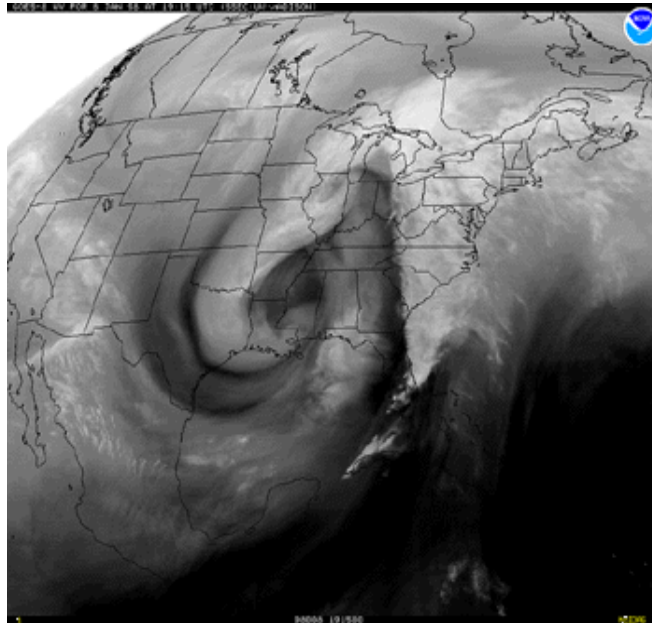


Eastern U.S. Flooding and Ice Storm January 1998



Narrative - Apr 12, 1999 Update

During the week of January 5-9, 1998, the eastern U.S. and eastern Canada were severely effected by a storm system with a very deep southerly flow and abundant moisture. This resulted in flooding rains from the lower Mississippi valley through the southeast and into the northeast, several tornadoes, and a severe ice storm in parts of the northeast/New England and into Canada. The death toll for the event:

Flood-related:

Tennessee--7

North Carolina--2

South Carolina--1

Kentucky--1

Alabama--1

Ice storm-related:

Canada--28

New York--9

Maine--5

New Hampshire--2 U.S./Canada total: 56

The heaviest rains and most severe flooding occurred in the mountains of North Carolina and northeast Tennessee, where up to 16 inches fell in a 2-day period. See below for some of the rainfall totals. Surveys indicate over 500 homes destroyed or with severe damage in North Carolina, and over 200 homes severely damaged or destroyed in Tennessee. Damages exceeded \$15 million for western North Carolina and \$20 million for eastern Tennessee. Tornado touchdowns produced some damage in Dublin, Georgia and Easley, South Carolina. Flooding also was a problem in parts of the lower Mississippi valley and upstate New York.

The severe ice storm mainly affected upstate New York, northern New Hampshire and Vermont, much of Maine, and southeast Canada. Some locations received over 3 inches of rain (as freezing rain), with radial ice thickness of one inch or more. Canada reported over 3 million utility customers without power immediately after the storm, while the northeast through New England reported over 500,000 customers without power. 80% of Maine's population lost electrical service. Overall damages approached \$3 billion for Canada and were at least \$1.4 billion for the U.S.

For further information, see:

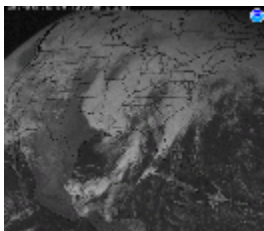
[NCDC Storm Data publication](#)

Satellite and Radar Images

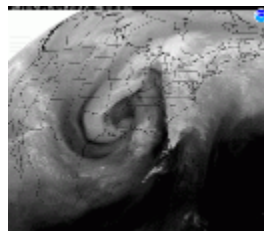
Warning to modem users: Image files larger than 50KB are indicated showing approximate size of

the file.

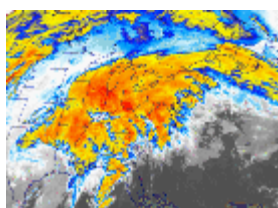
Click on each of the following to view full size images. Additional images will be added later as available. Note that the 'time stamp' within each image is Greenwich time (Z-time).



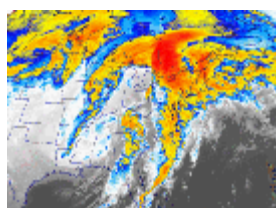
[Jan 8 GOES-8 Visible Image \(700KB\)](#)



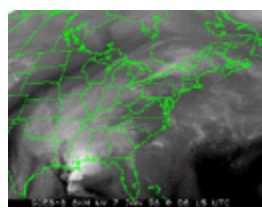
[Jan 8 GOES-8 Water Vapor Image \(700KB\)](#)



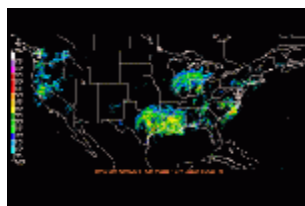
[Jan 7 GOES-8 Infrared Image \(200KB\)](#)



[Jan 8 GOES-8 Infrared Image \(200KB\)](#)



[Jan 7-9 GOES-8 Water Vapor Movie \(1000KB\)](#)



[Jan 6 Radar Composite \(7pm EST\)](#)



[Jan 7 Radar Composite \(7pm EST\)](#)



[Jan 8 Radar Composite \(7pm EST\)](#)



[Jan 9 Radar Composite \(7pm EST\)](#)

Rainfall Table

The following are rainfall totals, in inches, for January 7-8, 1998 in northeast Georgia, northwest South Carolina, and western North Carolina. Amounts provided by National Weather Service's Greenville-Spartanburg office:

NORTHEAST GEORGIA COUNTIES :

COUNTY	LOCATION	RAINFALL (INCHES)
RABUN	MOUNTAIN CITY	5.90
HABERSHAM	CLARKESVILLE	5.06
	CORNELIA	4.68
STEPHENS	TOCCOA	4.71
FRANKLIN	CARNESVILLE	2.88
HART	HARTWELL	2.70
ELBERT	ELBERTON	2.17

UPSTATE SOUTH CAROLINA COUNTIES:

OCONEE	SALEM	6.10
	KEOWEE	5.37
	JOCASSEE	5.25
	CLEMSON	3.67
	WALHALLA	2.68
PICKENS	TABLE ROCK	6.50-7.00
	PICKENS/EASLEY	5.00-6.00
	CEDAR ROCK	4.00
ANDERSON	3 MI SE EASLEY	3.03
	ANDERSON AIRPORT	2.95
	WEST PELZER	2.75
GREENVILLE	WILLIAMSTON	2.30
	US 25 NEAR NC BORDER	5.25
	HUNTS BRIDGE	3.79
	GOWENSVILLE	3.65
	TRAVELERS REST	3.40
	CAESARS HEAD	3.16
	GREENVILLE	2.82
SPARTANBURG	CAMPOBELLO	3.90
	20 MI N GREER	3.60
	GSP AIRPORT	2.22
	LAKE BOWEN	1.12
	WOODRUFF	1.00
LAURENS	CLINTON	1.22
ABBEVILLE	ANTREVILLE	1.51
	CALHOUN FALLS	1.25
	LAKE RUSSELL	0.88
GREENWOOD	WARE SHOALS	1.00
	GREENWOOD	0.49
CHEROKEE	GAFFNEY	1.67
YORK	YORK	1.42
	LAKE WYLIE	0.90
CHESTER	CHESTER	1.04

WESTERN NORTH CAROLINA COUNTIES:

GRAHAM	ROBBINSVILLE	2.58
	WAUCHECHA	2.40
CLAY	MURPHY	2.06
SWAIN	TROUT FARM	4.84
	BRYSON CITY	3.45
	PIN OAK GAP	3.32
MACON	HIGHLANDS	9.63
	OTTO	5.47
	FRANKLIN	4.67
	HARRISON GAP	2.72
JACKSON	HOGBACK MTN	16.12
	ROBINSON CREEK	15.33
	COLD CREEK	13.36
	TANASEE CREEK	12.96
	WOLF CREEK	11.64
	CHARLEY RIDGE	10.91
	CEDAR CLIFF	9.00

	TUCKASEGEE	7.40
	PUMPKINTOWN	6.72
	SYLVA KINGS MTN	5.20
	CULLOWHEE	2.96
HAYWOOD	MT HARDY	12.20
	DANIEL RIDGE	8.16
	WAYNESVILLE	3.47
TRANSYLVANIA	5 MI NW CEDAR MTN	14.50
	CONNESTEE FALLS	12.38
	LAKE TOXAWAY	10.63
	ROSMAN	9.02
	BREVARD	8.92
	PISGAH FOREST	7.92
	BALSAM GROVE	7.80
	RICH MTN	7.24
HENDERSON	SUGARLOAF MTN	9.17
	BEARWALLOW CREEK	7.81
	HORSEPEN MTN	6.84
	ETOWAH	7.67
	HENDERSONVILLE	6.09
	MILLS RIVER	5.54
	DANA	5.08
BUNCOMBE	BEAVERDAM CREEK	7.96
	MT PISGAH	5.92
	FLAT TOP MTN	5.07
	ASHEVILLE AIRPORT	4.70
	BARNARDSVILLE	4.36
	CANDLER	3.82
	ASHEVILLE DOWNTOWN	3.35
	NEWFOUND CREEK	3.08
MADISON	DUCKETT TOP & IVY GAP	3.36
	LITTLE PINE CREEK	3.16
	MARSHALL	2.49
	HOT SPRINGS	1.64
	ROLLINS	1.36
YANCEY	BLUE ROCK	7.64
	MT MITCHELL	7.50
	BLACK MTN	4.86
MITCHELL	SPRUCE PINE	9.64
	HAWK	4.85
AVERY	GRANDFATHER MTN	5.15
	BEECH MTN	3.56
	NEWLAND	1.84
ASHE	JEFFERSON	4.32
CALDWELL	LENOIR	2.31
	EDGEMONT	1.52
	RHODHISS	0.92
	BAILEY CAMP	0.88
BURKE	JONAS RIDGE	7.71
	MORGANTON	2.22
	BRIDGEWATER	2.02
	HICKORY AIRPORT	1.47
MCDOWELL	OLD FORT	6.29
RUTHERFORD	FOREST CITY	1.52
POLK	TRYON	4.38
CATAWBA	LOOKOUT SHOALS	0.60

	OXFORD SHOALS	0.58
	COWAN FALLS	0.42
CLEVELAND	CASAR	1.63
LINCOLN	LINCOLN TON	1.86
	VALE	1.18
GASTON	MTN ISLAND	0.50
IREDELL	TURNERSBURG	1.27
ROWAN	SALISBURY	1.05
MECKLENBURG	CHARLOTTE AIRPORT	1.26
CABARRUS	CONCORD	1.34
	MT PLEASANT	0.99

Historical Perspective

The last ice storm to strike with this (or greater) intensity was during February 1994 in the southeast. In 1994, NCDC prepared the report [1994 Weather in the Southeast: February Ice Storm and July Flooding](#) about that storm.

Additional Resources and Links

[National Weather Service](#)
[Federal Emergency Management Agency](#)
[El Nino Information](#)
[Climate Change and Weather Extremes](#)

Citing the Article

Lott, Neal; Ross, Doug, Graumann, Axel; “Eastern U.S. Flooding and Ice Storm January 1998”; April 1998; NOAA’s National Climatic Data Center, Asheville, NC