058		San Diego County Mountains								
	13	0500PST 0600PST			0	0	0.00K	0.00K	High Wind	
CAZ050		San Diego County Valleys								
	13	1200PST 1300PST			0	0	20.0K	0.00K	Strong Wind	
		Surface high pressure centered over Idaho and Nevada brought strong offshore winds to Southern California from November 8th through 13th. The highest wind gust from the event was 85 mph at Sill Hill on November 12th. The air mass on November 8-10th was extremely dry with dewpoints observed at -25 to -40F between 6000 and 9000 feet (matched NKK sounding data). Fuel moisture measured by the USFS was at historical lows (100 and 1000 hour). Power was cut from many wildfire prone communities in anticipation of high winds. Some power lines were knocked over from the winds, but there were no significant fire starts. USFS reported several small wildfires during night hours but they were able to quick control the blazes before spreading.								
Orange County 3 NE Trabuco Canyon	29 30	0000PST			0	0	0.00K	0.00K	Heavy Rain	
		Santiago Peak 2 mesonet reported a 24-hr rain total of 3.24 inches.								
San Bernardino County 2 ESE Lytle Creek	29 30	0000PST			0	0	0.00K	0.00K	Heavy Rain	
		Mesonet ssvc1 (8 mi nne of Rancho Cucamonga) reported a 24-hr rainfall total of 3.38 inches.								
San Bernardino County 1 ESE Cedar Pines	29 30	0000PST			0	0	0.00K	0.00K	Heavy Rain	
		CoCoRaHS station ca-sr-63 in Crestline reported a 24-hr rainfall total of 3.6 inches.								
CAZ055-065		Napa County - San Bernardino County Mountains								
	29	0100PST 0900PST			0	0	0.00K	0.00K	High Wind	
Riverside County 1 NNW Bly	29	0900PST 1200PST			0	0	5.00K	0.00K	Flash Flood	
		Media reported highway 60 (Pomona Ave.) at Etiwanda Ave. was flooded due to heavy rain with accidents reported in the area.								

Storm Data and Unusual Weather Phenomena



Major debris flow in Trabuco Canyon in Orange County on November 29th. Photo courtesy of CBS LA.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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CALIFORNIA, Southwest



Rock and mud in the road near Temescal Canyon. Photo courtesy of Riverside County Emergency Management.

San Bernardino County

2 WNW Forest Falls

29	1100PST 1500PST	0	0	0.00K	0.00K	Debris Flow
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CalTrans reported an emergency closure of SR-38 at Valley of the Falls Drive due to a debris flow.

A low pressure system brought wind, snow, heavy rain, and some debris flows to Southern California from November 29th through 30th. Strong wind associated with the frontal boundary made its way through Southern California on the 29th, with heavy rain behind it. These rains resulted in numerous flash floods and debris flows, closing roadways and impacting traffic. A few inches of snow fell in the San Bernardino Mountains on November 30th. FawnSkin reported 3 inches, Green Valley Lake reported 4 inches, and Big Bear Resort reported 4-8 inches.

CAZ043-552

Orange County Coastal - San Diego County Coasts

30	0500PST 2359PST	0	0	10.0K	0.00K	High Surf
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A long period west-northwest swell from a low pressure system moved into Southern California and brought high surf to the beaches on November 30th and into December 1st. Surf of 6-10 ft with sets to 12 ft were reported by lifeguards. Minor coastal flooding occurred the morning of the 30th.

CALIFORNIA, West South Central

CAZ040-045>046-547

Los Angeles County Coasts including Downtown Los Angeles - Los Angeles County San Fernando Valley - Santa Monica Mountains Recreation Area - Ventura County Coast - Ventura County Coastal Valleys

08 15	1403PST 1800PST	15	0	0.00K	0.00K	Wildfire
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The Hill Fire started in early November during a strong Santa Ana wind event. The combination of gusty winds and very dry conditions allowed the fire to grow quickly, eventually charring 4,531 acres. M73PH, ??VE, ??VE, M73PH, ??VE, ??VE, M73PH, ??VE, ??VE, ??VE, M73PH, ??VE, ??VE, M73PH, ??VE, ??VE, M73PH, ??VE, ??VE

CAZ046-054

Los Angeles County Mountains Excluding the Santa Monica Range - Santa Monica Mountains Recreation Area

08 09	2138PST 0400PST	0	0	0.00K	0.00K	High Wind
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Strong and gusty Santa Ana winds buffeted the mountains of Los Angeles county, including the Santa Monica mountains. North to northeast wind gusts up to 72 MPH were reported.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
CALIFORNIA, West South Central										
CAZ053		Ventura County Mountains								
	11	1201PST 1600PST			0	0	0.00K	0.00K	High Wind	
CALIFORNIA, Western										
CAZ054		Los Angeles County Mountains Excluding the Santa Monica Range								
	12	0953PST 1600PST			0	0	0.00K	0.00K	High Wind	
Another round of strong and gusty Santa Ana winds developed across the mountains of Los Angeles and Ventura counties. Peak north to northeast wind gusts up to 60 MPH were reported.										
CAZ512		Santa Cruz Mountains								
	03	2028PST								
	15	0856PST			0	0	0.00K	0.00K	Wildfire	
An offshore wind event brought elevated fire concerns for the region in early November. One small fire broke out in Santa Cruz County.										
CAZ506-507		North Bay Interior Valleys - North Bay Mountains								
	08	0800PST			0	0	0.00K	0.00K	Dense Smoke	
	21									
CAZ505-508-510> 511-513		Coastal North Bay Including Point Reyes National Seashore - East Bay Hills and the Diablo Range - East Bay Interior Valleys - North Bay Interior Valleys - San Francisco Bay Shoreline - Santa Clara Valley Including San Jose								
	09	0800PST								
	21	1800PST			0	0	0.00K	0.00K	Dense Smoke	
CAZ512		Santa Cruz Mountains								
	10	0800PST			0	0	0.00K	0.00K	Dense Smoke	
	21									
CAZ530		Southern Monterey Bay and Big Sur Coast								
	11	0800PST 1500PST			0	0	0.00K	0.00K	Dense Smoke	
Wildfire smoke from the Camp Fire in northern California brought widespread unhealthy air quality to the Central Coast and the Bay Area through late November. A persistent upper ridge over the eastern Pacific kept conditions fairly stagnant with light offshore winds ushering in smoke to the area. It was not until an upper trough brought a fresh air mass and precipitation that conditions returned to normal on November 21st. The poor air quality resulted in multiple events across the region being canceled, delays at major airports, and numerous closures of schools as well as places of employment.										
CAZ510		East Bay Interior Valleys								
	14	1310PST 1615PST			0	0	0.00K	0.00K	Dense Smoke	
CAZ513		Santa Clara Valley Including San Jose								
	15	0800PST								
	16	1700PST			0	0	0.00K	0.00K	Dense Smoke	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
CALIFORNIA, Western										
CAZ006-505-508-510										Coastal North Bay Including Point Reyes National Seashore - East Bay Interior Valleys - North Bay Interior Valleys - San Francisco - San Francisco Bay Shoreline
	16	0800PST 1500PST			0	0	0.00K	0.00K	Dense Smoke	
Wildfire smoke from the Camp Fire in northern California brought widespread unhealthy air quality to the Central Coast and the Bay Area through late November. A persistent upper ridge over the eastern Pacific kept conditions fairly stagnant with light offshore winds ushering in smoke to the area. It was not until an upper trough brought a fresh air mass and precipitation that conditions returned to normal on November 21st. The poor air quality resulted in multiple events across the region being canceled, delays at major airports, and numerous closures of schools as well as places of employment.										
Monterey County 2 NNW Gorda	21	1637PST 1737PST			0	0	0.00K	0.00K	Debris Flow	
Active slide being reported just north of Willow Creek Bridge. Hwy 1 will be closed.										
Marin County 1 W Carte Madera	22	0002PST 0032PST			0	0	0.00K	0.00K	Flood	
Roadway flooding at NB 101. Standing water across all lanes.										
Santa Clara County 1 ENE (SJC)San Jose Intl A	22	0310PST 0340PST			0	0	0.00K	0.00K	Flood	
Roadway flooding reported at Junction Ave.										
CAZ507										North Bay Mountains
	22	1729PST 2029PST			0	0	0.00K	0.00K	Strong Wind	
Alameda County 2 W Piedmont	22	1848PST 1918PST			0	0	0.00K	0.00K	Flood	
Roadway flooding reported at 3601 telegraph ave. WB 580 on central off ramp 6 inches of standing water.										
Marin County Ross	22	1925PST 1955PST			0	0	0.00K	0.00K	Flood	
Roadway flooding reported on off ramp of us 101N and central San Rafael.										
Alameda County 1 ENE Alvarado	22	2217PST 2247PST			0	0	0.00K	0.00K	Flood	
Roadway flooding reported at Nb 880 to WB marina off ramp.										
Alameda County 7 NNW Ramon Vlg	22	2220PST 2250PST			0	0	0.00K	0.00K	Flood	
Roadway flooding reported at Nb 680 on sycamore valley off ramp.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
CALIFORNIA, Western										
Marin County 1 W Carte Madera	23	0044PST 0114PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at 53 San Clemente Drive.	
San Francisco County 3 ENE San Francisco	23	0602PST 0632PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at 455 8th Street.	
Alameda County 2 SSE Emeryville	23	0637PST 0707PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at 3601 Telegraph Avenue.	
Santa Clara County 2 WNW Los Gatos 1 ENE Montalvo	23	0800PST 0830PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at Daves Avenue and SR9.	
Sonoma County 1 S Agua Caliente	23	1459PST 1529PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at Sr12 and Mulford street, water flooding east side lane.	
Contra Costa County Walnut Creek	23	1529PST 1601PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at I680 N and Olympic Blvd on ramp, 8-10 inches of water in number 2 lane.	
Alameda County 2 NE Alameda Nas	23	1553PST 1623PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding reported at I880 S and 7th Street on ramp. Two vehicles currently stuck in water with a large amount of water on the on ramp.	
San Mateo County Colma	23	1607PST 1637PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding at I 280N at Exit 47.	
San Francisco County 3 NE Ocean View	23	1609PST 1639PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding at US101 N and Cesar Chavez St west on ramp.	
Santa Clara County 2 SW Wayne	23	1629PST 1659PST			0	0	0.00K	0.00K	Flood	
									Roadway flooding at US101 N and I880 N connector, 3 feet deep in number 3 and number 4 lanes.	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
CALIFORNIA, Western										
Alameda County 1 N Niles	23	2027PST 2057PST			0	0	0.00K	0.00K	Debris Flow	
					Three mud slides blocking NB lanes of Palomares Rd and SR84.					
Alameda County 1 N Fremont	23	2119PST 2149PST			0	0	0.00K	0.00K	Flood	
					Roadway flooding reported at I880 S and Thornton ave off ramp.					
Alameda County 1 ENE Alvarado	23	2139PST 2209PST			0	0	0.00K	0.00K	Flood	
					Roadway flooding reported at 2434 Whipple Road. A couple of storm systems moved through the region just before and on the Thanksgiving Holiday. These systems brought heavy rainfall and gusty winds resulting in minor debris flows and roadway flooding.					
CAZ509		San Francisco Peninsula Coast								
	28	0901PST 0906PST			0	0	0.00K	0.00K	High Surf	
Santa Cruz County 3 ENE Mission Spgs	28	2124PST 2154PST			0	0	0.00K	0.00K	Debris Flow	
					SB 17 at Sugarloaf Rd 6 inches accumulating into number 2 lane.					
CAZ507		North Bay Mountains								
	28	2130PST 2135PST			0	0	0.00K	0.00K	High Wind	
CAZ509		San Francisco Peninsula Coast								
	28	2215PST 2235PST			0	0	0.00K	0.00K	Strong Wind	
San Francisco County 3 ENE San Francisco	28	2219PST 2249PST			0	0	0.00K	0.00K	Flood	
					Water on all lanes.					
San Francisco County 2 WSW Ocean View	28	2224PST 2254PST			0	0	0.00K	0.00K	Flood	
					Two feet of water across the road.					
San Francisco County 2 NE Ocean View	28	2228PST 2258PST			0	0	0.00K	0.00K	Flood	
CAZ505		Coastal North Bay Including Point Reyes National Seashore								
	28	2230PST 2235PST			0	0	0.00K	0.00K	High Wind	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
CALIFORNIA, Western										
CAZ512										
Santa Cruz Mountains										
28 2232PST 29 0132PST										
0 0 0.00K 0.00K Strong Wind										
San Francisco County										
2 NE San Francisco										
28 2250PST 2320PST										
0 0 0.00K 0.00K Flood										
Market and Church St flooded intersection.										
CAZ508										
San Francisco Bay Shoreline										
28 2256PST 2300PST										
0 0 0.00K 0.00K Strong Wind										
CAZ511										
East Bay Hills and the Diablo Range										
28 2345PST 2350PST										
0 0 0.00K 0.00K High Wind										
Alameda County										
2 SSW Emeryville										
29 0000PST										
0 0 0.00K 0.00K Heavy Rain										
Heavy rain causes a section of the roof at a West Oakland warehouse to cave in overnight. Timing of event is uncertain https://sanfrancisco.cbslocal.com/2018/11/29/potent-storm-brings-heavy-rain-pounding-surf-high-winds-and-flooding/ .										
Sonoma County										
1 SE Fetters Hot Spgs										
29 0003PST 0033PST										
0 0 0.00K 0.00K Flood										
CAZ506-507										
North Bay Interior Valleys - North Bay Mountains										
29 0007PST 0136PST										
0 0 10.0K 0.00K Strong Wind										
Santa Clara County										
1 E Burbank										
29 0202PST 0300PST										
0 0 0.00K 0.00K Flood										
The Alameda was closed overnight as heavy rain flooded the railway crossing beneath the Stockton Bridge. A water rescue was called in as a vehicle with one occupant was stranded in knee deep water https://sanfrancisco.cbslocal.com/2018/11/29/potent-storm-brings-heavy-rain-pounding-surf-high-winds-and-flooding/ .										
Napa County										
3 N Woodleaf										
29 0256PST 0326PST										
0 0 0.00K 0.00K Debris Flow										
Rockslide entire sb lane.										
Monterey County										
1 ESE (MRY)Monterey Arpt										
29 0411PST 0441PST										
0 0 0.00K 0.00K Flood										
Flooding at Hwy1 and Hwy 68.										
Monterey County										
(MRY)Monterey Arpt										
29 0500PST 0510PST										
0 0 0.00K 0.00K Hail (0.25)										
BB sized hail reported at the NWS office.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
CALIFORNIA, Western										
San Mateo County 1 ENE Woodside	29	0610PST 0640PST			0	0	0.00K	0.00K	Flood	
SB 280 at Woodside 3-4 lane, major flooding low spot in roadway. DOT unable to drain, placed cones and signs.										
Napa County 1 E West Napa	29	0642PST 0722PST			0	0	0.00K	0.00K	Flood	
Golden Gate Dr in Napa area.										
San Francisco County San Francisco	29	0700PST 0715PST			0	0	0.00K	0.00K	Hail (0.50)	
Dime-sized hail reported on the San Francisco Peninsula https://sanfrancisco.cbslocal.com/2018/11/29/potent-storm-brings-heavy-rain-pounding-surf-high-winds-and-flooding/ .										
CAZ505-508-511-512		Coastal North Bay Including Point Reyes National Seashore - East Bay Hills and the Diablo Range - San Francisco Bay Shoreline - Santa Cruz Mountains								
	29	0700PST 1150PST			0	0	0.00K	0.00K	Strong Wind	
CAZ530		Southern Monterey Bay and Big Sur Coast								
	29	1300PST								
	30	0700PST			0	0	0.00K	0.00K	High Surf	
CAZ512		Santa Cruz Mountains								
	29	1400PST 1405PST			0	0	10.0K	0.00K	Strong Wind	
Alameda County 2 E Sunol	29	1613PST 1643PST			0	0	0.00K	0.00K	Flood	
Flooding on SB I-680 at Koopman Rd.										
CAZ505-530		Coastal North Bay Including Point Reyes National Seashore - Southern Monterey Bay and Big Sur Coast								
	29	2000PST								
	30	2340PST			0	0	0.00K	0.00K	High Surf	
A mid/upper level low moved through the region at the end of November. A cool unstable air mass allowed for the development of scattered thunderstorms across the region that produced lightning and small hail. An associated surface low approached the coast during this time causing high surf and gusty winds. Some locations saw wave heights above 25 feet. This system caused roadway flooding, minor debris flows, and downed trees along with damage from gusty winds.										
COLORADO, Central and Northeast										
COZ031-033-034		South & East Jackson/Larimer/North & Northeast Grand/Northwest Boulder Counties above 9000 Feet - South & Southeast Grand/West Central & Southwest Boulder/Gilpin/Clear Creek/Summit/North & West Park Counties above 9000 Feet - West Jackson & West Grand Counties above 9000 Feet								
	02 03	1700MST			0	0	0.00K	0.00K	Winter Weather	
COZ038-040		Larimer County below 6000 Feet/Northwest Weld County - North Douglas County below 6000 Feet/Denver/West Adams & Arapahoe Counties/east Broomfield County								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
COLORADO, Central and Northeast										
	02	2202MST 2245MST			0	0			High Wind	
A powerful and moist Pacific jet stream brought a period of moderate to heavy snow and blowing snow to the mountains. In the Front Range Mountains, the Joe Wright SNOTEL measured 13 inches of snow, with 12 inches measured at the Loveland Pass SNOTEL. Elsewhere, storm totals ranged from 4 to 7 inches. Above timberline, peak wind gusts ranged from 65 to 75 mph. In the foothills and urban corridor, outflow from a dissipating shower near the foothills of southeast Larimer and eastern Boulder counties pushed an outflow boundary of strong winds across the adjacent plains. Peak wind gusts included: 67 mph, 1 mile northwest of Loveland; 63 mph at the Fort Collins-Loveland Municipal Airport, with 58 mph at Denver International Airport.										
COZ031-034	South & Southeast Grand/West Central & Southwest Boulder/Gilpin/Clear Creek/Summit/North & West Park Counties above 9000 Feet - West Jackson & West Grand Counties above 9000 Feet									
	04 05	1200MST 1100MST			0	0	0.00K	0.00K	Winter Storm	
COZ033	South & East Jackson/Larimer/North & Northeast Grand/Northwest Boulder Counties above 9000 Feet									
	04 05	1200MST 1100MST			0	0	0.00K	0.00K	Winter Weather	
Another period of snow and strong winds occurred in the north central mountains of Colorado. Storm totals included: 16.5 inches, 4 miles southeast of Mount Zirkel; 16 inches at Copper Mountain; 14 inches at A-Basin Ski Area; 12 inches at Breckenridge Summit; 10 inches near Mount Audobon; 9 inches, 7 miles south-southeast of Cameron Pass; 8 miles northwest of Glendevy, Keystone Ski Area and Loveland Pass. In addition to the heavy snow, very strong winds were also observed with gusts ranging from 50 to 65 mph above timberline.										
COZ035-038>041	Boulder & Jefferson Counties below 6000 Feet/West Broomfield County - Elbert/Central & east Douglas Counties above 6000 Feet - Jefferson & West Douglas Counties above 6000 Feet/Gilpin/Clear Creek/Northeast Park Counties below 9000 Feet - Larimer & Boulder Counties between 6000 & 9000 Feet - Larimer County below 6000 Feet/Northwest Weld County - North Douglas County below 6000 Feet/Denver/West Adams & Arapahoe Counties/east Broomfield County									
	11	0000MST			0	0	0.00K	0.00K	Winter Weather	
A storm system brought a period of moderate to heavy upslope snowfall to areas in the Front Range Mountains and Foothills, and urban corridor mainly west of I-25. The foothills of Boulder and Jefferson counties were the recipients of the greatest snowfall. Storm totals included: 14 inches, 4 miles west of Boulder, Genesee and near Tiny Town; 13 inches, 2 miles southwest of Boulder; 12.5 inches, 4 miles northeast of Nederland; 12 inches near Roxborough State Park and Schaffer's Crossing; 11.5 inches near Jamestown; 11 inches near Pinecliffe; 10.3 inches at the National Weather Service in Boulder; 10 inches near Conifer and near Niwot; 9 inches, 4 miles east of Gold Hill; 8.5 inches near Greenland; 8 inches near Monument and Wheat Ridge; 7.5 inches near Louisville; with 5 to 7 inches in Arvada, Castle Rock, Erie, Lafayette, Longmont, Ken Caryl, and Rocky Flats.										
COZ031-033-034	South & East Jackson/Larimer/North & Northeast Grand/Northwest Boulder Counties above 9000 Feet - South & Southeast Grand/West Central & Southwest Boulder/Gilpin/Clear Creek/Summit/North & West Park Counties above 9000 Feet - West Jackson & West Grand Counties above 9000 Feet									
	22 25	1700MST 0100MST			0	0			Winter Storm	
COZ032-035	Grand & Summit Counties below 9000 Feet - Larimer & Boulder Counties between 6000 & 9000 Feet									
	22 25	1700MST 0100MST			0	0	0.00K	0.00K	Winter Weather	
COZ038-040-045-046	Central & east Adams & Arapahoe Counties - Larimer County below 6000 Feet/Northwest Weld County - North & Northeast Elbert County below 6000 Feet/North Lincoln County - North Douglas County below 6000 Feet/Denver/West Adams & Arapahoe Counties/east Broomfield County									
	24	1449MST 2152MST			0	0			High Wind	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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COLORADO, Central and Northeast

Heavy mountain snow developed in the northern mountain over the Thanksgiving weekend, impacting the Interstate 70 corridor the most on the 23rd and 24th. Significant travel impacts occurred due to the adverse conditions and multiple accidents. Both east and westbound lanes at Loveland Pass were closed due to adverse conditions on the 23rd. Several multi-car crashes forced the closure of the I-70 west of the Eisenhower-Johnson Memorial Tunnels on the 24th. Two emergency shelters for motorists were opened in Summit County, where 80 people sought refuge.

Storm totals included: 28 inches at Mount Audobon; 26 inches near Rabbit Ears Pass; 23.5 inches, 9 miles south-southeast of Spicer; 21 inches near Loveland Pass and 6 miles west of Arapahoe Peak; 19.5 inches, 7 miles south-southeast of Cameron Pass and near Climax; 18 inches near Longs Peak; 17 inches, 9 miles east of Glendevy; 15.5 inches near Berthoud Pass and 9 miles south-southeast of Gould; 13 inches near Copper Mountain, Mout Zirkel and Winter Park; with 8 to 12 inches elsewhere.

Strong winds gusts in the high country spilled over across the northeast plains. Peak wind gusts generally ranged from 55 to 65 mph across the foothills and adjacent plains. Thousands of people in the Denver area are without power late in the evening of the 24th as the strong storm delivered powerful winds to the Front Range. According to Xcel Energy, roughly 8,100 customers were without power in Denver and the surrounding metro area. There were 43 outages in all, with most affecting fewer than 500 people. Peak wind reports included: 61 mph at Limon Municipal Airport, 60 mph at Centennial and Denver International Airport; 58 mph near Bennett, Buckley AFB and Natural Fort Rest Area.

COLORADO, East Central

COZ092

Cheyenne County

24	1600MST 1815MST	0	0	0.00K	0.00K	High Wind
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COZ090

Yuma County

25	0115MST 0500MST	0	0	0.00K	0.00K	Blizzard
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COZ091

Kit Carson County

25	1647MST 1654MST	0	0	0.00K	0.00K	High Wind
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Blizzard conditions moved in from the north-northeast after midnight as a band of snow developed over the eastern part of the county and gradually moved south. The highest snowfall amounts were along the east edge of the county.

Before the blizzard conditions moved over Yuma County, Southwest Nebraska, and Northwest Kansas, high wind gusts occurred in Kit Carson and Cheyenne counties due to a strong surface pressure gradient behind a strong cold front. The peak gust was 66 MPH at Firstview as the cold front moved through.

COLORADO, South Central and Southeast

COZ061-072>075-077>088

Canon City Vicinity/Eastern Fremont County - Colorado Springs Vicinity/Southern El Paso County/Rampart Range below 7500 Ft - Northern El Paso County/Monument Ridge/Rampart Range below 7500 Ft - Northern Sangre De Cristo Mountains above 11000 Ft - Northern Sangre De Cristo Mountains between 8500 & 11000 Ft - Pikes Peak above 11000 Ft - Pueblo Vicinity/Pueblo County below 6300 Ft - Southern Sangre De Cristo Mountains above 11000 Ft - Southern Sangre De Cristo Mountains between 7500 & 11000 Ft - Teller County/Rampart Range above 7500 Ft/Pikes Peak between 7500 & 11000 Ft - Trinidad Vicinity/Lower Huerfano River Basin & Western Las Animas County below 7500 Ft - Walsenburg Vicinity/Upper Huerfano River Basin below 7500 Ft - West/Central Fremont County below 8500 Ft - Westcliffe Vicinity/Wet Mountain Valley below 8500 Ft - Western Chaffee County between 9000 & 11000 Ft - Wet Mountains above 10000 Ft - Wet Mountains between 8500 and 10000 Ft

11	0600MST	0	0	0.00K	0.00K	Winter Weather
12	0800MST	0	0	0.00K	0.00K	Winter Weather

A storm system impacting southern Colorado produced snow, heavy at times to the region. Some of the higher reported storm snow totals with this event included six to nine inches of snow near Pueblo West, Pueblo Reservoir, Nathrop, Silver Cliff, Divide, Colorado City, Rosita and Monument. Ten to Twelve inches of snow graced locations near Walsenburg, Palmer Lake, Trinidad, Manitou Springs, Colorado Springs, La Veta Pass, Peyton, Canon City and Black Forest. 13 inches of snow was measured near Maysville. 17 inches of snow was noted near San Isabel, Beulah, Cuchara and Rye. Finally, 18 inches of snow was measured near Wetmore with this winter weather event.

Storm Data and Unusual Weather Phenomena

		Time	Path	Path	Number of	Estimated		November 2018	
Location	Date	Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	Character of Storm

COLORADO, South Central and Southeast

COZ058-060 Eastern Lake County/Western Mosquito Range above 11000 Ft - Eastern Sawatch Mountains above 11000 Ft

23 2000MST
25 0400MST 0 0 0.00K 0.00K Winter Storm

A storm system generated accumulating snow and gusty winds over portions of the western Mosquito Range, eastern Lake county and eastern Sawatch mountains.

COZ074-084>089-093>099

Bent County - Colorado Springs Vicinity/Southern El Paso County/Rampart Range below 7500 Ft - Crowley County - Eastern Kiowa County - Eastern Las Animas County - La Junta Vicinity/Otero County - Lamar Vicinity/Prowers County - Northern El Paso County/Monument Ridge/Rampart Range below 7500 Ft - Pueblo Vicinity/Pueblo County below 6300 Ft - Southern Sangre De Cristo Mountains above 11000 Ft - Southern Sangre De Cristo Mountains between 7500 & 11000 Ft - Springfield Vicinity/Baca County - Trinidad Vicinity/Lower Huerfano River Basin & Western Las Animas County below 7500 Ft - Walsenburg Vicinity/Upper Huerfano River Basin below 7500 Ft - Western Kiowa County

24 0800MST 0 0 0.00K 0.00K High Wind

A storm system produced winds, gusting to 80 mph at times over portions of southern Colorado. Wind gusts between 58 mph and 65 mph were recorded near Walsenburg, Springfield, Hoehne, Sargent, Cheraw, Peterson Air Force Base, Lamar and Fountain. Wind gusts between 66 mph and 70 mph were measured near Weston and the Air Force Academy. Finally, a wind gust that clocked 80 mph was realized near the Pikes Peak summit.

COLORADO, West

COZ001>014-017>
023

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

01 0000MST
30 2359MST 0 0 0.00K 0.00K Drought

November 2018 was a great month for enhancing the snowpack as several disturbances moved across western Colorado and produced significant early season snow accumulations. However, even with all the winter storms that moved into the region, November still ended up being drier than normal for the valleys. Nonetheless, several areas in northwest and west-central Colorado experienced a one category improvement in the drought classification.

COZ004-010

Elkhead and Park Mountains - Gore and Elk Mountains/Central Mountain Valleys

02 1600MST
03 1400MST 0 0 0.00K 0.00K Winter Weather

A quick moving cold front, driven along by a 100 knot winds aloft, produced significant early season snowfall accumulations in some northern and central mountain areas of western Colorado.

04 0700MST
05 1000MST 0 0 0.00K 0.00K Winter Weather

COZ005-010-012-
013

Flattop Mountains - Gore and Elk Mountains/Central Mountain Valleys - Upper Yampa River Basin - West Elk and Sawatch Mountains

04 0700MST
05 1000MST 0 0 0.00K 0.00K Winter Weather

A disturbance embedded in a northwest flow, aided by 120 knot winds aloft, produced significant snowfall accumulations in the northern and central mountains. A snow band sat over the Upper Yampa River Basin the night of November 4th which led to locally heavy snowfall amounts in that area.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
COLORADO, West										
COZ004		Elkhead and Park Mountains								
	17	0800MST 2000MST			0	0	0.00K	0.00K	Winter Weather	
		A trough embedded in a northwest flow dropped into northern Colorado and produced significant snowfall in the Elkhead and Park Mountains.								
	22	0900MST								
	23	1200MST			0	0	0.00K	0.00K	Winter Weather	
COZ009-012-018> 019		Flattop Mountains - Grand and Battlement Mesas - Northwestern San Juan Mountains - Southwestern San Juan Mountains - West Elk and Sawatch Mountains								
	22	0900MST								
	23	1200MST			0	0	0.00K	0.00K	Winter Weather	
		A cold upper level trough and associated cold front dug across the northern Rockies southward into Colorado. This resulted in significant snowfall across the mountains of western Colorado.								
COZ006		Grand Valley								
	23	0400MST 0900MST			0	0	0.00K	0.00K	Dense Fog	
		Lingering moisture trapped in the wake of a departing storm allowed dense fog to form across the Grand Valley in west-central Colorado.								
COZ004-013		Elkhead and Park Mountains - Flattop Mountains								
	23	1200MST								
	25	2300MST			0	0	0.00K	0.00K	Winter Storm	
COZ005		Upper Yampa River Basin								
	23	2200MST								
	25	0000MST			0	0	0.00K	0.00K	Winter Weather	
COZ009-012		Grand and Battlement Mesas - West Elk and Sawatch Mountains								
	24	0000MST 2300MST			0	0	0.00K	0.00K	Winter Weather	
COZ010		Gore and Elk Mountains/Central Mountain Valleys								
	24	0100MST 2100MST			0	0	0.00K	0.00K	Winter Storm	
COZ002-008-014		Central Colorado River Basin - Central Yampa River Basin - Roan and Tavaputs Plateaus - Upper Gunnison River Valley								
	24	0900MST 1800MST			0	0	0.00K	0.00K	Winter Weather	
		A moist and strong west to northwest flow in the wake of a cold upper level trough resulted in significant heavy snow accumulations across the northern and central Colorado mountains, as well as some northern and central valleys in western Colorado.								
COZ014		Upper Gunnison River Valley								
	26	0400MST 0900MST			0	0	0.00K	0.00K	Dense Fog	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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COLORADO, West

High pressure over the area and new snow on the ground resulted in a strong surface-based inversion in the Upper Gunnison River Valley where trapped low level moisture produced areas of dense fog.

COZ004-009

Elkhead and Park Mountains - Grand and Battlement Mesas

28	1000MST									
29	0900MST				0	0	0.00K	0.00K	Winter Weather	

Moisture out ahead of an approaching Pacific trough produced significant snowfall across some northern and central mountain areas of western Colorado.

COZ003-018

Elkhead and Park Mountains - Northwestern San Juan Mountains - Roan and Tavaputs Plateaus

29	1600MST									
30	2359MST				0	0	0.00K	0.00K	Winter Weather	

COZ009-012>013- 017-021>023

Animas River Basin - Flattop Mountains - Four Corners/Upper Dolores River Basin - Gore and Elk Mountains/Central Mountain Valleys - Grand and Battlement Mesas - San Juan River Basin - Uncompahgre Plateau and Dallas Divide - West Elk and Sawatch Mountains

30	0100MST									
	2359MST				0	0	0.00K	0.00K	Winter Weather	

A moist Pacific trough and associated cold front progressed eastward across the Great Basin and into the Four Corners region and produced significant snowfall in the mountains, as well as some southern valleys.

CONNECTICUT, Northeast

CTZ004

Windham

03	1500EST									
	1600EST				0	0	1.0K	0.00K	Strong Wind	

Low pressure over New York City early in the morning on November 3rd rapidly intensified as it moved northeastward across New England. Heavy rain occurred in the early morning hours, with generally 1.50 to 2.50 inches in eastern sections of southern New England and up to 3.66 inches in the slopes of the Berkshires. A few severe thunderstorms moved from Rhode Island into eastern Massachusetts around daybreak. As the strong low passed to our north, strong to damaging westerly winds developed during the afternoon.

CTZ002>004

Hartford - Tolland - Windham

15	1700EST									
16	0100EST				0	0	0.00K	0.00K	Heavy Snow	

An early-season nor'easter moved from the Mid-Atlantic coast to southeastern Massachusetts on the 15th and away from the region on the 16th. A quick thump of heavy snow occurred on the front end of the storm, with most accumulations over with by or shortly after midnight on the 16th. Snowfall amounts averaged 5 to 9 inches across Hartford, Windham, and Tolland Counties in northern CT.

CONNECTICUT, Northwest

CTZ001-013

Northern Litchfield - Southern Litchfield

15	1600EST									
16	1100EST				0	0			Winter Storm	

A strengthening coastal low pressure system moved along the Atlantic shoreline November 15th and 16th, bringing 5 to 10 inches of snow and mixed precipitation to northwestern Connecticut. The snow spread in during the evening rush hour with one to three inches per hour accumulation, snarling traffic and resulting in numerous accidents. The snow tapered off overnight but resumed again during the morning hours of the 16th before ending.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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CONNECTICUT, Southern

CTZ009-010

Southern Fairfield - Southern New Haven

15	1500EST 2000EST	0	0	0.00K	0.00K	Winter Storm
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CTZ011

Southern Middlesex

15	1530EST 2200EST	0	0	0.00K	0.00K	Winter Weather
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CTZ005>008

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

15	1545EST	0	0	0.00K	0.00K	Winter Storm
16	0100EST					

CTZ012

Southern New London

15	1700EST	0	0	0.00K	0.00K	Winter Weather
16	2200EST					

A wave of low pressure developed along the Middle Atlantic coast during Thursday November 15, 2018. The low was associated with a closed upper level trough across the Midwest. As the trough translated eastward into Friday November 16, 2018, the low pressure moved up the northeast coast. The antecedent air mass ahead of the low was cold and dry for the middle of November with temperatures during the morning and afternoon of November in the upper 20s and low 30s. The moisture associated with the trough and low pressure was able to produce moderate to heavy bands of snow as the precipitation began across the entire Tri-State area due to the cold air in place. Once the low drew warmer air from the south, the precipitation gradually changed to a wintry mix and then plain rain, especially for coastal Connecticut. The moderate to heavy wet snowfall impacted the evening rush hour with 1-2 inch per hour snowfall rates. Numerous accidents were reported in Southern Connecticut and many motorists were stranded on roads until the early morning hours the next morning. Many tree limbs and branches being brought down by the weight of the snow, which also caused power outages.

CTZ010-011

Southern Middlesex - Southern New Haven

16	0400EST 0700EST	0	0	0.00K	0.00K	Coastal Flood
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Easterly Gale to Storm force winds resulted in tidal departures of 3-5 ft above astronomical high tides around the times of high tide overnight into early Friday morning.

DELAWARE

DEZ001

New Castle

15	0730EST	0	0	0.00K	0.00K	Winter Weather
16	1500EST					

Early season Winter Storm.

DISTRICT OF COLUMBIA

DCZ001

District of Columbia

10	2200EST	0	0			
11	0900EST					Frost/Freeze

High pressure, clear skies, and light winds led to temperatures that fell below freezing.

15	0500EST 1500EST	0	0			Winter Weather
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Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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DISTRICT OF COLUMBIA

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including snow, sleet, and rain across the District.

District of Columbia

1 SW Walter Reed

24	1844EST									
25	0116EST				0	0	0.00K	0.00K	Flood	

The stream gage on the Rock Creek in DC exceeded the 7 foot flood stage during the indicated period. Water reached several portions of the Valley Trail between Picnic Areas 7 and 10 in Rock Creek Park. The peak level of 7.37 feet occurred at 11:00 PM on the 24th.

A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.

26	2109EST									
	2239EST				0	0			Coastal Flood	

Southerly onshore flow ahead of a strong low pressure system led to increased tidal anomalies and moderate coastal flooding across portions of the upper tidal Potomac.

FLORIDA, East Central

Lake County

3 SE Howey In The Hills

02	1539EST				0	0	0.00K	0.00K	Thunderstorm Wind (50EG)	
					Local broadcast media relayed reports of several trees down on power lines on Buckhill Road, just north of Minneola.					

A strong cold front was moving across the Florida peninsula as a strong mid to upper level trough pushed across the southeast United States. Ahead of the front, a fast moving pre-frontal band of showers and thunderstorms became well organized over the eastern Gulf of Mexico before pushing onshore near the Tampa Bay area. Daytime heating and sufficient deep layer moisture meant high instability was present over the peninsula to sustain strong to severe thunderstorms. As one cluster of thunderstorms moved into Lake County, it became severe and produced wind damage near Minneola. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

FLORIDA, Extreme Southern

Monroe County

1 ENE Ramrod Key

02	2111EST				0	0	7.50K	0.00K	Lightning	
					Lightning struck a residence along Barbados Lane on Ramrod Key, resulting in roof and electrical system damage. A neighboring residence also experienced electrical system damage. Report relayed by social media.					

An isolated thunderstorm near the lower Florida Keys produced a damaging lightning strike to a residence on Ramrod Key.

FLORIDA, Northeastern

St. Johns County

2 N Dupont Centre

02	1558EST				0	0	0.00K	0.00K	Thunderstorm Wind (50EG)	
					Trees and power lines were blown down along Datil Pepper Road. The time of damage was based on radar.					

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Flagler County

2 SSE Flagler Beach

02	1630EST				0	0	0.50K	0.00K	Thunderstorm Wind (39EG)	
					Trees and power lines were blown down along Oceanside Blvd in Flagler Beach. The time of damage was based on radar. Numerous spotter and mesonet networks measured wind gusts between 40-45 mph when the storm passed over Flagler Beach. The cost of damage was unknown, but it was estimated for Storm Data.					

A pre-frontal squall line of strong to isolated severe storms moved across NE FL during the afternoon. Strong speed shear and surface based instability produced damaging winds in the strongest storms. Note: The estimated wind gust of 39 knots is equivalent to 45 mph.

Storm Data and Unusual Weather Phenomena

		Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		November 2018
Location	Date				Killed	Injured	Property	Crops	Character of Storm

FLORIDA, Northeastern

FLZ124-133 **Coastal Duval - Coastal Nassau - Coastal St. Johns**

23	0842EST		0	0	0.00K	0.00K	Coastal Flood
	1005EST						

FLZ138 **Coastal Flagler**
24 1340EST 0 0 0.00K 0.00K Coastal Flood
A tight pressure gradient between low pressure east of the region and high pressure north of the area created strong onshore flow. The persistent onshore flow combined with high astronomical tides created moderate tidal flooding around high tide.

St. Johns County
2 NNW Summer Haven 26 1305EST 0 0 0.00K 0.00K Hail (0.88)
Nickel to pea size hail was reported in Crescent Beach.
Pre-frontal storms developed across NE FL ahead with surface based CAPE near 1000 J/kg and bulk 0-6 km shear around 45 kts with elevated steep lapse rates.

FLORIDA, Northwest

Wakulla County
Wakulla Springs 01 1540EST 0 0 2.00K 0.00K Thunderstorm Wind (50EG)
Fallen trees or limbs resulted in a power outage to 225 customers in the Wakulla Springs area as reported by Duke Energy.

Jefferson County
4 NNE Lloyd 01 1613EST 0 0 0.00K 0.00K Funnel Cloud
A funnel cloud was reported along the Leon-Jefferson county line north of Lloyd and south of Concord.

Jefferson County
Monticello 01 1640EST 0 0 0.00K 0.00K Thunderstorm Wind (50EG)
A viewer sent in pictures of a couple of trees down in the Monticello area.

Jackson County
1 S Graceville 25 2045CST 0 0 0.00K 0.00K Hail (1.00)
A picture of hail around quarter size was posted on social media from near Graceville.

FLORIDA, West Central

Pinellas County
1 WSW (PIE)St Pete/clrwate 02 1405EST 0 0 10.00K 0.00K Thunderstorm Wind (55EG)
Numerous downed trees reported at the corner of 49th Street and Ulmerton Road.

Pinellas County
1 NE Oakhurst 02 1415EST 0 0 20.00K 0.00K Thunderstorm Wind (55EG)
Local amateur radio operators reported widespread downed trees along Park Blvd. between Seminole and Pinellas Park.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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FLORIDA, West Panhandle

Okaloosa County

5 SSE Crestview

05 1815CST
 1816CST 0.01 10 0 0

0.00K Tornado (EF0)

A food services building and perimeter fence were damaged at the Okaloosa Correctional Facility. Based on an analysis of radar data and pictures from emergency management, the damage was the likely result of a very brief EF-0 touchdown.

Strong to severe thunderstorms developed ahead of a strong cold front. These thunderstorms produced high winds and an isolated tornado which caused damage.

Santa Rosa County

1 N Woodlawn Beach

12 1133CST
 1134CST 0.3 80 0 0

20.00K 0.00K Tornado (EF0)

A short-lived EF-0 tornado touched down in wooded area southwest of the intersection of Gulf Breeze Parkway and Woodland Beach Road. This tornado then moved northeast at around 30 mph, and passed just west of the intersection before lifting north-northeast of the intersection. There was a small area of tree damage in the wooded area where several trees were leaning and a couple uprooted. Two vehicles near the intersection suffered damage with a window shattered in each vehicle from flying debris. Several signs near the intersection were bent or knocked to the ground. Some straight line wind damage also occurred in the area, most notable 1.3 miles east of the tornado track where playground equipment was thrown and destroyed by 70 mph winds.

An area of low pressure moving across the northern Gulf along with a northward moving warm front combined to generate thunderstorms across the area. A few of the storms became severe and produced wind damage along with a weak tornado.

GEORGIA, North and Central

Walker County

Hedges
2 ENE Catlett

06 0420EST
 0455EST 0 0 4.00K

Thunderstorm Wind (50EG)

The Walker County 911 center reported trees blown down across the central county from around the intersection of Highways 193 and 341 to around the 300 block of Highway 151.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Murray County

2 S Chatsworth
2 S Fort Mountain

06 0515EST
 0525EST 0 0 5.00K

Thunderstorm Wind (50EG)

The Murray County Emergency Manager reported trees and power lines blown down in south Chatsworth from around the intersection of Highway 411 and Leonard Bridge Road to around the intersection of Red Road and Railroad Road.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Fannin County

Kingtown
2 N Greens Mill

06 0535EST
 0605EST 0 0 6.00K

Thunderstorm Wind (50EG)

The Fannin County Emergency Manager reported trees blown down across the county from around the intersection of McCay Street and Old Epworth Road in McCaysville to around Old Highway 76, Dry Branch Road, Aska Road and Snake Nation Road east of Blue Ridge.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Gilmer County

1 W New Hope

06 0545EST
 0555EST 0 0 5.00K

Thunderstorm Wind (50EG)

The Gilmer County Emergency Manager reported several trees blown down in the Robert's Ridge area northwest of Ellijay.

A line of thunderstorms ahead of a strong cold front produced Isolated reports of damaging thunderstorm winds across northwest Georgia during the early morning hours. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Harris County

1 NE Hog Gap
2 WNW Shiloh

07 1613EST
 1635EST 0 0 7.00K

Thunderstorm Wind (50EG)

The Harris County 911 center reported several trees blown down across the northeast portion of the county from around Calloway Gardens to the F.D. Roosevelt State Park.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
GEORGIA, North and Central										
Upson County 1 NNW Smith Academy	07	1650EST 1655EST			0	0	1.00K		Thunderstorm Wind (45EG)	
The Upson County 911 center reported a tree blown down on East Main Street near downtown Thomaston.										
										Note: The estimated wind gust of 45 knots is equivalent to 52 mph.
Monroe County 1 WSW Culloden 1 NW Popes Ferry	07	1710EST 1740EST			0	0	10.00K		Thunderstorm Wind (50EG)	
The Monroe County Emergency Manager reported numerous trees and power lines blown down across the county from Culloden to east of Bolingbroke.										
										Note: The estimated wind gust of 50 knots is equivalent to 58 mph.
Crawford County 3 WNW Roberta	07	1715EST 1725EST			0	0	5.00K		Thunderstorm Wind (45EG)	
The Crawford County transportation department reported a tree blown down across Highway 22 near Dixon Road.										
										Note: The estimated wind gust of 45 knots is equivalent to 52 mph.
Bibb County 4 WSW Skipperton Dry Branch	07	1735EST 1745EST	7.59	200	0	0	15.00K		Tornado (EF0)	
A National Weather Service survey determined that an EF0 tornado with maximum wind speeds of 80 mph and a maximum path width of 200 yards occurred across southern Bibb County, south of Macon. The tornado touched down around intersection of Sardis Church Road and Hartley Bridge Road where several large trees were snapped, one striking a house. The tornado moved east-northeast snapping and uprooting trees across Barfield Road and I-75. East of I-75, a church along Skipperton Road had a portion of its metal roof blown off and tossed more than 100 yards downwind. At this same location, a covered walkway anchored in the ground with concrete footings was pulled from the ground. The tornado continued east-northeast across the Skipperton community with trees blown down along Hartley Bridge Road and Houston Road, eventually lifting east of Highway 129, Hawkinsville Road. [11/07/18: Tornado #1, County #1/1, EF-0, Bibb, 2018:015].										
Twiggs County 1 ESE Huber 3 S Myricks Mill	07	1755EST 1815EST			0	0	7.00K		Thunderstorm Wind (50EG)	
The Twiggs County Emergency Manager reported several trees blown down from Huber to near Myricks Mill.										
										Note: The estimated wind gust of 50 knots is equivalent to 58 mph.
Wilkinson County 3 S Ivey	07	1815EST 1825EST			0	0	1.00K		Thunderstorm Wind (45EG)	
The Wilkinson County Emergency Manager reported a tree blown down on Gordon McIntyre Road.										
										Note: The estimated wind gust of 45 knots is equivalent to 52 mph.
Baldwin County 2 W Sinclair Lake	07	1820EST 1825EST			0	0	10.00K		Thunderstorm Wind (45EG)	
The Baldwin County Emergency Manager reported a tree blown down on Admiralty Way. The tree struck and damaged 2 cars, no injuries were reported.										
										Note: The estimated wind gust of 45 knots is equivalent to 52 mph.
Johnson County 8 NW Spann	07	1845EST 1855EST			0	0	2.00K		Thunderstorm Wind (50EG)	
The Johnson County Emergency Manager reported trees blown down along Calvary Church Road.										

Storm Data and Unusual Weather Phenomena

	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		November 2018
Location					Killed	Injured	Property	Crops	Character of Storm

GEORGIA, North and Central

Thunderstorms along a slowly moving cold front produced isolated reports of damaging thunderstorm winds across central Georgia during the late afternoon and early evening. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Paulding County
2 WNW Union 12 1613EST
2045EST 0 0 0.00K 0.00K Flash Flood

Emergency Manager reported closed roads due to flooding, largely from small creeks overflowing their banks. These closed roads included, but were not limited to, Bell Road and Hogue Road along McClendon Creek, and Baskin Road. Radar estimates indicate 3 to 4 inches of rain occurred over this area, with locally higher amounts possible.

Forsyth County
1 W Cumming Mathis Arpt 12 1700EST
2315EST 0 0 0.00K 0.00K Flash Flood

The Emergency Manager reported several roads closed due to water over the roadway, including near the intersection of Caney Road and Christopher Robin Road, as well as Vaughan Drive and Brookwood Road. Radar estimates indicate that 3 to 4 inches of rainfall occurred in this area. Associated runoff from these high rainfall amounts allowed nearby creeks and streams to overflow their banks, including Caney Creek, and overwhelm drainage systems, impacting the roadways.

Forsyth County
3 NE Coal Mtn 12 1700EST
2300EST 0 0 0.00K 0.00K Flash Flood

The Emergency Manager reported water over the road near the intersection of Settingdown Road and Hampton Park Drive. Radar estimates indicate that 3 to 4 inches of rainfall occurred over the area, resulting in a rise on Settingdown Creek. These amounts were enough to force the creek out of its banks and over the roadway.

Paulding County 3 S Bud 12 1700EST
2 SW Nebo 2030EST 0 0 0.00K 0.00K Flash Flood

Emergency Manager reported multiple roads closed across the county, largely due to small creeks overrunning their banks. These roads included but were not limited to Mulberry Road Road and Bob Hunton Road. Radar estimates indicate that 3 to 4 inches of rain, with locally higher amounts, occurred during this time.

Paulding County
2 W Pumpkin 12 1700EST
2030EST 0 0 0.00K 0.00K Flash Flood

Emergency Manager reported multiple roads closed across the county, largely due to small creeks overrunning their banks. These roads included but were not limited to McPherson Church Road, near McPherson Loop, Mount Moriah Road at Highway 61, Benson Creek Road, and the intersection of Spring Road and Wayside Lane. Radar estimates indicate that 3 to 4 inches of rain, with locally higher amounts, occurred during this time.

Cobb County
3 NNW Due West 12 1710EST
3 W Kennesaw 2230EST 0 0 0.00K 0.00K Flash Flood

Multiple roads were reported to have water over them, including Jim Owens Road near Acworth Due West Road, Old Stilesboro Road, and County Line Road. Radar estimates indicate 3 to 4 inches of rain fell over the area in a short period of time, and the excessive runoff produced quick rises of creeks and streams, likely contributing to the road conditions.

Cobb County
2 W Mt Bethel 12 1710EST
2220EST 0 0 0.00K 0.00K Fl 1 Fl 1

Flooding of a soccer field and surrounding areas was reported on Robinson Road near Fullers Park due to Sewell Mill Creek rising out of its banks. Radar estimates indicate that 3 to 4 inches of rainfall occurred over the area in a short period of time.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
GEORGIA, North and Central										
Paulding County 2 NNW Remus	12	1710EST 2230EST			0	0	0.00K	0.00K	Flash Flood	
										Raccoon Creek Road was closed due to flooding. Radar estimates indicate that 3 to 4 inches of rainfall occurred over the area, and the associated runoff caused Raccoon Creek to rise out of its banks and over the roadway.
Bartow County 4 SW Adairsville 4 WNW Halls	12	1852EST 2100EST			0	0	0.00K	0.00K	Flash Flood	
										Public reported that Dry Creek had risen out of its banks and over the roadway near the intersection of Wayside Road and Doris Road.
Banks County Hollingsworth	12	1902EST 2200EST			0	0	0.00K	0.00K	Flash Flood	
										Emergency Manager reported Moss Mill Road near Highway 441 and Old Highway 441 was inundated with water due to Little Nails Creek overflowing its banks. Radar estimates indicate that 2.5 to 3 inches of rainfall occurred over the area.
Cobb County 2 ESE Noonday	12	2030EST 2230EST			0	0	0.00K	0.00K	Flash Flood	
										A member of the public reported that water was flowing over Kemp Road Northeast, blocking access to a neighborhood pool and clubhouse. Radar estimates indicate that the area received 3 to 4 inches of rain in a short period of time, and the small creek downstream from North Landing Lake rose out of its banks and flowed over the roadway. WATER WAS REPORTED OVER THE ROADWAY ON THE ROAD LEADING TO THE POOL AND CLUBHOUSE OFF OF KEMP ROAD.
										A series of weak surface low systems traversed the area, producing periods of heavy rain over north Georgia late on November 11th through November 12th. Rainfall amounts of 2 to 5 inches occurred, combining with the already saturated soils to produce isolated flash flooding in portions of the north Atlanta metropolitan area.
Taliaferro County 2 NW Hillman	15	0500EST 0900EST			0	0	0.00K	0.00K	Flash Flood	
										Emergency Manager reported Silas Mercer Road was damaged due to flowing water from flash flooding. Radar estimates indicate that 3 to 4 inches, and possibly locally higher amounts, were observed in this area.
Wilkinson County 1 NW Toomsboro	15	0500EST 0900EST			0	0	0.00K	0.00K	Flash Flood	
										Emergency Manager reported water over C.T. Lord Highway, between Day Road and Highway 112. Radar estimates indicate that 4 to 5 inches of rainfall occurred over the area. An upper level low pressure system, combined with a series of weak disturbances, provided several waves of precipitation the week of November 11th, producing periods of heavy rain over north and central Georgia. Overnight November 14th into November 15th was particularly wet over east central Georgia as a band of heavy rainfall set up over the area, dumping 4 to 5 inches of rain along a line from Rochelle, northeast to Irwinton, to Washington. These rainfall amounts combined with the already saturated soils to produce isolated flash flooding.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
GEORGIA, Northeast										
Habersham County										
Clarkesville	12	2100EST								
	13	0100EST			0	0	0.50K	0.00K	Flood	
A gauge on the Soquee River in Clarkesville exceeded its established flood stage after 3 to 3.5 inches fell throughout the basin in about a 12-hour period. The main impact was flooding of Pitts Park.										
Widespread moderate to heavy rain developed across northeast Georgia in association with a wave of low pressure moving along the Southeast coast. Widespread rainfall amounts of three or more inches occurred in about a 12-hour period, which was sufficient to produce some localized flooding.										
GEORGIA, Southeast										
GAZ119-141	Coastal Chatham - Coastal McIntosh									
	23	0724EST								
		1000EST			0	0		0.00K	Coastal Flood	
Astronomical effects including a full moon and upcoming lunar perigee combined to produce an elevated morning high tide. The level of the high tide was driven even higher by the presence of strong northeasterly winds along the coast due to strong surface high pressure centered between the Mid Atlantic states and New England. The high tide resulted in coastal flooding along the southeast Georgia coast including Savannah and Tybee Island.										
	24	0830EST								
		1015EST			0	0		0.00K	Coastal Flood	
	24	0842EST								
		0906EST			0	0		0.00K	Coastal Flood	
GAZ141	Coastal McIntosh									
	24	0900EST								
		1030EST			0	0		0.00K	Coastal Flood	
Astronomical effects including a full moon and upcoming lunar perigee combined to produce an elevated morning high tide. The level of the high tide was driven even higher by the presence of a passing area of low pressure around the time of high tide. The high tide resulted in coastal flooding along the southeast Georgia coast including Savannah and Tybee Island.										
GEORGIA, Southwest										
Dougherty County										
1 W East Albany	07	2028EST								
	08	0000EST			0	0	0.00K	0.00K	Flood	
Flooding was reported on Oglethorpe Blvd with water across multiple lanes.										
Randolph County										
Cuthbert	09	1709EST								
	10	0000EST			0	0	0.00K	0.00K	Flood	
Water was reported over the road near the area of 123 N Webster Street.										
Persistent moderate to heavy rainfall resulted in isolated flooding across portions of southwest Georgia.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
HAWAII										
Hawaii County 1 WNW Hawi 4 NNW Kalapana	03	0050HST 0343HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County 1 NW Kamuela	03	1618HST 2010HST			0	2	0.00K	0.00K	Flash Flood	
Civil Defense on the Big Island of Hawaii reported 13 hikers needed rescue after being stranded by flash flooding at Anna's Pond near Waimea. Also, at 1711 HST, police reported flooding on Kohala Mountain Road.										
Hawaii County 2 SSE Hawi 1 SSW Hawaiian Paradise Pk	03	2013HST 2319HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County 1 ENE Pupukea 2 ESE Waikane	04	0503HST 0730HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County 4 N Kailua Kona	06	1900HST 2043HST			0	0	0.00K	0.00K	Flash Flood	
Hawaii County Civil Defense reported a road closure near the intersection of Mamalahoa Highway and Palani Road due to flooding. A low aloft northeast of the Island of Hawaii generated heavy rainfall, thunderstorms, and flash flooding over the isle and, to a lesser extent, Oahu. No serious injuries were reported, though two hikers stranded by flash flooding on the Big Island suffered minor bumps and bruises. The costs of any damages were not available.										
Honolulu County 1 WSW Waialua 1 SE Kahaluu	08	1637HST 1903HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County 2 WSW Hakalau 7 ESE Volcano	08	1829HST 2008HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County 2 ESE Waikane	08 09	2232HST 0030HST			0	0	0.00K	0.00K	Flash Flood	
Kamehameha Highway was closed between Waikane and Waiahole on Oahu due to heavy rain and elevated streams. A front moving from the northwest generated downpours as it advanced across the islands. It mainly affected Oahu where flash flooding occurred. However, there were no reports of serious injuries or property damage.										
HIZ001>003-006> 009-012>013-017- 019>020		Kauai Leeward - Kauai Windward - Maui Central Valley - Maui Windward West - Molokai Leeward - Molokai Windward - Niihau - Oahu Koolau - Oahu North Shore - Olomana - Waianae Coast - Windward Haleakala								
	09 11	0600HST 1200HST			0	0	0.00K	0.00K	High Surf	
A swell from a gale low north of the islands produced surf of 10 to 18 feet along the north-and west-facing shores of Niihau, Kauai, and Oahu; and along the north-facing shores of Molokai and Maui. There were no reports of significant property damage or injuries.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
HAWAII										
Honolulu County										
2 E Waikane	09	0846HST 1002HST			0	0	0.00K	0.00K	Flash Flood	
Kamehameha Highway was closed due to flooding at Waikane Stream on Oahu.										
Honolulu County										
2 SSE Kahuku Ahuimanu	09	1822HST 2052HST			0	0	0.00K	0.00K	Heavy Rain	
Kauai County										
2 SE Kilauea 1 E Pokii	09	1831HST 1910HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County										
1 NW Kailua	10	0027HST 0200HST			0	0	0.00K	0.00K	Flash Flood	
Flash flooding from heavy rain closed Kapaa Quarry Road and Mokapu Boulevard in windward Oahu. Also, at 0047 HST on the 10th, Kamehameha Highway was closed at the Waikane Stream.										
Kauai County										
1 S Princeville	10	0301HST			0	0	0.00K	0.00K	Flash Flood	
Kuhio Highway was closed near the Hanalei Bridge due to flooding in northern Kauai.										
Maui County										
2 ESE Palaau State Park 2 NE Wailau-Molokai	10	0636HST 0930HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County										
1 ESE Waikane Hawaii Kai	10	0701HST 0838HST			0	0	0.00K	0.00K	Heavy Rain	
Maui County										
1 SSE Honokahua 2 ESE Makawao	10	0810HST 1853HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County										
2 WNW Hawi 5 WNW Akaka Falls St Park	10	1609HST 1852HST			0	0	0.00K	0.00K	Heavy Rain	
A front moving from the northwest generated downpours as it advanced across the islands. It mainly affected Oahu where flash flooding occurred. However, there were no reports of serious injuries or property damage.										
HIZ001>003-006> 008-012>013-017- 019>020										
Kauai Leeward - Kauai Windward - Maui Central Valley - Maui Windward West - Molokai Leeward - Molokai Windward - Niihau - Oahu Koolau - Oahu North Shore - Waianae Coast - Windward Haleakala										
	15	2200HST								
	17	1400HST			0	0	0.00K	0.00K	High Surf	
A swell from the northwest generated surf of 10 to 20 feet along the north- and west-facing shores of Niihau and Kauai; along the north-facing shores of Oahu, Molokai, and Maui; and 8 to 12 feet along the west-facing shores of Oahu. There were no reports of serious injuries or property damage.										
	25	0200HST								
	28	1600HST			0	0	0.00K	0.00K	High Surf	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
HAWAII										
HIZ002-006>008-012>013-017-019>020-023-025>026 Big Island North and East - Kauai Leeward - Kauai Windward - Kohala - Kona - Maui Central Valley - Maui Windward West - Molokai Leeward - Molokai Windward - Oahu Koolau - Oahu North Shore - Waianae Coast - Windward Haleakala										
	25	0200HST								
	28	1600HST			0	0	0.00K	0.00K	High Surf	
A swell from a powerful low northwest of the islands caused surf of 20 to 40 feet along the north- and west-facing shores of Niihau and Kauai; the north-facing shores of Oahu, Molokai, and Maui; 15 to 25 feet along the west-facing shores of Oahu and Molokai; and 10 to 20 feet along the north-facing shores, and 6 to 10 feet along the west-facing shores, of the Big Island. The surf damaged many exposed areas with erosion and spilled over coastal roadways, and lifeguards were busy with rescues (102 alone on Oahu on 11/25), and dispensing cautions and advice to beach-goers and surfers (more than 2600 preventative warnings on Oahu on 11/25). The costs of damages were not available. No serious injuries were reported.										
Hawaii County 1 WNW Hawi	03	0050HST								
4 NNW Kalapana		0343HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County 1 NW Kamuela	03	1618HST								
		2010HST			0	2	0.00K	0.00K	Flash Flood	
Civil Defense on the Big Island of Hawaii reported 13 hikers needed rescue after being stranded by flash flooding at Anna's Pond near Waimea. Also, at 1711 HST, police reported flooding on Kohala Mountain Road.										
Hawaii County 2 SSE Hawi	03	2013HST								
1 SSW Hawaiian Paradise Pk		2319HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County 1 ENE Pupukea	04	0503HST								
2 ESE Waikane		0730HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County 4 N Kailua Kona	06	1900HST								
		2043HST			0	0	0.00K	0.00K	Flash Flood	
Hawaii County Civil Defense reported a road closure near the intersection of Mamalahoa Highway and Palani Road due to flooding.										
A low aloft northeast of the Island of Hawaii generated heavy rainfall, thunderstorms, and flash flooding over the isle and, to a lesser extent, Oahu. No serious injuries were reported, though two hikers stranded by flash flooding on the Big Island suffered minor bumps and bruises. The costs of any damages were not available.										
Honolulu County 1 WSW Waialua	08	1637HST								
1 SE Kahaluu		1903HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County 2 WSW Hakalau	08	1829HST								
7 ESE Volcano		2008HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County 2 ESE Waikane	08	2232HST								
	09	0030HST			0	0	0.00K	0.00K	Flash Flood	
Kamehameha Highway was closed between Waikane and Waiahole on Oahu due to heavy rain and elevated streams.										
A front moving from the northwest generated downpours as it advanced across the islands. It mainly affected Oahu where flash flooding occurred. However, there were no reports of serious injuries or property damage.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
HAWAII										
HIZ001>003-006> 008-012>013-017- 019>020										
Kauai Leeward - Kauai Windward - Maui Central Valley - Maui Windward West - Molokai Leeward - Molokai Windward - Niihau - Oahu Koolau - Oahu North Shore - Olomana - Waianae Coast - Windward Haleakala										
	09	0600HST								
	11	1200HST			0	0	0.00K	0.00K	High Surf	
A swell from a gale low north of the islands produced surf of 10 to 18 feet along the north-and west-facing shores of Niihau, Kauai, and Oahu; and along the north-facing shores of Molokai and Maui. There were no reports of significant property damage or injuries.										
Honolulu County										
2 E Waikane	09	0846HST								
		1002HST			0	0	0.00K	0.00K	Flash Flood	
Kamehameha Highway was closed due to flooding at Waikane Stream on Oahu.										
Honolulu County										
2 SSE Kahuku Ahuimanu	09	1822HST								
		2052HST			0	0	0.00K	0.00K	Heavy Rain	
Kauai County										
2 SE Kilaeua 1 E Pokii	09	1831HST								
		1910HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County										
1 NW Kailua	10	0027HST								
		0200HST			0	0	0.00K	0.00K	Flash Flood	
Flash flooding from heavy rain closed Kapaa Quarry Road and Mokapu Boulevard in windward Oahu. Also, at 0047 HST on the 10th, Kamehameha Highway was closed at the Waikane Stream.										
Kauai County										
1 S Princeville	10	0301HST			0	0	0.00K	0.00K	Flash Flood	
Kuhio Highway was closed near the Hanalei Bridge due to flooding in northern Kauai.										
Maui County										
2 ESE Palaau State Park	10	0636HST								
2 NE Wailau-Molokai		0930HST			0	0	0.00K	0.00K	Heavy Rain	
Honolulu County										
1 ESE Waikane Hawaii Kai	10	0701HST								
		0838HST			0	0	0.00K	0.00K	Heavy Rain	
Maui County										
1 SSE Honokahua 2 ESE Makawao	10	0810HST								
		1853HST			0	0	0.00K	0.00K	Heavy Rain	
Hawaii County										
2 WNW Hawi 5 WNW Akaka Falls St Park	10	1609HST								
		1852HST			0	0	0.00K	0.00K	Heavy Rain	
A front moving from the northwest generated downpours as it advanced across the islands. It mainly affected Oahu where flash flooding occurred. However, there were no reports of serious injuries or property damage.										
HIZ001>003-006> 008-012>013-017- 019>020										
Kauai Leeward - Kauai Windward - Maui Central Valley - Maui Windward West - Molokai Leeward - Molokai Windward - Niihau - Oahu Koolau - Oahu North Shore - Waianae Coast - Windward Haleakala										
	15	2200HST								
	17	1400HST			0	0	0.00K	0.00K	High Surf	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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HAWAII

A swell from the northwest generated surf of 10 to 20 feet along the north- and west-facing shores of Niihau and Kauai; along the north-facing shores of Oahu, Molokai, and Maui; and 8 to 12 feet along the west-facing shores of Oahu. There were no reports of serious injuries or property damage.

25	0200HST								
28	1600HST				0	0	0.00K	0.00K	High Surf

**HIZ002-006>008-
012>013-017-019>
020-023-025>026**

**Big Island North and East - Kauai Leeward - Kauai Windward - Kohala - Kona - Maui Central Valley -
Maui Windward West - Molokai Leeward - Molokai Windward - Oahu Koolau - Oahu North Shore -
Waianae Coast - Windward Haleakala**

25	0200HST								
28	1600HST				0	0	0.00K	0.00K	High Surf

A swell from a powerful low northwest of the islands caused surf of 20 to 40 feet along the north- and west-facing shores of Niihau and Kauai; the north-facing shores of Oahu, Molokai, and Maui; 15 to 25 feet along the west-facing shores of Oahu and Molokai; and 10 to 20 feet along the north-facing shores, and 6 to 10 feet along the west-facing shores, of the Big Island. The surf damaged many exposed areas with erosion and spilled over coastal roadways, and lifeguards were busy with rescues (102 alone on Oahu on 11/25), and dispensing cautions and advice to beach-goers and surfers (more than 2600 preventative warnings on Oahu on 11/25). The costs of damages were not available. No serious injuries were reported.

IDAHO, North

IDZ005-006

Northern Clearwater Mountains - Southern Clearwater Mountains

23	2000PST								
24	1000PST				0	0	0.00K	0.00K	Winter Storm

Widespread snow fell across North-central Idaho into western Montana, impacting both valleys and mountain passes.

IDAHO, Northwest

IDZ004

Central Panhandle Mountains

23	0500PST								
24					0	0	0.00K	0.00K	Heavy Snow

During the day of November 23rd and into the morning of the 24th a strong and moist upper level trough brought a period of accumulating snow to the central Idaho Panhandle. A combination of strong forcing associated with a passing surface low pressure and moist orographic flow into the mountains produced heavy snow in the mountains and 2 to 4 inches of snow over the rising terrain of the Idaho and Washington Palouse.

IDAHO, Southeast

IDZ053

Upper Snake River Plain

01	1500MST								
	1700MST				0	0	0.00K	0.00K	Dust Storm

A strong cold front moved through eastern Idaho with strong winds behind it. Interstate 15 was closed due to blowing dust from 2 pm to 4 pm between exits 118 and 150. Wind gusts of 50 to 60 mph were widespread.

IDZ067

Beaverhead-Lemhi Highlands

07	0700MST								
	1400MST				0	0	0.00K	0.00K	Winter Weather

Light snow produced snow and slush covered roads and was declared a contributing factor to a motor home rollover resulting in the death of a 78 year old man at 1:53 pm MST near milepost 178 south of Spencer on southbound interstate 15. Idaho state police determined in their investigation that driving too fast for road conditions (slush on road) was a factor for the high profile vehicle.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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IDAHO, Southeast

**IDZ056-058-060-
066-072>074**

Bear River Range - Big Lost Highlands-Copper Basin - Centennial Mountains-Island Park - Marsh And Arbon Highlands - Sawtooth-Stanley Basin - Southern Hills-Albion Mountains - Sun Valley Region

22	2000MST								
24	1200MST				0	0	0.00K	0.00K	Heavy Snow

A strong Pacific storm brought heavy mountain snow to central and eastern Idaho with many locations recording over 10 inches from Thursday night through Saturday morning.

IDZ054

Lower Snake River Plain

30	1600MST								
	2359MST				0	0	0.00K	0.00K	Heavy Snow

A localized heavy snowfall affected the Pocatello region on the last day of November and just into the early hours of December 1st . The heaviest snow fell just north of Pocatello in Chubbuck where 6 to 7 inches fell. 3 to 5 inches fell in Pocatello.

ILLINOIS, Central

ILZ047-049-050

Cass - Morgan - Scott

15	0000CST								
	1030CST				0	0	0.00K	0.00K	Heavy Snow

A slow-moving upper disturbance brought a period of snow to central Illinois from the evening of November 14th into the morning of November 15th. While most locations east of the Illinois River and north of I-70 picked up 2 to 3 inches of snow, a persistent band produced as much as 6 to 7 inches across Scott, Morgan, and Cass counties. The 6 inches of snow measured in Jacksonville was the earliest recorded snowfall of 6 or more inches in that city since 1900.

ILZ027>029-036-040

Fulton - Knox - Peoria - Schuyler - Stark

25	1415CST								
26	0530CST				0	0	0.00K	0.00K	Blizzard

A deepening area of low pressure tracked from southeast Kansas during the early morning of November 25th to northwest Ohio by the morning of November 26th. Precipitation began as rain across central Illinois, but changed to snow west of the Illinois River by mid to late afternoon of the 25th. Moderate to heavy snow occurred through the evening, accompanied by thunder at times. Once the low passed to the northeast, the snow gradually diminished by the early morning of November 26th. Total snowfall ranged from 8 to 14 inches, with the maximum measured amount within the National Weather Service Lincoln County Warning Area (CWA) being 13.4 inches just east of Rio in northwest Knox County. Strong northwesterly winds gusting 45-55mph on the back side of the departing storm system created whiteout conditions west of the Illinois River. Numerous roads were closed due to considerable blowing and drifting snow.

ILLINOIS, Northeast

ILZ006

Lake

04	0915CST			4	0	0.00K	0.00K	Rip Current	
									A ten member cold weather swimming team entered rough waters near the Park Avenue Beach and Boating Facility near Highland Park on November 4th and were quickly swept offshore. Strong southeast winds were producing waves between 8 feet and 10 feet at the Wilmette Buoy. Two people from the team drowned. A 46 year old man was pulled from Lake Michigan and unresponsive. He was later pronounced dead at a local hospital. A 52 year old woman's body was found on November 10th, just a few miles from where she went missing. M46IW, F52IW

ILZ003>006-008-010>014-019

Boone - Cook - De Kalb - Du Page - Kane - La Salle - Lake - Lee - McHenry - Ogle - Winnebago

25	0700CST								
26	0900CST				0	0	0.00K	0.00K	Winter Storm

ILZ014

Cook

26	0130CST								
	1000CST				0	0	0.00K	0.00K	Coastal Flood

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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ILLINOIS, Northeast

A winter storm moved across central Illinois during the evening of November 25th and early morning of November 26th producing heavy wet snow across northern Illinois. Storm total snowfall amounts included 13.1 inches two miles west northwest of Bull Valley; 13.0 inches two miles east northeast of Rockford; 12.0 inches near Wonder Lake; 12.0 inches in Ashton; 12.0 inches in Rochelle; 11.7 inches at Rockford Airport; 11.5 inches in Woodstock; 10.5 inches two miles east of Schaumburg; 10.3 inches two miles west southwest of Elk Grove Village; 10.1 inches near De Kalb; 10.0 inches one mile east southeast of Roselle; 10.0 inches near Lake Villa; 10.0 inches in St. Charles; 9.8 inches in Lake Zurich; 9.0 inches in Capron; 9.0 inches in Belvidere; 9.0 inches in Harvard; 8.5 inches in Hebron; 8.4 inches in Genoa; 8.4 inches at Chicago O'Hare Airport; 7.5 inches near Algonquin; 6.7 inches near Downers Grove and 6.6 inches two miles north of Waukegan.

In addition to the heavy snow, strong northerly winds persisted for several hours. Peak wind gusts included 54 mph near Shorewood; 52 mph at Chicago O'Hare Airport; 51 mph at Wheeling/Palwaukee Airport; 49 mph in Lakeview; 49 mph at DuPage Airport; 47 mph at Sugar Grove Airport; 47 mph at Chicago Midway Airport; 47 mph at Waukegan Airport and 46 mph at Rockford Airport. Numerous trees and power lines were blown down with over 80 trees blown down in Chicago. Some of the trees fell onto houses and cars and some were blocking streets. At the height of the storm an estimated 361,000 customers lost power. More than 1,300 flights were cancelled at O'Hare and Midway Airports. Hundreds of schools were closed and numerous car accidents were reported.

Along the Lake Michigan shore, the bike path north of Downtown Chicago was flooded with several feet of water. High waves also caused flooding in the right most lane of northbound Lakeshore Drive which was closed.

ILLINOIS, Northwest

**ILZ002-007-009-
015>018-024>026-
034>035**

**Bureau - Carroll - Hancock - Henderson - Henry - McDonough - Mercer - Putnam - Rock Island -
Stephenson - Warren - Whiteside**

25	1230CST						
26	0400CST		0	0	0.00K	0.00K	Blizzard

A strong low pressure system moved from Kansas into Central Illinois bringing heavy snows of 4 to 13 inches to the area. Strong north winds gusted to 40 to 50 mph and combined with the heavy snow to produce widespread blizzard conditions.

ILLINOIS, South

ILZ081-085

Franklin - Williamson

14	1700CST						
15	1000CST		0	0	0.00K	0.00K	Winter Storm

**ILZ075>078-080-
082>084-086>094**

**Alexander - Edwards - Gallatin - Hamilton - Hardin - Jackson - Jefferson - Johnson - Massac - Perry -
Pope - Pulaski - Saline - Union - Wabash - Wayne - White**

14	1700CST						
15	1000CST		0	0	0.00K	0.00K	Winter Weather

One of the earliest snowfalls on record brought hazardous conditions to southern Illinois. Anywhere from 1 to 3 inches of snow fell across southern Illinois, with a small area of 4-inch totals from Benton to just south of Marion. Specific snowfall reports included 3 inches at Carbondale, Mcleansboro, and Pinckneyville, 2 inches at Murphysboro and Metropolis, and 1 inch at Mound City (Pulaski County). Roads were snow-covered and slippery. The winter precipitation was caused by a strong 500 mb low that moved northeast from Arkansas to the lower Ohio Valley. At the surface, an inverted trough extended from the southeastern states northwest to the lower Ohio Valley.

**ILZ075>078-080>
094**

**Alexander - Edwards - Franklin - Gallatin - Hamilton - Hardin - Jackson - Jefferson - Johnson - Massac -
Perry - Pope - Pulaski - Saline - Union - Wabash - Wayne - White - Williamson**

25	1600CST						
26	0400CST		0	0	19.0K	0.00K	Strong Wind

Strong low pressure moved from central Missouri to central Illinois. Gusty south to southwest winds shifted to a more westerly direction as a strong cold front associated with the low pressure system moved across the region. Peak wind gusts were measured up to 45 mph at Carbondale. Most other peak wind gusts in southern Illinois ranged from 35 to 45 mph.

29	2300CST						
30	0800CST		0	0	0.00K	0.00K	Dense Fog

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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ILLINOIS, South

**ILZ076>078-080>
094**

**Alexander - Edwards - Franklin - Gallatin - Hamilton - Hardin - Jackson - Johnson - Massac - Perry -
Pope - Pulaski - Saline - Union - Wabash - Wayne - White - Williamson**

29	2300CST								
30	0800CST				0	0	0.00K	0.00K	Dense Fog

A stalled frontal boundary, along with light winds and abundant moisture, set the stage for widespread dense fog during the overnight and early morning hours. Visibility was reduced to one-quarter mile or less.

ILLINOIS, Southwest

**ILZ058-097>098-
100-102**

Calhoun - Greene - Macoupin - Madison - Monroe - Pike

15	0400CST								
	1400CST				0	0	0.00K	0.00K	Heavy Snow

A strong system lifted northeast across the boonehill of Missouri into the Ohio Valley. North of the system, a strong deformation zone set up with a swath of heavier snowfall from east central Missouri into southwestern Illinois. By the time the snow came to an end during the afternoon hours of November 15th, up to 9 inches of snow fell with the highest amounts over portions of Warren and St. Charles counties in Missouri.

ILZ095>097

Adams - Brown - Pike

25	1545CST								
26	0100CST				0	0	0.00K	0.00K	Blizzard

A strong area of low pressure tracked east across Kansas, Missouri, and central Illinois on November 25th, bringing heavy snowfall and gusty winds to the region. This caused blizzard conditions across portions of central and northeast Missouri, as well as west central Illinois, with less than a quarter of a mile visibility at times during the afternoon and evening. Strong northwest winds between 25 and 35 mph with gusts near 50 mph at times were reported during the storm. The heaviest snowfall reports were over portions of northeast Missouri and west central Illinois. Before the precipitation changed over to snow, there were a few strong storms, but no reports of severe weather were received.

INDIANA, Central

**INZ037-039>042-
045>049-053>057-
061>065-068>072**

**Bartholomew - Boone - Brown - Daviess - Decatur - Delaware - Greene - Hamilton - Hancock - Hendricks -
Henry - Jackson - Jennings - Johnson - Lawrence - Madison - Marion - Martin - Monroe - Morgan - Owen -
Putnam - Randolph - Rush - Shelby**

14	1830EST								
15	1100EST				0	0	231.0K	0.00K	Ice Storm

An upper level low brought a wintry mix of snow, sleet, and freezing rain to central Indiana the evening of November 14 into the early morning hours of November 15. The wintry mix created hazardous travel conditions, caused power outages affecting over 60,000 people (according to Indiana Department of Energy), and caused damage to trees. Most of the ice fell across the eastern two thirds of central Indiana, with light snow across the western third. Ice amounts generally ranged from a tenth of an inch to three-tenths of an inch.

INDIANA, South Central

**INZ076-079-084-
089>092**

Clark - Crawford - Floyd - Harrison - Jefferson - Orange - Perry

14	2000EST								
15	0800EST				0	0	0.00K	0.00K	Ice Storm

A cold air mass already in place combined with an anomalous low pressure system to produce an early season freezing rain event across southern Indiana and central Kentucky. Many locations received between a tenth and a quarter of an inch of ice accumulation on trees/shrubs and other elevated surfaces. Warm ground temperatures kept most roads ice free, though some bridges had slick spots.

The ice on the trees, many of which still had leaves that helped to weigh them down, caused several limbs/branches to snap and some trees to fall. There were many reports of power flashes overnight as branches hit transformers. At the peak of the event, over 100,000 customers were without power in the region. Some lost power for several days. Out of state crews were brought in to help restore power.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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INDIANA, Southeast

**INZ050-058-066-
073>075-080**

Dearborn - Fayette - Franklin - Ohio - Ripley - Switzerland - Union - Wayne

14	2100EST									
15	1000EST				0	0				Ice Storm

An upper level low pressure center tracked northeast into the region. Warm air aloft and cold air at the surface combined with the low to create a significant freezing rain event over much of the region.

INDIANA, Southwest

Pike County

**Petersburg
Ivy**

03	1000EST									
11	1200EST				0	0	0.00K	0.00K	Flood	

Minor flooding occurred along the White River. Bottomland fields and woodlands were flooded. Several county roads were flooded in low-lying areas. A few oil fields were affected.

Gibson County

**Hazleton
2 SW Giro**

05	0900CST									
11	1000CST				0	0	0.00K	0.00K	Flood	

Minor flooding occurred along the White River. Floodwaters covered low-lying fields and woods near the river, including some low-lying oil fields. A few local rural roads were flooded. High water isolated a small community of river cabins.

The most significant rainfall event of the month happened at the end of October and the beginning of November. Much of central and southern Indiana received 2 to more than 4 inches of rain. Minor flooding quickly followed along the White River by the 3rd. Additional rainfall from one-half to over an inch in southern Indiana fell on the 5th. As a result, the flood crest was prolonged by 2 to 3 days.

INZ088

Spencer

14	1700CST									
15	1400CST				0	0	15.0K	0.00K	Winter Storm	

INZ081-085>087

Gibson - Pike - Posey - Vanderburgh - Warrick

14	1700CST									
15	1400CST				0	0	0.00K	0.00K	Winter Weather	

An early season bout of winter precipitation caused hazardous conditions. This measurable snow and ice was one of the ten earliest winter events on record for Evansville. The precipitation was mostly snow and sleet west of Evansville, and mostly freezing rain from Evansville eastward. The heaviest precipitation occurred in Spencer County, where around one-quarter inch of ice caused isolated power outages. Around an inch of snow and sleet fell from Evansville and Princeton westward. Roads were covered with snow and ice, including Interstates 64 and 69. Interstate 69 in Gibson County was closed in both directions due to multiple accidents with injuries. The winter precipitation was caused by a strong 500 mb low that moved northeast from Arkansas to the lower Ohio Valley. At the surface, an inverted trough extended from the southeastern states northwest to the lower Ohio Valley.

25	2300CST									
26	0800CST				0	0	1.0K	0.00K	Strong Wind	

INZ082-085>088

Pike - Posey - Spencer - Vanderburgh - Warrick

25	2300CST									
26	0800CST				0	0	5.0K	0.00K	Strong Wind	

Strong low pressure moved from central Missouri to central Illinois. Gusty south to southwest winds shifted to a more westerly direction as a strong cold front associated with the low pressure system moved across the region. Peak wind gusts were measured up to 47 mph at Evansville. Most other peak wind gusts in southwest Indiana ranged from 35 to 45 mph.

INZ081-085>088

Gibson - Pike - Posey - Spencer - Vanderburgh - Warrick

30	0600CST									
	0900CST				0	0	0.00K	0.00K	Dense Fog	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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INDIANA, Southwest

A stalled frontal boundary, along with light winds and abundant moisture, set the stage for widespread dense fog during the early morning hours. Visibility was reduced to one-quarter mile or less.

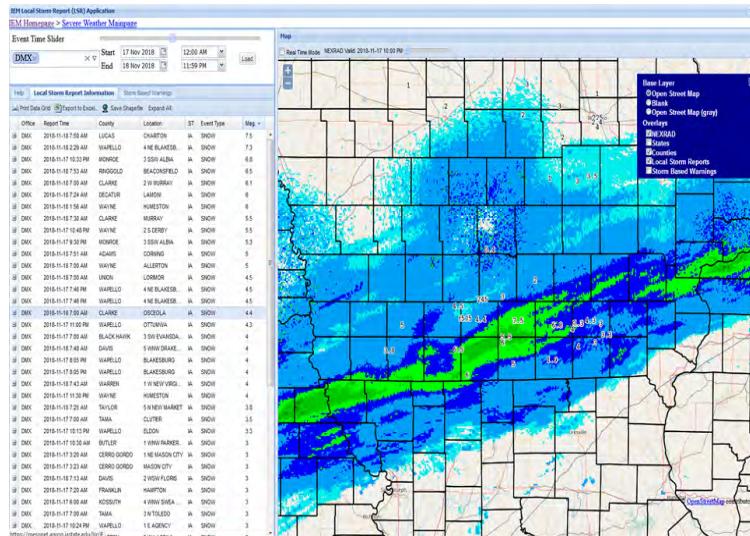
IOWA, Central

IAZ083-094

Clarke - Decatur

17	1000CST				0	0	0.00K	0.00K	Winter Storm
18	0100CST								

A somewhat lackluster event, originally expected to produce around 4 inches of snow or less, outproduced the forecasts and dropped as much as 6 to 7 inches of snow across portions of southern Iowa. Meteorologically, a number of weak to moderate factors lined up to produce the aforementioned snowfall including a weak upper level wave entering the region, an 850mb - 700mb front aloft situated over southern portions of the state, and likely some weak right entrance jet streak influence. Fortunately, much of the snowfall occurred during the mid afternoon to late evening hours on a weekend, limiting travel and other impacts. The greatest impacts were seen along Interstate 35 in Clarke and Decatur counties where numerous vehicles were reported in the ditches. Interestingly, many of those reports occurred during the early portions of the snowfall, when only a couple inches had fallen. Rural counties with similar snowfall reported few to no impacts, and all impacts trailed off as the snow accumulated throughout the evening.



Snowfall local storm reports from the IEM page.

IAZ071>075-081> 086-092>097

Adair - Adams - Appanoose - Clarke - Davis - Decatur - Lucas - Madison - Mahaska - Marion - Monroe - Ringgold - Taylor - Union - Wapello - Warren - Wayne

25	0700CST				0	0	0.00K	0.00K	Blizzard
	2100CST								

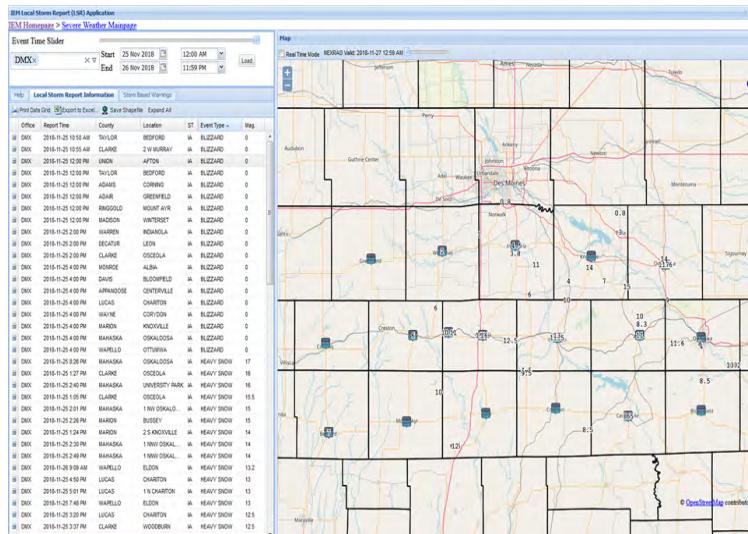
An amplified upper level trough, cut off at times, swept through Kansas, Missouri and Illinois. The attendant surface low also swept through Kansas and Missouri on a similar path, well south of Iowa. The surface low was tightly wound, slowly deepening from about 998mb to 994mb as it traveled south of the state. Precipitation associated with the warm advection wing and wrap around areas initially saw rainfall during the evening and overnight hours of the 24th into the 25th before transitioning over to snow as colder air filtered in. An extremely tight precipitation/snowfall gradient set up roughly along Interstate 80 and south as precipitation processes battled a cold, dry air intrusion from the north. As a result, gradients in the snowfall were so tight that some areas that received 6 to 8 inches of snowfall or more were only a dozen or so miles south of areas that received as little as an inch or less. Throughout the day, the heaviest banded snowfall remained situated over southern Iowa, resulting in numerous reported snowfall amounts in excess of a foot and as high as 16 to 17 inches. While the snow tended to be on the heavy and wet side, strong winds on the backside of the low, gusting in excess of 40 mph regularly, helped degrade conditions and keep visibilities well below a quarter to half mile throughout much of the mid to late morning and afternoon.

As one might imagine, numerous travel issues were reported in the heaviest hit areas, including dozens of vehicles in ditches along Interstate 35 south of Des Moines, and temporary closures of the interstate due to disabled vehicles on the roadway. Fortunately, reported power issues were generally intermittent, and tree damage was not substantial.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	November 2018
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IOWA, Central



Blizzard local storm reports.

IOWA, East Central and Southeast

IAZ063

Iowa

25	0700CST					
26	0000CST	0	0	0.00K	0.00K	Heavy Snow

IAZ054-064>068-
076>078-087>089-
098>099

Cedar - Clinton - Des Moines - Henry - Jackson - Jefferson - Johnson - Keokuk - Lee - Louisa - Muscatine - Scott - Van Buren - Washington

25	1200CST					
26	0100CST	0	0	0.00K	0.00K	Blizzard

A strong low pressure system moved from Kansas into Central Illinois bringing heavy snows of 4 to 13 inches to the area. Strong north winds gusted to 40 to 50 mph and combined with the heavy snow to produce widespread blizzard conditions.

IOWA, Northwest

IAZ001>003-012>
014-021>022

Buena Vista - Cherokee - Clay - Dickinson - Lyon - O'Brien - Osceola - Sioux

16	1800CST					
17	0200CST	0	0	0.00K	0.00K	Winter Weather

Mid-level frontogenesis within the entrance region of a jet streak across northern Wisconsin brought rapid onset to precipitation during the afternoon and evening of November 16. Gradual loss of deep saturation resulted in a trailing area of light freezing rain or freezing drizzle behind the main light snow band.

IAZ001-012

Lyon - Sioux

28	1000CST					
	1700CST	0	0	0.00K	0.00K	Winter Weather

With cooler air locked in near the surface, progression of a mid-level wave from the west during the daytime hours of November 28 increased warm advection atop the cold layer, resulting in periods of light freezing rain.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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IOWA, Southwest

IAZ080-090-091

Fremont - Montgomery - Page

25	0535CST 1600CST	0	0	Blizzard
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IAZ079

Mills

25	0635CST 1600CST	0	0	Winter Weather
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A strong area of low pressure moved out of the central Rockies and produced snowfall of 2 to 11 inches across southwest Iowa. Blizzard conditions were met in southwest Iowa with measured wind gusts 40 to 62 mph and widespread whiteout conditions.

KANSAS, East

**KSZ008>012-020>
024-026-034>040-
055**

**Brown - Clay - Cloud - Dickinson - Douglas - Geary - Jackson - Jefferson - Marshall - Morris - Nemaha -
Osage - Ottawa - Pottawatomie - Republic - Riley - Shawnee - Wabaunsee - Washington**

25	0400CST 1800CST	0	0	Blizzard
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A intense winter storm brought high winds and heavy snow to parts of Kansas on Sunday November 25th. The snow began to fall as early as 4 am across parts of north central Kansas and overspread the rest of northeast Kansas through the morning. Thunder snow was reported at times across the area with snow fall rates of 1 to 2 inches per hour at the height of the storm. In addition, the impacts were significant not only from the intensity of the snow but from the combination of northwest winds that gusted 40-55 mph through the duration of the storm. This produced near zero visibility and interstate 70 was closed for a time from Topeka west due to the blizzard conditions on Sunday afternoon.

KANSAS, Extreme Southeast

**Cherokee County
2 NW Sherwin**

30	2304CST 2330CST	0	0	10.00K	0.00K	Thunderstorm Wind (52MG)
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Kansas mesonet sites near Hallowell measured a 60 MPH gust. These storms continued east, knocking down power poles seven miles north of Columbus around 1130 PM.

Note: The measured wind gust of 52 knots is equivalent to 60 mph.

**Bourbon County
4 N Pawnee Station**

30	2330CST	0	0	10.00K	0.00K	Thunderstorm Wind (52EG)
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Thunderstorm winds damaged a barn near 160TH and Fern Road northwest of Pawnee Station.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

**Crawford County
3 WNW Girard**

30	2331CST	0	0	20.00K	0.00K	Thunderstorm Wind (50EG)
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Thunderstorm winds blew off a portion of a roof and damaged a grain bin.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

**Bourbon County
3 N Ft Scott Arpt**

30	2341CST	0	0	15.00K	0.00K	Thunderstorm Wind (50EG)
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Thunderstorm winds broke three power poles and overturned a 33ft RV. Time based on radar.

A Quasi Linear Convective System starting on November 30th and ending on December 1st produced 60 to 70 mph winds that damaged outbuildings and downed trees and power lines. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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KANSAS, North Central

KSZ007-017>019

Jewell - Mitchell - Osborne - Rooks

08	1000CST				0	0	0.00K	0.00K	Winter Weather
	1900CST								

Some light snow fell over parts of north central Kansas on this Thursday. During the mid-late morning hours, a large shield of light snow developed across northern Kansas, south of Highway 36. After midday, the shield of snow progressed north to the Nebraska state line. Snow continued falling through mid-afternoon. Between 4 and 7 PM CST, the snow ended from northwest to southeast across north central Kansas. When the snow ended, the greatest accumulations were between 2 and 3 inches. However, because this snow was generated by frontogenetic forcing, there were some areas that measured 1 inch or less. The highest snow total reported was 3 inches at Jewell.

A continental polar air mass encompassed the central U.S. with the polar front along the Gulf Coast and banked up against the Rockies. High pressure was over the northern Plains. The upper-level pattern was similar to other situations, in the past, in which a frontogenetic band of snow forms. A low was over central Canada with a broad trough over the Lower 48. The subtle axis of the trough extended from North Dakota to Utah Thursday morning.

KSZ005

Phillips

25	0100CST				0	0	0.00K	0.00K	Winter Weather
	1100CST								

KSZ006-017>019

Jewell - Mitchell - Osborne - Rooks - Smith

25	0600CST				1	0	0.00K	0.00K	Blizzard
	1500CST								

A blizzard occurred across most of north central Kansas on this Saturday night and Sunday. Saturday afternoon, a narrow band of snow developed, in the shape of an arc, across Nebraska to near Denver. This band formed in the deformation zone of developing low pressure. During the evening, this band expanded and moved southeast. The core of this band crossed north central Kansas between 11 PM CST Saturday and 11 AM CST Sunday, although windy conditions maintained blowing snow a little while after the snow ended. Widespread, frequent wind gusts between 45 and 55 mph were common, which severely reduced the visibility in falling and blowing snow. Near zero visibility was reported at Beloit, Lebanon, Mankato, Osborne, Phillipsburg, Smith Center, and Stockton. The strength of the winds resulted in scattered power outages across all six counties. First responders were busy responding to slide-offs and minor accidents due to slippery roads. Motorists were urged to avoid traveling. Measuring the snowfall was extremely difficult due to the wind, with most locations estimating 3 to 7 inches of accumulation. The highest estimated amounts were 8.0 inches near Hunter, 7.1 at Plainville, and 7.0 at Beloit. Snow drifted to 3 and 4 ft deep in spots. The snow and wind resulted in numerous closed or impassable roads. The Kansas Governor declared a state of emergency. Numerous churches cancelled services. Schools in Beloit, Osborne, Plainville, and Smith Center were closed Monday, and Phillipsburg schools were delayed 2 hours.

A woman lost her life near Cawker City due to the storm. She abandoned her vehicle after it slid off the road and became stuck in a ditch on Highway 24 in Mitchell county. She succumbed from exposure to the cold and was found Tuesday, the 27th, some distance from her vehicle.

During the daytime hours Saturday, an Arctic cold front advanced south across Nebraska. A separate low pressure system moved through Wyoming and Colorado into southwest Kansas. This low and its associated fronts moved east along the Kansas-Oklahoma border Saturday night while the Arctic front continued moving south into Kansas in its wake. The low moved into Missouri Sunday while high pressure over the Canadian Prairies begin building into Kansas. In the upper-levels, amplification was occurring with a building ridge along the West Coast. This resulted in a shortwave trough deepening and becoming a closed low over Nebraska and Kansas. F37OU

KANSAS, Northeast

KSZ025-057-060-102>105

Atchison - Doniphan - Johnson - Leavenworth - Linn - Miami - Wyandotte

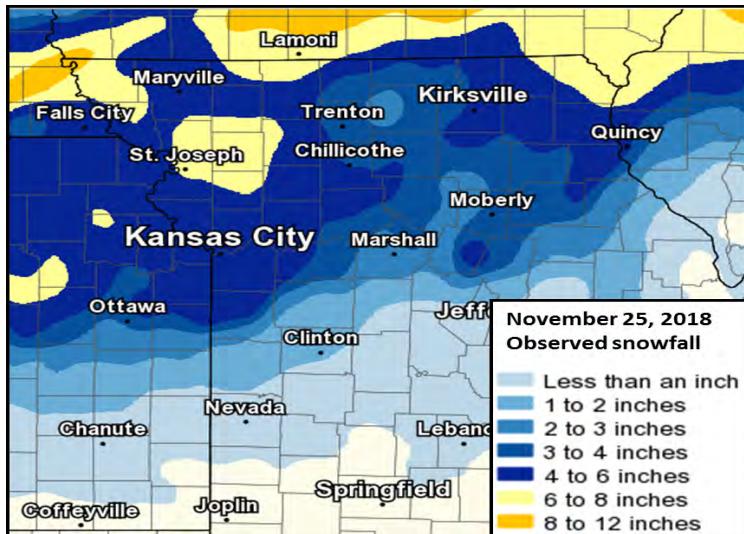
25	0853CST				0	0	0.00K	0.00K	Blizzard
	1700CST								

An extremely early season blizzard impacted eastern Kansas on November 25, 2018. The snowstorm was more indicative of a storm that would affect the area in the deep winter, as opposed to the middle to late part of autumn. The storm brought between 4 and 6 inches across northeast Kansas, including the Kansas City Metro area. Further separating this storm from other typical winter storms was the strong winds that accompanied the heavy snow. Most locations through the region experienced winds in excess of 35 mph at times during the storm. The strongest wind gusts came across northeast Kansas and northwest Missouri, where 50-60 mph winds were recorded in Wyandotte County and Leavenworth County (Kansas) and at Kansas City International Airport.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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KANSAS, Northeast



Final snow totals compiled on the morning of November 26, 2018.

KANSAS, Northwest

KSZ001

Cheyenne

07	0800CST						
08	0400CST						

Scattered snow showers began moving east across far Northwest Kansas in the morning. There were several different waves of snow showers from the morning until after midnight. The repeated rounds of snow from these showers yielded snowfall amounts of atleast five inches. The highest snowfall amount of 5.3 was reported north of St. Francis. The highest snowfall amounts occurred over the northwest part of the county, with amounts declining to the southeast. The icy roadway north of St. Francis impeded traffic for a brief time in the afternoon.

25	0030CST						
	0900CST						

KSZ002>004-013>
016-028>029

Decatur - Gove - Graham - Logan - Norton - Rawlins - Sheridan - Sherman - Thomas

25	0100MST						
	1130MST						

25	1755MST						
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A north to south corridor of snow and wind, creating blizzard conditions, developed during the late evening over Northwest Kansas, extending north into Southwest Nebraska. As the night progressed the blizzard conditions expanded across the rest of Northwest Kansas. The highest snowfall amount of five and a half inches was reported where the corridor of snow first developed, which ran from Bird City and Ludell south to Edson then southeast to Hoxie and Quinter. The snowfall declined to two or three inches to the northeast and southwest. The blizzard conditions ended from northwest to southeast. In addition to the blizzard conditions, high winds also occurred with this winter storm at Goodland and Hill City. The peak gust at both locations was 59 MPH. However the peak gust for Goodland occurred eight hours before the blizzard conditions began, due to very strong winds occurring before the snow began.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
KANSAS, Southeast										
KSZ032-047>053-067>070		Barton - Butler - Chase - Ellsworth - Greenwood - Harvey - Marion - McPherson - Reno - Rice - Russell - Saline								
	08	1000CST 1700CST			0	0				Winter Weather
The first significant snowfall of the 2018/2019 winter season arrived on Thursday, November 8th, when a fast moving upper disturbance combined with unseasonably cold temperatures. Locations generally north of Highway 400 saw most of the snow with some locations picking up around 5 inches.										
	25	0325CST 1455CST			0	0	0.00K	0.00K		Blizzard
KSZ033-047>049		Barton - Ellsworth - Lincoln - Saline								
	25	0425CST 1705CST			0	0	0.00K	0.00K		Blizzard
KSZ067		Reno								
	25	0652CST 1500CST			0	0	0.00K	0.00K		Winter Storm
KSZ050-051		McPherson - Rice								
	25	0655CST 1709CST			0	0	0.00K	0.00K		Blizzard
KSZ083		Sedgwick								
	25	0703CST 0704CST			0	0	0.00K	0.00K		High Wind
KSZ052		Marion								
	25	0710CST 1709CST			0	0				Blizzard
KSZ053-068-082-083		Chase - Harvey - Kingman - Sedgwick								
	25	0714CST 1505CST			0	0	0.00K	0.00K		Winter Storm
KSZ069-072		Allen - Butler								
	25	0829CST 1311CST			0	0	3.0K	0.00K		High Wind

A blizzard swept through most of Central Kansas on the 25th from early in the morning until mid-afternoon. A strong upper-level shortwave that surged from the Central Rockies into the Great Plains induced rapid surface cyclogenesis across Southern Kansas. As the strengthening low pressure moved across Southeast Kansas, strong north winds sustained around 40 mph with gusts around 55 mph, combined with heavy snow to cause widespread visibilities around 1/4 mile.

Storm Data and Unusual Weather Phenomena

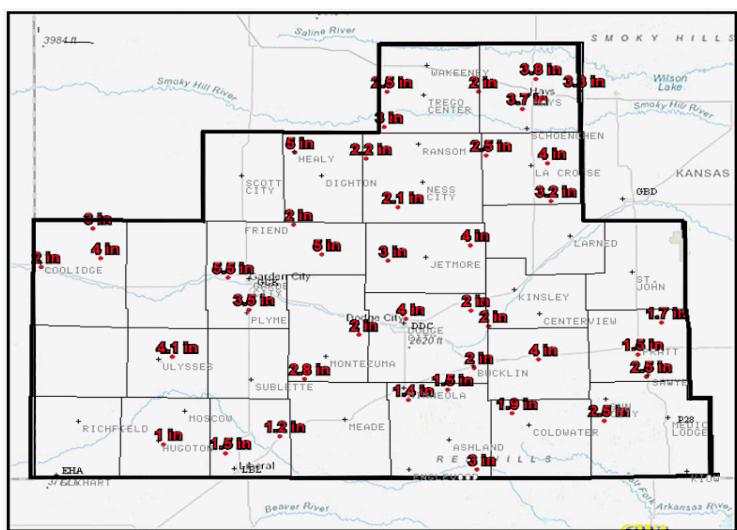
		Time	Path	Path	Number of	Estimated		November 2018	
Location	Date	Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	Character of Storm

KANSAS, Southwest

**KSZ030-043>046-
061>066-074>081-
084>090**

Barber - Clark - Comanche - Edwards - Ellis - Finney - Ford - Grant - Gray - Hamilton - Haskell - Hodgeman - Kearny - Kiowa - Lane - Meade - Morton - Ness - Pawnee - Pratt - Rush - Scott - Seward - Stafford - Stanton - Stevens - Trego

Snow overspread the state as a short wave trough lifted out of the southern Rockies. There was a moderate amount of blowing and drifting of the snow. In general amounts were less than three inches. However, there was a heavier band that stretch from near Ulysses to near Scott City where 4 to 5.5 inches were reported.



Local observed snowfall totals.

KSZ030-043>046-064>065-077>078

Ellis - Ford - Gray - Hodgeman - Lane - Ness - Pawnee - Rush - Scott - Trego

25 0500CST
1100CST 0 0 0.00K 0.00K Blizzard

KSZ043-066-078-
084

Ford - Morton - Scott - Stafford

25 0510CST
0853CST 0 0 0.00K 0.00K High Wind

A strong cold front and weak upper level shortwave moved across parts of the area during the early morning. While there was only 1 to 3 inches of snow, winds were in excess of 60 MPH with gusts to 70 MPH which caused blizzard conditions during the morning hours.

KENTUCKY, Central

Breckinridge County 1 W Fairfield

01 0000CST 0030CST 0 0 0.00K 0.00K Flood

Fairfield-Hudson Road was closed due to flooding.

A low pressure system embedded in a cold front traveled from western Tennessee through eastern Kentucky towards New England. This system brought heavy rain and cooler temperatures to southern Indiana and central Kentucky. Localized flooding was reported along with a 10 to 20 degree temperature drop from October 31 to November 2.

Warren County 1 SSE Anna

05 2133CST 0 0 0.00K 0.00K Thunderstorm Wind (50EG)
There were multiple large tree limbs down along Highway 185 just south of Anna.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
KENTUCKY, Central										
Logan County 1 NW Russellville	05	2137CST 2210CST			0	0	0.00K	0.00K	Flood	
										The public reported that there was lots of standing water around the city as well as running water over several roads.
Edmonson County 2 NNE Pig	05	2137CST			0	0	0.00K	0.00K	Thunderstorm Wind (52EG)	
										Two trees were reported down on Mammoth Cave Road in Mammoth Cave Park.
										Note: The estimated wind gust of 52 knots is equivalent to 60 mph.
Edmonson County 2 NNE Pig	05	2153CST	0.3	65	0	0	0.00K	0.00K	Tornado (EF0)	
										A brief tornado touchdown was embedded at the end of a longer axis of straight line winds about 6.2 miles SE of Brownsville. Evidence of cyclonic rotation was noted in this concentrated area of damage where several 1 to 2 foot diameter trees were either uprooted or snapped. On the south side of the path, trees were laying in an ENE direction, with the trees on the left/north side of the path laying NNW. The tornado touchdown was very brief and lifted at the intersection of Cedar Sink Road and Brownsville Road just inside the SW border of Mammoth Cave National Park. Peak winds were estimated at 80 mph, with a max path width of 65 yards. The path length was about a third of a mile and the tornado was on the ground for less than 1 minute.
Warren County 2 WNW Drake	05	2155CST			0	0	0.00K	0.00K	Thunderstorm Wind (53EG)	
										There was a tree down on Woodburn Allen Springs Road.
										Note: The estimated wind gust of 53 knots is equivalent to 61 mph.
Warren County 3 N Smiths Grove	05	2228CST 2300CST			0	0	0.00K	0.00K	Flood	
										Six to eight inches of water were covering approximately 30 yards of U.S. Highway 31W a quarter of a mile south of Kentucky Highway 101.
Green County 3 WSW Greensburg	05	2246CST 2316CST			0	0	0.00K	0.00K	Flood	
										There was water reported across several roadways in Green County, KY.
Adair County 1 NNW Columbia Ludot Arpt	05	2250CST			0	0	0.00K	0.00K	Thunderstorm Wind (52EG)	
										There was a tree across the roadway at Greenburg Road and Pettys Fork Creek.
										Note: The estimated wind gust of 52 knots is equivalent to 60 mph.
Adair County Cane Vly	05	2250CST			0	0	0.00K	0.00K	Thunderstorm Wind (52EG)	
										There was a tree blocking the roadway.
										Note: The estimated wind gust of 52 knots is equivalent to 60 mph.
Adair County Cane Vly 1 NNW Absher	05	2252CST 2256CST	3.8	150	0	0	750.00K	0.00K	Tornado (EF1)	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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KENTUCKY, Central

This skipping tornado first touched down along Campbellsville Rd near the community of Cane Valley, where it downed power lines as it snapped tree limbs and uprooted several large trees. Moving eastward over open fields, it tore most of the roof off a barn at the end of Doug White Road, plastering insulation from the barn onto the northeast side of the adjacent home. To the north of the barn and home, it tossed a 1500 lb. hay roll southeast over a fence. From here, the tornado raced east-northeast over more fields, where it snapped the tops off a few trees before it hit the next farm, at Milky Way Lane on Mt. Carmel Road. Here it destroyed one large outbuilding and tore much of the roof off another in addition to destroying two small grain hoppers. Flying debris damaged at least two other buildings and vehicles, with roofing debris scattered a quarter of a mile to the northeast. Across the road from these buildings, the tornado tore the roof off and partially collapsed the wall of another large outbuilding. Flying debris from this building damaged another outbuilding, while columns on the southwest-facing front porch of the farm home were blown out as the porch roof was briefly elevated.

The tornado continued eastward, snapping the trunks of several large trees along Butler Creek and damaging carports and a metal outbuilding along Holmes Bend Rd and Turkey Trace. Again moving over open land, the final two buildings damaged were metal outbuildings on Willis Rd and near the intersection of West Egypt Rd and Knifley Rd. It also toppled the sign of the Green River Bait and Grocery before lifting as it crossed Knifley Rd.



Outbuilding on dairy farm destroyed on Mt. Carmel Rd north of Columbia, KY by EF-1 tornado. NWS photo

Taylor County 1 SSE Hobson

05	2338EST	0	0	15.00K	0.00K	Thunderstorm Wind (53EG)
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There was a softwood tree down on a vehicle and another split tree on Dragway Lane.

Note: The estimated wind gust of 53 knots is equivalent to 61 mph.

Marion County Belltown Calvary

05	2340EST	2	60	0	0	35.00K	0.00K	Tornado (EF0)
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This very small tornado touched down on top of an older wooden barn on state highway 289 just south of the intersection with U.S. Highway 68. It flattened the structure, collapsing it to the southeast, while the metal roofing was distributed in a circulating pattern around it - from southeast to northeast to northwest, with the bulk being to the northeast. A 3-legged TV tower next to the adjacent home was crumpled to the north-northeast. Other than mud spattering from the south-southwest on the back corner of the brick one-story home, no other evidence of wind was observed, as no shingles were damaged.

The tornado immediately lifted over the home and nearby trees, then passed over a wooded area and open farmland, setting back down in a subdivision on the west side of New Calvary Road, about a mile east. Several small tree trunks were snapped in the subdivision, but no visible structural damage occurred. The tiny twister then continued to the northeast, causing other minor tree damage to the south of Probus Lane. The last tree damage was observed near a small pond near the end of Probus Lane. Maximum wind speeds were estimated at 80-85 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
KENTUCKY, Central										
Butler County 1 NE Grancer	05	2346CST								
	06	0030CST			0	0	20.00K	0.00K	Flash Flood	
It was reported that Boss Hog Road near Grancer Road was completely washed out.										
Franklin County 1 E Frankfort	05	2355EST								
	06	0030EST			0	0	0.00K	0.00K	Flood	
Rolling Acres Drive was closed due to flooding.										
Cumberland County 1 WNW Dubre	06	0000CST 0030CST			0	0	0.00K	0.00K	Flash Flood	
A bridge was flooded in Dubre in Cumberland County, Kentucky.										
Jessamine County 2 NW Mt Lebanon	06	0020EST			0	0	0.00K	0.00K	Thunderstorm Wind (53EG)	
There were reports of trees down and minor flooding near Sulfer Well and Chrisman Mill.										
Note: The estimated wind gust of 53 knots is equivalent to 61 mph.										
Fayette County 2 SE Athens	06	0028EST			0	0	50.00K	0.00K	Thunderstorm Wind (60EG)	
It was reported that trees and a barn were damaged on McCalls Mill Road. Also on the 4800 block of Athens Walnut Hill Road trees, a barn, and a playset were damaged.										
Note: The estimated wind gust of 60 knots is equivalent to 69 mph.										
Spencer County 1 S Waterford	06	0602EST 0632EST			0	0	0.00K	0.00K	Flood	
Lily Pike and Love Lane, in Spencer County, were flooded and impassable.										
Fayette County 3 NW Yarnallton	06	0647EST 0720EST			0	0	0.00K	0.00K	Flood	
Leestown Road was closed due to flooding at the railroad overpass between Dolan Lane and the Scott County line.										
Franklin County 3 W Farmdale	06	0746EST 0816EST			0	0	0.00K	0.00K	Flood	
Avenstoke Road near the county line was closed due to high water from a creek.										
Franklin County 1 NW Peaks Mill	06	0746EST 0816EST			0	0	0.00K	0.00K	Flood	
Stillhouse Hollow Road, along Elkhorn Creek, was closed due to high water.										
A potent low pressure system moved through the Midwest Monday, November 5, 2018. Showers and thunderstorms formed out ahead of the cold front trailing from the center of the system. Central Kentucky saw mainly heavy rain, but as the warm front lifted into southern Kentucky, a few storms became severe, causing damage. Three weak tornadoes were confirmed. Flooding was a minor issue as well, as saturated soils continued to allow water to pool from heavy rain events.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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KENTUCKY, Central

**KYZ025>031-033>
034-041-045-061-
063-065**

**Bullitt - Butler - Fayette - Grayson - Hardin - Hart - Henry - Jefferson - Meade - Nelson - Ohio - Oldham -
Shelby - Taylor**

14	2043EST									
15	0500EST				0	0			0.00K	Ice Storm

KYZ028-062

Edmonson - Hardin

15	0112EST									
	0525EST				0	0			0.00K	Ice Storm

A cold air mass already in place combined with an anomalous low pressure system to produce an early season freezing rain event across central Kentucky and southern Indiana. Many locations received between a tenth and a quarter of an inch of ice accumulating on trees/shrubs and other elevated surfaces. Warm ground temperatures kept most roads ice free, though some bridges had slick spots.

The ice on the trees, many of which still had leaves that helped to weigh them down, caused several limbs/branches to snap and some trees to fall. There were many reports of power flashes overnight as branches hit transformers. At the peak of the event, over 100,000 customers were without power in the region. One utility company serving much of central Kentucky reported that it was one of the top 10 costliest outages in its history.

KENTUCKY, Eastern

Rockcastle County

Mt Vernon

06	0111EST				0	0				Thunderstorm Wind (50EG)
										Dispatch and the public (via social media) reported a couple trees were downed near Mt. Vernon as a line of storms with severe gusts moved through.

A line of strong to severe thunderstorms moved across Kentucky ahead of a cold front during the early morning hours of November 6th. This brought isolated severe winds near Mount Vernon. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

KYZ079

Pulaski

26	2248EST									
27	1600EST				0	0	0.00K	0.00K	Winter Weather	

**KYZ069-104-108-
113-115-118**

Elliott - Jackson - Knott - Letcher - Perry - Wolfe

27	0400EST									
	1800EST				0	0	0.00K	0.00K	Winter Weather	

A strong cold front brought markedly colder temperatures into eastern Kentucky early on November 26th. This allowed residual moisture to transition to light snow and freezing drizzle during the morning and afternoon. As temperatures further cooled below freezing through the evening of the 26th, a few roads began to ice up and lead to traffic impacts across eastern Kentucky as officials were forced to close them for a period of time. Precipitation finally transitioned to all light snow showers and flurries during the afternoon of the 27th as temperatures remained in the mid to upper 20s. These light snow showers continued into the morning hours of the 28th with isolated icy spots on area roadways.

Although snow and ice amounts were light, with snow amounts largely under 1 inch and ice amounts topping out at a few hundredths of an inch, isolated impacts were felt on roadways. These include:

- The overpass at U.S. Highway 27 and Kentucky Highway 1247 in Pulaski County being blocked due to icy conditions.
- Accumulating snow impacting the morning commute on Hal Rogers Parkway just west of Hazard. Additionally, a motorist crashed on Kentucky Highway 15 in Hazard due to slick roads.
- Kentucky Highway 15 being shut down near the Perry County line for a period due to an overturned truck near the Mountain Pass Dairy Bar in Sassafras.
- Slick roads causing a citizen to wreck their vehicle near Hazel Green.

The highest reported storm total snowfall amount was 2 inches just north of Stark in Elliott County.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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KENTUCKY, Northeast

KYZ101

Greenup

06	1100EST				0	1	0.5K	0.00K	Strong Wind
	1300EST								

A cold front crossed the middle Ohio River Valley and central Appalachians early on the 6th. In the wake of its passage, strong wind gusts lingered in the region for most of the day. This resulted in a tree falling on a woman in Greenup County around noon, causing her to be hospitalized due to injuries. A nearby cooperative observer reported a gust of 31 MPH around the time of the injury.

KENTUCKY, Northern

KYZ089>096

Boone - Campbell - Carroll - Gallatin - Grant - Kenton - Owen - Pendleton

14	2100EST								
15	1000EST				0	0			Ice Storm

An upper level low pressure center tracked northeast into the region. Warm air aloft and cold air at the surface combined with the low to create a significant freezing rain event over much of the region.

KENTUCKY, Southwest

Lyon County

**5 N Saratoga
5 NNE Eddyville**

01	0200CST				0	0	0.00K	0.00K	Flood
	0745CST								

Kentucky 1943 was closed near Skinframe Creek.

Mccracken County

**2 ESE Lone Oak
1 SSE Oaks**

01	0200CST				0	0	0.00K	0.00K	Flood
	0830CST								

A few state roads were closed around the county. The road closings were along secondary roads in flood-prone areas. In particular, flooding of Champion Creek prompted the closure of a small secondary road. A 24-hour rainfall total of 4.92 inches was measured at the National Weather Service office in Paducah.

Fulton County

**2 WSW Hickman
2 NNE Brownsville**

01	0245CST				0	0	0.00K	0.00K	Flood
	0745CST								

Highway 94 was closed between the 7 and 11 mile markers, which is a flood-prone area just south of Hickman.

Carlisle County

**Cunningham
Arlington**

01	0450CST				0	0	0.00K	0.00K	Flood
	0730CST								

Several state roads were closed in flood-prone areas. The roads were lesser-travelled secondary roads. A 24-hour rainfall amount of 5.56 inches was reported by the public near Cunningham.

A slow-moving frontal boundary brought several waves of rain over a 36-hour period. The heaviest flood-producing rain occurred during the pre-dawn hours of the 1st, when a nearly stationary front was anchored along the Ohio River. A weak surface low tracked northeast along the front, producing an axis of heavy rain on top of areas that received heavy rain on the 31st. A broad area of diffluent flow aloft was associated with a deep upper-level low across Texas. The large-scale lift associated with the upper low acted on a very moist air mass, with precipitable water values near 1.5 inches. Storm total rainfall ranged from 2 to 4 inches, with locally higher amounts to 5 inches along the Ohio River.

Christian County

**2 S Pembroke
2 SW Hopkinsville**

05	2045CST				0	0	0.00K	0.00K	Flood
	2300CST								

Water was over Highway 115 in Pembroke. Water was over several city streets in Hopkinsville.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
KENTUCKY, Southwest										
Christian County										
Hopkinsville Arpt 3 E Casky		05	2300CST							
3 E Casky		06	0130CST		0	0	0.00K	0.00K	Flood	
Minor flooding occurred along the Little River east of Hopkinsville around the Highway 68/80 overpass. Low-lying woods and fields around the river were inundated.										
Surface low pressure was centered over Iowa. A trailing cold front swung rapidly east across the Mississippi Valley, preceded by widespread moderate to heavy rainfall. Another 1 to 2 inches of rain fell on ground that was saturated from the Halloween night rainfall event. This caused minor flooding of flood-prone areas, in addition to a sharp rise on the Little River near Hopkinsville.										
KYZ008-009										
Calloway - Marshall										
14 1500CST										
15 0400CST										
0 0 0.00K 0.00K Winter Weather										
KYZ020-021										
McLean - Muhlenberg										
14 1600CST										
15 0500CST										
0 0 30.0K 0.00K Winter Storm										
KYZ001>006-016										
Ballard - Carlisle - Fulton - Graves - Hickman - Hopkins - McCracken										
14 1600CST										
15 0500CST										
0 0 0.00K 0.00K Winter Weather										
KYZ019-022										
Daviess - Todd										
14 1700CST										
15 0400CST										
0 0 30.0K 0.00K Winter Storm										
KYZ007-010>015-017>018										
Caldwell - Christian - Crittenden - Henderson - Livingston - Lyon - Trigg - Union - Webster										
14 1700CST										
15 0500CST										
0 0 10.0K 0.00K Winter Weather										
One of the earliest winter precipitation events on record caused hazardous conditions across western Kentucky. At Paducah, this was the 2nd earliest snowfall of at least one inch in records going back to 1937. The wintry mix of precipitation was mostly in the form of freezing rain in the Pennyroyal region, where around one-quarter inch of ice glazed exposed surfaces. There were some power outages caused by downed tree limbs in Muhlenberg, Christian, Todd, and Daviess Counties. Several trees were down in the Owensboro area, including two on homes. Two poles caught fire. In Todd County, 1820 customers were without power. In Christian County, tree limbs were down on power lines, and a tree blocked a road. Further west, the precipitation was mostly in the form of sleet and snow. One to two inches of snow was reported from Marion to Murray westward across Paducah and Mayfield. Specific snowfall totals included 2 inches in Paducah and Fulton, and 1 inch at Murray and Eddyville. There was some sleet mixed with the snow. Roads were snow or ice-covered across the region. Highway 68 in Trigg County was reported to be a sheet of ice, causing vehicle accidents. Numerous accidents were reported in Calloway County, with several slide-offs on Highway 80. The winter precipitation was caused by a strong 500 mb low that moved northeast from Arkansas to the lower Ohio Valley. At the surface, an inverted trough extended from the southeastern states northwest to the lower Ohio Valley.										
KYZ001>022										
Ballard - Caldwell - Calloway - Carlisle - Christian - Crittenden - Daviess - Fulton - Graves - Henderson - Hickman - Hopkins - Livingston - Lyon - Marshall - McCracken - McLean - Muhlenberg - Todd - Trigg - Union - Webster										
25 1800CST										
26 0600CST										
0 0 26.0K 0.00K Strong Wind										
Strong low pressure moved from central Missouri to central Illinois. Gusty south to southwest winds shifted to a more westerly direction as a strong cold front associated with the low pressure system moved across the region. Peak wind gusts were measured up to 48 mph at Paducah. Most other peak wind gusts in western Kentucky ranged from 35 to 45 mph. A large tree was snapped at the base in western McCracken County. A wooden utility pole was downed at Murray.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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KENTUCKY, Southwest

**KYZ004-007-010-
013>016-018>021**

Ballard - Caldwell - Crittenden - Daviess - Henderson - Hopkins - Livingston - McCracken - McLean - Muhlenberg - Union - Webster

30	0500CST				0	0	0.00K	0.00K	Dense Fog
	0900CST								

A stalled frontal boundary, along with light winds and abundant moisture, set the stage for widespread dense fog during the early morning hours. The dense fog was mainly along and north of a line from Paducah to Madisonville. Visibility was reduced to one-quarter mile or less.

LOUISIANA, Northeast

Catahoula Parish

**3 SE Utility
2 S Jonesville**

01	0024CST						200.00K	100.00K	Tornado (EF1)
	0028CST	2.59	300	0	1				

This tornado touched down near the intersection of Lana Lane and Peachland Lane, where numerous hardwood trees were snapped or uprooted and resulted in minor damage to a single family home and large shed/carport. As the tornado tracked northeastward along Peachland Lane, it caused widespread major damage to a pecan orchard and a few large farm buildings. The owner of the orchard stated that he is facing significant losses to his pecan crop and had to hire temporary help to salvage as much as he can before the beginning of rainy season. From there, the tornado continued northeast through mostly open farmland, eventually crossing Highways 124, 565 and 84, where additional hardwood tree damage was sustained, along with a couple of snapped wooden power poles. The most significant damage occurred with a cluster of homes located north of Highway 84 in the Chevey Chase community, along Loop Road and at the intersection of Gregory and Grisby roads. In this area, two mobile homes sustained significant damage with one well-anchored home being shifted off of its foundation, while another well-anchored home was lifted up and then rolled over on its side. A family was inside the latter home, and one member interviewed by the survey team described a harrowing experience that resulted in another family member fracturing their arm. Other injuries were limited to minor scrapes and bruises. Other single family homes in the area had minor roof damage and significant damage to sheds. The highest rating of high-end EF-1 with an estimated maximum wind speed of 110 mph was based on the mobile home damage, and this was generally consistent with the degree of tree damage along the entire track. While the wooden power poles could technically fit EF-2 strength, their age and integrity did not impress the survey team. The maximum path width of the tornado was 900 yards in Concordia Parish along with the highest wind speeds of 110 mph. Total path length was around 7.7 miles.

Concordia Parish

**1 NNW Omega
1 NW Almone**

01	0028CST						100.00K	0.00K	Tornado (EF1)
	0033CST	5.09	900	0	0				

This tornado touched down near the intersection of Lana Lane and Peachland Lane, where numerous hardwood trees were snapped or uprooted and resulted in minor damage to a single family home and large shed/carport. As the tornado tracked northeastward along Peachland Lane, it caused widespread major damage to a pecan orchard and a few large farm buildings. The owner of the orchard stated that he is facing significant losses to his pecan crop and had to hire temporary help to salvage as much as he can before the beginning of rainy season. From there, the tornado continued northeast through mostly open farmland, eventually crossing Highways 124, 565 and 84, where additional hardwood tree damage was sustained, along with a couple of snapped wooden power poles. The most significant damage occurred with a cluster of homes located north of Highway 84 in the Chevey Chase community, along Loop Road and at the intersection of Gregory and Grisby roads. In this area, two mobile homes sustained significant damage with one well-anchored home being shifted off of its foundation, while another well-anchored home was lifted up and then rolled over on its side. A family was inside the latter home, and one member interviewed by the survey team described a harrowing experience that resulted in another family member fracturing their arm. Other injuries were limited to minor scrapes and bruises. Other single family homes in the area had minor roof damage and significant damage to sheds. The highest rating of high-end EF-1 with an estimated maximum wind speed of 110 mph was based on the mobile home damage, and this was generally consistent with the degree of tree damage along the entire track. While the wooden power poles could technically fit EF-2 strength, their age and integrity did not impress the survey team. The maximum path width of the tornado was 900 yards in Concordia Parish along with the highest wind speeds of 110 mph. Total path length was around 10 miles across Catahoula, Concordia, then back to Catahoula.

Catahoula Parish

1 SE Trinity

01	0030CST			0	0	15.00K	0.00K	Thunderstorm Wind (50EG)

There was roof damage at 905 First Street.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
LOUISIANA, Northeast										
Concordia Parish										
4 NNW Eva	01	0030CST 0031CST	0.85	150	0	0	20.00K	0.00K	Tornado (EF1)	
This brief, weak tornado touched down along Herbert Crouch Road where it brought down large limbs. It uprooted a few hardwood trees as it tracked east-northeast across Highway 3203 and into Catahoula Parish, and this is where it is estimated that the maximum winds of 90 mph occurred resulting in an EF-1 rating. The tornado finally crossed Buddy Tims Road and produced roof damage to a single family home along with additional tree damage before lifting. The total path length was around 1.1 miles and the total width was 150 yards, in Concordia Parish. The maximum wind speed was 90 mph.										
Catahoula Parish										
3 ESE Glade	01	0031CST								
3 S Security		0032CST	0.2	50	0	0	20.00K	0.00K	Tornado (EF0)	
This brief, weak tornado touched down along Herbert Crouch Road where it brought down large limbs. It uprooted a few hardwood trees as it tracked east-northeast across Highway 3203 and into Catahoula Parish, and this is where it is estimated that the maximum winds of 90 mph occurred resulting in an EF-1 rating. The tornado finally crossed Buddy Tims Road and produced roof damage to a single family home along with additional tree damage before lifting. The total path length was around 1.1 miles and the total width was 150 yards, in Concordia Parish. The maximum wind speed was 90 mph.										
Catahoula Parish										
6 SSE Book	01	0032CST 0033CST	1.12	100	0	0	2.00K	0.00K	Tornado (EF0)	
This tornado touched down in Avoyelles Parish and moved northeast through the Lake Ophelia NWR. Many trees were downed along the path. The NWS survey team concluded this tornado crossed the Red River just southwest of Acme LA where it briefly entered Catahoula Parish. The path length in Catahoula was 1.1 miles and the total path length was 13.7 miles.										
Catahoula Parish										
4 E Trinity	01	0033CST 0036CST	2.4	500	0	0	10.00K	0.00K	Tornado (EF0)	
This tornado touched down near the intersection of Lana Lane and Peachland Lane, where numerous hardwood trees were snapped or uprooted and resulted in minor damage to a single family home and large shed/carport. As the tornado tracked northeastward along Peachland Lane, it caused widespread major damage to a pecan orchard and a few large farm buildings. The owner of the orchard stated that he is facing significant losses to his pecan crop and had to hire temporary help to salvage as much as he can before the beginning of rainy season. From there, the tornado continued northeast through mostly open farmland, eventually crossing Highways 124, 565 and 84, where additional hardwood tree damage was sustained, along with a couple of snapped wooden power poles. The most significant damage occurred with a cluster of homes located north of Highway 84 in the Chevey Chase community, along Loop Road and at the intersection of Gregory and Grisby roads. In this area, two mobile homes sustained significant damage with one well-anchored home being shifted off of its foundation, while another well-anchored home was lifted up and then rolled over on its side. A family was inside the latter home, and one member interviewed by the survey team described a harrowing experience that resulted in another family member fracturing their arm. Other injuries were limited to minor scrapes and bruises. Other single family homes in the area had minor roof damage and significant damage to sheds. The highest rating of high-end EF-1 with an estimated maximum wind speed of 110 mph was based on the mobile home damage, and this was generally consistent with the degree of tree damage along the entire track. While the wooden power poles could technically fit EF-2 strength, their age and integrity did not impress the survey team. The maximum path width of the tornado was 900 yards in Concordia Parish along with the highest wind speeds of 110 mph. Total path length was around 10 miles across Catahoula, Concordia, then back to Catahoula.										
Concordia Parish										
2 S Monterey	01	0045CST			0	0	10.00K	0.00K	Thunderstorm Wind (50EG)	
Power lines were blown down on Highway 129 on Monterey.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Tensas Parish										
1 SE Barcelona	01	0050CST			0	0	5.00K	0.00K	Thunderstorm Wind (50EG)	
Trees were blown down on Highway 573 and blocked both lanes.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
LOUISIANA, Northeast										
Concordia Parish										
1 E Concordia Jct	01	0051CST			0	0	8.00K	0.00K	Thunderstorm Wind (50EG)	
		Trees were blown down in Ferriday.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
East Carroll Parish										
Lake Providence	01	0106CST			0	0	50.00K	0.00K	Thunderstorm Wind (48EG)	
		A tree was blown down on a house on Howard Lane.								
		A potent storm system for early Fall impacted the region and a line of showers and thunderstorms moved through the ArkLaMiss region ahead of a cold front. A rare combination of instability and wind shear was in place and storms produced tornadoes, along with damaging winds. Note: The estimated wind gust of 48 knots is equivalent to 55 mph.								
West Carroll Parish										
3 WSW Oak Grove Kelly Arpt	05	2230CST			0	0	8.00K	0.00K	Thunderstorm Wind (50EG)	
		Three trees were blown down on Bienz Road. One tree was blown down on Woods Road, and another tree was blown down on Hill Church Road.								
		Showers and thunderstorms developed in association with a cold front during the evening on November 5th. Some of these storms produced wind damage. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
LOUISIANA, Northwest										
Natchitoches Parish										
1 N Natchez	05	1611CST								
		1614CST	1.74	200	0	0	50.00K	0.00K	Tornado (EF1)	
		This EF-1 tornado, with maximum estimated winds around 107 mph, first touched down on Highway 1 where it snapped several trees. It then moved northeast across Lee Lake and the Cane River where it damaged outbuildings and additional trees. As it moved across the Cane River, it destroyed one boathouse and damaged two others. The tornado continued northeast across Fish Hatchery Road and Plantation Point Blvd, where it snapped numerous trees and tore off shingles on several homes before lifting.								
Winn Parish										
2 E St Maurice	05	1624CST								
3 WNW Wheeling		1625CST	3.08	50	0	0	0.00K	0.00K	Tornado (EF1)	
		This EF-1 tornado, with maximum estimated winds around 107 mph, touched down on Highway 71, and tracked northeast across Wheeling Road, before lifting on Black Mountain Road. Approximately 25 trees were snapped or uprooted along the path of this tornado.								
Sabine Parish										
2 NE Boleyn	05	1644CST								
		1647CST	2.24	100	0	0	0.00K	0.00K	Tornado (EF2)	
		This EF-2 tornado first touched down along Strahan Road northeast of the Belmont community in extreme Northeast Sabine Parish. Several hardwood trees were snapped before this tornado tracked northeast and crossed into Northwest Natchitoches Parish. EF-1 damage was found here, with maximum estimated winds near 95 mph before the tornado intensified shortly after entering Northwest Natchitoches Parish.								
Natchitoches Parish										
3 WNW Marthaville	05	1647CST								
		1653CST	3.61	475	0	0	125.00K	0.00K	Tornado (EF2)	
		This is a continuation of the Northeast Sabine Parish tornado. This tornado intensified to an EF-2 shortly after entering Northwest Natchitoches Parish, with maximum estimated winds around 115 mph. Over 100 trees were snapped or uprooted along Boline Road as the tornado crossed over into Natchitoches Parish, with the tornado tracking northeast across the 1100 block of Highway 1221. Here, a carport was destroyed and a roof was partially ripped off of a house leaving the walls of the structure standing, indicative of the low-end EF-2 damage. The tornado continued northeast across Highway 487 just north of the Marthaville community, where a small camping trailer was shifted five feet off of its foundation, and a sheet metal roof was removed on a home near the intersection of Highway 487 and Stewart Road. Numerous trees were also snapped or uprooted here before the tornado lifted. However, mobile phone videos still indicated a wall cloud and its associated funnel cloud even as this storm crossed Interstate 49.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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LOUISIANA, Northwest



Low-end EF-2 damage was confirmed in Marthaville at the 1100 block of Route 1221 when the tornado ripped through this home, removing most of its roof.

Winn Parish **5 NE Atlanta**

05	1650CST 1651CST	0.42	50	0	0	0.00K	0.00K	Tornado (EF1)
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An EF-1 tornado with maximum estimated winds near 100 mph, touched down briefly along Highway 34 several miles northeast of the Atlanta community in Southwest Winn Parish, where it snapped or uprooted numerous trees along the highway.

Winn Parish **1 ENE Joyce** **2 ENE Menefee**

05	1709CST 1711CST	3.11	100	0	0	0.00K	0.00K	Tornado (EF1)
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An EF-1 tornado, with maximum estimated winds near 100 mph, touched down just southeast of the Joyce community along Highway 84, where it snapped 20-25 trees as it moved northeast across Parish Roads 657 and 342. The tornado lifted shortly after it crossed just east of the intersection of Henry Sanders Road and Highway 499, where additional trees were snapped.

Natchitoches Parish **3 NNW Grand Ecore** **7 SSE Goldonna**

05	1725CST 1749CST	13.22	400	0	0	150.00K	0.00K	Tornado (EF2)
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The storm which produced a tornado in Northeast Sabine/Western Natchitoches Parishes continued to exhibit rotation as it crossed Interstate 49, with a new tornado touching down from the same storm as it crossed the Red River. This EF-2 tornado, with maximum estimated winds around 115 mph, touched down along the Red River just west of Highway 486 (Campti Cutoff Road), and tracked east northeast as it crossed Highway 486, Highway 71, and Maricelli Road. Numerous trees were snapped or uprooted across these areas. The tornado moved over Clear Lake, and continued to track northeast across Salt Pitt Road, where two vehicle trailers were flipped, trees were snapped, and low end EF-2 damage was evident as two power poles were snapped. The tornado then moved over a heavily wooded area before crossing Saline Lake into Western Winn Parish.

Winn Parish **1 W Hickory Vly**

05	1730CST 1731CST	1.17	300	0	0	0.00K	0.00K	Tornado (EF1)
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An EF-1 tornado, with maximum estimated winds around 104 mph, briefly touched down in the forest on the southwest side of Highway 127 and crossed the roadway. The tornado snapped a large area of 6-8 inch diameter pine trees as well as snapping and uprooting several hardwood trees. The tornado lifted after snapping 10-20 trees northeast of the roadway.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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LOUISIANA, Northwest

Bienville Parish

2 ENE Sparta
1 WNW Bear Creek

05	1735CST								
	1743CST	4.12	75	0	0	0.00K	0.00K	Tornado (EF1)	

An EF-1 tornado, with maximum estimated winds around 100 mph, touched down in a heavily wooded area north of Highway 507 about 4 miles northwest of the community of Bienville, and tracked northeast across Shiloh Road. The tornado continued northeast across Bailey Road, with 15 trees having been snapped or uprooted along these two roads. The tornado lifted within a heavily wooded area prior to reaching Collingsworth Road, just south southwest of the community of Bryceland.

Winn Parish

3 S Coldwater
Calvin

05	1749CST								
	1759CST	6.43	100	0	0	0.00K	0.00K	Tornado (EF2)	

This is a continuation of the Natchitoches Parish EF-2 tornado. This tornado weakened after crossing Saline Lake into Western Winn Parish, with sporadic damage noted as it tracked northeast across heavily wooded areas and into the Calvin community. It was here where several tree limbs were snapped before the tornado finally lifted. Maximum estimated winds had weakened to around 70 mph as it approached Calvin.

A broad upper level trough of low pressure swept east across the Plains during the afternoon and evening hours of November 5th, with the southern extent of the trough traversing Oklahoma and Arkansas. This trough reinforced a cold front southeast across East Texas, Northwest Louisiana, and Southwest Arkansas during the afternoon and evening, with southerly winds to the south allowing for a warm front to lift north into portions of Deep East Texas and Northcentral Louisiana. This allowed for ample low level moisture return northward across these areas, with the associated cloud cover keeping instability limited during the afternoon. However, strong low level shear was present, with enough forcing allowing for severe discrete supercells to develop during the mid and late afternoon hours near and south of the warm front over portions of Northwest and Northcentral Louisiana. These supercells spawned a total of 8 separate tornadoes during the afternoon, before large scale forcing and the strong low level shear shifted east with the trough passage during the evening.

It should be noted that these tornadoes produced very little if any lightning, given the shallow nature of the convection.

Caddo Parish

2 W Forbing

12	0433CST								
	1300CST			0	0	0.00K	0.00K	Flash Flood	

High water forced the closure of Linwood Avenue between Flournoy Lucas Road and Bert Kouns Industrial Loop. The Shreveport Police Department was directing traffic.

Caddo Parish

1 SE Shreveport

12	0435CST								
	0700CST			0	0	0.00K	0.00K	Flash Flood	

High water was reported on Dudley Drive and Highland Avenue in East Shreveport.

Caddo Parish

1 WSW Keithville Arpt

12	0437CST								
	1300CST			0	0	0.00K	0.00K	Flash Flood	

The southbound lane of Mansfield Road at Barron Road at the Union Pacific Railroad overpass was flooded and closed.

Caddo Parish

2 SSW Forbing

12	0515CST								
	1300CST			0	0	0.00K	0.00K	Flash Flood	

High water was over Wallace Lake Road south of Flournoy Lucas Road.

Caddo Parish

1 SW (SHV)Shreveport Rgnl

12	0516CST								
	0700CST			0	0	0.00K	0.00K	Flash Flood	

High water resulted in a road closure at West 70th Street and Highway 3132 (Terry Bradshaw Passway).

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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LOUISIANA, Northwest



Widespread heavy rainfall of three to six inches that fell across the Wallace Lake basin in Southern Caddo and Northern Desoto Parishes in Northwest Louisiana during the evening and overnight hours of November 11th-12th, resulted in moderate flooding to develop on Wallace Lake. The floodwaters spilled over portions of Linwood Avenue in Southern Caddo Parish, forcing the closure of this and several other roadways in this area of the parish.

**LAZ004>006-013>
014-021**

Caldwell - Claiborne - Jackson - Lincoln - Ouachita - Union

14	0400CST							
	0900CST			0	0	0.00K	0.00K	Winter Weather

A vigorous, closed, upper level low pressure system moved slowly east and northeast across Northeast Texas, Southwest Arkansas and Northern Louisiana during the morning hours of November 14th. The dynamics of this trough were so significant that an elevated area of lift or upward forcing formed on the east and northeast side of this trough over Southcentral Arkansas and Northcentral Louisiana. Despite drier air being entrained into this system from the south and west, enough moisture was able to feed into this system along its east and northeast flank such that precipitation fell in the form of light snow across portions of Northcentral and Northeast Louisiana, as well as Southcentral Arkansas. Small accumulations were noted, mainly less than one half inch. Thus, a Winter Weather Advisory was issued for this region for the morning hours of November 14th as a result.

In Union Parish, Marion recorded 0.3 inches of snow, Rocky Branch 0.2 inches, and 0.1 inches measured in Farmerville. In Claiborne Parish, Lisbon measured 0.2 inches of snow, and Athens 0.1 inches. In Lincoln Parish, Choudrant measured 0.2 inches of snow. In Jackson Parish, Jonesboro measured 0.1 inches of snow. In Ouachita Parish, 0.4 inches of snow was measured at the Monroe Regional Airport and also in Swartz, with 0.3 inches recorded in West Monroe. In Caldwell Parish, 0.1 inches of snow was measured in Columbia.

The measurable snow that fell in Monroe (Ouachita Parish) was the earliest measurable snow to fall on record, surpassing the previous record of November 24th, 1950, where 0.1 inches was recorded. Snowfall records in Monroe date back to 1892.

LOUISIANA, Southeast

East Feliciana Parish
1 SW Olive Branch

01	0141CST					
		0	0	0.00K	0.00K	Thunderstorm Wind (55EG)

A tree was reported blown down in the roadway in the 23200 block of Plank Road near Port Hudson-Pride Road in Zachary.

Note: The estimated wind gust of 55 knots is equivalent to 63 mph.

East Feliciana Parish
1 E Slaughter

01	0145CST					
		0	0	0.00K	0.00K	Thunderstorm Wind (55EG)

Multiple trees were reported blown down around Slaughter.

Note: The estimated wind gust of 55 knots is equivalent to 63 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
LOUISIANA, Southeast										
East Baton Rouge Parish 1 N Zachary	01	0150CST 0200CST			0	0	0.00K		Thunderstorm Wind (60EG)	
Trees were reported blown down on multiple roads in East Baton Rouge Parish.										
										Note: The estimated wind gust of 60 knots is equivalent to 69 mph.
East Feliciana Parish 2 ESE Battle 1 E Clinton	01	0150CST 0200CST			0	0	0.00K		Thunderstorm Wind (61EG)	
Emergency manager reported scattered wind damage southwest of Clinton and around the community of Clinton. in the vicinity of Highway LA 955 and Battle Road - at least seven trees were blown down. In the community of Clinton, multiple trees were blown down and at least house damaged by falling trees.										
										Note: The estimated wind gust of 61 knots is equivalent to 70 mph.
East Baton Rouge Parish 1 W Istroma	01	0152CST			0	0	0.00K		Thunderstorm Wind (55EG)	
Received reports that a tree fell on a mobile home on Shelley Street in Baton Rouge.										
										Note: The estimated wind gust of 55 knots is equivalent to 63 mph.
East Baton Rouge Parish (BTR)Ryan Fld Baton	01	0201CST			0	0	100.00K	0.00K	Thunderstorm Wind (60EG)	
Multiple single engine aircraft were reported damaged at Baton Rouge Airport. One aircraft was picked up and thrown 1000 feet, and was declared a total loss. Report received from Baton Rouge Airport Operations Manager.										
										Note: The estimated wind gust of 60 knots is equivalent to 69 mph.
East Baton Rouge Parish 2 N Comite	01	0210CST			0	0	10.00K	0.00K	Lightning	
A house fire was possibly caused by lightning in the 6700 block of Vineyard Drive in Baton Rouge.										
St. Helena Parish Greensburg	01	0210CST 0220CST			0	0	0.00K	0.00K	Thunderstorm Wind (60EG)	
Thunderstorm wind gusts blow down trees in several location in St Helena Parish that blocked roadways.										
										Note: The estimated wind gust of 60 knots is equivalent to 69 mph.
Washington Parish 4 WNW Lees Creek 4 WSW Bogalusa Arpt	01	0235CST 0242CST	2.25	200	0	2	0.00K		Tornado (EF2)	
An EF-2 tornado touched down along Highway 60, moved north-northeast across Highway 439 and continued to just north of Mack Adams Oberry Road. Where the tornado touched down along Highway 60, numerous trees were snapped and uprooted. A single family home had a large portion of its roof removed and one exterior wall blown in. Several trailers were heavily damaged including one rolled trailer, injuring its two occupants. Estimated peak wind was 115 mph, path length 2.25 miles, path width 200 yards.										
Tangipahoa Parish 1 SW Kentwood	01	0237CST 0240CST	0.61	50	0	0	0.00K		Tornado (EF1)	
An EF-1 tornado touched down along Louisiana Highway 1049 just west of Interstate 55, where minor tree damage occurred with one tree snapped. The tornado proceeded east with mainly just some light tree damage as it crossed I-55. The strongest damage occurred along Wren Street, where multiple trees were snapped and uprooted, along with numerous tree limbs damaged. At the end of Wren St., two large pine trees were uprooted. One fell through and destroyed a mobile home. Other minor structural damage occurred to a few residences where mainly shingles were ripped off. The tornado continued eastward before finally lifting along Louisiana Highway 1051. The estimated peak wind was 90 mph, path length 0.6 miles, path width 50 yards.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
LOUISIANA, Southeast										
Washington Parish										
3 NNW Varnado	01	0254CST								
4 SW Angie		0255CST	0.66	200	0	0		0.00K	Tornado (EF2)	
An EF-2 tornado initially touched down near Military Road, north of Brookedale Road, and continued north-northeast to just north of HH Williams Road. A large number of trees were snapped or uprooted. An outbuilding was destroyed, and several camper trailers rolled. A single family home had part of the roof removed with damage to the porch. Estimated peak wind was 115 mph, path length 0.66 miles, path width 200 yards.										
Tangipahoa Parish										
1 NNW Campbell	01	0257CST								
		0259CST	0.51	75	0	0		0.00K	Tornado (EF1)	
An EF-1 tornado touched down just north of Medical Center Drive and snapped multiple trees west of Veterans Avenue. The tornado crossed Veterans Avenue and led to further tree damage along with some minor to moderate structural damage. Minor damage occurred to a hotel, and also to a small office building. A few windows were blown out at the hotel. The tornado continued eastward, where it then caused moderate roof damage to a small professional building. Some roof decking was ripped off and multiple dormers were ripped off or damaged. The tornado continued eastward and quickly dissipated as it moved back into the woods. Estimated peak wind was 100 mph, path length 0.51 miles, path width 75 yards.										
Tangipahoa Parish										
4 S Robert	01	0306CST			0	0	0.00K	0.00K	Thunderstorm Wind (55EG)	
A tree was reported blown down east of Ponchatoula at the intersection of Louisiana Highway 445 and Louisiana Highway 22.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
St. Tammany Parish										
3 SE Goodbee	01	0323CST								
		0324CST	0.29	30	0	0		0.00K	Tornado (EF0)	
An EF-0 tornado touched down in the Tallow Creek subdivision, along Solomon Drive, where mostly minor tree damage occurred. It then traveled east along Cole Court and Arian Lane. Minor roof damage occurred mainly from shingles being ripped off and several trees were snapped. Multiple fences and mailboxes were also knocked down. The tornado lifted before reaching Jack Drive. Estimated peak wind was 85 mph, path length 0.29 miles, path width 30 yards.										
St. Tammany Parish										
1 ENE Claiborne	01	0330CST			0	0	0.00K	0.00K	Thunderstorm Wind (55EG)	
Multiple trees were blown down along Louisiana Highway 36 near Camille and East 3rd Streets.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
St. Tammany Parish										
1 N Abita Spgs	01	0330CST			0	0	0.00K	0.00K	Thunderstorm Wind (55EG)	
A large tree was reported uprooted on Rangeline Road north of Abita Springs. Event time approximated based on radar.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
St. Tammany Parish										
1 W Covington	01	0331CST			0	0	0.00K	0.00K	Thunderstorm Wind (55EG)	
Several trees and power lines were reported blown down in the Covington area.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Orleans Parish										
1 E Gentilly	01	0415CST			0	0	0.00K	0.00K	Thunderstorm Wind (50EG)	
Reports from broadcast media of a tree blown down on a home in New Orleans East.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Jefferson Parish										
Grand Isle	01	0536CST			0	0	0.00K	0.00K	Thunderstorm Wind (56MG)	
A 56 knot (64 mph) wind gust was observed at the Grand Isle CMAN station. A trailer was reported blown over in Grand Isle.										

Storm Data and Unusual Weather Phenomena

		Time	Path	Path	Number of	Estimated		November 2018	
Location	Date	Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	Character of Storm

LOUISIANA, Southeast

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes. Note: The measured wind gust of 56 knots is equivalent to 64 mph.

Jefferson Parish
1 ENE Jefferson 04 1610CST 0 0 0.00K 0.00K Thunderstorm Wind (60EG)
Emergency management reported part of the roof of a building on L and A Road in Metairie was damaged or ripped off.
Time of the event was estimated based on radar.
A cold front moving across southeast Louisiana produced strong thunderstorms that resulted in one report of wind damage.
Note: The estimated wind gust of 60 knots is equivalent to 69 mph.

LOUISIANA, Southwest

Cameron Parish
1 E Grand Chenier 01 0000CST 0 0 2.00K 0.00K Thunderstorm Wind (50EG)
Tress were downed onto a road in Grand Chenier.
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Avoyelles Parish
1 WSW Norma 01 0000CST
1 NW Mansura 0006CST 5.66 800 0 0 10.00K 0.00K Tornado (EF2)

This tornado began in October and continued into the first few minutes of November. Many trees were snapped and power lines downed near Hessmer. The tornado dissipated before reaching Highway 1 in Mansura. The maximum estimated winds were 122 MPH.

Jefferson Davis Parish
1 E Jennings 01 0008CST 0 0 2.00K 0.00K Thunderstorm Wind (50EG)
Power lines were downed in Jennings.
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Avoyelles Parish
5 ENE Marksville 01 0013CST
12 NNE Bordelonville 0027CST 11.46 350 0 0 10.00K 0.00K Tornado (EF1)

A tornado started in remote areas east of Marksville, and moved across Lake Ophelia Wildlife Refuge, where numerous trees were blown down or snapped. At Russells Landing, many trees were blown down or snapped. One landed on an RV. The tornado continued into the wildlife refuge.

Lafayette Parish
1 W Lafayette 01 0100CST 0 0 3.00K 0.00K Thunderstorm Wind (50EG)
A few trees were blown down in Lafayette.
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

St. Mary Parish
1 E Sterling Jct 01 0233CST 0 0 0.00K 0.00K Thunderstorm Wind (50EG)
A tree was downed in Franklin.
A strong storm system moved across the south and spawned an outbreak of tornadoes in Louisiana. The severe weather began late Halloween and went into early November 1st. One long lived tornado was ongoing at midnight. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

LAZ073-074

East Cameron - West Cameron

26 0800CST
1200CST 0 0 0.00K 0.00K Astronomical Low Tide

A strong cold front moved through Southwest Louisiana during the 25th and pushed tides below -1 foot MLLW on the 26th.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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MAINE, North

MEZ001>006

Northeast Aroostook - Northern Penobscot - Northern Piscataquis - Northern Somerset - Northwest Aroostook - Southeast Aroostook

03	1700EST									
04	0300EST				0	0				High Wind

Intensifying low pressure lifting across Maine drew a strong cold front across the region during the afternoon and evening of the 3rd. West to northwest winds rapidly increased in the wake of the cold front and persisted into the early morning hours of the 4th. Winds were sustained at 25 to 35 mph...with gusts of 50 to 60 mph. The winds toppled and snapped numerous trees along with breaking branches. The falling trees and branches brought down power lines contributing to power outages...along with snapped utility poles. Power outages rapidly increased through the evening of the 3rd into the early morning hours of the 4th. Power outages peaked at around 45,000 during the early morning hours of the 4th...which included additional power outages across central and Downeast portions of the region. Trees and utility poles blocked some roads slowing the recovery process. Winds then diminished later during the morning of the 4th.

MEZ002>006-010-031

Central Piscataquis - Northeast Aroostook - Northern Penobscot - Northern Piscataquis - Northern Somerset - Southeast Aroostook - Southern Piscataquis

13	0400EST									
	2200EST				0	0				Heavy Snow

Intensifying low pressure tracked along the New England coast to the Gulf of Maine during the 13th...exiting across the Maritimes during the early morning hours of the 14th. Snow expanded north across the region through the early morning hours of the 13th. Snow...heavy at times...persisted into the afternoon then diminished during the evening. Warning criteria snow accumulations occurred through the afternoon into the early evening. Storm total snow accumulations generally ranged from 6 to 9 inches...with local totals to around 10 inches...across northern areas. A snow and rain mix across central areas and a transition to rain Downeast limited snow accumulations in those areas.

16	0500EST									
	2000EST				0	0				Heavy Snow

MEZ002>006

Northeast Aroostook - Northern Penobscot - Northern Piscataquis - Northern Somerset - Southeast Aroostook

16	0600EST									
	0100EST				0	0				Heavy Snow

Intensifying low pressure tracking across the Gulf of Maine during the 16th brought heavy snow to the region. Snow expanded north across the region through the morning of the 16th. Snow...heavy at times...persisted across much of northern Maine through early evening then diminished late evening. Warning criteria snow accumulations occurred through the afternoon into the evening. Storm total snow accumulations generally ranged from 6 to 10 inches. A record daily snowfall for the 16th occurred at Caribou with 9.3 inches. Although the snow transitioned to a wintry mix...a daily snowfall record of 4.2 inches also occurred at Bangor on the 16th.

MEZ001>006-010>011-032

Central Penobscot - Central Piscataquis - Northeast Aroostook - Northern Penobscot - Northern Piscataquis - Northern Somerset - Northern Washington - Northwest Aroostook - Southeast Aroostook

27	0300EST									
	2330EST				0	0				Heavy Snow

MEZ029

Coastal Hancock

27	1200EST									
	1500EST				0	0				Coastal Flood

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MAINE, North

Low pressure weakened while approaching from the west through the early morning hours of the 27th while a secondary low developed and tracked toward southern Maine. The secondary low then occluded and slowly crossed the region through the 27th into the 28th. Snow expanded north across the region through the morning of the 27th. Snow persisted into the early evening...then diminished late evening. Warning criteria snow accumulations across east-central areas occurred through the late morning into early afternoon. Across northern areas...warning criteria snow accumulations occurred through the late afternoon into the evening. Storm total snow accumulations across much of east-central and northern Maine ranged from 6 to 10 inches...with local totals up to around 12 inches. However...lesser accumulations occurred across eastern portions of Aroostook county. Strong onshore winds...large waves and a high astronomical tide contributed to coastal flooding along portions of the Downeast coast around the time of high tide during the early afternoon of the 27th. Rocks of varying size and other debris were washed onto roads at several locations including Hull Cove...Seal Harbor...Schoodic Point and Seawall Road. Road damage was also reported at Seawall Road.

MAINE, South

MEZ007>009

Central Somerset - Northern Franklin - Northern Oxford

13	0200EST 1600EST	0	0	Heavy Snow
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A rapidly developing low pressure formed off the Mid Atlantic coast and tracked through southern New England. Forcing resulted from an open wave aloft, which limited intensity and duration of precipitation. Despite a track near the coast, a seasonably cold antecedent air mass allowed precipitation to begin as snow before mixing with and changing to rain at the coast into the foothills. Precipitation stayed mainly snow in the mountains.

MEZ007>009-018

Central Somerset - Interior York - Northern Franklin - Northern Oxford

16	0000EST 1400EST	0	0	Heavy Snow
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Coastal low pressure developing off the Mid Atlantic spread snow across the Northeast on the evening of November 15th. While the strongest lift remained to the south, moderate to heavy snow did spread into parts of the area, especially far southwestern Maine. This was due mainly to strong warm air advection, as a strong jet streak rounded the base of the upper level low over the Ohio River Valley. This jet streak lifting northeastward over the region allowed the dry slot to move into the area after midnight, bringing steady snowfall to an end. On November 16th the coastal low pressure became dominant, and steady snow developed to its northwest across the western Maine mountains.

20	0500EST 1700EST	0	0	Heavy Snow
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MEZ019-023-024

Coastal Cumberland - Coastal York - Interior Cumberland

20	0500EST 1800EST	0	0	Heavy Snow
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Low pressure tracked along a stalled frontal boundary draped across southern New England and brought widespread snowfall to the area. Late on the 19th and early on the 20th very light rain and snow persisted along the stalled front. As low pressure approached on the morning of the 20th precipitation gradually changed to all snow and became steadier. Snow continued through the day on the 20th as temperatures hovered near freezing. Low pressure continued to strengthen in the Gulf of Maine and helped to prolong the snow into the evening.

MEZ007>009-012>013

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

26	1900EST	0	0	Heavy Snow
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This winter storm began as a blizzard over the Midwest. The storm moved into the eastern Great Lakes early on the 26th and snow broke out over northern New England that afternoon and evening. Secondary low pressure developed in the vicinity of Cape Cod on the evening of the 26th helping to ensure cooler air remained trapped across much of western Maine. Surface temperatures hovered within a couple degrees of freezing, but aloft temperatures were much colder. As a result snowfall was heavy and wet, and very dependent on elevation. While lower elevations mixed at times with sleet, freezing rain, and rain, the higher terrain remained predominantly snow and significant accumulations occurred. Low pressure slowed to a crawl on the 27th and snow continued into the 28th, although the bulk of the accumulation was from the evening of the 26th to the afternoon of the 27th.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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MAINE, South

MEZ023-024

Coastal Cumberland - Coastal York

27	1248EST 1445EST	0	0	60.0K	0.00K	Coastal Flood
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Low pressure intensified as it moved up the east coast to near Cape Cod, Massachusetts on November 27th. This allowed for gale force northeasterly winds to generate nearshore waves of 10 to 15 feet and increased storm surge values. This coastal flood event coincided with a period of high astronomical tides.

MARYLAND, Central

Howard County

2 W Long Corner

02	1918EST	0	0	Thunderstorm Wind (61EG)			
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A sign and gazebo were damaged at Lu and Joe's Restaurant. Multiple trees were also down near the 19000 block of Windsor Forest Road.

Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

Howard County

2 NW Long Corner

02	1919EST 1920EST	0.59	200	0	0	0.00K	0.00K	Tornado (EF1)
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A tornado touched down in extreme northwestern Howard County, Maryland, approximately 1 mile south of Interstate 70/US-40/Baltimore National Pike at 8:19 PM EDT. Several wooden power poles were snapped along Penn Shop Road just east of MD-27/Ridge Road, indicative of winds over 100 MPH. The path continued northeastward into Carroll County.

Carroll County

2 SSW Mt Airy

2 SSE Cover

02	1920EST 1926EST	4.86	400	0	0	900.00K	Tornado (EF2)
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A tornado moved northeastward from Howard County and entered Carroll County around 8:20 PM EDT on the evening of November 2nd. Several trees were downed along Bennett Road. Numerous trees were downed in the Pheasant Ridge community just south of MD-144/Frederick Road, and several mobile homes were heavily damaged. Several power poles were snapped along MD-144/Frederick Road.

As the tornado crossed Interstate 70/US-40/Baltimore National Pike, numerous trees and branches were downed in the roadway and on vehicles, which appeared to have been pulled off the roadway by the winds. No injuries were reported.

The tornado proceeded to move into the retail area of Mt. Airy, where a canopy over the gas pumps at High's Dairy Store was partially torn off, and the TJ Maxx roof was lifted up and partially removed. There were also numerous trees snapped and uprooted in a convergent manner behind the shopping center to near the Mt. Airy water tower. In the immediate path, virtually no trees were left undamaged, indicative of winds over 100 MPH.

The tornado continued northward from this point, where several outbuildings at the Knills Farm Market just east of MD-27/Ridge Road were severely damaged or completely destroyed, including a metal silo which twisted and collapsed. Nearby along Watersville Road, several more power poles were snapped purely from wind (not from trees falling on power lines). On either side of the farm, virtually all trees in the tornado's path were downed in a convergent manner, including at a residence along Watersville Road, with some showing signs of bark being stripped by the wind. This was one area where maximum winds are estimated to have been near 120 mph.

The tornado continued northeastward, with several residences experiencing shingle and roof damage/removal along Arrowwood Circle, and downed numerous trees and power lines, consistent with winds around 90 MPH.

Numerous hardwood trees, virtually all in the tornado's path, were snapped with signs of stripped bark along the 6000 block of Runkles Road. At Snell's Greenhouses, water was completely removed from a pond, and several greenhouses were destroyed. A nearby home weather station in the tornado's path just to the northeast measured a wind gust of 112 mph. Based on this, it is likely the tornado's maximum winds again approached 120 mph in this area. This occurred at around 825 PM EDT, when the FAA's Terminal Doppler Weather Radar near Washington Dulles International Airport showed its strongest rotational signature.

The last evidence of tornadic damage was observed on Gillis Falls Road where a few trees were uprooted in convergent fashion just east of Runkles Road. Radar imagery from the FAA's Terminal Doppler Weather Radar near Washington Dulles International Airport showed the tornadic velocity couplet dissipate just north of Gillis Ford Road at about 826 PM EDT.

The damage estimate was provided by Carroll County Emergency Management.

Carroll County

Shiloh

02	1942EST	0	0	Thunderstorm Wind (62MG)			
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A trained spotter reported a measured 71 mph (62 knot) gust.

Note: The measured wind gust of 62 knots is equivalent to 71 mph.

Storm Data and Unusual Weather Phenomena

		Time	Path	Path	Number of	Estimated		November 2018	
Location	Date	Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	Character of Storm

MARYLAND, Central

Howard County
1 W Highland 02 1954EST 0 0 Thunderstorm Wind (50EG)
Multiple power lines were downed near the intersection of Ten Oaks Road and Linden Church Road. A tree was also blown down in the 7000 block of Mink Hollow Road.
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Howard County
1 S Marriotsville 02 2004EST 0 0 Thunderstorm Wind (50EG)
A large tree was blown down across the road near the 1200 block of Marriottsville Road.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Baltimore City (c) County Penn Mary Jct 02 2042EST Holabird 2044EST 1.5 150 2 0 Tornado (EF1)

A tornado touched down in Baltimore City at about 9:42 PM EDT on Friday evening, November 2, 2018. Initial damage was to a tractor trailer which was blown over on Interstate 95 just north of the Fort McHenry Tunnel. A few trees were topped just west of the interstate, and a fence line blew over on South Newkirk Street just to the east. This damage is consistent with winds of about 70 MPH.

The tornado tracked generally eastward roughly parallel to Holabird Avenue. It blew in large garage doors on both side of the building at Flexi-Van Leasing facility, consistent with wind speeds over 90 MPH.

As it continued eastward, it impacted the north building of the Amazon sorting facility, reaching a peak intensity of around 105 MPH. It blew the roof off a portion of the building, including iron rafters. With the loss of the roof, the eight inch concrete wall panels pushed in and collapsed into the building towards the north end of the west wall. Two fatalities occurred inside the building with the wall collapse. About a dozen truck trailers were pushed over, moved, or rolled by the wind. Two of the trailers were noted to have been blown in an opposite direction of the wind that toppled the wall. Several light stanchions and signs were blown over, and several car windows were blown out by flying debris. Radar data from the FAA's Terminal Doppler Weather Radar near Baltimore-Washington International Thurgood Marshall Airport indicated this was around 9:43 PM EDT, and this is when the strongest velocity signature was noted.

The tornado continued east along the south side of Holabird Avenue, uprooting several large trees, and snapping dozens of large branches, consistent with winds of about 80 MPH.

Damage along the entire path was mainly convergent, and while much of the damage was from west-southwest to east-northeast, there were several notable exceptions of damage in differing directions. An eyewitness fire fighter outside the Baltimore City Fire Department Engine 50 firehouse in the area saw the swirling debris and funnel cloud as it passed. The tornado lifted as it reached the intersection with Dundalk Avenue, which according to radar would have been at about 9:44 PM EDT. M54PS, M37PS

Baltimore County
St Helena 02 2044EST
1 ENE Dundalk 2045EST 1.22 150 0 1 15.00K Tornado (FF1)

A tornado tracked eastward from Baltimore City into southern Baltimore County near the city of Dundalk, around 9:44 PM EDT. After it initially lifted, the tornado briefly touched down one last time at the Holabird East Apartments on 4 Georges Court in Dundalk. The northeast building in the complex was unroofed entirely, and the building was uninhabitable displacing 42 people. The strong southwest wind hit the building broadside and lifted the roof off the building. No other damage was noted in the area. Lifting of the entire roof is consistent with wind speeds near 100 MPH. A resident reported swirling winds with the event. One resident in the building was treated for cuts. This was the last area of damage, and the tornado signature on radar weakened after this point just after 9:45 PM EDT. The monetary damage is an estimate provided by the county emergency management office.

Harford County
1 W Scarff 02 2048EST 0 0 Thunderstorm Wind (50EG)
Trees were blown down on Pleasantville Road.
Note: The estimated wind gust of 50 kts. is equivalent to 58 mph.

Harford County
1 W Gibson 02 2103EST 0 0 Thunderstorm Wind (50EG)
Trees and wires were blown down along Conowingo Road.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	November 2018 Character of Storm
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MARYLAND, Central

A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd. A squall line developed along the cold front, and while instability was limited, deep and low level shear were strong enough to support the development of a quasi-linear convective system. The most intense portions of the system were able to generate localized severe damaging winds and tornadoes. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Carroll County **1 NNW Keymar**

02	2105EST								
03	0057EST				0	0	0.00K	0.00K	Flood

The stream gage on the Big Pipe Creek in Bruceville exceeded the 8 foot flood stage during the indicated period, flooding Keysville-Bruceville Road. The peak level of 9.54 feet was observed at 23:15 EST on November 2nd.

A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd, producing a period of stratiform precipitation in the late afternoon, followed by a potent squall line during the evening hours.

Charles County

2 WSW Newburg Clifton Arp	02	2106EST			0	0			Thunderstorm Wind (50EG)
									A tractor trailer truck partially overturned on the US-301 Harry Nice Bridge.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Charles County **1 ESE Popes Creek**

	02	2120EST			0	0			Thunderstorm Wind (50EG)
									Multiple trees were blown down in the 12200 block of Popes Creek Road near Edge Hill Road.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Charles County **1 SW Springhill**

	02	2121EST			0	0			Thunderstorm Wind (50EG)
									A tree was blown down near the intersection of Preference Drive and US-301 Crain Highway.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Charles County **1 S Allens Fresh**

	02	2125EST			0	0			Thunderstorm Wind (50EG)
									Straight line winds caused minor damage to the roof of the overhang of the Citgo Gas Station on US-301 Crain Highway near MD-234 Budds Creek Road. Several trees were also downed along Glasva School Road. A barn was destroyed on Edgewater Drive just north of MD-234 Budds Creek Road.

A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd. A squall line developed along the cold front, and while instability was limited, deep and low level shear were strong enough to support the development of a quasi-linear convective system. The most intense portions of the system were able to generate localized severe damaging winds and tornadoes. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

MDZ011-013-016> 018-507>508

Anne Arundel - Calvert - Charles - Northwest Harford - Prince Georges - Southeast Harford - Southern Baltimore - St. Mary's	10	2200EST							
	11	0900EST							

					0	0			Frost/Freeze
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High pressure, clear skies, and light winds led to temperatures that fell below freezing.

MDZ003-501>503

Central and Eastern Allegany - Extreme Western Allegany - Frederick - Northwest Montgomery - Washington	15	0500EST							
	16	0000EST							

					0	0			Winter Storm
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MDZ013-504

Central And Southeast Montgomery - Prince Georges	15	0500EST							
		1500EST							

					0	0			Winter Weather
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Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MARYLAND, Central

MDZ005-505-507

Carroll - Northern Baltimore - Northwest Harford - Northwest Howard

15	0700EST									
16	0000EST				0	0				Winter Storm

MDZ011-014-506-508

Anne Arundel - Central And Southeast Howard - Southeast Harford - Southern Baltimore

15	0700EST									
	1500EST				0	0				Winter Weather

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including heavy snow and mixed precipitation northwest of the I-95 corridor, and mainly rain in southern Maryland.

MDZ501-502

Central and Eastern Allegany - Extreme Western Allegany

24	0700EST									
	1500EST				0	0				Winter Storm

MDZ003-004

Frederick - Washington

24	0700EST									
	1300EST				0	0				Winter Weather

An area of low pressure developed along the Gulf Coast on the night of November 23rd, and tracked northeastward to the North and South Carolina coastlines during the daytime hours on the 24th, strengthening to around 990mb on the night of the 24th as it continued moving northeastward through the Delmarva to off the coast of New Jersey by the morning of the 25th. The system then began weakening on the 25th as it moved out into the western Atlantic Ocean. Widespread rain was brought to the region, along with a period of freezing rain and ice accumulations along and west of the Blue Ridge/Catoctin Mountains.

**Montgomery County
2 N Darnestown**

24	1838EST									
25	0414EST				0	0	0.00K	0.00K	Flood	

The stream gage on the Seneca Creek at Dawsonville exceeded the 7.5 foot flood stage during the indicated period, leading to flooding of the Seneca Creek Greenway, as well as a small portion of Berryville Road west of Darnestown. The peak level of 8.18 feet occurred at 7:55 PM on the 25th.

**Carroll County
1 NNW Keymar**

24	1856EST									
	2336EST				0	0	0.00K	0.00K	Flood	

The stream gage on the Big Pipe Creek at Bruceville exceeded the 8 foot flood stage during the indicated period, leading to flooding on Keysville-Bruceville Road. The peak level of 9.06 feet occurred at 9:00 PM on the 24th.

**Montgomery County
1 NW Rock Creek Forest**

24	1912EST									
	2112EST				0	0	0.00K	0.00K	Flood	

Water rescue required of people stranded by floodwaters in the Meadowbrook Park Community Center.

**Montgomery County
1 SW Brighton**

24	1936EST									
	2136EST				0	0	0.00K	0.00K	Flood	

Car stranded in floodwaters on Brighton Dam Road at the Hawlings River.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MARYLAND, Central										
Montgomery County 1 NW Rock Creek Forest	24	2032EST 2232EST			0	0	0.00K	0.00K	Flood	
Beach Drive closed from East West Highway to the DC line due to flooding of Rock Creek.										
Baltimore County Glencoe	24	2036EST								
	25	0542EST			0	0	0.00K	0.00K	Flood	
The stream gage on Gunpowder Falls at Glencoe exceeded the flood stage of 7 feet during the indicated time period, leading to flooding on portions of Upper Glencoe Road, Lower Glencoe Road, Sparks Road and Home Road. Additionally, water began to enter buildings off of Sparks Road. The peak level of 10.74 feet occurred at 12:15 AM on the 25th.										
Frederick County 1 NE Utica 2 NW Johnsburg	24	2106EST 2306EST			0	0	0.00K	0.00K	Flood	
Frederick County 911 Center reported about thirty roads closed due to high water. The areas that had the most closures were north and east of Frederick City.										
Montgomery County 1 SE Mt Zion	24	2106EST 2306EST			0	0	0.00K	0.00K	Flood	
Car stranded in high water near the intersection of Volunteer Drive and Olney-Laytonsville Road.										
Harford County 1 SW Singer	24	2111EST 2346EST			0	0	0.00K	0.00K	Flood	
The stream gage on Otter Point Creek at Edgewood exceeded the 8 foot flood stage during the indicated period, leading to flooding along Winters Run Road near Singer Road. The peak level of 8.38 feet occurred at 10:15 PM on the 24th.										
Howard County 4 S Savage	24	2123EST								
	25	0335EST			0	0	0.00K	0.00K	Flood	
The stream gage on the Little Patuxent River at Savage exceeded the flood stage of 10 feet during the indicated period. Riverside trains began to flood, and water approached fields off of Bald Eagle Drive, as well as Brock Bridge Road. The peak level of 10.59 feet occurred at 11:00 PM on the 24th.										
Howard County 1 N Columbia	24	2334EST								
	25	0134EST			0	0	0.00K	0.00K	Flood	
Road closed due to flooding at intersection of Route 108 and Woodland Road.										
Baltimore County 1 SSW Oella	24	2356EST								
	25	0352EST			0	0	0.00K	0.00K	Flood	
The stream gage on the Patapsco River at Elkrige (ERDM2) exceeded the 15 foot flood stage during the indicated period, leading to flooding along River Road in Patapsco Valley State Park. Large portions of the park also flooded near the playground off Gunn Road. The peak level of 15.3 feet occurred at 1:45 AM on the 25th.										
St. Mary's County Great Mills	25	0045EST			0	0	0.00K	0.00K	Flood	
The stream gage on the St. Marys River at Great Mills exceeded the 6 feet flood stage during the indicated period. Flat Iron Road flooded, and water entered some yards in Great Mills. The peak level of 6.00 feet occurred at 12:45 AM on the 25th.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
MASSACHUSETTS, Central and East										
Essex County Middleton	03	0614EST 0714EST			0	0	0.00K	0.00K	Flood	
In Middleton, there was significant flooding on a portion of Maple Street.										
Essex County 1 NNW South Lawrence	03	0622EST 0722EST			0	0	0.00K	0.00K	Flood	
In Lawrence, there were flooded streets at Water Street and Marble Avenue.										
Middlesex County 2 WNW Framingham	03	0627EST 0727EST			0	0	0.00K	0.00K	Flood	
In Framingham, Route 9 was closed at Oakcrest Drive due to flooding.										
Suffolk County 1 ENE Dorchester Center	03	0648EST 0748EST			0	0	0.00K	0.00K	Flood	
In Dorchester, Morrissey Boulevard at Tolman Street was closed due to flooding.										
Norfolk County 1 S Franklin	03	0655EST 0755EST			0	0	0.00K	0.00K	Flood	
In Franklin, the I-495 exit southbound ramp to King Street was completely flooded and was reaching up to car doors.										
Plymouth County 1 N Kingston	03	0710EST 0810EST			0	0	1.00K	0.00K	Flood	
In Kingston, a car was stuck in two feet of water on Marion Drive near the railroad tracks.										
Norfolk County 1 NW South Weymouth Nas	03	0717EST 0817EST			0	0	0.50K	0.00K	Flood	
In South Weymouth, Columbian Street was closed at Nevin Street due to flooding. A car was stuck in the flood waters.										
MAZ003			Eastern Franklin							
	03	1128EST 1400EST			0	0	3.0K	0.00K	High Wind	
MAZ011			Eastern Hampden							
	03	1130EST 1430EST			0	0	4.0K	0.00K	Strong Wind	
MAZ022			Barnstable							
	03	1144EST 1500EST			0	0	9.0K	0.00K	High Wind	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MASSACHUSETTS, Central and East										
MAZ002-004-010-012	Eastern Hampshire - Northern Worcester - Southern Worcester - Western Franklin									
	03	1230EST 1430EST			0	0	10.0K	0.00K	Strong Wind	
MAZ005>007-013>017-019>021-026	Eastern Essex - Eastern Norfolk - Eastern Plymouth - Northern Bristol - Northwest Middlesex County - Southeast Middlesex - Southern Bristol - Southern Plymouth - Suffolk - Western Essex - Western Middlesex - Western Norfolk									
	03	1255EST 1600EST			0	0	58.5K	0.00K	High Wind	
Low pressure over New York City early in the morning on November 3rd rapidly intensified as it moved northeastward across New England. Heavy rain occurred in the early morning hours, with generally 1.50 to 2.50 inches in eastern sections of southern New England and up to 3.66 inches in the slopes of the Berkshires. A few severe thunderstorms moved from Rhode Island into eastern Massachusetts around daybreak. As the strong low passed to our north, strong to damaging westerly winds developed during the afternoon.										
Middlesex County										
Malden	10	0023EST 0123EST			0	0	0.00K	0.00K	Flood	
In Malden, a portion of Highland Avenue was flooded and closed for a time, shortly after midnight.										
Bristol County										
1 ENE Head Of Westport 1 ESE Westport Factory	10	0108EST 0208EST			0	0	0.00K	0.00K	Flood	
In Dartmouth, there was 1 foot of street flooding on portions of Old Westport and Beeden Roads.										
MAZ002-005-007>008-012>013-018	Eastern Essex - Eastern Franklin - Southern Worcester - Western Franklin - Western Hampshire - Western Middlesex - Western Norfolk - Western Plymouth									
	10	1200EST 1800EST			0	0	11.7K	0.00K	Strong Wind	
Low pressure quickly moved across the Cape Cod Canal overnight and exited to the northeast of the region on the morning of the 10th. A few reports of urban flooding were received in eastern Massachusetts. Strong, gusty winds followed in the afternoon.										
MAZ022-023	Barnstable - Dukes									
	13	1222EST 1440EST			0	0	1.5K	0.00K	High Wind	
A low pressure system with a very strong southerly low level jet moved across southeast Massachusetts on November 13th. Winds gusted to 40 to 60 mph in southeastern Massachusetts. One to 2.3 inches of rain fell across much of the region, but no flooding was reported.										
MAZ002>005-008>014-017-026	Eastern Franklin - Eastern Hampden - Eastern Hampshire - Northern Bristol - Northern Worcester - Northwest Middlesex County - Southeast Middlesex - Southern Worcester - Western Franklin - Western Hampden - Western Hampshire - Western Middlesex - Western Norfolk									
	15	1700EST 0100EST			0	0	0.00K	0.00K	Heavy Snow	
MAZ007-015-019-022-024	Barnstable - Eastern Essex - Eastern Plymouth - Nantucket - Suffolk									
	16	0000EST 0400EST			0	0	0.00K	0.00K	High Wind	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MASSACHUSETTS, Central and East

MAZ019-020

Eastern Plymouth - Southern Bristol

16	0200EST 0400EST	0	0	1.3K	0.00K	Strong Wind
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An early-season nor'easter moved from the Mid-Atlantic coast to southeastern Massachusetts on the 15th and away from the region on the 16th. A quick thump of heavy snow occurred on the front end of the storm, with most accumulations over with by or shortly after midnight on the 16th. Snowfall amounts ranged from only a couple of inches in southeasternmost sections of MA to 8 to 10 inches in western and northern MA. Mainly rain occurred at Boston's Logan Airport. Strong east to northeast winds battered coastal areas ahead of the low pressure system.

25	1145EST 1300EST	0	0	0.00K	0.00K	Coastal Flood
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MAZ007-015

Eastern Essex - Suffolk

25	1154EST 1326EST	0	0	0.00K	0.00K	Coastal Flood
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A storm system moving northeast from the DelMarVa region caused some heavy rain and minor coastal flooding at the time of the mid-day tide on November 25. A high astronomical tide combined with 10+ foot seas just offshore and NNE wind gusts of 30 to 40 knots to produce a 1 to 1.5 foot storm surge, which caused pockets of minor coastal flooding within an hour or two of the high tide.

MAZ007

Eastern Essex

26	1000EST	0	0	1.0K	0.00K	Strong Wind
27						

MAZ002

Western Franklin

26	1800EST	0	0	7.0K	0.00K	Heavy Snow
27	1000EST					

MAZ008-009

Western Hampden - Western Hampshire

26	1800EST	0	0	1.9K	0.00K	Winter Weather
27	0800EST					

MAZ020

Southern Bristol

27	1030EST 1130EST	0	0	0.00K	0.00K	Coastal Flood
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A low pressure system over the mid-Atlantic region strengthened as it moved across southern New England on Monday, Nov. 26. It moved into northern New England on Tuesday, Nov. 27, where it lingered into Wednesday. A foot of snow fell in northwesternmost part of Franklin County, Massachusetts, with 6 to 10 inches elsewhere in the immediate east slopes of the Berkshires. One to two inches of rain fell across the remainder of the region. Strong winds gusted to 45 to 55 mph in eastern Massachusetts, but there was only one report of a tree down - in Essex County in northeastern Massachusetts.

MASSACHUSETTS, West

MAZ001-025

Northern Berkshire - Southern Berkshire

03	1100EST 2000EST	0	0	2.0K	0.00K	Strong Wind
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A low pressure system rapidly strengthened as it moved from eastern New York to New Brunswick on November 3rd, resulting in strong winds across the region. Gusts up to 50 mph were recorded.

10	1200EST 2200EST	0	0	1.0K	0.00K	Strong Wind
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Storm Data and Unusual Weather Phenomena

		Time	Path	Path	Number of	Estimated		November 2018	
Location	Date	Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	Character of Storm

MASSACHUSETTS, West

MAZ025

Southern Berkshire

10 1200EST
2200EST 0 0 1.0K 0.00K Strong Wind

A low pressure system quickly strengthened as it moved into Quebec on November 10th, resulting in the development of strong winds during the afternoon and evening hours in western Massachusetts. Wind gusts were recorded as high as 46 mph.

MAZ001-025

Northern Berkshire - Southern Berkshire

A strengthening coastal low pressure system moved along the Atlantic shoreline November 15th and 16th, bringing accumulating snow and mixed precipitation to western Massachusetts. The snow spread in during the evening before changing to sleet and freezing rain overnight with minimal ice accretion. It changed back to snow during the morning hours of the 16th before ending. Overall, 3 to 9 inches of snow were recorded with the heaviest amounts over the higher terrain. The snow allowed many area ski hills to open earlier than normal for the season.

22 0100EST
1200EST 0 0 Cold/Wind Chill

MAZ025

Southern Berkshire

22 0100EST
1200EST 0 0 Cold/Wind Chill

A frigid airmass arrived in the wake of an Arctic cold front on the 22nd, resulting in one of the coldest Thanksgivings on record for western Massachusetts. Wind chill values fell to as low as -20 degrees Fahrenheit during the morning of the 22nd, while high temperatures only reached the teens.

MAZ001

Northern Berkshire

A low pressure system approaching from the southwest brought an area of rain and snow to western Massachusetts on the 26th. Over the higher elevations primarily above 1500 feet in the northern part of Berkshire County, the precipitation was mainly heavy, wet snow during the afternoon and evening hours, continuing overnight before tapering off in the late morning of the 27th. Additional snowfall occurred from the evening of the 27th to the evening of the 28th. Snowfall totals ranged mainly from 6 to 12 inches at elevations above 1500 feet. A few traffic accidents were reported as a result of the snowfall.

MICHIGAN, East

MIZ053-054

Saginaw - Tuscola

25 2300EST
26 1200EST 0 0 0.00K 0.00K Heavy Snow

Weakening low pressure tracked through the southern Great Lake Region bringing the first significant snowfall for parts of southeast Michigan. Tuscola and Saginaw counties both had reports of 7 inches or greater of snow, but amounts quickly tapered off as one headed southeast, with Monroe, Lenawee, Wayne, Macomb, and St. Clair counties all seeing less than 1 inch. Here are a couple of the higher snowfall totals reported: Burt 7.5 Caro 7.0 Bridgeport 6.0.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
MICHIGAN, North										
MIZ008		Chippewa								
	09	0300EST			0	0	0.00K	0.00K	Heavy Snow	
	10									
Strengthening low pressure crossed northern Michigan on the night of the 9th into the early morning of the 10th. Snow developed ahead of the low, with the heaviest snow north of M-32, and in particular in eastern upper Michigan. Central and eastern Chippewa County, mainly near and east of I-75, picked up 8 to 12 inches of snow, with the highest amounts in Dafters, Barbeau, and De Tour Village.										
MIZ016		Emmet								
	11	1300EST								
	12	0100EST			0	0	0.00K	0.00K	Heavy Snow	
Low pressure crossed the Lake Superior basin on the 11th. Southwest flow ahead of the low resulted in lake enhanced snow off of Lake Michigan, heaviest in parts of Emmet County. Six to ten inches of snow fell in central Emmet County during the day and evening of the 11th, heaviest in the Pleasant View area.										
MICHIGAN, Upper										
MIZ003		Northern Houghton								
	08	1700EST								
		2100EST			0	0	0.00K	0.00K	Winter Weather	
Lake enhanced snow bands dropped locally moderate snowfall near Hancock during the evening of the 8th.										
MIZ005-014		Alger - Marquette - Southern Schoolcraft								
	09	0700EST								
	10	1800EST			0	0	0.00K	0.00K	Winter Storm	
MIZ013		Delta								
	09	0800EST								
		1600EST			0	0	0.00K	0.00K	Winter Weather	
MIZ003-009		Baraga - Gogebic - Northern Houghton								
	09	1400EST								
	10	0600EST			0	0	20.0K	0.00K	Winter Storm	
Heavy lake enhanced snow bands developed off both Lake Superior and Lake Michigan and impacted portions of west and central Upper Mi from the 9th into the 10th. Strong winds also caused considerable drifting of snow over the Keweenaw Peninsula.										
MIZ002-004		Baraga - Ontonagon								
	12	0800EST								
	13	1530EST			0	0	0.00K	0.00K	Winter Weather	
Moderate lake effect snow fell over portions of Baraga and Ontonagon counties from the 12th into the morning of the 13th.										
MIZ007		Luce								
	13	0000EST			0	0	0.00K	0.00K	Winter Weather	
	14									
Weak disturbances moving across Lake Superior helped generate moderate lake effect snow into Luce County on the 13th.										
MIZ005		Marquette								
	19	0700EST								
		1900EST			0	0	25.0K	0.00K	Winter Weather	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MICHIGAN, Upper

A low pressure trough moving through the Upper Great Lakes produced moderate snow over the higher terrain of Marquette County on the 19th.

MIZ006

Alger

20	2100EST									
21	0900EST				0	0	0.00K	0.00K	Winter Weather	

A narrow band of moderate to heavy snow set up over western Alger County late evening on the 20th and continued into the morning hours of the 21st. North winds gusting from 25 to 30 mph caused considerable blowing of snow as well.

MIZ006-009

Alger - Gogebic

27	0000CST									
	1700CST				0	0	0.00K	0.00K	Winter Weather	

A disturbance moving across Lake Superior enhanced lake effect snow bands into Gogebic and Alger counties resulting in moderate snow accumulation on the 27th.

MINNESOTA, Northeast

MNZ021

Southern Cook

04	1300CST									
	2300CST				0	0	0.00K	0.00K	Heavy Snow	

Low pressure moved from northern Missouri on November 4th northeast to the Bayfield Peninsula by the morning of the 5th. This low positioning, along with Lake Superior surface temperatures in the 40s, set up favorable conditions for lake effect snow along the North and South Shores of Lake Superior. While most locations saw less than 4, one location along the terrain ridge adjacent to Lake Superior's North Shore recorded 6 of accumulation.

09	0100CST									
	2200CST				0	0	0.00K	0.00K	Heavy Snow	

The lake effect snow of November 9-10 was the first major event along western Lake Superior for the season. A band of lake effect snow developed over the North Shore of Lake Superior along the Gunflint Trail to Grand Portage. Grand Portage reported 12 at 0845 on the 9th, while the Golden Eagle Lodge on the Gunflint Trail reported 7.4.

MINNESOTA, Southwest

MNZ071-080>081-089>090-097>098

Cottonwood - Jackson - Lincoln - Lyon - Murray - Nobles - Pipestone - Rock

16	1500CST									
17	0100CST				0	0	0.00K	0.00K	Winter Weather	

Mid-level frontogenesis within the entrance region of a jet streak across northern Wisconsin brought rapid onset to precipitation during the afternoon and evening of November 16. Gradual loss of deep saturation resulted in a trailing area of light freezing rain or freezing drizzle behind the main light snow band.

MISSISSIPPI, Central

Adams County 4 NNW Sibley 5 ESE Linwood

01	0104CST									
	0111CST	4.98	250	0	0	500.00K	0.00K	Tornado (EF1)		

This tornado developed along Robins Lake Rd. and moved northeastward across Deer Lake Rd., Timberlake Rd., Lower Woodville Rd., and Grove Acres Rd. before crossing US Highway 61. A large metal shed was heavily damaged as the tornado continued northeast and then through the Meadows subdivision and passed north of the Beau Pre Country Club before crossing Cherry Grove Plantation Road and ended just beyond Kingston Rd. Along the path, numerous trees were snapped or uprooted. About 3/4 of the roof of a home was removed along Robins Lake Rd. On Lower Woodville Rd., a mobile home was shifted off its foundation, had multiple windows broken, and had some walls removed with debris blown downwind. There was another home with roofing material removed at this location. Maximum estimated winds were 105 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Adams County 2 E Natchez	01	0105CST		0	0	10.00K	0.00K		Thunderstorm Wind (50EG)	
		A line of strong to severe storms produced a strong outflow boundary which partially lifted off a metal tin roof from a park structure.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Adams County 2 E Natchez 2 NW Johnsboro	01	0109CST 0110CST	0.99	200	0	0	500.00K	0.00K	Tornado (EF2)	
		This tornado developed along a line of severe thunderstorms that progressed from southwest to northeast across Adams County during the early morning hours. The tornadic damage was mainly seen between Highway 61 and Morgantown Road, along the north side of Natchez. Only a few shingles were removed from the majority of homes, however downed power lines, snapped utility poles and snapped trees bore strong characteristics of tornado damage. Additionally, it was the loss of over 50 percent of a roof of a single home that led to the EF-2 rating. Maximum estimated winds were 115 mph.								
Sunflower County 1 S Pollock	01	0118CST		0	0	5.00K	0.00K		Thunderstorm Wind (50EG)	
		A tree was blown down just off of Highway 49 West on the south side of Indianola.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Claiborne County 1 WNW Oaklawn	01	0125CST		0	0	10.00K	0.00K		Thunderstorm Wind (50EG)	
		Multiple trees were blown down on Grand Gulf Road.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Warren County 1 W Stout	01	0129CST		0	0	3.00K	0.00K		Thunderstorm Wind (50EG)	
		A tree was blown down on Warrenton Road.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Jefferson County Lorman	01	0130CST		0	0	3.00K	0.00K		Thunderstorm Wind (50EG)	
		A tree was blown down across Highway 552 near Highway 61.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Claiborne County 1 ESE Port Gibson	01	0130CST 0132CST	1.06	200	0	0	50.00K	0.00K	Tornado (EF1)	
		This tornado developed along a line of severe thunderstorms that progressed from southwest to northeast across Claiborne County during the early morning hours. This particular tornado tracked to the north-northeast along Highway 61 after starting on the northern fringe of downtown Port Gibson. Some minor to moderate structural damage occurred in the confines of the city, but otherwise damage was limited to snapped hardwood trees. Maximum estimated winds were 105 mph.								
Claiborne County 1 SSE Ingleside 1 SSW Willows	01	0131CST 0136CST	3.53	200	0	0	30.00K	0.00K	Tornado (EF1)	
		This tornado developed along a line of severe thunderstorms that progressed from west to east across Claiborne County during the early morning hours. A fatality involving a vehicle occupant occurred as the vehicle ran into a tree that had fallen in the road as the tornado crossed Highway 61. Otherwise, damage was mainly limited to hardwood and softwood trees as the tornado traveled from west to east near and parallel to County Road 462 and crossing Highway 61 about a mile into its path. Maximum estimated winds were 107 mph.								
Warren County 1 WNW Beechwood	01	0132CST		0	0	5.00K	0.00K		Thunderstorm Wind (50EG)	
		Power lines were blown down at 450 Old Highway 27.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Humphreys County 1 E Belzoni	01	0135CST		0	0	5.00K	0.00K		Thunderstorm Wind (50EG)	
		Power lines were blown down at the jail.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Franklin County										
3 E White Apple	01	0139CST								
5 NNW Eddiceton		0201CST	13.6	400	0	0	40.00K	300.00K	Tornado (EF1)	
The tornado began along Knoxville Rd. and traveled northeast through a very forested area. It produced mostly tree damage along its entire path. A mobile home was blown off of its blocks on Bedford Rd. It was in this area that the tornado was its strongest and caused a lot of tree damage in the area. The tornado continued northeast for a few miles before dissipating near New Hope Rd. Maximum estimated winds were 100 mph.										
Franklin County	01	0142CST			0	0	25.00K	0.00K	Thunderstorm Wind (55EG)	
1 N Roxie										
A roof was blown off of a farm shop in Roxie.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Claiborne County	01	0143CST			0	0	15.00K	0.00K	Thunderstorm Wind (55EG)	
3 ENE Peyton										
Multiple trees were blown down.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Hinds County	01	0150CST			0	0	15.00K	0.00K	Thunderstorm Wind (55EG)	
1 WSW Cayuga										
Multiple trees were blown down.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Hinds County	01	0200CST			0	0	3.00K	0.00K	Thunderstorm Wind (50EG)	
1 NNW Utica										
A tree was blown down across E.W. Ford Drive.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Hinds County	01	0200CST								
1 NNW Champion Hill		0202CST	0.84	150	0	0	25.00K	0.00K	Tornado (EF0)	
This brief and weak tornado began just north of Interstate Twenty on Clover Hill Circle where the metal roof was blown off an outbuilding. The tornado continued northeast to South Farr Road but no evidence of tornadic damage was found after this point. Aside from the mentioned structural damage most of the damage was limited to trees mainly in the form of downed large limbs. Maximum estimated winds were 74 mph.										
Yazoo County	01	0203CST								
2 NE Anding		0209CST	3.95	560	0	0	50.00K	0.00K	Tornado (EF1)	
This tornado touched down just south of Anding Oil City Road. It traveled east-northeast while crossing Anding Oil City Road a couple of times, while snapping tree limbs and a few tree trunks. When the tornado reached Highway 49, it caused minor damage to a few businesses and a church, along with uprooting several large trees in the area. It continued northeast from there and caused more tree damage before dissipating just past Wells Road. Maximum estimated winds were 95 mph.										
Yazoo County	01	0205CST			0	0	7.00K	0.00K	Thunderstorm Wind (50EG)	
Little Yazoo										
Trees were blown down on Fletchers Chapel Road.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Franklin County	01	0210CST								
4 NNW Mc Call Creek		0214CST	2.99	500	0	0	75.00K	0.00K	Tornado (EF1)	
The tornado touched down between the Homochitto River and Neal Posey Road and moved northeast toward the intersection with McCall Creek Road. There, several trees were snapped or uprooted, including one large tree which partially destroyed chicken coop. The tornado continued to produce intermittent tree damage before lifting near the Franklin-Lincoln County line. Maximum estimated winds were 95 mph.										
Carroll County	01	0211CST			0	0	25.00K	0.00K	Thunderstorm Wind (50EG)	
1 WSW Valley Hill										
A tree was blown down on a house just behind Greenwood-Leflore Airport.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Hinds County 2 SSE Raymond	01	0215CST			0	0	3.00K	0.00K	Thunderstorm Wind (50EG)	
		A tree was blown down on Palestine Road. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Hinds County 3 E Fairchilds Xrds	01	0218CST			0	0	1.00K	0.00K	Thunderstorm Wind (50EG)	
		A tree was blown down on Moses Road. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Carroll County North Carrollton	01	0220CST 0225CST			0	0	60.00K	0.00K	Thunderstorm Wind (57EG)	
		Multiple trees were blown down on Montgomery Road and Williamson Street, along with a tree blown down on a vehicle on Montgomery Road and a tree blown down on a house on Williamson Street. There was also power lines down with outages on Williamson Street. Multiple trees were also blown down northeast of North Carrollton.								
		Note: The estimated wind gust of 57 knots is equivalent to 66 mph.								
Hinds County 2 NNE Clinton	01	0220CST			0	0	15.00K	0.00K	Thunderstorm Wind (55EG)	
		Several trees were blown down near the Natchez Trace Parkway exit. Note: The estimated wind gust of 55 knots is equivalent to 63 mph.								
Carroll County 2 ESE Carrollton	01	0225CST			0	0	2.00K	0.00K	Thunderstorm Wind (50EG)	
		A tree was blown down at a home and blocked a driveway. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Hinds County 2 S Cynthia	01	0225CST			0	0	2.00K	0.00K	Thunderstorm Wind (50EG)	
		Large limbs (3-4 inches) were blown down and blocked one lane of Highway 49 southeast of Presidential Hills Subdivision. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Copiah County 3 SSE Crystal Spgs 3 SW Beech Grove	01	0229CST 0232CST	2.19	200	0	0	100.00K	0.00K	Tornado (EF0)	
		This tornado developed along a line of severe thunderstorms that progressed from southwest to northeast across Copiah County during the early morning hours. The tornado touched down along Mathis Road south of Crystal Springs. Here it blew down several small tree limbs. It moved northeast toward the intersection of Alford and Harmony roads where damage included large tree limbs downed and several trees snapped and uprooted. One tree fell onto a home along Harmony Road. The tornado lifted just east of Harmony Road. Maximum estimated winds were 75 mph.								
Yazoo County 1 NNW Vaughan	01	0230CST 0235CST			0	0	10.00K	0.00K	Thunderstorm Wind (53EG)	
		Several trees and large limbs were blown down between Vaughan and Pickens. Note: The estimated wind gust of 53 knots is equivalent to 61 mph.								
Madison County 1 ENE Rocky Hill	01	0233CST 0235CST	1.28	300	0	0	15.00K	0.00K	Tornado (EF1)	
		This brief and weak tornado occurred between North Livingston Road and Bridgewater subdivision. A few dozen trees were snapped and uprooted with numerous large limbs also broken. Peak intensity was noted at the south end of Hickory Road, where several hardwood trees were snapped. The tornado moved east and a large majority of the trees were downed to the north and northeast. Maximum estimated winds were 88 mph.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Hinds County 2 N Jackson	01	0234CST			0	0	8.00K	0.00K	Thunderstorm Wind (53EG)	
		Trees were blown down on Broadmoor Drive.								
		Note: The estimated wind gust of 53 knots is equivalent to 61 mph.								
Madison County 2 WNW Ridgeland	01	0234CST			0	0	10.00K	0.00K	Thunderstorm Wind (55EG)	
		0236CST								
		Many large limbs and a few trees were blown down around Butler Drive and Richardson Road. Trees were also blown down along Old Agency Road.								
		Note: The estimated wind gust of 55 knots is equivalent to 63 mph.								
Madison County 1 SSW Ridgeland Madison Campbell Arp	01	0236CST			0	0	50.00K	0.00K	Thunderstorm Wind (55EG)	
		0239CST								
		A swath of damaging winds blew through the Ridgeland area. A tree was blown down on a house on Ralde Circle. Another tree was blown down and blocked a road on the Natchez Trace Parkway near Old Canton Road and Highway 51. Another tree was blown down on a house along Copper Ridge Drive.								
		Note: The estimated wind gust of 55 knots is equivalent to 63 mph.								
Grenada County 1 WNW Glenwild	01	0237CST			0	0	15.00K	0.00K	Thunderstorm Wind (55EG)	
		Numerous trees were blown down in an area south of Grenada.								
		Note: The estimated wind gust of 55 knots is equivalent to 63 mph.								
Copiah County 1 SE Hopewell	01	0240CST			0	0	13.00K	0.00K	Thunderstorm Wind (55EG)	
		Multiple trees were blown down along Highway 27 between Hopewell and Georgetown.								
		Note: The estimated wind gust of 55 knots is equivalent to 63 mph.								
Rankin County 2 WSW Florence	01	0244CST			0	0	15.00K	0.00K	Thunderstorm Wind (52EG)	
		0247CST								
		A tree and power lines were blown down at the 600 block of White Road southwest of Florence. A large pecan tree was also snapped at Florence Middle School.								
		Note: The estimated wind gust of 52 knots is equivalent to 60 mph.								
Rankin County Monterey 2 NNW Thomasville	01	0253CST			0	0	15.00K	0.00K	Tornado (EF0)	
		0257CST	2.84	200						
		This weak tornado developed along a line of severe thunderstorms that progressed from west to east across Rankin County during the early morning hours. The tornadic damage was mainly limited to large limbs and branches torn from various hardwood and softwood trees along the path. The path began in the Monterey community along Monterey Road and then continued east northeast before ending half of a mile short of Dry Creek. Maximum estimated winds were 75 mph.								
Grenada County 2 SSE Gore Spgs	01	0254CST			0	0	40.00K	0.00K	Thunderstorm Wind (53EG)	
		Three trees were blown down across roads near Gore Springs. Two wrecks occurred when vehicles struck the trees.								
		Note: The estimated wind gust of 53 knots is equivalent to 61 mph.								
Rankin County 2 SSE Greenfield	01	0255CST			0	0	3.00K	0.00K	Thunderstorm Wind (50EG)	
		A tree was blown down on Highway 468 near the Live Oak Subdivision.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Scott County 2 NE Groveton 1 NNW Lillian	01	0320CST			0	0	15.00K	0.00K	Tornado (EF1)	
		0332CST	9.41	550						

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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MISSISSIPPI, Central

A tornado developed along a line of severe thunderstorms, where it moved northeast across northwest Scott County, and caused numerous broken snapped pine tree limbs. This debris was initially noted along Gordon Road, or west of Highway 13. However, as it began to track east-northeast, tornadic signatures became more prevalent with both softwood and hardwood tree trunks being snapped along Clifton Hillsboro Road, east of Highway 13. Thereafter, it commenced to track northeast and cross Hattie Lyles Road, where additional snapped hardwood trees were noted. As it reached Hillsboro Ludlow Road, well, west of Highway 35, it weakened considerably as it snapped only a few softwood tree limbs. Maximum estimated winds were 95 mph.

Jefferson Davis County

2 NE Hebron 01 0322CST
7 ENE Gwinville 0334CST 0 0 30.00K 0.00K Thunderstorm Wind (52EG)

Trees were blown down at Sonat and Atkisson roads. Another tree was blown down in the southbound lane of Highway 13 near Sonat Road. Trees were also blown down on Mt. Olive Road and Highway 541. A vehicle struck one of the downed trees.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Jefferson Davis County

3 S Prentiss Arpt 01 0325CST 0 0 2.00K 0.00K Thunderstorm Wind (50EG)

A tree was blown down on South Pleasant Hill Road.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Attala County

6 NNW Mc Cool 01 0326CST 0 0 3.00K 0.00K Thunderstorm Wind (50EG)

A tree was blown down across the road just south of French Camp.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Attala County

1 E Mc Cool 01 0329CST 0 0 3.00K 0.00K Thunderstorm Wind (50EG)

A tree was blown down in the McCool area.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Rankin County

3 ESE Rufus 01 0329CST
0330CST 0.42 50 0 0 10.00K 0.00K Tornado (EF0)

The tornado began in the forest just west of the Rankin/Smith County line where it snapped some small pines in half along Beaver Trail. The tornado traveled northeast into Smith County and snapped some large limbs along Hwy 13 just south of Polkville. One of the limbs there fell on part of a mobile home and did some minor roof damage. As it traveled northeast, it tore the roof off of a metal shed on County Road 563 along with doing some more tree damage. It continued past Harrison Rd before dissipating back in the woods. The maximum tornado width was 300 yards and the total path length was around 4.5 miles. The overall rating was EF1, which occurred in Smith County with a maximum wind speed of 100 mph.

Jefferson Davis County

2 W Mt Carmel 01 0330CST 0 0 15.00K 0.00K Thunderstorm Wind (50EG)

A tree was blown down across Mt. Zion Road. A vehicle hit the tree.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Smith County

2 WSW Polkville 01 0330CST
0334CST 4.08 300 0 0 25.00K 0.00K Tornado (EF1)

The tornado began in the forest just west of the Rankin/Smith County line where it snapped some small pines in half along Beaver Trail. The tornado traveled northeast into Smith County and snapped some large limbs along Hwy 13 just south of Polkville. One of the limbs there fell on part of a mobile home and did some minor roof damage. As it traveled northeast, it tore the roof off of a metal shed on County Road 563 along with doing some more tree damage. It continued past Harrison Rd before dissipating back in the woods. The maximum tornado width was 300 yards and the total path length was around 4.5 miles. The overall rating was EF1, which occurred in Smith County with a maximum wind speed of 100 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Marion County 1 S West Columbia	01	0333CST		0	0		10.00K	0.00K	Thunderstorm Wind (50EG)	
			A tree was blown down across power lines near the Foxworth area.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Choctaw County Ackerman Choctaw Arp	01	0342CST		0	0		5.00K	0.00K	Thunderstorm Wind (50EG)	
			A large tree was blown down across Highway 12.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Lamar County 4 NW Oak Grove	01	0342CST		0	0		10.00K	0.00K	Thunderstorm Wind (52EG)	
			Several trees were blown down around the Canebrake Country Club and Bellevue areas.							
			Note: The estimated wind gust of 52 knots is equivalent to 60 mph.							
Covington County Smith	01	0355CST		0	0		3.00K	0.00K	Thunderstorm Wind (50EG)	
			A tree was blown down along Salem Church Road between Sellers Road and Highway 532.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Smith County 6 NE Klein	01	0359CST		0	0		10.00K	0.00K	Thunderstorm Wind (54EG)	
			A line of severe thunderstorms moved through the county. Several snapped softwood trees occurred mainly along Country Road 515.							
			Note: The estimated wind gust of 54 knots is equivalent to 62 mph.							
Smith County 6 NNE Pineville	01	0401CST 0402CST	0.66	50	0	0	10.00K	0.00K	Tornado (EF0)	
			A line of severe thunderstorms produced a tornado, that moved from southwest to northeast, across rural northeast Smith County to across rural southeast Scott County. This tornado caused large tree limbs and trunks to snap. A large pine tree that snapped near its base, fell across County Road 551C and completely blocked the roadway. The maximum tornado width was 150 yards and the total path length was around 4.1 miles. The overall rating was EF1, which occurred in Scott County with a maximum wind speed of 88 mph.							
Scott County 1 SSE Sun	01	0402CST 0406CST	3.35	150	0	0	10.00K	0.00K	Tornado (EF1)	
			A line of severe thunderstorms produced a tornado, that moved from southwest to northeast, across rural northeast Smith County to across rural southeast Scott County. This tornado caused large tree limbs and trunks to snap. A large pine tree that snapped near its base, fell across County Road 551C and completely blocked the roadway. The maximum tornado width was 150 yards and the total path length was around 4.1 miles. The overall rating was EF1, which occurred in Scott County with a maximum wind speed of 88 mph.							
Lamar County 1 SW Lumberton	01	0413CST		0	0		5.00K	0.00K	Thunderstorm Wind (50EG)	
			Power lines were blown down on Highway 11 and Industrial Parkway Road.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Neshoba County 2 E Dixon	01	0413CST		0	0		10.00K	0.00K	Thunderstorm Wind (50EG)	
			A few trees were blown down in the southwest portion of the county between Highways 485 and 15.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Jasper County 1 SW Louin	01	0415CST 0416CST		0	0		15.00K	0.00K	Thunderstorm Wind (50EG)	
			Trees and power lines were blown down on County Road 16 and a tree was blown down across County Road 1682 east of Louin.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Jones County										
2 SSE Tawanta 4 NW Mill Creek										
	01	0415CST 0437CST			0	0	20.00K	0.00K	Thunderstorm Wind (56EG)	
Trees were blown down throughout the county. Note: The estimated wind gust of 56 knots is equivalent to 64 mph.										
Newton County										
2 WNW Lawrence 1 SE Jeff										
	01	0415CST 0425CST			0	0	15.00K	0.00K	Thunderstorm Wind (54EG)	
Several trees were blown down throughout the county. Note: The estimated wind gust of 54 knots is equivalent to 62 mph.										
Forrest County										
2 SSW Rawls Spgs										
	01	0418CST			0	0	3.00K	0.00K	Thunderstorm Wind (50EG)	
A tree was blown down at Lake Estates and Pine Tree drives. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Winston County										
3 NW Fearns Spgs										
	01	0422CST 0425CST	2.03	75	0	0	70.00K	0.00K	Tornado (EF0)	
This tornado began near the intersection of Ellison Ridge Road and Moody Nance Road. It tracked north-northeast and paralleled Ellison Ridge Road, crossed Sardis Road and Hemphill Road and ended in an open field of recently harvested trees. Along the path, trees were uprooted and there was minor damage to an outbuilding as well as to the roof and front exterior of a house. Maximum estimated winds were 80 mph.										
Forrest County										
2 SSW Bonhomie										
	01	0425CST			0	0	10.00K	0.00K	Thunderstorm Wind (50EG)	
Trees and power lines were blown down at Sullivan Kilrain Road and Saba Loop. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Jasper County										
2 ENE Rose Hill										
	01	0438CST			0	0	2.00K	0.00K	Thunderstorm Wind (50EG)	
A tree was blown down across County Road 5133 northeast of Rose Hill. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Jones County										
1 NW Laurel										
	01	0440CST 0630CST			0	0	25.00K	0.00K	Flash Flood	
There was flash flooding at an apartment complex on Roberts Street, with one of the 1st floor units flooded. There was also flash flooding on Leontyne Price Road.										
Forrest County										
Epps										
	01	0440CST			0	0	8.00K	0.00K	Thunderstorm Wind (52EG)	
A few trees were blown down between McLaurin and Brooklyn. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.										
Forrest County										
2 ENE (HBG)Hattiesburg Arp 5 SSE Macedonia										
	01	0500CST 0600CST			0	0	5.00K	0.00K	Flash Flood	
Water was over the road at Old River Road and Riverview Drive.										
Lauderdale County										
2 ESE Okatibbee										
	01	0503CST			0	0	5.00K	0.00K	Thunderstorm Wind (50EG)	
Power lines were blown down along Highway 45 near the Clarkdale Water Department. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, Central										
Lowndes County 2 N Interstate City	01	0509CST		0	0		3.00K	0.00K	Thunderstorm Wind (50EG)	
			A tree was blown down at the intersection of Military and Ridge roads.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Clarke County 1 N Archusa Spgs	01	0519CST		0	0		10.00K	0.00K	Thunderstorm Wind (53EG)	
			Several trees were blown down around the Quitman area.							
			Note: The estimated wind gust of 53 knots is equivalent to 61 mph.							
Lowndes County 2 SSW New Hope	01	0523CST		0	0		5.00K	0.00K	Thunderstorm Wind (50EG)	
			A tree was blown down across a power line in New Hope.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Lauderdale County 2 E Whynot	01	0536CST		0	0		8.00K	0.00K	Thunderstorm Wind (50EG)	
			Several trees were blown down in the Whynot area.							
			A potent storm system for early Fall impacted the region and a line of showers and thunderstorms moved through the ArkLaMiss region ahead of a cold front. A rare combination of instability and wind shear was in place and storms produced tornadoes, along with damaging winds. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Oktibbeha County 4 SE Bugh	06	0108CST		0	0		2.00K	0.00K	Thunderstorm Wind (50EG)	
			A tree was blown down along Craig Springs Road.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Oktibbeha County 1 W Starkvl Oktibbeha Ar	06	0124CST 0126CST	1.09	50	0	0	35.00K	0.00K	Tornado (EF0)	
			This EF-0 tornado began just south of US 82 near EJ Road. Here, it downed a few trees and caused minor damage to a tractor shed. The tornado then tracked east along Highway 82, crossing US 45 Alt, Artesia West Point Rd., and Arrowhead Ranch Dr. Along the path, a few trees were downed and several large limbs were snapped. Multiple highway signs were damaged and some minor shingle damage occurred. The total path length was around 6.5 miles, and the maximum winds were 80 mph. Maximum width was 100 yards, which occurred in Lowndes County.							
Lowndes County 2 W Mayhew	06	0126CST 0134CST	5.49	100	0	0	25.00K	0.00K	Tornado (EF0)	
			This EF-0 tornado began just south of US 82 near EJ Road. Here, it downed a few trees and caused minor damage to a tractor shed. The tornado then tracked east along Highway 82, crossing US 45 Alt, Artesia West Point Rd., and Arrowhead Ranch Dr. Along the path, a few trees were downed and several large limbs were snapped. Multiple highway signs were damaged and some minor shingle damage occurred. The total path length was around 6.5 miles, and the maximum winds were 80 mph. Maximum width was 100 yards, which occurred in Lowndes County.							
Lowndes County 2 N Interstate City	06	0147CST		0	0		2.00K	0.00K	Thunderstorm Wind (50EG)	
			A tree was blown down on Military and Ridge roads.							
			Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							
Oktibbeha County 5 NNW Bradley 2 W Starkville Bryan Arp	06	1245CST 1258CST		0	0		7.00K	0.00K	Thunderstorm Wind (50EG)	
			Three trees were blown down on New Light Road including near Gray Road and near Old Highway 12.							
			Showers and thunderstorms developed in association with a cold front during the early morning of November 6th. Some of these storms produced wind damage as well as a tornado. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.							

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MISSISSIPPI, Central

Hinds County

1 SSW Van Winkle	07	0825CST								
2 ENE Nogan		0905CST			0	0	50.00K	0.00K	Flash Flood	

Greenway Drive was washed out near Moore Drive. Water was over the road near the intersection of Monument and Mill streets, and the intersection of Gallatin and Porter streets. There was flooding on Keele Street and Wayneland Drive. Two vehicles, including a police cruiser, were stranded in flood waters along Sheppard Road.

Rankin County

1 WSW Leesburg	07	0833CST								
		0836CST			0	0	10.00K	0.00K	Hail (2.00)	

Hail slightly larger than golf ball sized fell near the intersection of Harrell and Rehobeth roads. Golfball sized hail fell along JC Prestage Road.

Madison County

2 W Ridgeland	07	0835CST								
		0905CST			0	0	5.00K	0.00K	Flash Flood	

There was flooding along portions of Old Agency Road. Water was across portions of Ridgewood Road near Wilson Drive.

Rankin County

4 WSW Leesburg	07	0845CST								
		0930CST			0	0	5.00K	0.00K	Flash Flood	

Water was flowing over Justin Drive and Holly Bush Road in two locations.

Rankin County

2 NE Luckney	07	0845CST								
3 S Barnett Res West		0930CST			0	0	7.00K	0.00K	Flash Flood	

Several streets were flooded in the Avalon neighborhood. Water also covered a few roads in the Mill Creek area.

Rankin County

2 W Langford	07	0900CST								
		1000CST			0	0	8.00K	0.00K	Flash Flood	

Water from Mill Creek flooded portions of the golf course in the Castlewoods subdivision.

Hinds County

1 SSE West Jackson	08	0432CST			0	0	0.00K	0.00K	Hail (1.00)	
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Mostly dime to nickel sized hail fell near the intersection of Gallatin and Monument streets. A few quarter sized stones were mixed in.

Showers and thunderstorms developed as a warm front pushed north across portions of the area. As storms developed during the morning of November 7th, they produced flash flooding and large hail. Additional storms continued overnight on the 8th and produced hail.

MISSISSIPPI, North

Calhoun County

4 SSW Calhoun City	01	0313CST								
		0314CST	0.39	75	0	0	300.00K	0.00K	Tornado (EF0)	

The tornado developed just south of County Road 361 and east of Highway 9. The tornado damaged the roof of a barn and several storage sheds. Several trees were uprooted or snapped.

Calhoun County

1 SSW Pittsboro	01	0314CST								
		0320CST			0	0	60.00K	0.00K	Thunderstorm Wind (50EG)	

Batting cage down on the corner of Highway 9 and County Road 406. Trees and power lines also down on County Road 406.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, North										
Calhoun County										
1 NE Calhoun City										
1 ENE Vardaman	01	0315CST 0325CST			0	0	100.00K	0.00K	Thunderstorm Wind (50EG)	
Trees down across county. Hardest hit was between Calhoun City and Vardaman. Two trees fell on homes.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Chickasaw County										
7 N Vanfleet										
8 WNW Chickasaw	01	0358CST 0405CST			0	0	10.00K	0.00K	Thunderstorm Wind (50EG)	
County officials reported trees down on Natchez Trace Parkway.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Lee County										
4 W Verona										
01	0414CST 0420CST				0	0	0.00K	0.00K	Thunderstorm Wind (60EG)	
A couple of large trees down and damage from falling tree and branches to a pickup truck and car in the community of Palmetto. Roof blown off a building. Mobile home damage on County Road 31.										
Note: The estimated wind gust of 60 knots is equivalent to 69 mph.										
Prentiss County										
2 S Frankstown										
1 NE Wheeler	01	0422CST 0430CST			0	0	50.00K	0.00K	Thunderstorm Wind (55EG)	
A few trees down. Awnings blown off near Wheeler School in the community of Wheeler.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Tishomingo County										
Belmont										
1 NE Tishomingo Co Arpt	01	0500CST 0505CST			0	0	50.00K	0.00K	Thunderstorm Wind (50EG)	
Minor shutter and roof damage in Belmont and Golden.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Tishomingo County										
1 SSE Golden										
01	0500CST 0505CST				0	0	20.00K	0.00K	Thunderstorm Wind (50EG)	
Power lines down on Golden Road just west of Red Bay Alabama near the state line.										
A strong cold front interacted with an unstable atmosphere to produce a fast-moving line of thunderstorms. A few of the storms became severe producing wind damage and a brief tornado across North Mississippi during the early morning hours of November 1st. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Quitman County										
1 WSW Marks										
05	2015CST 2020CST				0	0	20.00K	0.00K	Thunderstorm Wind (50EG)	
A few trees down on power lines on the east side of Marks.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Tate County										
Senatobia										
05	2035CST 2050CST				0	0	0.00K	0.00K	Heavy Rain	
Water pooling to 1-2 feet deep around fire station and excessive water causing some road problems around town.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
MISSISSIPPI, North										
Panola County										
2 S Horatio										
1 NNE Crowder										
05 2100CST 2230CST										
Street flooding across the county.										
Lafayette County										
2 S University										
4 E Oxford										
05 2115CST 2125CST										
A few trees down across the city of Oxford.										
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Pontotoc County										
1 S Chesterville										
05 2258CST 2259CST										
0.18 50 0 0										
The tornado developed in far eastern Pontotoc County along Lee Line Road. The tornado knocked down a few trees before moving into Lee County.										
Lee County										
1 NNW Bissell										
3 NNW Amity										
05 2259CST 2310CST										
10.21 200 0 0										
The tornado developed in far eastern Pontotoc County along Lee Line Road. The tornado then caused EF-0 and EF-1 damage to homes and trees just west and north of the Tupelo Airport. As it approached Colonial Estates Road the tornado intensified and damaged numerous homes. Two homes had roofs completely removed and non-brick exterior walls collapsed on one of them. Several homes saw partial roof damage. As the tornado crossed McCullough Blvd., several businesses were damaged including one which had the roof partially removed. The tornado weakened and continued on snapping trees and causing some slight structural damage as it crossed I-22 where it hit buildings just south of Barnes Crossing Mall. The tornado intensified again as it crossed Bog Oaks Golf Club and approached an assisted living center. The tornado caused considerable roof damage to the assisted living center. The final damage seen before it lifted was observed along County Road 851.										
Tishomingo County										
3 SSW Luke										
2 SE Iuka										
05 2315CST 2320CST										
0 0										
10.00K 0.00K										
Strong wind gusts blew over power poles.										
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Itawamba County										
1 ENE Ratliff										
3 E Kirkville										
05 2319CST 2327CST										
5.1 300 0 0										
500.00K 0.00K										
The tornado developed near the bottoms of Twentymile Creek. As the tornado approached Highway 371 south of Kirkville, it uprooted and snapped trees and substantially damaged a metal garage building. After crossing Highway 371 the tornado continued to uproot and snap off numerous trees and caused minor damage to several mobile homes. The last damage observed was east of Ramey Road northeast before dissipating.										
Tishomingo County										
1 NE Golden										
05 2351CST 2356CST										
0 0										
50.00K 0.00K										
Tree down on house on Golden Road in town.										
A potent late fall storm system generated several severe thunderstorms and a couple of tornadoes across North Mississippi during the late evening hours of November 5th. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
MSZ001>004-007-010										
Benton - Coahoma - De Soto - Marshall - Tippah - Tunica										
14 0900CST 1600CST										
0 0										
0.00K 0.00K										
Winter Weather										
An upper low tracked across the Mid-South on November 14, 2018. A light mixture of snow, sleet and freezing drizzle fell across parts of northwest Mississippi creating dangerous travel conditions.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
MISSISSIPPI, South										
Walhall County										
Tylertown	01	0312CST		0	0		0.00K	0.00K	Thunderstorm Wind (60EG)	
		Reports of trees down in Tylertown were received over social media.								
Note: The estimated wind gust of 60 knots is equivalent to 69 mph.										
Pearl River County										
3 S Savannah	01	0355CST			0	0	75.00K	0.00K	Thunderstorm Wind (75EG)	
		0410CST								
A NWS storm survey indicated a thunderstorm downburst occurred in Pearl River County east of the community of McNeil and south of Savannah. The initial light wind damage began around Bradly Road east-southeast of McNeil. Scattered light wind damage to tree limbs was noted east northeastward for several miles. From near Gilbert Lake Road, damage intensified and became much broader in scale. A fairly wide swath of scattered wind damage occurred from Gilbert Lake Road east northeast across MS Highway 53 along McNeill Henry Road to past Bob Dreyer Road, a distance of more than 3 miles. Width of damage was 1.25 miles in several places. Several large and medium sized trees were snapped or uprooted, along with numerous snapped large and small tree branches branches. A small outbuilding was overturned and rolled at a residence along Highway 53, just south of McNeil-Sleephollow Rd. Sheet metal was peeled off several outbuildings and minor roof damage observed in several spots. Maximum wind speed estimated between 75 and 85 mph.										
Note: The estimated wind gust of 75 knots is equivalent to 86 mph.										
Harrison County										
2 NW Beauvoir	01	0413CST		0	0		0.00K	0.00K	Thunderstorm Wind (50EG)	
		Harrison County reported that siding from retail building was blown off and ended up on Sand Beach. Also, 10 to 12 lounge chairs from Ocean City Condos north of Highway 90 have also ended up on Sand Beach.								
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Hancock County										
5 NNW Kiln	01	0422CST		0	0		0.00K	0.00K	Thunderstorm Wind (55EG)	
		A tree was reported blown down on Cuevas Town Road near Savannah Curve.								
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Harrison County										
2 S Ligana	01	0445CST		0	0		0.00K	0.00K	Thunderstorm Wind (55EG)	
		Harrison County Sheriffs Office reported a tree blown down near the intersection of Lizana School Road and Cable Bridge Road near Lyman.								
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										
Harrison County										
4 N Wool Market	01	0453CST								
7 ESE Airey		0500CST	7.22	150	0	0		0.00K	Tornado (EF1)	
An EF-1 tornado touched down just south of the Mississippi Highway 67 and 605 interchange, snapping trees and blowing down road signs. Additional snapped trees were observed along the length of Highway 605 on the north side of the interchange. The tornado continued moving north, crossing Hog Branch and moving into the woods. The tornado began to curve more to the northeast, and crossed Blackwell Farm Road and North Carr Bridge Road, where numerous snapped pine trees were observed. The tornado continued through the woods and additional snapped pine trees were observed on Forestry Road Number 426. No damage was observed on Bethel Road, indicating the tornado lifted shortly after crossing the Forest Service Road. Estimated peak wind was 105 mph, path length 7 miles, path width 150 yards.										
Harrison County										
4 ENE Wortham	01	0503CST		0	0		0.00K	0.00K	Thunderstorm Wind (50EG)	
		The Harrison County Sheriffs Department reported a tree blown down near Mississippi Highway 53 and old US Highway 49 in Gulfport.								
Note: The estimated wind gust of 50 knots is equivalent to 58 mph.										
Harrison County										
2 NNW (BIX)Keesler Afb Bil	01	0515CST		0	0		0.00K	0.00K	Thunderstorm Wind (55EG)	
		Numerous tree limbs were blown down and one tree snapped on Keesler AFB in Biloxi. Estimated wind gust of 65 mph.								
Note: The estimated wind gust of 55 knots is equivalent to 63 mph.										

Storm Data and Unusual Weather Phenomena

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

Jackson County

3 ESE Ocean Spgs

2 NNW Fontainebleau

01 0524CST
 0528CST 3.21 100 0 0

0.00K Tornado (EF1)

An EF-1 tornado touched down along Government Street near Whitney Oaks Drive. As it moved northeast, it downed 2 wooden power poles and 3 small traffic warning lights on Highway 90 in front of the Ocean Springs Police and Fire Departments. As it continued to move northeast, it damaged several cars and broke 7 windows at a large retail store. It snapped several more trees in the Parktown East subdivision behind the store, and also caused minor structural damage, mainly to shingles and fascia of homes. The storm continued to move eastward and lifted just northeast of Tapp Road. Estimated peak wind was 105 mph, path length 3.2 miles, path width 100 yards.

Jackson County

3 N Escatawpa

Helena

01 0540CST
 0545CST 4.08 100 0 0

0.00K Tornado (EF1)

An EF-1 tornado touched down over the Pascagoula River and caused damage as it moved across Riverlodge Drive, where it tore the porch roof off of one home and also caused minor roof damage on two adjacent homes. As it moved northeast, it snapped numerous hard and soft wood trees and caused minor structural damage to a few homes. It also caused roof and fascia damage to the Four Mile Creek Baptist Church. The tornado continued to cause tree damage and minor structural damage to homes as it moved through the Wildwood area, before lifting as it crossed Black Creek.

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

MISSISSIPPI, Southeast

Stone County

Perkinston

01 0435CST
 0437CST 0 0 0.00K 0.00K Thunderstorm Wind (52MG)

Recorded by weather station at MGCCC.

Note: The measured wind gust of 52 knots is equivalent to 60 mph.

Perry County

Runnelstown

01 0445CST
 0447CST 0 0 10.00K 0.00K Thunderstorm Wind (52EG)

High winds downed several trees in the Runnelstown and Richton areas.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Stone County

Wiggins

01 0445CST
 0447CST 0 0 10.00K 0.00K Thunderstorm Wind (52EG)

High winds downed trees across at least 20 roads across Stone County.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Stone County

Perkinston

01 0445CST
 0447CST 0 0 5.00K 0.00K Thunderstorm Wind (52EG)

High winds uprooted numerous large trees in the Perkinston area.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Perry County

2 N Janice

01 0446CST
 0448CST 0 0 2.00K 0.00K Thunderstorm Wind (52EG)

High winds downed trees on Bryant Road near Davis Road.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
MISSISSIPPI, Southeast									
Greene County Leakesville	01	0523CST 0525CST			0	0	5.00K	0.00K	Thunderstorm Wind (61EG)
					High winds downed numerous trees across Greene County. Note: The estimated wind gust of 61 knots is equivalent to 70 mph.				
Wayne County Waynesboro									
	01	0535CST 0537CST			0	0	5.00K	0.00K	Thunderstorm Wind (61EG)
					High winds downed numerous trees across Wayne County. A line of strong to severe thunderstorms moved across the area producing damaging winds. Note: The estimated wind gust of 61 knots is equivalent to 70 mph.				
Perry County 6 NNE Mahned	23	2115CST 2117CST			0	0	5.00K	0.00K	Thunderstorm Wind (52EG)
					High winds down numerous trees, causing power outages along Henry James, Prospect and Buck Creek Roads.				
					An isolated thunderstorm produced damage in southeast Mississippi. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.				
MISSOURI, East									
MOZ036-051-059> 065-072					Crawford - Franklin - Gasconade - Jefferson - Lincoln - Montgomery - Pike - St. Charles - St. Louis - St. Louis (Central) - Warren				
	15	0400CST 1100CST			0	0	0.00K	0.00K	Heavy Snow
					A strong system lifted northeast across the booneel of Missouri into the Ohio Valley. North of the system, a strong deformation zone set up with a swath of heavier snowfall from east central Missouri into southwestern Illinois. By the time the snow came to an end during the afternoon hours of November 15th, up to 9 inches of snow fell with the highest amounts over portions of Warren and St. Charles counties in Missouri.				
MOZ018-026>027- 034>036-041>042- 047					Audrain - Boone - Knox - Lewis - Marion - Moniteau - Monroe - Pike - Ralls - Shelby				
	25	1630CST 0200CST			0	0	0.00K	0.00K	Blizzard
					A strong area of low pressure tracked east across Kansas, Missouri, and central Illinois on November 25th, bringing heavy snowfall and gusty winds to the region. This caused blizzard conditions across portions of central and northeast Missouri, as well as west central Illinois, with less than a quarter of a mile visibility at times during the afternoon and evening. Strong northwest winds between 25 and 35 mph with gusts near 50 mph at times were reported during the storm. The heaviest snowfall reports were over portions of northeast Missouri and west central Illinois. Before the precipitation changed over to snow, there were a few strong to severe storms, but no reports of severe weather were received.				
MISSOURI, Lower									
MOZ113-115					Dunklin - Pemiscot				
	14	1400CST 2000CST			0	0	0.00K	0.00K	Winter Weather
					An upper low tracked across the Mid-South on November 14, 2018. One to two inches of snow fell across the Bootheel resulting in dangerous travel conditions.				

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MISSOURI, Northeast

MOZ009-010

Clark - Scotland

25	1600CST									
26	0300CST				0	0	0.00K	0.00K	Blizzard	

A strong low pressure system moved from Kansas into Central Illinois bringing heavy snows of 4 to 13 inches to the area. Strong north winds gusted to 40 to 50 mph and combined with the heavy snow to produce widespread blizzard conditions.

MISSOURI, Northwest

MOZ017-039-043-054

Adair - Cass - Henry - Saline

12	0500CST									
	1400CST				0	0	250.0K	0.00K	Winter Weather	

Light snow began falling early in the morning on November 12. While the snow was generally light - moderate at times - 1 to 3 inches of snow fell across the area which caused area roads to become icy, and numerous vehicle accidents ensued. Up to 10 injuries had been reported, and 2 fatalities occurred as a result of the icy roads. News story: <https://www.kshb.com/news/local-news/one-killed-in-henry-county-crash-caused-by-slick-roads>.

**MOZ001>008-011>
017-020>025-028>
033-037>040-043>
046-053>054**

Adair - Andrew - Atchison - Bates - Buchanan - Caldwell - Carroll - Cass - Chariton - Clay - Clinton - Cooper - Daviess - De Kalb - Gentry - Grundy - Harrison - Henry - Holt - Howard - Jackson - Johnson - Lafayette - Linn - Livingston - Macon - Mercer - Nodaway - Pettis - Platte - Putnam - Randolph - Ray - Saline - Schuyler - Sullivan - Worth

25	0755CST									
	1820CST				0	0	0.00K	0.00K	Blizzard	

An extremely early season blizzard impacted most of northern and central Missouri on November 25, 2018. The snowstorm was more indicative of a storm that would affect the area in the deep winter, as opposed to the middle to late part of autumn. The storm brought between 6 and 8 inches of snow across far northern Missouri, with 4 to 6 inches across the Kansas City Metro area, and along a good portion of the I-70 corridor through western and central Missouri. Further separating this storm from other typical winter storms was the strong winds that accompanied the heavy snow. Most locations through the region experienced winds in excess of 35 mph at times during the storm. The strongest wind gusts came across northeast Kansas and northwest Missouri, where 50-60 mph winds were recorded in nearby Wyandotte County (Kansas) and Leavenworth County (Kansas) and at Kansas City International Airport.

This snowstorm came exceptionally early in the winter season. Just how historical was this event? Here is some perspective. Typical Novembers bring around 1.2 of snow each season, however...

Only 7 of the previous 20 Novembers have had accumulating snow in Kansas City.

The 5.8 of snow broke the record for snowiest November 25 in Kansas City history. The previous record was 3.7, which occurred in 1895.

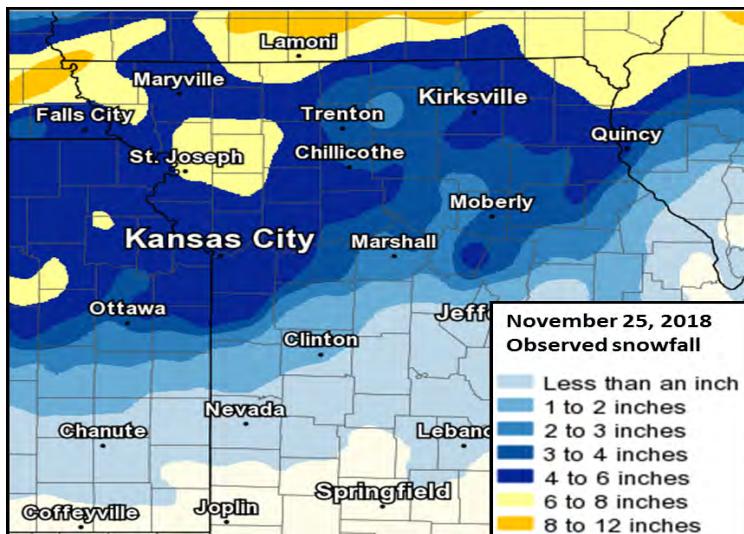
The 7.6 of snow recorded in Kansas City through November 25 ranks 2nd all time for snowiest Novembers in Kansas City History (Going back to 1888). The snowiest November in KC history came in 1923, when 9.1 of snow fell during the month. The 5.8 of snow recorded in Kansas City for November 25 was the 2nd snowiest individual day for the month of November. November 29, 1923 brought 9.1 of snow to Kansas City.

Since 2004, no blizzard warnings had been issued for the Kansas City Metro area in the month of November, until this event.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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MISSOURI, Northwest



Final snow totals compiled on the morning of November 26, 2018.

MISSOURI, Southeast

MOZ076-086-100-107>112-114

Bollinger - Butler - Cape Girardeau - Carter - Mississippi - New Madrid - Perry - Ripley - Scott - Stoddard - Wayne

14	1700CST					
15	0400CST					
		0	0	0.00K	0.00K	Winter Weather

One of the earliest snowfalls on record occurred across southeast Missouri. From two to three inches of snow fell across most of southeast Missouri. Three inches of snow was measured in most of Cape Girardeau County. The snow was mixed with sleet and freezing rain in some areas, mostly south and east of Sikeston. The freezing rain and sleet in those areas held down accumulations to an inch or two. The winter precipitation was caused by a strong 500 mb low that moved northeast from Arkansas to the lower Ohio Valley. At the surface, an inverted trough extended from the southeastern states northwest to the lower Ohio Valley.

25	1600CST					
26	0100CST					
		0	0	1.0K	0.00K	Strong Wind

MOZ086-100-107>112-114

Bollinger - Butler - Cape Girardeau - Carter - Mississippi - New Madrid - Ripley - Scott - Stoddard - Wayne

25	1600CST					
26	0100CST					
		0	0	10.0K	0.00K	Strong Wind

Strong low pressure moved from central Missouri to central Illinois. Gusty south to southwest winds shifted to a more westerly direction as a strong cold front associated with the low pressure system moved across the region. Peak wind gusts were measured up to 49 mph at Cape Girardeau. Most other peak wind gusts in southeast Missouri ranged from 40 to 47 mph.

MOZ076-086-100-107>112-114

Bollinger - Butler - Cape Girardeau - Carter - Mississippi - New Madrid - Perry - Ripley - Scott - Stoddard - Wayne

30	0400CST					
	0800CST					
		0	0	0.00K	0.00K	Dense Fog

A stalled frontal boundary, along with light winds and abundant moisture, set the stage for widespread dense fog during the early morning hours. Visibility was reduced to one-quarter mile or less.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
MISSOURI, Southwest										
Miller County 3 SSE Iberia	01	1625CST 1626CST	0.03	20	0	0	0.00K	0.00K	Tornado (EF0)	
A NWS survey team determined that an EF-0 landspout producing around 60 mph winds briefly touched down 2 miles south of Iberia near Pear Orchard Road. A large tree was broken off near its base in an area where multiple eye witnesses witnessed the touchdown. The KSGF 88D radar did note a CC drop in that same area.										
An isolated report of a tornado touchdown was determined by an NWS survey team to be a landspout.										
Webster County 1 N Marshfield	30	2137CST			0	0	0.00K	0.00K	Hail (0.88)	
Barry County 5 NNW Cato	30	2147CST			0	0	0.00K	0.00K	Thunderstorm Wind (72MG)	
RAWS mesonet station measured a 73 knot wind as severe storms moved through the area.										
Note: The measured wind gust of 72 knots is equivalent to 83 mph.										
Newton County 1 SW Neosho	30	2358CST			0	0	0.00K	0.00K	Thunderstorm Wind (51MG)	
Home weather station measured a 59 MPH wind gust as storms moved through Neosho.										
A Quasi Linear Convective System starting on November 30th and ending on December 1st produced 60 to 80 mph winds. Damages were limited initially on the 30th but increased in coverage on the 1st. Note: The measured wind gust of 51 knots is equivalent to 59 mph.										
MONTANA, Central										
MTZ010-014-048-052		Eastern Glacier - Jefferson - Madison - Southern Lewis and Clark - Southern Rocky Mountain Front								
	02	0829MST 1600MST			0	0	0.00K	0.00K	High Wind	
Strong westerly flow aloft and the passage of an embedded shortwave trough combined with a sharp lee surface trough to generate high surface wind gusts across parts of north-central and southwest Montana on November 2nd. Eventually the lee surface trough shifted eastward with the shortwave trough, allowing gusty winds to progress farther east.										
	04	1229MST			0	0	0.00K	0.00K	High Wind	
MTZ052		Jefferson								
	04	1249MST			0	0	0.00K	0.00K	High Wind	
A shortwave trough embedded in westerly flow aloft traversed north-central and southwest Montana on November 4th. At the surface, a tight pressure gradient accompanied a low pressure center moving eastward across southern Alberta and Saskatchewan. This pattern yielded downslope winds and a few high wind gusts in north-central and southwest Montana.										
MTZ009		North Rocky Mountain Front								
	13	2324MST			0	0	0.00K	0.00K	High Wind	
MTZ009>012		Cascade - Eastern Glacier - Hill - North Rocky Mountain Front								
	14	1030MST 1928MST			0	0	0.00K	0.00K	High Wind	
A sharp surface trough in the lee of the Rockies and strong westerly flow aloft generated strong southwesterly to westerly downslope winds along the Rocky Mountain Front and adjacent plains. Several instances of high wind gusts occurred on November 13th and 14th.										
MTZ009		North Rocky Mountain Front								
	16	0655MST			0	0	0.00K	0.00K	Winter Storm	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
MONTANA, Central										
MTZ044		Toole								
	16	0800MST			0	0	0.00K	0.00K	High Wind	
MTZ012-014		Cascade - Southern Lewis and Clark								
	16	0940MST			0	0	0.00K	0.00K	Winter Storm	
		1700MST								
	A Canadian cold front moved southward through north-central Montana during the early and mid-morning of Friday, November 16th. This front then cleared southwest Montana between mid-morning and late afternoon. Rain quickly changed to snow following the frontal passage and wet roadways froze rapidly. The combination of ice and snow along roads had a significant impact on travel in some areas, including Great Falls. In addition, strong cold air advection and boundary layer mixing behind the front contributed to gusty northerly winds. Periods of snow continued across north-central and southwest Montana through much of Friday before ending late that evening or during the early morning of Saturday, November 17th.									
MTZ014-052-055		Gallatin - Jefferson - Southern Lewis and Clark								
	24	0705MST			0	0	0.00K	0.00K	Winter Storm	
		0840MST								
	Lift induced by an approaching trough aloft from the west combined with abundant Pacific moisture streaming into southwest and central Montana to generate periods of snow during the evening of November 23rd into the 24th. The most impactful snow fell in the mountains of southwest Montana, especially on the 24th.									
MONTANA, East										
MTZ018-020		Daniels - Western Roosevelt								
	21	0753MST			0	0	0.00K	0.00K	Dense Fog	
		1555MST								
	A stagnant weather pattern and light winds under a ridge of high pressure allowed some areas of freezing fog to develop and persist over the lower elevations of the Milk, Missouri, and Yellowstone River valleys of northeast Montana.									
MTZ018-020		Daniels - Western Roosevelt								
	29	0055MST			0	0	0.00K	0.00K	Dense Fog	
		0915MST								
	Enough moisture from the Pacific ocean under mostly clear skies and light easterly winds allowed dense freezing fog to develop and persist along the lower elevations of the Milk, Missouri, and Yellowstone River valleys.									
MONTANA, South										
MTZ039		Eastern Carbon								
	02	0400MST			0	0	0.00K	0.00K	High Wind	
		2000MST								
	Isolated very strong wind gusts were reported in the Bridger area.									
MTZ056		Red Lodge Foothills								
	16	1400MST			0	0	0.00K	0.00K	Winter Storm	
	17	0200MST								
	A moist upslope flow resulted in heavy snow across the Red Lodge area.									
MTZ066-067		Absarokee/Beartooth Mountains - Beartooth Foothills								
	23	1900MST			0	0	0.00K	0.00K	Winter Storm	
	24	2000MST								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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MONTANA, South

MTZ056

Red Lodge Foothills

24	0913MST 2000MST	0	0	0.00K	0.00K	Winter Storm
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An upper low over Idaho combined with a moist easterly upslope flow resulted in heavy snow across the Beartooth/Absaroka Mountains and adjacent foothills.

MTZ028

Southern Wheatland

27	0345MST	0	0	0.00K	0.00K	High Wind
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Tight pressure gradients resulted in high wind gusts across southern Wheatland County.

MONTANA, West

MTZ003

Flathead/Mission Valleys

07	0400MST 1100MST	0	0	0.00K	0.00K	Winter Weather
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An arctic cold front caused gusty winds leading to black ice formation on wet roadways in the Flathead Valley.

MTZ007

Butte/Blackfoot Region

16	1330MST 1900MST	0	0	0.00K	0.00K	Winter Storm
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Intense snow showers developed over an arctic cold front leading to numerous traffic accidents on Interstate 90.

MTZ001-003-004

Flathead/Mission Valleys - Kootenai/Cabinet Region - Lower Clark Fork Region

20	1900MST	0	0	0.00K	0.00K	Frost/Freeze
21	1000MST					

Low stratus and freezing fog developed during the late evening hours of November 20th throughout the valleys of Northwest Montana, and lasted into the morning hours of November 21st. Supercooled water droplets stuck to freezing surfaces causing black ice on sidewalks and roadways resulting in multiple accidents.

MTZ004-006

Bitterroot/Sapphire Mountains - Lower Clark Fork Region

23	2100MST	0	0	0.00K	0.00K	Winter Storm
24	0900MST					

MTZ005-007-043

Butte/Blackfoot Region - Missoula/Bitterroot Valleys - Potomac/Seeley Lake Region

24	0200MST 1100MST	0	0	0.00K	0.00K	Winter Storm
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Widespread snow fell across North-central Idaho into western Montana, impacting both valleys and mountain passes.

NEBRASKA, East

NEZ066-078

Lancaster - Saline

25	0400CST 1215CST	0	0			Blizzard
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NEZ065-067

Cass - Seward

25	0400CST 1215CST	0	0			Winter Weather
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Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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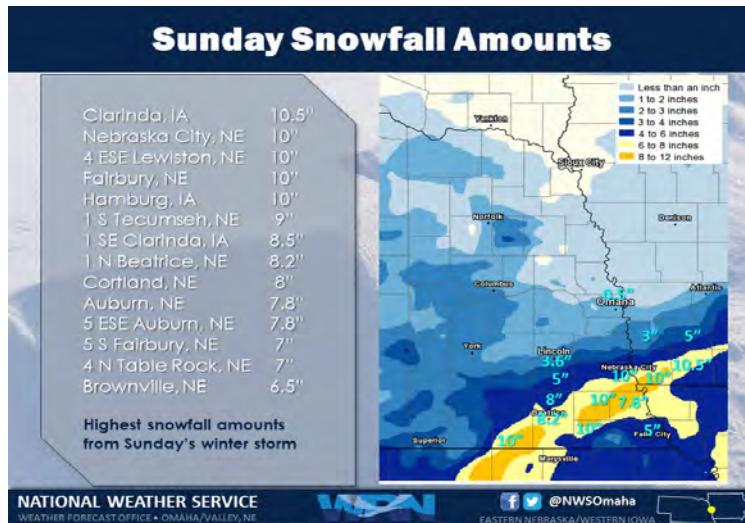
NEBRASKA, East

NEZ068-088>093

Gage - Jefferson - Johnson - Nemaha - Otoe - Pawnee - Richardson

25	0455CST 1800CST	0	0	Blizzard
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A strong area of low pressure moved out of the central Rockies and produced snowfall of 2 to 11 inches across eastern Nebraska. Blizzard conditions were met in southeast Nebraska with measured wind gusts 40 to 53 mph and widespread whiteout conditions. NSP Troopers responded to 25 crashes, performed 110 motorist assists, and assisted other agencies with 15 incidents. Interstate 80 was closed for awhile between Lincoln and Omaha due to crashes. 1 elderly man passed away in Johnson county, indirectly related to the blizzard.



Snowfall map across the area for Sunday, November 25, 2018.

NEBRASKA, Extreme Southwest

NEZ079>081

Dundy - Hitchcock - Red Willow

07	0900MST	0	0	0.00K	0.00K	Heavy Snow
08	0600MST					

Scattered snow showers began moving east across Southwest Nebraska in the morning. There were several different waves of snow showers from the morning until after midnight. The repeated rounds of snow from these showers yielded snowfall amounts close to a foot across the east half of Dundy County into the west half of Hitchcock County. The highest snowfall amount of 12 was reported in Stratton. The band of higher snowfall amounts extended northeast into northwestern Red Willow County.

24	2330MST	0	0	0.00K	0.00K	Blizzard
25	0430MST					

NEZ080

Hitchcock

25	0300CST 0600CST	0	0	0.00K	0.00K	Blizzard
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NEZ081

Red Willow

25	0330CST 0530CST	0	0	0.00K	0.00K	Winter Weather
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A north to south corridor of snow and wind, creating blizzard conditions, developed during the late evening over Southwest Nebraska, extending south into Northwest Kansas. As the night progressed the blizzard conditions expanded across the rest of Southwest Nebraska. The highest snowfall amount of five inches was reported where the corridor of snow first developed, near Stratton, then declined to two or three inches to the east and west. The blizzard conditions ended from north to south.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
NEBRASKA, South Central										
NEZ072		Gosper								
	07	1900CST								
	08	1000CST			0	0	0.00K	0.00K	Heavy Snow	
NEZ060-082		Dawson - Furnas								
	07	1900CST								
	08	1300CST			0	0	0.00K	0.00K	Winter Weather	
NEZ073		Phelps								
	07	2000CST								
	08	1100CST			0	0	0.00K	0.00K	Heavy Snow	
NEZ061-083		Buffalo - Harlan								
	07	2000CST								
	08	1000CST			0	0	0.00K	0.00K	Winter Weather	
NEZ074		Kearney								
	07	2300CST								
	08	1300CST			0	0	0.00K	0.00K	Heavy Snow	
NEZ084		Franklin								
	07	2300CST								
	08	1500CST			0	0	0.00K	0.00K	Winter Weather	
NEZ062-075		Adams - Hall								
	08	0000CST								
		1300CST			0	0	0.00K	0.00K	Winter Weather	
<p>A few inches of light snow fell mainly between Highway 136 and Interstate 80 on this Wednesday and Thursday. Small patches of snow began overspreading south central Nebraska Wednesday evening, mainly west of Highway 281 and along and south of Interstate 80. Around 300 AM CST Thursday, a better-organized, but narrow, east-west oriented band of snow developed with its main axis centered along Highway 6. Between 300 and 900 AM CST, this band moved east across south central Nebraska. After 900 AM, the band weakened. A few small patches of light snow lingered behind this band after 900 AM, but the snow ended, from northwest to southeast, during the early afternoon hours. Snowfall totals ranged from 2 to 7 inches in a narrow, roughly 2-county wide area. The highest totals include 7 inches at Holdrege, where snow fell with moderate intensity between 400 and 600 AM CST, 6 at Minden, 5.8 at Cambridge, and 5.5 at Elwood. As one example of the narrowness of this band, Wilsonville is 12 miles south of Cambridge, and the cooperative observer there indicated only a trace of snow fell.</p> <p>A continental polar air mass encompassed the central U.S. with the polar front along the Gulf Coast and banked up against the Rockies. High pressure was over the northern Plains. The upper-level pattern was similar to other situations, in the past, in which a frontogenetic band of snow forms. A low was over central Canada with a broad trough over the Lower 48. The subtle axis of the trough extended from North Dakota to Utah Thursday morning.</p>										
NEZ048-060>064-072>074		Buffalo - Dawson - Gosper - Hall - Hamilton - Kearney - Merrick - Phelps - Polk - York								
	24	2100CST								
	25	0900CST			0	0	0.00K	0.00K	Winter Weather	
NEZ075-082>084		Adams - Franklin - Furnas - Harlan								
	25	0000CST								
		1100CST			0	0	0.00K	0.00K	Winter Weather	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEBRASKA, South Central

NEZ076-085>087

Clay - Fillmore - Nuckolls - Thayer - Webster

25	0500CST 1400CST	0	0	0.00K	0.00K	Blizzard
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A blizzard occurred south and east of Hastings on this Saturday night and Sunday, and near-blizzard conditions occurred, at times, in many other locations. Saturday afternoon, a narrow band of snow developed, in the shape of an arc, from Omaha through the Sandhills and then southwest to Denver. This band formed in the deformation zone of developing low pressure. During the evening, this band expanded and moved southeast, enveloping all of south central Nebraska. At 2 AM CST Sunday, the northern terminus of the snow shield began moving into south central Nebraska. By 7 AM CST, the snow had ended over most of the area, except to the south and east of Hastings. By noon, the snow had exited to the east, bringing an end to the snow there as well. Windy conditions maintained blowing snow for 3 to 5 hours after the snow ended. Widespread, frequent wind gusts between 35 and 50 mph were common, which severely reduced the visibility in falling and blowing snow, especially south and east of Hastings. Near zero visibility was reported at Clay Center, Geneva, Hebron, and Nelson. A couple locations recorded wind gusts above 50 mph, including 55 mph at Hastings, and 62 mph at Nelson. The strength of the winds resulted in scattered power outages in Phelps, Hall, Hamilton, and Merrick counties. State troopers and other first responders were busy responding to slide-offs and minor accidents due to slippery roads. Motorists were urged to avoid traveling, and many spent the night in hotels. One hotel mentioned that travelers were checking-in all night, and others that intended to travel to the region had cancelled their reservations. Despite the nasty conditions, the Grand Island and Kearney airports remained open. However, numerous churches cancelled services. A few schools in Webster, Nuckolls, and Thayer counties even delayed their start time Monday morning. Measuring the snowfall was extremely difficult due to the wind. Most locations estimated 1 to 3 inches of snow fell. The exception was southeast of Hastings where Shickley estimated 3.5 inches, Clay Center estimated 4, and Hubbell estimated 6.

During the daytime hours Saturday, an Arctic cold front advanced south across Nebraska. A separate low pressure system moved through Wyoming and Colorado into southwest Kansas. This low and its associated fronts moved east along the Kansas-Oklahoma border Saturday night while the Arctic front continued moving south in its wake. The low moved into Missouri Sunday while high pressure over the Canadian Prairies begin building into Nebraska. In the upper-levels, amplification was occurring with a building ridge along the West Coast. This resulted in a shortwave trough deepening and becoming a closed low over Nebraska and Kansas.

NEBRASKA, West

NEZ019-020

Banner - Scotts Bluff

16	1700MST	0	0	Heavy Snow
17	2000MST			

Heavy snow fell across portions of Scotts Bluff and Banner Counties on the evening of the 16th ending in the evening of the 17th. Snowfall of over six inches reported across the cities of Gering and Melbeta while eight inches of snowfall was reported at the Banner County Sheriff's Office in Harrisburg.

NEZ020-054

Banner - Kimball

23	0600MST 1500MST	0	0	High Wind
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NEZ002-021-095

Dawes - Morrill - North Sioux

24	1100MST	0	0	Heavy Snow
25	0700MST			

Strong winds were measured across portions of the Nebraska Panhandle with measured wind gusts measured in the upper 50 mph range with a 60 mph measured gust west of Harrisburg. Quickly following the strong winds, a winter storm hampered the area with heavy snow of six to nearly eight inches.

NEVADA, North

NVZ038

Southwestern Elko

02	1200PST 1800PST	0	0	0.00K	0.00K	Dust Storm
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Winds with speeds of thirty to forty MPH blew ash and dust from the Martin fire burn scar.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEVADA, North

NVZ033-039

Extreme east Elko - South-Central Elko

23	2100PST								
24	1400PST				0	0	0.00K	0.00K	High Wind

Strong winds developed over the forecast area with the strongest winds over northern Nevada.

NVZ031

North Elko County

24	0100PST								
	2300PST				0	0	0.00K	0.00K	Heavy Snow

A winter storm brought moderate snow to valley locations across much of northern Nevada with the mountains above 6500 feet receiving heavy snow.

NVZ038

Southwestern Elko

24	0300PST								
	1500PST				0	0	0.00K	0.00K	High Wind

Strong winds developed over the forecast area with the strongest winds over northern Nevada.

NVZ031-034

North Elko County - Ruby Mountains/east Humboldt Range

24	0300PST								
25	2300PST				0	0	0.00K	0.00K	Heavy Snow

A winter storm brought moderate snow to valley locations across much of northern Nevada with the mountains above 6500 feet receiving heavy snow.

NEVADA, South

NVZ020

Las Vegas Valley

17	0000PST								
	2359PST				0	0	0.00K	0.00K	Cold/Wind Chill

One man died in Las Vegas of cold-related causes.

NEVADA, West

NVZ002

Greater Lake Tahoe Area

21	0700PST				0	0			
22									

**Douglas County
2 W Minden**

21	1100PST								
22	0600PST				0	0			Heavy Rain

CO-OP Observer in Minden reported 0.52 inches of rainfall from 21 November 1100PST to 22 November 0600PST.

**Douglas County
1 SSE Glenbrook**

21	1100PST				0	0			
22									

CO-OP Observer in Glenbrook reported 0.60 inches of rainfall from 21 November 1100PST to 22 November 1100PST at an elevation of 6542 feet MSL.

**Douglas County
2 E Glenbrook**

21	1730PST				0	0			
22									

Mesonet NSPO, Spooner Summit, reported 0.63 inches of rainfall in a 24-hour period from 21 November 1730PST to 22 November 1730PST. Mesonet elevation 7040 feet MSL.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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NEVADA, West

Douglas County 4 SSW Centerville

21 2000PST
 23 Trained weather spotter 3 miles west-southwest of Gardnerville Ranchos measured 0.78 inches of rainfall in a 48-hour period from 21 November 2000PST to 23 November 2000PST.

NVZ003-004

Greater Reno/Carson City/Minden Area - Western Nevada Basin and Range

23 0437PST
 1153PST 0 0 High Wind

A shortwave trough lifted across California and the Great Basin the 21st into the 23rd. This weather system brought high winds, rain, and snow to the Sierra Nevada and parts of western Nevada.

NVZ002

Greater Lake Tahoe Area

28 0648PST 0 0 Heavy Snow
 29 A cold upper-level low made its way into the region late on the 28th and produced rain and snow in the lower elevations of western Nevada and northeast California with snow in the Sierra Nevada.

NEW HAMPSHIRE, North and Central

Merrimack County North Chichester

03 0915EST
 04 2000EST 0 0 0.00K 0.00K Flood

Heavy rain produced 2 to 4 inches of rainfall across southern New Hampshire resulting in minor flooding on the Suncook River (flood stage 7.00 ft), which crested at 7.92 ft.

Merrimack County Davisville 1 W Tyler

03 1355EST
 04 1245EST 0 0 0.00K 0.00K Flood

Heavy rain produced 2 to 4 inches of rain across southern New Hampshire resulting in minor flooding on the Warner River at Davisville (flood stage 8.00 ft), which crested at 8.44 ft.

Low pressure moving through New England produced 2 to 4 inches of rain in southern New Hampshire. This caused minor flooding on the Suncook River at North Chichester and on the Warner River at Davisville.

NHZ001-002

Northern Coos - Southern Coos

13 0100EST
 1400EST 0 0 Heavy Snow

A rapidly developing low pressure formed off the Mid Atlantic coast and tracked through southern New England. Forcing resulted from an open wave aloft, which limited intensity and duration of precipitation. Despite a track near the coast, a seasonably cold antecedent air mass allowed precipitation to begin as snow before mixing with and changing to rain at the coast into the Lakes Region. Precipitation stayed mainly snow in the mountains.

Merrimack County North Chichester

13 1657EST
 14 2245EST 0 0 0.00K 0.00K Flood

Heavy rain produced 1 to 2 inches of rainfall across southern New Hampshire resulting in minor flooding on the Suncook River at North Chichester (flood Stage 7.00 ft), which crested at 7.80 ft.

Low pressure moving up the east coast produced 1 to 2 inches of rain across southern New Hampshire. Rivers were already high from previous rainfall events and the additional rainfall resulted in minor flooding on the Suncook River at North Chichester.

NHZ008-010-012-014-015

Coastal Rockingham - Hillsborough - Merrimack - Strafford - Western and Central Hillsborough

15 2100EST
 16 1200EST 0 0 Heavy Snow

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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NEW HAMPSHIRE, North and Central

Coastal low pressure developing off the Mid Atlantic spread snow across the Northeast on the evening of November 15th. While the strongest lift remained to the south, moderate to heavy snow did spread into parts of the area, especially southern New Hampshire. This was due mainly to strong warm air advection, as a strong jet streak rounded the base of the upper level low over the Ohio River Valley. This jet streak lifting northeastward over the region allowed the dry slot to move into the area after midnight, bringing steady snowfall to an end.

NHZ005>010

Belknap - Merrimack - Southern Carroll - Southern Grafton - Strafford - Sullivan

20	0400EST				0	0			Heavy Snow
	1700EST								

Low pressure tracked along a stalled frontal boundary draped across southern New England and brought widespread snowfall to the area. Late on the 19th and early on the 20th very light rain and snow persisted along the stalled front. As low pressure approached on the morning of the 20th precipitation gradually changed to all snow and became steadier. Snow continued through the day on the 20th as temperatures hovered near freezing. Low pressure continued to strengthen in the Gulf of Maine and helped to prolong the snow into the evening.

NHZ001>007

Northern Carroll - Northern Coos - Northern Grafton - Southern Carroll - Southern Coos - Southern Grafton - Sullivan

26	1700EST				0	0			Heavy Snow
27									

This winter storm began as a blizzard over the Midwest. The storm moved into the eastern Great Lakes early on the 26th and snow broke out over northern New England that afternoon and evening. Secondary low pressure developed in the vicinity of Cape Cod on the evening of the 26th helping to ensure cooler air remained trapped across much of New Hampshire. Surface temperatures hovered within a couple degrees of freezing, but aloft temperatures were much colder. As a result snowfall was heavy and wet, and very dependent on elevation. While lower elevations mixed at times with sleet, freezing rain, and rain, the higher terrain remained predominantly snow and significant accumulations occurred. Low pressure slowed to a crawl on the 27th and snow continued into the 28th, although the bulk of the accumulation was from the evening of the 26th to the afternoon of the 27th.

NHZ014

Coastal Rockingham

27	1300EST				0	0	10.0K	0.00K	Coastal Flood
	1530EST								

Low pressure intensified as it moved up the east coast to near Cape Cod, Massachusetts on November 27th. This allowed for gale force northeasterly winds to generate nearshore waves of 10 to 15 feet and increased storm surge values. This coastal flood event coincided with a period of high astronomical tides.

NEW JERSEY, Northeast

Bergen County 1 W Mahwah

03	0400EST				0	0	0.00K	0.00K	Flood
04	0700EST								

The Ramapo River near Mahwah, NJ rose above its flood stage of 8.0 feet at 5:00am EDT, crested at a height of 8.95 feet at 3:45pm EDT, then fell back below flood stage at 7:00am EST on November 4.

The combination of moderate to heavy rain associated with an area of low pressure crossing the region and wet antecedent conditions resulted in minor flooding on the Ramapo River. Rainfall amounts in the area were generally 1-2 inches.

NJZ107

Western Union

03	0900EST				0	0	50.0K	0.00K	Strong Wind
	1200EST								

Low pressure deepened as it moved to the northeast, with strong westerly winds in its wake on Saturday November 3rd.

NJZ002-004-006- 103>108

Eastern Bergen - Eastern Essex - Eastern Passaic - Eastern Union - Hudson - Western Bergen - Western Essex - Western Passaic - Western Union

15	1300EST				0	0	0.00K	0.00K	Winter Storm
	0000EST								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEW JERSEY, Northeast

A wave of low pressure developed along the Middle Atlantic coast during Thursday November 15, 2018. The low was associated with a closed upper level trough across the Midwest. As the trough translated eastward into Friday November 16, 2018, the low pressure moved up the northeast coast. The antecedent air mass ahead of the low was cold and dry for the middle of November with temperatures during the morning and afternoon of November in the upper 20s and low 30s. The moisture associated with the trough and low pressure was able to produce moderate to heavy bands of snow as the precipitation began across the entire Tri-State area due to the cold air in place. Once the low drew warmer air from the south, the precipitation gradually changed to a wintry mix and then plain rain, especially for the New York City metro and Long Island. The moderate to heavy wet snowfall significantly impacted the evening rush hour with 1-2 inch per hour snowfall rates. Hundreds of trees, tree limbs, and branches were brought down by the weight of the snow, which caused many power outages. Numerous accidents were reported and many motorists were stranded on roads until the early morning hours the next day. There were over 1,000 flights cancelled at the New York City metro airports (Kennedy, La Guardia, and Newark).

NEW JERSEY, South and Northwest

Somerset County

3 NE Watchung

02	2345EST	0	0	0.00K	0.00K	Thunderstorm Wind (50EG)
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Civil Air Patrol flight for aerial storm survey revealed a small, isolated area of microburst-like damage including uprooted trees and minor shingle damage. One roof was tarped. Social media report included photos of this damage. The photos showed multiple but sporadic trees and limbs down in a neighborhood and some damage to shingles including a small section that was peeled off of one home. Time estimated from radar.

An area of low pressure formed along a slow-moving cold front as it crossed the Commonwealth of Pennsylvania. The low worked its way northward from the Carolinas into the Mid-Atlantic on the 2nd, leading to the development of an expansive precipitation shield that entered the County Warning Area by 6:00 PM EDT. Weak instability with CAPE values generally less than 300 J/kg were just enough to support convection along the leading edge of the precipitation shield in the form of a well-developed QLCS. The weak instability resulted in little lightning activity, but the strong dynamics were enough to sustain the leading edge of the QLCS. Sufficient storm relative helicity near $333 \text{ m}^2/\text{s}^2$ (sfc-1 km) allowed for small circulation centers to develop along the QLCS, and thus several strong rear-flank downdrafts formed along the broken line. No tornadoes were confirmed after damage surveys and all damage was attributed to straight-line winds from microbursts. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

NJZ012-015>019-022

Camden - Gloucester - Mercer - Middlesex - Northwestern Burlington - Salem - Western Atlantic - Western Monmouth

15	0800EST	0	0	0.00K	0.00K	Winter Weather
	2100EST					

NJZ001-007>010

Hunterdon - Morris - Somerset - Sussex - Warren

15	1230EST	0	0	0.00K	0.00K	Winter Storm
16	1000EST					

NJZ012>014

Eastern Monmouth - Middlesex - Western Monmouth

16	0130EST	0	0	0.00K	0.00K	Coastal Flood
	0530EST					

Early season Winter Storm. Additional trace amounts of snow were reported in Cape May County.

NJZ012>014-018>019

Camden - Eastern Monmouth - Middlesex - Northwestern Burlington - Western Monmouth

25	0800EST	0	0	0.00K	0.00K	Coastal Flood
	1630EST					

NJZ015-017>019

Camden - Gloucester - Mercer - Northwestern Burlington

26	1400EST	0	0	0.00K	0.00K	Coastal Flood
	1800EST					

A coastal storm resulted in tidal flooding along the northern part of the New Jersey coast and along the tidal Delaware River.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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NEW MEXICO, Central and North

NMZ501>518-522>
523-527>528-530>
531-533>534-536>
538-540

Central Highlands - Chaves County Plains - Chuska Mountains - De Baca County - East Slopes Of The Sangre De Cristo Mountains - Estancia Valley - Far Northeast Highlands - Far Northwest Highlands - Guadalupe County - Harding County - Jemez Mountains - Lower Chama River Valley - Northern Sangre De Cristo Mountains Above 9500 Feet/red River - Northwest Highlands - Northwest Plateau - Quay County - Raton Ridge/johnson Mesa - Roosevelt County - San Francisco River Valley - San Juan Mountains - Santa Fe Metro Area - Southern Sangre De Cristo Mountains Above 9500 Feet - Southwest Chaves County - Southwest Mountains - Union County - Upper Rio Grande Valley - West Central Highlands - West Central Mountains - West Central Plateau - West Slopes Of The Sangre De Cristo Mountains

01 0000MST
30 2359MST

0 0

Drought

Widespread moderate to severe drought conditions at the end of October 2018 continued to improve through November 2018 across southern and eastern portions of the state. Unfortunately, extreme to exceptional drought conditions persisted over the northwestern half of the state despite more frequent rounds of light rain showers and mountain snow. Severe drought conditions improved to 36 percent of the state, of which around 21 percent was deemed extreme drought or worse. Exceptional drought remained at roughly 15 percent of New Mexico. Drought conditions were removed from much of far eastern New Mexico and southern portions of the state. Precipitation amounts for November 2018 ranged from around one half inch to one inch of parts of eastern New Mexico. A couple winter storm systems moved through the northern mountains and brought much needed snowfall to the region. Snow pack conditions by the end of the month were the best in several years for the Sangre de Cristo Mountains.

NMZ512>516-521>
523-529-533>534

Central Highlands - East Slopes Of The Sangre De Cristo Mountains - Estancia Valley - Guadalupe County - Northeast Highlands - Northern Sangre De Cristo Mountains Above 9500 Feet/red River - Quay County - Sandia/manzano Mountains - Southern Sangre De Cristo Mountains Above 9500 Feet - Upper Rio Grande Valley - West Slopes Of The Sangre De Cristo Mountains

11 1000MST
12 1600MST

0 0 0.00K 0.00K Heavy Snow



A winter storm brought 8 inches of snow to Taos, NM on November 11-12, 2018. Photo courtesy of John Hamilton Farr via Twitter.

NMZ518

Santa Fe Metro Area

12 1000MST
1200MST

0 0 20.0K 0.00K Winter Weather

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEW MEXICO, Central and North

An unseasonably cold upper level storm system moved slowly south from the northern Rockies with an associated potent surface cold front. Rain and higher terrain snow developed along the cold front as it plunged south into New Mexico on the 11th. Very heavy snow fell in the Sangre de Cristo Mountains where up to a foot was reported in less than 12 hours. A sharp band of snow then developed over eastern New Mexico along the Interstate 40 corridor east of the Sandia Mountains. The area from Santa Rosa to Tucumcari was slammed with snowfall rates on the order of one to two inches per hour on the evening of the 11th. Severe travel conditions developed over the area with numerous rollovers and closed roadways. Snow gradually ended over the eastern plains during the overnight hours but persisted through the 12th over the high terrain of northern New Mexico. Storm total accumulations in the higher terrain of northern New Mexico ranged from 12 to 20 inches. Clearing skies, exceptionally dry air, and snow pack led to record temperatures across parts of New Mexico in the wake of this system.

NMZ528

Far Northeast Highlands

22	2151MST 2358MST	0	0	0.00K	0.00K	High Wind
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Strong northwest flow in place across New Mexico interacted with the higher terrain of the Sangre de Cristo Mountains late in the day of the 22nd. Mountain wave activity produced localized strong winds around the Raton airport. Sustained winds peaked around 41 mph and gusts reached 61 mph.

NMZ523

Central Highlands

24	2130MST 2235MST	0	0	0.00K	0.00K	High Wind
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Strong northwest flow aloft over New Mexico enhanced winds around the Cline's Corners area on the 24th. Peak wind gusts up to 59 mph were reported at Cline's Corners during the late evening hours.

30	0845MST 0900MST	0	0	0.00K	0.00K	High Wind
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Strong northwest flow aloft over New Mexico enhanced winds around the Cline's Corners area on the 30th. Peak wind gusts up to 60 mph were reported at Cline's Corners during the morning hours.

NEW MEXICO, South Central and Southwest

NMZ401-417

Otero Mesa - Southern Gila Highlands/black Range - Upper Gila River Valley

01	0000MST	0	0	0.00K	0.00K	Drought
30	2359MST	0	0	0.00K	0.00K	Drought

Another month of below normal temperatures helped to keep the status quo of severe drought in the Gila region, but a slight improvement in southeast Otero County.

NEW MEXICO, Southeast

NMZ027

Guadalupe Mountains of Eddy County

22	2200MST	0	0	0.00K	0.00K	High Wind
23	0300MST	0	0	0.00K	0.00K	High Wind

Strong westerly winds occurred in the Guadalupe Mountains as an upper level trough passed over the region.

24	2100MST	0	0	0.00K	0.00K	High Wind
25	0300MST	0	0	0.00K	0.00K	High Wind

Strong westerly winds affected the Guadalupe Mountains due to a passing upper trough.

NMZ027>029-033

Central Lea County - Eddy County Plains - Guadalupe Mountains of Eddy County - Northern Lea County

30	0935MST 2300MST	0	0	0.00K	0.00K	High Wind
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Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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NEW MEXICO, Southeast

Strong westerly winds mixed down in the Guadalupe Mountains, and portions of the southeast New Mexico plains, as the base of a potent upper trough swept over the region.

NEW YORK, Central

**NYZ009-015>018-
022>025-036-044>
045-055>057-062**

Broome - Chemung - Chenango - Cortland - Delaware - Madison - Northern Oneida - Onondaga - Schuyler - Seneca - Southern Cayuga - Steuben - Sullivan - Tioga - Tompkins - Yates

15	1400EST							
16	0900EST			0	0	0.00K	0.00K	Heavy Snow

An early season major winter storm affected all of northeast Pennsylvania and central New York State from the afternoon of the 15th to the morning of the 16th. Heavy snow spread rapidly north engulfing northeast Pennsylvania during the early afternoon of the 15th and from mid to late afternoon in central New York. Snowfall rates were up to 3 inches per hour at the onset leading to numerous roads and several interstate highways temporarily closing. The snow eventually mixed with and even changed to freezing rain and sleet for a time over northeast Pennsylvania and central New York from the mid evening of the 15th to the early morning hours of the 16th. The wintry mixture of precipitation changed back to snow before tapering off from mid to late morning of the 16th. Storm total snowfall ranged from 10 to 16 inches in northeast Pennsylvania to between 8 and 15 inches of snow over most of central New York.

NYZ018-056

Broome - Onondaga

23	0700EST							
	0800EST			0	0	0.00K	0.00K	Extreme Cold/Wind Chill

An unusually early Arctic air mass dropped south and covered central New York and Northeast Pennsylvania on the 23rd. All-time monthly record lows for November were set at the Greater Binghamton Airport, Syracuse Airport and at the Wilkes-Barre Scranton Airport. Many locations in central New York and northeast Pennsylvania dropped to the single digits below zero to single digits above zero on the morning of the 23rd.

NEW YORK, Coastal

NYZ078

Northwest Suffolk

03	1200EST							
	1400EST			0	0	50.0K	0.00K	Strong Wind

Low pressure deepened as it moved to the northeast, with strong westerly winds in its wake on Saturday November 3rd.

NYZ079

Northeast Suffolk

03	1300EST							
	1600EST			0	0	50.0K	0.00K	High Wind

Low pressure deepened as it moved to the northeast, with strong westerly winds in its wake on Saturday November 3rd.

**NYZ068-072-074-
178**

Kings (Brooklyn) - New York (Manhattan) - Putnam - Richmond (Staten Island) - Southern Queens

15	1330EST							
16	2000EST			0	0	0.00K	0.00K	Winter Storm

NYZ078-080-179

Northwest Suffolk - Southern Nassau - Southwest Suffolk

15	1330EST							
	2000EST			0	0	0.00K	0.00K	Winter Weather

NYZ073-176

Bronx - Northern Queens

15	1400EST							
	2100EST			0	0	0.00K	0.00K	Winter Storm

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEW YORK, Coastal

NYZ079-081-177

Northeast Suffolk - Northern Nassau - Southeast Suffolk

15	1400EST 2030EST	0	0	0.00K	0.00K	Winter Weather
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NYZ067-069>071

Northern Westchester - Orange - Rockland - Southern Westchester

15	1500EST	0	0	0.00K	0.00K	Winter Storm
16	0800EST					

A wave of low pressure developed along the Middle Atlantic coast during Thursday November 15, 2018. The low was associated with a closed upper level trough across the Midwest. As the trough translated eastward into Friday November 16, 2018, the low pressure moved up the northeast coast. The antecedent air mass ahead of the low was cold and dry for the middle of November with temperatures during the morning and afternoon of November in the upper 20s and low 30s. The moisture associated with the trough and low pressure was able to produce moderate to heavy bands of snow as the precipitation began across the entire Tri-State area due to the cold air in place. Once the low drew warmer air from the south, the precipitation gradually changed to a wintry mix and then plain rain, especially for the New York City metro and Long Island. The moderate to heavy wet snowfall significantly impacted the evening rush hour with 1-2 inch per hour snowfall rates. Hundreds of trees, tree limbs, and branches were brought down by the weight of the snow, including over 100 trees alone in the New York City metro. Numerous accidents were reported along with a 20 car accident on the George Washington Bridge. Many motorists were stranded on roads across the city until the early morning hours the next day. The Long Island Railroad had delays and cancellations and there were over 1,000 flights cancelled at the New York City metro airports (Kennedy, La Guardia, and Newark).

NYZ071-078-177

Northern Nassau - Northwest Suffolk - Southern Westchester

15	2000EST 0100EST	0	0	30.0K	0.00K	Strong Wind
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NYZ079>081-179

Northeast Suffolk - Southeast Suffolk - Southern Nassau - Southwest Suffolk

16	0000EST 0300EST	0	0	160.0K	0.00K	Strong Wind
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Strong east to northeast winds developed across the region Thursday Night into early Friday morning, as an intensifying coastal storm tracked across the area.

NYZ177

Northern Nassau

16	0400EST 0800EST	0	0	0.00K	0.00K	Coastal Flood
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Easterly Gale to Storm force winds resulted in tidal departures of 3-5 ft above astronomical high tides around the times of high tide overnight into early Friday morning.

NYZ081

Southeast Suffolk

25	0000EST 0500EST	0	0	10.0K	0.00K	Strong Wind
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A coastal storm passed east of Long Island resulting in strong winds.

NYZ179

Southern Nassau

25	0800EST 1100EST	0	0	0.00K	0.00K	Coastal Flood
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Minor to moderate coastal flooding was caused by a low pressure system that rapidly deepened just south of Long Island early Sunday morning. Several hours of 35 to 45 kt east to southeast winds resulted in a quick build up of around 3 ft of storm surge for the Sunday morning high tide. An approaching warm front, increased southeast winds once again Monday morning, resulting in minor to locally moderate coastal flooding for the Monday morning high tide cycle.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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NEW YORK, Coastal

NYZ071-078-079

Northeast Suffolk - Northwest Suffolk - Southern Westchester

26	1800EST 2300EST	0	0	30.0K	0.00K	Strong Wind
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A coastal storm passed east of Long Island on the 26th on November.

NEW YORK, East

**NYZ032-038>043-
047>054-058>061-
063>066-082>084**

Eastern Albany - Eastern Columbia - Eastern Dutchess - Eastern Greene - Eastern Rensselaer - Eastern Schenectady - Eastern Ulster - Hamilton - Montgomery - Northern Fulton - Northern Herkimer - Northern Saratoga - Northern Warren - Northern Washington - Schoharie - Southeast Warren - Southern Fulton - Southern Herkimer - Southern Saratoga - Southern Washington - Western Albany - Western Columbia - Western Dutchess - Western Greene - Western Rensselaer - Western Schenectady - Western Ulster

03	1100EST 2000EST	0	0	27.0K	0.00K	Strong Wind
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A low pressure system rapidly strengthened as it moved from eastern New York to New Brunswick on November 3rd, resulting in strong winds across the region. Several downed trees and limbs, some resulting in road closures, were reported in the Capital District, while around 2,000 people lost power in the Mid-Hudson Valley. Gusts up to 50 mph were recorded.

NYZ033-042

Hamilton - Northern Warren

09	1300EST	0	0	Winter Weather		
10	0300EST					

**NYZ032-038>043-
047>054-058>061-
063-082>084**

Eastern Albany - Eastern Columbia - Eastern Greene - Eastern Rensselaer - Eastern Schenectady - Hamilton - Montgomery - Northern Fulton - Northern Herkimer - Northern Saratoga - Northern Warren - Northern Washington - Schoharie - Southeast Warren - Southern Fulton - Southern Herkimer - Southern Saratoga - Southern Washington - Western Albany - Western Columbia - Western Greene - Western Rensselaer - Western Schenectady - Western Ulster

10	1200EST 2200EST	0	0	24.0K	0.00K	Strong Wind
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A period of wet snow occurred from the afternoon of Friday, November 9th into the early morning hours of Saturday, November 10th in the southern Adirondacks ahead of a low pressure system. Amounts were generally in the 4 to 8 inch range, with up to 10 inches recorded near North River.

The low pressure system continued to strengthen as it moved north into Quebec, allowing strong westerly winds to develop over eastern New York. Winds gusted as high as 50 mph.

**NYZ038>040-048>
050-052-054**

Eastern Albany - Eastern Rensselaer - Eastern Schenectady - Montgomery - Southern Fulton - Southern Herkimer - Southern Saratoga - Western Schenectady

14	0300EST 0630EST	0	0	Winter Weather		
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Snow squalls impacted portions of the Mohawk Valley and Capital District during the early morning hours of November 14th. Though accumulation was minimal, the snow froze on area roadways prior to the morning rush hour, resulting in numerous accidents and lengthy traffic delays. The Interstate 90 bridge over the Hudson River was closed for several hours due to a crash. Some schools were delayed.

**NYZ058>060-063>
066**

Eastern Dutchess - Eastern Greene - Eastern Ulster - Western Columbia - Western Dutchess - Western Greene - Western Ulster

15	1600EST	0	0	Winter Storm		
16	1100EST					

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEW YORK, East

NYZ061

Eastern Columbia

15	1600EST									
16	1100EST				0	0				Winter Weather

NYZ032-042

Hamilton - Northern Herkimer - Northern Warren

15	1800EST									
16	1100EST				0	0				Winter Storm

**NYZ038>041-043-
047>054-082>084**

Eastern Albany - Eastern Rensselaer - Eastern Schenectady - Montgomery - Northern Fulton - Northern Saratoga - Northern Washington - Schoharie - Southeast Warren - Southern Fulton - Southern Herkimer - Southern Saratoga - Southern Washington - Western Albany - Western Rensselaer - Western Schenectady

15	1800EST									
16	1100EST				0	0				Winter Weather

A strengthening coastal low pressure system moved along the Atlantic shoreline November 15th and 16th, bringing accumulating snow and mixed precipitation to eastern New York. The Mid-Hudson Valley and eastern Catskills were hit hardest with 8 to 14 inches of snow, most of which occurred during the evening hours. The snow spread in during the evening rush hour with one to three inches per hour accumulation, snarling traffic and resulting in numerous accidents. The southern Adirondacks also saw 6 to 12 inches of snowfall, while totals for the remainder of eastern New York generally ranged from 4 to 8 inches. The snow changed to sleet and freezing rain overnight in many areas with minimal ice accretion. It changed back to snow during the morning hours of the 16th before ending. The snow allowed many area ski hills to open earlier than normal for the season.

**NYZ032-042-047-
051-058-063-082**

Hamilton - Northern Fulton - Northern Herkimer - Northern Warren - Schoharie - Western Albany - Western Greene - Western Ulster

22	0100EST									
	1200EST				0	0				Cold/Wind Chill

A frigid airmass arrived in the wake of an Arctic cold front on the 22nd, resulting in one of the coldest Thanksgivings on record for eastern New York. Wind chill values fell to -15 to -20 degrees Fahrenheit during the morning of the 22nd, while high temperatures only reached the single digits and teens.

26	1600EST									
28	1900EST				0	0				Winter Storm

NYZ033-042

Hamilton - Northern Warren

26	1600EST									
28	1900EST				0	0				Winter Storm

NYZ038-047-082

Northern Fulton - Schoharie - Southern Herkimer

26	1900EST				0	0				
28										

A low pressure system approaching from the southwest brought an area of rain to much of eastern New York on the 26th. Over the Adirondacks, the rain mixed with and changed to snow during the afternoon and evening hours, with heavy, wet snow continuing overnight before tapering off in the late morning of the 27th. Snowfall totals in the southern Adirondacks ranged mainly from 6 to 14 inches. The heavy, wet snow brought down numerous trees and powerlines in northern and western portions of Warren County, knocking out power to over 2,000 customers. Dozens of automobile accidents occurred, and trucks became stuck on a hill between exits 22 and 23 on Interstate 87. Snow continued intermittently for the southern Adirondacks and Mohawk and Schoharie Valleys into the evening of the 28th with additional light to moderate accumulation.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEW YORK, North

NYZ026-087

Northern St. Lawrence - Southwestern St. Lawrence

15	1800EST									
16	1100EST				0	0	10.0K	0.00K	Winter Weather	

**NYZ027>031-034>
035**

Eastern Clinton - Eastern Essex - Northern Franklin - Southeastern St. Lawrence - Southern Franklin - Western Clinton - Western Essex

15	1900EST									
16	1200EST				0	0	100.0K	0.00K	Winter Storm	

A coastal low moved from off the southeast US coast on Thursday, November 15th to near New York City on November 16th. Snow developed across the area during the nighttime hours of November 15th and ended during by late morning of November 16th.

A widespread 5 to 10 inches of snow fell with amounts approaching 12 inches in parts of the Clinton and Franklin counties. Numerous schools were closed and numerous vehicle accidents as well.

26	2000EST									
28	1000EST				0	0	15.0K	0.00K	Winter Storm	

NYZ030-034

Southern Franklin - Western Clinton - Western Essex

26	2000EST									
28	1000EST				0	0	75.0K	0.00K	Winter Storm	

**NYZ026-028-035-
087**

Eastern Clinton - Eastern Essex - Northern St. Lawrence - Southeastern St. Lawrence - Southwestern St. Lawrence

26	2200EST									
28	0800EST				0	0	35.0K	0.00K	Winter Weather	

A storm that brought blizzard conditions to parts of the Midwest on Sunday, November 25th moved into the Ohio River Valley - Southern Great Lakes on 11/26. The storm slowed considerably in the eastern Great Lakes, thus allowing a secondary low pressure system to develop near the Delmarva Peninsula during the evening of 11/26 and proceeded to move to near Boston by the morning of November 27th.

Precipitation moved into the North Country by the afternoon of November 26th, falling as snow at elevations above 1500 feet and rain at lower elevations. By early morning of November 27th, the atmosphere cooled enough to allow for precipitation to changeover to snow. Highest snowfall totals at elevations above 1500 feet that resulted in downed trees and power outages.

NEW YORK, West

**NYZ001-003-010-
019-085**

Chautauqua - Monroe - Niagara - Northern Erie - Southern Erie

06	1240EST									
	2030EST				0	0	37.0K	0.00K	High Wind	

Deepening low pressure tracked from the Central Great Lakes to southwestern Quebec. A swath of rain moved across the eastern Great Lakes, which resulted 0.25 - 0.75 inch from Western NY to North Central NY, respectively. This was ahead of a fast moving cold front that tracked across the forecast area. A 60-70 kt southwesterly jet moved into the region behind the front. Showers and embedded thunderstorms formed along the front while it was across Lake Erie due to impressive speed shear and strong forcing. High resolution model guidance was depicting strong winds behind the cold front. Because lake shore trees still had more leaves on them, high wind warnings were issued for the counties along the Lake Erie shore, and several trees were reported down there.

NYZ012-019-085

Cattaraugus - Chautauqua - Southern Erie - Wyoming

10	0000EST									
	1756EST				0	0	0.00K	0.00K	Winter Storm	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NEW YORK, West

Very cold air moved over the Great Lakes from the upper Midwest. Temperatures at 850 mb temps fell off to around -12C with deep equilibrium levels to near 15,000 feet as an upper trough passed through. High resolution models were consistent with developing a strong lake effect band off Lake Erie in the morning that advanced northward from Chautauqua toward Erie County. Reports of 11 inches in Warsaw, 11.5 inches in Forestville, 13.8 inches in Perrysburg, and 18 inches in Springville were received.

NYZ003>006-008-012>014-020>021-085

Allegany - Cattaraugus - Lewis - Livingston - Monroe - Northern Cayuga - Ontario - Oswego - Southern Erie - Wayne - Wyoming

15	1300EST									
16	0900EST				0	0	0.00K	0.00K	Winter Storm	

A complex system moved into the area with wildly varying thermal profiles. An initial mid-level trough and surface low moved across the southeast United States that gave way to secondary cyclogenesis near the southern tip of the Delmarva. The secondary low then moved northward along the east coast to the Gulf of Maine. The system had very marginal cold air to work with, particularly in western New York. As the event unfolded, precipitation type was mostly snow from Rochester eastward, with just a few brief periods of sleet. More sleet and some freezing rain mixed in through the first half of the event across far western New York, cutting back on snow accumulation there. Snow accumulations included 10 inches in Williamson, 15 inches in Port Byron, 15 inches in Bennets Bridge, 15 inches in Beaver Falls, 14 inches in Warsaw, 11.5 inches in Lima, 8.3 inches in Perrysburg, 12 inches in Andover, 12 inches in Bristol, 10 inches in Concord, and 12 inches in Pittsfield.

NYZ006-008-012-019-085

Cattaraugus - Chautauqua - Lewis - Oswego - Southern Erie - Wyoming

27	0000EST									
29	1800EST				0	0	0.00K	0.00K	Lake-Effect Snow	

A prolonged synoptic/lake effect/orographic event unfolded over the area from November 26-28. Temperatures during the event were marginally cold, especially in the lower elevations east of Lake Erie. This allowed for much higher accumulations of snow from the event in the Tug Hill and higher elevations of the Southern Tier than along the lake shores. As the core of the cold air aloft moved over the area deeper into the event, more true lake effect developed, and it allowed for snow to fall even in the lower elevations as the lake effect bands translated northward toward Metro Buffalo. Selected storm total snowfalls through the event included 15 inches in Arcade, 33 inches in Celoron, 35.2 inches in Perrysburg, 23 inches in Sardinia, 12.2 inches in Harrisville, and 15.4 inches in Redfield.

NORTH CAROLINA, Central

Orange County

**2 NW Carrboro
2 SW Chapel Hill**

12	2110EST									
13	0430EST				0	0	10.00K	0.00K	Flash Flood	

Heavy rain resulted in flash flooding throughout the city of Chapel Hill. Multiple roads were flooded, including Umstead Road, Estes Drive, Cleland Road and Old Mason Farm Road.

Guilford County

**2 SE Summerfield
1 ENE Jamestown**

12	2223EST									
13	0215EST				0	0	0.00K	0.00K	Flash Flood	

Heavy rain resulted in flash flooding in the city of Greensboro. The intersection of Yanceyville Street and E. Cornwallis Drive was flooded, as was Eckerson Road at Private Drive.

Wake County

2 WNW Purnell

13	0250EST									
	0520EST				0	0	0.00K	0.00K	Flash Flood	

Heavy rainfall resulted in flash flooding along the New Light Creek in northern Wake County. Water from the New Light Creek was flowing over bridge on Mangum Dairy Road, making the road impassable.

A strong low pressure system lifted northeastward into central North Carolina ahead of a strong cold front approaching from the west. There was fairly substantial lift over the region thanks to a strengthening low level jet and increasing diffidence aloft supplied by a 140 to 150 knot jet streaking northeastward across the OH Valley. All that combined with precipitable water values in the 1.5 -1.7 inch range set the stage for flash flooding across portions of central North Carolina.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Estimated Damage Crops	November 2018 Character of Storm
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NORTH CAROLINA, Central Coastal

Beaufort County

2 SW Bunyan

13 0400EST 0 0 0.00K 0.00K Thunderstorm Wind (50EG)
 The public reported a swing set and gazebo was destroyed by the winds. The location was near Washington off River Road.
 This was relayed via social media.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Carteret County

1 ESE Atlantic Beach

Morehead City

13 0445EST 2 150 0 0 0.00K 0.00K Tornado (EF1)
 The damage path started along Club Colony Drive and consisted of some siding blown toward the northwest, with more debris scattered toward the southeast. The damage path continued north-northeast toward Freeman Lane and just west of Sands Villa. Damage here consisted of multiple sheds blown and rolled 10 to 20 yards away, some of which were originally strapped to the ground. Some loss of roofing material was also found but may have already been compromised from Hurricane Florence. Winds peaked along East Fort Macon Road and the intersection of Sands Villa Drive as a power pole was snapped near the top, with 2 more blown down enough to lean significantly. Winds here were estimated to be around 90 MPH or a low end EF-1 tornado. The path continued over Bogue Sound to Morehead City where another area of damage was found especially between and near 4th and 5th streets. Here, a street sign was blown over, with another broken off at the top. Minor uplift of a metal roof was found along with some large branches snapped.



Damage near Sands Villa, Atlantic Beach, November 13, 2018

Carteret County

Morehead City

13 0447EST 0 0 0.00K 0.00K Thunderstorm Wind (50MG)
 Personal weather station measured a 58 MPH gust at the Morehead City Yacht Basin.

Note: The measured wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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NORTH CAROLINA, Central Coastal

Dare County

2 W (HAT)Cape Hatteras 13 0707EST 0 0 0.00K 0.00K Thunderstorm Wind (58MG)
A mesonet station near the Hatteras ferry terminal measured at 67 MPH wind gust.

A supercell thunderstorm came ashore across Carteret County and produced a variety of severe weather. A waterspout formed offshore and came on land as a tornado. Severe thunderstorm winds also occurred in association with the same storm. Another severe thunderstorm produced wind damage in Beaufort County. Note: The measured wind gust of 58 knots is equivalent to 67 mph.

Carteret County

1 NNE Cape Carteret 24 1406EST
1 SSE Cedar Pt 1407EST 0.35 70 0 0 0.00K 0.00K Tornado (EF0)

The tornado path started along the shores of Bogue Sound near Bayshore Drive in Cape Carteret and quickly moved north-northeast across Live Oak Drive. An eyewitness here saw the tornado move down the street. Damage included minor uplift of a porch, along with some siding and a uprooted tree. More damage occurred along Park Avenue from near Live Oak Drive to Easy Street. Most of the significant damage was blown toward the north (southerly wind) and included large limbs down, along with damage to a power line. In addition some shingles were blown off of a new roof. Of interest was a tremendous amount of leaf debris that was along the north and east sides of the houses along both Live Oak Drive and Park Avenue. Although very subtle, this leaf debris could only occur on those sides of the homes with a north to northeast wind, which was in the opposite direction of most of the storm damage and therefore indicated likely rotation. The damage path ended near the corner of Park Avenue and Easy Street. Overall damage along the path was relatively minor with 1 tree uprooted that was already leaning due to Florence, and minor shingle loss of another structure. Top winds were estimated to be around 80 mph or an EF0 tornado.



Tree Damage in Cape Carteret, November 24, 2018

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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NORTH CAROLINA, Central Coastal

Carteret County

3 S Broad Creek

24	1410EST 1416EST	2.8	75	0	0	0.00K	0.00K	Tornado (EF2)
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The tornado began near the intersection of 8th street and Ocean Drive in Emerald Isle with two houses sustaining uplift of the roof deck and significant loss of roof covering material. Some utility lines were also damaged along Ocean Drive. The path crossed Ocean drive through a row of houses between 8th and 7th street. Multiple homes had siding damage with one large work trailer turned over. It was here the worst damage occurred with one house losing large sections of the roof but the walls were still standing. Part of the roofing material was found across Highway 58, where damage to a boat dock occurred along Bogue Sound. As the tornado became a waterspout over Bogue Sound it likely weakened significantly as it crossed back over land as a tornado near Adams Lane and Broad Creek Loop Road. Here some very minor siding damage occurred along with some trampolines blown into a tree. Here the winds were likely closer to an EF-0 or closer to around 80 MPH. Eyewitness accounts of the tornado in Emerald Isle mentioned more of a rolling feature coming on land versus a circulation. Due to the radar signature, narrow path and significant, intense damage just east of 8th street the evidence pointed toward tornadic versus straight line damage.



Damage to Home, Emerald Isle, November 24, 2018

Carteret County

3 NW Broad Creek

24	1420EST	0	0	0.00K	0.00K	Thunderstorm Wind (50EG)
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Trees down on power lines on Nine Mile Road. The time was estimated from radar.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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NORTH CAROLINA, Central Coastal

Carteret County

Mill Creek

24	1440EST 1441EST	0.5	40	0	0	0.00K	0.00K	Tornado (EF0)
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Multiple eyewitnesses along Mill Creek Road in Newport reported multiple waterspouts over Harlowe Creek Saturday afternoon after 230 PM. Across the street from 2721 Mill Creek Road at a Oyster Farm the waterspout came onshore briefly as a tornado. Crab pots were thrown across Mill Creek Road as the tornado moved through. The tornado lifted as it moved through a wooded area, before causing more very minor damage near the intersection of Dowty Road and Mill Creek Road. Top wind speeds were estimated to be around 65 MPH based on some minor limb damage and the damage to the crab pots. Note, a separate area of damage was also found just east of this track along Mill Landing Point Road. Siding damage was found to two houses, along with a path of light outdoor materials (gas cans, furniture, etc), and two uprooted trees. The siding damage may have been from Florence, but the tree damage and light outdoor materials appeared to be fresh. We were unable to make contact with either homeowner so as of now this area is not included in the report above. If we obtain further information a second separate tornado track may be needed.

Carteret County

3 NNW Roe

24	1450EST	0	0	0.00K	0.00K	Thunderstorm Wind (61MG)
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Cedar Island Ferry Terminal reported a wind gust to 70 mph before equipment failed.

A supercell thunderstorm came ashore in Carteret County and produced several tornadoes, as well as severe thunderstorm wind gusts. Note: The measured wind gust of 61 knots is equivalent to 70 mph.

NORTH CAROLINA, Northwest and North Central

Caswell County

4 SE Yanceyville

12 13	0700EST	0	0	0.00K	0.00K	Heavy Rain
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The Yanceyville COOP station (YAVN7) measured 3.16 inches for the 24-hours ending at 700 AM local time on the 13th. This daily amount was the highest on record for November (old mark 2.34 inches on 11/12/2009). Records at this site began in late 1996.

Rockingham County

2 NW Reidsville

12 13	0700EST	0	0	0.00K	0.00K	Heavy Rain
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The Reidsville 2 NW COOP station (RDVN7) reported 2.56 inches for the 24-hours ending at 700 AM local time on the 13th. This daily amount was a record for November 13th (the previous record was 1.58 inches in 2004) and the 3rd highest in the month of November (monthly record is 3.00 inches on November 12, 2009). Records at this site date back to 1962.

Rockingham County

2 SSE Eden

12 13	0700EST	0	0	0.00K	0.00K	Heavy Rain
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The COOP observer at Eden (EDEN7) reported 2.30 inches for the 24-hours ending at 700 AM local time on the 13th. This was a record for the date, November 13th (old record 1.16 inches in 1992) and 5th highest in the month of November. Precipitation records at this site date back to 1950.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	November 2018 Character of Storm
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NORTH CAROLINA, Northwest and North Central

Rockingham County

2 W Pennington

12	2120EST								
13	0920EST				0	0	0.00K	0.00K	Flood

The county 911 center in Rockingham reported that Wolf Creek was out of its banks and flooding Wolf Creek Road.

Caswell County

1 E Yanceyville Arpt

13	0200EST								
	0800EST				0	0	0.00K	0.00K	Flood

Parts of Route 158 East were flooded.

Low pressure tracked from the Gulf coast through the southeastern states initiating a prolonged period of moderate to heavy rain across parts of several counties, mainly in the Dan River basin. Some minor stream flooding occurred in Rockingham and Caswell counties, although no gaged locations reached flood stage. The Dan River at Wentworth (WENN7) crested above Action stage of 17 feet on November 13th. 24-hour rainfall amounts ending at 700 AM local time on the 13th saw 2 to 3.5 inches across parts of these counties. A second system on November 14-15 brought an additional 1 to 2 inches in roughly 48 hours ending at 700 AM on the 16th, with the highest amounts again over parts of the Dan River basin. This caused renewed rises on some streams.

NCZ001-018

Alleghany - Ashe - Watauga

14	2100EST								
15	1315EST				0	0	25.0K	0.00K	Ice Storm

Southwest winds on the east side of an advancing area of low pressure brought warm and moist air across the region the night of November 14th into the morning of November 15th. This warm and moist air resulted in rain falling across the area, but falling through a shallow layer of below freezing air just above and at ground level, and onto surfaces also below freezing. The result was a freezing rain event that deposited a range of one-quarter to one-half inch of ice on trees, power lines, and roads. The weight of the ice on some trees downed those trees. This, in combination with the weight of ice on power lines, also downed power lines. At least 7500 customers were without power in Alleghany, Ashe, and Watauga Counties. Vehicle accidents occurred on slick roads.

NORTH CAROLINA, Southwest

Cabarrus County

1 NW Rocky River 3 NE Flows Store

13	0830EST								
	1500EST				0	0	1.00K	0.00K	Flood

A stream gauge on the Rocky River near Irish Buffalo Creek exceeded its established flood stage after widespread rainfall of around 2 inches occurred within the basin over a period of several hours. Multiple tributaries of the river overflowed and flooded roads, including Pharr Mill Rd and Stallings Rd.

Widespread moderate to heavy rain developed across western North Carolina on the 12th in association with a wave of low pressure moving along the Southeast coast. Widespread rainfall amounts of two or more inches occurred in a 12 to 16 hour period, which was sufficient to produce some localized flooding across the Piedmont.

NCZ033-501-503

Avery - Burke Mountains - Caldwell Mountains

14	2300EST								
15	1000EST				0	0	0.00K	0.00K	Ice Storm

Precipitation developed in association with weak low pressure moving across the Southeast during the overnight of the 14th and early morning of the 15th. Precipitation began as rain and/or snow across the mountains, but transitioned to liquid as temperatures warmed aloft. However, a wedge of cool air remained in place across the Blue Ridge, resulting in freezing rain, mainly within a few miles either side of the Continental Divide. While most areas saw around a tenth of an inch or less of ice accretion, damaging ice accumulations were reported across the high elevations of Caldwell and Burke Counties, as well as eastern portions of Avery County.

NCZ049-052>053- 065-505-507-509

Buncombe - Haywood - Henderson - McDowell Mountains - Mitchell - Polk Mountains - Rutherford Mountains - Yancey

15	0000EST								
	0800EST				0	0	0.00K	0.00K	Winter Weather

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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NORTH CAROLINA, Southwest

Precipitation developed in association with weak low pressure moving across the Southeast during the overnight of the 14th and early morning of the 15th. Precipitation began as rain and/or snow across the mountains, but transitioned to liquid as temperatures warmed aloft. However, a wedge of cool air remained in place across the Blue Ridge, resulting in freezing rain, mainly within a few miles either side of the Continental Divide. Most of these areas saw trace amounts to around a tenth of an inch of ice accretion, although locally higher amounts were reported north of I-40.

Mecklenburg County

1 W Hahn

15	1100EST 1400EST	0	0	0.50K	0.00K	Flood
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A stream gauge on Mallard Creek in northeast Charlotte exceeded its established flood stage after more than an inch of rain fell in less than 24 hours in top of already-saturated soil. The main impact was to the Greenway areas around the creek, to the PNC Pavillion parking area, and to low-lying spots on Pavillion Blvd.

Cabarrus County

1 NW Rocky River 3 NE Flows Store

15	1230EST	0	0	1.00K	0.00K	Flood
16	0100EST	0	0	1.00K	0.00K	Flood

A stream gauge on the Rocky River near Irish Buffalo Creek exceeded its established flood stage after widespread rainfall 1 to 2 inches fell within the basin, which was already saturated due to an extended period of wet weather. Multiple tributaries of the river overflowed and flooded roads, including Pharr Mill Rd and Stallings Rd.

For the second time in less than 48 hours, moderate to heavy rain developed across western North Carolina in association with a wave of low pressure moving up the Southeast coast. Widespread rainfall amounts of 1 to 2 inches, compounded by an already-saturated ground due to rain that fell on the 12th and 13th resulted in localized flooding, mostly in the same areas that flooded on the 12th-13th.

NCZ033-049-501> 506

Avery - Burke Mountains - Caldwell Mountains - Eastern McDowell - Greater Burke - Greater Caldwell - McDowell Mountains - Mitchell - Yancey

24	0000EST 0700EST	0	0	0.00K	0.00K	Ice Storm
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For the second time in 10 days, a freezing rain event developed across portions of the mountains and foothills of North Carolina. Precipitation developed during the overnight, as a wave of low pressure moved along the Gulf Coast. Precipitation began as rain and snow, but transitioned to freezing rain across all but the highest elevations (where more of a wintry mix was reported), as a wedge of cold air locked in near the Blue Ridge. As freezing rain continued through daybreak, damaging accumulations of ice, generally between one quarter and one half inch were reported across the area. Quite a few trees and power lines, along with numerous power outages were reported across the area.

NCZ035>037-053- 056>057-064>065- 068>069-507>510

Alexander - Buncombe - Catawba - Cleveland - Davie - Eastern Polk - Greater Rutherford - Henderson - Iredell - Lincoln - Polk Mountains - Rowan - Rutherford Mountains - Transylvania

24	0000EST 0700EST	0	0	0.00K	0.00K	Winter Weather
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Precipitation developed across the mountains, foothills, and far western Piedmont of North Carolina during the overnight, as a wave of low pressure moved along the Gulf Coast. Precipitation began as rain in most areas, but transitioned to freezing rain as a wedge of cold air locked in across the area. By the time the precip tapered off around sunrise, ice accretion of one tenth to one quarter inch was reported in many areas, with the highest amounts reported near the Blue Ridge. Scattered downed trees and power lines/power outages were reported.

NORTH DAKOTA, Central and West

NDZ033>035-042- 045

Burleigh - Grant - Morton - Sioux - Stark

16	0500CST 1900CST	0	0	250.0K	0.00K	Heavy Snow
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An upper level trough moving through the Northern Plains led to heavy snow developing over parts of south central and southwest North Dakota. This combined with a period of gusty wind resulted in blowing snow. The heaviest snow of seven inches fell around Lark in Grant County. There were over 90 traffic accidents in the city of Bismarck, Burleigh County, resulting in three indirect injuries.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OHIO, East

**OHZ039>041-048>
050-058>059**

Belmont - Carroll - Columbiana - Coshocton - Guernsey - Harrison - Jefferson - Tuscarawas

14	1447EST									
16	0429EST				0	0	0.00K	0.00K	Winter Weather	

Cold surface temperatures were already in place across the region at least 24 hours leading up to this event. Surface high pressure allowed high temperatures to only reach near freezing while low temperatures bottomed out in the mid-20s. A closed upper level low formed just north of Texas on November 14th and tracked northeast. An abundant amount of moisture from the Gulf of Mexico traveled with the system into the northeast United States. Freezing rain eventually transitioned to snow when northwest flow began on the backside of the surface low. Four to seven inches of snow was measured north of I-80 and in the higher elevations, meanwhile 1 to 3 inches of snow happened elsewhere.

OHIO, North

Marion County

**La Rue
2 ESE New Bloomington**

02	0000EST									
03	0800EST				0	0	0.00K	0.00K	Flood	

The Scioto River at LaRue reached a stage of 13.87 feet on the afternoon of November 2nd. Major flood stage is 14.0 feet, just inches away from the observed river levels. Flood mitigation projects in the region have worked to address the impacts from flood events of this category which resulted in no monetary damages. The river did surpass its banks and flood into the town roads for 20.5 hours on the 2nd. For most of that time flood waters exceeded 5 or more inches of 100+ feet in length across the primary throughway in town. Similar flood levels events of 2011 and 2013 resulted in major property losses of up to 1 million dollars in each year. Most of those flood loss dollars were in the area of the recently installed improvements and were not damaged in this event. No flood damage losses has been reported in this area on this event though waters were inches away from inundated businesses and a nursing home.

A warm front lifted into the region on the 1st with an area of low pressure riding north from Cincinnati into eastern Lake Erie during the day. An axis of heavy rain fell from Columbus to Elyria with areas receiving over 2 inches of rain. Flooding was limited to poor drainage areas and a few river basins where minor flooding occurred. The exception was the headwaters of the Scioto River were river levels were inches from major flood stage.

OHZ089

Ashtabula Lakeshore

09	2200EST									
10	2300EST				0	0	25.0K	0.00K	Lake-Effect Snow	

An area of low pressure moved through the eastern Great Lakes on the evening of November 9. Cold air wrapping behind the system allow for rain to change over to snow and for lake effect snow showers to develop over an open Lake Erie. Snow began late on the 9th and continued through the late evening of the 10th. The most organized lake effect snow bands and heaviest snow fell in the morning hours of the 10th, as 6 to 8 inches of snow was reported by late morning in the hills near Interstate 90. Snow during this event primarily impacted the northern third of Ashtabula County. A maximum total of 11 inches of snow was recorded on the south side of the city of Ashtabula in Ashtabula County. Other selected storm totals include: 8 to 10 inches in Conneaut, 7 to 8 inches in North Kingsville, and 6 to 7 inches in Saybrook Township. Winds were fairly gusty during this event with wind speeds gusting to 35 mph during the late morning hours. Whiteout conditions caused significant traffic issues on local interstates and US highways.

OHIO, Southeast

Washington County

1 N Macksburg

15	2122EST									
16	1307EST				0	0	0.50K	0.00K	Flood	

The West Fork of Duck Creek spilled from its banks, flooding lowland along the river. Broad Street also started to flood near the bridge. The stream gage on Duck Creek showed the flooding started late on the 15th as the creek rose above its bankfull level of 13 feet. The creek crested just under 13.5 feet mid morning on the 16th, and returned to its banks shortly after noon.

Washington County

Bloomfield

2 NNE Moss Run

15	2143EST									
16	0941EST				0	0	2.00K	0.00K	Flood	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OHIO, Southeast

The Little Muskingum River near Bloomfield flooded, closing a section of Route 26 near its intersection with Route 260. The nearby river gage showed the river rose above its 16 foot bankfull level late on the 15th, and crested around 18 feet during the pre-dawn hours on the 16th. The river returned to its banks later that morning.

Meigs County
Hemlock Grove
1 W Sumner

16	0700EST			0	0	2.00K	0.00K	Flood
	2200EST							

The Sugar Run Creek Bridge was closed due to flooding along the Shade River. The river gage on the Shade River near Chester showed the river rose above its 17 foot bankfull level around sunrise on the 16th. The river crested at 17.7 feet late that afternoon and returned to its banks late that evening.

Several rivers in Southeast Ohio flooded on the 16th. This followed a couple rounds of moderate rain as waves of low pressure moved by. Rainfall totals in the 48 hours leading up to the flooding were around 1.5 inches.

OHIO, Southwest

Greene County
1 E Bellbrook

01	1400EST			0	0	0.00K	0.00K	Flood
	1500EST							

High water closed State Route 725 near Lower Bellbrook Road.

Logan County

1 NNW Lakeview Van Horn Ar 01	2200EST			0	0	0.00K	0.00K	Flood
	2300EST							

High water forced the evacuation of 4 households between U.S. Route 33 and State Route 366.

Widespread rain fell across the region as a low pressure system lifted northeast across the Ohio Valley.

OHZ026-034-042>
045-051>055-060>
064-070>072-077>
078-080-082

Auglaize - Butler - Champaign - Clark - Clermont - Clinton - Darke - Fayette - Franklin - Greene - Hamilton - Hardin - Highland - Logan - Madison - Mercer - Miami - Montgomery - Pickaway - Pike - Preble - Shelby - Union - Warren

14	2300EST			0	0			
15	1200EST							

An upper level low pressure center tracked northeast into the region. Warm air aloft and cold air at the surface combined with the low to create a significant freezing rain event over much of the region.

OKLAHOMA, Eastern

Tulsa County
2 S Sand Spgs

30	2126CST			0	0	0.00K	0.00K	Thunderstorm Wind (52EG)
	Thunderstorm wind gusts were estimated to 60 mph.							

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Muskogee County
3 S Webbers Falls Sheff

30	2128CST			0	0	40.00K	0.00K	Tornado (EF0)
	2130CST	1.8	400	0	0			

This is the first segment of a two segment tornado. This tornado developed in the Arkansas River bottoms of far southeastern Muskogee County, where several center pivot irrigation systems were destroyed and barns were damaged. The tornado crossed the Arkansas River into Sequoyah County. Based on this damage, maximum estimated wind in this segment of the tornado was 80 to 85 mph.

Sequoyah County
4 SSE Gore
4 SW Box

30	2130CST			0	0	5.00K	0.00K	Tornado (EF1)
	2137CST	5.3	400	0	0			

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OKLAHOMA, Eastern

This is the second segment of a two segment tornado. The tornado crossed the Arkansas River, moving into Sequoyah County, and uprooted trees as it crossed I-40. It continued to move northeast, crossing Highway 64 to the east of Gore where trees were snapped and a home was damaged. The tornado then dissipated over open country south of the E1000 Road. Based on this damage, maximum estimated wind in this segment of the tornado was 95 to 105 mph.

Tulsa County

1 SE Sperry

30	2136CST 2137CST			0	0	10.00K	0.00K	Thunderstorm Wind (65EG)
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Strong thunderstorm wind damaged the roofs of several homes, damaged the roof of a church, damaged a barn, and snapped large tree limbs.

Note: The estimated wind gust of 65 knots is equivalent to 75 mph.

Osage County

3 SSW Skiatook Arpt

30	2136CST 2138CST	1.5	200	0	0	15.00K	0.00K	Tornado (EF0)
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This tornado developed south of W 113th Street N where a barn was damaged. The tornado moved northeast damaging trees on N 36th West Ave, and then severely damaging two mobile homes, snapping large tree limbs, and damaging the roof of a home along Park Farm Lane. The tornado dissipated west of the Tulsa County line. Based on this damage, maximum estimated wind in the tornado was 70 to 80 mph.

Sequoyah County

2 WSW Box

30	2140CST			0	0	5.00K	0.00K	Thunderstorm Wind (61EG)
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Strong thunderstorm wind damaged a barn and snapped large tree limbs.

Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

Sequoyah County

1 SSE Blackgum

30	2143CST 2147CST	2.4	900	0	0	150.00K	0.00K	Tornado (EF1)
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This is the first segment of a six segment tornado. This long-track tornado developed near Blackgum where homes were damaged, barns and outbuildings were destroyed, and trees were snapped. The tornado moved north-northeast, snapping and uprooting numerous trees as it approached an inlet of Lake Tenkiller, and crossed into Cherokee County. Based on this damage, maximum estimated wind in this segment of the tornado was 100 to 110 mph.

Cherokee County

4 S Cookson

3 N Wauhillau

30	2147CST 2213CST	19.8	1100	0	5	1.50M	0.00K	Tornado (EF2)
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This is the second segment of a six segment tornado. This long-track tornado moved into Cherokee County near an inlet of Lake Tenkiller, where boat docks, lake homes, boats, and outbuildings were destroyed, and trees and power poles were snapped. The tornado moved north-northeast along the eastern shores of Lake Tenkiller, passing through Cookson and Cherokee Landing State Park. Numerous homes were damaged or destroyed, numerous boat docks were destroyed, many boats were destroyed, outbuildings were destroyed, many trees and power poles were snapped, and hangars at the airport west of Cookson were destroyed. From Lake Tenkiller, the tornado continued to move north-northeast across less populated areas of southeastern Cherokee County where a few homes were damaged, outbuildings were destroyed, and trees were snapped or uprooted. The tornado moved into Adair County to the east-northeast of Welling. Based on this damage, maximum estimated wind in this segment of the tornado was 115 to 125 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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OKLAHOMA, Eastern



An EF-2 tornado destroyed several hangars at the Tenkiller Lake Airpark in Cherokee County, Oklahoma, during the evening of November 30, 2018. This long-track tornado damaged or destroyed numerous homes, destroyed boat docks, sunk many boats, and destroyed numerous outbuildings as it moved across portions of Sequoyah, Cherokee, Adair, and Delaware Counties during its 63 minute-long life cycle. Photo by Ed Calianese, WCM, NWS Tulsa Oklahoma.

Sequoyah County

1 W Vian

30	2148CST	0	0	2.00K	0.00K	Thunderstorm Wind (56EG)
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Strong thunderstorm wind blew down power lines on Highway 64 west of Vian.

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Pushmataha County

4 ENE Stanley

30	2200CST	0	0	2.00K	0.00K	Thunderstorm Wind (61EG)
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Strong thunderstorm wind blew down trees and power lines southwest of Clayton, resulting in a temporary road closure.

Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

Adair County

2 WSW Titanic

30	2213CST	0.8	900	0	0	15.00K	0.00K	Tornado (EF1)
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This is the third segment of a six segment tornado. The tornado moved into Adair County southwest of Wauhillau and moved north-northeast across Highway 51 and the E768 Road. A couple homes were damaged, outbuildings were damaged, and trees were uprooted. The tornado moved back into Cherokee County northwest of Wauhillau. Based on this damage, maximum estimated wind in this segment of the tornado was 90 to 100 mph.

Cherokee County

3 SE Eldon

30	2214CST	0.5	900	0	0	0.00K	0.00K	Tornado (EF1)
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This is the fourth segment of a six segment tornado. In this short segment of the tornado in Cherokee County, the tornado uprooted trees, and then moved back into Adair County south-southwest of Proctor. Based on this damage, maximum estimated wind in this segment of the tornado was 90 to 100 mph.

Adair County

1 WNW Titanic
6 NE Chewey

30	2215CST	18.4	1000	0	0	250.00K	0.00K	Tornado (EF2)
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Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OKLAHOMA, Eastern

This is the fifth segment of a six segment tornado. This long-track tornado moved back into Adair County south-southwest of Proctor and moved north-northeast snapping and uprooting trees on the 754 Road. The tornado crossed Highway 62 near Proctor where homes were severely damaged, large outbuildings were destroyed, farm equipment was thrown large distances, and many trees were snapped and uprooted. It snapped and uprooted numerous trees and destroyed barns between Highway 62 and Chewey Road. Some of the tree damage in this heavily-wooded, rural area was extensive. The tornado continued to move north-northeast across heavily wooded terrain and then crossed River Road where numerous trees were uprooted, and finally into Delaware County near Dripping Springs. Based on this damage, maximum estimated wind in this segment of the tornado was 110 to 120 mph.

Haskell County 3 ENE Whitefield

30	2230CST	0	0	0.00K	0.00K	Thunderstorm Wind (56MG)
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The Oklahoma Mesonet station near Stigler measured 64 mph thunderstorm wind gusts.

Note: The measured wind gust of 56 knots is equivalent to 64 mph.

Delaware County 3 S Flint

30	2239CST	5.1	800	0	0	50.00K	0.00K	Tornado (EF1)
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This is the final segment of a six segment tornado. This long-track tornado moved into Delaware County southwest of Dripping Springs and Natural Falls State Park, where trees were uprooted. The tornado tracked north-northeast damaging a few homes, destroying a couple outbuildings, and snapping and uprooting trees as it crossed Highway 412. It dissipated southeast of Colcord. Based on this damage, maximum estimated wind in this segment of the tornado was 95 to 105 mph.

Muskogee County 1 SSW Webbers Falls Sheffii

30	2240CST	0	0	0.00K	0.00K	Thunderstorm Wind (56MG)
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The Oklahoma Mesonet station near Webbers Falls measured 65 mph thunderstorm wind gusts.

Note: The measured wind gust of 56 knots is equivalent to 64 mph.

Sequoyah County 1 N Sallisaw Arpt

30	2249CST	0	0	0.00K	0.00K	Thunderstorm Wind (58MG)
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The Oklahoma Mesonet station near Sallisaw measured 67 mph thunderstorm wind gusts.

Note: The measured wind gust of 58 knots is equivalent to 67 mph.

Le Flore County Poteau

30	2301CST	0	0	5.00K	0.00K	Thunderstorm Wind (56EG)
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Strong thunderstorm wind peeled off portions of the roof of a mobile home.

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Le Flore County 1 NNW Heavener

30	2305CST	0	0	15.00K	0.00K	Thunderstorm Wind (61EG)
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Strong thunderstorm wind blew off portions of the roof of a home, and blew down multiple trees.

Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

Delaware County 7 SE Grove Arpt

30	2327CST	0	0	0.00K	0.00K	Thunderstorm Wind (54MG)
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Thunderstorm wind gusts were measured to 62 mph near the intersection of the 360 Road and the 690 Road.

A strong low pressure trough translated from the southwestern United States into the Southern Plains on November 30th and December 1st. Warm and moist air had spread northward into eastern Oklahoma ahead of this system. Atmospheric instability became moderately strong during the afternoon and evening hours to the east of a cold front that was over western Oklahoma and south of a stationary front that was located across northern Oklahoma into southern Missouri. As the strong storm system moved into the Southern Plains on the 30th, wind fields throughout the atmosphere increased substantially, which resulted in very strong deep-layer and low-level wind shear across eastern Oklahoma during the evening and overnight hours. Thunderstorms developed during the evening hours of the 30th across central and eastern Oklahoma. Moderately strong atmospheric instability across the area combined with very strong wind shear to produce organized severe thunderstorms, including supercells. Supercell thunderstorms produced several tornadoes and damaging thunderstorm wind gusts across eastern Oklahoma. One of the tornadoes was strong and exceptionally long-tracked, affecting Sequoyah, Cherokee, Adair, and Delaware Counties. A squall line moved rapidly across the area ahead of the surging cold front and produced additional tornadoes and damaging wind gusts. Note: The measured wind gust of 54 knots is equivalent to 62 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OKLAHOMA, Extreme Southeast

McCurtain County

1 W Smithville

30 2312CST 0 0 0.00K 0.00K Thunderstorm Wind (52EG)
A tree was blown down and blocking a road in the Smithville community.

A vigorous upper level trough moved into the Southern Plains during the late afternoon, evening and overnight hours of November 30th. Upper level forcing in response to this disturbance moved into the Middle Red River Valley of Northeast Texas, Southeast Oklahoma and Southwest Arkansas during the evening hours of November 30th and strong to severe thunderstorms erupted north and west of the Interstate 30 Corridor as a result. The atmosphere was moderately unstable for the last day in November but strong deep layer and low level directional shear were present. This resulted in supercell type thunderstorms and bowing thunderstorm complexes, one of which moved across Northeast Texas into Southeast Oklahoma and Southwest Arkansas producing widespread wind damage all along its track. Numerous trees and power lines were downed with these storms before they exited McCurtain County Oklahoma shortly after midnight on December 1st. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

OKLAHOMA, Panhandle

OKZ003

Beaver

11	1800CST							
12	1200CST			0	0	0.00K	0.00K	Winter Storm

A positive tilted upper level system in the southwest U.S. has allowed a surface low pressure to develop across parts of southern New Mexico. As the main surface low moved east-northeast across the Texas South Plains, a band of heavier snow developed on the NW side of the low pressure where the best deformation occurred. This band of heavy snow just about split the CWA in half starting in Oldham and Hartley counties in the western Panhandles and then extending northeast into the northeast Texas Panhandle and eastern Oklahoma Panhandle. Heaviest snowfall totals of 6-9 occurred in the heaviest band of snowfall with less amounts across the rest of the region before system moved out the afternoon hours of the 12th.

OKLAHOMA, Western Central and Southeast

OKZ004-009-010

Ellis - Harper - Woodward

12	0000CST							
	1200CST			0	0	0.00K	0.00K	Heavy Snow

During the morning of the 12th snowfall was observed over most of Oklahoma associated with a strong cold front, with the heaviest amounts observed over northwestern Oklahoma.

OKZ005-008-037-038

Comanche - Kay - Tillman - Woods

25	0910CST							
	1235CST			0	0	0.00K	0.00K	High Wind

Strong winds occurred behind a cold front across most of Oklahoma during the morning and early afternoon on the 25th.

Oklahoma County

Oklahoma City

30	1925CST							
	Reported via mping.			0	0	0.00K	0.00K	Hail (0.75)

Comanche County

5 S Cache

30	1935CST							
				0	0	0.00K	0.00K	Hail (1.00)

Payne County

3 SW Stillwater

30	2006CST							
				0	0	0.00K	0.00K	Hail (0.88)

Pottawatomie County

2 S Shawnee

30	2010CST							
				0	0	0.00K	0.00K	Hail (0.88)

Lincoln County

Meeker

30	2015CST							
				0	0	0.00K	0.00K	Hail (0.75)

Stephens County

4 S Marlow

30	2015CST							
				0	0	0.00K	0.00K	Hail (0.75)

Cleveland County

2 WNW Moore

30	2052CST							
				0	0	0.00K	0.00K	Hail (0.75)

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OKLAHOMA, Western Central and Southeast

Johnston County

Tishomingo	30	2058CST 2059CST	0.9	60	0	0	6.00K	0.00K	Tornado (EF0)
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A small tornado from a quasi-linear convective system moved through portions of Tishomingo. It moved north, then northeast from the southern part of town to northeast of downtown. There were areas of roof and tree damage along the path, and some minor damage at Tishomingo Elementary School.

Oklahoma County

1 SSW Spencer	30	2102CST			0	0	0.00K	0.00K	Hail (1.00)
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Bryan County

1 WSW Kenefic	30	2114CST 2115CST			0	0	50.00K	0.00K	Thunderstorm Wind (70EG)
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Sixteen power poles were downed, the roof was blown off of a mobile home, and a barn and several other buildings were damaged. Time estimated.

Note: The estimated wind gust of 70 knots is equivalent to 81 mph.

Seminole County

1 WNW Lima	30	2115CST			0	0	0.00K	0.00K	Hail (1.00)
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Atoka County

1 NW Lane	30	2140CST			0	0	0.00K	0.00K	Thunderstorm Wind (53MG)
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A line of strong to severe thunderstorms moved across Oklahoma during the evening of the 30th associated with a strong cold front. Note: The measured wind gust of 53 knots is equivalent to 61 mph.

OREGON, Northwest

ORZ001-002

Central Oregon Coast - Northern Oregon Coast

26	1745PST								
27	0128PST				0	0	110.0K		High Wind

A strong cold front moved onto the coast, bringing high winds, mainly to beaches and headlands along the coast.

OREGON, Southwest

ORZ024

Eastern Curry & Josephine

01	0000PST								
09	0700PST				0	0	0.00K	0.00K	Wildfire

The Klondike consisted of the Klondike and Granite fires, which merged into one fire. Both fires were caused by lightning. The time of ignition was around 1830 PDT on 07/15/2018. As of the last report at 0700 PDT on 11/09/18, the fire covered 175258 acres and was 90 percent contained. 0 structures were lost and 103.1 million dollars had been spent on firefighting efforts.

ORZ026

Jackson

12	0100PST 0900PST				2	0	0.00K	0.00K	Cold/Wind Chill
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A 39 year old man was found deceased in an irrigation ditch in Medford on the morning of 11/12/2018. Evidence collected indicated that hypothermia was the cause of death. The low temperature in Medford that morning was 25 degrees. M39OU

ORZ031

Central & Eastern Lake

21	1039PST 1138PST				0	0	0.00K	0.00K	High Wind
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An incoming front brought high wind gusts to a station in south central Oregon.

ORZ021-031

Central & Eastern Lake - Coastal Curry - South Central Oregon Coast

22	0814PST								
23	1938PST				0	0	0.00K	0.00K	High Wind

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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OREGON, Southwest

An incoming front brought high winds to portions of southwest and south central Oregon.

ORZ021

South Central Oregon Coast

26	2314PST									
27	0013PST				0	0	0.00K	0.00K	High Wind	

Another front brought high winds to a few locations along the southern Oregon coast.

PENNSYLVANIA, Central

Lancaster County **1 NNW Strasburg**

02	2051EST			0	0	5.00K	0.00K	Thunderstorm Wind (52EG)
A severe thunderstorm producing winds estimated near 60 mph knocked down trees along Route 741 between Lampeter and Strasburg. One of the trees fell on a home.								

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

York County **1 NNW Stewartstown** **2 ESE Rinely**

02	2130EST			0	0	100.00K	0.00K	Thunderstorm Wind (74EG)
Straightline winds associated with a microburst damaged a handful of structures in Hopewell Township, just north of Stewartstown. Maximum winds were estimated to be 75 to 85 mph, with a maximum path width of 200 yards and a path length over three miles.								

A cold front crossed central Pennsylvania during the evening hours of November 2, 2018, generating a narrow cold frontal rainband across the Lower Susquehanna Valley. A storm survey was performed for wind damage that was associated with a wet microburst just north of Stewartstown in York County. Wind damage was also observed when this line crossed Lampeter and Strasburg in Lancaster County. Note: The estimated wind gust of 74 knots is equivalent to 85 mph.

PAZ005-010>012-018>019-025>028-033>037-041>042-045>046-049>053-056>059-063>066

Adams - Bedford - Blair - Cameron - Columbia - Cumberland - Dauphin - Elk - Franklin - Fulton - Huntingdon - Juniata - Lancaster - Lebanon - McKeans - Mifflin - Montour - Northern Centre - Northern Clinton - Northern Lycoming - Northumberland - Perry - Potter - Schuylkill - Snyder - Somerset - Southern Centre - Southern Clinton - Southern Lycoming - Sullivan - Tioga - Union - York

15	0800EST									
16	0600EST			0	0	0.00K	0.00K	Winter Storm		

An early-season winter storm produced a wintry mix of precipitation across central Pennsylvania on November 15-16, 2018. Widespread snowfall of 9 to 13 inches was observed across north-central Pennsylvania, with lesser amounts to the south where a considerable amount of sleet (and some freezing rain) fell. A few spots across far southern Pennsylvania received 0.25 or greater ice accumulation.

PAZ004

Warren

27	1200EST									
28	1700EST			0	0	0.00K	0.00K	Lake-Effect Snow		

A prolonged lake-effect snow event affected Warren County from November 26-28, producing several inches of snow across the northwestern snow-belt of the county.

PENNSYLVANIA, East

Berks County **1 NE Hopewell**

02	2133EST			0	0					Thunderstorm Wind (50EG)
Downed tree at intersection of Park Road and Chestnut Street. Time estimated based on radar.										

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Berks County **1 SW Douglassville**

02	2133EST			0	0					Thunderstorm Wind (50EG)
A few trees down near the Benjamin Franklin Highway in Douglassville. Time estimated based on radar.										

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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PENNSYLVANIA, East

Montgomery County

Pottstown Muni Arpt

02 2137EST 0 0 Thunderstorm Wind (50EG)
Downed tree brought down wires near the intersection of Manatawny Street and Sell Road. Time estimated based on radar.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Berks County

1 NW Gabelsville

02 2139EST 0 0 Thunderstorm Wind (50EG)
Several reports were gathered of trees down in Early Township, including near Manatawny Road and Longview Road and on Powder Mill at Hollow Road. Time estimated using radar.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Montgomery County

1 E Pottstown

02 2139EST 0 0 Thunderstorm Wind (70EG)
Photos showed that several hardwood trees were downed in a residential area.

Note: The estimated wind gust of 70 knots is equivalent to 81 mph.

Montgomery County

1 W Pottstown

02 2139EST 0 0 Thunderstorm Wind (70EG)
A large tree was down and blocking a roadway at the intersection of Warren Street and Virginia Avenue.

Note: The estimated wind gust of 70 knots is equivalent to 81 mph.

Montgomery County

Pottstown

02 2139EST 0 0 Thunderstorm Wind (80EG)
Several large trees were downed at the Brookside Country Club. Time estimated using radar.

An area of low pressure formed along a slow-moving cold front as it crossed the Commonwealth of Pennsylvania. The low worked its way northward from the Carolinas into the Mid-Atlantic on the 2nd, leading to the development of an expansive precipitation shield that entered the County Warning Area by 6:00 PM EDT. Weak instability with CAPE values generally less than 300 J/kg were just enough to support convection along the leading edge of the precipitation shield in the form of a well-developed QLCS. The weak instability resulted in little lightning activity, but the strong dynamics were enough to sustain the leading edge of the QLCS. Sufficient storm relative helicity near $333 \text{ m}^2/\text{s}^2$ (sfc-1 km) allowed for small circulation centers to develop along the QLCS, and thus several strong rear-flank downdrafts formed along the broken line. No tornadoes were confirmed after damage surveys and all damage was attributed to straight-line winds from microbursts. Note: The estimated wind gust of 80 knots is equivalent to 92 mph.

Berks County

Earlville

1 ESE Baumstown

02 2140EST 0 0 0.00K 0.00K Flash Flood
03 0040EST 0 0 0.00K 0.00K Flash Flood

Flash flooding occurred in Amity Township. A water rescue took place on Boyertown Pike. Two businesses near US Route 422 sustained flood damage. The highway was closed for several hours.

A swath of 2 to 5 inches of rain fell across parts of southeastern Pennsylvania on the night of November 2.

Montgomery County

2 E Sanatoga

02 2142EST 0 0 Thunderstorm Wind (61EG)
A tree fell upon and severely damaged a home on Woodmere Road.

Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

Montgomery County

1 E Sanatoga

02 2142EST 0 0 Thunderstorm Wind (70EG)
Several trees were downed upon cars on Welsh Drive. A porch roof blew off a home on North Pleasantview Road. Time estimated using radar.

Note: The estimated wind gust of 70 knots is equivalent to 81 mph.

Montgomery County

1 E Sanatoga

02 2144EST 0 0 Thunderstorm Wind (52EG)
A tree was downed on wires on Sanatoga Road between Crownview Road and Snell Road. All lanes were closed. Time estimated using radar.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
PENNSYLVANIA, East										
Montgomery County Stowe	02	2145EST			0	0			Hail (1.00)	
Bucks County Richlandtown	02	2157EST			0	0			Thunderstorm Wind (50EG)	A few trees were reported to have fallen in the area. Time was estimated based on radar.
										Note: The estimated wind gust of 50 knots is equivalent to 58 mph.
Chester County 1 SW Aldham	02	2159EST			0	0			Thunderstorm Wind (52EG)	Wires were reported down near Valley Hill Road and Valley Beech Lane.
										Note: The estimated wind gust of 52 knots is equivalent to 60 mph.
Montgomery County 1 W Tylersport	02	2159EST			0	0			Thunderstorm Wind (50EG)	A tree was downed into wires on Miller Road between Ridge Road and Swamp Creek Road.
										An area of low pressure formed along a slow-moving cold front as it crossed the Commonwealth of Pennsylvania. The low worked its way northward from the Carolinas into the Mid-Atlantic on the 2nd, leading to the development of an expansive precipitation shield that entered the County Warning Area by 6:00 PM EDT. Weak instability with CAPE values generally less than 300 J/kg were just enough to support convection along the leading edge of the precipitation shield in the form of a well-developed QLCS. The weak instability resulted in little lightning activity, but the strong dynamics were enough to sustain the leading edge of the QLCS. Sufficient storm relative helicity near $333 \text{ m}^2/\text{s}^2$ (sfc-1 km) allowed for small circulation centers to develop along the QLCS, and thus several strong rear-flank downdrafts formed along the broken line. No tornadoes were confirmed after damage surveys and all damage was attributed to straight-line winds from microbursts. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.
Montgomery County 1 SW Sanatoga	02	2200EST								
	03	0000EST			0	0	0.00K	0.00K	Flash Flood	
										Flash flooding occurred in Pottstown. There were water rescues along South Washington Street at Bringhurst Alley, and at High Street near Armand Hammer Boulevard.
Montgomery County Fruitville 1 WSW East Greenville	02	2205EST								
	03	0130EST			0	0	0.00K	0.00K	Flash Flood	
										Moderate flooding occurred along the Perkiomen Creek near East Greenville.
										A swath of 2 to 5 inches of rain fell across parts of southeastern Pennsylvania on the night of November 2.
Chester County 1 NE Frazier	02	2209EST			0	0	0.00K	0.00K	Thunderstorm Wind (50EG)	
										Several residences, including a group home, sustained damage from downed trees.
										An area of low pressure formed along a slow-moving cold front as it crossed the Commonwealth of Pennsylvania. The low worked its way northward from the Carolinas into the Mid-Atlantic on the 2nd, leading to the development of an expansive precipitation shield that entered the County Warning Area by 6:00 PM EDT. Weak instability with CAPE values generally less than 300 J/kg were just enough to support convection along the leading edge of the precipitation shield in the form of a well-developed QLCS. The weak instability resulted in little lightning activity, but the strong dynamics were enough to sustain the leading edge of the QLCS. Sufficient storm relative helicity near $333 \text{ m}^2/\text{s}^2$ (sfc-1 km) allowed for small circulation centers to develop along the QLCS, and thus several strong rear-flank downdrafts formed along the broken line. No tornadoes were confirmed after damage surveys and all damage was attributed to straight-line winds from microbursts. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.
Berks County 2 SSE Colebrookdale	02	2210EST								
	03	0010EST			0	0	0.00K	0.00K	Flash Flood	
										Flash flooding occurred in Upper Pottsgrove Township. A water rescue took place along Willow Street.
										A swath of 2 to 5 inches of rain fell across parts of southeastern Pennsylvania on the night of November 2.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
PENNSYLVANIA, East										
Chester County										
1 SE General Warren Vlg	02	2213EST		0	0		0.00K	0.00K	Thunderstorm Wind (50EG)	
		Several trees and wires down near the Malvern SEPTA Station.								
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Chester County										
Sugartown	02	2215EST		0	0		0.00K	0.00K	Thunderstorm Wind (50EG)	
		An area of low pressure formed along a slow-moving cold front as it crossed the Commonwealth of Pennsylvania. The low worked its way northward from the Carolinas into the Mid-Atlantic on the 2nd, leading to the development of an expansive precipitation shield that entered the County Warning Area by 6:00 PM EDT. Weak instability with CAPE values generally less than 300 J/kg were just enough to support convection along the leading edge of the precipitation shield in the form of a well-developed QLCS. The weak instability resulted in little lightning activity, but the strong dynamics were enough to sustain the leading edge of the QLCS. Sufficient storm relative helicity near $333 \text{ m}^2/\text{s}^2$ (sfc-1 km) allowed for small circulation centers to develop along the QLCS, and thus several strong rear-flank downdrafts formed along the broken line. No tornadoes were confirmed after damage surveys and all damage was attributed to straight-line winds from microbursts. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Northampton County										
Bethlehem	02	2215EST								
	03	0130EST		0	0		0.00K	0.00K	Flash Flood	
									Minor flooding occurred along the Monocacy Creek in Bethlehem.	
Montgomery County										
1 S Eagleville	02	2220EST		0	0		0.00K	0.00K	Thunderstorm Wind (50EG)	
		Numerous large trees reported down across the area.								
Lehigh County										
Allentown Muni	02	2230EST								
	03	0030EST		0	0		0.00K	0.00K	Flash Flood	
									Interstate 78 was closed due to flooding between Exit 57 (Allentown) and Exit 60 (Upper Saucon Township).	
Montgomery County										
1 WSW Flourtown	02	2249EST		0	0		0.00K	0.00K	Thunderstorm Wind (50EG)	
		Tree down in wires on Stenton Avenue and Penllyn Blue Bell Pike between Joshua Road and Militia Hill Road. All lanes closed. Time estimated from radar.								
Montgomery County										
2 ESE Niantic	02	2250EST								
3 ENE Sassamansville	03	0130EST		0	0		0.00K	0.00K	Flash Flood	
									Minor flooding occurred along the West Branch of the Perkiomen Creek at Hillegass (Upper Hanover Township).	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
PENNSYLVANIA, East										
Lehigh County										
1 SE Cetronia	02	2305EST								
1 NNW Allentown Muni	03	0130EST			0	0	0.00K	0.00K	Flash Flood	
Moderate flooding occurred along the Little Lehigh Creek at Allentown.										
Chester County										
2 W Brandomore	02	2310EST								
2 SSE Suplee	03	0130EST			0	0	0.00K	0.00K	Flash Flood	
Moderate flooding occurred along the West Branch of the Brandywine Creek below Honey Brook.										
Berks County										
Dale	02	2325EST								
	03	0030EST			0	0	0.00K	0.00K	Flash Flood	
Flash flooding occurred in Washington Township with a water rescue taking place along Dale Road.										
Lehigh County										
1 W Emmaus	02	2330EST								
	03	0030EST			0	0	0.00K	0.00K	Flash Flood	
Flash flooding occurred in Emmaus. There was flooding on the lower level of Emmaus High School.										
Northampton County										
Fountain Hill	02	2330EST								
	03	0030EST			0	0	0.00K	0.00K	Flash Flood	
Flash flooding was reported in Lower Saucon Township. There was widespread roadway flooding in the township and a landslide occurred on Seidersville Road.										
Northampton County										
Brodhead	02	2330EST								
Fairview Knolls	03	0030EST			0	0	0.00K	0.00K	Flash Flood	
Widespread roadway flooding in Bethlehem Township and Palmer Township with a number of water rescues taking place.										
Montgomery County										
1 SE Palm	02	2340EST								
	03	0040EST			0	0	0.00K	0.00K	Flash Flood	
Flash flooding occurred in Upper Hanover Township. A water rescue took place at the intersection of Gravel Pike and Mill Hill Road.										
Bucks County										
1 SSE Trumbauersville	02	2345EST								
1 SW Zion Hill	03	0045EST			0	0	0.00K	0.00K	Flash Flood	
Widespread roadway flooding in Milford Township and in Trumbauersville.										
A swath of 2 to 5 inches of rain fell across parts of southeastern Pennsylvania on the night of November 2.										
PAZ054-101										
Carbon - Western Chester										
	15	0030EST								
	16	1930EST			0	0	0.00K	0.00K	Winter Storm	
PAZ070-102										
Delaware - Eastern Chester - Philadelphia										
	15	0900EST								
	16	1700EST			0	0	0.00K	0.00K	Winter Weather	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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PENNSYLVANIA, East

PAZ060-106

Berks - Lower Bucks

15	1100EST 2100EST	0	0	0.00K	0.00K	Winter Storm
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PAZ103-104

Eastern Montgomery - Western Montgomery

15	1100EST	0	0	0.00K	0.00K	Winter Weather
16	2100EST					

PAZ061-105

Lehigh - Northampton - Upper Bucks

15	1200EST	0	0	0.00K	0.00K	Winter Storm
16	1000EST					

Early season Winter Storm.

PAZ071-106

Lower Bucks - Philadelphia

25	1430EST 1630EST	0	0	0.00K	0.00K	Coastal Flood
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PAZ070-106

Delaware - Lower Bucks - Philadelphia

26	1400EST 1800EST	0	0	0.00K	0.00K	Coastal Flood
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A coastal storm resulted in tidal flooding along the tidal Delaware River.

PENNSYLVANIA, Northeast

**PAZ038>040-043>
044-047>048-072**

Bradford - Lackawanna - Luzerne - Northern Wayne - Pike - Southern Wayne - Susquehanna - Wyoming

15	1200EST	0	0	0.00K	0.00K	Heavy Snow
16	0800EST					

An early season major winter storm affected all of northeast Pennsylvania and central New York State from the afternoon of the 15th to the morning of the 16th. Heavy snow spread rapidly north engulfing northeast Pennsylvania during the early afternoon of the 15th and from mid to late afternoon in central New York. Snowfall rates were up to 3 inches per hour at the onset leading to numerous roads and several interstate highways temporarily closing. The snow eventually mixed with and even changed to freezing rain and sleet for a time over northeast Pennsylvania and central New York from the mid evening of the 15th to the early morning hours of the 16th. The wintry mixture of precipitation changed back to snow before tapering off from mid to late morning of the 16th. Storm total snowfall ranged from 10 to 16 inches in northeast Pennsylvania to between 8 and 15 inches of snow over most of central New York.

PAZ047

Luzerne

23	0600EST 0700EST	0	0	0.00K	0.00K	Extreme Cold/Wind Chill
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An unusually early Arctic air mass dropped south and covered central New York and Northeast Pennsylvania on the 23rd. All-time monthly record lows for November were set at the Greater Binghamton Airport, Syracuse Airport and at the Wilkes-Barre Scranton Airport. Many locations in central New York and northeast Pennsylvania dropped to the single digits below zero to single digits above zero on the morning of the 23rd.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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PENNSYLVANIA, Northwest

PAZ001-002

Northern Erie - Southern Erie

09	2300EST								
10	2100EST				0	0	175.0K	0.00K	Lake-Effect Snow

An area of low pressure moved through the eastern Great Lakes on the evening of November 9. Cold air wrapping behind the system allowed for rain to change over to snow and for lake effect snow showers to develop over an open Lake Erie. Snow began late on the 9th and continued through the late evening of the 10th. The most organized lake effect snow bands and heaviest snow fell in the morning hours of the 10th, as 10 to 12 inches of snow was reported by late morning in the hills south of Interstate 90. Snow during this event primarily impacted the northern half of Erie County. A maximum total of 20 inches of snow was recorded in Greenfield Township in eastern Erie County. Erie International Airport reported a total of 14.1 inches of snow during the entire event. Other selected storm totals include: 16.8 inches in Colt Station, 15.8 inches in North East Township, 12.5 in Greene Township, 9.7 inches in Lake City, 9 inches in McKean, Harborcreek, and Wattsburg, and 8 inches in the borough of North East. Winds were fairly gusty during this event with wind speeds gusting to 35 mph during the late morning hours. Whiteout conditions caused significant traffic issues on local interstates and US highways.

PAZ002

Southern Erie

26	2200EST								
28	1700EST				0	0	35.0K	0.00K	Lake-Effect Snow

An area of low pressure moved Lake Erie on the evening of November 26. Northwest flow and cold air wrapping behind the system allowed for a multi-band lake effect snow event to develop over the entire Lake Erie snow belt. Lake effect snow became organized late on the 26th and continued into the 27th, when the most significant amount of snow fell across Erie County. Snow continued through the 28th across the area but snow totals were much lower than the initial push of lake effect snow. Through late morning on the 27th, almost a foot of snow had fallen in the hills and ridges south of Interstates 86 and 90. Once snow ended in the late afternoon hours of the 28th, up to 19 inches of snow had fallen across parts of the county. The maximum recorded value was 19 inches of snow in Colt Station. Other selected storm totals include: 18.5 inches in North East Township, 18 inches in Greenfield Township, 13.5 inches in Greene Township, 11 to 13 inches in Edinboro, 12 inches in Wattsburg, 8 to 10 inches in Amity Township, and 7 to 9 inches in Millcreek Township, south of Interstate 90.

PENNSYLVANIA, West

PAZ007-013>014-020>022-029-031-073-075

Allegheny - Armstrong - Beaver - Butler - Fayette - Greene - Lawrence - Mercer - Venango - Washington - Westmoreland

14	1447EST								
16	0100EST				0	0	0.00K	0.00K	Winter Weather

PAZ009-015-023-074-076

Clarion - Fayette Ridges - Forest - Indiana - Jefferson - Westmoreland Ridges

15	0327EST								
16	0100EST				0	0	0.00K	0.00K	Winter Storm

Cold surface temperatures were already in place across the region at least 24 hours leading up to this event. Surface high pressure allowed high temperatures to only reach near freezing while low temperatures bottomed out in the mid-20s. A closed upper level low formed just north of Texas on November 14th and tracked northeast. An abundant amount of moisture from the Gulf of Mexico traveled with the system into the northeast United States. Freezing rain eventually transitioned to snow when northwest flow began on the backside of the surface low. Four to seven inches of snow was measured north of I-80 and in the higher elevations, meanwhile 1 to 3 inches of snow happened elsewhere.

RHODE ISLAND

**Kent County
1 S Greenwood**

03	0546EST				0	0	0.70K	0.00K	Thunderstorm Wind (50EG)
					A pole and wires were down on Jefferson Blvd. near Main Ave.				

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

**Kent County
Natick**

03	0553EST				0	0	0.00K	0.00K	Flood
					Cars stuck in flood waters on Interstate 295 exit ramp Exit 1B in Warwick.				

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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RHODE ISLAND

RIZ008

Block Island

03	1249EST 1349EST	0	0	0.00K	0.00K	High Wind
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RIZ001-002

Northwest Providence - Southeast Providence

03	1300EST 1500EST	0	0	1.2K	0.00K	Strong Wind
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Low pressure over New York City early in the morning on November 3rd rapidly intensified as it moved northeastward across New England. Heavy rain occurred in the early morning hours, with generally 1.50 to 2.50 inches in eastern sections of southern New England and up to 3.66 inches in the slopes of the Berkshires. A few severe thunderstorms moved from Rhode Island into eastern Massachusetts around daybreak. As the strong low passed to our north, strong to damaging westerly winds developed during the afternoon.

15	1700EST	0	0	0.00K	0.00K	Heavy Snow
16	0100EST					

RIZ002-004

Eastern Kent - Southeast Providence

15	1900EST	0	0	0.00K	0.00K	Heavy Snow
16	0030EST					

RIZ003

Western Kent

15	1900EST	0	0	0.00K	0.00K	Winter Storm
16	0030EST					

RIZ006-008

Block Island - Washington

16	0100EST 0300EST	0	0	0.00K	0.00K	High Wind
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An early-season nor'easter moved from the Mid-Atlantic coast to southeastern Massachusetts on the 15th and away from the region on the 16th. A quick thump of moderate to heavy snow occurred in Rhode Island on the front end of the storm, with most accumulations over with by midnight on the 16th. Snowfall amounts ranged from just a coating along the immediate south coast to 9 inches in the higher hills in northwest Rhode Island. Strong east to northeast winds battered coastal areas ahead of the low pressure system.

SOUTH CAROLINA, Central

Richland County

1 ESE Columbia Owens Arpt	12	2301EST	0	0	5.00K	0.10K	Flash Flood
1 NW Sims	13	0000EST					

Runoff from heavy rain led to a flooded roadway at S. Beltline Blvd, near Shop Rd, where a vehicle was flooded.

Richland County

1 NW Olympia Mills	12	2350EST	0	0	0.10K	0.10K	Flash Flood
	13	0010EST					

A river gage on the Rocky Branch Creek, at the intersection of Main and Whaley St in Columbia, indicated that the creek rose above the flood stage of 7.2 feet around 2350 EST on the 12th, peaked at 7.8 feet at 0000 EST on the 13th, and fell below flood stage around 0010 EST on the 13th.

A band of heavy showers, with some embedded thunderstorms, developed over the region in a moist environment and produced some flash flooding in the Columbia SC area.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
SOUTH CAROLINA, Northwest										
Greenville County										
1 WNW Westville	12	2000EST								
2 SSE Taylors	13	0030EST			0	0	1.00K	0.00K	Flood	
Flooding developed in the Greenville area from overflowing streams and drainage systems after 3 to 3.5 inches of rain fell over the area in about a 12 hour period. A stream gauge on the Reedy River on the west side of downtown Greenville exceeded its established flood stage, indicating flooding of Cleveland Park. Stream flooding was also reported along Brushy Creek in the Eastside area, where Boiling Springs Rd was reportedly impassable. Significant urban flooding also occurred in west Greenville, where deep ponding of water was reported on portions of W Faris Rd and Spring St.										
Spartanburg County										
3 S Campobello Arpt	12	2100EST								
1 NNE Arlington	13	0300EST			0	0	0.50K	0.00K	Flood	
A stream gauge on the Middle Tyger River in the Gramling community exceeded its established flood stage after 2.5 to 3 inches of rain fell within the basin throughout the morning of the 12th into the early morning of the 13th. Portions of Mount Lebanon Church Rd were flooded as were a few roads in the Lake Lyman area.										
Widespread moderate to heavy rain developed across western North Carolina in association with a wave of low pressure moving along the Southeast coast. Widespread rainfall amounts of two to three inches occurred in about a 12-hour period, which was sufficient to produce some localized flooding.										
Greenville County										
1 WNW Brandon	15	0530EST								
2 W Greenville-Spartanbu	16	0000EST			0	0	2.00K	0.00K	Flood	
Stream gauges on the Reedy River in Greenville and on the Enoree River and Brushy Creek on the Eastside exceeded their established flood stages after 2 to 3 inches of rain fell within these basins throughout the 14th into the morning hours of the 15th. Cleveland Park was flooded in downtown Greenville, along with some side roads downtown that were impacted by small tributaries. Low lying areas and a portion of Devenger Rd were flooded along Brushy Creek, while several roads near the Enoree River or its tributaries flooded as well.										
Spartanburg County										
3 S Campobello Arpt	15	0700EST								
1 NNE Arlington		1700EST			0	0	0.50K	0.00K	Flood	
A stream gauge on the Middle Tyger River in the Gramling community exceeded its established flood stage after around 2 inches of rain fell on already-saturated ground throughout the 14th and into the morning of the 15th. Portions of Mount Lebanon Church Rd were flooded as were a few roads in the Lake Lyman area.										
For the second time in less than 48 hours, moderate to heavy rain developed across Upstate South Carolina in association with a wave of low pressure moving up the Southeast coast. Widespread rainfall amounts of around 2 inches, compounded by an already-saturated ground due to rain that fell on the 12th and 13th resulted in localized flooding, mostly in the same areas that flooded on the 12th-13th.										
SOUTH CAROLINA, South Coastal										
SCZ050	Charleston									
	23	0724EST								
		0842EST			0	0		0.00K	Coastal Flood	
Astronomical effects including a full moon and upcoming lunar perigee combined to produce an elevated morning high tide. The level of the high tide was driven even higher by the presence of strong northeasterly winds along the coast due to strong surface high pressure centered between the Mid Atlantic states and New England. The high tide resulted in coastal flooding along the southeast South Carolina coast including downtown Charleston.										
	24	0706EST								
		0930EST			0	0		0.00K	Coastal Flood	
	24	0740EST								
		1145EST			0	0		0.00K	Coastal Flood	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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SOUTH CAROLINA, South Coastal

SCZ049 Southern Colleton

24	1000EST				0	0	0.00K	Coastal Flood
	1100EST							

Astronomical effects including a full moon and upcoming lunar perigee combined to produce an elevated morning high tide. The level of the high tide was driven even higher by the presence of a passing area of low pressure around the time of high tide. The high tide resulted in coastal flooding along the southeast South Carolina coast including downtown Charleston.

SOUTH DAKOTA, Southeast

Bon Homme County

**4 ENE Running Water
2 SSW Springfield**

01	0000CST							
30	2359CST				0	0	0.00K	0.00K
								Flood

Minor flooding continued due to above normal releases throughout November along the Missouri River near Springfield (gage site SPGS2), with the boat landing near Santee as well as access to several homes inundated by floodwater. The river crested at 1.4 feet above flood stage on November 10. The river remained above flood stage at the end of the month.

Bon Homme County

**6 SW Perkins
1 WSW Running Water**

01	0000CST							
30	2359CST				0	0	0.00K	0.00K
								Flood

Other than a few brief periods from November 27-30, minor flooding of mainly agricultural areas persisted through the entire month along the Missouri River near Niobrara (gage site MRNN1). The river crested at 1.0 feet above flood stage on November 9. The river remained above flood stage at the end of the month.

Charles Mix County

**2 W Pickstown
4 W Marty**

05	2100CST							
21	0400CST				0	0	0.00K	0.00K
								Flood

Continued above normal releases from Fort Randall Dam resulted in several periods of minor flooding during November, with impacts limited to flooding of mainly agricultural areas. The Missouri River near Greenwood (gage site GRWS2) crested at 0.1 feet above flood stage on November 9.

High releases continued from upstream dams along the Missouri River and kept much of the stretch between Fort Randall Dam and Gavins Point Dam in minor flood stage for most of the month.

SDZ038>040-056-062

Beadle - Brookings - Kingsbury - Minnehaha - Moody

16	1400CST							
	0100CST				0	0	0.00K	0.00K
								Winter Weather

Mid-level frontogenesis within the entrance region of a jet streak across northern Wisconsin brought rapid onset to precipitation during the afternoon and evening of November 16. Gradual loss of deep saturation resulted in a trailing area of light freezing rain or freezing drizzle behind the main light snow band.

SDZ038>040-053> 055-059>062-065> 067-069>071

Beadle - Brookings - Clay - Davison - Hanson - Hutchinson - Kingsbury - Lake - Lincoln - McCook - Miner - Minnehaha - Sanborn - Turner - Union - Yankton

28	0700CST							
	2000CST				0	0	0.00K	0.00K
								Winter Weather

With cooler air locked in near the surface, progression of a mid-level wave from the west during the daytime hours of November 28 increased warm advection atop the cold layer, resulting in periods of light freezing rain.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	November 2018 Character of Storm
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SOUTH DAKOTA, West

SDZ028	Central Black Hills								
	24 0800MST 1900MST								
					0	0		0.00K	Winter Storm
SDZ029-072	Southern Black Hills - Sturgis/Piedmont Foothills								
	24 0800MST 1900MST								
					0	0	0.00K	0.00K	Winter Weather

A storm system moved southeast through the region, bringing snowfall to much of the Black Hills and southwest South Dakota. The heaviest snow fell across the Black Hills, especially the central and southern Black Hills, where three to six inches of snow were reported.

TENNESSEE, Central

TNZ027	Davidson								
	01 0634CST								
					0	0	4.0K	0.00K	Strong Wind
	Strong south winds up to 40 mph ahead of a cold front moving across Middle Tennessee caused some minor wind damage in Davidson County.								
Hickman County 2 SE Hornertown 2 NW Aetna	05	2248CST 2252CST			0	0	5.00K	0.00K	Thunderstorm Wind (60EG)
	Several trees were snapped and uprooted to the southeast and south along a narrow swath roughly 1.75 miles long from Kimmings Bridge Road to Arnold Road. This may have been a weak EF-0 tornado, but the damage along with radar data were too inconclusive.								
	Note: The estimated wind gust of 60 knots is equivalent to 69 mph.								
Wayne County 1 ENE Waynesboro	05	2250CST			0	0	5.00K	0.00K	Thunderstorm Wind (56EG)
	A tree fell onto a car on Folgers Drive in Waynesboro.								
	Note: The estimated wind gust of 56 knots is equivalent to 64 mph.								
Wayne County Waynesboro	05	2250CST			0	0	0.00K	0.00K	Thunderstorm Wind (56EG)
	Wayne County Emergency Manager estimated a 65 mph wind gust in downtown Waynesboro.								
	Note: The estimated wind gust of 56 knots is equivalent to 64 mph.								
Williamson County Fairview	05	2300CST			0	0	3.00K	0.00K	Thunderstorm Wind (48EG)
	Trees were blown down in Fairview.								
	Note: The estimated wind gust of 48 knots is equivalent to 55 mph.								
Hickman County 2 SW Bond	05	2300CST 2307CST	3.74	50	0	0	10.00K	0.00K	Tornado (EF0)
	This EF-0 tornado likely touched down in an isolated wooded area west of Swan Creek Road and moved northeast. The tornado destroyed a barn on Swan Creek Road and uprooted several trees as it continued east-northeast. Several hardwood and softwood trees were uprooted along Totty Hollow Lane. Two barns had sections of tin pulled off on Totty Hollow Lane, but a mobile home at the same location received no damage. A few more trees were uprooted along Bond Road and Prickett Branch before the tornado lifted prior to reaching Nine Mile Ridge Road.								
Maury County Williamsport	05	2308CST			0	0	3.00K	0.00K	Thunderstorm Wind (52EG)
	Several trees were blown down in the Williamsport area.								
	Note: The estimated wind gust of 52 knots is equivalent to 60 mph.								
Hickman County 1 SSE Chartersville	05	2309CST 2310CST	0.72	75	0	0	15.00K	0.00K	Tornado (EF0)

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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TENNESSEE, Central

This EF-0 tornado touched down just east of the Natchez Trace Parkway in an open field in extreme eastern Hickman County, then moved northeast where trees were damaged and uprooted along two fence lines. Several 2000 pound hay bales were rolled and stacked along one fence line. The tornado continued northeast across the Duck River and into Maury County briefly before moving back into Hickman County, where it crossed Highway 50 and peeled tin off of the front porch of a house. In addition, a large magnolia tree was uprooted along with several hardwood and softwood trees at the residence. The tornado then crossed the Natchez Trace Parkway again, knocking down numerous trees in farm fields before lifting in a field next to Johnson Branch. The total path length was 2.1 miles.

Cheatham County

4 NE Shacklett
1 N Gravelotte

05	2310CST								
06	0000CST				0	0	0.00K	0.00K	Flash Flood

Cheatham County 911 Center reported high water covered Little Marrowbone Road and Sams Creek Road southeast of Ashland City, with both roads closed.

Maury County

3 NW Williamsport

05	2310CST								
	2311CST	0.54	75	0	0	0	0.00K	0.00K	Tornado (EF0)

This EF-0 tornado touched down just east of the Natchez Trace Parkway in an open field in extreme eastern Hickman County, then moved northeast where trees were damaged and uprooted along two fence lines. Several 2000 pound hay bales were rolled and stacked along one fence line. The tornado continued northeast across the Duck River and into Maury County briefly before moving back into Hickman County, where it crossed Highway 50 and peeled tin off of the front porch of a house. In addition, a large magnolia tree was uprooted along with several hardwood and softwood trees at the residence. The tornado then crossed the Natchez Trace Parkway again, knocking down numerous trees in farm fields before lifting in a field next to Johnson Branch. The total path length was 2.1 miles.

Hickman County

1 SE Jones Vly

05	2311CST				0	0	5.00K	0.00K	Thunderstorm Wind (56EG)
									Several trees were snapped and uprooted north of Leatherwood Road west of Dry Prong Road. Based on radar data, this may have been a brief tornado touchdown, but damage was too inconclusive.

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Hickman County

1 E Chartersville

05	2311CST								
	2312CST	0.84	75	0	0	0	10.00K	0.00K	Tornado (EF0)

This EF-0 tornado touched down just east of the Natchez Trace Parkway in an open field in extreme eastern Hickman County, then moved northeast where trees were damaged and uprooted along two fence lines. Several 2000 pound hay bales were rolled and stacked along one fence line. The tornado continued northeast across the Duck River and into Maury County briefly before moving back into Hickman County, where it crossed Highway 50 and peeled tin off of the front porch of a house. In addition, a large magnolia tree was uprooted along with several hardwood and softwood trees at the residence. The tornado then crossed the Natchez Trace Parkway again, knocking down numerous trees in farm fields before lifting in a field next to Johnson Branch. The total path length was 2.1 miles.

Maury County

1 N Santa Fe

05	2315CST				0	0	1.00K	0.00K	Thunderstorm Wind (52EG)
									A tree was blown down on Fly Road in Santa Fe.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Wayne County

4 ESE Cypress Inn
3 SW Fairview

05	2321CST								
	2324CST	2.77	100	0	0	0	10.00K	0.00K	Tornado (EF0)

This is a continuation of an EF-1 tornado that started in Lauderdale County, Alabama. The tornado crossed into Tennessee and caused EF-0 damage, snapping several large branches and causing minor roof damage to a home on May Branch Loop. As the tornado moved northeast, it uprooted many trees and ended up destroying an outbuilding and causing minor roof damage to a home on Middle Cypress Creek Road. Finally, it crossed George Olive Road, did some minor shingle damage to a home and rolled several large bales of hay through a field before lifting. The total path length of the tornado in Alabama and Tennessee was 6.12 miles.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, Central

Williamson County

Thompsons Station
2 ENE Douglas

05	2335CST				0	0	15.00K	0.00K	Thunderstorm Wind (65EG)
	2343CST								

A 7.5 mile long by nearly 1 mile wide microburst struck areas from Thompson's Station northeastward through the far southern portions of Franklin. Several trees and large tree limbs were blown down near downtown Thompson's Station, including on School Street. A small amount of siding was also blown off a home on Channing Drive near I-840. Further northeast in the Southpoint subdivision near Highway 31 at West Harpeth Road, several trees were blown down on Jay Bee Court and Emerald Court, one home suffered minor shingle damage on Jay Bee Court, and a fence was blown down on Erin Lane. More trees were snapped and uprooted on Snowbird Hollow Road and along Green Valley Blvd. An NWS employee watched a 75-foot tall tree get blown down in his front yard on Stalcup Court. Further northeast, another tree was knocked down on St George's Way, and large branches were blown down on Beechlawn Drive. Winds were estimated up to 75 mph.

Note: The estimated wind gust of 65 knots is equivalent to 75 mph.

Williamson County

1 NW Calle

05	2339CST				0	0	3.00K	0.00K	Thunderstorm Wind (56EG)
	Trees were blown down on Goose Creek Bypass at McLemore Road in far southern Franklin.								

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Lawrence County

St Joseph
1 ESE Loretto

05	2341CST				4.12	300	0	0	100.00K	0.00K	Tornado (EF1)
	2346CST										

This EF-1 tornado touched down on Bluff Road causing minor roof damage to a home and breaking several large limbs outside the home. It traveled to the northeast where it encountered an oversized mobile home. Indications were that the strapping on the mobile home was rusty and not tied down well, allowing it to roll over. Winds here did seem strongest, however, topping out at 90 mph. The resident of the mobile home was able to escape to safety as he received the warning a couple minutes prior to the tornado striking his home. The tornado continued northeast and when it crossed South Ball Park Road, it demolished 2 hay barns and caused minor roof damage to 2 homes. As the tornado approached the city of Loretto, it caused extensive damage to the city's sports complex behind South Lawrence Elementary School. Three cinder block dugouts were destroyed, two large sections of bleachers were tossed 25 to 30 yards and there was minor roof damage to the concession stand and an outbuilding where maintenance equipment was stored. Special thanks to the South Lawrence Elementary staff for providing video evidence of the tornado as it moved through the area. As the tornado approached Highway 43, several homes were damaged by uprooted trees and there was some minor roof damage to a large outbuilding at a wood yard on 2nd Avenue. The tornado finished up by taking down power lines on the west side of Highway 43 near Vine Street. No damage was documented east of Highway 43.

Maury County

2 N Mc Cains

05	2342CST				0	0	1.00K	0.00K	Thunderstorm Wind (52EG)
	A tree was blown down near the intersection of Pulaski Highway and Murphy Lane south of Columbia.								

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Maury County

2 SSW Glendale

05	2344CST				0	0	5.00K	0.00K	Thunderstorm Wind (56EG)
	Trees were blown down across Moorsville Pike, closing the road.								

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Davidson County

2 WSW Madison

05	2345CST				0	0	10.00K	0.00K	Flash Flood
06	0045CST								

Video from a trained spotter showed two feet of water from Whites Creek rushing across Knight Drive at Brook Manor Drive. A nursing home and other properties in the area were flooded.

Sumner County

2 SSW Millersville

05	2345CST				0	0	5.00K	0.00K	Flash Flood
06	0045CST								

Highway 31 (Louisville Highway) between Dickerson Pike and I-65 in Goodlettsville was flooded with at least one car submerged.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
TENNESSEE, Central										
Lawrence County										
1 NNE Bonnertown	05	2355CST								
2 WNW Appleton		2358CST	1.88	150	0	0	20.00K	0.00K	Tornado (EF0)	
This EF-0 tornado touched down just east of Highway 98, damaging several chicken barns. It traveled northeast and crossed Hood Hollow Road, causing minor damage to one home and destroying multiple outbuildings. The tornado then tracked further to the northeast, snapping several large pine tree limbs before lifting as it crossed Bassham Road.										
Williamson County										
2 SE Triune	05	2357CST								
		2359CST			0	0	10.00K	0.00K	Thunderstorm Wind (56EG)	
A storm survey by a trained spotter indicated a 2 mile long by 500 yards wide swath of wind damage struck far eastern Williamson County near Triune. Several trees were snapped or uprooted in the area along Highway 96 at Hawkins Road and Old Murfreesboro Road. More trees were blown down near a private golf course between Highway 96 and Spanntown Road. More trees were knocked down on Spanntown Road west of New Castle Road, one of which fell across and blocked Spanntown Road, and one home in the area lost some shingles. Winds were estimated up to 65 mph. Based on radar data, this may have been a weak EF-0 tornado, but damage was too sparse and inconclusive.										
Note: The estimated wind gust of 56 knots is equivalent to 64 mph.										
Williamson County										
2 E Nolensville	05	2358CST			0	0	3.00K	0.00K	Thunderstorm Wind (56EG)	
Trees were blown down on Rocky Ford Road at Fly Road in Nolensville.										
Note: The estimated wind gust of 56 knots is equivalent to 64 mph.										
Bedford County										
1 NE Cedar Grove	06	0014CST								
1 ESE Rover		0017CST			0	0	10.00K	0.00K	Thunderstorm Wind (61EG)	
A NWS storm survey found a 1.5 mile long by 150 yard wide swath of wind damage struck areas just south of Rover. A barn lost some sheet metal roof panels and several cedar trees were snapped on a farm on Blanton Road just north of Cedar Grove Road. Further to the east, at least 4 homes on Amy Lane just south of Coopertown Road suffered minor wind damage such as loss of a few shingles and siding. One shed was also overturned and several trees were blown down. Winds were estimated up to 70 mph. Based on radar data, this may have been a brief EF-0 tornado, but the damage was too sparse, weak, and inconclusive.										
Note: The estimated wind gust of 61 knots is equivalent to 70 mph.										
Bedford County										
Longview	06	0016CST								
		0019CST	1.94	100	0	0	400.00K	0.00K	Tornado (EF2)	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, Central

The Christiana tornado first touched down in far northern Bedford County southwest of Kimmons Road at Longview Road, damaging an outbuilding and blowing down a few trees. This small but very intense tornado moved northeast and quickly increased in intensity to EF-2 as it approached the Bedford/Rutherford County line, severely damaging two homes on the south side of Kingdom Road/Midland Fosterville Road. The tornado then crossed the road into Rutherford County, where a small but well-built brick home had its roof blown off and brick walls blown in. One wall fell onto the homeowner causing minor injuries. Further to the northeast on Williams Road, one barn was heavily damaged and another completely destroyed. The narrow but strong EF-2 tornado continued northeast, carving a well-defined path through forests before striking a new 3000 square foot home on the west side of Midland Crescent Road. This large house, which was poorly attached to its cinder-block foundation, was lifted almost completely intact, flipped upside down, and rotated 90 degrees as it was blown to the north-northwest. One woman inside the home was killed. Numerous trees continued to be blown down further to the northeast across Jones Road. Upon reaching Rock Springs Midland Road, another home that was built in the 1800s took a direct hit from the tornado, losing its roof and all of the third story. The homeowners inside received the warning and took appropriate shelter on the lowest floor, escaping uninjured. Two silos and a barn just north of the home were de-roofed, and several nearby trees were blown down. Curving more to the east-northeast, two 70 foot-tall silos and two sheet metal barns located northwest of Rock Springs Midland Road at Gray Fox Drive were completely destroyed. Another smaller barn was destroyed and adjacent home received roof damage north of Eagle Creek Road. As the tornado crossed a northward bend in Rock Springs Road, a detached garage was completely destroyed while a home suffered minor roof damage. Further to the east, an outbuilding and mobile home were heavily damaged, with debris being blown up to 200 yards to the east. The tornado continued east-northeast, causing minor exterior damage to a home and damaging the roof of a barn. Approaching Rock Springs Midland Road, the tornado completely destroyed a small home on the south side of the roadway, with debris being blown in a cyclonic curved path 200 yards off to the east. The tornado finally weakened to EF-1 as it crossed Rock Springs Midland Road yet again, overturning an old, small mobile home on the north side of the road just west of Highway 231. Two women inside the mobile home were injured. The final damage occurred on Christiana Fosterville Road just one-quarter mile south of Christiana, where part of the roof of a barn was blown off and several trees were blown down. The total path length for this tornado in both Bedford and Rutherford Counties was 8.61 miles.

Rutherford County

1 ESE Newtown
1 S Christiana

06	0019CST	0028CST	6.51	200	1	3	3.39M	0.00K	Tornado (EF2)
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The Christiana tornado first touched down in far northern Bedford County southwest of Kimmons Road at Longview Road, damaging an outbuilding and blowing down a few trees. This small but very intense tornado moved northeast and quickly increased in intensity to EF-2 as it approached the Bedford/Rutherford County line, severely damaging two homes on the south side of Kingdom Road/Midland Fosterville Road. The tornado then crossed the road into Rutherford County, where a small but well-built brick home had its roof blown off and brick walls blown in. One wall fell onto the homeowner causing minor injuries. Further to the northeast on Williams Road, one barn was heavily damaged and another completely destroyed. The narrow but strong EF-2 tornado continued northeast, carving a well-defined path through forests before striking a new 3000 square foot home on the west side of Midland Crescent Road. This large house, which was poorly attached to its cinder-block foundation, was lifted almost completely intact, flipped upside down, and rotated 90 degrees as it was blown to the north-northwest. One woman inside the home was killed. Numerous trees continued to be blown down further to the northeast across Jones Road. Upon reaching Rock Springs Midland Road, another home that was built in the 1800s took a direct hit from the tornado, losing its roof and all of the third story. The homeowners inside received the warning and took appropriate shelter on the lowest floor, escaping uninjured. Two silos and a barn just north of the home were de-roofed, and several nearby trees were blown down. Curving more to the east-northeast, two 70 foot-tall silos and two sheet metal barns located northwest of Rock Springs Midland Road at Gray Fox Drive were completely destroyed. Another smaller barn was destroyed and adjacent home received roof damage north of Eagle Creek Road. As the tornado crossed a northward bend in Rock Springs Road, a detached garage was completely destroyed while a home suffered minor roof damage. Further to the east, an outbuilding and mobile home were heavily damaged, with debris being blown up to 200 yards to the east. The tornado continued east-northeast, causing minor exterior damage to a home and damaging the roof of a barn. Approaching Rock Springs Midland Road, the tornado completely destroyed a small home on the south side of the roadway, with debris being blown in a cyclonic curved path 200 yards off to the east. The tornado finally weakened to EF-1 as it crossed Rock Springs Midland Road yet again, overturning an old, small mobile home on the north side of the road just west of Highway 231. Two women inside the mobile home were injured. The final damage occurred on Christiana Fosterville Road just one-quarter mile south of Christiana, where part of the roof of a barn was blown off and several trees were blown down. The total path length for this tornado in both Bedford and Rutherford Counties was 8.61 miles. F41PH

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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TENNESSEE, Central



This new home on Midland Crescent Road southwest of Christiana, Tennessee was blown off its foundation and flipped upside down by a strong EF-2 tornado on November 6, 2018 at 12:21 AM CST. One woman inside the home was killed. Photo by NWS Nashville storm survey team.

Rutherford County

1 N Christiana

06	0029CST	0	0	200.00K	0.00K	Lightning
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Lightning struck a house on Barley Drive causing a large fire in the attic and severe damage to the home.

Rutherford County

2 NE Plainview

06	0029CST	0	0	15.00K	0.00K	Thunderstorm Wind (56EG)
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Several homes around 2825 Cliffside Drive received minor roof damage and some outbuildings were destroyed.

Note: The estimated wind gust of 56 knots is equivalent to 64 mph.

Cannon County

2 SE Auburntown

2 NNW Gassaway

06	0050CST	0	0	100.00K	0.00K	Tornado (EF1)
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This EF-1 tornado began southeast of Auburntown in northern Cannon County on Hurricane Creek Road. The tornado then traveled east-northeast up and down several different large hills and hollows causing sporadic damage to trees. The worst damage occurred on Dutton Hollow Road, where a carport and well-built taxidermy barn were completely destroyed, and numerous trees were snapped and uprooted. The tornado then crossed into DeKalb County and caused additional tree damage on Highway 53. A house on Clear Fork Road sustained damage to the roof and wood siding, and the steeple on the nearby Cave Springs Missionary Baptist Church was damaged. After the tornado traveled through more hollows and hills causing additional tree damage, it finally lifted near Vandergriff Hollow Road. The total path length of the tornado across Cannon and De Kalb Counties was 8.82 miles.

Dekalb County

3 NW Mt Moriah

2 ESE Liberty

06	0055CST	0	0	25.00K	0.00K	Tornado (EF1)
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This EF-1 tornado began southeast of Auburntown in northern Cannon County on Hurricane Creek Road. The tornado then traveled east-northeast up and down several different large hills and hollows causing sporadic damage to trees. The worst damage occurred on Dutton Hollow Road, where a carport and well-built taxidermy barn were completely destroyed, and numerous trees were snapped and uprooted. The tornado then crossed into DeKalb County and caused additional tree damage on Highway 53. A house on Clear Fork Road sustained damage to the roof and wood siding, and the steeple on the nearby Cave Springs Missionary Baptist Church was damaged. After the tornado traveled through more hollows and hills causing additional tree damage, it finally lifted near Vandergriff Hollow Road. The total path length of the tornado across Cannon and De Kalb Counties was 8.82 miles.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, Central

Dekalb County

1 NNW Snows Hill

06 0106CST 0 0 3.00K 0.00K Thunderstorm Wind (52EG)
 Trees were blown down in the yard of a home at 2230 Old Snow Hill Road.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Coffee County

1 SW Rutledge Hill 2 ESE Betsy Willis

06 0127CST
 06 0131CST 3.63 300 0 0 75.00K 0.00K Tornado (EF0)

Although a NWS storm survey originally determined the damage path across Franklin, Coffee, and Grundy Counties to be one long-track tornado, high-resolution satellite imagery from NASA Sport and Google Earth in May 2019 clearly showed that the original track was actually two separate tornadoes. This major EF-2 tornado, which began in Franklin County near Tims Ford Lake, weakened considerably to EF-0 as it entered the extreme southeastern portion of Coffee County, with just a few trees blown down along Rutledge Hill Road. The worst damage was along Coker Road where a barn was destroyed, another barn suffered roof damage, and the front porch of a home was ripped off causing minor roof damage. After taking a sharp bend to the east, the tornado caused severe damage to an outbuilding on Boyd Road. Several outbuildings were destroyed and a house sustained roof damage when its front porch was ripped off. Numerous more trees were blown down further to the east on Rutledge Hill Road and along and onto I-24, which caused a multi-vehicle accident at mile marker 126. Another barn suffered roof damage on Sims Lane before the tornado moved into Grundy County. The tornado then intensified rapidly to EF-2 in extreme southwest Grundy County, with a nearly-finished brand new home almost completely destroyed on Conry Circle. Two nearby homes suffered significant roof and siding damage, and a barn lost nearly all of its roof. Debris from all of these buildings was blown up to 500 yards to the east and northeast. Further to the east, a mobile home on Frank Wilson Road was knocked off its piers into a garage. The tornado tracked up and down a nearly 1600 foot tall ridge before reaching Homer White Road, heavily damaging two barns and destroying an outbuilding. Curving more to the northeast, the tornado ripped off the roof of a brick home on Highway 50. Luckily, the house occupants were taking shelter and were not injured. Two adjacent outbuildings were severely damaged, and other nearby homes and barns suffered minor damage. Debris from these buildings was blown up to 500 yards to the northeast. The tornado continued to cause a wide swath of wind damage to trees and buildings along Highway 50 before crossing Schoolhouse Hollow and Nunley Hollow and climbing nearly 1000 feet in elevation onto the Cumberland Plateau. Google Earth and NASA Sport satellite imagery showed hundreds of trees continued to be blown down off to the east as the tornado crossed Highway 108, Eagle Lake Road, and passed along the west side of Eagle Lake before finally lifting just north of Eagle Lake. Total path length of this tornado across Franklin County, southeast Coffee County, into central Grundy County was 29.50 miles. Winds were estimated up to 115 mph.

White County

1 W Sparta White Co Arpt 2 NE Ballard

06 0129CST
 06 0134CST 4.02 150 0 0 15.00K 0.00K Tornado (EF0)

This EF-0 tornado touched down on Josh Brown Road and Betty Lane where it snapped trees and broke several large branches. As it moved east it destroyed a barn on South Bunker Hill Road and overturned containers and a trailer at the Upper Cumberland Regional Airport. The KSRB AWOS located at the southwest end of the airport measured a northwest wind gust of 53 mph as the tornado passed just southeast of the weather station. Across Hwy 111 there was damage to an outbuildings metal roof and large branches broken. The path concluded on Post Oak Bridge Road where a tree fell onto a barn and large branches were snapped off trees.

Grundy County

1 W Pelham 1 NW Freemont

06 0131CST
 06 0142CST 10.2 500 0 0 750.00K 0.00K Tornado (EF2)

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, Central

Although a NWS storm survey originally determined the damage path across Franklin, Coffee, and Grundy Counties to be one long-track tornado, high-resolution satellite imagery from NASA Sport and Google Earth in May 2019 clearly showed that the original track was actually two separate tornadoes. This major EF-2 tornado, which began in Franklin County near Tims Ford Lake, weakened considerably to EF-0 as it entered the extreme southeastern portion of Coffee County, with just a few trees blown down along Rutledge Hill Road. The worst damage was along Coker Road where a barn was destroyed, another barn suffered roof damage, and the front porch of a home was ripped off causing minor roof damage. After taking a sharp bend to the east, the tornado caused severe damage to an outbuilding on Boyd Road. Several outbuildings were destroyed and a house sustained roof damage when its front porch was ripped off. Numerous more trees were blown down further to the east on Rutledge Hill Road and along I-24, which caused a multi-vehicle accident at mile marker 126. Another barn suffered roof damage on Sims Lane before the tornado moved into Grundy County. The tornado then intensified rapidly to EF-2 in extreme southwest Grundy County, with a nearly-finished brand new home almost completely destroyed on Conry Circle. Two nearby homes suffered significant roof and siding damage, and a barn lost nearly all of its roof. Debris from all of these buildings was blown up to 500 yards to the east and northeast. Further to the east, a mobile home on Frank Wilson Road was knocked off its piers into a garage. The tornado tracked up and down nearly 1600 foot tall ridge before reaching Homer White Road, heavily damaging two barns and destroying an outbuilding. Curving more to the northeast, the tornado ripped off the roof of a brick home on Highway 50. Luckily, the house occupants were taking shelter and were not injured. Two adjacent outbuildings were severely damaged, and other nearby homes and barns suffered minor damage. Debris from these buildings was blown up to 500 yards to the northeast. The tornado continued to cause a wide swath of wind damage to trees and buildings along Highway 50 before crossing Schoolhouse Hollow and Nunley Hollow and climbing nearly 1000 feet in elevation onto the Cumberland Plateau. Google Earth and NASA Sport satellite imagery showed hundreds of trees continued to be blown down off to the east as the tornado crossed Highway 108, Eagle Lake Road, and passed along the west side of Eagle Lake before finally lifting just north of Eagle Lake. Total path length of this tornado across Franklin County, southeast Coffee County, and into central Grundy County was 29.50 miles. Winds were estimated up to 115 mph.

Grundy County

1 ESE Counter Pen
3 NE Barkertown

06	0139CST						250.00M	0.00K	Tornado (EF1)
	0155CST	15.2	700	0	0				

Although a NWS storm survey originally determined the damage path across Franklin, Coffee, and Grundy Counties to be one long-track tornado, high-resolution satellite imagery from NASA Sport and Google Earth in May 2019 clearly showed that the original track was actually made up of two separate tornadoes. This large, strong EF-1 tornado touched down in a forested area with no road access about 1 mile northeast of the Highway 108 and Highway 50 intersection, which was also around 1 mile north of the previous tornado as it was weakening and occluding. Satellite imagery showed thousands of trees were blown down in large convergent swaths along a trochoidal loop-type track as the tornado passed 2 miles south of Altamont. The tornado continued snapping and uprooting hundreds of trees it crossed Highway 56, Colony Road, and 20th Avenue North, with some trees falling onto and damaging homes, and others blocking area roadways. A carport was also blown over on Reeves Road. Once again tracking through uninhabited forests, the tornado continued to blow down hundreds more trees for several miles, eventually crossing Stage Coach Road and Lovell Road. The tornado dissipated into a large downburst as it crossed Highway 399 into Sequatchie County. Winds were estimated up to 110 mph.

Grundy County

1 W Freemont

06	0142CST		0	0	10.00K	0.00K	Thunderstorm Wind (70EG)
	0155CST						

Facebook reports and photos indicate a swath of wind damage, likely from the rear flank downdraft of the EF-2 tornado passing off to the north, snapped and uprooted dozens of trees on the west side of Eagle Lake along Eagle Lake Road north of Highway 108.

Note: The estimated wind gust of 70 knots is equivalent to 81 mph.

Grundy County

3 N Barkertown

06	0153CST						100.00K	0.00K	Thunderstorm Wind (87EG)
	0156CST								

High resolution satellite imagery from Google Earth in May 2019 determined a severe downburst struck the Savage Gulf State Natural Area near the Sequatchie County line, then continued eastward into Sequatchie County. Hundreds of trees were blown down along a 2 mile long by 500 yards wide path in this forested area with no road access. Based on the damage, this may have been a third tornado developing north of the previous tornado as it dissipated in extreme eastern Grundy County. Winds were estimated up to 100 mph.

Note: The estimated wind gust of 87 knots is equivalent to 100 mph.

Grundy County

2 ENE Barkertown

06	0154CST						25.00K	0.00K	Thunderstorm Wind (87EG)
	0156CST								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, Central

A NWS storm survey along with high resolution satellite imagery from Google Earth in May 2019 determined the second Grundy County tornado dissipated into a large, severe downburst near the Grundy/Sequatchie County line. Dozens of trees were blown down along and south of Highway 399 in extreme eastern Grundy County, with damage then continuing northeastward into Sequatchie County. Winds were estimated up to 100 mph.

A line of severe thunderstorms called a Quasi-linear Convective System (QLCS) developed across west Tennessee and moved eastward across Middle Tennessee during the late evening hours on Monday, November 5, 2018 into the early morning hours on Tuesday, November 6, 2018. This system spawned at least 9 tornadoes across Middle Tennessee that occurred in the darkness of night, including an EF-2 tornado that struck the Christiana area of Rutherford County, which unfortunately killed one woman and injured two others. Other tornadoes in this outbreak affected central Kentucky, northern and central Alabama, Mississippi and northern Louisiana. This tornado outbreak was the worst to affect Middle Tennessee since the December 23, 2015 tornado outbreak, which also occurred at night during the secondary severe weather season that occurs in the fall and early winter. Note: The estimated wind gust of 87 knots is equivalent to 100 mph.

**TNZ005>007-024>
025-056-093>094**

Dickson - Humphreys - Lawrence - Montgomery - Perry - Robertson - Stewart - Wayne

14	1500CST						
15	0200CST						

0 0 10.0K 0.00K Winter Weather

A large upper level storm system moved across the Tennessee Valley from November 14 into November 15. Rain spreading across the region became a wintry mix of freezing rain, sleet, and snow across the far western and northwest counties of Middle Tennessee from the afternoon hours on November 14 into the early morning hours on November 15. Up to 1.5 inches of snow and 0.2 inches of ice were reported.

TENNESSEE, East

Bledsoe County

Pailo

06	0200CST	0	0	Thunderstorm Wind (50EG)
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Highway 127 and old 28 were close with numerous trees, power lines, and poles reported down.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Sequatchie County

1 E Cagle

06	0200CST	0	0	Thunderstorm Wind (50EG)
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Several power lines and trees were reported down near the intersection of Highway 399 and Highway 111.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Marion County

2 E Sulphur Spgs

06	0234CST	0	0	Thunderstorm Wind (50EG)
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A tree was reported down on Highway 27 with one lane blocked.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Meigs County

1 NE Decatur

06	0343EST	0	0	Thunderstorm Wind (50EG)
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Scattered trees were reported down across the county.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Hamilton County

1 S Rathburn

06	0350EST	0	0	Thunderstorm Wind (50EG)
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A tree was reported down on a parked car.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Mcminn County

1 S Andrews Chapel

06	0351EST	0	0	Thunderstorm Wind (50EG)
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Several trees were reported down at county roads 725 and 700.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Mcminn County

Athens

06	0353EST	0	0	Thunderstorm Wind (50EG)
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One tree was reported down with some small hail in the vicinity.

Note: The estimated wind gust of 50 knots is equivalent to 58 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
TENNESSEE, East										
TNZ074		Sevier/Smoky Mountains								
	06	0400EST			0	0			High Wind	
Polk County 1 E Benton	06	0400EST			0	0			Thunderstorm Wind (50EG)	
									Three trees were reported down on power lines at Highway 314 and main street.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Roane County 3 E Bradbury	06	0410EST			0	0			Thunderstorm Wind (50EG)	
									Report occurred at Highway 95 between Bear Creek Road and the western entrance of Oak Ridge National Laboratory.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Loudon County 1 SW Robinson Mill	06	0411EST			0	0			Thunderstorm Wind (50EG)	
									Several trees were reported down near Vonore Road.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Mcminn County 2 WNW Union Mc Minn	06	0415EST			0	0			Thunderstorm Wind (50EG)	
									A tree was downed on County Road 250 near Pond Hill Church. The tree blocked both lanes.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Hamilton County 1 N Harrison	06	0417EST			0	0			Thunderstorm Wind (50EG)	
									Scattered trees and power lines were reported down across the county.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Loudon County 1 WNW Eaton Xrd	06	0420EST			0	0			Thunderstorm Wind (50EG)	
									Several trees were reported down on Highway 321 which resulted in the road being closed.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Knox County 1 SW Farragut	06	0426EST			0	0			Thunderstorm Wind (50EG)	
									The tops of several trees were snapped off.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Knox County 1 NE Lovell	06	0426EST			0	0			Thunderstorm Wind (50EG)	
									Roof damage was reported at the Christian Academy of Knox.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Knox County West Knoxville	06	0445EST			0	0			Thunderstorm Wind (55MG)	
									A peak wind gust of 63 mph was reported in West Knoxville.	
									Note: The measured wind gust of 55 knots is equivalent to 63 mph.	
Knox County Gulf Park	06	0445EST			0	0			Thunderstorm Wind (50EG)	
									Significant damage was reported at a home on Coventry Road where a tree crashed through the roof of the structure.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Knox County West Knoxville	06	0446EST			0	0			Thunderstorm Wind (50EG)	
									Roof damage was reported at a few homes on Richmond Avenue.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	
Blount County Maryville	06	0455EST			0	0			Thunderstorm Wind (50EG)	
									Widespread tree damage was reported across the county.	
									Note: The estimated wind gust of 50 knots is equivalent to 58 mph.	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
TENNESSEE, East										
Polk County 2 WSW Postelle		06 0504EST		0	0				Thunderstorm Wind (50EG)	
		A few trees were reported down on Highway 64.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Union County 1 NW Luttrell		06 0507EST		0	0				Thunderstorm Wind (50EG)	
		Trees and power lines were reported down on Highway 61 East.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Sevier County 1 WSW Pitner		06 0509EST		0	0				Thunderstorm Wind (50EG)	
		Trees were reported down on Maryville Highway in Seymour near the Blount county line.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Jefferson County New Market		06 0510EST		0	0				Thunderstorm Wind (50EG)	
		Trees were reported down at many locations throughout the county.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Monroe County Tellico Plains		06 0520EST		0	0				Thunderstorm Wind (50EG)	
		Multiple trees and power lines were reported down across the county.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Greene County 1 E Greeneville		06 0555EST		0	0				Thunderstorm Wind (50EG)	
		Several trees were reported down in the southern portion of the county.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Hawkins County 1 W Alumwell		06 0614EST		0	0				Thunderstorm Wind (50EG)	
		A tree was reported down near the intersection of Highway 70 and Clonce Road.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Washington County 1 SW Jonesboro		06 0617EST		0	0				Thunderstorm Wind (50EG)	
		Several trees were reported down in Jonesboro and Embreeville.								
		Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
Sullivan County 1 NW Sullivan Gardens		06 0624EST		0	0				Thunderstorm Wind (50EG)	
		A tree was reported down near Bays Mountain Eastman Recreation Park.								
		A strong storm system moved through the Tennessee Valley Region during the early morning hours with numerous reports of wind damage in association with the system's squall line. Note: The estimated wind gust of 50 knots is equivalent to 58 mph.								
TNZ043-074		Sevier/Smoky Mountains - Southeast Greene								
		23 2200EST								
		2230EST		0	0				High Wind	
		A strong southerly flow developed in advance of an Eastern United States low pressure system. The strong southerly wind downed some trees along the higher terrain along the Tennessee and North Carolina border.								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, South Central

Moore County

1 W Pleasant Hill

06 0100CST 0 0
Trees were knocked down at Pleasant Hill Road at Jacey Lane.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Moore County

1 E Marble Hill

06 0105CST 0 0 0.50K 0.00K Thunderstorm Wind (43EG)
A tree was knocked down and partially blocked state highway 50 near the Franklin County Line.

Note: The estimated wind gust of 43 knots is equivalent to 49 mph.

Franklin County

2 WNW Owl Hollow 1 NE Wilder Chapel

06 0116CST 0126CST 15.59 500 0 0
Tornado (EF2)

A tornado touched down on the southern periphery of Tims Ford Lake on Awalt Drive, snapping and uprooting a few hardwood trees. It then crossed Tims Ford Lake, snapping more trees on the northeastern shore along Ridgefield Circle. Moving northeast, the tornado downed additional trees onto carparks and uprooted small hardwood trees in the Eastbrook community. The tornado continued moving northeast, skipping across U.S. Highway 41 and snapping and uprooting hardwood trees along Peabody and Decherd Estill Roads. The tornado had increased to EF-1 intensity at this point. The tornado rapidly intensified about 2 miles SE of Estill Springs as it crossed Aedc Road. The survey team found widespread damage to homes and hardwood trees in the Penile Hill and Allred Roads area. Homes here lost most if not all of their roof material, and large 3-4 foot diameter trees were snapped. The worst home damage occurred here, with walls collapsing on a well-built single family home. This was the highest rated damage along the path, topping out at 130 mph, and measuring about 500 yards wide. The tornado continued producing sporadic damage as it moved northeast, crossing Monroe Floyd Road. A well-constructed barn was stripped of its roof at this location, along with several outbuildings that were destroyed. Path width at this point was about 300 yards wide. The tornado strengthened once again as it approached Gum Creek and Knight Roads. At this location, a single-wide mobile home was rolled from its original location, heavily damaging the frame. Damage was also sustained to several homes in this area, with numerous power poles snapped. Grain silos were destroyed and debris scattered for several hundred yards at this site along the path. Damage in this location before tracking into Coffee County retained its EF-2 status, demolishing barns, rolling and destroying mobile homes, and snapping and uprooting numerous large hardwood trees and power poles. Debris was strewn several hundred yards from silos and grain bins in these locations, sustaining 120 mph winds. The tornado then crossed into Coffee County.

A line of strong to severe thunderstorms moved east through across all of southern middle Tennessee during the early morning hours of the 6th. A significant tornado developed in northern Franklin County producing damage in the Estill Springs/Decherd areas. There were also a few other reports of damaging winds.

TNZ076-096-097

Franklin - Lincoln - Moore

10 0300CST
0900CST 0 0 0.00K 0.00K Frost/Freeze

Temperatures fell into the 28-32 degree range on the morning of the 10th.

TENNESSEE, West

Benton County

3 NNE Liberty 3 S Big Sandy

05 2040CST
2045CST 0 0 20.00K 0.00K Thunderstorm Wind (55EG)

Several tops of trees down on Highway 69 between Camden and Big Sandy.

A potent late fall storm system generated a severe thunderstorm across eastern portions of west Tennessee during the late evening hours of November 5th. Note: The estimated wind gust of 55 knots is equivalent to 63 mph.

TNZ001>004-019> 022-048>055-088> 091

Benton - Carroll - Chester - Crockett - Decatur - Dyer - Fayette - Gibson - Hardeman - Haywood - Henderson - Henry - Lake - Lauderdale - Madison - McNairy - Obion - Shelby - Tipton - Weakley

14 1100CST
2100CST 0 0 0.00K 0.00K Winter Weather

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TENNESSEE, West

An upper low tracked across the Mid-South on November 14, 2018. A mixture of snow, sleet and freezing drizzle fell across West Tennessee resulting in dangerous travel conditions. One to two inches of snow fell across northwest Tennessee.

TNZ022

Benton

25	1945CST			0	0	0.5K	0.00K	Strong Wind
	2000CST							

A deepening surface low tracking through the Midwest created strong west and northwesterly winds across portions of West Tennessee during the early evening hours of November 25th.

TEXAS, Extreme West

TXZ421-422

Salt Basin - Southern Hudspeth Highlands

01	0000MST			0	0	0.00K	0.00K	Drought
06	1200MST							

Some late October rain helped to improve drought conditions over Hudspeth County in early November.

TEXAS, Mid-South

Jim Wells County **2 ENE Sandia**

01	0000CST			0	0	0.00K	0.00K	Flood
05								

Major flooding continued along the Nueces River due to releases from Lake Corpus Christi.

Live Oak County **1 ENE Kittie** **2 WNW Oakville**

01	0000CST			0	0	0.00K	0.00K	Flood
03								

Major flooding continued along the Nueces River from Three Rivers to southeast of George West for the first couple of days in November. Flow backed up minor creeks to the slabs of lowest homes in the River Creek Acres subdivision, five miles southeast of George West.

Nueces County **6 NW La Rose**

01	0000CST			0	0	0.00K	0.00K	Flood
10								

Major flooding continued along the Nueces River due to releases from Lake Corpus Christi. Major lowland flooding occurred from Blutzer to near Calallen. Widespread residential flooding occurred for days. This included homes in the Sandy Hollow, Los Escondidos, and Rio Encinos subdivisions.

San Patricio County **1 SE Corpus Christi St Pa**

01	0000CST			0	0	0.00K	0.00K	Flood
05								

Major flooding continued along the Nueces River due to releases from Lake Corpus Christi.

Major river flooding on the Nueces River continued into the early part of the month from Three Rivers to Calallen.

TEXAS, North

Tarrant County **1 E Carswell Afb**

03	1925CST			0	0	0.00K	0.00K	Thunderstorm Wind (57MG)

A 66 MPH wind gust was measured at Fort Worth Joint Reserve Base.

Note: The measured wind gust of 57 knots is equivalent to 66 mph.

Tarrant County **1 E Ft Worth Oak Grve Ar**

03	2005CST			0	0	0.00K	0.00K	Thunderstorm Wind (56MG)

A fast-moving cold front brought a brief round of showers and storms to North Texas on the evening of Saturday, November 3. A few storms produced severe wind gusts in the Fort Worth area. Note: The measured wind gust of 56 knots is equivalent to 64 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
TEXAS, North										
Bell County 3 SSE Moffat	11	2126CST		0	0	0.00K	0.00K		Hail (1.00)	
									A trained spotter produced pictures of one-inch diameter hail in the city of Morgan's Point, TX.	
Robertson County Calvert	12	0045CST		0	0	0.00K	0.00K		Hail (1.00)	
									Broadcast media reported hail slightly larger than quarters in the city of Calvert, TX.	
Limestone County 3 SE Oletha	12	0122CST		0	0	0.00K	0.00K		Hail (1.75)	
									Emergency management reported golf ball sized hail near Oletha, or about 10 miles south of the city of Groesbeck, TX.	
									A strong upper level storm system and a cold front together produced a round of thunderstorms Sunday night, a few of which produced severe hail over Central Texas.	
Stephens County Breckenridge	30	1809CST		0	0	5.00K	0.00K		Thunderstorm Wind (43EG)	
									Emergency management reported that a dead tree was blown onto a parked car in the city of Breckenridge, TX.	
									Note: The estimated wind gust of 43 knots is equivalent to 49 mph.	
Wise County 2 W Bridgeport Muni Arpt	30	1934CST		0	0	0.00K	0.00K		Hail (1.00)	
									Fire and rescue reported quarter-sized hail in the city of Runaway Bay, TX.	
Denton County 1 N Argyle	30	2103CST		0	0	0.00K	0.00K		Hail (0.88)	
									A trained spotter reported nickel-sized hail approximately one mile north of the city of Argyle, TX.	
Denton County Pilot Pt	30	2111CST		0	0	0.00K	0.00K		Hail (0.88)	
									A trained spotter reported nickel-sized hail in the city of Pilot Point, TX.	
Denton County 4 WNW Navo	30	2119CST		0	0	0.00K	0.00K		Hail (1.00)	
									A trained spotter reported quarter sized hail in the city of Crossroads, TX.	
Collin County Prosper	30	2134CST		0	0	0.00K	0.00K		Hail (1.25)	
									A trained spotter reported half-dollar sized hail in the city of Prosper, TX.	
Grayson County 4 S Van Alstyne	30	2145CST		0	0	0.00K	0.00K		Hail (1.00)	
									A trained spotter reported quarter sized hail approximately 4 miles south of the city of Van Alstyne, TX.	
Ellis County Midlothian	30	2228CST		0	0	0.00K	0.00K		Hail (0.88)	
									A social media report indicated nickel sized hail in the city of Midlothian, TX.	
Hunt County 1 WNW Lone Oak	30	2307CST		0	0	0.00K	0.00K		Hail (1.25)	
									Amateur radio reported half-dollar sized hail near the intersection of Route 69 and FM 513, approximately 13 miles northeast of the city of Quinlan, TX.	
Hunt County 3 S Quinlan	30	2312CST		0	0	0.00K	0.00K		Thunderstorm Wind (52EG)	
									Amateur radio reported a 60 MPH wind gust approximately 3 miles south of the city of Quinlan, TX.	
									Note: The estimated wind gust of 52 knots is equivalent to 60 mph.	

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TEXAS, North

Hunt County

1 E Quinlan

30 2313CST 0 0 0.00K 0.00K Thunderstorm Wind (52MG)
A trained spotter reported a 60 MPH wind gust near the intersection of FM 751 and FM 276 east of the city of Quinlan, TX.

Note: The measured wind gust of 52 knots is equivalent to 60 mph.

Hopkins County

2 N Miller Grove

30 2317CST 0 0 0.00K 0.00K Thunderstorm Wind (52EG)
Hopkins County Sheriff's Department reported a 60 MPH wind gust in the city of Miller Grove, or approximately 7 miles south-southeast of the city of Cumby, TX.

Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Kaufman County

Terrell

30 2318CST 0 0 0.00K 0.00K Thunderstorm Wind (54MG)
A 62 MPH wind gust was measured at the Terrell, TX Automated Surface Observation System.

Note: The measured wind gust of 54 knots is equivalent to 62 mph.

Kaufman County

2 S Terrell Wallace Arpt

30 2320CST 0 0 0.00K 0.00K Thunderstorm Wind (54MG)
A 62 MPH wind gust was reported near the intersection of Interstate 20 and Highway 557 in the city of Terrell, TX.

Note: The measured wind gust of 54 knots is equivalent to 62 mph.

Hopkins County

1 S Sulphur Spgs

30 2333CST 0 0 0.00K 0.00K Hail (1.00)
A trained spotter reported quarter sized hail on the south side of the city of Sulphur Springs, TX.

A strong upper level disturbance kicked off a round of thunderstorms Friday evening, with activity occurring mainly from the Interstate 20 corridor northward to the Red River. A few storms produced severe hail and damaging wind gusts.

TEXAS, North Panhandle

TXZ009

Roberts

10	1745CST	0	0	0.00K	0.00K	Wildfire
11	0600CST	0	0	0.00K	0.00K	

The Mesa Vista Wildfire began about nineteen miles south southwest of Wolf Creek Park in Roberts County around 1745CST just east off of Texas State Highway 70 and just south of N River Road. The wildfire consumed two thousand acres. There were no reports of any homes or other structures that were damaged or lost from the wildfire and also there were no reports of any injuries or fatalities. The Texas A&M Forest Service responded to the wildfire which was contained by 0600CST on November 11.

TXZ002>009-011> 013-017

Carson - Hansford - Hartley - Hutchinson - Lipscomb - Moore - Ochiltree - Oldham - Potter - Randall - Roberts - Sherman

11	1800CST	0	0	0.00K	0.00K	Winter Storm
12	1200CST	0	0	0.00K	0.00K	

A positive tilted upper level system in the southwest U.S. has allowed a surface low pressure to develop across parts of southern New Mexico. As the main surface low moved east-northeast across the Texas South Plains, a band of heavier snow developed on the NW side of the low pressure where the best deformation occurred. This band of heavy snow just about split the CWA in half starting in Oldham and Hartley counties in the western Panhandles and then extending northeast into the northeast Texas Panhandle and eastern Oklahoma Panhandle. Heaviest snowfall totals of 6-9 occurred in the heaviest band of snowfall with less amounts across the rest of the region before system moved out the afternoon hours of the 12th.

TEXAS, Northeast

Red River County

2 SE Dimple

07	0215CST	0	0	0.00K	0.00K	Thunderstorm Wind (52EG)
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A tree was blown down across Highway 37 near the Dimple Quick Stop.

Scattered showers and thunderstorms developed during the early morning hours of November 7th across Northeast Texas, Southeast Oklahoma, and Southwest Arkansas, along a cold front and associated upper level trough. Enough shear and instability were in place to yield an isolated severe thunderstorm over Northern Red River County Texas, where strong winds downed a tree across Highway 37 near the Dimple Quick Stop. Note: The estimated wind gust of 52 knots is equivalent to 60 mph.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
TEXAS, Northeast										
Cherokee County 2 NNE Cuney	12	0330CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					FM 855 was flooded and closed just north of the Cuney community.					
Cherokee County 2 NWW Striker Creek Res	12	0345CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					FM 2274 just south of Highway 79 was flooded and closed.					
Cherokee County Gould	12	0345CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					FM 2750 was flooded and closed between FM 2064 and County Road 4224 just west of the Blackjack community.					
Cherokee County 1 NW Mixon	12	0345CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					FM 177 near the intersection of 2493 just west of Mixon was flooded and closed. A vehicle trying to drive through the floodwaters here was washed off the road. The driver was able to escape and was not injured.					
Rusk County 1 NNW Pitner Jct	12	0400CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					Four residents were trapped in their homes and later rescued from rising floodwaters on Highway 259 at County Road 918 along Tiawichi Creek.					
Rusk County 3 ESE Kilgore	12	0402CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					The intersection of County Road 173 and FM 1249 was flooded and closed. A high water rescue was needed for a vehicle driving through the floodwaters.					
Rusk County 2 NNE Pirtle	12	0404CST 1200CST			0	0	0.00K	0.00K	Flash Flood	
					The intersection of County Road 173 and County Road 199D was flooded and closed. A vehicle became submerged trying to drive through the floodwaters here, and required a high water rescue.					
Harrison County 1 ENE Elysian Flds	12	0500CST 1230CST			0	0	0.00K	0.00K	Flash Flood	
					A picture was posted to Facebook of Socagee Creek inundating the bridge and surrounding areas on FM 451 near Old Town Road in the Elysian Fields community. FM 451 was closed between Old Town Road and Waskom-Elysian Fields Road.					
Harrison County 5 ENE Elysian Flds	12	0500CST 1230CST			0	0	0.00K	0.00K	Flash Flood	
					FM 9 was closed between FM 451 and Waskom-Elysian Fields Road due to flooding.					

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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TEXAS, Northeast

Panola County

4 W Midyett

12	0500CST 1230CST	0	0	0.00K	0.00K	Flash Flood
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FM 123 just east of Highway 79 southwest of DeBerry was flooded and closed near Mill Creek.

Panola County

2 WSW Panola

12	0500CST 1230CST	0	0	0.00K	0.00K	Flash Flood
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Highway 79 was flooded and closed between County Road 328 and County Road 3371 near the DeBerry community.

Panola County

2 ENE Panola Pedros Arpt

12	0500CST 1230CST	0	0	0.00K	0.00K	Flash Flood
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A picture was posted to Facebook of 2-3 feet of water on Don Long Road along East Fork Socagee Creek just inside Panola County near the Harrison County line.

During the early morning hours of November 12th, a deep upper trough was located across the Inter-Mountain West into the Great Plains and this feature was able to tap a vigorous plume of moisture from the Eastern Pacific and the Gulf of Mexico into the Four State Region. A surface frontal boundary had pushed well south of the area and was located near or along the Southeast Texas, Southern Louisiana Gulf Coast. Just above the surface near the 5000 foot level, an elevated boundary was pushed northward during the overnight hours of the 11th and into the morning hours of the 12th. Isentropic lift became maximized along and just to the north of this elevated boundary such that portions of East Texas and Northern Louisiana near the Interstate 20 corridor saw training bands of thunderstorms, some of which produced excessive heavy rainfall which resulted in flooding. Widespread rainfall amounts of three to six inches of rain fell across these areas, atop already saturated grounds from above normal rainfall that fell since the first week of September. This resulted in numerous roads to become flooded and closed.

Franklin County

Mt Vernon

30	2340CST	0	0	0.00K	0.00K	Thunderstorm Wind (61EG)
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Four power poles were broken in half across Highway 37 north of the Mount Vernon ISD School.

A vigorous upper level trough moved into the Southern Plains during the late afternoon, evening and overnight hours of November 30th-December 1st. Upper level forcing in response to this disturbance moved into the Middle Red River Valley of Northeast Texas, Southeast Oklahoma and Southwest Arkansas during the evening hours of November 30th and strong to severe thunderstorms erupted north and west of the Interstate 30 Corridor as a result. The atmosphere was moderately unstable for the last day in November but strong deep layer and low level directional shear were present. This resulted in supercell type thunderstorms and bowing thunderstorm complexes, one of which moved across Northeast Texas into Southeast Oklahoma and Southwest Arkansas producing widespread wind damage all along its track. Numerous trees and power lines were downed with these storms before they exited Northeast Texas during the early morning hours of December 1st. Note: The estimated wind gust of 61 knots is equivalent to 70 mph.

TEXAS, South

TXZ248>255-353

Brooks - Hidalgo - Inland Cameron - Inland Willacy - Jim Hogg - Kenedy - Northern Hidalgo County - Starr - Zapata

14	0100CST 0800CST	0	0	0.00K	Frost/Freeze
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A strong cold front, followed by cold air with an early season source in western Canada and an indirect connection to the North Pole, brought an unusual early season freeze to most of the southern tip of Texas during the pre-dawn hours (mostly) on November 14th, 2018. Minimum temperatures in the freeze area typically ranged from 27 to 32 degrees, coldest in rural and wind protected locations. Durations of the freeze lasted from around two hours in parts of the Rio Grande Valley outside of core urban locations, to 7 hours in wind protected ranch and brush country in Deep South Texas.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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TEXAS, South Panhandle

TXZ033-035

Cochran - Lubbock

30 1325CST
 1511CST 0 0 0.00K 0.00K High Wind

Very strong westerly winds of 35 to 40 mph with extensive blowing dust enveloped much of the South Plains this afternoon south of a deepening storm system. Two instances of high wind gusts of 58 mph and 61 mph were recorded. No known damage accompanied these winds.

TEXAS, Southeast

Jefferson County

1 SW China

07 1400CST
 1401CST 0.17 50 0 0 0.00K 0.00K Tornado (EF0)

Pictures from social media indicated a landspout briefly occurred in a rice field 2 miles south of China. No damage was reported.

Jefferson County

1 SSE Central Hgts 1 WSW Hollywood

07 1700CST
 1800CST 0 0 10.00K 0.00K Flash Flood

Multiple streets were flooded during the storm with some impassable. At least 1 vehicle was stalled on Taft AVE.

Jefferson County

1 N Bevil Oaks

07 2127CST 0 0 0.00K 0.00K Hail (1.00)

Quarter sized hail was reported in Bevil Oaks.

A warm and moist air mass lifted north from the gulf ahead of a cold front. Scattered storms developed during the afternoon with a couple becoming severe.

TXZ215

Jefferson

26 0900CST
 1200CST 0 0 0.00K 0.00K Astronomical Low Tide

A strong cold front moved across the coast during the 25th with strong north winds lingering into the 26th. The wind pushed the tide below -1 foot MLLW during the low tide on the 26th.

TEXAS, West

TXZ258

Guadalupe Mountains of Culberson County

09 1151MST
 1551MST 0 0 0.00K 0.00K High Wind

Northeast gap winds through Guadalupe Pass rose to 35 to 40 mph behind a cold front.

12 0951MST
 1051MST 0 0 0.00K 0.00K High Wind

Northeast gap winds rose to 35 to 40 mph in Guadalupe Pass behind a cold front.

22 2138MST
 0337MST 0 0 0.00K 0.00K High Wind

Strong westerly winds occurred in the Guadalupe Mountains as an upper level trough passed over the region.

24 1148MST
 0246MST 0 0 0.00K 0.00K High Wind

24 1238MST
 0338MST 0 0 0.00K 0.00K High Wind

24 1952MST
 0152MST 0 0 0.00K 0.00K High Wind

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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TEXAS, West

Strong westerly winds affected the Guadalupe Mountains due to a passing upper trough.

TXZ074-258

Davis/Apache Mountains Area - Guadalupe Mountains of Culberson County

30	1225CST 2338CST	0	0	0.00K	0.00K	High Wind
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Strong westerly winds mixed down in the Guadalupe and Davis Mountains as the base of a potent upper trough swept over the region.

UTAH, East

UTZ022>025-027> 029

Canyonlands/Natural Bridges - Eastern Uinta Basin - Eastern Uinta Mountains - Grand Flat and Arches - La Sal & Abajo Mountains - Southeast Utah - Tavaputs Plateau

01	0000MST	0	0	0.00K	0.00K	Drought
30	2359MST					

November 2018 was a great month for enhancing the snowpack as several disturbances moved across eastern Utah and produced significant early season snow accumulations. However, even with all the winter storms that moved into the region, November still ended up being drier than normal for the valleys. Nonetheless, several areas in northeast and southeast Utah saw a one category improvement in the drought classification.

UTZ023-025-028

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

29	1300MST	0	0	0.00K	0.00K	Winter Weather
30	1100MST					

A moist Pacific trough and associated cold front progressed eastward across the Great Basin and into the Four Corners region. This resulted in significant snowfall in the mountains of eastern Utah.

UTAH, West and Central

UTZ007-008

Wasatch Mountains I80 North - Wasatch Mountains South of I80

23	0500MST	0	0	0.00K	0.00K	Heavy Snow
24	1400MST					

UTZ005

Great Salt Lake Desert and Mountains/Wendover/Snowville

24	0500MST 0600MST	0	0	0.00K	0.00K	High Wind

A strong storm system moved through Utah on November 23 and 24, bringing snow and gusty winds. The heaviest snow fell over the mountains of northern Utah.

VERMONT, North and Central

VTZ003-006-012

Caledonia - Lamoille - Orleans - Windsor

03	1200EST 2000EST	0	0	250.0K	0.00K	Strong Wind

An intensifying storm system moved up the East coast during the day of November 3rd. As the storm passed through Maine into Newfoundland, strong west winds gusted to 35 to 45 mph. These strong winds combined with 1 to 2+ inches of rainfall contributed to numerous limbs and several trees down, especially in central-eastern VT, falling onto utility lines causing more than 10,000 outages.

VTZ003-006>007

Caledonia - Essex - Lamoille - Orleans

13	0000EST 1200EST	0	0	90.0K	0.00K	Winter Storm

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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VERMONT, North and Central

An area of low pressure moved from the Great Lakes on November 12th to off the New Jersey coast by the morning of November 13th before intensifying during the day. A wintry mix of rain and snow moved across NY and VT during the overnight of November 12th into the morning hours of the 13th. Precipitation fell mainly as rain and rain/snow mixed in the valleys with a wet, heavy snow above 1000 feet. Snowfall amounts ranged from 3 to 8 inches in the higher terrain and the dense, high water equivalent of the snow accounted for nearly 10,000 power outages in VT.

**VTZ001>003-005>
006-008>009-016>
018**

**Eastern Addison - Eastern Chittenden - Eastern Franklin - Grand Isle - Lamoille - Orleans - Washington -
Western Addison - Western Chittenden - Western Franklin**

15	2000EST				0	0	140.0K	0.00K	Winter Storm
16	1200EST								

**VTZ004-007-010>
012-019**

Caledonia - Eastern Rutland - Essex - Orange - Western Rutland - Windsor

15	2100EST				0	0	60.0K	0.00K	Winter Weather
16	1400EST								

A coastal low moved from off the southeast US coast on Thursday, November 15th to near New York City on November 16th. Snow developed across the area during the nighttime hours of November 15th and ended during by late morning of November 16th. In southern and eastern VT, precipitation changed to a rain/snow mix, thus lowering accumulations. A widespread 6 to 10 inches of snow fell across northwest and north central VT with 3 to 7 inches elsewhere. Numerous schools were closed and numerous vehicle accidents as well.

**VTZ003-006>008-
010-012-016>019**

**Caledonia - Eastern Addison - Eastern Chittenden - Eastern Franklin - Eastern Rutland - Essex - Lamoille -
Orange - Orleans - Washington - Windsor**

26	1600EST				0	0	875.0K	0.00K	Winter Storm
28	1200EST								

**VTZ001-005-009-
011**

Grand Isle - Western Addison - Western Chittenden - Western Franklin - Western Rutland

27	0000EST				0	0	80.0K	0.00K	Winter Weather
28	1200EST								

A storm that brought blizzard conditions to parts of the Midwest on Sunday, November 25th moved into the Ohio River Valley - Southern Great Lakes on 11/26. The storm slowed considerably in the eastern Great Lakes, thus allowing a secondary low pressure system to develop near the Delmarva Peninsula during the evening of 11/26 and proceeded to move to near Boston by the morning of November 27th.

Precipitation moved into the North Country by the afternoon of November 26th, falling as snow at elevations above 1500 feet and rain at lower elevations. By early morning of November 27th, the atmosphere cooled enough to allow for precipitation to changeover to snow. Highest snowfall totals at elevations above 1500 feet, where more than 12-15 inches fell. The heavy wet snow accounted for more than 40,000 outages, effecting 100,000 customers without power due to snow loading on power lines.

VERMONT, South

VTZ013>015

Bennington - Eastern Windham - Western Windham

03	1100EST				0	0	3.0K	0.00K	Strong Wind
	2000EST								

A low pressure system rapidly strengthened as it moved from eastern New York to New Brunswick on November 3rd, resulting in strong winds across the region. Over 1,400 people lost power in Windham County. Gusts up to 45 mph were recorded.

10	1200EST				0	0	1.0K	0.00K	Strong Wind
	2200EST								

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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VERMONT, South

VTZ014-015

Eastern Windham - Western Windham

10	1200EST 2200EST	0	0	2.0K	0.00K	Strong Wind
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A low pressure system quickly strengthened as it moved into Quebec on November 10th, resulting in the development of strong winds during the afternoon and evening hours in southern Vermont. Wind gusts were recorded as high as 41 mph.

15	1800EST	0	0	Winter Storm
16	1100EST			

VTZ015

Eastern Windham

15	1800EST	0	0	Winter Storm
16	1100EST			

VTZ013

Bennington

15	1800EST	0	0	Winter Weather
16	1100EST			

A strengthening coastal low pressure system moved along the Atlantic shoreline November 15th and 16th, bringing accumulating snow and mixed precipitation to southern Vermont. The snow spread in during the evening before changing to sleet and freezing rain overnight with minimal ice accretion. It changed back to snow during the morning hours of the 16th before ending. Overall, 3 to 8 inches of snow were recorded with the heaviest amounts over the higher terrain. The snow allowed many area ski hills to open earlier than normal for the season.

22	0100EST 1200EST	0	0	Cold/Wind Chill
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VTZ014

Western Windham

22	0100EST 1200EST	0	0	Cold/Wind Chill
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A frigid airmass arrived in the wake of an Arctic cold front on the 22nd, resulting in one of the coldest Thanksgivings on record for southern Vermont. Wind chill values fell to -15 to -25 degrees Fahrenheit during the morning of the 22nd, while high temperatures only reached the single digits and teens.

VTZ013-014

Bennington - Western Windham

26	1900EST	0	0	Winter Storm
28				

A low pressure system approaching from the southwest brought an area of rain and snow to southern Vermont on the 26th. Over the higher elevations primarily above 800 feet, the precipitation was mainly heavy, wet snow during the afternoon and evening hours, continuing overnight before tapering off in the late morning of the 27th. Additional snowfall occurred from the evening of the 27th to the evening of the 28th. Snowfall totals ranged mainly from one to two feet at elevations above 800 feet. The heavy, wet snow brought down numerous trees and powerlines, especially over higher elevations of Windham County, where up to 9,000 customers were without power into the 28th. It took until the following weekend for all customers to have their power restored. Two warming centers were opened as a result of the power outages. In addition, several automobile accidents occurred, and numerous schools were delayed or cancelled. One positive outcome of the snow was that several area ski hills got an early start to their season.

VIRGINIA, East

VAZ066-067

Lunenburg - Nottoway

02	1905EST 1925EST	0	0	2.0K	0.00K	Strong Wind
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Scattered showers along a frontal boundary produced strong winds across portions of south central Virginia.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
VIRGINIA, North										
Fairfax County 1 SSE Burke	05	1104EST 1500EST			0	0	0.00K	0.00K	Flood	
					Burke Road closed near Heritage Square Drive due to flooding.					
Fairfax County 2 S Kenmore	05	1104EST 1304EST			0	0	0.00K	0.00K	Flood	
					Old Courthouse Road closed near Besley Road due to flooding.					
Fairfax County 2 SSW Sunset Hills	05	1104EST 1304EST			0	0	0.00K	0.00K	Flood	
					Fox Mill Road closed near Steeplechase Drive due to flooding.					
Fairfax County Clarks Crossing	05	1104EST 1304EST			0	0	0.00K	0.00K	Flood	
					Lawyers Road closed near Hunter Mill Road due to flooding.					
Fairfax County 1 WSW Tremont	05	1104EST 1500EST			0	0	0.00K	0.00K	Flood	
					Woodburn Road closed due to flooding near intersection with Spicewood Drive.					
Fairfax County 2 NNW Vale	05	1300EST 1500EST			0	0	0.00K	0.00K	Flood	
					Fox Mill Road closed near Thoroughbred Road and between Westwood Hills Drive and Shady Mill Lane due to flooding.					
					A steady, soaking rain driven by isentropic ascent to the north of a warm front, occurred primarily during the morning hours of the 5th. Most locations received 1-2 inches of rainfall, which led to localized flooding.					
VAZ054-057					Arlington - King George					
	10	2200EST								
	11	0900EST			0	0				Frost/Freeze
					High pressure, clear skies, and light winds led to temperatures that fell below freezing.					
VAZ025-507>508					Augusta - Central Virginia Blue Ridge - Northern Virginia Blue Ridge - Rockingham					
	15	0300EST								
	16	0000EST			0	0				Winter Storm
VAZ036>038-503>504					Albemarle - Eastern Highland - Greene - Nelson - Western Highland					
	15	0300EST 0000EST			0	0				
					Winter Weather					
VAZ028>030					Frederick - Page - Warren					
	15	0500EST								
	16	0000EST			0	0				Winter Storm

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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VIRGINIA, North

**VAZ039-050>054-
501>502-506**

Arlington - Culpeper - Eastern Loudoun - Fairfax - Madison - Northern Fauquier - Orange - Prince William - Rappahannock - Southern Fauquier

15	0500EST				0	0				Winter Weather
	1500EST									

VAZ031-505

Clarke - Western Loudoun

15	0700EST				0	0				Winter Storm
16	0000EST									

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including heavy snow and mixed precipitation north of I-66 and west of I-81, and mainly rain in central Virginia.

Prince William County

3 SW Aden

15	1137EST				0	0	0.00K	0.00K	Flood	
16	1227EST									

The stream gage on Cedar Run at Aden exceeded the 10 foot flood stage during the indicated period, flooding Fleetwood Drive near Cedar Run. The peak level of 11 feet occurred at 8:36 AM on November 16th.

Culpeper County

2 NW Rapidan

15	1954EST				0	0	0.00K	0.00K	Flood	
	2354EST									

The stream gage on the Robinson River at Locust Dale exceeded the 11 foot flood stage during the indicated period. Water covered portions of Route 721 (Robinson River Road) and agricultural flooding occurred. The peak level of 11.54 feet occurred at 9:45 PM.

Prince William County

1 NNW Yorkshire

16	0400EST				0	0	0.00K	0.00K	Flood	
	0920EST									

The stream gage on the Bull Run at Manassas Park exceeded the 12 foot flood stage during the indicated period. Water covered backyards in the Yorkshire area and flooded portions of the Bull Run trail system. The peak level of 12.23 feet occurred at 7:00 AM.

A potent upper-level low approached the area from the Mississippi Valley as low pressure developed along the North Carolina coastline and moved north. Heavy precipitation (some of which fell in the form of snow) overspread the area during the morning of the 15th and lasted through the mid-afternoon hours, leading to some localized instances of flooding.

**VAZ025>031-036>
040-050-501-503>
505-507>508**

Albemarle - Augusta - Central Virginia Blue Ridge - Clarke - Eastern Highland - Frederick - Greene - Madison - Nelson - Northern Fauquier - Northern Virginia Blue Ridge - Orange - Page - Rappahannock - Rockingham - Shenandoah - Warren - Western Highland - Western Loudoun

24	0500EST				0	0				Winter Weather
	1300EST									

An area of low pressure developed along the Gulf Coast on the night of November 23rd, and tracked northeastward to the North and South Carolina coastlines during the daytime hours on the 24th, strengthening to around 990mb on the night of the 24th as it continued moving northeastward through the Delmarva to off the coast of New Jersey by the morning of the 25th. The system then began weakening on the 25th as it moved out into the western Atlantic Ocean. Widespread rain was brought to the region, along with a period of freezing rain and ice accumulations along and west of the Blue Ridge.

Fairfax County

1 NE Centreville

24	1745EST				0	0	0.00K	0.00K	Flood	
	1945EST									

Both eastbound lanes of Lee Highway were closed at Stringfellow Road due to floodwaters.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
VIRGINIA, North										
Fairfax County										
1 WSW Tremont	24	1746EST 1946EST			0	0	0.00K	0.00K	Flood	
Water rescue required after car became stranded in floodwaters on Woodburn Road at Accotink Creek.										
1 E Donovans Corner	24	1830EST 2030EST			0	0	0.00K	0.00K	Flood	
Burke Lake Road at Jeremiah Court was closed due to high water.										
Clarks Crossing	24	1830EST 2030EST			0	0	0.00K	0.00K	Flood	
Lawyers Road at Hunter Mill Road was closed due to high water.										
2 NNW Vale	24	1830EST 2030EST			0	0	0.00K	0.00K	Flood	
Fox Mill Road at Folkstone Drive was closed due to high water.										
1 SSE Burke	24	1830EST 2030EST			0	0	0.00K	0.00K	Flood	
Burke Road at Heritage Square Drive was closed due to high water.										
1 S Leesburg Muni	24	1942EST 2142EST			0	0	0.00K	0.00K	Flood	
Road closed due to high water at the intersection of Shreve Mill Road and Sycolin Road.										
1 NNW Yorkshire	24	2335EST								
	25	0856EST			0	0	0.00K	0.00K	Flood	
The stream gage on the Bull Run at Manassas Park exceeded the 12 foot flood stage during the indicated period. Water covered backyards in the Yorkshire area and flooded portions of the Bull Run trail system. The peak level of 13.48 feet occurred at 5:40 AM on the 25th.										
3 SSW Aden	25	0015EST 0853EST			0	0	0.00K	0.00K	Flood	
The stream gage on Cedar Run at Aden exceeded the 10 foot flood stage during the indicated period, flooding Fleetwood Drive near Cedar Run. The peak level of 10.48 feet occurred at 5:45 AM on November 25th.										
1 N Bristow	25	0054EST 0441EST			0	0	0.00K	0.00K	Flood	
The stream gage on the Broad Run at Bristow exceeded the 9.5 foot flood stage during the indicated period. Piper Lane flooded near Manassas Airport and trails along the stream were also flooded. The peak level of 10.93 feet occurred at 3:16 AM on the 25th.										
A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.										

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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VIRGINIA, North

VAZ503

Western Highland

28	0100EST 0900EST	0	0	Cold/Wind Chill
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A low pressure system moved up the eastern seaboard of the United States from November 26th through the 27th, with cold temperatures and strong northwest winds funneling behind the system from the night of the 27th into the morning of the 28th. This was able to produce wind chill values as low as -10 degrees over the higher terrain near the Allegheny Front.

VIRGINIA, Southwest

Halifax County

**3 NW Piney Grove
3 S Wests Store**

02	1814EST 1817EST	1.74	300	0	0	500.00K	Tornado (EF2)
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A Tornado touched down four miles east-southeast of Crystal Hill at 714 PM EST, traveled northeast, and lifted/dissipated four miles west-southwest of Mt. Laurel at 717 PM EST. At the maximum of its intensity, it caused EF2 level damage. Where the tornado touched down was wooded in the 1200 block of Hundley Road. Here, several large trees were uprooted, blown to the north. As the tornado tracked northeast at 40 to 45 mph, it blew several large bales of hay westward across Hundley Road. Farther along its path, the tornado completely lifted the roof of a porch off a single family home, blowing the debris nearly 200 feet to the north into nearby woods. Several large trees were both uprooted and snapped as well. Farther northeast when the storm reached its peak intensity, several mature 24-36 inch diameter pine trees were snapped while two nearby single family homes sustained significant roof damage. A car on one of the properties was crushed by falling trees. Additionally, when winds were estimated to be at 125 mph a roof was completely blown off a residence. Numerous mature trees on the same property snapped or uprooted with their debris blown in multiple directions. The tornado finally blew the roof off a nearby barn several hundreds yards to the north. Damage amounts are estimated. A Tornado touched down 4.0 miles east-southeast of Crystal Hill at 714 PM EST, traveled northeast, and lifted/dissipated 4 miles west-southwest of Mt. Laurel at 717 PM EST. At the maximum of its intensity, it caused EF2 level damage. Where the tornado touched down was wooded in the 1200 block of Hundley Road. Here, several large trees were uprooted, blown to the north. As the tornado tracked northeast at 40 to 45 mph, it blew several large bales of hay westward across Hundley Road. Farther along its path, the tornado completely lifted the roof of a porch off a single family home, blowing the debris nearly 200 feet to the north into nearby woods. Several large trees were both uprooted and snapped as well. Farther northeast when the storm reached its peak intensity, several mature 24-36 inch diameter pine trees were snapped while two nearby single family homes sustained significant roof damage. A car on one of the properties was crushed by falling trees. Additionally, when winds were estimated to be at 125 mph a roof was completely blown off a residence. Numerous mature trees on the same property snapped or uprooted with their debris blown in multiple directions. The tornado finally blew the roof off a nearby barn several hundreds yards to the north.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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VIRGINIA, Southwest



The roof was blown off this home as the Halifax County tornado reached EF2 classification. Photo courtesy of NWS Blacksburg, VA.

Danville (c) County

(KDAN)Danville Regional Airport 12 0500EST 0 0 0.00K 0.00K Heavy Rain
13

Danville Airport ASOS (DAN) measured 2.71 inches for November 12th, ending at midnight. This reading set a new daily maximum for November 12th, the previous record was 1.61 inches in 2004. It was also the 2nd highest daily rainfall in the month of November, after the 3.65 inches set on November 28, 1993. Climate records extend back to 1916 for the Danville area.

Halifax County

1 N Riverdale 12 0700EST 0 0 0.00K 0.00K Heavy Rain
13

The South Boston COOP station (SOBV2) measured 2.78 inches for the 24-hours ending at 0700 local time on the 13th. This daily amount was a record for the date (previous record 2.08 inches in 2004) and the 2nd highest on record for November at this site (record 6.55 inches on November 28, 1993). Records at this site began in 1980.

Pittsylvania County

1 WNW Chatham 12 0700EST 0 0 0.00K 0.00K Heavy Rain
13

The Chatham COOP station (CHMV2) measured 2.35 inches for the 24-hours ending at 700 AM local time on the 13th. This daily amount was a record for the date (previous record 1.81 inches in 1935) and the 8th highest on record in November at this site. Records at this location began in 1922.

Pittsylvania County

1 N Chatham 12 2125EST
3 S Pickaway 13 0325EST 0 0 0.00K 0.00K Flood

Several reports of flooded roads across Pittsylvania County were received. The Dan River was in flood across parts of the county as well.

Halifax County

1 W Halifax 12 2129EST
Piney Grove 13 0929EST 0 0 0.00K 0.00K Flood

Flooding was reported on 200 block of North Main Street in Halifax. Flooding was also reported on Route 610 near Crystal Hill where a bridge was closed, possibly due to flooding from Little Terrible Creek.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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VIRGINIA, Southwest

Halifax County

3 E News Ferry

13	0100EST								
18	1230EST				0	0	0.00K	0.00K	Flood

The Dan River at South Boston (SBNV2) crested at 26.05 feet late on the 14th, above the Moderate flood stage of 25 feet. Several roads are flooded near the river at this river level.

Danville (c) County

6 W Danville

13	0200EST								
14	1200EST				0	0	0.00K	0.00K	Flood

The Dan River at Danville (DVLV2) crested at 20.5 feet, right at the Moderate flood stage level on the morning of the 13th. Several roads near the river were affected. The river had a secondary rise above Minor flood stage on the 16th.

Halifax County

2 S Paces

13	0430EST								
17	1300EST				0	0	0.00K	0.00K	Flood

The Dan River at Paces (PCEV2) rose above flood stage twice from November 13-17, with a crest of 24.57 feet midday on the 14th, above the Moderate flood stage of 24 feet. Route 658 (Melon Road) is flooded and closed at this level. The river had a secondary rise above Minor flood stage on the 17th.

Low pressure tracked from the Gulf coast through the southeast initiating a prolonged period of moderate to heavy rain across parts of several counties, mainly in the Dan River basin. Some minor river and stream flooding occurred. 24-hour rainfall amounts ending at 700 AM local time on the November 13th saw 2 to 3 inches across parts of several counties. A second system on November 14-15 brought an additional 1 to 2 inches in roughly 48 hours ending at 7AM on the 16th, with the highest amounts over parts of the Dan and lower Roanoke (Staunton) river basins. This caused a double flood peak in many areas or maintained some rivers in flood for several more days.

VAZ015-019>020

Alleghany - Bath - Carroll - Grayson

14	2215EST								
15	1030EST				0	0	15.0K		Ice Storm

VAZ007-011>014-017>018-022-024

Craig - Floyd - Giles - Montgomery - Pulaski - Roanoke - Rockbridge - Tazewell - Wythe

15	0000EST								
	1200EST				0	0			Ice Storm

Southwest winds on the east side of an advancing area of low pressure brought warm and moist air across the region the night of November 14th into the morning of November 15th. This warm and moist air resulted in rain falling across the area, but falling through a shallow layer of below freezing air just above and at ground level, and onto surfaces also below freezing. The result was a freezing rain event that deposited a range of one-quarter to three-quarters inch of ice on trees, power lines, and roads. At one point, at least 34,000 customers were without power.

Halifax County

3 NNE Neals Corners 4 ENE Mt Laurel

16	1045EST								
18	0700EST				0	0	0.00K	0.00K	Flood

The Roanoke (Staunton) River at Randolph (RNDV2) crested above the Minor flood stage of 24 feet at 25.57 feet early on the 17th. At least one road near the river, Black Walnut Road, was closed due to the flooding.

Low pressure tracked from the Gulf coast through the southeast initiating a prolonged period of moderate to heavy rain across parts of several counties, mainly in the Dan River basin. Some minor river and stream flooding occurred. 24-hour rainfall amounts ending at 700 AM local time on the November 13th saw 2 to 3 inches across parts of several counties. A second system on November 14-15 brought an additional 1 to 2 inches in roughly 48 hours ending at 7AM on the 16th, with the highest amounts over parts of the Dan and lower Roanoke (Staunton) river basins. This caused a double flood peak in many areas or maintained some rivers in flood for several more days.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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WASHINGTON, Northeast

WAZ041
Wenatchee Area

02	0909PST				0	0	5.0K	0.00K	High Wind
	0910PST								

A strong cold front passed through the Cascades during the night of November 3rd and the morning of November 4th. Strong downsloping winds over the east slopes of the Cascades behind this front downed numerous trees in the Entiat, Leavenworth and Chelan areas with scattered power outages noted in the region. Higher elevation RAWs stations in the Cascades recorded wind gusts of 50 to 60 mph and these gusts apparently surfaced into the valleys immediately adjacent to the high terrain with a gust of 58 mph recorded at the Wenatchee airport. As the cold front crossed the Columbia Basin widespread wind gusts of 40 to 50 mph were noted.

04	0700PST				0	0	1.0K	0.00K	High Wind
	0800PST								

WAZ042
East Slopes Northern Cascades

04	1100PST				0	0	5.0K	0.00K	High Wind
	1300PST								

An active and progressive weather pattern continued through the first week in November as a strong westerly jet stream persisted over the Cascade Mountains. These stronger winds aloft occasionally surfaced especially in the overnight and morning hours into the downslope lee valleys of the Cascades east slopes. Toppled trees lead to scattered power outages in communities in these lower elevation valleys.

WAZ034
Moses Lake Area

22	0730PST				0	0	200.0K	0.00K	Winter Weather
	0800PST								

During the overnight hours of November 22nd light freezing rain was noted in Grant County. A number of automobile accidents including a fatal accident occurred. A bus carrying members of the University of Washington Band slid off Interstate 90 and rolled but fortunately there were no serious injuries among the passengers. In a separate incident an SUV slid off a road and rolled resulting in one fatality and 3 injuries.

29	0700PST				0	0	200.0K	0.00K	Dense Fog
	0900PST								

Areas of fog are common in the lower elevations of the Columbia Basin during the winter months. On the morning of November 29th dense fog formed along the Columbia River south of Mattawa. A driver attempted to pass another vehicle on a two lane road in this fog and ran into an oncoming semi truck.

WASHINGTON, Northwest

WAZ513-567>569
Cascades Of Pierce And Lewis Counties - Cascades Of Snohomish And King Counties - Cascades Of Whatcom And Skagit Counties - Olympics

22	0200PST				0	0	0.00K	0.00K	Heavy Snow
23	1600PST								

Heavy snow fell in the Cascades and Olympics. This was the first event of the season, so warnings were issued even though warning criteria were not necessarily forecast.

WAZ001-503
San Juan - Western Whatcom

26	1021PST				0	0	0.00K	0.00K	High Wind
	1324PST								

There was brief high wind in the northwest interior.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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WASHINGTON, Southeast

WAZ520

East Slopes Of The Washington Cascades

23	1742PST 2123PST			0	0					Winter Weather
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Four inches of slushy snow accumulation fell at Hyak, just below Snoqualmie pass. This was the first significant snow for the pass this winter and multiple spin-outs resulted in Interstate 90 being closed in both directions for 2 hours.

WASHINGTON, Southwest

WAZ021

South Coast

26	1845PST			0	0					High Wind
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A strong cold front moved onto the coast, bringing high winds, mainly to beaches and headlands along the coast.

WEST VIRGINIA, East

WVZ505-506

Eastern Pendleton - Western Pendleton

15	0300EST			0	0					Winter Weather
16	0000EST			0	0					Winter Weather
15	0500EST			0	0					Winter Storm
16	0000EST			0	0					Winter Storm
24	0500EST 1100EST			0	0					Winter Weather
24	0700EST 1500EST			0	0					Winter Storm
24	0700EST 1300EST			0	0					Winter Weather
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		

WVZ050>053-055-501>504 **Berkeley - Eastern Grant - Eastern Mineral - Hampshire - Hardy - Jefferson - Morgan - Western Grant - Western Mineral**

15	0500EST			0	0					Winter Storm
16	0000EST			0	0					Winter Storm
24	0700EST 1500EST			0	0					Winter Storm
24	0700EST 1300EST			0	0					Winter Weather
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including heavy snow and mixed precipitation.

WVZ505-506

Eastern Pendleton - Western Pendleton

24	0500EST 1100EST			0	0					Winter Weather
24	0700EST 1500EST			0	0					Winter Storm
24	0700EST 1300EST			0	0					Winter Weather
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		

WVZ502>504 **Eastern Grant - Eastern Mineral - Western Mineral**

24	0700EST 1500EST			0	0					Winter Storm
24	0700EST 1300EST			0	0					Winter Weather
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		

WVZ050>053-055-501 **Berkeley - Hampshire - Hardy - Jefferson - Morgan - Western Grant**

24	0700EST 1300EST			0	0					Winter Weather
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		

An area of low pressure developed along the Gulf Coast on the night of November 23rd, and tracked northeastward to the North and South Carolina coastlines during the daytime hours on the 24th, strengthening to around 990mb on the night of the 24th as it continued moving northeastward through the Delmarva to off the coast of New Jersey by the morning of the 25th. The system then began weakening on the 25th as it moved out into the western Atlantic Ocean. Widespread rain was brought to the region, along with a period of freezing rain and ice accumulations.

Berkeley County

**2 WSW Vanclavesville
1 WSW Blairton**

25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		
25	0630EST 1201EST			0	0	0.00K	0.00K	Flood		

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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WEST VIRGINIA, East

The river gage on the Opequon Creek at Martinsburg exceeded the 10 foot flood stage during the indicated period, leading to flooding along portions of Douglas Grove Road (County Road 9/16) and Bowers Road. Additionally, water covered the stream access point at the Van Metre Ford Pedestrian Bridge. The peak level of 10.32 feet occurred at 9:30 AM on the 25th.

A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.

WVZ501-505

Western Grant - Western Pendleton

27	1900EST									
28	1000EST				0	0				Winter Weather

Gusty northwest flow behind a departing low pressure system combined with lingering low level moisture and elevated terrain to generate up-slope snow showers along and near the Allegheny Front from the afternoon of November 27th into the morning of the 28th.

WVZ505

Western Pendleton

28	0100EST									
	0900EST				0	0				Cold/Wind Chill

A low pressure system moved up the eastern seaboard of the United States from November 26th through the 27th, with cold temperatures and strong northwest winds funneling behind the system from the night of the 27th into the morning of the 28th. This was able to produce wind chill values as low as -10 degrees over the higher terrain near the Allegheny Front.

WEST VIRGINIA, North

WVZ512>514

Eastern Preston - Eastern Tucker - Western Tucker

14	1447EST									
16	0100EST				0	0	0.00K	0.00K		Winter Storm

WVZ001-004-510

Brooke - Hancock - Marshall - Ridges Of E Monongalia And Nw Preston

14	1447EST									
16	0100EST				0	0	0.00K	0.00K		Winter Weather

Cold surface temperatures were already in place across the region at least 24 hours leading up to this event. Surface high pressure allowed high temperatures to only reach near freezing while low temperatures bottomed out in the mid-20s. A closed upper level low formed just north of Texas on November 14th and tracked northeast. An abundant amount of moisture from the Gulf of Mexico traveled with the system into the northeast United States. Freezing rain eventually transitioned to snow when northwest flow began on the backside of the surface low. Four to seven inches of snow was measured north of I-80 and in the higher elevations, meanwhile 1 to 3 inches of snow happened elsewhere.

WEST VIRGINIA, Southeast

WVZ042>044-508

Mercer - Monroe - Summers - Western Greenbrier

14	2300EST									
15	1330EST				0	0	5.0K	0.00K		Ice Storm

Southwest winds on the east side of an advancing area of low pressure brought warm and moist air across the region the night of November 14th into the morning of November 15th. This warm and moist air resulted in rain falling across the area, but falling through a shallow layer of below freezing air just above and at ground level, and onto surfaces also below freezing. The result was a freezing rain event that deposited up to one-quarter of an inch of ice on trees, power lines, and roads. At least 12,000 customers were out of power because of the ice.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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WEST VIRGINIA, West

WVZ005-013>015

Cabell - Kanawha - Lincoln - Putnam - Wayne

06	0200EST			0	0	50.0K	0.00K	Strong Wind
	0400EST							

A cold front crossed the middle Ohio River Valley and central Appalachians early on the 6th. There was little to no lightning, but a line of showers just ahead of the front contained some strong wind gusts. The strongest winds occurred in a bowing shower segment that crossed from Wayne and Cabell Counties into Lincoln, Putnam and Kanawha Counties before fading out. This blew down trees and caused nearly 10,000 power outages across the southwestern part of the state. The 6th was Election Day, and generators had to be placed at some polling stations to run the voting equipment before power was restored. Yeager Airport measured the highest wind gust, 48 mph, with many other measurements topping out in the 35-45 mph range.

**WVZ516-518-523-
526**

Northwest Pocahontas - Southeast Fayette - Southeast Pocahontas - Southeast Raleigh - Southeast Randolph

15	0200EST			0	0	100.0K	0.00K	Ice Storm
	1500EST							

A strong low pressure moved up the East Coast on the 15th. Cold air was pushed up against the eastern slopes of the Appalachians, with warmer air flowing in aloft. This lead to a period of freezing rain across the eastern slopes. Around a quarter inch of ice accumulated on trees and power lines across parts of Fayette, Pocahontas, Raleigh, and Randolph counties. For example, 0.33 was measured by a trained spotter in Cool Ridge in the far eastern part of Raleigh County, and the ASOS at the Raleigh County airport accumulated 0.34 on its sensor. A quarter of an inch accumulated in Bowden in Randolph County, and 0.30 in Marlinton in Pocahontas County. This lead to widespread power outages, Raleigh County was hit especially hard with over 8000 customers without power. Some had to wait several days to service to be restored.

WISCONSIN, Northeast

WIZ005

Vilas

09	1600CST			0	0	0.00K	0.00K	Heavy Snow
10	0400CST							

Heavy snow fell in Vilas County as cold air, circulating around a departing low pressure system, passed over the much warmer waters of Lake Superior. The lake effect snow showers brought an estimated 8 inches of new snow to the northwest part of the county near the Michigan border. A total of 6 inches of new snow was measured at Rest Lake.

WISCONSIN, Northwest

WIZ003-004

Ashland - Iron

09	1400CST			0	0	0.00K	0.00K	Heavy Snow
	0700CST							

The lake effect snow of November 9-10 was the first major event along western Lake Superior for the season. Most of the snow fell during the afternoon and evening of the 9th before ending during the early morning hours of the 10th. Snow amounts varied widely from 6 to 24 inches. The heaviest areas were around Mellon in central Ashland County where 10 fell while Gile in northern Iron County recorded 24.1. Other notable totals were 12 in Hurley and 9 at the Bayfield Fish Hatchery.

WISCONSIN, Southeast

WIZ072

Kenosha

15	1030CST			0	0	0.00K	0.00K	Winter Weather
	1600CST							

A narrow band of snow from low pressure moving across the Ohio River Valley resulted in numerous slide-offs and accidents in Kenosha County.

WIZ070>072

Kenosha - Racine - Walworth

25	1500CST			0	0	5.0K	0.00K	Winter Storm
26	0600CST							

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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WISCONSIN, Southeast

WIZ065-069

Milwaukee - Rock - Waukesha

25	1800CST									
26	0300CST				0	0	0.00K	0.00K	Winter Weather	

Strong low pressure moving from Missouri to northwest Ohio brought heavy snow and strong winds to far southeast Wisconsin. Winds gusted to 45-53 mph near Lake MI with wind gusts of 30-40 mph inland. 6-10 inches of snow accumulated over much of Kenosha County and southeast Walworth County where schools were cancelled. Thousands of people were without power due to the strong winds damaging tree limbs and power lines especially in Pleasant Prairie. Some vehicle slide-offs and accidents occurred.

WYOMING, Central and West

WYZ002-019-030

Absaroka Mountains - East Sweetwater County - Green Mountains & Rattlesnake Range

02	1125MST									
	1737MST				0	0	0.00K	0.00K	High Wind	

A cold front moving across Wyoming mixed strong mid level winds to the surface and brought high winds to portions of central Wyoming. Some of the highest wind gusts included 80 mph at Chief Joseph and 76 mph at Camp Creek.

WYZ012-024

Salt River & Wyoming Ranges - Teton & Gros Ventre Mountains

04	0500MST									
	2100MST				0	0	0.00K	0.00K	Winter Storm	

A Pacific cold front moved across western Wyoming and brought heavy snow to the Tetons as well as the Salt and Wyoming Ranges. Some of the highest snowfall amounts included 16 inches at Grand Targhee and 12 inches at Spring Creek Divide.

WYZ001-012>013-025

Absaroka Mountains - Jackson Hole - Teton & Gros Ventre Mountains - Upper Green River Basin Foothills - Yellowstone National Park

23	1500MST									
24	1600MST				0	0	0.00K	0.00K	Winter Storm	

WYZ003-005-015-030

Cody Foothills - East Sweetwater County - Southwest Big Horn Basin - Wind River Mountains East

24	0000MST									
	1600MST				0	0	0.00K	0.00K	Winter Storm	

A cold front swept across western and central Wyoming from Friday into Saturday and brought heavy snow and difficult travel conditions to many areas. The heaviest snow fell in Absarokas where 21 inches fell in Pahaska. A foot or more of new snow also fell in portions of Yellowstone Park and the Tetons. The heaviest snow in the lower elevations fell in northern Wyoming. Some notable amounts include 10 inches at Bondurant, 9 inches in Cody and 10 inches in Thermopolis. Even in areas that received less snow, the combination of snow, gusty wind and black ice from rapidly falling temperatures brought very difficult travel conditions. Interstates 25 and 80 were shut down for a time, as well South Pass over the Wind River Mountains.

WYOMING, Southeast

WYZ103-106>107-109>110-115>118

Central Carbon County - Central Laramie County - Central Laramie Range And Southwest Platte County - East Platte County - Ferris/seminoel/shirley Mountains - Laramie Valley - North Laramie Range - North Snowy Range Foothills - South Laramie Range - South Laramie Range Foothills

02	1045MST									
	2125MST				0	0	0.00K	0.00K	High Wind	

Strong winds blew across many of the wind prone areas of southeastern Wyoming in addition to the mountain valleys and foothills along the high plains. Winds generally were gusting into the mid 60 mph range though some sites reached into the middle 70 mph range.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
WYOMING, Southeast										
WYZ114		Snowy Range								
	03	0100MST								
	05	0200MST			0	0				Heavy Snow
WYZ115		Laramie Valley								
	03	0800MST								
	04	1600MST			0	0				High Wind
WYZ112		Sierra Madre Range								
	03	1800MST								
	05	0200MST			0	0				Heavy Snow
WYZ106-110-116-117		Central Laramie Range And Southwest Platte County - North Snowy Range Foothills - South Laramie Range - South Laramie Range Foothills								
	04	0600MST								
		1800MST			0	0				High Wind
	04	1700MST								
	05	0100MST			0	0	0.00K	0.00K		Winter Storm
	09	2035MST								
	10	0005MST			0	0				High Wind
WYZ115		Laramie Valley								
	09	2330MST								
	10	0055MST			0	0				High Wind
	Strong winds blew across the wind prone areas in southeastern Wyoming. Wyoming Department of Transportation sensors along Interstate 80 from Elk Mountain to Laramie had sustained winds into the 50 mph range and gusts as high as 69 mph.									
WYZ106-116		Central Laramie Range And Southwest Platte County - South Laramie Range								
	15	2300MST								
	16	1200MST			0	0				High Wind
	Strong winds blew across portions of southeastern Wyoming with the winds coming off the Laramie Range near Vedauwoo and Bordeaux. Nearby Wyoming Department of Transportation sensors measured sustained winds of over 40 mph and gusts in the upper 50s and even to 60 mph.									
WYZ103-105>108-110-114-116		Central Laramie Range And Southwest Platte County - East Platte County - Goshen County - North Laramie Range - North Snowy Range Foothills - Shirley Basin - Snowy Range - South Laramie Range								
	16	1700MST								
	17	1900MST			0	0				Heavy Snow
WYZ116		South Laramie Range								
	16	1700MST								
	17	2000MST			0	0				Winter Storm

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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WYOMING, Southeast

Periods of heavy snow blanket and freezing drizzle covered the ground across portions of southeast Wyoming. Freezing drizzle of a few hundredths of an inch coated surfaces and roadways across the city of Cheyenne.

WYZ106

Central Laramie Range And Southwest Platte County

18	0820MST				0	0			High Wind
	1330MST								

Strong winds with gusts into the upper 60 mph range blew off the Central Laramie Range where a Wyoming Department of Transportation sensor along Interstate 25 at Bordeaux measured the strongest wind gust during the period at 67 mph.

WYZ112-114

Sierra Madre Range - Snowy Range

22	0500MST				0	0			Heavy Snow
24	2200MST								

WYZ107-110-116> 118

Central Laramie County - East Platte County - North Snowy Range Foothills - South Laramie Range - South Laramie Range Foothills

23	0307MST				0	0			High Wind
	1230MST								

WYZ103

North Laramie Range

23	1000MST				0	0			Heavy Snow
24	2200MST								

WYZ106-119

Central Laramie Range And Southwest Platte County - East Laramie County

23	1045MST				0	0			High Wind
	1600MST								

WYZ102-105-108- 109

Central Carbon County - Goshen County - Niobrara County - Shirley Basin

24	0000MST				0	0			Heavy Snow
	0700MST								

Strong winds were measured and felt across much of southeastern Wyoming. Several locations across the wind prone areas and high plains had gusts into the middle 60 to middle 70 mph range. Heavy snow followed closely behind the high winds with reports of heavy snow for much of the western mountains and northern high plains. Snow totals in the mountains of the Sierra Madre and Snowy Ranges in the 20 to even up to 60 inches of new snowfall. Areas in the High Plains received half a foot of snow to a foot and half in some places.

WYZ110-116-117

North Snowy Range Foothills - South Laramie Range - South Laramie Range Foothills

27	0700MST				0	0			High Wind
28	0500MST								

Strong winds blew across the wind prone areas of southeast Wyoming with sustained winds reaching upwards of 47 mph and gusts into the upper 60s.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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GULF OF MEXICO

GMZ275

Matagorda Ship Channel to Point Aransas TX 20 to 60nm

01	0000CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind
	0020CST								

A line of thunderstorms produced wind gusts to around 35 knots across the Gulf waters of the Middle Texas coast during the early morning hours of November 1st.

GULF OF MEXICO

GMZ452

Intracoastal City LA to Cameron LA out 20nm

01	0136CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind

A line of thunderstorms pushed off the coast of Louisiana during the early morning hours of the first. Strong wind gusts resulted.

GULF OF MEXICO

GMZ550-572

Coastal Waters From Southwest Pass Of The Mississippi River To Port Fourchon Louisiana From 20 To 60 Nm - SW Pass of the Mississippi River to Atchafalaya River LA out 20nm

01	0155CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind
	0300CST								

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

GULF OF MEXICO

GMZ455

Atchafalaya River to Intracoastal City LA out 20nm

01	0300CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind

A line of thunderstorms pushed off the coast of Louisiana during the early morning hours of the first. Strong wind gusts resulted.

GULF OF MEXICO

GMZ572

Coastal Waters From Southwest Pass Of The Mississippi River To Port Fourchon Louisiana From 20 To 60 Nm

01	0335CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

GULF OF MEXICO

GMZ475

Atchafalaya River to Intracoastal City LA 20 to 60nm

01	0355CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind

A line of thunderstorms pushed off the coast of Louisiana during the early morning hours of the first. Strong wind gusts resulted.

GULF OF MEXICO

GMZ532-534-550

Lake Borgne - Mississippi Sound - SW Pass of the Mississippi River to Atchafalaya River LA out 20nm

01	0400CST				0	0	0.00K	0.00K	Marine Thunderstorm Wind
	0424CST								

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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GULF OF MEXICO

GMZ631

South Mobile Bay

01 0424CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
A line of strong to severe storms moves across the marine area and produced high winds.

GULF OF MEXICO

GMZ532-534-552

Coastal Waters From Southwest Pass Of The Mississippi River To Port Fourchon Louisiana Out 20 Nm - Lake Borgne - Mississippi Sound

01 0430CST
 0455CST 0 0 0.00K 0.00K Marine Thunderstorm Wind

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

GULF OF MEXICO

GMZ630

Mobile Bay

01 0621CST
 0623CST 0 0 25.0K 0.00K Marine Thunderstorm Wind

A line of strong to severe storms moves across the marine area and produced high winds.

GULF OF MEXICO

GMZ555-572

Coastal Waters From Southwest Pass Of The Mississippi River To Port Fourchon Louisiana From 20 To 60 Nm - Pascagoula MS to SW Pass of MS River out 20nm

01 0624CST
 0642CST 0 0 0.00K 0.00K Marine Thunderstorm Wind

Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

GULF OF MEXICO

GMZ044

Hawk Channel From West End Of Seven Mile Bridge To Halfmoon Shoal Out To The Reef

01 0701EST
 0721EST 0 0 0.00K 0.00K Waterspout

Isolated waterspouts occurred near the lower Florida Keys, associated with isolated showers moving northwest along the southern periphery of a high pressure ridge.

GULF OF MEXICO

GMZ555

Pascagoula MS to SW Pass of MS River out 20nm

01 0715CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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GULF OF MEXICO

GMZ634

Pensacola Bay Area Including Santa Rosa Sound

01	0742CST 0744CST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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A line of strong to severe storms moves across the marine area and produced high winds.

GULF OF MEXICO

GMZ577

Coastal Waters From Pascagoula Mississippi To Stake Island Louisiana From 20 To 60 Nm

01	0755CST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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Deepening low pressure moving through the Lower Mississippi River Valley into the Ohio River Valley pushed a cold front through southeast Louisiana and southern Mississippi on the 1st. Severe thunderstorms developed in advance of the front, producing numerous reports of severe weather, including several tornadoes.

GULF OF MEXICO

GMZ635-650-655

Choctawhatchee Bay - Destin to Pensacola FL out 20nm - Pensacola FL to Pascagoula MS out 20nm

01	0850CST 1020CST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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A line of strong to severe storms moves across the marine area and produced high winds.

GULF OF MEXICO

GMZ750

Apalachicola to Destin FL out 20nm

01	1230EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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A couple of lines of strong thunderstorms moved along the coast and just offshore with strong wind gusts in excess of 34 knots.

GULF OF MEXICO

GMZ044

Hawk Channel From West End Of Seven Mile Bridge To Halfmoon Shoal Out To The Reef

01	1336EST	0	0	0.00K	0.00K	Waterspout
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Isolated waterspouts occurred near the lower Florida Keys, associated with isolated showers moving northwest along the southern periphery of a high pressure ridge.

GULF OF MEXICO

GMZ755

Suwannee River to Apalachicola FL out 20nm

01	1434EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
02	0859EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
02	0921EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind

A couple of lines of strong thunderstorms moved along the coast and just offshore with strong wind gusts in excess of 34 knots.

GULF OF MEXICO

GMZ830-853-856

Bonita Beach to Englewood FL out 20nm - Englewood to Tarpon Springs FL out 20nm - Tampa Bay

02	1354EST 1642EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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A strong cold front pushed through the Florida peninsula during the afternoon hours on the 2nd. A squall-line associated with the front produced widespread gusty winds over the Gulf waters.

Storm Data and Unusual Weather Phenomena

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

GMZ656

Chokoloskee to Bonita Beach FL out 20nm

02 1720EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
A cold front moving through the region produced showers and thunderstorms ahead of the frontal passage. These showers and storms developed over the Gulf waters and moved towards the coast. A few of these storms produced gusty winds over the Gulf.

GULF OF MEXICO

GMZ035-042

Gulf Of Mexico From West End Of Seven Mile Bridge To Halfmoon Shoal Out To 5 Fathoms - Hawk Channel From Ocean Reef To Craig Key Out To The Reef

02 1801EST 2135EST 0 0 0.00K 0.00K Marine Thunderstorm Wind

Isolated thunderstorms associated with a pre-frontal trough of low pressure moving southeast through the southeast Gulf of Mexico produced isolated gale-force wind gusts.

GULF OF MEXICO

GMZ634

Pensacola Bay Area Including Santa Rosa Sound

12 0722CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
An area of low pressure moving across the northern Gulf along with a northward moving warm front combined to generate thunderstorms across the area.

GULF OF MEXICO

GMZ555

Pascagoula MS to SW Pass of MS River out 20nm

12 0915CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Low pressure moved from Texas into the Middle Mississippi River Valley during the 11th and 12th. This storm system produced strong thunderstorms over the coastal waters.

GULF OF MEXICO

GMZ750

Apalachicola to Destin FL out 20nm

12 1324EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Strong thunderstorms moved along the coast and just offshore with strong wind gusts in excess of 34 knots.

GULF OF MEXICO

GMZ555

Pascagoula MS to SW Pass of MS River out 20nm

12 1336CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Low pressure moved from Texas into the Middle Mississippi River Valley during the 11th and 12th. This storm system produced strong thunderstorms over the coastal waters.

GULF OF MEXICO

GMZ655

Destin to Pensacola FL out 20nm

12 1525CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
An area of low pressure moving across the northern Gulf along with a northward moving warm front combined to generate thunderstorms across the area.

November 2018

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	November 2018 Character of Storm
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GULF OF MEXICO

GMZ577

Coastal Waters From Pascagoula Mississippi To Stake Island Louisiana From 20 To 60 Nm

12 1535CST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Low pressure moved from Texas into the Middle Mississippi River Valley during the 11th and 12th. This storm system produced strong thunderstorms over the coastal waters.

GULF OF MEXICO

GMZ755

Suwannee River to Apalachicola FL out 20nm

26 0736EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Strong winds associated with thunderstorms moved across the coastal waters ahead of a cold front.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ651

Deerfield Beach to Ocean Reef FL

02 1454EST 0 0 0.00K 0.00K Waterspout
Southerly wind flow ahead of a cold front allowed for abundant moisture to be pumped into the region. With high precipitable water values showers and storms were able to develop over the Atlantic waters. One of these showers was able to produce a waterspout offshore Broward County.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ550-552-555

Cocoa Beach to Jupiter Inlet FL out 20nm - Flagler Beach to Cocoa Beach FL out 20nm - Volusia-Brevard County Line to Sebastian Inlet 0 to 20nm

02 1609EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
1700EST

A strong cold front was moving across the Florida peninsula as a strong mid to upper level trough pushed across the southeast United States. Ahead of the front, a fast moving pre-frontal band of showers and thunderstorms became well organized over the eastern Gulf of Mexico before pushing onshore near the Tampa Bay area. Daytime heating and sufficient deep layer moisture meant high instability was present over the peninsula to sustain strong to severe thunderstorms. As the line pushed into east central Florida it became disorganized, yet produced strong wind gusts across the Orlando Metro area. As the line reached the coast, it became more organized and produced strong wind gusts along the intracoastal waters of Brevard and Volusia counties. Across the Treasure Coast, additional strong thunderstorms developed ahead of the front and also produced strong wind gusts in Indian River, Saint Lucie, and Martin counties.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ454

St. Augustine to Flagler Beach FL out 20nm

02 1700EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
A pre-frontal squall line of strong to isolated severe storms moved across NE FL during the afternoon. Strong speed shear and surface based instability produced damaging winds in the strongest storms.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ572

Volusia-Brevard County Line To Sebastian Inlet 20-60nm

02 1740EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
A strong cold front was moving across the Florida peninsula as a strong mid to upper level trough pushed across the southeast United States. Ahead of the front, a fast moving pre-frontal band of showers and thunderstorms became well organized over the eastern Gulf of Mexico before pushing onshore near the Tampa Bay area. Daytime heating and sufficient deep layer moisture meant high instability was present over the peninsula to sustain strong to severe thunderstorms. As the line pushed into east central Florida it became disorganized, yet produced strong wind gusts across the Orlando Metro area. As the line reached the coast, it became more organized and produced strong wind gusts along the intracoastal waters of Brevard and Volusia counties. Across the Treasure Coast, additional strong thunderstorms developed ahead of the front and also produced strong wind gusts in Indian River, Saint Lucie, and Martin counties.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	November 2018 Character of Storm
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ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ610 **Lake Okeechobee**
 02 1745EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
 A cold front moving through the region produced showers and thunderstorms ahead of the frontal passage. These showers and storms moved over the Lake Okeechobee producing gusty winds.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ452 **Fernandina Beach to St. Augustine FL out 20nm**
 09 1850EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
 Dominant west coast sea breeze over a moderately unstable airmass ahead of a cold front across southern GA triggered a few late afternoon thunderstorms.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ572 **Volusia-Brevard County Line To Sebastian Inlet 20-60nm**
 12 1130EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
 As heavy showers with gusty winds spread well offshore the coast of central Florida, a weather buoy measured strong winds.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ130-135-154-158 **Albemarle Sound - Cape Hatteras to Ocracoke Inlet NC out 20nm - Cape Lookout to Surf City NC out 20nm - Pamlico Sound**
 13 0430EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
 0730EST
 Strong to severe thunderstorms moved through the coastal waters and sounds, producing marine thunderstorm wind gusts.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ651 **Deerfield Beach to Ocean Reef FL**
 13 0950EST 0 0 0.00K 0.00K Waterspout
 High pressure across the region with ample moisture across South Florida. Scattered showers developed over the Atlantic waters in the morning. One of these showers produced a waterspout near Pompano Beach.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ555 **Cocoa Beach to Jupiter Inlet FL out 20nm**
 13 1500EST 0 0 0.00K 0.00K Waterspout
 Martin County Emergency Management and local media relayed reports of a waterspout near Jensen Beach.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ452 **Fernandina Beach to St. Augustine FL out 20nm**
 14 2035EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
 Thunderstorms developed in advance of an area of low pressure the crossed the local area from the Gulf of Mexico.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ555 **Cocoa Beach to Jupiter Inlet FL out 20nm**
 19 1053EST 0 0 0.00K 0.00K Waterspout
 1102EST
 Two waterspouts were observed by life guards and a off-duty TV meteorologist over the Atlantic, offshore the Martin County coast. The waterspouts developed near isolated showers which formed along a marine cloud boundary.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm	November 2018
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ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ552

Volusia-Brevard County Line to Sebastian Inlet 0 to 20nm

20 1115EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
A cluster of thunderstorms moved off northern Merritt Island and crossed the southern portion of Mosquito Lagoon and the Canaveral National Seashore before exiting into the Atlantic. Wind gusts of 35 mph were recorded.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ650

Jupiter Inlet to Deerfield Beach FL out 20nm

20 1200EST 0 0 0.00K 0.00K Waterspout
A cold front approaching the region allowed for showers and storms to develop ahead of the front. Scattered showers moved over the Atlantic waters in the late morning and afternoon hours. One of these showers produced a waterspout off shore Palm Beach.
22 0940EST 0 0 0.00K 0.00K Waterspout
A cold front moved through the region stalling in the Florida Straits. Lingering moisture across the region allowed for a few showers to develop over the Atlantic waters. One of these weak showers produced a waterspout offshore the Deerfield Beach Pier.

ATLANTIC, Caribbean Sea and Tropical Atlantic

AMZ135

Pamlico Sound

24 1450EST 0 0 0.00K 0.00K Marine Thunderstorm Wind
Strong to severe thunderstorms moved through the coastal waters and Pamlico Sound.

ATLANTIC, North

ANZ531>533-535> 538-541

Chesapeake Bay North Beach to Drum Point MD - Chesapeake Bay Poole's Island to Sandy Point MD - Chesapeake Bay Sandy Point to North Beach MD - Choptank River To Cambridge Md And The Little Choptank River - Patapsco River Including Baltimore Harbor - Tidal Potomac Cobb Island MD to Smith Point VA - Tidal Potomac Indian Head to Cobb Island MD - Tidal Potomac Key Bridge to Indian Head MD

02 2014EST 2218EST 0 0 Marine Thunderstorm Wind

A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd. A squall line developed along the cold front, and while instability was limited, deep and low level shear were strong enough to support the development of a quasi-linear convective system. This produced gusty winds across the waters.

ATLANTIC, North

ANZ237

Block Island Sound

03 1300EST 1500EST 0 0 Marine High Wind

Low pressure over New York City early in the morning on November 3rd rapidly intensified as it moved northeastward across New England. Heavy rain occurred in the early morning hours, with generally 1.50 to 2.50 inches in eastern sections of southern New England and up to 3.66 inches in the slopes of the Berkshires. A few severe thunderstorms moved from Rhode Island into eastern Massachusetts around daybreak. As the strong low passed to our north, strong to damaging westerly winds developed during the afternoon.

ATLANTIC, North

ANZ531-536

Chesapeake Bay Poole's Island to Sandy Point MD - Chesapeake Bay Sandy Point to North Beach MD - Tidal Potomac Indian Head to Cobb Island MD

06 0959EST 1200EST 0 0 Marine Thunderstorm Wind

Mild and moist air with limited instability moved across the region ahead of an eastward moving cold front. This combined with high amounts of wind shear to create a squall line that moved across the waters, producing gusty winds.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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ATLANTIC, North

ANZ630>632-634-636

Chesapeake Bay From Little Creek - Chesapeake Bay New Point Comfort to Cape Henry VA - Chesapeake Bay Smith Point to Windmill Point VA - Chesapeake Bay Windmill Point to New Point Comfort VA - York River

06	1342EST 1434EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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Scattered showers and thunderstorms in advance of a cold front produced gusty winds across portions of the Chesapeake Bay.

ATLANTIC, North

ANZ533-536>537-543

Chesapeake Bay Drum Point to Smith Point VA - Chesapeake Bay North Beach to Drum Point MD - Tangier Sound And The Inland Waters Surrounding Bloodsworth Island - Tidal Potomac Cobb Island MD to Smith Point VA - Tidal Potomac Indian Head to Cobb Island MD

24	1700EST 1854EST	0	0	0.00K	0.00K	Marine Thunderstorm Wind
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A low pressure system moved up the east coast of the United States on November 24th with the warm sector of the system moving across the waters during the late day hours. This generated a limited amount of instability which combined with high levels of wind shear to produce gusty showers.

LAKE MICHIGAN

LMZ221

Bay of Green Bay North of Line from Cedar River MI to Rock Island Passage

04	1520EST 1530EST	0	0	0.00K	0.00K	Marine High Wind
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A low pressure system lifting northeast from the Plains into the Upper Great Lakes generated storm force winds at Minneapolis Shoal Light on the bay of Green Bay on the 4th.

VIRGIN ISLANDS

**St. Thomas County
1 SSE St Thomas**

08	0755AST 1245AST	0	0	0.00K	0.00K	Flash Flood
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VITEMA director notified about urban flooding along Veterans Dr. road in Charlotte Amalie.

**St. Thomas County
2 ESE St Thomas**

08	0915AST 1245AST	0	0	0.00K	0.00K	Flash Flood
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Major roads in downtown Charlotte Amalie in S.t Thomas flooded with few areas impassable.

**St. John County
4 W St John**

08	0920AST 1245AST	0	0	0.00K	0.00K	Flash Flood
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Major roads in Downtown Cruz Bay, St. John, flooded with few ares impassable.

Advection of deep tropical moisture combined with very good upper level dynamics resulted in flash flooding in portions of St. Thomas and St. John.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	November 2018
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PUERTO RICO

Ciales

3 ENE Ciales

01	1415AST 1545AST	0	0	0.50K	0.00K	Hail (0.25)
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Hail was reported in Barrio Pesas along Road PR-149 along the vicinity of Casona Bella Vista, a Gulf Gas Station, and Fussion Restaurant.

Ciales

5 NE Ciales

01	1415AST 1545AST	0	0	0.50K	0.00K	Hail (0.25)
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Hail was reported in Barrio Cordillera along PR-146 near Escuela Superior Juan Antonio Corretjer.

Ciales

5 NE Ciales

01	1415AST 1545AST	0	0	0.50K	0.00K	Thunderstorm Wind (35EG)
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Strong wind gusts were reported in Barrio Cordillera along Road PR-146 near Escuela Superior Juan Antonio Corretjer.

Note: The estimated wind gust of 35 knots is equivalent to 40 mph.

Ciales

5 NE Ciales

01	1415AST 1545AST	0	0	0.50K	0.00K	Thunderstorm Wind (35EG)
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Strong wind gusts downed trees and powerlines in Barrio Pesas along Road PR-149 near the vicinity of Casona Bella Vista, a Gulf Gas station and Fussion Restaurant.

A strong upper-level jet, which produced divergence aloft, combined with sufficient low-level moisture and local and diurnal effects to produce strong showers and thunderstorms over the Cordillera Central. Note: The estimated wind gust of 35 knots is equivalent to 40 mph.

Naguabo

3 W Naguabo

04	0730AST 1330AST	0	0	0.00K	0.00K	Flash Flood
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Overflowing of a creek lead to the closure of Road PR-31 along the intersection of exit 22 of Highway 52 due to flooding near Rio Blanco.

Upper-level trough and abundant tropical moisture produced numerous showers and thunderstorms across the area.

San Juan

3 N San Juan

05	1916AST 2045AST	0	0	0.00K	0.00K	Flood
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Flooding reported in Calle Texidor in Barrio Israel.

Upper-level trough along with abundant moisture resulted in the development of showers and thunderstorms across the area.

Yabucoa

3 SW Yabucoa

05	2100AST 2145AST	0	0	0.00K	0.00K	Heavy Rain
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Road PR-3 in Yabucoa closed due to a mudslide.

Deep tropical moisture combined with an upper-level trough to produce showers and thunderstorms across the region.

Caguas

2 SW Caguas

14	1130AST 1530AST	0	0	0.00K	0.00K	Flash Flood
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Three rescues made for people on their stranded cars at Rio Turabo, roadway 765, k.m. 0.3 in Barrio Borinquen, Caguas.

Unstable pattern associated with a surface trough and an upper level trough produced periods of heavy rainfall across the local islands.

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”
AST	- Atlantic Standard Time
EST/EDT	- Eastern Standard Time / Eastern Daylight Time
CST/CDT	- Central Standard Time / Central Daylight Time
MST/MDT	- Mountain Standard Time / Mountain Daylight Time

PST/PDT	- Pacific Standard Time / Pacific Daylight Time
AKS	- Alaska Standard Time
HST	- Hawaii Standard 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”, i.e. 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. Examples: (M61) = measured 61 knots; (E75) = 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 kts 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 kts 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 kts 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 kts 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 kts 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 Enhanced Fujita Scale

EF-Scale	Intensity	Wind Speed (mph)	Typical Damage (Suggested)
EF0	Gale Tornado	40 - 72	Tree branches broken, chimneys damaged, shallow-rooted trees pushed over; sign boards damaged or destroyed, outbuildings and sheds destroyed.
EF1	Moderate	73 - 112	Roof surfaces peeled off, mobile homes pushed off foundations or overturned, moving autos pushed off the roads, garages may be destroyed.
EF2	Significant	113 - 157	Roofs blown off frame houses; mobile homes demolished and/or destroyed, train boxcars pushed over; large trees snapped or uprooted; airborne debris can cause damage.
EF3	Severe	158 - 206	Roofs and walls torn off well constructed houses; trains overturned; large trees uprooted, can knock down entire forest of trees.
EF4	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.
EF5	Incredible	261 - 318	Brick, stone and cinder-block 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.
EF6	Inconceivable	319 - 379	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.



Typical EF0 Tornado Damage

Note the trees are stripped of leaves, but the trees remain standing. Only light roof damage and a few missing shingles.



Typical EF1 Tornado Damage

Note the uprooted trees and missing shingles from the roof. There is significant roof damage.



Typical EF2 Tornado Damage

This home is missing its entire roof but the exterior walls remain intact. Some of the stronger hardwood trees remain standing.



Typical EF3 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 EF4 Tornado Damage

This home is almost completely obliterated, with no walls standing. The debris from the home is where the house once stood.



Typical EF5 Tornado Damage

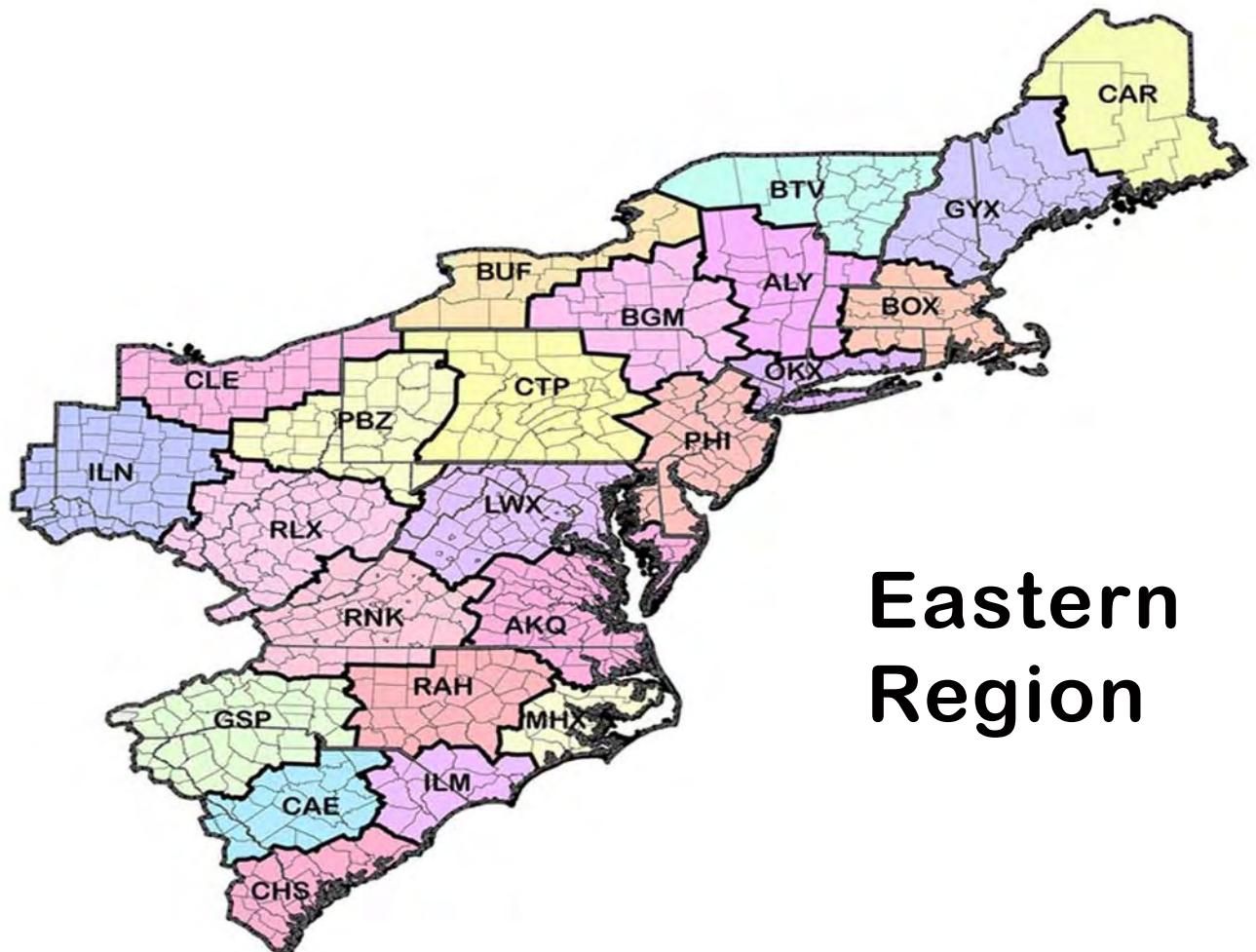
These homes have been completely removed from their original locations. The debris field has been scattered some distance from their foundation.



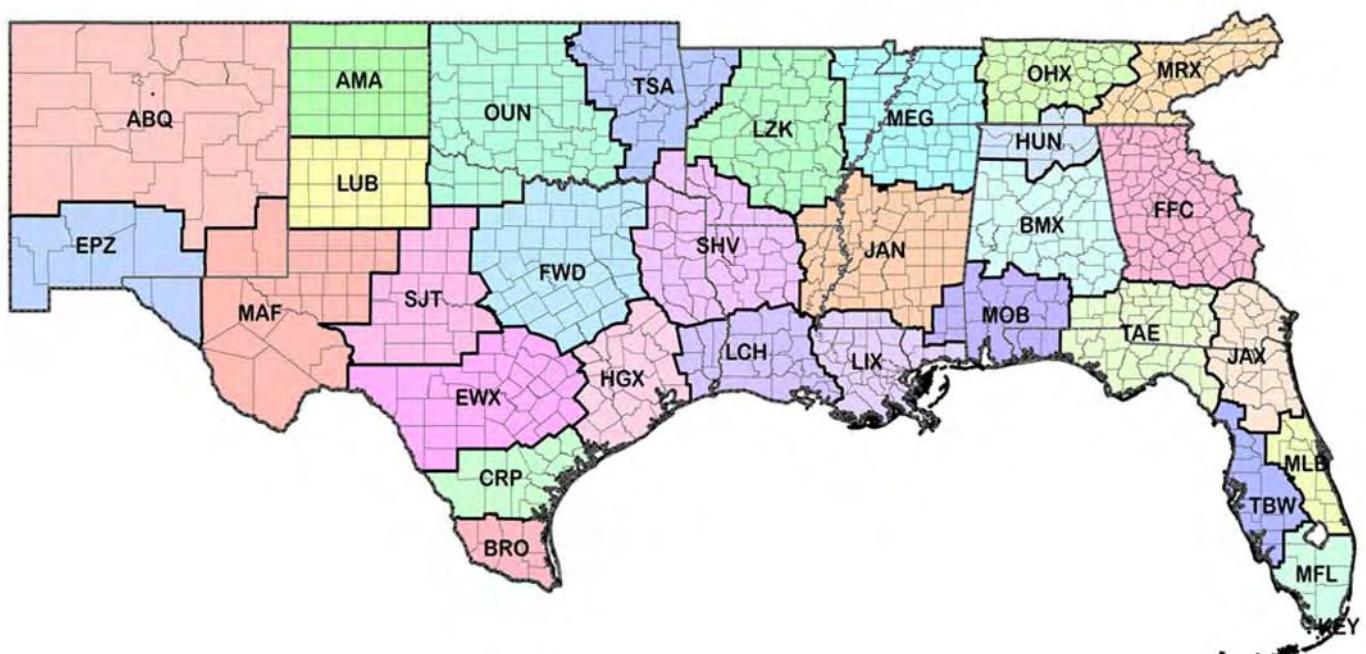
Typical EF5 Tornado Damage

The asphalt surface has been peeled off of this road.

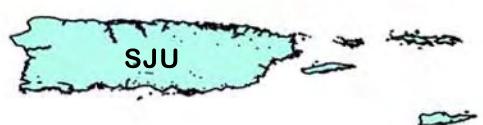
(All photographs courtesy of Brian Smith, Meteorologist, National Weather Service, Valley NE.)



**Eastern
Region**

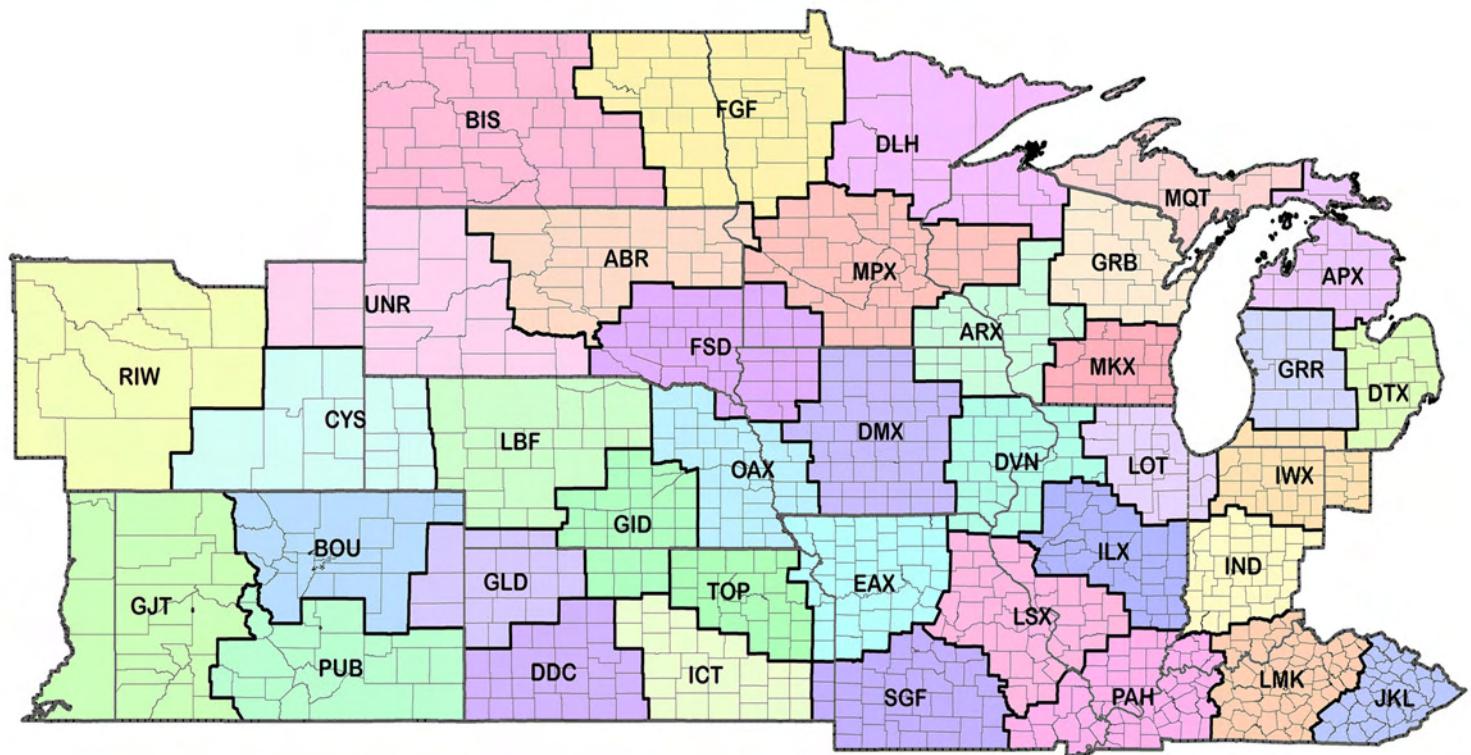


**Southern
Region**

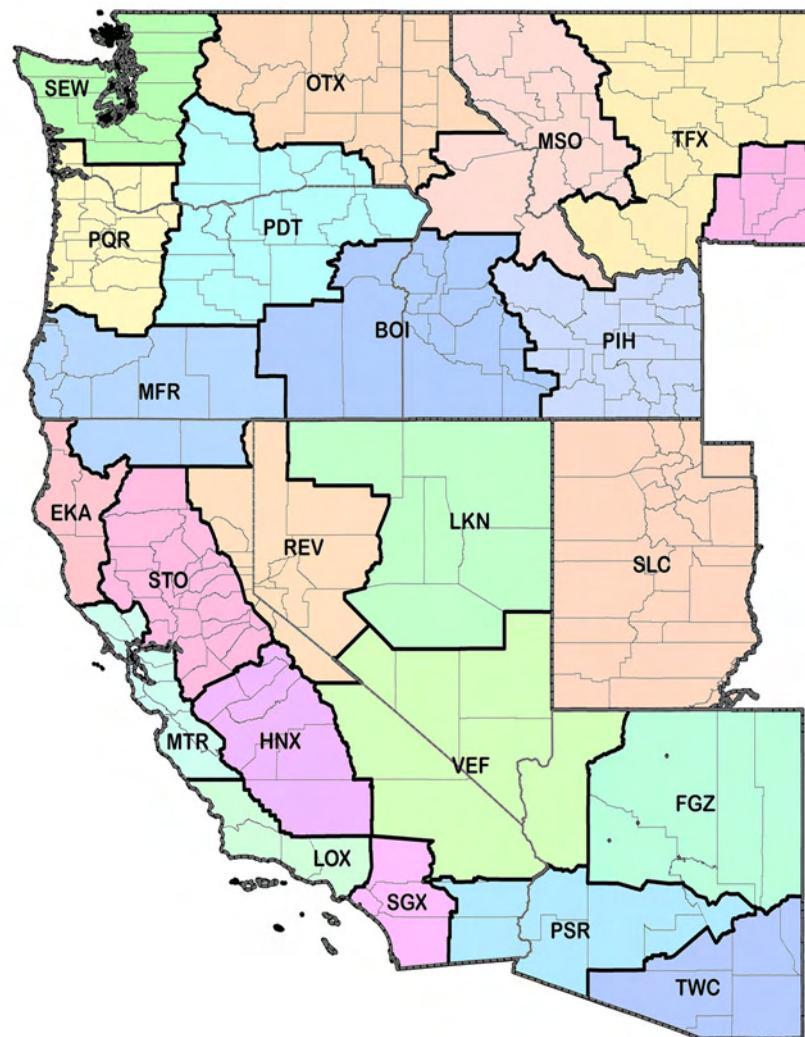


Puerto Rico

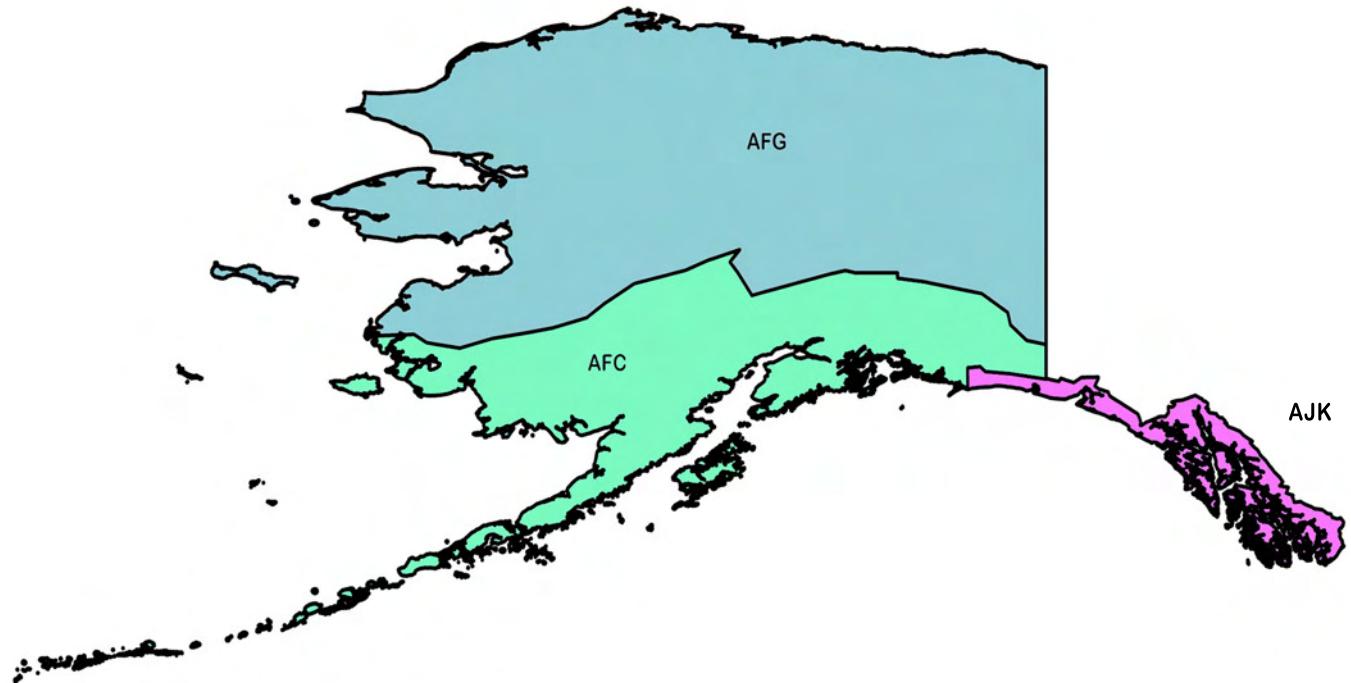
Central Region



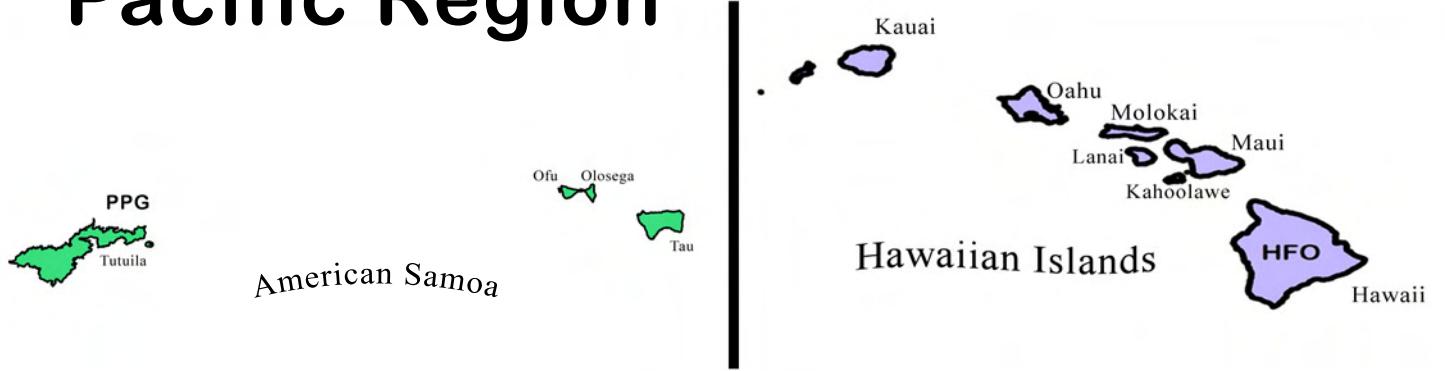
Western Region



Alaska Region



Pacific Region



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