Climate Solutions Now Act, Envr Article, Section 1-702

1. Adopt a methodology for identifying *communities disproportionately affected by climate impacts*,

2. Develop specific strategies to address *geographical impact concerns*,

3. Reduce emissions of greenhouse gases and *co-pollutants*,

4. Build *climate equity and resilience* within communities disproportionately affected by climate impacts; and

5. Set appropriate goals for the percentage of State funding for greenhouse gas emission reduction measures that should be used for the benefit of disproportionately affected communities.
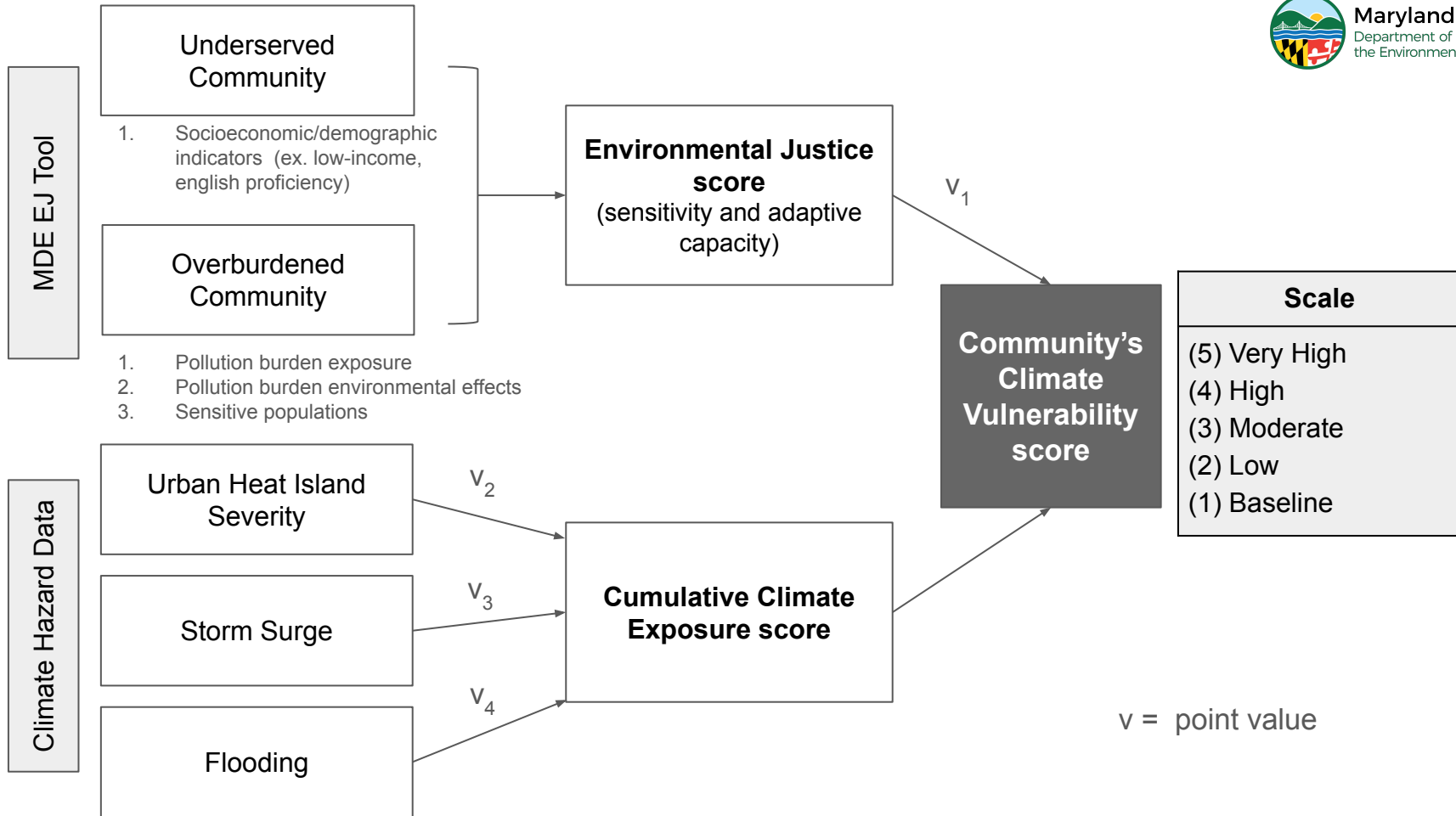

*consult with the Commission on Environmental Justice and Sustainable Communities

**report to the Maryland Commission on Climate Change
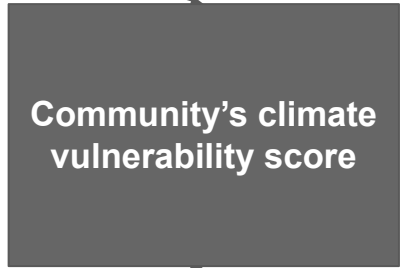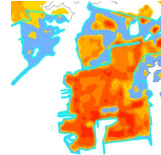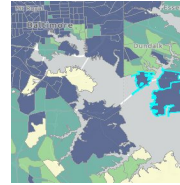
Maryland
Department of
the Environment

Figure 1. Proposed model schema to identify communities disproportionately affected by climate impacts

IV. Data layers

Table 3. Spatial area layers to identify disproportionately affected communities.

| Layer	Source	Metadata
MDE EJ Score *(366/1406 MD tracts)*	Maryland Department of Environment (MDE) Environmental Justice (EJ) Screening Tool	MDE EJ Score > statewide 75th percentile Score is calculated using four indicators to screen locations and communities based on census and health data, including: • pollution burden exposure; • pollution burden environmental effects; • sensitive populations; • socioeconomic/demographic indicators;
Urban Heat Island Severity for U.S. Cities	The Trust for Public Land	Identifies certain areas of cities that are hotter than the average temperature for that same city. Severity is measured on a scale of 1 to 5, with 1 indicating a relatively mild heat area and 5 indicating a severe heat area.
Maryland Floodplain	Federal Emergency Management Agency (FEMA)	Identifies areas with a 1-percent-annual-chance-flood event, a 0.2-percent-annual-chance flood event, and areas of minimal flood risk.
Maryland Coastal Resiliency Assessment - Community Flood Risk Areas	Maryland Department of Natural Resources (DNR)	Identifies residential areas at risk to coastal flooding. Risk areas are ranked from 1 to 5, with 1 indicating very low risk and 5 indicating very high risk.

Community's climate vulnerability score

Table 4. Table of spatial layers and weights

Data Layer	Point Value
MDE EJ Score (>75th percentile)	2.0
Floodplain: 100 year	1.0
Floodplain: 500 year	0.5
Coastal Flood Risk Area (5)	1.25
Coastal Flood Risk Area (4)	1.0
Coastal Flood Risk Area (3)	1.0
Coastal Flood Risk Area (2)	0.5
Coastal Flood Risk Area (1)	0.5
Urban Heat Island Severity (5)	1.25
Urban Heat Island Severity (4)	1.0
Urban Heat Island Severity (3)	1.0
Urban Heat Island Severity (2)	0.5
Urban Heat Island Severity (1)	0.5

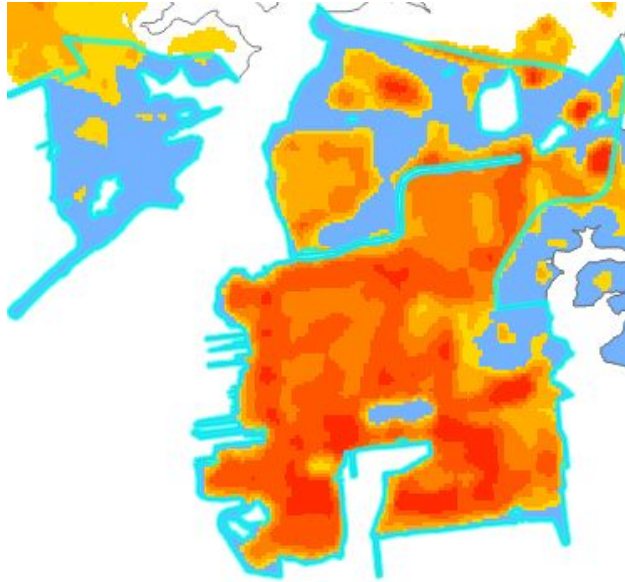| Scale* |
|---|
| (5) Very High = >3.4
 (4) High = 2.1 - 3.4
 (3) Moderate = 1.25 - 2.0
 (2) Low = 1.00 - 1.24
 (1) Baseline = 0.75 - 0.99 |

Illustrative values; exact values are subject to change based on refined modeling

Methodology Example
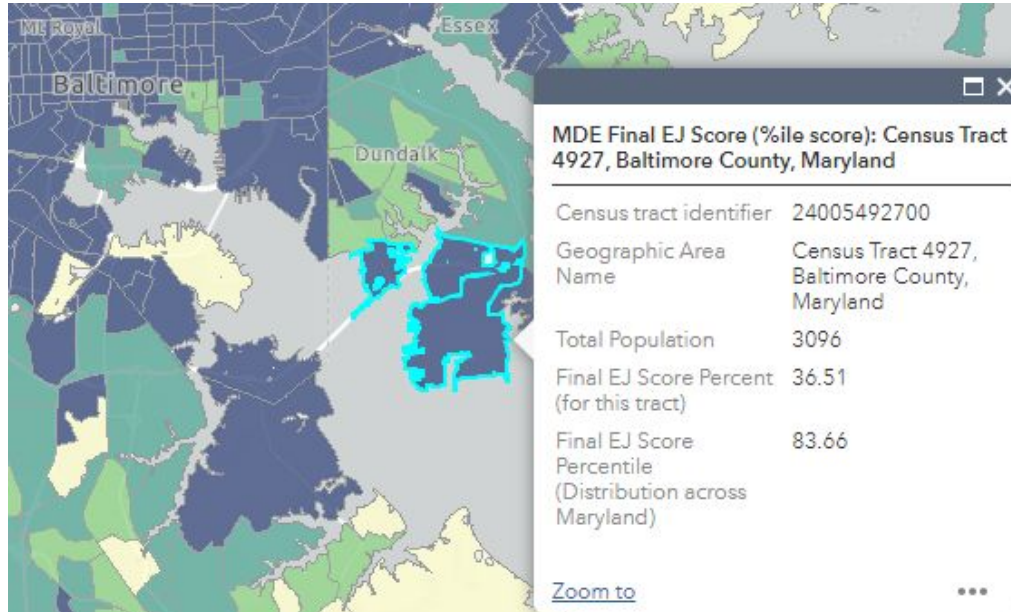
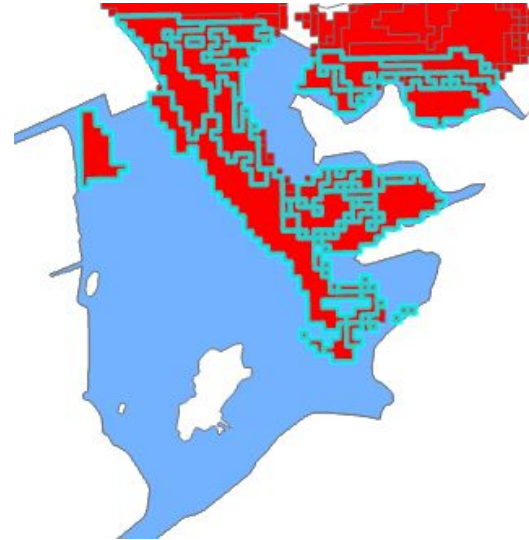This census tract is above the 75th EJ Score percentile → **2 points**

Urban Heat Island Severity Layer

This layer identifies certain areas of cities that are hotter than the average temperature for that same city.

The census tract has an average Urban Heat Island Severity of about 3 (moderate) → **1 point**

Storm Surge / Coastal Community Flood Risk Layer

This layer identifies residential areas at risk to coastal flooding. Risk areas are ranked from 1 to 5, with 1 indicating very low risk and 5 indicating very high risk.

The layer identified 18 community flood risk areas in the census tract, with an average risk of about 3 (moderate) → **1 point**

Flooding / Floodplain Layer

The census tract is in the 100 year floodplain, indicating a 1% annual chance flood event → **1 point**

Climate Vulnerability Score Result

Table 4. Table of spatial layers and weights

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Urban Heat Island Severity (4)	1.0
Urban Heat Island Severity (3)	1.0
Urban Heat Island Severity (2)	0.5
Urban Heat Island Severity (1)	0.5

Scale*

(5) Very High = >3.4
(4) High = 2.1 - 3.4
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(2) Low = 1.00 - 1.24
(1) Baseline = 0.75 - 0.99

Illustrative values; exact values are subject to change based on refined modeling

When we add up the points for each layer, this census tract would receive a **Climate Vulnerability Score = 5 (Very High)**

Next steps

- Iterate mapping and scoring framework; maximize transparency

- Publish second version of map to EJ Screening tool platform

- Continue soliciting feedback from highlighted communities

- Work within MDE to evaluate investments, policies, permitting, and other strategies across identified geographies

- Work with sister agencies to utilize method for FY24 GHG spending analysis