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| **Deadliest Floods in West Virginia History, Ranked by Fatalities** *Draft,* J. Steven Kite, West Virginia University Geology & Geography, 20 Sept 2022 |
| 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 mi2) basin; 1/3 of material behind dam was sediment; probably began as landslide. Modest 94 mm, 3 day rainfall; nearby streams had only 2-10 year flow. | 125, including 4 missing1,100 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 150 mm rainfall at Madison; antecedent Hurricanes 1 & 3, tracked SW of WV in July | 40 to 60Henry (1916): <50Erskine (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; 100-300 mm rain in 48 hr. over large area.  | 47 in WV22 in VA, 1 in MD, 1 in PA18,000 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.>200 mm rain in 48 hr. | 43 in WV17 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, West Union, Weston, Smithburg, Doddridge & Ritchie Co. | Torrential rains & flash floods; Charleston Gazette: 175 to 200 mm in 5 hr; USGS bucket survey: >350 mm total rainfall. | 31 to 351000 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 |
| **Deadliest Floods in West Virginia History, Ranked by Fatalities (Continued)***Draft,* J. Steven Kite, West Virginia University Geology & Geography, 20 Sept. 2022 |
| Date(s) | Locations | Description | Fatalities | WV Damage (adjusted to 2015 $) | References |
| 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 150-200 mm. | ~ 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 375 mm 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; 100-200 mm 12-24 hr. rainfall over >4000 km2 area. | 23 | *Preliminary* $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; 146 mm 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.

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 | 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. | Cloudburst causes “torrent” & landslides (debris flows?); Tygart Crk. rose 6.7 m in 1 hr; Tucker Crk. at Morristown rose 6.1 m in <2 hr;495 mm 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*

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