

# Kanawha Basin Study Flood Risk Reports

10/17/2025

The Kanawha Basin Study assesses riverine flood hazards by providing comparative analysis at four distinct geographic scales: watershed, county, community, and building level. This multi-level approach allows for a comprehensive understanding of flood risk, from regional trends down to the specific vulnerability of individual structures.

## Kanawha Basin

- 8 Watersheds
- 16 Counties
- 90 Communities: 16 Unincorporated; 74 Incorporated Places
- Primary Buildings in 1% Annual Chance (100-yr) Floodplain: 36,800
- Significant Facilities in 0.2% Annual Chance (500-yr) Floodplain: 5,305

**Table 1:** Riverine Flood Risk Reports

Geographic Scale	# Entities	Flood Risk Report	Risk Factors	Index Score	Index Rating <sup>1</sup>	State Rank
<< AGGREGATE LEVEL >>						
WATERSHED SCALE						
<b>8 Watersheds</b>	8	<a href="#">8 Watersheds – Risk Comparison Report</a>	9			
** WATERSHED **						
Lower Kanawha	1	<a href="#">Lower Kanawha Watershed Risk</a>	9	100.0%	<b>Very High</b>	<b>1</b>
Coal	1	<a href="#">Coal Watershed Risk</a>	9	96.8%	<b>Very High</b>	<b>2</b>
Upper Kanawha	1	<a href="#">Upper Kanawha Watershed Risk</a>	9	90.6%	<b>Very High</b>	<b>4</b>
Greenbrier	1	<a href="#">Greenbrier Watershed Risk</a>	9	78.1%	Rel. High	8
Elk	1	<a href="#">Elk Watershed Risk</a>	9	65.6%	Rel. High	12
Gauley	1	<a href="#">Gauley Watershed Risk</a>	9	34.3%	Rel. Low	22
Lower New	1	<a href="#">Lower New Watershed Risk</a>	9	25.0%	Rel. Low	25
Middle New	1	<a href="#">Middle New Watershed Risk</a>	9	15.6%	Very Low	28
RIVER/STREAM SCALE						
<b>156 Streams</b>	156	<a href="#">156 Rivers/Stream Floodplains (Risk Comparison Report)</a>	8			
Coal River	1	<a href="#">Coal River – Coal Watershed</a>	8	100.0%	<b>Very High</b>	<b>1</b>
Greenbrier River	1	<a href="#">Greenbrier River – Greenbrier Watershed</a>	8	98.7%	<b>Very High</b>	<b>3</b>
Little Coal River	1	<a href="#">Little Coal River – Coal Watershed</a>	8	97.4%	<b>Very High</b>	<b>5</b>
Kanawha River	1	<a href="#">Kanawha River – Upper and Lower Kanawha Watersheds</a>	8	96.1%	<b>Very High</b>	<b>7</b>
Campbells Creek	1	<a href="#">Campbells Creek – Upper Kanawha Watershed</a>	8	94.8%	<b>Very High</b>	<b>8</b>
Pocatalico River	1	<a href="#">Pocatalico River – Lower Kanawha Watershed</a>	8	93.5%	Very High	11
Davis Creek	1	<a href="#">Davis Creek – Lower Kanawha Watershed</a>	8	92.9%	Very High	12

Geographic Scale	# Entities	Flood Risk Report	Risk Factors	Index Score	Index Rating <sup>1</sup>	State Rank
Cabin Creek	1	<a href="#">Cabin Creek – Upper Kanawha Watershed</a>	8	92.2%	Very High	13
Big Coal River	1	<a href="#">Big Coal River – Coal Watershed (Risk Report)</a>	8	90.9%	Very High	15
Pond Fork	1	<a href="#">Pond Fork – Coal Watershed</a>	8	90.3%	Very High	16
Elk river	1	<a href="#">Elk River – Elk Watershed</a>	8	89.6%	Very High	17
Spruce Fork	1	<a href="#">Spruce Fork – Coal Watershed</a>	8	87.7%	Very High	19
Paint Creek	1	<a href="#">Paint Creek – Upper Kanawha Watershed</a>	8	87.0%	Very High	21
COUNTY SCALE						
<b>16 Counties</b>	16	<a href="#">16 Counties – Risk Comparison Report</a>	27			
** COUNTY **						
Kanawha County	18	<a href="#">Kanawha County Risk Report</a>	27	100.0%	<b>Very High</b>	<b>1</b>
Boone County	6	<a href="#">Boone County Risk Report</a>	27	98.1%	<b>Very High</b>	<b>2</b>
Greenbrier County	10	<a href="#">Greenbrier County Risk Report</a>	27	81.4%	Very High	11
Mason County	7	<a href="#">Mason County Risk Report</a>	27	79.6%	Rel. High	12
Pocahontas County	5	<a href="#">Pocahontas County Risk Report</a>	27	74%	Rel. High	15
Summers County	3	<a href="#">Summers County Risk Report</a>	27	70.3%	Rel. High	17
Raleigh County	6	<a href="#">Raleigh County Risk Report</a>	27	68.5%	Rel. High	18
Webster County	5	<a href="#">Webster County Risk Report</a>	27	61.1%	Rel. High	22
Fayette County	12	<a href="#">Fayette County Risk Report</a>	27	53.7%	Moderate	26
Mercer County	7	<a href="#">Mercer County Risk Report</a>	27	50.0%	Moderate	28
Putnam County	9	<a href="#">Putnam County Risk Report</a>	27	48.1%	Moderate	29
Nicholas County	4	<a href="#">Nicholas County Risk Report</a>	27	37.0%	Rel. Low	35
Roane County	4	<a href="#">Roane County Risk Report</a>	27	33.3%	Rel. Low	37
Clay County	3	<a href="#">Clay County Risk Report</a>	27	27.7%	Rel. Low	40
Braxton County	6	<a href="#">Braxton County Risk Report</a>	27	25.9%	Rel. Low	41
Monroe County	5	<a href="#">Monroe County Risk Report</a>	27	5.5%	Very Low	52
COMMUNITY SCALE						
<b>90 Communities: Incorporated &amp; Unincorporated</b>	90	<a href="#">90 Communities – Risk Comparison Report</a>	25			
16 Unincorporated Areas	16	<a href="#">16 Unincorporated Areas - Risk Comparison Report</a>	25			
74 Incorporated Places	74	<a href="#">74 Communities – Risk Comparison Report</a>	25			
** COMMUNITY **						
Boone County* - Unincorporated	1	<a href="#">Boone County* - Unincorporated (Risk Report)</a>	1	99.6%	<b>Very High</b>	<b>2</b>
Clendenin - Incorporated	1	<a href="#">Clendenin – Incorporated (Risk Report)</a>	1	99.2%	<b>Very High</b>	<b>3</b>
Marlinton - Incorporated	1	<a href="#">Marlinton – Incorporated (Risk Report)</a>	1	98.9%	<b>Very High</b>	<b>4</b>
Alderson - Incorporated	1	<a href="#">Alderson – Incorporated (Risk Report)</a>	1	97.8%	<b>Very High</b>	<b>7</b>

Geographic Scale	# Entities	Flood Risk Report	Risk Factors	Index Score	Index Rating <sup>1</sup>	State Rank
Kanawha County* - Unincorporated	1	<a href="#">Kanawha County* - Unincorporated (Risk Report)</a>	1	96.8%	<b>Very High</b>	<b>10</b>
Madison - Incorporated	1	<a href="#">Madison – Incorporated (Risk Report)</a>	1	96.4%	Very High	11
Danville - Incorporated	1	<a href="#">Danville – Incorporated (Risk Report)</a>	1	94.3%	Very High	17
Summers County* - Unincorporated	1	<a href="#">Summers County* - Unincorporated (Risk Report)</a>	1	91.5%	Very High	25
Richwood - Incorporated	1	<a href="#">Richwood – Incorporated (Risk Report)</a>	1	90.8%	Very High	27
<b>&lt;&lt; STRUCTURE SCALE &gt;&gt;</b>						
<b>BUILDING LEVEL</b>						
Primary Structures (1% Floodplain)	36,800 of 98,319 (37%)	<a href="#">Primary Structures – Building-Level Risk Report</a> (Ranked by Flood Depth)	10			
Significant Structures (0.2% Floodplain)	1,295 of 5,305 (24%)	<a href="#">Significant Structures – Building-Level Risk Report</a> (Ranked by Flood Depth)	5			

<sup>1</sup> **Boldfaced** Rankings = Top 10% Cumulative Risk Score (> 90%) and Top 10 State Ranking for riverine flood hazard

**Table 2:** Geographic Entities with Risk Index Scores in Top 10% (greater than 90%). Boldfaced entities have a Top 10 State Ranking.

County & Community Geographic Scales

Scale:	COUNTY SCALE			UNINCORPORATED AREA			INCORPORATED PLACE			COMMUNITY SCALE		
#	County	Risk Score	State Rank	Unincorporated Area	Risk Score	State Rank	Incorporated Place	Risk Score	State Rank	Community	Risk Score	State Rank
1	<b>KANAWHA</b>	100.0%	<b>1</b>	<b>Kanawha County*</b>	100.0%	<b>1</b>	<b>Clendenin</b>	100.0	<b>1</b>	<b>Boone County*</b>	99.6%	<b>2</b>
2	<b>BOONE</b>	98.1%	<b>2</b>	<b>Boone County*</b>	98.1%	<b>2</b>	<b>Alderson**</b>	99.1	<b>3</b>	<b>Clendenin</b>	99.2%	<b>3</b>
3							<b>Marlinton</b>	98.6	<b>4</b>	<b>Marlinton</b>	98.9%	<b>4</b>
4							<b>Danville</b>	96.4	<b>9</b>	<b>Alderson**</b>	97.8%	<b>7</b>
5							<b>Madison</b>	96.0	<b>10</b>	<b>Kanawha County*</b>	96.8%	<b>10</b>
6							Richwood	92.5	18	Madison	96.4%	11
7							Rainelle	92.1	21	Danville	94.3%	17
8							Spencer	91.2	24	Summers County*	91.5%	25
9										Richwood	90.8%	27

Watershed & Rivers/Streams Geographic Scales

Scale:	WATERSHED			RIVERS / STREAMS		
#	Watershed	Risk Score	State Rank	Rivers / Streams	Risk Score	State Rank
1	<b>Lower Kanawha</b>	100.0%	<b>1</b>	<b>Coal River</b>	100.0%	<b>1</b>
2	<b>Coal</b>	96.8%	<b>2</b>	<b>Greenbrier River</b>	98.7%	<b>3</b>
3	<b>Upper Kanawha</b>	90.6%	<b>4</b>	<b>Little Coal River</b>	97.4%	<b>5</b>
4				<b>Kanawha River</b>	96.1%	<b>7</b>
5				<b>Campbells Creek</b>	94.8%	<b>8</b>
6				Pocatalico River	93.5%	11
7				Davis Creek	92.9%	12
8				Cabin Creek	92.2%	13
9				Big Coal River	90.9%	15
10				Pond Fork	90.3%	16