	Storm	Natio Data a	nal V nd Vr	Wea nusua	ther al We	r Se eathe	e rvice er Phen	omena	
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numl Pers Killed	per of sons Injured	Estimated Damage Property Crops	Character of Storn	January 1996
DISTRICT O	<u>F COLUMBIA</u>								
DCZ001	Distri 07 08 An h full v Norti "Meg south DCA The s from of the mb) s new s Copi betw The s proto but n All n consis FEM trans static remo	ict Of Columbia 0300EST 1200EST istoric winter storm veekend of January. west Washington. alopolitan Storm" (west Virginia throu), the storm ranked storm was induced b the Gulf of Mexico e 7th. Meanwhile, of surface high pressur surface low develop ous Gulf of Mexico een the intensifying system moved slow inged near-blizzard aaintaining gusty no hajor highways werd derable blowing an A provided funding it was impacted as y ons opened sporadic val efforts opened a ederal, state, and loo ge - especially from for the week of Jan riment shutdowns.	a, known as th In general, Gusty winds of February 1 igh New Eng 2nd, with on by a digging through the confluent flor re over northored along the o and Atlantic glow and the ly from South conditions in orth winds (ar e effectively d drifting snot g for addition well, as the W cally throughed all roads by th cal governme n potholes an uary 7-13 we	ne "Blizzard snow totals is produced di 1th, 1983. N land. For th ly the "Presi upper level t Deep South. w, behind an ern New Yor Georgia coa e moisture wa arctic high c h Carolina to to the 8th. T nd substantia closed throu bw. Howeve al snow reme Vashington s but the follow he 17th.	0 of '96", crip ranged from rifts to 5 fee Numerous 2 e city as a v dents Day" rough over Surface p upper-leve k state. As isst. The lov as entrained aused wind the storm f al blowing a gh the 7th, yr, residenti oval equipr ubway syst ving work v as public sc of and \$10	0 ppled the G n 17.1 inch et in some j 24-hour acc whole, the s storm of F the eastern ressures be 1 arctic vor the upper- v deepened 1 into the sy ls to streng of the Che inally move and drifting as snow re al areas rer nent to clea em was eff week. The thools, wer ures - was of billion - thi	Greater Washington, es at Washington/Na places. The storm p sumulation records v storm ranked 4th all- Gebruary 18th-19th, 1 a Great Plains. At th gan falling as the up tex over the Canadia level trough approad lexplosively while t ystem, producing hea then to 25 mph with estapeake Bay overning ed towards New Eng g snow) until evening moval equipment fo nained unplowed for ar the streets by the v cectively shut down to combination of war	Blizzard DC metropolitan re ational airport (DCA roduced the largest vere shattered at air time; for modern re 1979, dumping more e surface, an inverte per trough approach an Maritimes, main thed the southeast U he arctic high remain avy snow; the increa- gusts to 35 mph. ght on the 7th. The gland later on the 8t g. ught a losing battle r up to one week fol weekend of the 13th hrough Tuesday, at ming temperatures at the sholiday season at	gion during the first A) to 21 inches in storm total since the ports from ecords (taken at e (18.7 inches). ed trough extended hed on the afternoon tained strong (1034 J.S. on the 8th, a ned in place. asing gradient slow movement h, ending the snow with the llowing the storm; //14th. Subway da above-ground and concerted snow
DCZ001	Distri 09	ict Of Columbia 1500EST 1700EST	abaad of an "	Alberta Clin	0 Der" added	0 insult to in	iury only a day after	Heavy Snow	6" and ad dumping
DCZ001	4 mo highv	re inches of snow in ways, keeping most	n a 4-hour pe residential st	riod on the b treets unplow	beleaguered ved for yet	city. The	snow forced road cr y.	ews to re-double the	eir efforts on main
DCZ001	Distri 12	0900EST			0	0		Heavy Snow	
	Less snow snow been The s Valle inten aftern progr Trave rema	L200EST than one week after fall totalled general fall of 23.9 inches a kept) behind the far storm developed as cy through southeas sifying slowly as it noon. Unlike the "F ressive upper-level t el was hampered ye ined unplowed, and	r the cripplin lly 5 to 6 incl at DCA brok mous "Knick an area of lov tern North C moved throu Blizzard of '9 trough, kept t t again, and f I main arterie	g "Blizzard of nes, with lesse erbocker" str w pressure ir arolina. As t gh the mouth 6", a lack of the surface lo federal office s continued	of '96", a ne ser amounts e record at t orm of Janu h the midwe he upper-le h of the Che cold air bel ow from int es closed fo to have only	w winter s (4 inches) hat location iary 25-27, est, which the vel trough esapeake B hind the su ensifying r r a record f y one of tw	torm dumped substa along the Potomac n, and ranked it seco 1922. became an elongated approached the Nor fay by midday, then rface low, combined apidly. fourth day in one we to lanes (per right-of	ntial snow on the ci and Anacostia Rive ond (since official ci trough extending f th Carolina low bec off the Delaware co with the somewhat ek. Numerous resid- way) open. The st	ty. Additional rs. The weekly ty records have rom the Tennessee ame dominant, ast, by late weaker and more dential streets orm forced the
	Fede dump Seve into t	ral Emergency Man bed into the Potoma ral residences repor he homes.	agement Age ic River. ted "ice dam:	s" at the base	e of roofs.	Some ice d	ams caused gutters t	o collapse; others fo	ow was reportedly

Stor	rm	Natic Data a	nal \ nd Un	Wea iusua	ther 11 We	• Se athe	≥rvic ¢ ∋r Phe	e ∍non	nena	
Lauri		Time Local/	Path Length	Path Width	Numb Pers	er of ons	Estimatec Damage	d	74 -	January 1996
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property C	rops	Character of Storm	
DISTRICT OF COLU.	<u>MBIA</u>									
District Of Columbia	. -	****-							F1 •	
All	19	1100EST 1300EST			0	0			Flash Flood	
	An ur rain ir rapid : 3 to 6 humid	nusually intense so n a two-hour peric snow melt, produc inches was eaten lity into the area.	quall line, feed od during the l cing flash floc away by stror.	ate morning dis throughou g southeaste	nseasonably of the 19th. ut the city. rly winds w	warm mc The rain During th thich carri	nst tropical air fell on oversau e overnight ho ed low 60s ten	mass, dun turated soil urs, the rer nperatures	nped between 0.8 l, a result of the p maining water-log and near 100 perc	and 1.2 inches of revious night's ged snow pack o cent relative
	Prior to the clogge causin inunda	to the onset of hear rapid snow melt. ed storm drains, b ig the closure of E ated low-lying bus	avy rain, num Substantial fl egan around 1 leach Drive ar sinesses and re	erous creeks lash flooding 100EST and 1d the Rock (esidences, an	and stream , in the forr continued Creek Parky d flooded s	s feeding t n of overf into the ea way over r everal part	the Anacostia a lowed creeks a urly afternoon. nuch of its rou- king garages ir	and Potoma and streama Rock Cre te through a Foggy Bo	ac Rivers were ne s and high standin ek sustained the r the city. The flas ottom and George	ar bank full due ng water due to nost flooding, sh flooding also ytown.
DCZ001	Distric 20	ct Of Columbia 0730FST			A	A	101/		Flood	
	23	0500EST *** Poter	River Flood	ng ***	U	U	TATAT		- 1000	
	High Snow once t below River forced city's o Parkw Indepe closed	the stage surpasse r flood stage (7 fe) flooding in the ci 1 the closure of so edge. Portions of ray, were closed o endence Avenue a l. A family of 7 d	autres melted ith 1 to 3 inch d 10 feet. Thu et) by the 23rc ty was limited me waterfront the George W n the 22nd, ca nd Water Stre eer was washe	l to Georgeto property for /ashington M using the mo yet SW, Wisc yet through th	wn, Foggy several da Iemorial Pa orning com e streets of	Bottom, a ys, damag rkway, as mute from iue and K lower Geo	nd s, with liqui al flooding in (onsin Avenue i nd the Haines ed homes and l well as ramps the western su Street NW (Ge orgetown befor	Point/Was businesses to the Mer iburbs to b eorgetown re making	hins averaging 1 to ars. No tidal varia eorgetown) on the hington Marina au , and brought hea morial Bridge and ack up for miles.), and the Jeffersoo it to dry land.	2 incnes. ations were noted 2 1st, dropping rea. High water vy debris to the I Clara Barton Portions of on Memorial were
MARYLAND, Central	<u>l</u>									
MDZ002>007-009>011- 013>014-016>018	Allega Baltim	iny - Washington iore - Prince Geo	• - Frederick orges - Anne 4	- Carroll - N Arundel - Cł	lorthern B: harles - St.	altimore - Mary'S -	Harford - M Calvert	ontgomery	y - Howard - Sou	thern
	07 08 An hi weeke inches matter produc accum Interna	v200EST 1300EST storic winter storr end of January. Ir s in central Maryla rs, winds gusting i ced the larges stat ulation records w ational (BWI; ME	n, known as tl n general, snov and (MDZ009 in excess of 3: ewide storm t ere shattered a)Z011) nearly	he "Blizzard w totals were >011, 013), ; 5 mph produc otals since th at airports fro equalled its	2 of '96", crip as follows and 26 to 3 ced drifts oi ie "Megalop om southwe record of 22	150 ppled all o : 20 inches 6 inches to f 4 to 7 fee politan Sto :st Virgini. 2.8 inches	f Maryland we s in lower sout o over the nortl et, except over ymm" of Februa a through New in 24 hours (2)	est of the C hern Mary hern tier (N 10 feet in ry 11th, 19 ' England; 2.5 inches	hesapeake Bay di land (MDZ016>0 MDZ002>007). T the mountains. T 983. Numerous 2 Baltimore/Washi fell), set in 1983.	uring the first full 118), 20 to 26 'o complicate 'he storm 4-hour ngton
	The s from 1 of the mb) s1 new s1 Copio betwee	torm was induced the Gulf of Mexic 7th. Meanwhile, urface high pressu urface low develo us Gulf of Mexico en the intensifying	by a digging to through the confluent flo ¹ re over northi ped along the b and Atlantic g low and the	upper level t Deep South. w, behind an ern New Yor Georgia coas moisture wa arctic high ca	rough over Surface pi upper-leve k state. As st. The low s entrained aused winds	the easter ressures be l arctic vo the upper / deepened into the sy s to streng	n Great Plains. egan falling as rtex over the C -level trough a l explosively w ystem, produci then to 25 mph	At the su the upper Canadian M pproached thile the ar ng heavy s 1 with gust	rface, an inverted trough approache laritimes, maintai the southeast U.S cctic high remaine snow; the increasi is to 35 mph.	trough extended d on the afternoon ned strong (1034 S. on the 8th, a d in place. ng gradient
	The sprolor but ma	ystem moved slov nged near-blizzard aintaining gusty n	vly from Sout l conditions in orth winds (ar	h Carolina to ito the 8th. T id substantial	the mouth The storm fi I blowing a	of the Cha nally mov nd drifting	esapeake Bay (ed towards Ne ; snow) until ev	overnight c w England vening.	on the 7th. The sl- l later on the 8th,	ow movement ending the snow
	The si equipi severa driver, strand week.	torm effectively c ment fought a losi al above-ground n), slid into anothe ed when a train go	losed all majo ing battle with hishaps in Mar r in central Mo ot stuck betwe	or highways c the consider ryland. Shor ontgomery C en stations.	on the 7th, t rable blowin tly after the 'o (MDZ00! Many abov	out interstang and dri onset of t 9), killing re-ground	ates were "open fting snow. The the storm, a tra the driver. The stations remain	n" by the 8 ne Washinş in, with th e follolwir ned closed	th, even though sigton subway systeree persons aboar ig evening, 80 part throughout the fo	now removal orm suffered d (including the ssengers were ollowing work



Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numbe Perso Killed	r of ns Injured	Estimated Damage Property Crop	January 1996 Character of Storm
MARYLAND, Central								
	Two po clinics	ersons perished d shortly after the	irectly from h blizzard, most	ypothermia due to over	the day after -exertion fro	the blizz m shovel	ard. Over 150 in ling snow, but sor	juries were reported at area hospitals and ne due to slipping on ice.
	All fed closed exceed by sno banks.	leral, state, and lo for the week. A led \$70 million (s w removal operat	ocal governme federal state o state and count tions; another	nts were clo f emergency y combined \$3.7 million	sed Monday was declare), a state reco was budgete	(the 8th) ed the follord for ar ed for rep	and Tuesday (the lowing Friday (the n individual winte pairs to highways	e 9th). Most school districts remained he 12th). Snow removal/damage costs or storm. The vast majority was incurred including potholes, guard rails, and side
	The we caved i the dor barn co escape M520	eight of the snow in at 0730 EST o rmitories rather th ollapsed, killing 1 d unharmed. OU, M50OU	caused severa n the 8th, disp nan in the dinin 00 cows and i	l area roofs lacing up to ng room due njuring abo	to collapse. 120 resident e to staff shor ut 100 more.	In Clinto s. Fortur rtages. N Two ba	on (MDZ013), the nately, disaster wa lo injuries were re rns collapsed in C	e roof of a nursing home dining room as averted because breakfast was served in eported. In Frederick Co (MDZ004), a Clear Spring (MDZ003), and 100 cows
MDZ006>007-011- 013>014-016>017	Northe	ern Baltimore - H	Harford - Sou	thern Balti	more - Prino	ce Georg	es - Anne Arund	lel - Charles - St. Mary'S
	09	1400EST 1800EST			0	0		Heavy Snow
	Low- a inches snowfa	and mid-level lift of snow in a 5-he all produced total	ahead of an "A our period from snow depths s	Alberta Clip n lower sou similar to th	per" added in thern Maryla ose over the	nsult to ir ind throu Marylanc	njury only a day a gh the northern su d and Virginia pie	fter the "Blizzard of '96," dumping 4 to 6 aburbs of Baltimore. The additional edmont.
MDZ002>007-009>011- 013>014-016>018	Allegar Baltim	ny - Washington ore - Prince Geo	- Frederick - orges - Anne A	Carroll - N Arundel - C	Northern Ba harles - St. 1	ltimore - Mary'S -	Harford - Mont Calvert	tgomery - Howard - Southern
	Less th Chesap of the I Elsewh Washin	1300EST nan one week afte peake Bay. The s Baltimore/Washi here in Maryland, ngton Cos (MDZ	er the crippling snow changed ngton area bef , snow amount 003>004).	g "Blizzard o to freezing ore tapering s ranged fro	of '96," a new rain and slee off. The ch om 6 to 8 incl	winter s t from the angeover hes, with	storm dumped sub e Chesapeake Bay suppressed accu amounts up to 1	ostantial snow across Maryland west of the y through the eastern and southern suburbs mulations to 4 to 6 inches in this region. foot at higher elevations in Frederick and
	The sto Valley intensi the "Bl weaker of the l	orm developed as through southeas fying slowly as it lizzard of '96," a r and more progre highest snow tota	an area of low stern North Ca t moved throug lack of cold ai essive, kept the lls in the Easte	v pressure in rolina. As t gh the mouth r behind the e surface low rn U.S.	h the midwes the upper-lev h of the Ches surface low w from rapid	t, which i rel trough sapeake E , combine ly intensi	became an elonga a approached, the Bay, then off the I ed with the fact th ifying. Nonethele	ated trough extending from the Tennessee North Carolina low became dominant, Delaware coast by late afternoon. Unlike nat the upper-level trough was significantly ess, west-central Maryland received some
	Travel most in federal week o	was slowed yet a mpressive on the l offices were clo of storms also wip	again, but by e Capital Beltwased. School d bed out their al	vening mair ay in Montg istricts rema llotment of s	n arteries wer comery Co (M ined closed, snow days.	re cleared MDZ009) giving ch	 Excessive spee which involved i hildren an extra w 	ed contributed to numerous accidents, the four tractor-trailers. Most local, state, and week of winter vacation. Unfortunately, the
	The ad when a Marlbo homes	lditional snow loa an exterior wall c oro (MDZ013) cc as a result of "icc	ad caused seve aved in. In Be illapsed, and a e dams," which	ral structure ethesda (MD nother ware h also cause	es to partially 2009), a roo house in nea d interior lea	fail. In f partiall rby Belts ks.	Westminster (ME y failed at a print ville had a saggir	DZ005), a bowling alley was damaged ing center. A tire warehouse in Upper ng roof. Gutters were torn from numerous
Allegany County All	19	0300EST			0	0	7M	Flash Flood
Washington County		1200EST						
All	19	0500EST 1200EST ***Flood	/Flash Flood*'	**	0	0	1M	Flash Flood
	A			4 1. : . 4	- f	- 1- 1		

An unprecedented combination, in recent history, of unseasonably warm, humid air overriding a dense snow pack estimated between 12 and 18 inches (but up to 2 feet or more at higher elevations) caused nearly all of the pack to vanish in a 12-hour period. The unseasonably warm air was drawn northward around the circulation of a deepening storm west of the Appalachians late on the 18th and early on the 19th. The melting snow and heavy rains caused widespread, and in some cases, catastrophic flooding and flash flooding on the 19th.



		Time	Path	Path	Numbe	er of	Estima	ted		January 1996
		Local/	Length	Width	Perso	ons	Dama	ige		
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	

MARYLAND, Central

Strong low-level southeast flow developed by late afternoon on the 18th. Initially, colder temperatures in sheltered valleys slowed the rate of snow melt while the warm moist air mass attacked the snow pack at higher elevations. By mid-evening, however, even lower elevations were warming rapidly. Flash flooding began at around the same time as the onset of heavy pre-frontal rains. These heavier showers fell repeatedly over the region between 0400 and 0800EST, causing acute and widespread flooding and flash flooding. Some areas received between 2 and 4 inches of rain during this period.

Some of the most pronounced damage occurred in Allegany Co, where an estimated \$7 million in damage was reported from the initial floods alone. Two permanent homes were destroyed, 20 had major damage, and 205 had minor damage. Two mobile homes were destroyed, and 8 others had major damage; several apartments were flooded, and 32 businesses were damaged. Washington Co estimated over \$1 million dollars in damage from flood waters. Five single-family homes had major damage; 2 had minor damage. Eleven mobile homes in Funkstown sustained major damage, 13 had minor damage; 2 apartments had major damage and 3 minor damage. An oil spill also occurred in Williamsport.

Frederick County						
All	19	0700EST 1300EST	0	0	500K	Flash Flood
Carroll County						
All	19	0700EST 1300EST	0	0	300K	Flash Flood
Montgomery County						
All	19	0900EST 1300EST	0	1		Flash Flood
	***	Continuation of this event (several flood/flash	flood co	unties gro	uped together	r) continues after the following ***
Howard County						
All	19	0900EST 1300EST	0	0	5K	Flash Flood
Baltimore County						
All	19	0900EST 1300EST	0	0		Flash Flood
Harford County						
All	19	0900EST 1500EST	0	0	5K	Flash Flood
MDZ002>004-009	Alleg	any - Washington - Frederick - Montgomery				
	19 22	0900EST 2200EST	0	0	60M	Flood

River Flooding

High dew point temperatures melted most of the snow on the ground within 12 hours, with liquid water equivalent ranging from 1 to 3 inches. Snowmelt combined with 1 to 3 inches of rain (some locations received 5 inches) to produce, in some cases, catastrophic river flooding. The flooding was the worst in the region since 1985. River flooding began during the flood/flash flood event along the headwaters of the basins and continued downstream through the 22nd. Crests ranged from 3 to 21 feet above flood stage. Record flooding occurred on Wills Creek near Cumberland (MDZ002), damaging all dwellings in the town of Locust Grove. Almost all dwellings in the town of Point of Rocks (MDZ004) were damaged by the flood waters in some way.

Unfortunately, the National Park Service's C&O Canal and towpath was also severely damaged. Improvements made since the 1972 flooding (Tropical Storm Agnes) and 1985 were virtually destroyed once again. Damage was estimated at \$20 million for the park that runs along the Potomac from western Maryland the Washington, DC. Largest losses were sustained just outside of Cumberland and along the southernmost stretch from Great Falls into Northwest Washington (MDZ009). Flood waters covered 80 percent of the 184.5 mile canal. Helicopter rescues continued for 24 hours across much of the state during the onset through peak flooding. Antietam Battlefield National Park (MDZ003) estimated \$11 thousand damage along Antietam Creek.

There were several water and sewage plant failures. Water line breaks occurred in Lavale (MDZ002), and failures at Sharpsburg and Hagerstown (MDZ003) forced residents to boil water for 3 to 5 days (thousands of others were without water for 1 to 2 days). The plants in Brunswick (MDZ004) and Havre De Grace (MDZ007) were shut down for 1 to 3 days due to flood waters and high turbidity.

There was structural damage to several bridges which cross the Potomac. Three counties in central Maryland were declared under a federal state of emergency: Washington, Allegany, and Frederick.

Refer to the narrative on Flood/Flash Flood for a more detailed breakdown of damage estimates.



Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Perse Killed	er of ons Injured	Estim Dan Property	ated nage Crops	Character of Storm	January 1996
MARYLAND, Central										
Prince George'S County All	19	1000EST 1400EST			0	0			Flash Flood	
Anne Arundel County All	19	1100EST 1500EST			0	0	5K		Flash Flood	
Baltimore City (C) All	19	1100EST 1500EST *** Flood/Fla	ash Flood Su	ımmary ***	0	0			Flash Flood	

A waterlogged snow pack, ranging (roughly) in depth from 3 to 12 inches, was eaten away when subtropical moisture fed into the region ahead of a strong cold front. The warm moist air mass contained temperatures in the upper 50s and lower 60s, along with relative humidity near 100 percent. A deepening storm moving north through the Ohio Valley drew the subtropical air into the region. Minor flash flooding began during the pre-dawn hours, but more significant flooding occurred with the passage of an intense and unusual squall line, which moved through between 0900 and 1200EST. The squall line dumped rainfall amounts of 1.5 to 2.5 inches in less than 3 hours at any one location. Streams quickly overflowed their banks, and water ponded quickly from clogged storm drains and saturated ground.

Flash flooding, due to streams and creeks out of their banks, began in northern Montgomery, western Carroll, and much of Frederick Co around 0700EST. The onset of heavy rains, between 0900 and 1000EST over the piedmont, and 1000 and 1200EST elsewhere, produced more substantial flash flooding. In Frederick Co, flash floods caused mud slides, knocked down trees, and closed roads. Numerous rescues were undertaken, mostly due to stranded vehicles. At the height of the storm, 52 roads were closed. Three hundred seventy-eight homes sustained flood-related damage. Fortunately, there were no fatalities, but there were a number of minor injuries. Rapid flooding of the Monocacy River (Frederick Co) caused problems, and there was flooding reported at Point of Rocks. In Carroll Co, 75 acres were reported under water, and several homes were evacuated in Detour, a result of a flood-related HAZMAT incident. Another oil spill also occurred at Owings Mills in Baltimore Co.

In Montgomery Co, an elderly woman was in fair condition after her car was submerged along White's Ferry Road near Poolesville. Numerous creeks and streams were out of their banks countywide, including Rock Creek near Kensington. The flooded creek left large deposits of sediment in its wake. In Prince George's Co, over a dozen cars were towed out of high water along federal highway 1, which was temporarily closed.

Farther east, in the Baltimore vicinity, several water rescues were reported. Just south of Baltimore City, Interstate 695 was closed briefly near Arbutus. An automobile was swept away in Harford Co.

MDZ004

Frederic	ck			
28 29	0000EST 0500EST	0	0	Flood
	*** River Flooding ***			

As river levels receded after the snow melt/rainfall on the 19th, additional rainfall on the 28th caused portions of the Lower Potomac basin to flood once again. Rainfall totals ranging from 0.7 to 3.5 inches over the Potomac Highlands brought crests between 0.5 and 1.5 feet above flood stage.

VIRGINIA, North

VAZ021-025>031-
036>042-050>057Highland - Augusta - Rockingham - Shenandoah - Frederick - Page - Warren - Clarke - Nelson - Albemarle - Greene -
Madison - Rappahannock - Fauquier - Loudoun - Orange - Culpeper - Prince William - Fairfax - Arlington - Stafford -
Spotsylvania - King George

06	2300EST	1	1	350K	Blizzard
08	1100EST				

An historic winter storm, known as the "Blizzard of '96", crippled all of northern Virginia during the first full weekend of January. In general, snow totals ranged from 20 inches on the coastal plain (VAZ052>53; 055>057) to over 3 feet at the higher elevations of the central and northern Shenandoah Valley. To complicate matters, winds gusting in excess of 35 mph produced drifts of 4 to 7 feet, except over 10 feet in the mountains. The storm produced the largest statewide storm totals since the "Megalopolitan Storm" of February 11th, 1983. Numerous 24-hour accumulation records were shattered at airports from southwest Virginia through New England; Washington/Dulles airport (IAD; VAZ042) accumulated 24.6 inches., 19.8 of which fell on the 8th. The 19.8 inches broke the all-time 24-hour accumulation record by 4.4 inches.

The storm was induced by a digging upper level trough over the eastern Great Plains. At the surface, an inverted trough extended from the Gulf of Mexico through the Deep South. Surface pressures began falling as the upper trough approached on the afternoon of the 7th. Meanwhile, confluent flow, behind an upper-level arctic vortex over the Canadian Maritimes, maintained strong (1034)



		Time	Path	Path	Numbe	er of	Estima	ted		January 1996
		Local/	Length	Width	Perso	ons	Dama	nge		
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	

VIRGINIA, North

mb) surface high pressure over northern New York state. As the upper-level trough approached the southeast U.S. on the 8th, a new surface low developed along the Georgia coast. The low deepened explosively while the arctic high remained in place. Copious Gulf of Mexico and Atlantic moisture was entrained into the system, producing heavy snow; the increasing gradient between the intensifying low and the arctic high caused winds to strengthen to 25 mph with gusts to 35 mph.

The system moved slowly from South Carolina to the mouth of the Chesapeake Bay overnight on the 7th. The slow movement prolonged near-blizzard conditions into the 8th. The storm finally moved towards New England later on the 8th, ending the snow but maintaining gusty north winds (and substantial blowing and drifting snow) until evening.

The storm effectively closed all major highways on the 7th, as snow removal equipment fought a losing battle with the considerable blowing and drifting snow. By the 8th, major interstate highways were open statewide; however, 75-100% of state and local highways remained impassible. Highway clean-up and repair costs were remarkable across northern Virginia. An estimated \$50 million was spent on snow removal alone. Repairs to pavement, guardrails, and side banks were estimated between \$5 and \$7 million.

Prior to the onset of precipitation, the governor declared a state of emergency for the entire Commonwealth. This allowed for quick deployment of Virginia National Guardsmen, primarily from the Piedmont through the western highlands. HMMWV's (Humvees) were dispatched to the region, and proved very effective in moving the medically impaired to area hospitals. Despite the Guard's help, important services were significantly reduced; food, fuel, and medical supplies began to dry up. All federal, state, and local governments, as well as all area school districts, were closed Monday (the 8th) and Tuesday (the 9th); most school districts remained closed for the entire week.

One person perished from exposure (VAZ053) the day after the storm ended (January 9th); ten others perished as a result of heart failure while shoveling snow. Dozens of hikers and outdoorsmen were stranded in the Shenandoah Valley during the height of the blizzard. Virtually all made it to prefabricated shelters in the park, where food and blankets were airlifted for several days until nearby roads could be cleared. Statewide, 800 persons required shelter during the storm, the majority of whom were stranded travelers.

The combination of powdery snow and moderate winds did not allow significant accumulations on trees or power lines; thus outages were minimal. The only substantial damage was noted near Stanardsville (VAZ038), where 51 power poles were damaged or destroyed during the storm.

The weight of the snow on roofs, especially where drifts formed, caused scattered collapses across the area. Many of the reported collapses were to structures unable to support the snow pack. Such structures included greenhouses, poultry houses, porches and awnings, and a few mobile homes. A man was injured when a greenhouse collapsed on him in Stephens City (VAZ031). Most of the damage was reported in the Shenandoah Valley. Noteworthy damage was reported to a church gymnasium in West Springfield, causing thousands of dollars in damage. In Dale City (VAZ052), the Potomac Mills shopping mall remained closed for several days after the blizzard due to a large area of sagging roof which required extensive repair. In Clarke Co (VAZ031), one barn collapsed. In Burke (VAZ053), a fire began in a high school theater when a roof collapsed onto a natural gas line. The blaze caused \$8000 in damage.

VAZ052-057	Prince William - King George								
	09 1 1	500EST 700EST	0	0		Heavy Snow			
	Low and a of snow in storm, but	Low and mid-level lift ahead of an "Alberta Clipper" added insult to injury only a day after the "Blizzard of '96", dumping 4 inches of snow in a 5 hour period near the tidal Potomac River. The additional snow slowed removal efforts in the wake of the previous storm, but was otherwise only a nuisance.							
VAZ021-025>031- 036>042-050>057	Highland Madison - Spotsylva	- Augusta - Rockingham - S Rappahannock - Fauquier nia - King George	Shenandoah - Frederi r - Loudoun - Orange	ck - Page - Culpep	e - Warren - Cl ber - Prince Wi	arke - Nelson - Albemarle - Gree liam - Fairfax - Arlington - Staff	ne - ord -		
	12 0	700EST 100EST	0	1	350K	Heavy Snow			

Less than one week after the crippling "Blizzard of '96", a new winter storm dumped substantial snow across northern and western Virginia. The snow changed to freezing rain and sleet along the tidal Potomac River shortly before tapering off. The changeover suppressed accumulations to 4 or 5 inches in this region. In other portions of northern Virginia, snowfall totals were as follows: In the Shenandoah Valley, 4 to 6 inches; in the piedmont, 5 to 7 inches; at higher elevations, 6 to 10 inches.

The storm developed as an area of low pressure in the midwest, which became an elongated trough extending from the Tennessee Valley through southeastern North Carolina. As the upper-level trough approached, the North Carolina low became dominant, intensifying slowly as it moved through the mouth of the Chesapeake Bay, then off the Delaware coast by late afternoon. Unlike the "Blizzard of '96", a lack of cold air behind the surface low, cominbed with the fact that the upper-level trough was significantly weaker and more progressive, kept the surface low from rapidly intensifying. Nonetheless, the northern Virginia region received some of the highest snow totals in the East.



		Time	Path	Path	Numbe	er of	Estima	ted		January 1996
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	

VIRGINIA, North

Travel was hampered yet again, but by evening most main arteries were cleared. A DC-9 slid off the runway at IAD at 0915EST, causing inconvenience to the 30 passengers on board but no damage. Most local, state, and federal offices closed. Nearly all school districts in northern Virginia remained closed for a fifth day, providing school children an extra week of winter vacation. However, the week of storms and clean-up also wiped out their allotment of snow days.

The weight of the snow from all three events during the week of January 7th through 13th caused several related problems. The worst damage was reported in Montpelier (VAZ050) between the 13th and 14th, when a large horse stable sustained substantial roof damage. Damage was estimated at \$250,000. Damage was also reported at a Winchester (VAZ028) strip mall, where a sagging roof forced the evacuation of over a dozen children from a day care center on the 13th. In Sterling, a shopping center lost a 10x12 section of walkway covering.

In southern Stafford Co (VAZ055), a woman was injured when a carport collapsed. Luckily, she was protected from serious injury by the automobile, which had its windows shattered. Portions of the roof at Potomac Mills Mall in Woodbridge (VAZ052) continued on the verge of collapse, forcing the mall's closure on the 13th. A nearby grocery store was evacuated for similar reasons. Lastly, numerous homes had their gutters ripped off by "ice dams", which also caused interior leaks during the week following the event.

Rockingham County All

19	0130EST 1200EST		0	0	7M	Flash Flood
An unp	precedented combination	n, in recent history, of	unseasonably	y warm, h	umid air overriding	a dense snowpack estimated
1 /	C 115' 1 (1)			• \	1 1 11 0.1	1 / 1 / 101

between 6 and 15 inches (but up to 2 feet or more at higher elevations) caused nearly all of the pack to vanish in a 12-hour period. The unseasonably warm air was drawn northward around the circulation of a deepening storm west of the Appalachians late on the 18th and early on the 19th. The melting snow and additional rainfall produced widespread flooding and flash flooding on the 19th.

Strong low-level southeast flow developed by late afternoon on the 18th, and pockets of light to moderate rain occurred along the foothills. Initial flash flooding, in the form of creeks and streams out of their banks and low-lying areas covered in standing water, begain around 0000EST on the 19th. More widespread flooding ensued between 0100 and 0200EST.

A pre-frontal line of heavy showers and embedded thunderstorms moved into the region shortly after dawn on the 19th, causing widespread acute flooding and flash flooding which lasted until around noon. The line of heavy precipitation moved slowly through the area between 0600 and 0900EST, prolonging the flooding. Some of the higher totals reported by automated rain gages (which contained some melted snow) were in excess of 5 inches. Montebello (Nelson Co) received 5.22 inches, Big Meadows (Page Co) had 5.12 inches, Long Run (Rockingham Co) reported 4.47 inches, and Sherando (Augusta Co) had 4.16 inches.

One death was reported by Albemarle Co authorities, as a motorist lost control of his vehicle in high water and struck a tree just south of Charlottesville. High water closed numerous local roads, and several major arteries as well, including federal highway 33 near Harrisonburg (Rockingham Co). Also in Rockingham Co, authorities evacuated the main street in Broadway when a 20 ton fuel oil tank and two 1000-lb propane tanks broke loose from their moorings and began floating down the street. In Page Co, 200 residents below the Skyline Lakes Dam were evacuated as the dam threatened to break. Hundreds of roads were closed statewide due to flooding; the Virginia Department of Transportation reported 23 primaries and 250 secondaries blocked off.

States of Emergency were either declared or extended for 12 counties and 2 independent cities.

Augusta County						
All	19	0130EST 1200EST	0	0	900K	Flash Flood
Nelson County						
All	19	0130EST 1200EST	0	0		Flash Flood
Albemarle County						
All	19	0130EST 1200EST	1	0		Flash Flood
	M?VE					
Greene County						
All	19	0130EST 1200EST	0	0	1K	Flash Flood
Madison County						
All	19	0130EST 1200FST	0	0		Flash Flood



Location	Date	Time Local/ Standard	TimePathPuthNumber ofEstimatedLocal/LengthWidthPersonsDamageStandard(Miles)(Yards)KilledInjuredProperty		nated nage Crops	January 1996 Character of Storm				
VIRGINIA, North										
Page County All	19	0130EST 1200EST			0	0	700K		Flash Flood	
Rappahannock County All	19	0130EST			0	0			Flash Flood	
VAZ025>027-029>031- 038>042-050>051-	Augus - Orai	ta - Rockinghan nge - Culpeper -	n - Shenandoa Fairfax - Arli	ah - Page - ` ington - Sta	Warren - Cl fford - Spot	larke - G sylvania	reene - Ma	dison - Raj	ppahannock - Fai	ıquier - Loudoun
053>056	19 22	0130EST 1630EST ***Rive	er Flooding***	c	4	0	15M	81K	Flood	
	High betwe regior contir	dewpoint temperation 2 to 3 inches. and flooding in owned downstream	atures melted a Snowmelt, co yer 10 years. R through the 22	most of the sombined with River floodin 2nd. Crests	now on the n 1 to 3 inch g began dur ranged from	ground w es of rain ing the flo 3 to 21 f	ithin 12 hou (some loca ood/flash flo eet above fl	tions receiv tions receiv od event al ood stage.	ow pack had a liqu red nearly 5 inches long the headwate	hid equivalent (), caused the worst rs of all basins and
	High water caused millions of dollars in damage, closed roads, destroyed homes and businesses, and forced the evacuation several towns. Four people were rescued by the National Park Service and Fairfax County Fire Department at Great Falls (VAZ053) when they wandered onto the rocks to view the raging Potomac and became stranded. Several kayakers were a rescued while trying the sail the rough waters. Although low-water bridges remained closed, a vehicle carrying three teen and one adult dared the high waters of the Hazel River (VAZ051) and lost. All four perished as the automobile was sw									evacuation of Great Falls kers were also three teenagers ile was swept
	Flood affect (\$1 m the loo Water	waters covered l ed Washington N illion to residenti ss of inventory at Reclamation Fa	Union Street a National Airpor ial areas; \$2 m t Hartz Corpor cility in Freder	nd the lower rt, but not the illion to bus ation, an app rick Co (VA	part of King e runways. ' inesses). In parel manufa Z028).	g Street al The city c Rockingh cturer. H	long the rive of Waynesb nam Co (VA ligh water a	er in Old To oro (VAZ02 AZ025), \$2. Iso caused \$	own Alexandria (V 25) estimated \$3 n 2 million in damag \$70 thousand in da	AZ053), and nillion in damage ge was attributed to amage to Opequon
	Refer F14V	to Flood/Flash F E	flood events in	this report f	or a more de	etailed bre	eakdown of	damage est	imates. M20VE, I	M16VE, F15VE,
Highland County All	19	0400EST 1200EST			0	0			Flash Flood	
Shenandoah County All	19	0500EST 1300EST			0	0	27M		Flash Flood	
Frederick County All	19	0500EST 1300EST			0	0	2M		Flash Flood	
Warren County All	19	0600EST 1300EST			0	0	2M		Flash Flood	
Clarke County All	19	0600EST 1300EST			0	0	600K		Flash Flood	
Loudoun County All	19	0700EST 1300EST			0	0	1M		Flash Flood	

An unprecedented combination, in recent history, of unseasonably warm, humid air overriding a dense snowpack estimated between 12 and 18 inches (but up to 2 feet or more at higher elevations) caused nearly the entire pack to vanish in a 12-hour period. The unseasonably warm air was drawn northward around the circulation of a deepening storm west of the Appalachians late on the 18th and early on the 19th. The melting snow and additional rainfall produced widespread flooding and flash flooding on the 19th.

Strong low-level southeast flow developed by late afternoon on the 18th. Initially, colder temperatures in sheltered valleys slowed the rate of snow melt while the warm moist air mass attacked the snow pack at higher elevations. By mid-evening, however, even the lower elevations were warming rapidly. Flash flooding began at around the same time as the onset of heavy pre-frontal rains. Heavier showers fell over the same areas between 0400 and 0800EST, causing acute and widespread flooding and flash flooding.



		Time Local/	Path Length	Path Width	Numbe	er of	Estima	ited		January 1996
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	

VIRGINIA, North

0

Augusta County

Some areas received between 2 and 4 inches of rain during this period. Thunderstorms developed as the line moved into eastern Loudoun Co between 0900 and 0930EST. Some of the higher totals reported by automated rain gages (including some snow melt) were nearly 5 inches. Monterey (Highland Co) received 4.71 inches, Front Royal (Frederick Co) had 4.32 inches, Hogback Mountain (Warren Co) reported 3.76 inches, and Woodstock (Shenandoah Co) had 2.43 inches.

Some of the most pronounced damage occurred in Shenandoah Co near the town of Woodstock. One hundred acres of farmland were inundated, a reported 799 homes sustained damage from flood waters, as did a restaurant in Edinburg. There were numerous water rescues, but no fatalities were reported. Numerous local roads werre closed, as were several state and federal highways, due to high standing water or creeks raging out of their banks.

rauquier County							
All	19	0700EST 1300EST		0	0	200K	Flash Flood
Culpeper County							
All	19	0800EST 1300EST		0	0		Flash Flood
Orange County							
All	19	0800EST 1300EST		0	0		Flash Flood
Fairfax County							
All	19	0900EST 1300EST		0	0		Flash Flood
Prince William County							
All	19	0900EST 1300EST		0	0	10K	Flash Flood
Stafford County							
All	19	1000EST 1400EST		0	0	5K	Flash Flood
Spotsylvania County							
All	19	1000EST 1400EST		0	0	3K	Flash Flood
Arlington County							
All	19	1100EST 1400EST		0	0	3К	Flash Flood
	A		f 1'	1- 1		and the second	

An unusually intense squall line, feeding on an unseasonably warm moist tropical air mass, dumped an estimated 1.5 to 2.5 inches of rain in a two-hour period during the mid and late morning of the 19th, causing widespread flash flooding. The rain fell on oversaturated soil, a result of the previous night's rapid snow melt. During the overnight hours, the remaining water-logged snow pack of 3 to 8 inches was eaten away by strong southeasterly winds which carried low 60s temperatures and near 100 percent relative humidity into the region.

Prior to the onset of heavy rain, numerous creeks and streams were near bank full due to the rapid snow melt. Minor flash flooding began at most locations in the piedmont prior to the squall line; the more serious flooding was associated with the line's passage from west to east, between 0900 and 1130EST.

In Orange Co, as in many other counties, schools were closed early due to the continued flood threat. One school reported damage froma leaking roof. In Stafford Co, four roads were closed early due to high water. In Fairfax Co, several automobiles were swept off area roadways inundated by raging creeks and streams. One of the more prone locations was along state route 7 near the Difficult Run (just south of Great Falls). Three persons were rescued from stranded vehicles between 1000 and 1200EST. Two others escaped. No injuries were reported, but all 5 persons were treated at the scene for hypothermia. The combination of flooding rains, gusty winds, and lightning knocked out power to around 8000 Virginia Power customers in the Washington, DC suburbs.

After the storm and associated cold front passed, gusty northwest winds 35 to 40 mph blew down a few trees rendered unstable by waterlogged soil. A 100-foot tree fell inn Culpeper Co, near the Rappahannock Co line. Numerous creeks and streams remained out of their banks well into the evening, even as temperatures plummeted into the upper teens.

Southern	27	0430EST 0630EST	0	0	10K	Flash Flood
Rappahannock County						
Western	27	0800EST 0900EST	0	0	2K	Flash Flood



	_	Time Local/	Path Length	Path Width	Num Per	ber of sons	Estin Dan	nated	January 1996		
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm		
VIRGINIA, North											
	Icolate	ad flach flooding	was reported	in wastern V	ircinia aarl	v on the 27	7th Thom	ot coriou	flooding occurred in southern		
	Augus	sta Co, where hig	h water was re	eported in lo	w-lying are	$\frac{1}{2}$ as, and 15	secondary	oads wer	e closed. In Rappahannock Co, the		
	Thorn	ton River was ou	t of it's banks	and covered	a low-wate	er bridge, f	orcing one	road closu	ire.		
<u>WEST VIRGINIA, F</u>	East										
WVZ048>055	Grant	- Mineral - Han	unshire - Mou	rgan - Rerke	lev - Jeffe	rson - Pen	dleton - Ha	rdv			
11 1 20402035	07	0100EST	ipsin e - wio	gan - Derke	0	0		iruy	Blizzard		
	08 An his	storic winter stori	n, known as t	he "Blizzard	of '96", cri	ppled all of	f eastern W	est Virgin	ia during the first full weekend of		
	Janua Panha	ry. In general, sn indle. Gusty wind	ow totals rang is produced d	ged from 28 t rifts between	o 36 inche 6 and 10 f	s at most lo eet. The st	ocations in t torm produce	he Potom ed the lar	ac Highlands and the eastern gest storm totals since the "Superstorm		
	of Ma	rch 12-14, 1993"	, which dump	ed similar an	nounts of s	now across	the region.				
	The st	torm was induced	by a digging	upper level t	rough over	the eastern	n Great Plai	ns. At the	e surface, an inverted trough extended		
	from t of the	the Gulf of Mexic 7th. Meanwhile	o through the , confluent flo	Deep South w, behind an	upper-leve	el arctic vo	egan falling rtex over th	as the up e Canadia	per trough approached on the afternoon in Maritimes, maintained strong (1034		
	mb) si new si	urface high press urface low develo	ure over north	ern New Yo Georgia coa	rk state. A	s the upper w deepened	-level troug	h approac v while th	the southeast U.S. on the 8th, a ne arctic high remained in place.		
	Copio	ous Gulf of Mexic	o and Atlantic	c moisture w	as entraine	d into the s	ystem, proc	lucing hea	avy snow; the increasing gradient		
	Detwe	en me mensnyn			aused wind	us to streng	gunen to 25	inpri with			
	The sy prolor	ystem moved slov nged near-blizzar	wly from Sout d conditions in	h Carolina to nto the 8th.	o the mouth Γhe storm f	of the Che	esapeake Ba ed towards	ay overnig New Eng	ght on the 7th. The slow movement gland later on the 8th, ending the snow		
	but m	aintaining gusty 1	north winds (a	nd substantia	al blowing	and drifting	g snow) unt	il evening	ļ.		
	All ma consid (the 8	ajor highways we lerable blowing a th) and Tuesday (ere effectively nd drifting sn (the 9th).	closed throu ow. All state	gh the 7th, e and local	as snow re governmer	emoval equi	pment for as all area	aght a losing battle with the school districts, were closed Monday		
WVZ048>055	Grant	- Mineral - Han	npshire - Moi	rgan - Berke	ley - Jeffe	rson - Pen	dleton - Ha	rdy			
	12	0700EST 1200EST			0	0			Heavy Snow		
	Less t Virgir replen	Less than one week after the crippling "Blizzard of '96", a new winter storm dumped substantial snow across eastern West Virginia. Total snowfall ranged from 5 to 8 inches, with some spots in the eastern Panhandle reporting up to 10 inches. The storm replenished snow depths, which had compacted during the week, back up to 30 to 36 inches.									
	The st	torm developed a	s an area of lo	w pressure in	n the midw	est, which	became an	elongated	trough extending from the Tennessee		
	Valley intens	y through southea ifying slowly as i	stern North C t moved throu	arolina. As gh the mout	the upper-le h of the Ch	evel trough esapeake E	n approache Bay, then to	d, the Noi off the D	th Carolina low became dominant, elaware coast by late afternoon.		
	Unlike	e the "Blizzard of	'96", a lack o t the surface l	f cold air bel	nind the sum	rface low, o	combined w	vith a sign astern We	ificantly weaker and more progressive		
	highes	st snow totals in t	he East.		lishiying it	platy. Ito	lietheress, e		st thghint received some of the		
	Trave	l was slowed earl	y in the day, t	out by evenin	g main arte	eries were o	clear.				
Mineral County	10	0200ECT			0	0					
All	19	0300ES1 1200EST			U	U			Flash Flood		
Grant County	10	0200ECT			0	0					
All	19	0300ES1 1200EST			U	U			Flash Flood		
Pendleton County	10	0400567			٥	0	103.4		F11-F11		
All	19	0400ES1 1200EST			U	U	10101		Flash Flood		
Hardy County	10	0400597			Δ	Δ	0.514		Floch Flood		
All	19	0400ES1 1200EST			U	U	9.511		F185N F1000		
Hampshire County	10	0400000			Δ	Δ			Floch Floc -		
All	19	1200ES1 1200EST			U	U			F185N F1000		



1986										-11-1			
		Time Local/	Path Path Length Width		Numb Pers	er of	Estimated Damage			January 1996			
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm				
	_												
WEST VIRGINIA,	East												
Morgan County	10	0500000				0	50017						
All	19	0500EST 1200EST			1	U	500K		Flash Flood				
	F51V	Έ											
Berkeley County													
All	19	0600EST 1200EST			0	0			Flash Flood				
Jefferson County		1200101											
All	19	0600EST			0	0			Flash Flood				
		1200EST	1 • .• •	. 1	c		1 . 1		1	1 1			
	An unprecedented combination, in recent history, of unseasonably warm, humid air overriding a dense snow pack estimated between 12 and 18 inches (but up to 2 feet of more at higher elevations) caused nearly all of the pack to vanish in a 12-hour period												
	The u	inseasonably warn	n air was drav	wn northward	d around the	circulatio	on of a deep	pening stori	m west of the Appal	achians late on the			
	18th and early on the 19th. The melting snow, combined with downpours, produced catastrophic flooding over portions of the												
	POIOI	nac riginanus on	the 19th.										
	Strong low-level southeast flow developed by late afternoon on the 18th. Initially, colder temperatures in sheltered valleys slowed the rate of group malt while the many model in many attacked the many model. Buy wide a strong of the low of the strong strong of the strong st												
	the rate of snow melt while the warm moist air mass attacked the snow pack at higher elevations. By mid-evening, however, even lower elevations were warming rapidly. Flash flooding began at around the same time as the onset of heavy pre-frontal rains												
	Heavier showers fell over the same areas between 0400 and 0800EST, causing acute and widespread flooding and flash flooding to												
	occur	occur. Some areas received between 3 and 5 inches of rain during this period.											
	The n	The most serious flooding was reported in the Potomac Highlands, with Pendleton and Grant Cos receiving the worst of it. The											
	towns of Franklin and Circleville (Pendleton Co), and Petersburg (Grant Co) were evacuated at around 0800EST. Damage was												
	estimated to be around \$10 million in Pendleton Co alone. High water from an overflowing creek knocked homes off their foundations in Mathias (Hardu Co), major floading was propertied and the high state that the high state of th												
	toundations in Mathias (Hardy Co); major flooding was reported countywide, where the highest storm total rainfall was noted (5 inches). Flooding was also acute in Morgan Co, where Berkeley Springs was inundated by rising waters.												
	Acros	ss the entire region	n, numerous of and causing t	reeks and stu mud and debu	reams were of the second se	out of their	ir banks we was reporte	ell into Frid	ay morning, closing	roads, damaging			
	drove	through high wat	ter signs and l	her vehicle st	alled. She i	nexplicab	ly left her	vehicle and	tried to seek safety,	but was swept to			
	her de	eath in the current											
WVZ048>055	Grant	t - Mineral - Han	npshire - Mo	rgan - Berke	eley - Jeffer	son - Pen	dleton - H	ardy					
	19 21	0600EST 0600EST			0	0	20M	150K	Flood				
	21	*** River	r Flooding **	*									
	TT' 1	1	. 1. 1		4	1		1	d 10d TI				
	equiv	alent of 2 to 3 inc	atures melted hes. The sno	most of the	snow on the bined with 1	ground w	es of rainfa	ours early o all (some lo	n the 19th. The pac cations received 5 in	k had a liquid			
	the w	the worst regional flooding since 1985. River flooding began during the flood/flash flood event along the headwaters of the basin											
	and continued downstream through the 21st. Crests ranged from 3 to 21 feet above flood stage. A flood of record was noted on												
	Opequon Creek near Martinsburg (WVZ052).												
	High	High water caused millions of dollars in damage, closed roads, destroyed homes and businesses, and caused several towns to be											
	evacu	evacuated. The National Park Service at historic Harpers Ferry (WVZ053) estimated damage to the park (and new construction											
	resou	within) at \$3 million, comparable to the 1985 damage figures. There was peripheral damage to other park property and cultural resources in Lower Town and along both the Shenandoah and Potomac rivers - from the Guard Locks on the Potomac Canal, to the											
	rivers	confluence point	t. Additional	damage was	noted at the	remainin	ig bridge pi	ers; on Vir	ginius Island and its	ruins; along and			
	in oth	er canals; and into	o Shenandoah	Street/Lowe	er Town sec	tions.							
	Refer	to Flood/Flash Fl	lood section of	of this report	for a more d	etailed br	eakdown o	f damage e	stimates.				
Pendleton County								č					
Sugar Grove	27	0700EST			0	0			Flash Flood				
	Isolat	0900EST ed flash flooding	was reported	in the Potom	ac Highland	ls early or	the 27th	In Pendlet	on Co. creeks floode	d several low-			
	water	bridges near the t	town of Suga	r Grove.	ac mgmall	is curry Of	i uic 27 ul.	in i chuicu		a several 10w-			