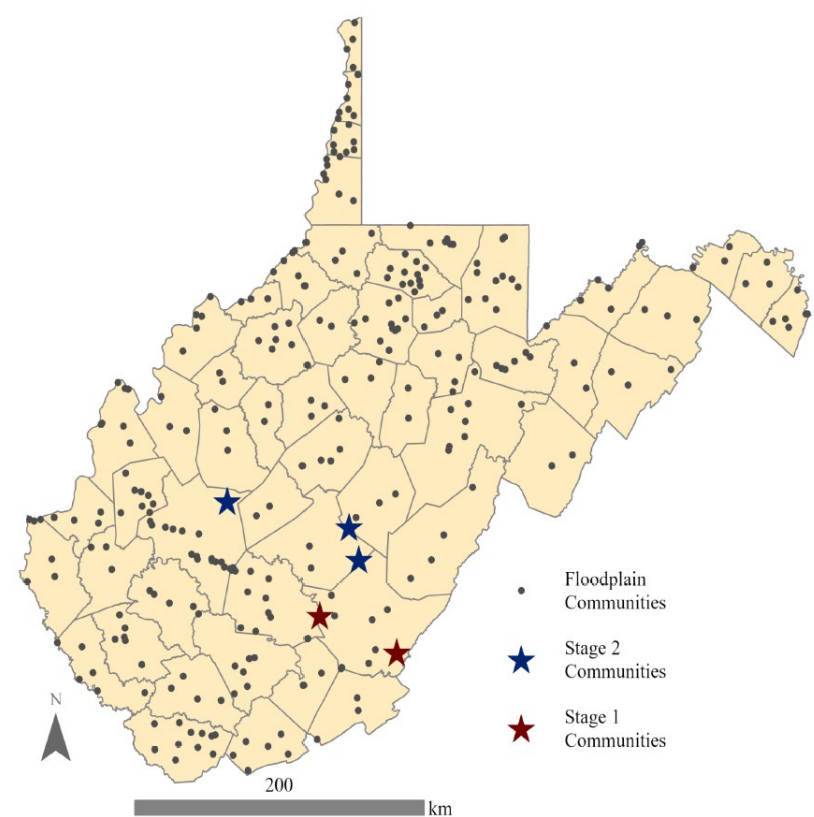


Creating the West Virginia Flood Resilience Framework for comprehensive disaster response and long-term community recovery

Background

- **99% of US counties experienced at least one flood between 1996 and 2019**
- West Virginia (WV) has high risk of flooding, with at least one flooding-related **federal disaster** declared in all counties since 1996
- **Resilience** is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events



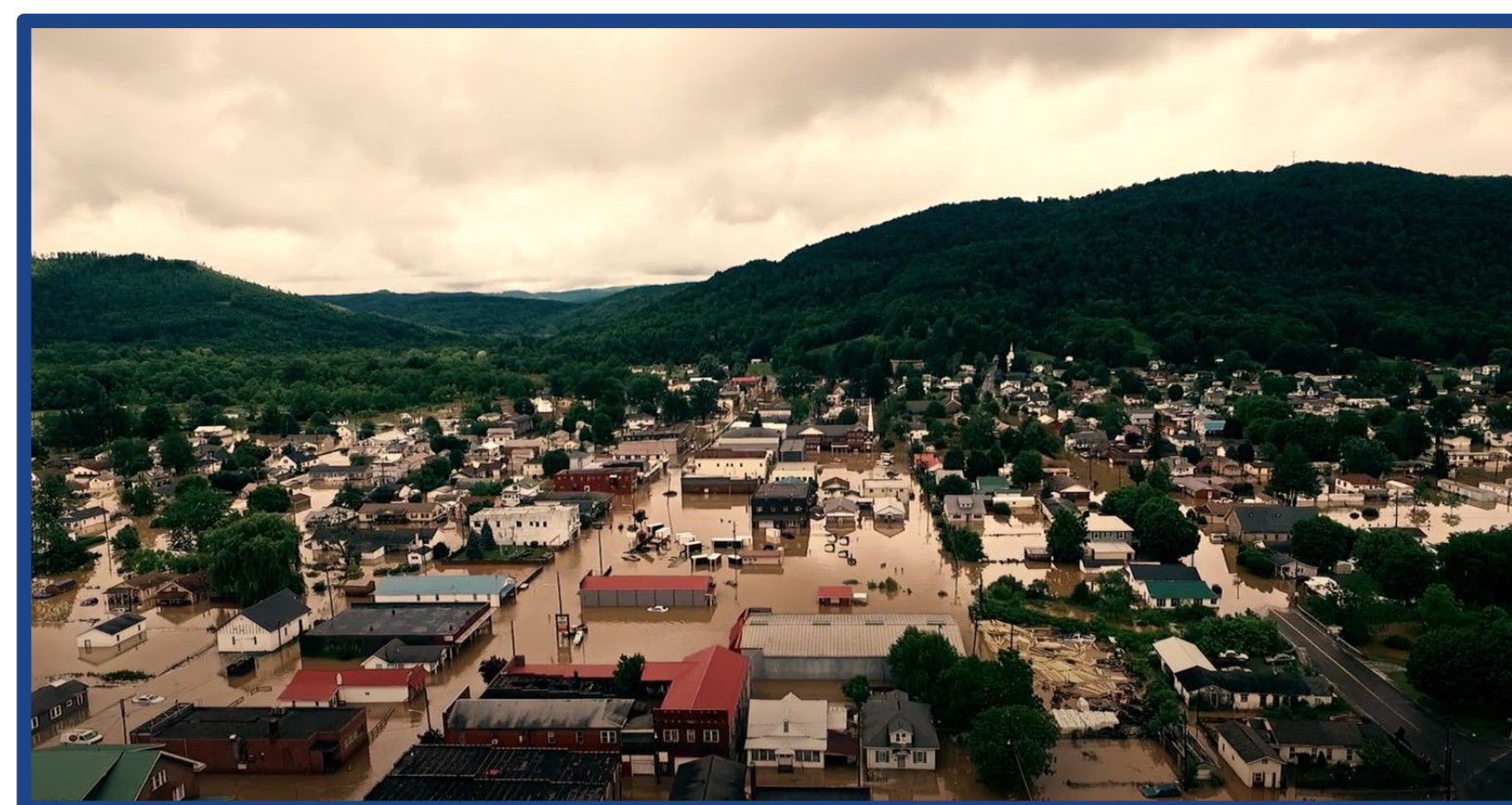
WV floodplain communities



Example of PGIS activity from Stage 1

Stage 2 Activities

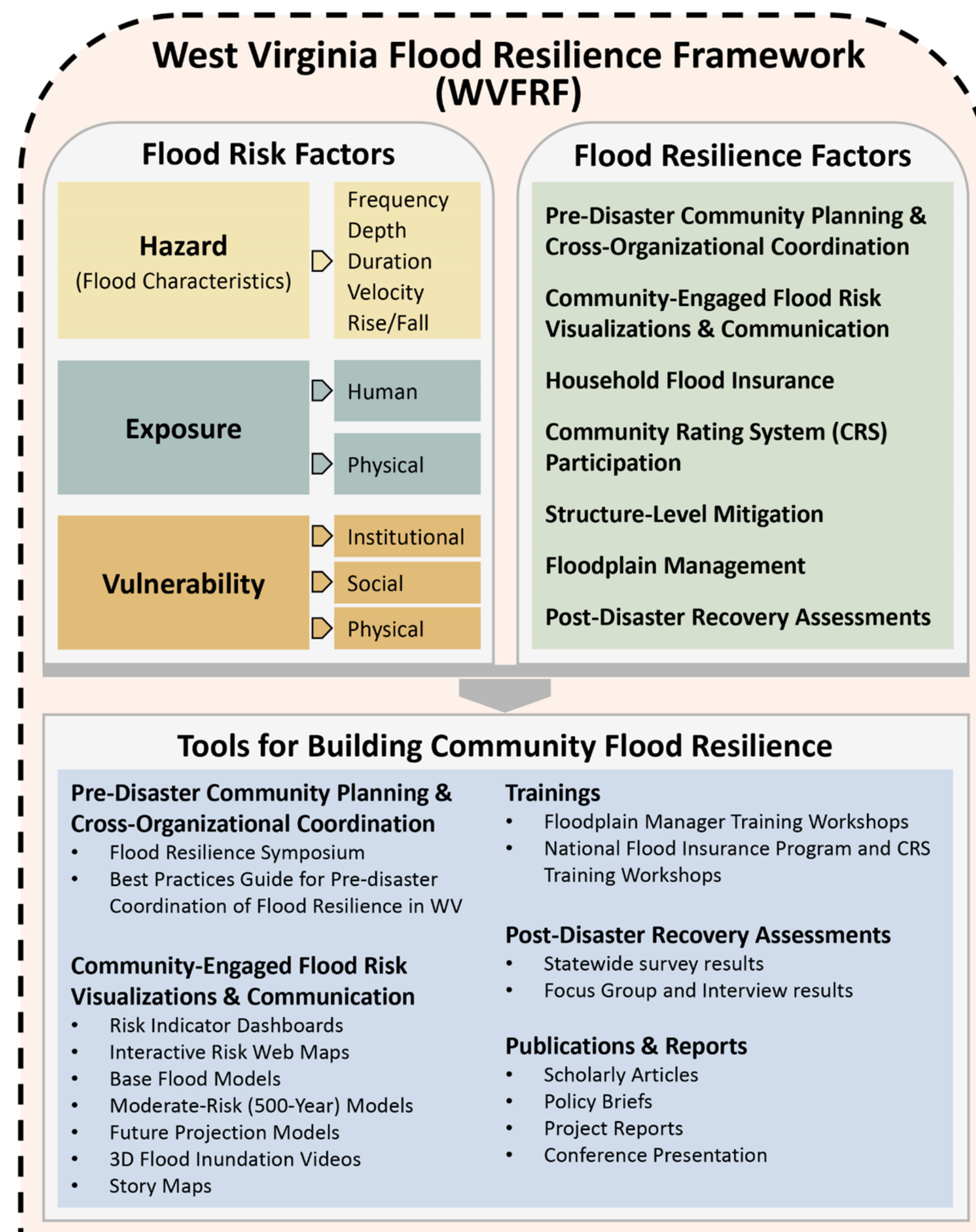
- **Community-engaged process**
- Statewide resilience **survey**
- Flood risk visualization tools for high-risk communities using **Participatory GIS**
- Statewide **Flood Resilience Symposium**
- Floodplain management and flood insurance **trainings**
- **Flood risk indicator reports** for all 286 floodplain communities
- Creation and **launch of WVFRF**



Rainelle, WV during 2016 Flood

West Virginia Flood Resilience Framework (WVFRF)

A freely available online and **ongoing** resource for residents, local leaders, non-profit organizations, state and regional officials, and others to catalyze flood resilience for WV communities through **improved flood risk knowledge, floodplain management, comprehensive disaster preparation, and long-term resilience planning**



WVFRF conceptualization

Rainelle, Flood Risk Summary				
The information below includes estimates derived from the BIA as of Nov 2022. The demographic information is based on the Census Bureau's American Community Survey (ACS) 5-year estimates of 2017.				
Hazard	Ratio of Floodplain to Community Area: 9.2% Incorporated Community Median: 10.2%	Federally Declared Flood Disasters in Greenbrier County since 1989: 9 Statewide County Median: 12		
Exposure	Physical	Human		
	Total Buildings in High-Risk Floodplains: 338 Incorporated Community Median: 59	Estimated Population Residing in High-Risk Floodplains: 582 Incorporated Community Median: 114		
	Newly Mapped in Structures: 329 Newly Mapped out Structures: 0	Total Building Value in Floodplains: \$16,120K Incorporated Community Median: \$8,417K	Estimated Population Displaced by Flooding: 492 Incorporated Community Median: 98	
	Total At-Risk Residential Structures: 251 Incorporated Community Median: 44	Total Estimated Building Loss: \$997K Incorporated Community Median: \$240K	Estimated Population in Need of Short-Term Shelters: 123 Incorporated Community Median: 12	
Vulnerability	Mobile Homes in Floodplains: 14 Incorporated Community Median: 5	Critical Buildings in Floodplains (Essential Facilities and Non-Historical Community Assets): 8 Incorporated Community Median: 3		
	Renters Ratio in Floodplains: 39% Incorporated Community Med.: 35%	Social Vulnerability Index (SVI) of Greenbrier County: 0.55 Statewide County Median: 0.48		

Flood risk indicator report for Rainelle, WV

While designed for WV, project outcomes and processes will be transferable to communities across Appalachia and the US as a model for using social science and PGIS methods to create community-driven disaster response systems