State Hazard Mitigation Updates

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Larry Hogan | Governor   **Boyd K. Rutherford** | Lt. Governor   **Russell J. Strickland** | Acting Secretary

Larry Hogan | Governor | Boyd K. Rutherford | Lt. Governor | Russell J. Strickland | Executive Director   **MDEM.MARYLAND.GOV**

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National Infrastructure Package

Emergency management and homeland security priorities:

- $1 billion in additional funds for the Building Resilience Infrastructure in Communities (BRIC) program;

- $733 million in dam safety;

- $500 million pursuant to the STORM Act to fund state revolving loan funds to support local mitigation projects;

- $3.5 billion for Flood Mitigation Assistance, and;

- $1 billion (over five years) for a state and local cybersecurity grant program.

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HMA Grant Programs Update

- FY20 BRIC and FMA
  - 2 competitive projects
  - 9 State set aside projects
  - $33,059,169.51 Federal Share

- FY21 BRIC and FMA
  - $1B available for BRIC and $160M for FMA
  - State set aside increased to $1M
  - Focus on equity, climate resilience/adaptation, and building codes
  - Partially implements the Federal Flood Risk Management Standard
  - MEMA has received over 130 NOIs requesting approximately $300M

- DR-4583 HMGP: TS Isaias
  - Approximately $1M available
  - Prioritizing St. Mary's, Calvert, and Dorchester

- DR-4491 HMGP: COVID-19
  - Approximately $78M available
  - Will prioritize NOIs received by the August 31st deadline

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Notable Changes from 2020 for FMA

- Partial Implementation of the Federal Flood Risk Management Standards as referenced in Executive Order 14030 – Climate-Related Financial Risk - Requires 2ft. freeboard

- Total funding available for Project Scoping increased to $10 million

- Increase in cap for community flood mitigation Project Scoping subapplications: For FY21, $900,000 per subapplication

- Separate cap for individual flood mitigation Project Scoping subapplications: For FY21 $300,000 per subapplication

- Introduction of the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) scores into priority scoring criteria for Project Scoping and Community Flood Mitigation projects

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Notable Changes from 2020 for BRIC

- Increases the state allocation to $1 million, which includes increase in mitigation planning and related activities to $500,000

- Continues to incentivize the adoption of building codes based on the latest published editions of building codes

- Includes a new priority to enhance climate resilience and adaptation

- New priority to to incentivize activities that mitigate risk to public infrastructure and includes disadvantaged communities as defined in Executive Order 14008 – Tackling the Climate Crisis at Home and Abroad

- Revises the title of a "Small Impoverished Community" to "Economically Disadvantaged Rural Communities"

- Prioritizes assistance that benefits disadvantaged communities as referenced in Executive Order 14008 - Tackling the Climate Crisis at Home and Abroad, in line with the Administration's Justice40 Initiative to promote equity

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Notable Changes from 2020 for BRIC

- Revises the population impacted, outreach activities, and leveraging partners qualitative criteria to emphasize equity considerations through further assessment of vulnerable communities, a broadened range of stakeholder input and more varied partnerships

- Doubles the number of communities to which FEMA is offering non-financial Direct Technical Assistance

- Partially implements the Federal Flood Risk Management Standard in other eligibility criteria as referenced in Executive Order 14030 – Climate-Related Financial Risk: Requires 2ft. freeboard

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2021 Hazard Mitigation Plan Goals

1. Protect life, property, the economy, and the environment from hazard events to the greatest extent possible.

2. Increase public awareness of potential hazards, mitigation actions, preparedness efforts, and resiliency planning.

3. Protect State assets, infrastructure, and critical facilities from hazard events.

4. Enhance coordination across the whole community, to include Federal, State, and local government, and non-governmental organizations, by strengthening existing, and creating new, linkages between state and local mitigation and resiliency efforts.

5. Promote actions that protect natural resources, while enhancing hazard mitigation and community resiliency.

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2021 Hazard Mitigation Plan Goals

6. Identify and implement projects that will reduce the impacts of hazards and efficiently use State resources.

7. Integrate hazard mitigation planning into other State planning efforts (comprehensive plan, floodplain management regulations, land use/zoning, green infrastructure, etc.) and encourage and educate counties and municipalities to integrate across local plans and ordinances.

8. Reduce flood-related losses, with an emphasis on reducing Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties over the next hazard mitigation planning cycle.

9. **Identify and reduce flood hazard impacts in areas outside of the Special Flood Hazard Area (SFHA), which have experienced increased frequency and intensity in flooding, but do not meet FEMA's RL and SRL criteria.**

10. **Promote the development of policies, programs, initiatives, and projects which prioritize diversity, equity, and environmental justice.**

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2021 Hazard Mitigation Plan Actions

- Local Plans and Regulations

- Structure and Infrastructure Projects

- Natural Systems Protections

- Education and Awareness Programs

- MEMA Specific Actions

- Energy and Utility Security

- Public Health

Stakeholder Engagement

- 5 Regional HIRA Meetings
  - Region Specific:
    - Western – concerns with dam information
    - Central – review thunderstorm and extreme temperature risk data
    - Southern – Review flooding against August 2020 flood data
    - Upper Eastern Shore – review the dam information, specifically around Conowingo
    - Lower Eastern Shore – no issues raised
- 5 Regional Mitigation Actions Meetings
- Received 1st place Communications Award for Public Flood Awareness from the National Association of Flood & Stormwater Management Agencies

STATE OF MARYLAND HAZARD MITIGATION PLAN UPDATE

Come explore

Maryland Emergency Management Agency's 360° virtual open house space

✔ Participate in the State Hazard Mitigation Planning process
✔ Access the Community Vulnerability Engagement Tool
✔ Review materials, provide input and more

https://aecomviz.com/MEMA-Maryland-360/
Open 24/7 — We look forward to your participation!

Hazard Identification and Risk Assessment (HIRA)

- All hazards approach
  - Natural
  - Technological
  - Human-caused / Man-made

- Built upon hazards identified in 2016
  - Coastal
  - Winter Storm
  - Tornado
  - Wind
  - Thunderstorm
  - Wildfire
  - Drought
  - Flood
- Incorporated new hazards for 2021
  - Soil Movement
  - Public Health Emergencies
  - Dam Risks
  - Extreme Temperatures
  - Human-caused hazards and threats

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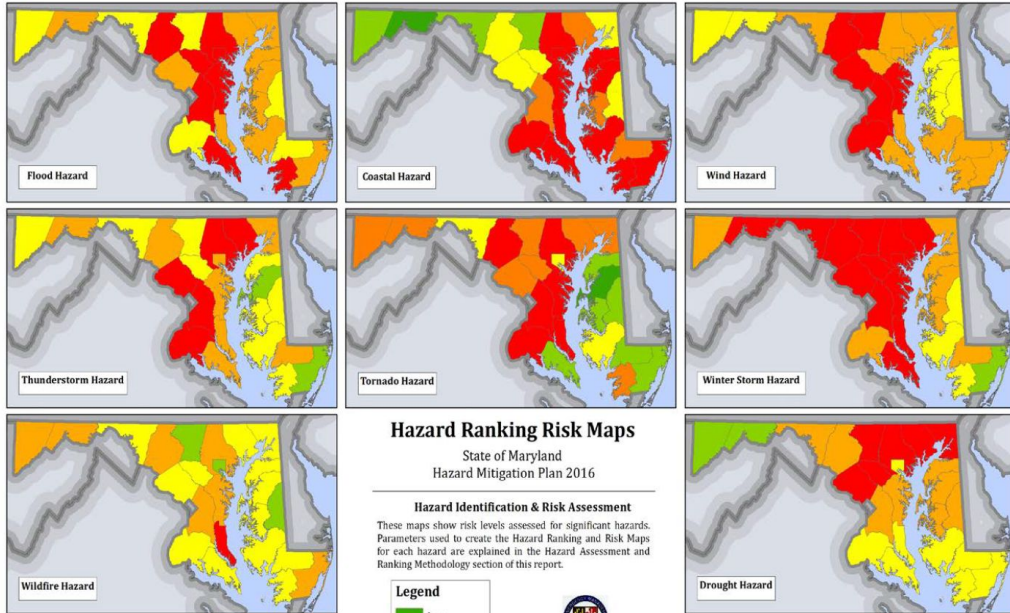# Hazard Identification and Risk Assessment (HIRA)

Nine parameters:

- Population Vulnerability
- Population Density
- Injuries
- Deaths
- Property Damage
- Crop Damage
- Events
- Geographic Extent
- Local Hazard Ranking

Weighted Risk Factors

Population Vulnerability	PV	0.5
Population Density	PN	0.5
Injuries	IN	1
Deaths	DT	1
Property Damage (Annualized)	PD	1
Crop Damage (Annualized)	CD	1
Events (Annualized)	EV	1
Geographic Extent (Hazard Dependent)	GE	1.5
Local Plan Ranking	LOCAL	1.5

Existing Hazards 2016 Plan

	Jurisdiction	Coastal Hazards	Drought	Flood	Thunderstorm	Tornado	Wildfire	Wind	Winter Storm
Western	Allegany	Low	Medium-Low	Medium-High	Medium-High	Medium-High	Medium-High	Medium	High
	Garret	Medium-Low	Medium-Low	Medium	Medium	Medium	Medium	Medium	High
	Washington	Medium-Low	Medium-Low	Medium	Medium	Medium	Medium	Medium-High	
Lower Eastern Shore	Dorchester	High	Medium	Medium-High	Medium	Medium	Medium	Medium-High	Medium
	Somerset	High	Medium	High	Medium	Medium-Low	Medium	Medium-High	Medium
	Wicomico	Medium-Low	Medium	Medium	Medium	Medium	Medium	Medium-High	Medium-High
	Worcester	High	Medium	Medium-High	Medium-Low	Medium-Low	Medium-High	Medium-High	Medium-Low
Central	Frederick	Medium	High	Medium-High	Medium-High	High	Medium-High	High	High
	Montgomery	Medium	High	Medium-High	High	Medium-High	Medium	High	High
	Prince George's	Medium	High	High	High	High	Medium-High	High	High
	Harford	Medium-High	High	Medium-High	High	Medium-High	Medium	High	High
	Howard	Medium		High	High	High	Medium	High	High
	Baltimore City	High	Medium	High	Medium-High	Medium	Medium-Low	Medium-High	High
	Anne Arundel	High	Medium	High	Medium-High	High	Medium	High	High
	Baltimore County	High	High	High	High	High	Medium-High	Medium-High	High
	Carroll	Medium-Low	High	Medium	Medium-High	Medium-High	Medium-Low	High	High
Southern	Calvert	High	Medium	Medium-High	Medium-High	High	Medium	Medium-High	High
	Charles	High	Medium	Medium	Medium	High	Medium	High	Medium-High
	St. Mary's	High	Medium	High	Medium-High	Medium-High	Medium	Medium-High	High
Upper Eastern Shore	Queen Anne's	High	Medium-High	Medium-High	Medium-Low	Low	Medium	Medium	Medium-High
	Talbot	Medium-High	Medium-High	Medium-High	Medium	Medium	Medium	Medium	Medium
	Caroline	Medium	Medium-High	Medium	Medium	Medium-Low	Medium-Low	Medium	Medium
	Cecil	Medium	High	High	Medium-High	Medium-Low	Medium	Medium-High	Medium-High
	Kent	High	Medium-High	Medium-High	High	Low	Medium	Medium	Medium-High

Updated Hazards 2021 Plan

	Jurisdiction	Coastal Hazards	Drought	Flood	Thunderstorm	Tornado	Wildfire	Wind	Winter Storm
Western	Allegany	Low	Medium-Low	Medium	Medium	Medium-High	Medium-High	Medium	High
	Garret	Medium-Low	Medium-Low	Medium	Medium	Medium-High	Medium	Medium	High
	Washington	Medium-Low	Medium	Medium	Medium	Medium-High	Medium	Medium	Medium
Lower Eastern Shore	Dorchester	High	Medium-High	Medium-High	Medium	Medium-High	Medium	Medium-High	Medium
	Somerset	High	Medium-High	Medium-High	Medium	Medium-Low	Medium	High	Medium
	Wicomico	Medium-High	Medium-High	Medium	Medium	Medium	Medium	Medium-High	Medium-High
	Worcester	High	Medium	Medium-High	Medium	Medium	Medium-High	Medium-High	Medium-Low
Central	Frederick	Medium	High	High	Medium-High	High	Medium-High	High	High
	Montgomery	High	Medium	High	High	High	Medium	High	High
	Prince George's	High	Medium-High	High	High	High	Medium-High	High	High
	Harford	Medium-High	High	High	High	High	Medium	High	Medium-High
	Howard	Medium	Medium-High	High	Medium	High	Medium	Medium-High	High
	Baltimore City	High	Medium-High	High	Medium	Medium	Medium-Low	High	High
	Anne Arundel	High	Medium-High	High	Medium-High	High	Medium	High	High
	Baltimore County	High	High	High	High	High	Medium-High	High	High
	Carroll	Medium-Low	High	Medium	Medium-High	Medium-High	Medium-Low	High	High
Southern	Calvert	High	Medium	Medium	Medium-High	High	High	High	Medium-High
	Charles	High	Medium	Medium	Medium	High	Medium	High	Medium-High
	St. Mary's	High	Medium-High	Medium	Medium-High	Medium-High	Medium	High	High
Upper Eastern Shore	Queen Anne's	High	Medium-High	Medium-High	Low	Medium	Medium	Medium-High	Medium-High
	Talbot	Medium-High	Medium-High	Medium-High	Medium	Medium-Low	Medium	Medium-High	Medium-High
	Caroline	Medium	Medium-High	Medium-High	Medium	Medium-Low	Medium-Low	Medium	Medium
	Cecil	Medium	Medium-High	Medium-High	Medium-High	Medium	Medium	High	Medium-High
	Kent	Medium-High	Medium	Medium	Medium-High	Medium-Low	Medium	Medium-High	Medium

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Hazard Rankings 2016 vs. 2021

Hazard Rankings for New Hazards in 2021
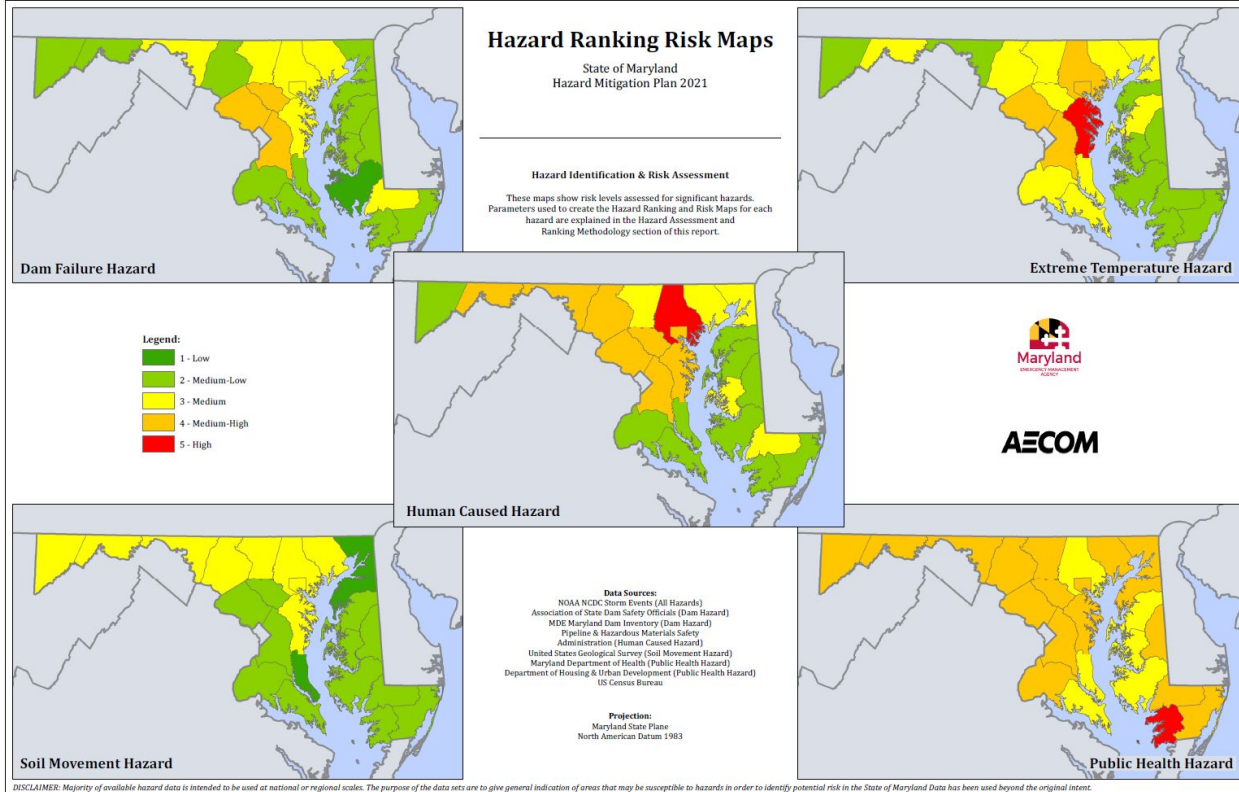
Repetitive Loss Strategy

2016 Plan (BureaNet):

- 964 non mitigated RL structures
- 16 validated Severe Loss structures

2021 data (PIVOT):

- 1,153 non mitigated RL structures
- 107 Severe Loss structures

Between 2016 and now there has been some significant flooding, so the net increase of 189 RL properties (19%) could be realistic.
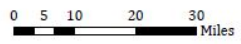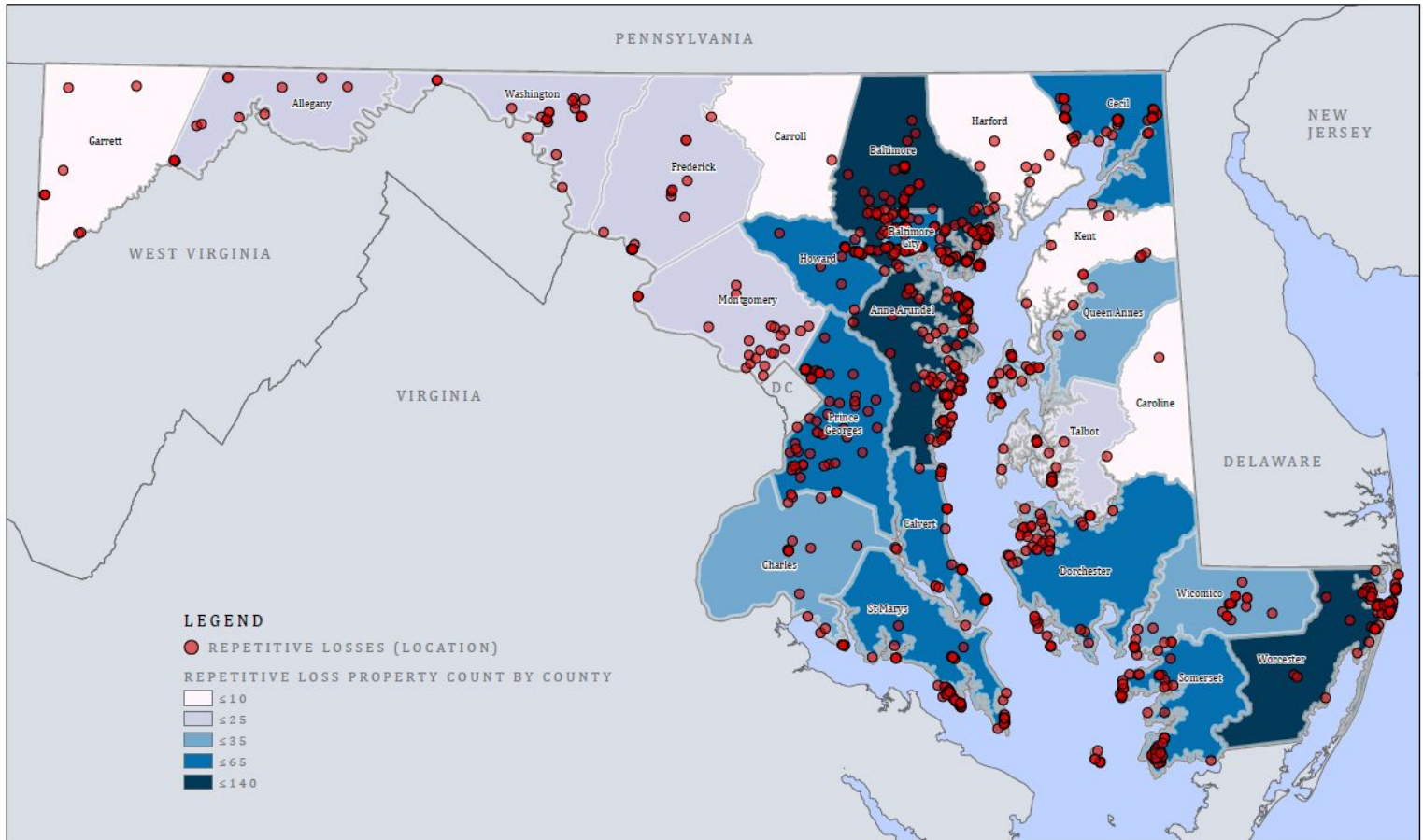
The net increase of 91 SRL properties (568%) seems abnormally high. This could be from the potential that in the move to the Pivot system, SRL properties that were classified as validated and pending were lumped together.
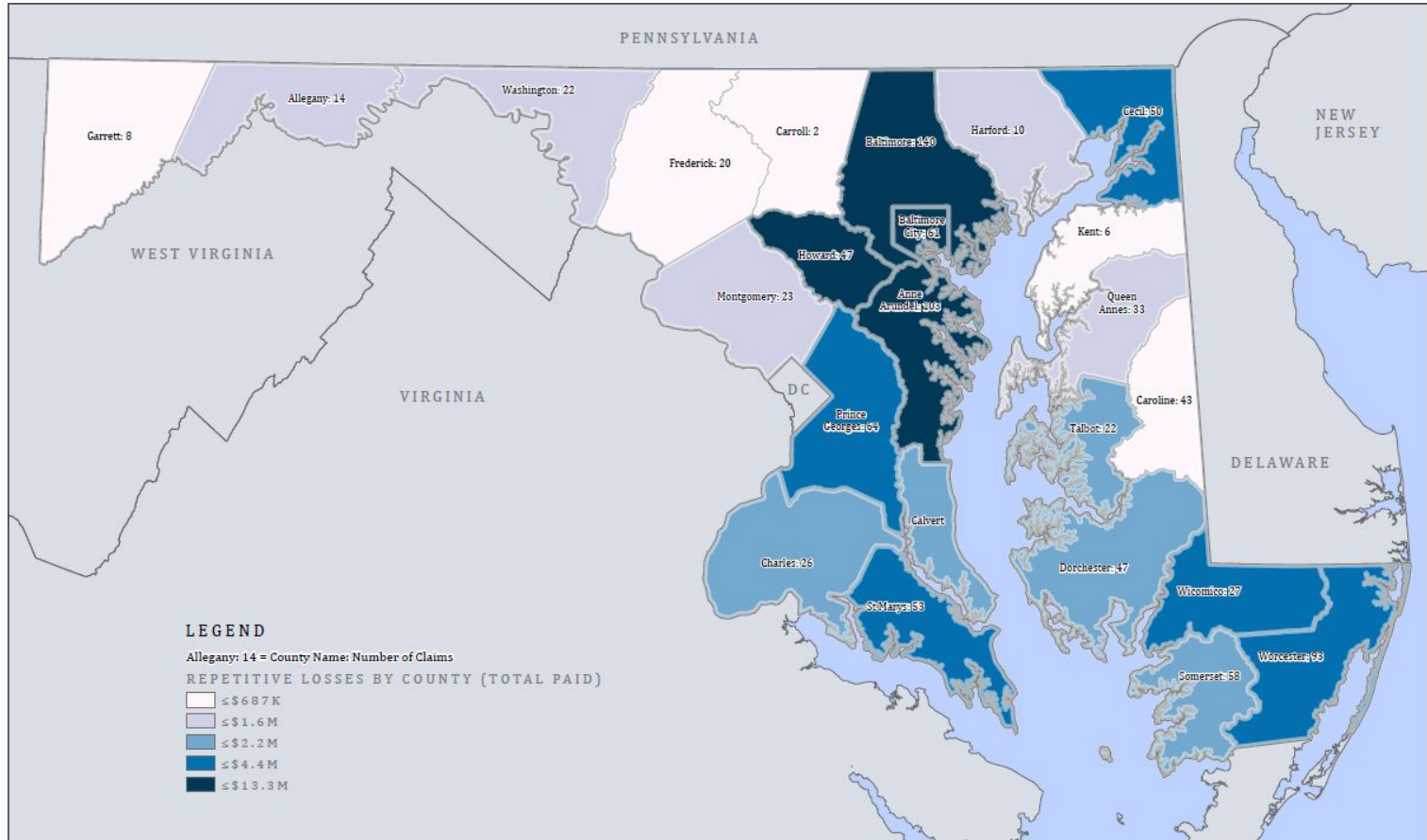
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RL Number of Claims by Jurisdiction
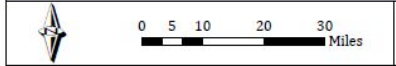
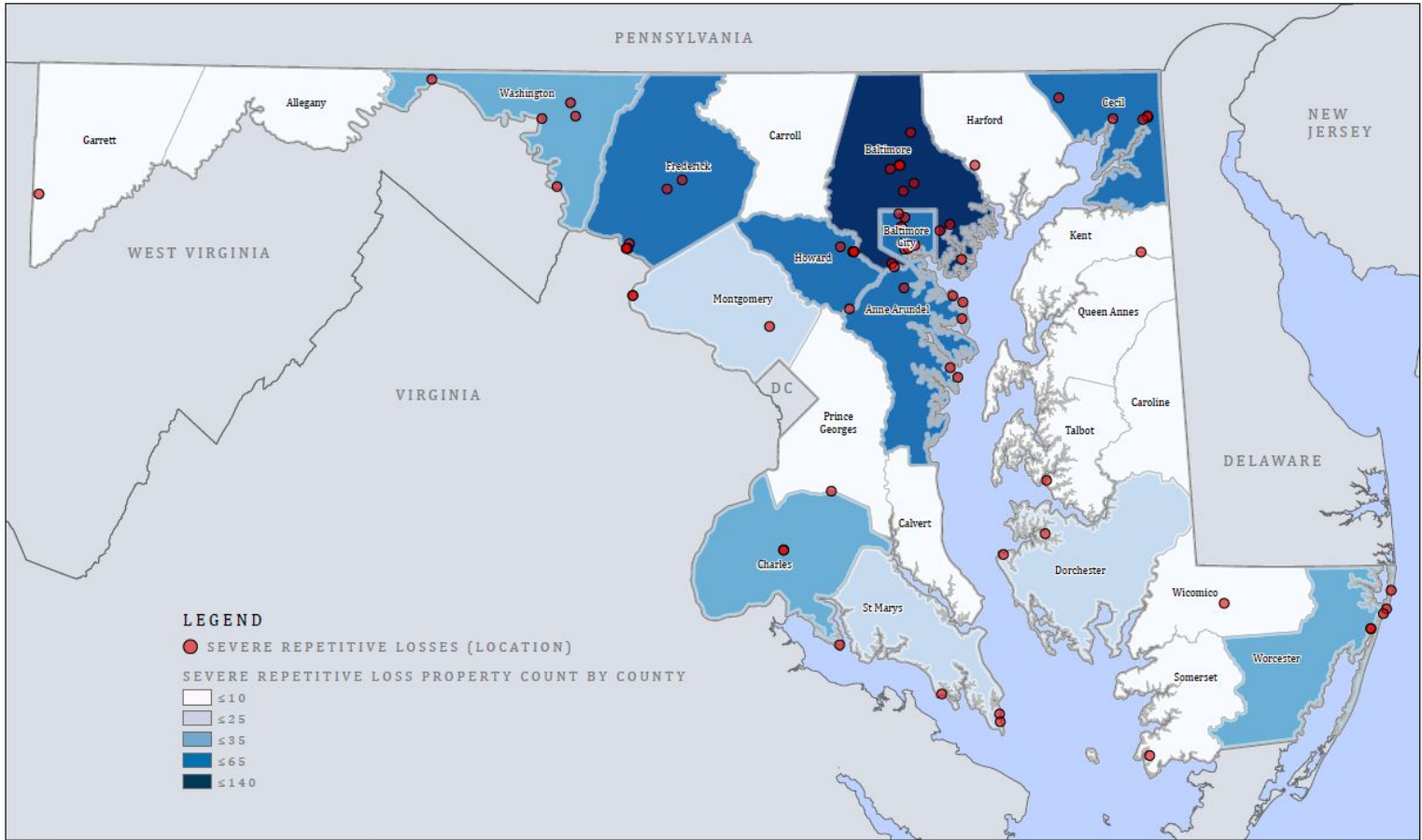RL Number of Claims by Jurisdiction

SRL Number of Claims by Jurisdiction

PENNSYLVANIA

Allegany: 0
Garrett: 1
Washington: 5
Carroll: 0
Frederick: 7
Baltimore: 12
Harford: 1
Cecil: 6

WEST VIRGINIA

Baltimore City: 7
Howard: 6
Montgomery: 3
Anne Arundel: 8
Kent: 0
Queen Annes: 1

VIRGINIA

DC
Prince Georges: 0
Caroline: 0
Talbot: 1

DELAWARE

NEW JERSEY

Calvert: 0
Dorchester: 2
Wicomico: 1

Charles: 4
St. Marys: 3
Worcester: 5
Somerset: 1

LEGEND

Allegany: 0 = County Name: Number of Claims

SEVERE REPETITIVE LOSSES BY COUNTY (TOTAL PAID)

≤ $0
≤ $115K
≤ $313K
≤ $1.4M
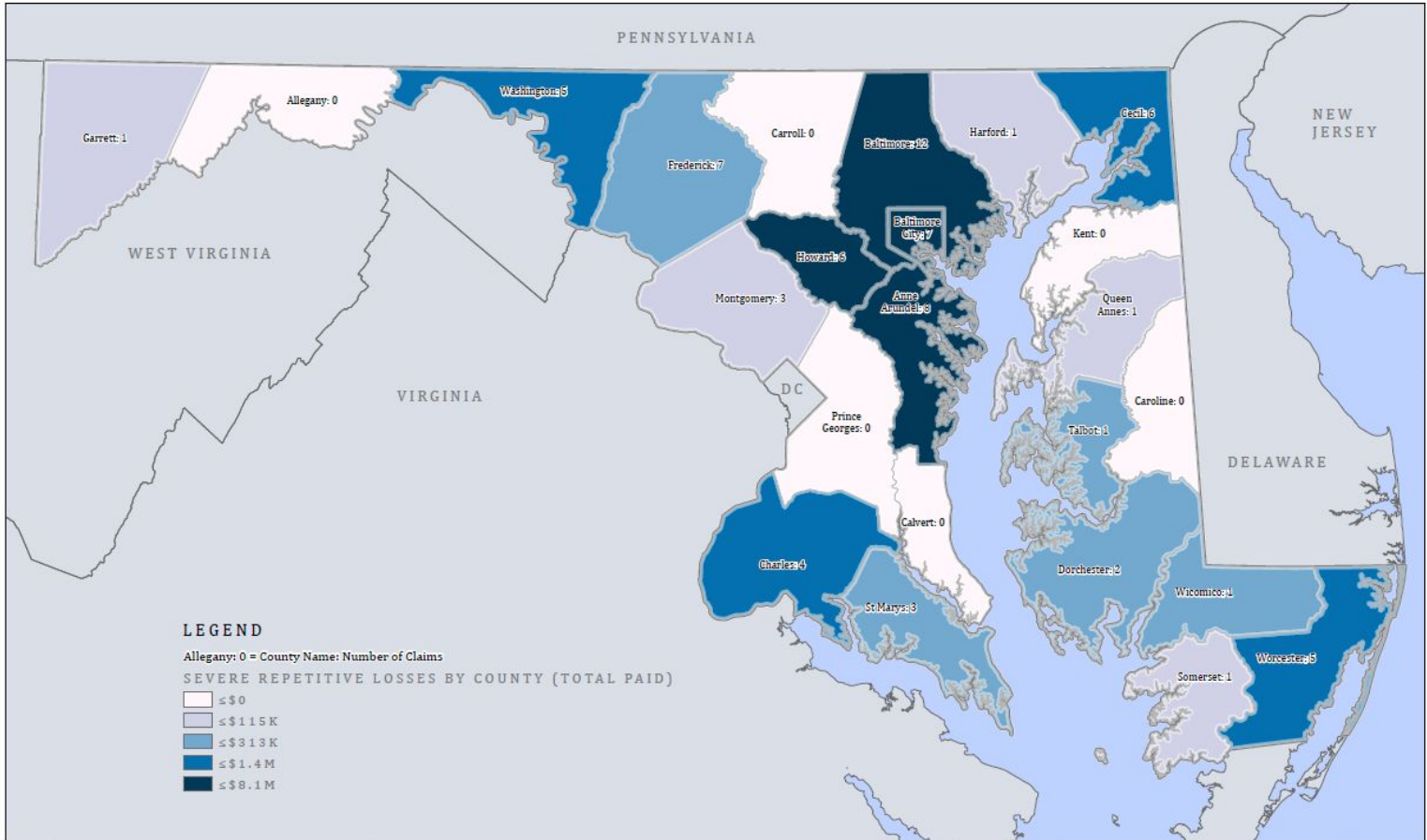≤ $8.1M

0 5 10   20   30
Miles

SRL Number of Claims by Jurisdiction

AECOM

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The mission of the Maryland Department of Emergency Management is to proactively reduce disaster risks and reliably manage consequences through collaborative work with Maryland's communities and partners.

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