

Deadliest Floods in West Virginia History, Ranked by Fatalities

*Draft, J. Steven Kite, West Virginia University Geology & Geography, 20 Sept 2022. Revised
June 2025*

Date(s)	Locations	Description	Fatalities	WV Damage (adjusted to 2015 \$)	References
26 Feb 1972	Buffalo Creek, Logan County	Coal waste dam failure; USGS calculated 50,000 cu. ft./s) peak flow from 15.7 km ² (6.05 mi ²) basin; 1/3 of material behind dam was sediment; probably began as landslide. Modest 3.7 in., 3 day rainfall; nearby streams had only 2-10 year flow.	125, including 4 missing 1,100 injured >4000 homeless	\$30,000,000 to \$100,000,000 (\$170,454,000 to \$568,181,000) \$100 million suit (\$50 million for damages & clean up) settled for \$1 million, \$3.7 million state cleanup cost; suits by victims & child survivors settled for \$18.3 million; 551 homes destroyed, 943 damaged. FEMA Decl. 323	Davies et al., 1972; Erickson, 1976; Stern, 1976; WV Division of Culture & History, 2015.
9 Aug 1916	Cabin Creek, incl. Cane Creek, Coal Creek, Little Coal Creek	Cloudburst floods, 2 reports of 5.9 in. rainfall at Madison; antecedent Hurricanes 1 & 3, tracked SW of WV in July.	40 to 60 Henry (1916): <50 Erskine (1952): 40 Hoyt & Langbein, (1955): 60	\$5,000,000 (\$108,696,000) Henry (1916): \$575,000 (\$12,500,000) damage according to later dispatches	Erskine (1952) p. 3; Henry 1916; Hoyt & Langbein (1955) p. 362;
4-7 Nov 1985	Cheat, Potomac, Shenandoah, Greenbrier, Elk, Buckhannon, Tygart, Monongahela, Upper Gauley rivers.	Tropical low tracked over eastern WV after Hurricane Juan passed thru Western KY; Many debris flows in Potomac Highlands, Cheat runoff nearly unprecedented in Ohio River basin; 3.9 – 11.8 in. rain in 48 hr. over large area.	47 in WV 22 in VA, 1 in MD, 1 in PA 18,000 homeless in all states	Nearly \$700,000,000 in WV (\$1,540,000,000) WV only: ~4000 homes and 2,027 bridges destroyed; >8968 homes damaged, 711 business destroyed or damaged; FEMA Decl. 753	Region III Interagency Flood Hazard Mitigation Team (1985); Janssen (1985); Lescinsky (1986); Clark et al., 1987; Jacobson et al. (1987); Noonan (1988); Carpenter (1990); Jacobson (1993); Colucci et al. (1993); Jacobson et al. (1993); Kite & Linton (1993); Miller & Parkinson (1993)
30 Sep 1870	Shenandoah River, especially Virginius Island, Harpers Ferry.	“Waterspout” south of Front Royal, VA; Potomac R. was not flooding, thus high velocity flow on Shenandoah R. at Harpers Ferry. >7.9 in. rain in 48 hr.	43 in WV 17 dead in VA (42 or more die on Virginius Island)	\$5,000,000 (\$91,000,000) in whole Shenandoah Valley, incl. every bridge & all but two mills. 70 buildings destroyed on Virginius Island	Hoyt & Langbein (1955), p. 340; Jansen (1985), p. 30-31; Johnson (1995); Kite, (1908?) p. 70-79; National Park Service, (undated); Silvius, (1998); WV Division of Culture & History (1997)
22 Jun 1901	Elkhorn Creek basin, especially Keystone Vivian, & Kimball	Cloudburst; early national reports stated 500-600 deaths in W.Va. and Va.	35 or more. Communities of color likely undercounted	>\$2,000,000 in early estimates	Battlo (1998), Anonymous, 1958 (McDowell County Centennial).
24-26 Jun 1950	West Fork, Hughes, & Little Kanawha rivers, Middle Island & Leading Crk.; Berea,	Torrential rains & flash floods; Charleston Gazette: 6.9 to 7.9 in. in 5 hrs; USGS	31 to 35 1000 families homeless	>\$10,000,000 (>\$98,000,000) 123 homes destroyed; 1292 damaged	Charleston Gazette, 1950a & 1950b; Gilchrist, 1997?; Hoyt & Langbein, 1955, p. 405-406; Ruffner & Blair (1981); Wells, (1954) p. 977

	West Union, Weston, Smithburg, Doddridge & Ritchie Co.	bucket survey: >13.8 in. total rainfall.			
Deadliest Floods in West Virginia History, Ranked by Fatalities (Continued) <i>Draft, J. Steven Kite, West Virginia University Geology & Geography, 20 Sept. 2022. Revised June 2025</i>					
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19 Jul 1888	Caldwells Run, Wheeling & Ohio Co.	Most appalling cloudburst ever known in this section of WV for nearly 2 hr. Unofficial estimates of 5.9 – 7.9 in.	~ 25 (16 to ~39) 3 or more in OH	\$300,000-\$582,000 (\$7,500,000-\$14,550,000) Loss of 2 city bridges & 6 trestles (B&O, Elm Grove RR)	Preston County Journal, 1888; Wheeling Intelligencer, 1888a; 1888b; New York Times, 1888; Anonymous, 2013.
4-5 Aug 1943	Little Kanawha R. basin, incl. small tributaries	Severe flash floods from violent thunderstorms that produced up to up to 14.7 in. rainfall in 2 hr.	23	\$1,300,000 (\$17,808,000)	Erskine (1952); Hoyt & Langbein, 1955, p. 60, 397; Ruffner & Blair (1981)
23 Jun 2016	Greenbrier, Elk, Gauley river basins, and numerous smaller streams, including Howard Creek.	Flash floods from repeated lines of intense convective storms along a stationary front; 3.9 in – 7.9 in. 12-24 hr. rainfall over >4000 km ² area.	23	<i>Preliminary</i> \$340,000,000 in disaster assistance cost, estimated by State of WV; >1,000 (?) homes destroyed or damaged beyond repair; FEMA Disaster Declaration 4273 in 12 counties	West Virginia Office of the Governor press releases (2016); DiLiberto (2016), FEMA 2016a; 2016b); numerous AP and other media news stories
19 Jul 1961	Small streams near Charleston, incl. Magazine Hollow (Garrison Ave.)	Cloudburst during wettest July in history causes flash floods and debris flows; 5.7 in. rainfall in 4 hr.	22 (2 landslide fatalities; >200 homeless families)	\$4,000,000 (\$31,746,000) FEMA Disaster Declaration 117	Charleston Gazette, 1991; Rostvedt (1965); Ruffner & Blair (1981)
10-11 Jul 1932	Paint & Armstrong Crks., Fayette & Kanawha Co.; Otter Crk., Tucker Co.	Flash floods, most damage in Powellton, Elkridge; landslides in Tucker Co.	20 (1 landslide fatality; >500 homeless)	\$2,500,000 (\$43,103,000) >205 homes destroyed	Deitz, 1988; Erskine (1952) p. 3; Fansler (1962); Hoyt & Langbein (1955) p. 376
18 Jul 1889	Little Kanawha R. basin, esp. streams near Limestone Hill: Slate, Lee, Pond, & Sandy crks; Wood, Wirt, Jackson, & Ritchie Co. (19.5 in)	Cloudburst causes "violent" landslides (debris flows?) Tygart Crk. rose 6.7 m in 1 hr; Tucker Crk. at Morristown rose 6.1 m in <2 hr; 19.5 in. rainfall in 2 hr. 10 min at Rockport (WV record).	19 to 23	>\$650,000 (>\$16,670,000)	The Daily State Journal (1889); Ruffner & Blair (1981); Smith et al. (2011)

Damage Conversions to 2015 \$ from Sahr, 2016

References Cited

Anonymous, 2013, Timeline, [Historic Wheeling](http://historic-wheeling.wikispaces.com/Timeline) Wiki, webpage edited Nov 27, 2013, viewed 17 Aug 2016 at <http://historic-wheeling.wikispaces.com/Timeline>. (Dead links Sept 2022)

Note Need to Confirm from primary sources that were used in this document:

John **Bowman** (2009) *Wheeling - The Birthplace of the American Steamboat*. Self published in cooperation with Wheeling National Heritage Corporation.

William A. **Carney** Jr and Brent Carney (2003) *Images of America - Wheeling*. [Arcadia Publishing Company](http://www.arcadia-publishing.com). pp 127.

Gibson Lamb **Cranmer** (1902) *History of Wheeling City and Ohio County, West Virginia and Representative Citizens*. Biographical Publishing Co., Chicago, pp 853. Reprinted 1994 by Closson Press.

Anonymous, 1958, *McDowell County Centennial, 1858-1958*, not paginated.

Battlo, Jean, 1998, *McDowell County in West Virginia and American History*, McClain Printing Company, 510 p.

Carpenter, D.H., 1990, Floods in West Virginia, Virginia, Pennsylvania, and Maryland, November 1985: U.S. Geological Survey Water Resources Investigations Report 88-4213, 86 p.

Charleston Gazette, 1950a, 28 June 1950, p. 11.

Charleston Gazette, 1950b, 29 June 1950, p. 1.

Charleston Gazette, 1991, 24 July 1991, p A1

Clark, G. Michael, Jacobson, Robert, Kite, J. Steven, and Linton, Ron C., 1987, Storm-induced catastrophic flooding and related phenomena in Virginia and West Virginia, November, 1985: *in* Mayer, Larry, and Nash, David, editors, *Catastrophic Flooding*, London, Allen and Unwin, p. 355-380.

Colucci, Stephen J., Jacobson, Robert B., and Greco, Steven, 1993, Meteorology of the storm of November 3-5, 1985, in Virginia and West Virginia, *in* Jacobson, Robert B., editor, *Geomorphic studies of the storm and flood of November 3-5, 1985, in the upper Potomac River basin*: U.S. Geological Survey Bulletin 1981, p. B1-B31.

The Daily State Journal, 1889, Parkersburg, W. Va., vol. XII, nos. 152-154, vol. XIII nos. 1-10, 13-16.

Davies, William E., James F. Bailey, and Donovan B. Kelly, 1972, West Virginia's Buffalo Creek flood; a study of the hydrology and engineering geology, US Geological Survey Circular 667, 32 p., PDF on USGS website viewed 17 July 2016 at URL: <https://pubs.er.usgs.gov/publication/cir667>

Deitz, J. Dennis, 1988, The Flood and the Blood, South Charleston, WV, Mountain Memory Books, 245 p.

DiLiberto, Tom, 2016 Thousand-year' downpour led to deadly West Virginia floods: NOAA News and Features, posted 8 July 2016, <https://www.climate.gov/news-features/event-tracker/thousand-year-downpour-led-deadly-west-virginia-floods>.

Erikson, Kai T., 1976, Everything in Its Path, Destruction of Community in the Buffalo Creek Flood, Simon and Schuster, 284 p.

Erskine, H.M., 1952, Notable local floods of 1942-43: U.S. Geological Survey Water Supply Paper 1134-A, p. 1-58; PDF on USGS website viewed 17 July 2016 at URL: <http://pubs.usgs.gov/wsp/1134a/report.pdf>

Fansler, Homer Floyd, 1962, History of Tucker County, West Virginia: Parsons, W. Va., McClain Printing Company, 702 p.

FEMA (U.S. Federal Emergency Management Agency), 2016a, Federal aid tops \$94 million with two weeks left to apply to FEMA, SBA, Website viewed 17 Aug 2016 at <http://www.fema.gov/news-release/2016/08/10/federal-aid-tops-94-million-two-weeks-left-apply-fema-sba>

FEMA (U.S. Federal Emergency Management Agency), 2016b, West Virginia Severe Storms, Flooding, Landslides, and Mudslides (DR-4237), Website viewed 17 Aug 2016 at <http://www.fema.gov/disaster/4273>

Gilchrist, Joy L. Gregoire, 1997? (date not printed); They Started It All: A Guide to Hackers Creek Historic Sites, Alum Bridge, W. Va., 53 p.

Henry, Alfred J., 1916, Section IV.-Rivers and Floods, Rivers and Floods, August, 1916: Monthly Weather Review, p. 465-466.

Hoyt, William G. and Langbein, Walter B., 1955, Floods, Princeton, NJ: Princeton University Press, 469 p.

Jacobson, Robert B., 1993, Introduction: Geomorphic studies of the storm and flood of November 3-5, 1985, in the upper Potomac and Cheat River Basin, *in* Jacobson, Robert B., editor, *Geomorphic studies of the storm and flood of November 3-5, 1985, in the upper Potomac River basin*: U.S. Geological Survey Bulletin 1981, p. A1-A3.

Jacobson, Robert B., Cron, Elizabeth, D., and McGeehin, John P., 1987, Preliminary results from a study of natural slope failures triggered by the storm of November 3-5, 1985, Germany Valley, West Virginia and Virginia: *in* Schultz, A. P., and Southworth, C. S., editors: *Landslides of eastern North America*, United States Geological Survey Circular 1008, p. 11-16.

Jacobson, Robert B., Cron, Elizabeth D., McGeehin, John P., Carr, Carolyn E., Harper, John M., and Howard, Alan D., 1993, Landslides triggered by the storm of November 3-5, 1985, Wills Mountain anticline, West Virginia and Virginia, *in* Jacobson, Robert B., editor, *Geomorphic studies of the storm and flood of November 3-5, 1985, in the upper Potomac River basin*: U.S. Geological Survey Bulletin 1981, p. C1-C33.

Janssen, Quinith, 1985, *Harpers Ferry Floods!*, Shepherdstown, West Virginia, Specialty Binding and Printing Company, 72 p.

Johnson, Mary, 1995, A Nineteenth-Century Mill Village: Virginius Island, 1800-60, West Virginia History, v. 54, p. 1-27, text only web site viewed 17 July 2016, URL: http://www.wvculture.org/history/journal_wvh/vvh54-1.html

Kite, J. Steven, and Linton, Ron C., 1993, Depositional aspects of the November 1985 flood on Cheat River and Black Fork, West Virginia, *in* Jacobson, Robert B., editor, *Geomorphic studies of the storm and flood of November 3-5, 1985, in the upper Potomac River basin*: U.S. Geol. Surv. Bulletin 1981, p. D1-D24.

Lescinsky, Joseph B., 1986, Flood of November 1985 in West Virginia, Pennsylvania, Maryland and Virginia: U.S. Geol. Survey Open-File Report 86-486, 33 p.

Miller, Andrew J., and Parkinson, Douglas J., 1993, Flood hydrology and geomorphic effects on river channels and flood plains: the flood of November 4-5, 1985, in the South Branch Potomac River Basin of West Virginia, in Jacobson, Robert B., editor, Geomorphic studies of the storm and flood of November 3-5, 1985, in the upper Potomac River basin: U.S. Geological Survey Bulletin 1981, p. E1-E96.

New York Times, 1888, Drowned in the Floods. The Terrible Disaster at and near Wheeling, The New York Times New York 21 July 1888, reproduced on GenDisasters.com website viewed 16 August 2016 at <http://www3.gendisasters.com/west-virginia/6020/wheeling-wv-vicinity-terrible-flooding-disaster-july-1888>

Noonan, Thomas H, 1988, The ruinous West Virginia flood of November 1985, U.S. Geological Survey Water Supply Paper 2325, p.

National Park Service, undated, Memorable Floods at Harpers Ferry, web site viewed 17 July 2016 (credited to Gilbert, Davis T., when viewed on 29 Oct 2005), URL: <https://www.nps.gov/hafe/learn/historyculture/memorable-floods-at-harpers-ferry.htm>

Park, W.R., 1972, Interim Report of Retaining Dam Failure, No. 5 Preparation Plant, Buffalo Mining Company, Division of the Pittston Company, Saunders, Logan County, West Virginia, United States Bureau of Mines, 24 p.

Perry, C.A., Aldridge, B.N., and Ross, H.C., 2001, Summary of Significant Floods in the United States, Puerto Rico, and the Virgin Islands, 1970 Through 1989: U.S. Geological Survey Water-Supply Paper 2502, 591 p., Web site viewed 17 July 2016, URL <http://ks.water.usgs.gov/pubs/reports/wsp.2502.sum72.html>.

Preston County Journal, 1888, (No. 1145) p. 1.

Region III Interagency Flood Hazard Mitigation Team, 1985, Interagency Flood Hazard Mitigation report in response to the November 7, 1985 disaster declaration (FEMA-753-DR-WV), Federal Emergency Management Agency, 56 p. and 9 appendices.

Rostvedt, J.O., 1965, Summary of floods in the United States during 1961; U.S. Geological Survey Water Supply Paper 1810, p. 60-62; URL: <http://pubs.er.usgs.gov/publication/wsp1810>

Ruffner, James A. and Bair, Frank E., 1981, The Weather Almanac: Gale Research Company, 801 p.

Sahr, Robert, 2016, Inflation conversion factors; Oregon State University Political Science Program, 2016, pdf file downloaded 17 August 2016 from <http://liberalarts.oregonstate.edu/spp/polisci/research/inflation-conversion-factors-convert-dollars-1774-estimated-2024-dollars-recent-year>

Silvius, Don, 2006, The Flood of 1870: One of the worst tragedies in the written history of the Valley; Shenandoah County GenWeb Project website viewed 17 July 2016, URL: <http://www.vagenweb.org/shenandoah/cem/flood.html>.

Smith, J. A., Baeck, M. L., Ntelekos, A. A., Villarini, G., and Steiner, M., 2011, Extreme rainfall and flooding from orographic thunderstorms in the central Appalachians, Water Resources Research v. 47, 24 p., W04514, doi:10.1029/2010WR010190.

Stern, Gerald M. 1976, The Buffalo Creek Disaster: How the Survivors of One of the Worst Disasters in Coal-Mining History Brought Suit Against the Coal Company- and Won, Vintage Books, 282 p.

United States Signal Service (1889), Monthly precipitation, Mon. Weather Review, v. 17, 177-182.

Wells, J.V.B., 1954, Summary of floods in the United States during 1950: U.S. Geological Survey Water Supply Paper 1137-I, p. 957-991; PDF file viewed 17 July 2016 at URL: <http://pubs.usgs.gov/wsp/1137i/report.pdf>.

West Virginia Division of Culture and History, 1997, Time Trail, West Virginia September 1997 Programs, September 30, 1870: Floods devastate Harpers Ferry, (on-line transcript), URL: <http://www.wvculture.org/history/timetr/ttsept.html>.

West Virginia Division of Culture and History, 2015, Buffalo Creek, web site viewed 17 July 2016, URL: <http://www.wvculture.org/history/buffcreek/bctitle.html>.

West Virginia Division of Culture and History, 2015, The Buffalo Creek Flood and Disaster: Official Report from the Governor's Ad Hoc Commission of Inquiry 1973, web site viewed 17 July 2016, URL: <http://www.wvculture.org/history/disasters/buffcreekgovreport.html>

West Virginia Division of Culture and History, 2015, Flood of 1950 Worst Flash Flood in History Sweeps Troy and Other Communities, *Glenville Pathfinder* June 30, 1950, web site viewed 17 July 2016, URL: <http://www.wvculture.org/history/disasters/flood195001.html>

West Virginia Office of the Governor, 2016, West Virginians Coming Together, Focusing on Long-Term Recovery Following Floods, web site viewed 17 July, URL: <http://www.governor.wv.gov/media/columns/2016/Pages/West-Virginians-Coming-Together-Focusing-on-Long-Term-Recovery-Following-Floods.aspx>.

Wheeling Intelligencer, Still Worse: The Wheeling Intelligencer, v. XXXVI, no. 289, July 21, 1888, p. 1, 4: 1888 Flash Floods: Ohio County (WV) Public Library web site viewed on 16 August 2016 at <http://www.ohiocountylibrary.org/wheeling-history/1888-flash-floods/3070>, also at <http://chroniclingamerica.loc.gov/lccn/sn84026844/1888-07-21/ed-1/seq-1/>

Wheeling Intelligencer, Sixteen Dead: The Wheeling Intelligencer, v. XXXVI, no. 290, July 23, 1888, p. 1, 4: web site viewed on 16 August 2016 at <http://chroniclingamerica.loc.gov/lccn/sn84026844/1888-07-21/ed-1/seq-1/>