









Social Vulnerability Indicators

Clendenin

Vulnerability Indicators		Clendenin	State Ratio/Value	National Ratio/Value
	Poverty Rate	9.2%	17.0%	12.4%
	Unemployment Rate	7.3%	23.7%	14.6%
	Vulnerable Ages Ratio	45.4%	36.7%	34.6%
	Disability Ratio	11.2%	19.3%	12.6%
	No High School Diploma Ratio	10.1%	11.9%	11.1%
	Population Change Ratio	-30.4%	-3.2%	7.4%
	Median Housing Value	\$70,300	\$128,800	\$244,900
	Mobile Homes Ratio	3.9%	14.0%	5.9%
WV Social Vulnerability Index Score (Among incorporated communities)		36.6% (Relatively Low)	-	-

The indicator values in red show more than a 5% difference, toward vulnerability, compared to the state ratios.

Index Legend:	Very High: 80% to 100% Red: 90% to 100%	Relatively High: 60% to 79.9%	Moderate: 40% to 59.9%	Relatively Low: 20% to 39.9%	Very Low: 0% to 19.9%
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Description, Rationale, and Data Sources

Vulnerability Indicator	Description	Rationale	Data Source
Poverty Rate	Percentage of households with incomes below poverty level	The poor are less likely to have the income or assets needed to prepare for a possible disaster or to recover after it occurs (Cutter et al., 2003; Flanagan et al., 2011; Morrow, 1999; Thomas, 2017).	Census 2021 ACS 5-Year Estimates
Unemployment Rate	Percentage of families (two or more people residing together and related by birth, marriage, or adoption) with no workers in the past 12 months (from 2021)	In addition to income problems, unemployed persons lack benefit plans providing health cost assistance when injuries or deaths occur due to disasters (Brodie et al., 2006; Flanagan et al., 2011).	Census 2021 ACS 5-Year Estimates
Vulnerable Ages Ratio	Percentage of population in two groups of “younger than 15” or “65 and older”	Children and the elderly are generally more vulnerable to disasters such as flooding due to the lack of experience or physical and cognitive limitations to protect themselves (Cutter et al., 2003; Flanagan et al., 2011; Morrow, 1999).	Census 2021 ACS 5-Year Estimates
Disability Ratio	Percentage of civilian noninstitutionalized population with disabilities of independent living, self-care, ambulatory, cognitive, vision, or hearing difficulties	Disabled people are more vulnerable to natural hazards such as flooding and may require special assistance to evacuate (Cutter et al., 2003; Flanagan et al., 2011; Morrow, 1999).	Census 2021 ACS 5-Year Estimates
No High School Diploma Ratio	Percentage of population 25 years and older with no high school diploma	Highly educated individuals and societies are reported to have better preparedness and response to disasters, suffered lower negative impacts, and can recover faster (Muttarak & Lutz, 2014).	Census 2021 ACS 5-Year Estimates
Population Growth Ratio	Percentage of population change from 2010 to 2020	Although rapid population growth in dense urban areas can contribute to the risk (Cutter et al., 2003) we believe population decrease can be a factor of social vulnerability in WV communities.	Decennial Census (DEC) of 2010 & 2020
Housing Median Value	Median dollar values of owner-occupied residential units	The value can be an indicator of building quality. Buildings of low quality cannot withstand flooding adequately and are more vulnerable. Residents in communities with higher median housing values may be more likely to carry flood insurance policies, as their properties represent substantial investments. This can enhance financial preparedness and resilience (Flanagan et al., 2011; Morrow, 1999; Thieken et al., 2008).	Census 2021 ACS 5-Year Estimates
Mobile Homes Ratio	Percentage of manufactured homes in the whole community	Light-weight manufactured homes are not designed for withstanding floods and are more vulnerable to flood damage. Communities with a higher prevalence of manufactured homes often encounter more obstacles in achieving resilience, as these structures typically do not offer the same level of security as traditionally constructed homes. Moreover, these homes are often situated in regions beyond the urban core, where access to major roadways and public transit systems may be less available.	Census 2021 ACS 5-Year Estimates

References

- Brodie, M., Weltzien, E., Altman, D., Blendon, R. J., and Benson, J. M. (2006). Experiences of Hurricane Katrina evacuees in Houston shelters: Implications for future planning. *American Journal of Public Health, 96*(8), 1402-1408.
- Cutter, S. L., Boruff, B. J., and Shirley, W. L. (2003). Social vulnerability to environmental hazards. *Social science quarterly, 84*(2), 242-261.
- Cutter, S. L., Burton, C. G., & Emrich, C. T. (2010). Disaster resilience indicators for benchmarking baseline conditions. *Journal of homeland security and emergency management, 7*(1).
- Flanagan, B. E., Gregory, E. W., Hallisey, E. J., Heitgerd, J. L., and Lewis, B. (2011). A social vulnerability index for disaster management. *Journal of homeland security and emergency management, 8*(1).
- Morrow, B. H. (1999). Identifying and mapping community vulnerability. *Disasters, 23*(1), 1-18.
- Muttarak, R., & Lutz, W. (2014). Is education a key to reducing vulnerability to natural disasters and hence unavoidable climate change?. *Ecology and society, 19*(1).
- Thieken, A. H., Olschewski, A., Kreibich, H., Kobsch, S., and Merz, B. (2008). Development and evaluation of FLEMOps—a new Flood Loss Estimation MOdel for the private sector. *WIT Transactions on Ecology and the Environment, 118*, 315-324.
- Thomas, D. S. K., Ertugay, K., and Kemec, S. (2007). The role of geographic information systems/remote sensing in disaster management. In H. Rodriguez, E. L. Quarantelli, and R. R. Dynes (Eds.), *Handbook of disaster research* (pp. 83-96). New York: Springer.