

# Unequally Prepared: Emergency Management Performance Grant Distribution in the Commonwealth of Virginia

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## Background

- Disasters' most acute impacts first occur at the local level so local governments must have the response capacity and resources to meet community emergency needs.
- Despite the importance of local preparedness, local emergency management programs vary significantly across the USA in financial support, staff sizes, and institutional capacity (Hildebrand and Malone, 2021; Jensen and Ferreira, 2023).
- State and local governments have become dependent on federal funding for emergency management needs (LePore, 2020; Ezell and Lawsure, 2019).
- Some state governments invest in emergency management more than others, and those states that spend substantially less rely more heavily on federal funds (Krueger et al., 2009).
- Due to the Emergency Management Performance Grant's (EMPG) continued primacy, this study uses a public administration distributive equity lens to assess EMPG allocation to local jurisdictions.

## Purpose of the Study

- The study investigates the distributive equity of the most locally disseminated FEMA grant, the EMPG in The Commonwealth of Virginia, United States

## Research Questions and Hypotheses

- R.1.** Are EMPG funds distributed equitably to local jurisdictions in Virginia?
- H.1.** EMPG local government allocations are not correlated to the jurisdiction's social vulnerability, community resilience, and previous disaster losses.
- R.2.** Are the local jurisdictions that opt-out of receiving EMPG funding also among the most at-risk jurisdictions?
- H.2.** Local jurisdictions that opt-out of EMPG are the most at-risk areas (low community resilience, high social vulnerability, & high previous disaster losses).

## Methodology

- This study focuses on the Commonwealth of Virginia, and EMPG data from 2020 - 2023 was analyzed for correlations with social vulnerability, community resilience, previous disaster losses, and the National Risk Index.
- A difference of means test was conducted on the jurisdictions that opted out of participation in the EMPG.
- The association between EMPG funds and the explanatory variables are tested through Spearman's rho correlation test performed in SPSS.
- Bivariate mapping for the paired EMPG funds and explanatory variables are included to show the spatial disparities in their association through ArcGIS Pro.

## Results

- The correlation between total population and total allocated funds from 2020 to 2023 is moderate but significant (Spearman's rho= 0.56,  $p < 0.001$ ).
- The association is also significant and moderate for the total allocated funds for 2020-2023 and the community resilience score (BRIC 2020) with Spearman's rho = 0.36 ( $p < 0.001$ ).
- The total allocated funds have a moderate and negative association with the social vulnerability score (SoVI 2020) that is also significant (Spearman's rho = -0.41,  $p < 0.01$ ).
- The total allocated funds and previous disaster losses have a negative and moderate but significant association (Spearman's rho= -0.3,  $p < 0.001$ ).

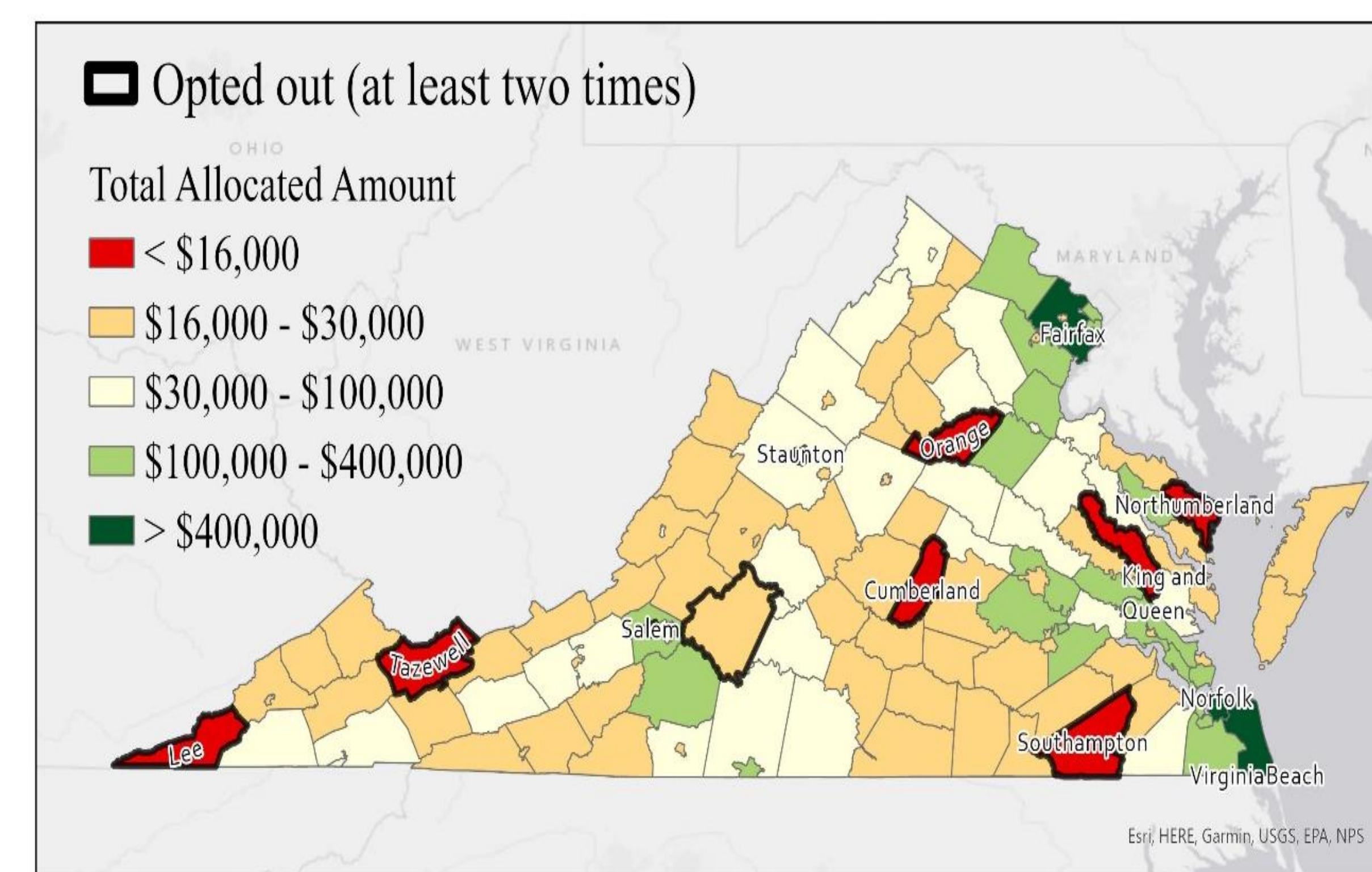


Figure 1: Distribution by Total Allocation Amount by Counties  
Source: Authors' work from ArcGIS Pro

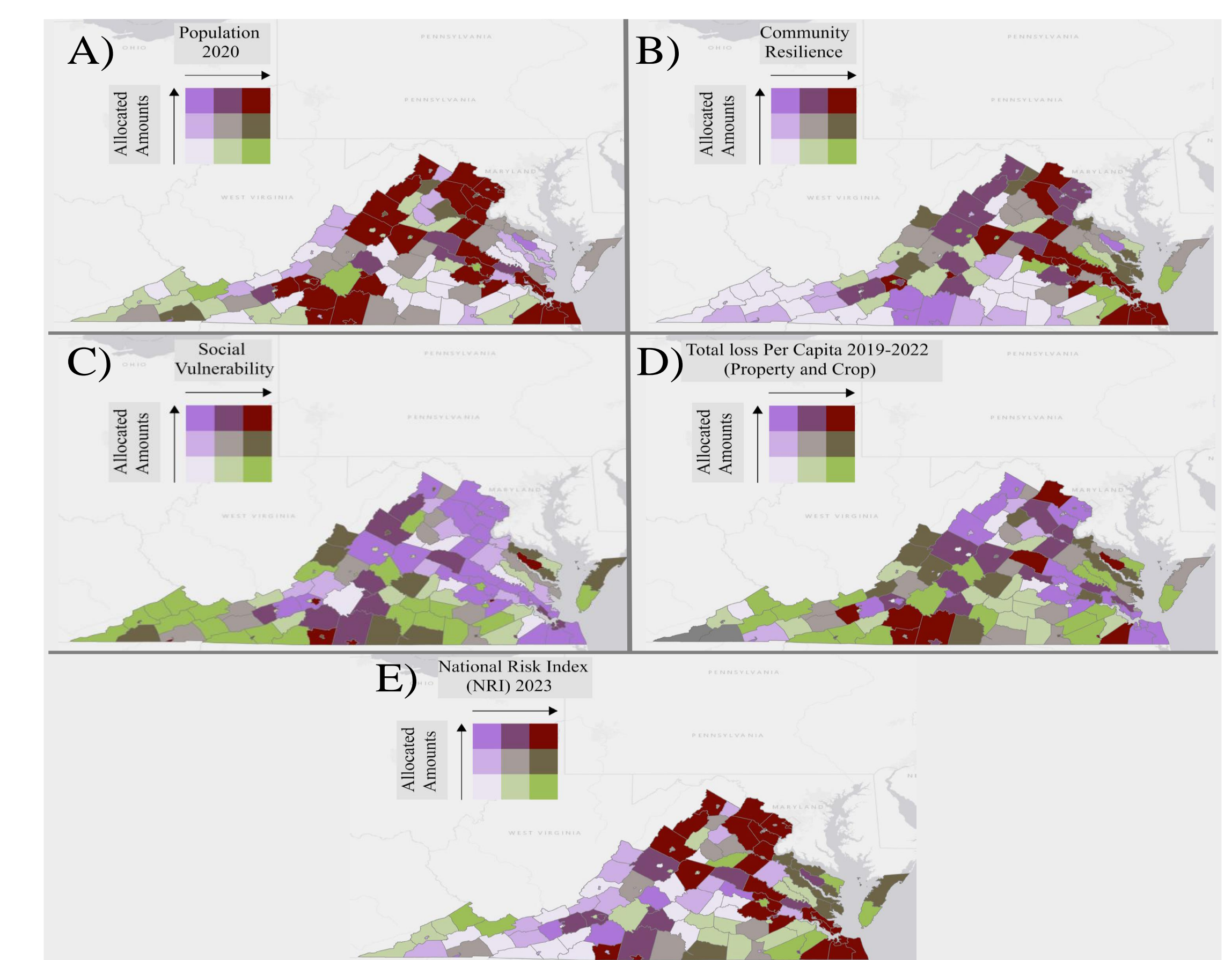


Figure 2: Bivariate Maps of Association  
Source: Authors' Work from ArcGIS Pro

## Conclusion

- Virginia's current EMPG funding is allocated disproportionately to wealthier counties with lower social vulnerability, higher community resilience, and lower previous disaster losses. Jurisdictions that opted-out or received the minimum amounts had the highest total disaster losses during this study period.
- The current Virginia method of local allocation by population size, rather than vulnerability factor has an outcome that is detrimental to building local institutional capacity and validates previous findings on a funding bias towards higher populated urban counties compared to more rural counties.

## References

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