Sto	rm	Natio Data a	nal V nd Vr	Wea nusua	ther al We	Se ath	ervice er Phe	nomena	
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numbe Perso Killed	r of ns Injured	Estimated Damage Property Crop	os Character of Storn	January 1998
DISTRICT OF COLUN	MBIA								
DCZ001	<b>District</b> 06 09 A sprathigh br region high te hours,	t Of Columbia 0000EST 1200EST wling area of hig rought an unencu over a 2 1/2 day mperature was se spanning two mo	h atmospherio mbered flow period beginr et at National prnings when	c pressure be of tropical ai ning around r Airport on th the normal lo	0 came anchor r from the Ca nidnight on t te 8th. More ow temperatu	0 ed over ti aribbean he 6th an interesti ures were	he western Atlant region into the in id continuing unti ngly, temperature nearly 30 degree	Unseasonably V ic for several days. Cir immediate Washington, I l around noon on the 9t is remained above 55 do s colder!	Warm culation around th DC metropolitan h. A new record gerees for over 48
<b>D</b> 07001	After n April t	hine days, mean to	emperatures a /.	cross the me	tropolitan re	gion wer	e between 18 and	20 degrees above norm	al - more like
DCZ001	District 23 Low- a heavy a rainfall closed afterno	t Of Columbia 0700EST 1400EST and mid-level flow rain across the Di l record was set a in downtown Wa son. Area creeks	w of deep mo istrict of Colu at National Ai ashington due and streams	isture, overru umbia and im rport, where to high stand an high but b	0 unning a chill mediate subu 1.75 inches f ding water, a below bankfu	0 ly surface urbs durin fell. In no nd pondi 11.	e air mass, produc ng the morning ar earby Largo, MD ng was a commo	Heavy Rain ted a prolonged period of a dearly afternoon of the 1.84 inches fell. Two n theme during the late	of moderate to e 23rd. A daily tunnels were morning and early
DCZ001	District 28 A fairly area be along t High st combin excess	t Of Columbia 0400EST 1600EST 9 intense and slove ginning late on the he South and No tanding water pos- ned with wind-dri of 35 mph produ	w-moving not he 27th and c rth Carolina c sed some prol iven waves ar iced scattered	r'easter produ ontinuing thr coastline. Sto blems during nd upstream 1 power outag	0 liced a large a ough late aft orm totals rar both the mo runoff, cause es and knock	0 area of m ernoon o nged fron rning and d minor f ced down	oderate to heavy and the 28th. The han 1 1/2 to 2 1/2 in devening commu flooding at the tid han few tree limbs	Heavy Rain rain across the Washing eaviest rains fell while ches across the region. te on the 28th. Astrono al basin near Haines Po at isolated locations are	ton metropolitan the low tracked mical high tides, int. Wind gusts in ound the area.
MARYLAND, Central									
MDZ002>007-009>011- 013>014-016>018	Allegar Baltime 06 09 A sprathigh br around (MDZ0 hours,	ny - Washington ore - Prince Geo 0700EST 1200EST wling area of hig rought an unencu dawn on the 6th 003) on the 8th; t spanning two mo	h atmospheric mbered flow and continuin he record was prnings when	- Carroll - N Arundel - Cl c pressure be of tropical ai ng until arous s tied on the 6 the normal lo	Northern Bal harles - St. M 0 came anchor r from the Ca nd noon on th 5th. More in ow temperatu	ltimore - Mary'S - 0 ed over ti aribbean he 9th. A teresting irres were	Harford - Mont Calvert he western Atlant region into all of a new record high ly, temperatures r some 35 degrees	gomery - Howard - So Unseasonably <sup>1</sup> ic for several days. Cin Maryland for a 2 1/2 da temperature was set at emained above 55 degr colder!	wathern Warm culation around the y period beginning Hagerstown ees for over 48
	After n like Ap	ine days, the meaning that the meaning that the second second second second second second second second second s	an temperatur 1uary.	res across cer	ntral and wes	tern Mar	yland were betwe	en 15 and 20 degrees a	bove normal - more
Frederick County Countywide	08	0700EST 1200EST			0	0	10K	Flash Flood	
Carroll County West Portion	08 Unseas portion led to f	0800EST 1200EST sonably warm and s of north centra clash flooding of	d humid air p l Maryland. 7 numerous sm	lus developin The combina all streams, c	0 ng low pressu tion of tropic creeks, and lo	0 are over t cal rainfal ow-lying	<b>3K</b> he Ohio Valley pi ll, saturated soil (i areas - especially	Flash Flood roduced bands of heavy due to recent snow melt in Frederick Co.	rain across and time of year

At least 40 secondary roads, and several major thoroughfares, were closed during the morning. Included were state routes 26, 351, and 880. At least three vehicles were stranded on back streets in the city of Frederick. Rainfall totals averaged between 2 and 3 inches. Portions of the Big Pipe Creek watershed in northern Carroll Co reported flash flooding, with 3 or more roads closed. Some flooding was reported on the Monocacy River in the town of Detour.

Stor	m	Natio Data a	nal nd U	Wea	ther al We	<b>Se</b> athe	ervice er Phe	e enomena		
T	D :	Time Local/	Path Length	Path Width	Numberse	er of ons	Estimated Damage		January 1998	
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property Cr	ops Character of Sto	rm	
MARYLAND, Central										
MDZ002-005>006- 009>010	Allega	nny - Carroll - No	orthern Balti	more - Mont	gomery - H	loward				
	15	0800EST 1600EST			0	0	5K	Winter Weat	her	
MDZ003>004	Washi 15 16 Warm the 15 to rain	ington - Frederic 1200EST 0200EST n moist air overrur oth and continuing n and freezing rain	<b>k</b> nning a shallo guntil just aft a across areas	ow polar surfa er midnight o s west of the C	0 ce air mass n the 16th. Chesapeake	0 produced Precipitat Bay.	15K 2 a variety of win ion began as a 1	20K Ice Storm nter weather beginning mix of sleet and snow b	around daybreak on ut quickly changed	
	The co tempe structu of hig locatio Power morni In the before	ombination of qui eratures, kept most ures such as trees, her terrain betwee ons, spotty power r reported 150 cus ing of the 16th. So winter weather are e causing a minor	ck action by t main arterie power poles en Hagerstow outages were tomers were ome wires rep rea, mixed pr build up of <i>i</i> e	Maryland Sta s and seconda /wires, and ex n/Williamspo e noted, and a without powe portedly burn ecipitation qu ce, along with	te Highway rry roads fre posed bridg rt (MDZ00) few large li er in the Hag ed. ickly chang an early mo	Administ ee from ac ges receive 3) and Mid mbs and s gerstown/S ed to rain orning coa	ration road crew cumulation. He ed between 1/4 ddletown (MDZ small trees snap Sharpsburg vici during the late uting of slush or	ws, and the still above f owever, in the ice storn and 1/2 inch of ice accr Z004) received the mos oped under the weight o nity during the evening morning and early after n area roadwavs.	reezing subsoil n area, free standing retion. A small area t icing. In these f the ice. Allegheny of the 15th and early rnoon hours, but not	
MDZ002>003	Allega	ny - Washington	l		carry mo					
	22 232200EST 2200EST0 0Winter WeatherLow pressure over the southeastern U.S., combined with weak polar high pressure moving east of New England, produced a									
	area of light snow and sleet which changed to freezing rain late at night. In Washington Co (MDZ003), snow/sleet accumulations ranged from 1 inch near Hagerstown to 3 inches near Hancock. A broad area of 3 inches of measured snow was observed in Allegany Co, with the highest elevations of the far western portion (Frostburg) receiving around 4 inches. Slushy roads were noted, especially from western Washington Co through Allegany Co. Precipitation changed to a cold rain around dawn on the 23rd.									
MDZ004>005	Interst Frede	rate 70 just east of	i fiancock (N	1DZ003). No	injuries occ	urrea.				
	24	1800EST 2200EST			0	0		Snow		
	A ban disturt onto re Catoct (MDZ	d of light to mode bance enhanced lo relatively warm gr tin Mountains we 2005) Cos average	erate snow de ow- and mid- ound, produc re between 3 ed 2 to 3 inch	veloped over level lifting o eed accumulat and 4 inches. es, and lower	northern an f residual m ions which Higher pie elevations r	d central l loisture lef varied gre dmont loc reported g	Maryland durin ft behind from a atly with eleval cations of north enerally around	g the evening, as a vigo a previous system. The tion. In general, accum ern Frederick (MDZ004 l 1 inch.	orous upper-level snow, which fell ulations along the 4) and Carroll	
MDZ003	Washi 27 28	ington 1500EST 1400EST			0	0		Winter Weat	her	
MDZ002	Allega	ny								
	27 28	1900EST 1300EST			0	0	2K	Winter Storr	n	
	A win on the weath 1997/9 inches fell fro platea	ter storm develop 27th and 28th. T er across portions 98 winter, accumu s, with up to 3 inc om the Allegany/ <sup>1</sup> u. Allegheny Pow	ed along the Che cyclone, v of western N ulations varie hes at higher Washington C wer reported 2	Georgia coast which tracked Aaryland duri: d greatly with elevations. A Co border to ju 200 customer:	t on the 27th to the Virg ng a 24-hou a elevation. Accumulatio ust west of C s without po	n, then into inia capes r period. In Washin ns were ev Cumberlan ower in Al	ensified as it mo by late afterno As had been the ngton Co (MD2 ven more varied nd, at least a foo legany Co alon	oved slowly northward on on the 28th, spread a e case with other episoo Z003), accumulations w d in Allegany Co. Betw ot fell in Frostburg near e.	along the coast later a variety of winter les during the vere generally 1 to 2 veen 2 and 4 inches the Allegheny	
			timore II.				Southorn Boltin	mana Dringa Casaraa		
MDZ005>007-009>011- 013>014	Carro	ll - Northern Bal	umore - Ha	rford - Montg	gomery - H	oward - S	Souther in Daitin	more - Frince Georges	s - Anne Arundel	
MDZ005>007-009>011- 013>014	Carrol 28	ll - Northern Bal 0400EST 1600EST	umore - mai	rford - Montş	gomery - H 0	oward - S 0	outher it Daith	Heavy Rain	s - Anne Arundel	



## National Weather Service Storm Data and Unusual Weather Phenomena

									1999			
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Pers Killed	er of sons Injured	Estimated Damage Property Cro	ps Character of Stor	January 1998			
MARYLAND, Centra	<u>l</u>											
Frederick County Countywide	28	0900EST 1600EST			0	0	5K	Flood				
Calvert County Countywide	28	1100EST 1700EST			0	0	5K	Flood				
Charles County East Portion	28	1100EST 1700EST			0	0		Flood				
St. Manuel Country		1700151										
St. Mary'S County Countywide	28	1100EST 1700EST			0	0	10K	Flood				
	A fain Mary tracki betwe	A fairly intense and slow-moving nor easter produced a large area of moderate to heavy rains across central and lower southern Maryland beginning late on the 27th and continuing through late afternoon on the 28th. The heaviest rain fell while the storm was tracking along the South and North Carolina coastline. Storm totals ranged from 1 1/2 to 2 1/2 inches over the area, except between 3 and 4 inches across lower southern Maryland.										
	Wide Mary	Widespread minor to moderate flooding of small streams, creeks, and low-lying areas occurred over much of lower southern Maryland. Other localized flooding was observed in Frederick Co.										
	The Maryland State Highway Administration and local emergency management officials reported numerous road closures in these areas. In Frederick Co, fifteen roads were closed due to high water. More pronounced road closures were noted in lower southern Maryland and portions of east-central Maryland.											
	Nuisance road closures (for instance, Davidsonville Road and Crownsville Road) occurred in the Annapolis area. In St Mary's Co, at least two dozen roads were closed. Most were secondary roads, but two were rural state highways (routes 5, 235, and 238). A local NWS cooperative observer noted nearly 6 1/2 inches in a five-day period, with 3.96 inches from the nor'easter alone. In Charles Co, six secondary roads were closed.											
	Though no coastal flooding was observed, there was some minor overwash at Annapolis, Chesapeake Beach (Calvert Co), and Breton Beach (St Mary's Co). Channelling northerly winds down the bay reduced the flood threat, especially since tides were astronomically high. These same northerly winds, blowing at gale force, built waves in the Bay to 5 feet or more. Unfortunately, these waves aided in sinking a tugboat 1 1/2 miles northeast of the Thomas Point Lighthouse. The three-man crew was rescued at approximately 0130EST on the 28th.											
	Gale-force winds extended inland a bit, affecting most of the counties along the western shore of the Bay. Gusts in excess of 30 mph were observed in the piedmont, and over 40 mph along the coastal plain. The combination of gusty winds and saturated soil caused several instances of trees, limbs, and power lines to come down. Baltimore Gas and Electric, and Potomac Electric Power Co reported 3800 and 538 customers without power, respectively, during the peak of the storm (0945EST on the 28th). In Calvert Co (MDZ018), two homes sustained minor damage from fallen trees. At least 20 trees/limbs blocked roads in St Mary's (MDZ017) Co; numerous other trees/limbs and wires were down across Charles, Calvert, and Anne Arundel Cos. Eleven lines were down across Prince Georges Co, and several fell in Anne Arundel.											
MDZ009>011-013>014	Monta 29	Montgomery - Howard - Southern Baltimore - Prince Georges - Anne Arundel   29 0500EST 0 0 Black Ice										
	Resid Mary travel alone	Residual moisture from rainfall of the previous evening combined with clear calm conditions to produce abundant black ice in the Maryland suburbs of Washington, DC and Baltimore during the morning commute. Dozens of accidents occurred as motorists travelled at unsuitable rates of speed considering the untreated roads. Sixty accidents were reported in northern Anne Arundel Co alone, and one bridge in the Annapolis area was briefly closed. No serious injuries were reported.										
VIRGINIA, North												
VAZ021-025>031- 036>042-050>057	Highla Madis	and - Augusta - l son - Rappahann ylyonia – King C	Rockingham lock - Fauqui	- Shenandoa er - Loudou	h - Frederi n - Orange	ick - Page - Culpep	e - Warren - Cla er - Prince Willi	rke - Nelson - Albema am - Fairfax - Arlingt	rle - Greene - on - Stafford -			
	96 09	0000EST 1200EST	corge		0	0		Unseasonably	Warm			
	A spr high l aroun (VAZ	awling area of hig brought an unencu d midnight on the 2042) on these day	gh atmospheri umbered flow e 6th and cont ys. More inte	c pressure be of tropical a inuing until a restingly, ten	came ancho ir from the ( round noon peratures re	ored over to Caribbean on the 9t emained a	the western Atlar region into all or h. New record hi bove 60 degrees	tic for several days. Ci f Virginia for a 2 1/2 da igh temperatures were s across much of western	rculation around the y period beginning et at Dulles Airport Virginia for over			

Sto	rm	Natio	onal Ind U	Wea	ther al We	• Se	ervice	omena	
		Time	Path	Path	Numb	er of	Estimated		January 199
Location	Date	Local/ Standard	(Miles)	(Yards)	Fers Killed	sons Injured	Damage Property Crops	Character of Storm	
VIRGINIA, North									
	48 ho	ours, spanning two	o mornings wl	hen the norm	al low temp	eratures w	vere some 40 degree	s colder!	
	In fac	et, there was one c s northern Virgini	cooling degree	e day recorde en 15 and 20	d during the degrees abo	the perio	d (January 8). Afte ll - more like April	r nine days, the mean han early January.	temperatures
Augusta County									
East Portion	08	0530EST 1200EST			0	0	20K	Flash Flood	
Highland County									
Countywide	08	0530EST 1100EST			0	0	5K	Flash Flood	
Nelson County									
Countywide	08	0530EST 1200EST			0	0		Flash Flood	
Albemarle County									
West Portion	08	0600EST 1200EST			0	0		Flash Flood	
Greene County									
Countywide	08	0600EST 1200EST			0	0	10K	Flash Flood	
Page County									
Countywide	08	0600EST 1200EST			0	0	5K	Flash Flood	
Rockingham County									
East Portion	08	0600EST 1200EST			0	0	20K	Flash Flood	
Shenandoah County									
Countywide	08	0600EST 1200EST			0	0	20K	Flash Flood	
Clarke County									
Countywide	08	0700EST 1200EST			0	0	15K	Flash Flood	
Culpeper County									
West Portion	08	0700EST 1200EST			0	0		Flash Flood	
Loudoun County									
West Portion	08	0700EST 1200EST			0	0	20K	Flash Flood	
Madison County									
Countywide	08	0700EST 1200EST			0	0	5K	Flash Flood	
Rappahannock County									
Countywide	08	0700EST 1200EST			0	0	5K	Flash Flood	
Warren County									
Countywide	08	0700EST 1200EST			0	0	5K	Flash Flood	
Fauquier County									
North Portion	08	0800EST 1200EST			0	0		Flash Flood	

Pop

8

Unseasonably warm and humid air plus developing low pressure over the Ohio Valley produced bands of heavy rain across much of the Shenandoah Valley. The combination of tropical rainfall, saturated soil (due to recent snow melt) and time of year led to flash flooding of numerous small streams, creeks, and low lying areas. Two areas were hit particularly hard: the northern edge of the Blue Ridge and a small area just west of Skyline Drive.

In western Loudoun Co, over 3 inches of rain in a 5-hour period flooded between 25 and 30 roads, including state route 9 northwest of Leesburg, state route 7 near Purcellville, and state route 287. Each road was closed during the morning commute. Several cars were abandoned on local secondary roads, and one person had to climb to safety when his truck became nearly submerged. Some school buses were unable to reach students in rural areas. In Clarke Co, at least 20 secondary roads were



## National Weather Service Storm Data and Unusual Weather Phenomena

		Time Local/	Path Length	Path Width	Numb	per of	Estin	nated	Januar	y 1998
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	
VIRGINIA, North										
	closec minor	l, and federal high property damage	hway 50 was o e in the form o	lown to 1 laı f fouled spri	ne at the bas ngs and dirt	e of Paris y ponds us	Mountain. sed for loca	Gravel run al drinking	noff from secondary roads ca water.	used
	In an impas	area encompassir sable. Flooding	ng Page, easter was more acut	n Rockingha e in Sherand	um, and east o (Augusta	tern Augus Co) where	ta Cos, doz a local da	zens of sec m neared it	ondary roads were deemed s release point. In Craigsvill	le, severa
	incluc with c Green secon water	s were slightly in ling one with pav one report of 7.80 he sustained varyi dary roads which bridges flooded.	ement failure. inches at Lew ng amounts of had been rebu	Rainfall tot vis Camp Mo flooding. F ailt in the wa	als at the hi ountain (Pag fifteen second ke of the 19	ghest eleva ge Co). Ad adary roads	ation along ljacent cou s closed in were wash	32. In Ro Skyline D nties such Rappahani ed out once	ckingnam Co, 25 roads were rive were as much as 6 to 7 i as Warren, Rappahannock, an ock Co; in Greene Co, a few e again. In Warren Co, sever	nches, nd al low-
	Farthe collap	er west, 39 second osed. In the other	dary roads wer affected coun	re closed in S ties, closed 1	Shenandoah oads numbe	Co, where ered less th	e schools di an 10 on a	id not open verage.	. At least one low water brid	lge
	The ra	ain tapered off sh	ortly before no	oon, and con	ditions imp	roved rapic	ily during t	the afterno	on as creeks and streams rece	eded.
VAZ036>037-041- 051>053	Nelson	n - Albemarle - H	<sup>r</sup> auquier - Cu	lpeper - Pri	nce Williar	n - Fairfax	ĸ			
	15	0700EST 1300EST			0	0	10K		Winter Weather	
VAZ025>031-038>040- 042	Augus Loudo	sta - Rockinghan oun	n - Shenandoa	ah - Frederi	ck - Page -	Warren -	Clarke - (	Greene - M	adison - Rappahannock -	
	15	1000EST			0	0	50K	75K	Ice Storm	
	Warm moist air overrunning shallow polar surface air produced a variety of winter weather, starting around daybreak on the 15th and continuing just after midnight on the 16th. Precipitation began as a mix of sleet and snow but quickly changed to rain and freezing rain across much of the state.									
	The c tempe struct sectio outag Shena the fo Shena Rocki	The combination of quick action by Virginia Department of Transportation road crews, and the still above freezing subsoil temperatures, kept most main arteries and secondary roads free from accumulation. However, in the ice storm area, free standing structures such as trees, power poles/wires, and exposed bridges received between 1/4 and 1/2 inch of ice accretion. A small section of higher elevation areas along and just west of the Blue Ridge received the most icing. In these areas, spotty power outages were noted, and several large limbs and small trees snapped under the weight of the ice. In forested areas of the northern Shenandoah Valley, specifically between 500 and 1000 feet above sea level, hundreds of trees sustained limb damage. Portions of the following counties were hit hardest: western Loudoun (VAZ042), Clarke (VAZ031), northern Warren (VAZ030), northern Shenandoah (VAZ027), and Frederick (VAZ028). Other pockets of substantial ice accretion likely occurred in Page, eastern Rockingham, and eastern Augusta Cos (VAZ025>026; 029).								
	Power outages were rather scattered. In Clarke and Frederick Cos (VAZ028-031), three transformers blew due to ice accretion; several lines fell from the combination of fallen tree limbs and the weight of the ice. An estimated 200 Allegheny Power customers lost electricity.									
	In the before	winter weather a e causing a minor	rea, mixed pro build up of ic	ecipitation que, along with	iickly chang i early mori	ged to rain ning light c	during the coatings on	late morni area roadv	ng and early afternoon hours. vays.	, but not
VAZ028	Frede	rick								
	$\frac{22}{23}$	2200EST 0600EST			0	0			Winter Weather	
	Low p area o the co the 23	Low pressure over the southeastern U.S., combined with weak polar high pressure moving east of New England, produced a smal area of light snow and sleet which changed to freezing rain late at night. Accumulations of snow ranged from 1 to 2 inches across the county, with some icing on top of that. Minor road problems were noted. Precipitation changed to a cold rain around dawn of the 23rd.								
VAZ025>026-029>031- 036>037-040>042- 051>054	Augus Prince	sta - Rockinghan e William - Fairf	n - Page - Wa ax - Arlingto	rren - Clarl n	ke - Nelson	- Albemaı	rle - Rappa	ahannock	- Fauquier - Loudoun - Cul	peper -
	23	0400EST 1300EST			0	0			Heavy Rain	
Greene County										
Countywide	23	0600EST 1000EST			0	0	2.5K		Flood	
Madison County										
Countywide	23	0600EST 1000EST			0	0	2.5K		Flood	

Sto	rm	Natio Data a	nd U	Wea	ther al We	Se athe	ervic er Ph	e eno	mena 🎆			
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numbe Persc Killed	er of ons Injured	Estimate Damag Property C	ed je Drops	January 1998 Character of Storm			
VIRGINIA, North												
	Low- heavy record creeks water a	and mid-level flc rain across north daily total (1.46 Most remained and creek overflc	ow of deep mc i central Virgi inches) fell at l in their banks ows. Elsewhe	bisture, overr nia during th t Dulles Airp s. However, re, nuisance	unning a chil e morning of ort (VAZ042 several locat ponding and	lly surface f the 23rd 2). The lc tions in M local high	e air mass, pro . Rainfall tota ong duration a ladison and G 1 standing wa	oduced a als across llowed a reene Co ter was o	prolonged period of moderate to s the area ranged from 1 to 2 inches; a slow rise among area streams and o reported closed roads from high observed.			
VAZ021-025>027-	Highla	nd - Augusta - 1	Rockingham	- Shenandoa	ıh - Page - V	Varren						
0 <i>2</i> 9>0 <i>5</i> 0	27 28	1500EST 1400EST			0	0	12K	10K	Winter Storm			
VAZ028-031	Freder 27 28	rick - Clarke 1500EST 1400EST			0	0			Winter Weather			
	A win on the weath during North Shenar	A winter storm developed along the Georgia coast on the 27th, then intensified as it moved slowly northward along the coast later on the 27th and 28th. The cyclone, which tracked to the Virginia capes by late afternoon on the 28th, spread a variety of winter weather across the northern and central Shenandoah Valley during a 24-hour period. as had been the case with other episodes during the 1997/98 winter, accumulations varied greatly with elevation. From the Skyline Drive to the Shenandoah Mountain and North Mountain range, accumulations ranged from around 4 inches in the valleys to 8 inches above 1500 feet. West of the Shenandoah Range, in the plateau region of Highland Co (VAZ021), accumulations ranged from 12 to 18 inches.										
	The w mainly	The weight of the snow caused numerous tree limbs and some trees to fall in areas where more than one foot of snow accumulated mainly in Highland Co.										
	Warm 3 inche	er air circulating es of wet snow a	around the sto ccumulated.	orm caused a Similar accu	rain/sleet/sn mulations we	low mix o ere noted	over the northe along the foot	ern Shena thills just	andoah Valley, where between 1 and t east of the Blue Ridge.			
VAZ053>054	Fairfa: 28	x - Arlington 0400EST 1600EST			0	0			Heavy Rain			
Albemarle County North Portion	28	0900EST 1600EST			0	0			Flood			
Clarke County Countywide	28	0900EST 1600EST			0	0			Flood			
Fauquier County Countywide	28	0900EST 1600EST			0	0			Flood			
Frederick County Countywide	28	0900EST 1600EST			0	0	2K		Flood			
Greene County Countywide	28	0900EST 1600EST			0	0			Flood			
Loudoun County West Portion	28	0900EST 1600EST			0	0	5K		Flood			
Madison County Countywide	28	0900EST 1600EST			0	0			Flood			
Rappahannock Countv												
Countywide	28	0900EST 1600EST			0	0			Flood			
Shenandoah County Countywide	28	0900EST 1600EST			0	0	5K		Flood			
Warren County Countywide	28	0900EST 1600EST			0	0			Flood			



## National Weather Service Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Pers Killed	er of ons Injured	Estimated Damage Property Crop	January 1998 s Character of Storm
VIRGINIA, North								
Culpeper County Countywide	28	1000EST 1600EST			0	0		Flood
Orange County Countywide	28	1000EST 1600EST			0	0		Flood
Prince William County Countywide	28	1000EST 1600EST			0	0		Flood
King George County Countywide	28	1100EST 1700EST			0	0	2.5K	Flood
Spotsylvania County Countywide	28	1100EST 1700EST			0	0	2.5K	Flood
Stafford County Countywide	28	1100EST 1700EST			0	0		Flood
VAZ057	King ( 28	George 1100EST 1700EST			0	0	2K	Gusty Winds
	A fairl Virgin tracke inches	ly intense and s ia beginning la d along the Sou at higher eleva	low-moving nor te on the 27th an th and North Ca ations along the	r'easter prod nd continuin arolina coast foothills, as	uced a large g through la line. Storm well as porti	area of m te afterno totals ran ions of the	oderate to heavy r on on the 28th. T ged from 1 1/2 to e Northern Neck r	ains across central and northeastern he heaviest rains fell while the storm 2 1/2 inches, with isolated totals of over 3 egion.
	Wides east to area d Shena Orang meltin	pread minor to King George ( ue to high stand undoah Co (32 ge Co (13); Alb g snow and run	moderate flood Co in the Northe ling water, or cr - a combination emarle Co (12).	ing of small ern Neck. Th eeks that ex of runoff, po Drainage f pads.	streams, cre ne Virginia I ceeded bank oor drainage looding occu	eks, and le Departmen ful. Some , and some urred in W	ow-lying areas oc nt of Transportation e of the larger nun e river flooding); <sup>7</sup> aynesboro (Augu	curred over all of the Piedmont, stretching on reported over 150 roads closed in the aber of road closures included: Loudoun Co (27); Frederick Co (15); sta Co) when the combination of slowly
	The st gusty Mt Ve	orm also produ winds and satu rnon (VAZ053	ced wind gusts i rated soil caused ) during the afte	in excess of l isolated ins ernoon of the	30 mph from stances of tre 28th.	n the easte ees, limbs,	ern Piedmont through and power lines t	agh the coastal plain. The combination of o come down. Two trees fell in a yard in
VAZ042-052>053	Loudo 29 Residu Virgin unsuit	un - Prince W 0500EST 0900EST al moisture fro ia suburbs of V able rates of sp	illiam - Fairfax om rainfall of the Vashington, DC eed considering	e previous e , during the the untreate	0 vening comb morning con d roads. No	0 bined with nmute. Do serious in	clear calm condit ozens of accidents njuries were repor	Black Ice ions to produce abundant black ice in the soccurred as motorists travelled at ted.
WEST VIRGINIA, Ea	<u>ist</u>							
WVZ051>053	Morga 06 09 A spra high b day pe	n - Berkeley - 0700EST 1200EST wing area of h rought an unen griod beginning	Jefferson high atmospheric cumbered flow around dawn of	c pressure be of tropical a n the 6th and	0 ecame ancho ir from the C I continuing	0 red over t Caribbean until arou	he western Atlant region into the ea nd noon on the 9t	<b>Unseasonably Warm</b> ic for several days. Circulation around the stern West Virginia panhandle for a 2 1/2 h. Interestingly, temperatures remained
	above After	55 degrees for nine days, the r	over 48 hours, s nean temperatur January	spanning two	ntral and we	when the r	vland were between	ratures were some 35 degrees colder! en 15 and 20 degrees above normal - more
Jefferson County Countywide	08	0800EST 1200EST			0	0	5K	Flash Flood
	Unsea	sonably warm	and humid air co	ombined wit	h developing	g low pres	sure over the Ohio	o Valley to produce bands of heavy rain

7

Sto	rm	Data a	and U	nusua	l We	athe	er Ph	enon	nena			
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numbe Perso Killed	r of ins Injured	Estimat Damag Property	ted ge Crops Cl	Ja haracter of Storm	nuary 1998		
WEST VIRGINIA, Ea	st											
	across year le In Jeffe	portions of the e ed to flash floodin erson Co, severa	eastern panhan ng of several s I secondary ro	idle. The constant of the cons	abination of , creeks, and sed due to hi	tropical r l low lyin	ainfall, satura g areas. , and many cr	ated soil (due	or just above bankt	it) and time of $\hat{u}$ . A portion		
WVZ051>052	of fede Morga 15	rai nighway 340 n - Berkeley 0900EST 1300EST	J was closed b	neny just we	st of Harper. 0	s гетту. 1 0	kaintali total:	s in the affect V	leu area ranged fror Vinter Weather	u 2 to 3 inches		
WVZ050-053-055	Hamps 15 16	shire - Jefferson 1000EST 0200EST	ı - Hardy		0	0	13K	I	ce Storm			
	Warm 15th ai rain an	Warm moist air overrunning a shallow polar surface air mass produced a variety of winter weather starting around daybreak on the 15th and continuing until just after midnight on the 16th. Precipitation began as a mix of sleet and snow but quickly changed to rain and freezing rain across much of the area.										
	The combination of still above freezing subsoil temperatures and low traffic volume kept most main arteries and secondary roads free from accumulation. However, in the ice storm area, free standing structures such as trees, power poles/wires, and exposed bridges received between 1/4 and 1/2 inch of ice accretion. A strip of higher elevation areas (roughly between 500 and 1000 feet above sea level) in Jefferson Co received the most icing. In this area, spotty power outages were noted, and a few large limbs and small trees snapped under the weight of the ice. Allegheny Power reported 150 customers were without power in Jefferson Co.											
	In the before area ro	winter weather a causing a minor oadways.	rea, mixed pro	ecipitation qu eet and ice (u	ickly change p to 3/4 incl	ed to rain tes of slee	during the la et followed b	te morning an y some freezi	nd early afternoon h ing rain), some of w	ours, but not hich coated		
WVZ049>051-055	Minera 22 23	al - Hampshire 2200EST 0600EST	- Morgan - H	ardy	0	0		v	Vinter Weather			
	Low p area of snow/s hardy c culprit	ressure over the f light snow and sleet ranged from Co (WVZ055) b of the precipitat	southeastern U sleet which ch n 2 to 3 inches efore a prolon ion before a cl	U.S., combine anged to free across Miner ged period of hangeover to	ed with weak ezing rain la cal, Hampshi freezing rai cold rain oc	c polar high te at nigh ire, and M n and slee curred are	gh pressure n tt across the F Aorgan Co (W et caused son ound dawn or	noving east of POtomac High VVZ049>051 ne icing prob n the 23rd.	f New England, pro hlands. Accumulat ). Around 1 inch c lems. Slushy roads	duced a small ions of of snow fell in were the main		
WVZ053	Jeffers 23	on 0500FST			D	A		T	leavy Rain			
	Low- a heavy approx below	<b>1200EST</b> and mid-level flor rain across extre kimately 1.5 inch bankful. Howey	ow of deep mo eme eastern W ies. The relativer, many area	isture, overru est Virginia d vely long dur s reported hig	nning a chil luring the mo ation allowe gh standing y	ly surface orning of d a slow a water due	e air mass, pro the 23rd. Ra rise among an to ponding.	duced a prol anfall totals a rea streams a	longed period of me across the area were nd creeks, and all re	oderate to mained just		
WVZ053	Jeffers 24	on 1800EST 2200EST			0	0		S	now			
	A band level d fell on the ridg	d of light of mod listurbance enhan to relatively war ges near Harpers	lerate snow de nced low- and m ground, pro Ferry wee are	veloped over mid-level lift duced accum ound 3 inches	the eastern j ing of residu ulations whi . Areas to t	panhandle ual moistu ich varied he west re	e of West Vir ure left behin l greatly with eceived a gen	ginia during d from a prev elevation. In veral accumul	the evening, as a vi vious system. The s n general, accumula ation of 1 or 2 inch	gorous upper- now, which tions along es.		
WVZ051>053	Morga 27 28	n - Berkeley - J 1500EST 1400EST	efferson		0	0		v	Vinter Weather			
WVZ048>050-054>055	Grant	- Mineral - Han	npshire - Pen	dleton - Har	dy	A	1 777	1017	Vint 94			
	27 28 A wint seaboa variety the 199 rain fei accum noted	<b>1600EST</b> <b>1300EST</b> ter storm develop urd later on the 2' of winter weath 97/98 winter, acc 11. Over the low ulations were no The largest indi	ped along the 7th and 28th. 1er across east cumulations va er elevations of ted across we: ividual totals r	Georgia coase The cyclone, ern West Virg aried greatly of the Potoma stern Pendlete eported were	0 t on the 27th which track ginia during with elevation c Highlands on, Grant, an in Elk Gard	0 , then into into the a 24-hour n. In the , roughly ind Minera en (Minera	15K ensified as it Virginia cape r period. as h eastern panh 2 to 6 inches d Cos (WVZ( ral Co - 15 in	10K V moved slowl es by late after had been the of handle, 1 to 2 accumulated 048>049-054 iches) and Ha	vinter Storm y northward along ( ernoon on the 28th, case with other epis inches of mixed sn 1. Some of the high ), where 8 to 16 nic (rdy Co (20 inches)	he eastern spread a odes during ow, sleet, and est hes were		

The weight of the snow likely caused tree limbs, some trees, and power lines to fall on the 28th, especially where more than 1 foot of snow accumulated.