

# Increase Community-Wide Mental Health Resources to Reduce Long Term Impacts of Flooding on Mental Health in West Virginia

By Andrea Cass<sup>1</sup>



Rainelle, WV during 2016 flood  
Source: Elevated Media

## Executive Summary

In the summer of 2024, eight years after the 2016 flood that killed 17 people in Greenbrier County and incurred over \$1 billion dollars in damages across the state,<sup>2</sup> a research study sought to investigate the long-term, mental health impacts of the flood on residents and to identify effective solutions that can improve disaster-related mental health outcomes and services. The study conducted 30 interviews with flood survivors, mental health professionals, first responders, long-term disaster recovery leaders, government officials, and case managers, and administered a public survey with 65 respondents.

## Introduction

Existing studies typically focus on the direct impacts of flooding events rather than the associated and subsequent secondary stressors<sup>3</sup>, such as submitting claims to the Federal Emergency Management Agency (FEMA), navigating payments from the National Flood Insurance Program (NFIP), long-term economic hardship related to damage to property, disruptions to employment, or relationship problems. Both the flooding event itself and the associated secondary stressors exacerbate existing and create new mental health challenges, especially in rural areas like West Virginia.

## Long Term Impacts of Flooding on Mental Health

For some flood survivors, mental health impacts are directly related to the flooding event itself. For example, one survivor whose home was flooded said,

***“I really haven’t felt safe since the [2016] flood happened...it just really bothers me still...it just felt like we were invaded.” – Interview 18, August 2024***

Other survivors continue to feel unsafe due to secondary stressors. For instance, two survivors from separate locations installed security cameras due to late night encounters with neighbors who began struggling with substance use after the flood. Another secondary stressor included media exposure to disaster trauma, such as images of floating houses on television and posts from Facebook memories of the flood.

Mental Health Impacts from Flooding	Coping Mechanisms to Stressors
Mental Health Disorders	Substance Use
1) Anxiety	Gambling
2) Depression	Therapy
3) Acute Stress Disorder	Exercise
4) Post-Traumatic Stress Disorder (PTSD)	Binge Eating
	Meditation
	Therapy

<sup>1</sup> Andrea Cass, PhD Student, Department of Environmental Studies, [acass1@esf.edu](mailto:acass1@esf.edu)

<sup>2</sup> National Oceanic and Atmospheric Administration (NOAA). (2017) *Billion-dollar weather and climate disasters*.

<sup>3</sup> Cianconi, P., Betrò, S., & Janiri, L. (2020). The impact of climate change on mental health: a systematic descriptive review. *Frontiers in psychiatry*, 11, 74.

Participants utilized different mechanisms to cope with the flood. This included increased use of tobacco, alcohol, and gambling. Other coping strategies included therapy, speaking with family and friends, and taking part in the recovery and rebuilding phase. In speaking with case managers and mental health professionals and maintaining anonymity with their clients, other challenges included binge eating and increased domestic violence.

Current state resources include a 24/7 call line ((844)HELP4WV), Children’s Crisis & Referral Line (CCRL), West Virginia Center for Threat Preparedness (CTP), and West Virginia Emergency Management Division (WV EMD). While the Disaster Behavioral Health program is part of the State of West Virginia Bureau for Behavioral Health, the State has historically relied on non-governmental organizations like Voluntary Organizations Active in Disaster (VOAD) for case management and disaster recovery; however, as VOAD downsizes within the State, who will fill this gap after the next flood or disaster?

### *Immediate Action Needed*

At the state level, legislators have introduced mental health policies to support mental health needs across the state. For example, West Virginia Financial Incentive Programs for Clinical Psychologists is a loan-forgiveness program that aims to maintain and attract mental health care practitioners and behavioral specialists. Nevertheless, bills like "The West Virginia Resilience Act" geared towards supporting mental health services across WV college campuses, stalled during the 2023 legislative session. While laws like the State Resiliency and Flood Protection Plan Act<sup>4</sup> established the State Resiliency Office and the West Virginia Disaster Recovery Trust Fund, legislators have yet to appropriate funds, significantly reducing the office’s ability to carry out integrative disaster recovery.

### *Acknowledgements*

This work was supported by the National Science Foundation’s CIVIC and GeoHealth Intern program as part of “Creating the West Virginia Flood Resilience Framework for comprehensive disaster response and long-term community recovery” (award #2228492) in partnership with the West Virginia School of Osteopathic Medicine and State University of New York College of Environmental Science and Forestry. Thank you to Julian Levine and Jamie Shinn, PhD, for their mentorship and guidance.



2016 Flood Memorial in White Sulphur Springs, WV

## Key Messages and Recommendations

Increase availability, access, and capacity of crisis counselors for disasters



Expand rural transportation and/or operate reliable mobile mental health clinics



Create group therapy opportunities after disasters



Open rehabilitation centers in rural areas

<sup>4</sup> W. Va. Code § 29-31-2

The views presented in this policy brief are solely those of the researcher.