Integrating Diversity and Climate Impact Layers

John Wolf

Climate Resiliency Workgroup Meeting

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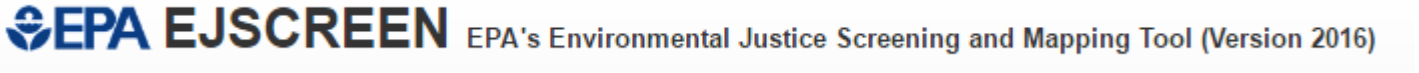
Overview

- EJ Screen
  - Overview
  - Types of Data
- Climate Layers
- Examples - Potential Integration

www.epa.gov/ejscreen

What is EJSCREEN?

EJSCREEN is an environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators.



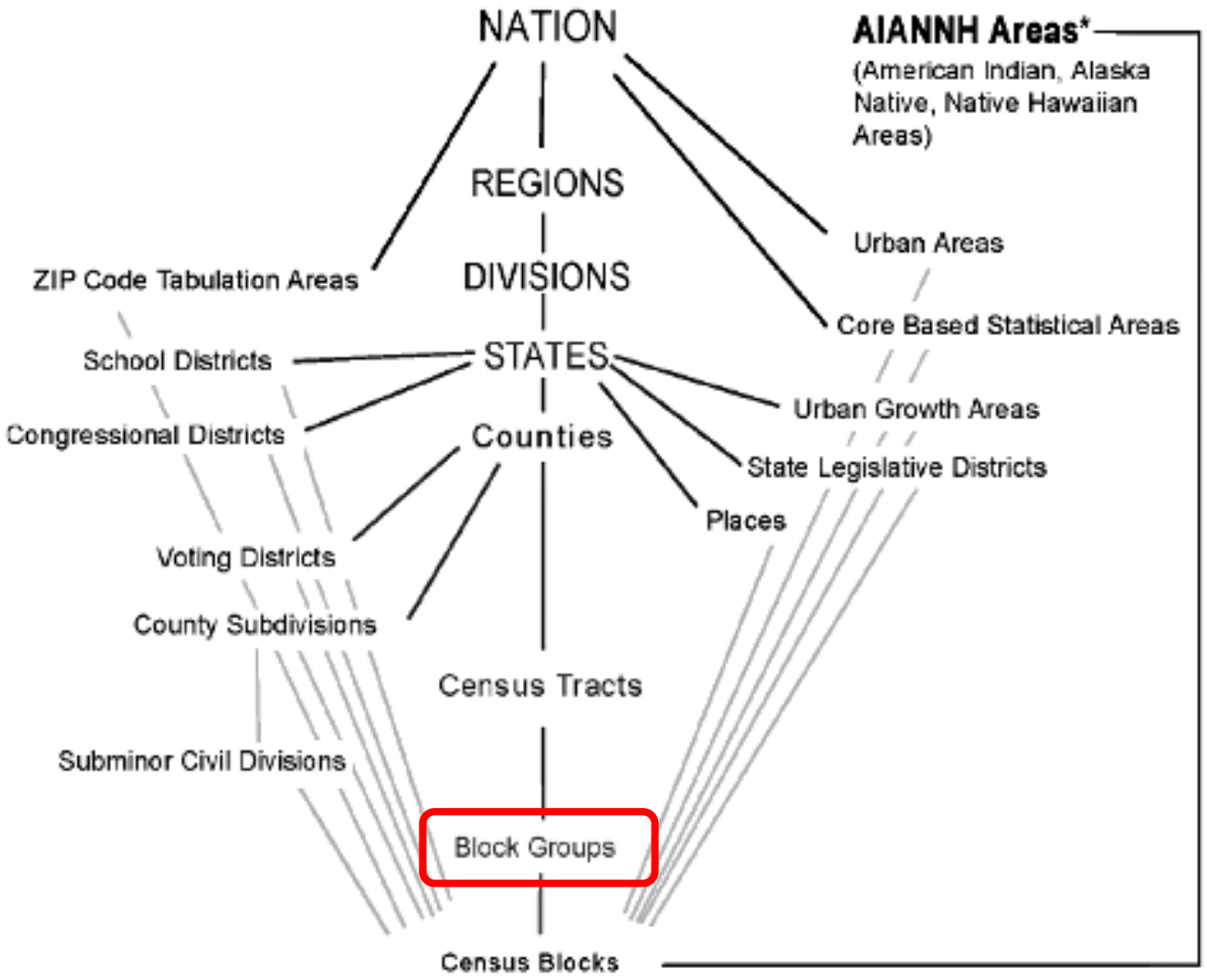
Environmental Indicators in EJ Screen (not Diversity)

Indicator	Place on Exposure–Risk Continuum	Key Medium
NATA Air Toxics Cancer Risk Lifetime inhalation cancer risk	Risk/Hazard	Air
NATA Respiratory Hazard Index Ratio of exposure concentration to RfC		
NATA Neurological Hazard Index Ratio of exposure concentration to RfC		
NATA Diesel PM (DPM) ($\mu g/m^3$)	Potential Exposure	
Particulate Matter ($PM_{2.5}$) Annual average ($\mu g/m^3$)		
Ozone Summer seasonal average of daily maximum 8-hour concentration in air (ppb)		
Lead Paint Indicator Percentage of housing units built before 1960		Dust/ Lead Paint
Traffic Proximity and Volume Count of vehicles (average annual daily traffic) at major roads within 500 meters, divided by distance in kilometers (km)	Proximity/ Quantity	Air/ Other
Proximity to RMP Sites Count of facilities within 5 km, divided by distance		Waste/ Water/ Air
Proximity to TSDFs Count of major TSDFs within 5 km, divided by distance		
Proximity to NPL Sites Count of proposed and listed NPL sites within 5 km, divided by distance[6]		
Proximity to Major Direct Water Dischargers Count of NPDES major facilities within 5 km, divided by distance		Water

Demographic Indicators (“out-of-the-box”)

1. **Percent Low-Income**:
    - The percent of a block group's population in households where the household income is less than or equal to twice the federal "poverty level."
2. **Percent Minority**:
    - The percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word "alone" in this case indicates that the person is of a single race, not multiracial.
3. **Less than high school education**:
    - Percent of people age 25 or older in a block group whose education is short of a high school diploma.
4. **Linguistic isolation**:
    - Percent of people in a block group living in linguistically isolated households. A household in which all members age 14 years and over speak a non-English language and also speak English less than "very well" (have difficulty with English) is linguistically isolated.
5. **Individuals under age 5**:
    - Percent of people in a block group under the age of 5.
6. **Individuals over age 64**:
    - Percent of people in a block group over the age of 64.

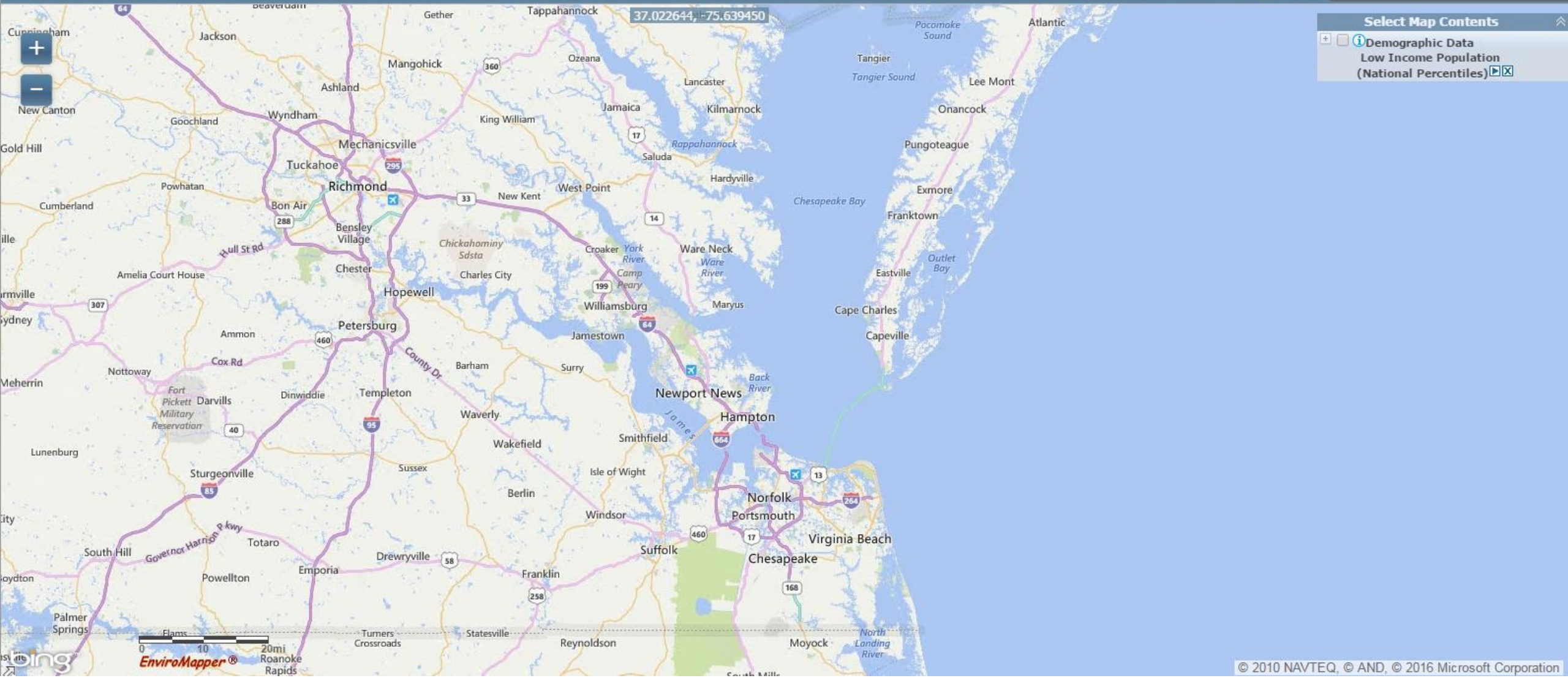
Census Block Group is a geographical unit used by the United States **Census** Bureau which is between the **Census** Tract and the **Census Block**. It is the smallest geographical unit for which the bureau publishes sample data, i.e. data which is only collected from a fraction of all households. Typically, Block Groups have a population of 600 to 3,000 people. (Wikipedia 2016)



EPA EJSCREEN EPA's Environmental Justice Screening and Mapping Tool (Version 2016)

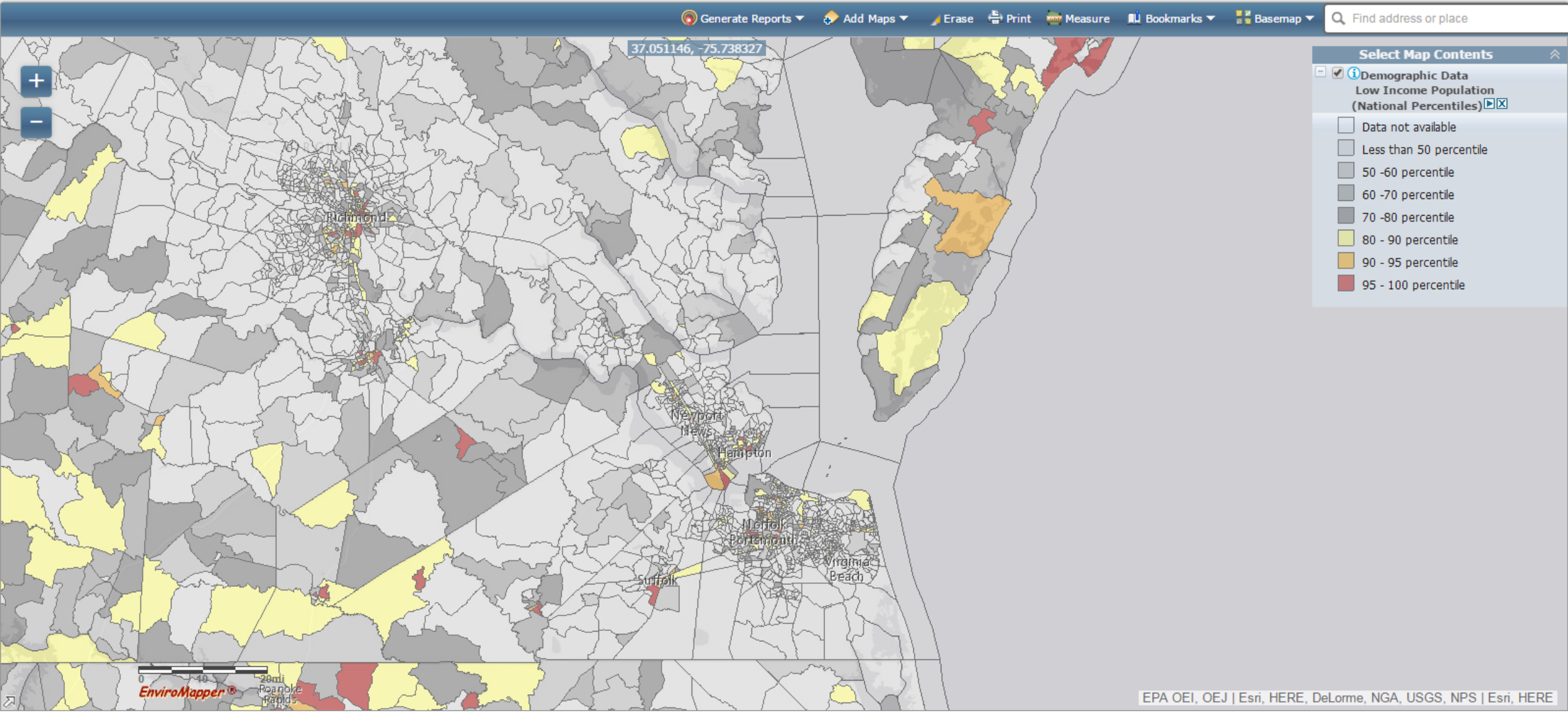
EJSCREEN Home | Glossary | Help

Generate Reports | Add Maps | Erase | Print | Measure | Bookmarks | Basemap | Find address or place



EPA EJSCREEN

EPA's Environmental Justice Screening and Mapping Tool (Version 2016)



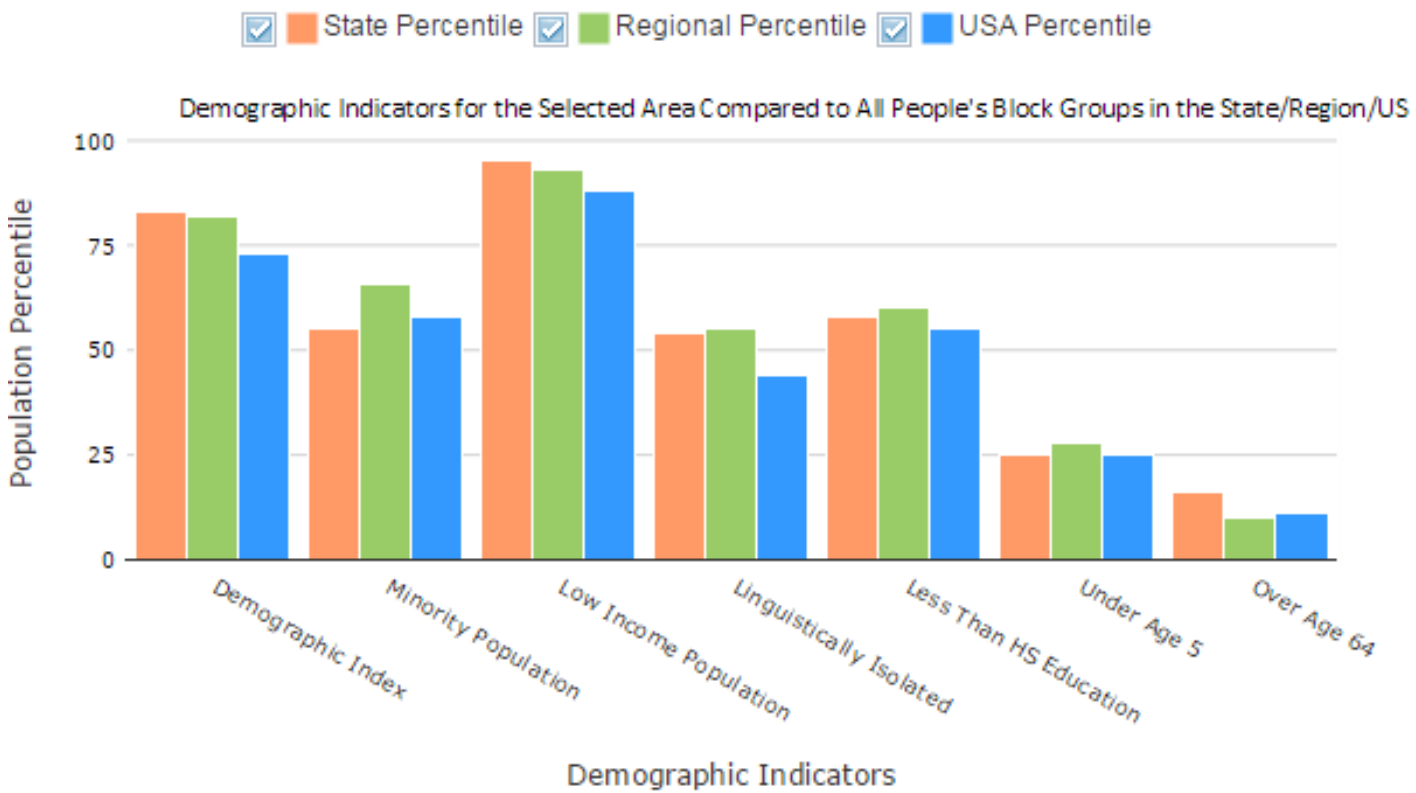
Explore Reports

Block group 517600302001, VIRGINIA, EPA Region 3 (Population: 1,812)

Environmental Indicators | Demographic Indicators | EJ Indexes

[Unselect All]

- [x] Demographic Index
- [x] Minority Population
- [x] Low Income Population
- [x] Linguistically Isolated
- [x] Less Than HS Education
- [x] Under Age 5
- [x] Over Age 64

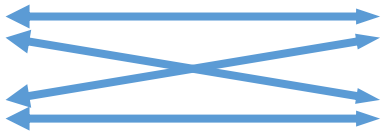


Get Data Table

Initial Layers for EJ Screen/Climate Integration

Demographic Indicators

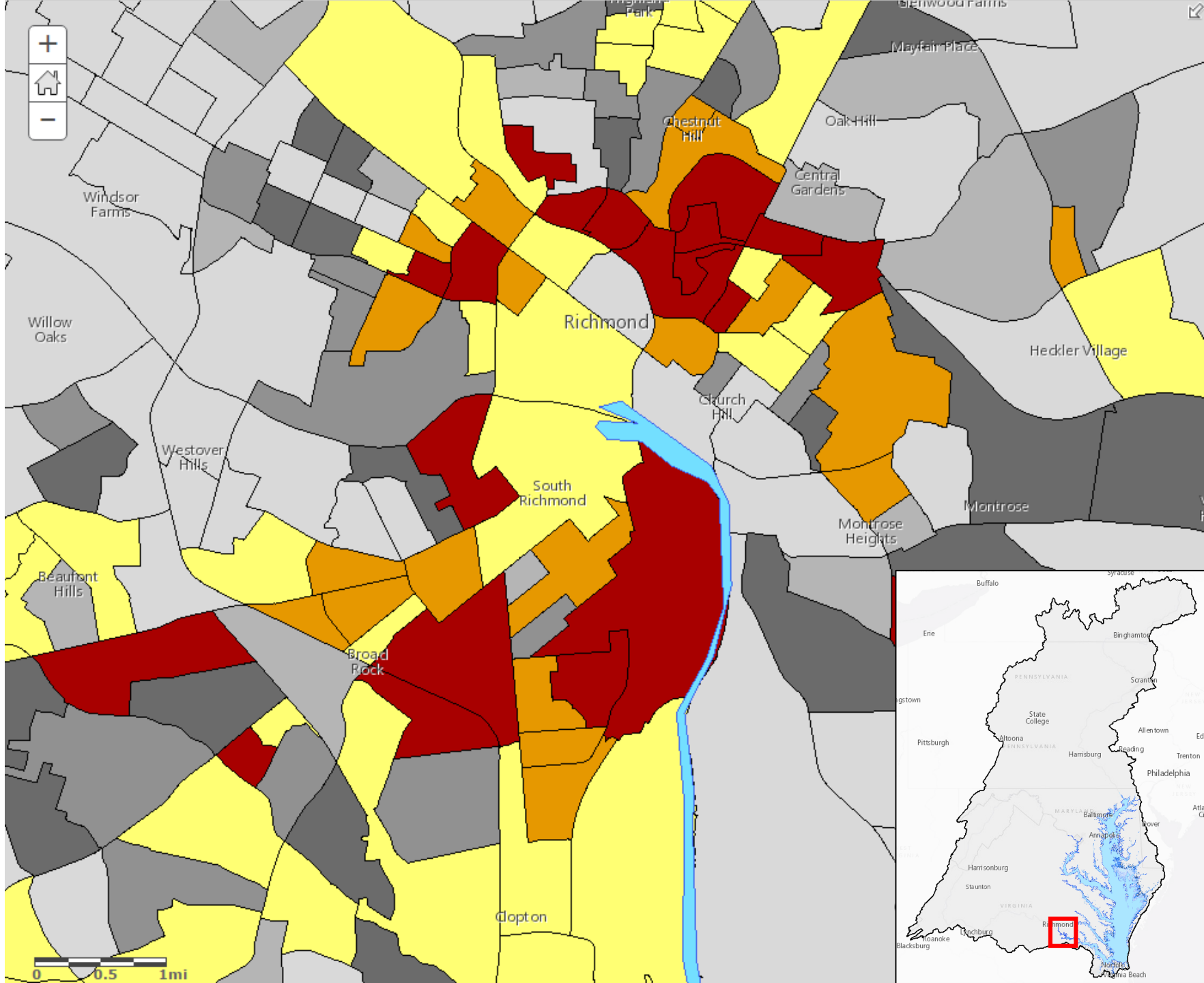
- Percent Low Income
- Percent Minority
- Less than High School Education
- Linguistic Isolation
- Individuals under age of 5
- Individuals over age of 65



Climate Layers

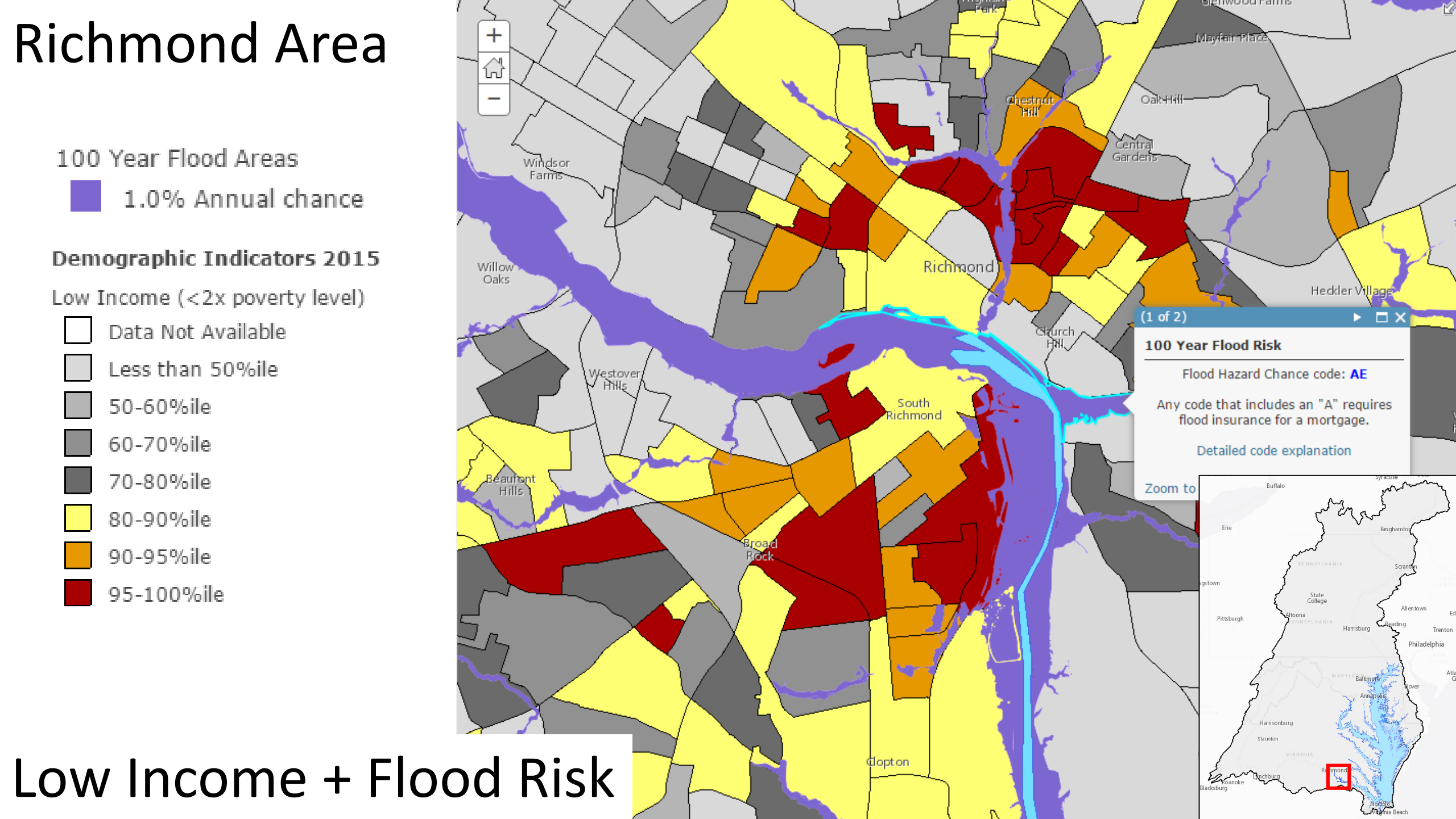
- Flood Risk
- Sea Level Rise
- Coastal Resiliency (MD)

Richmond Area



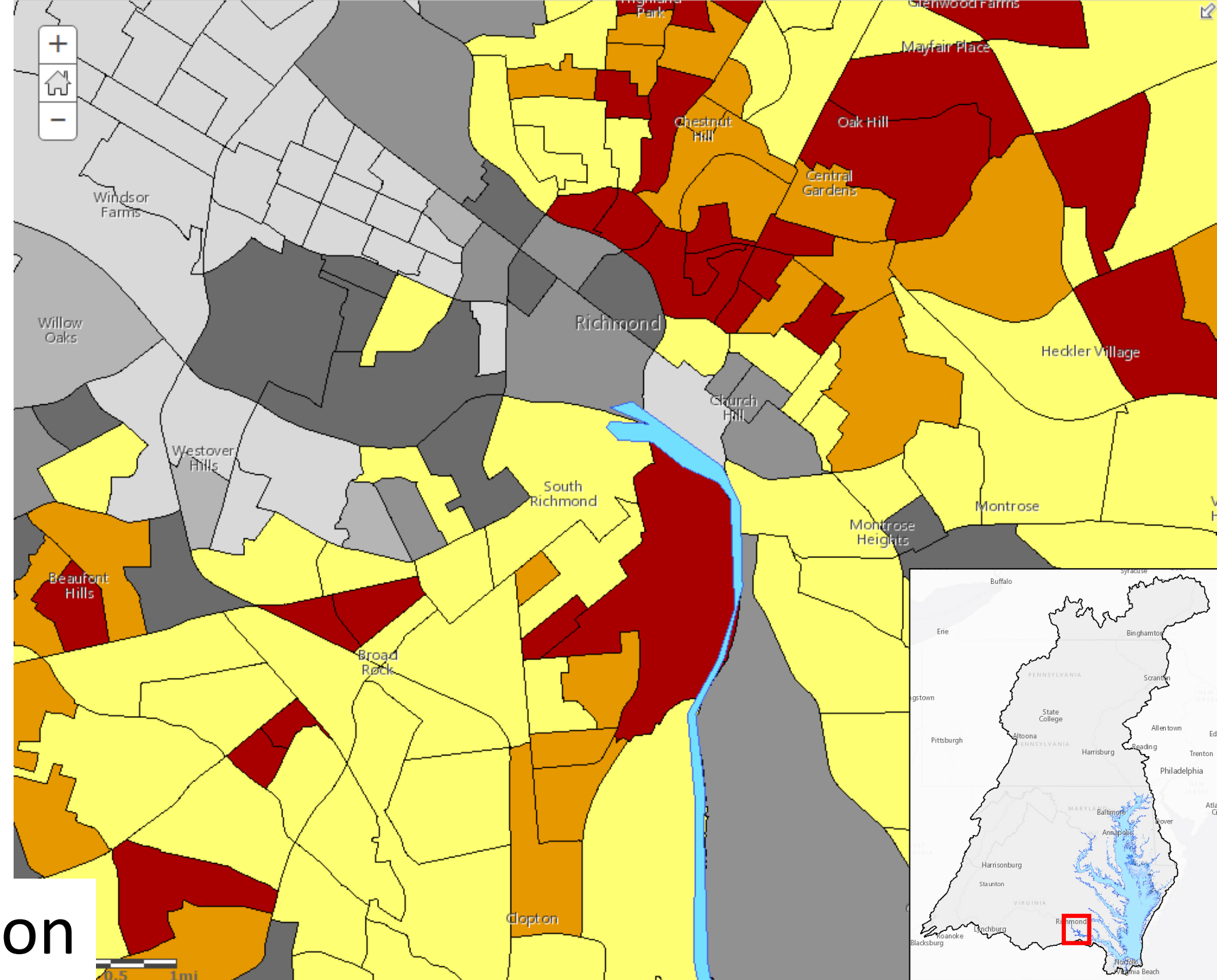
Low Income

Richmond Area



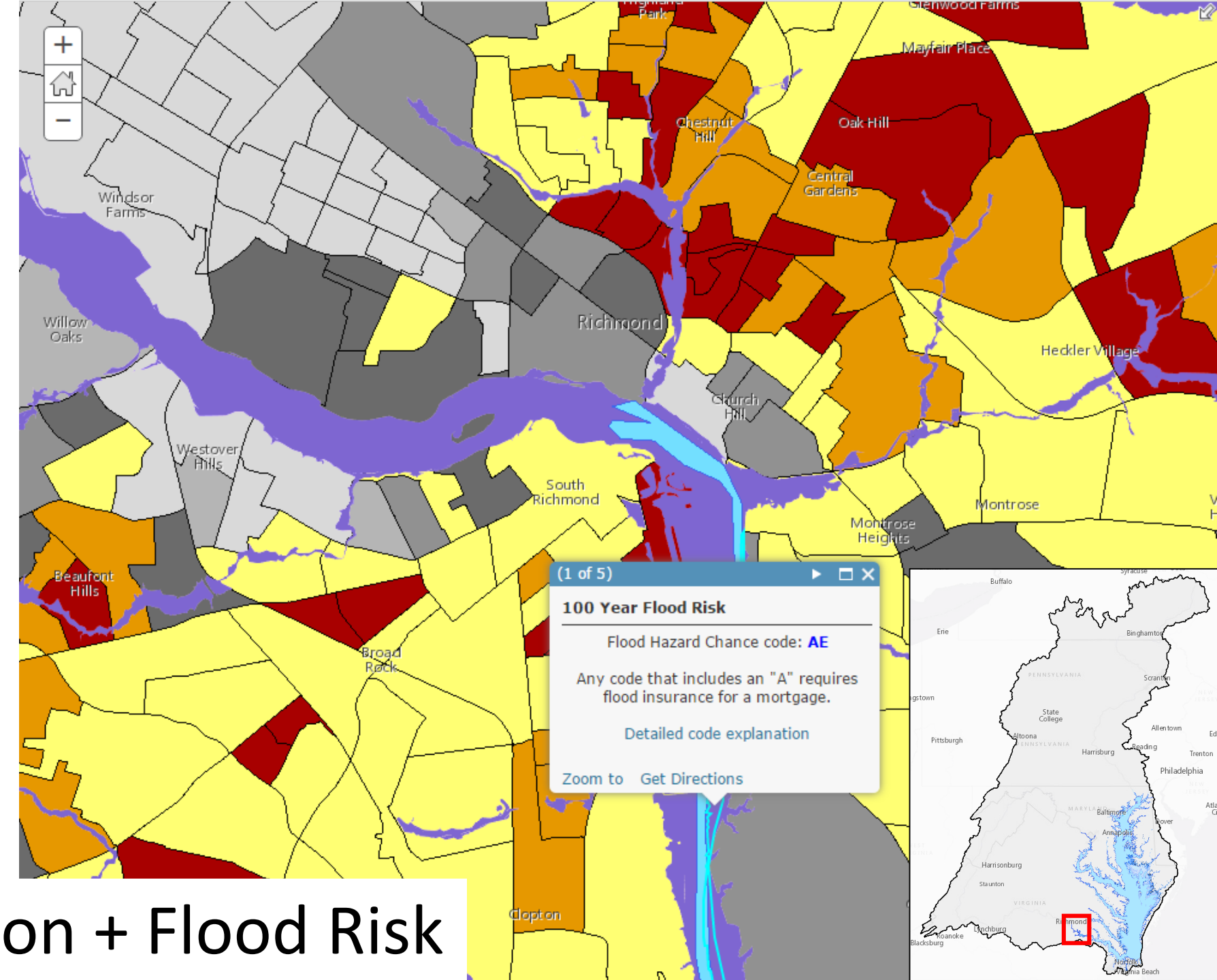
Low Income + Flood Risk

Richmond Area



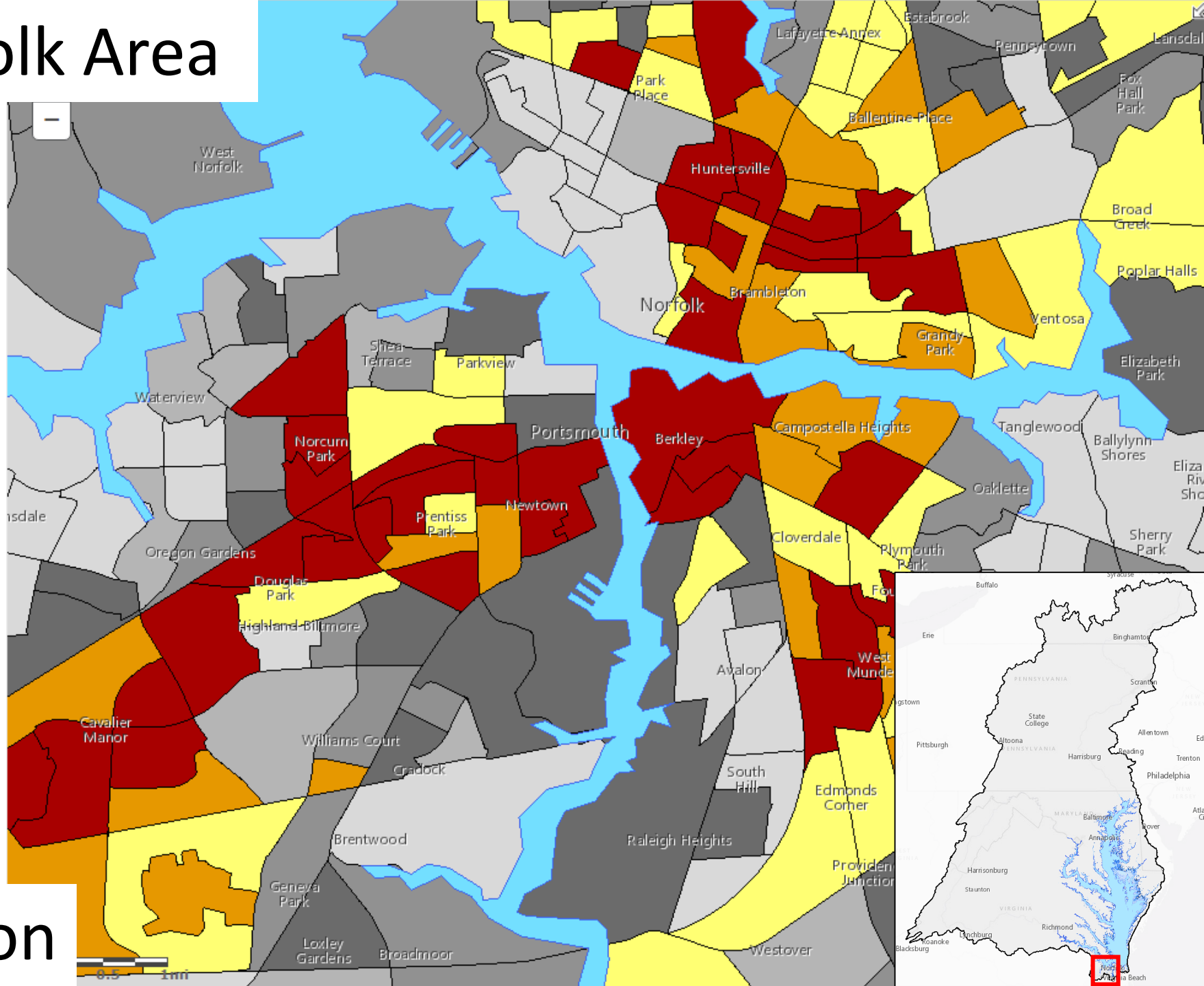
Minority Population

Richmond Area



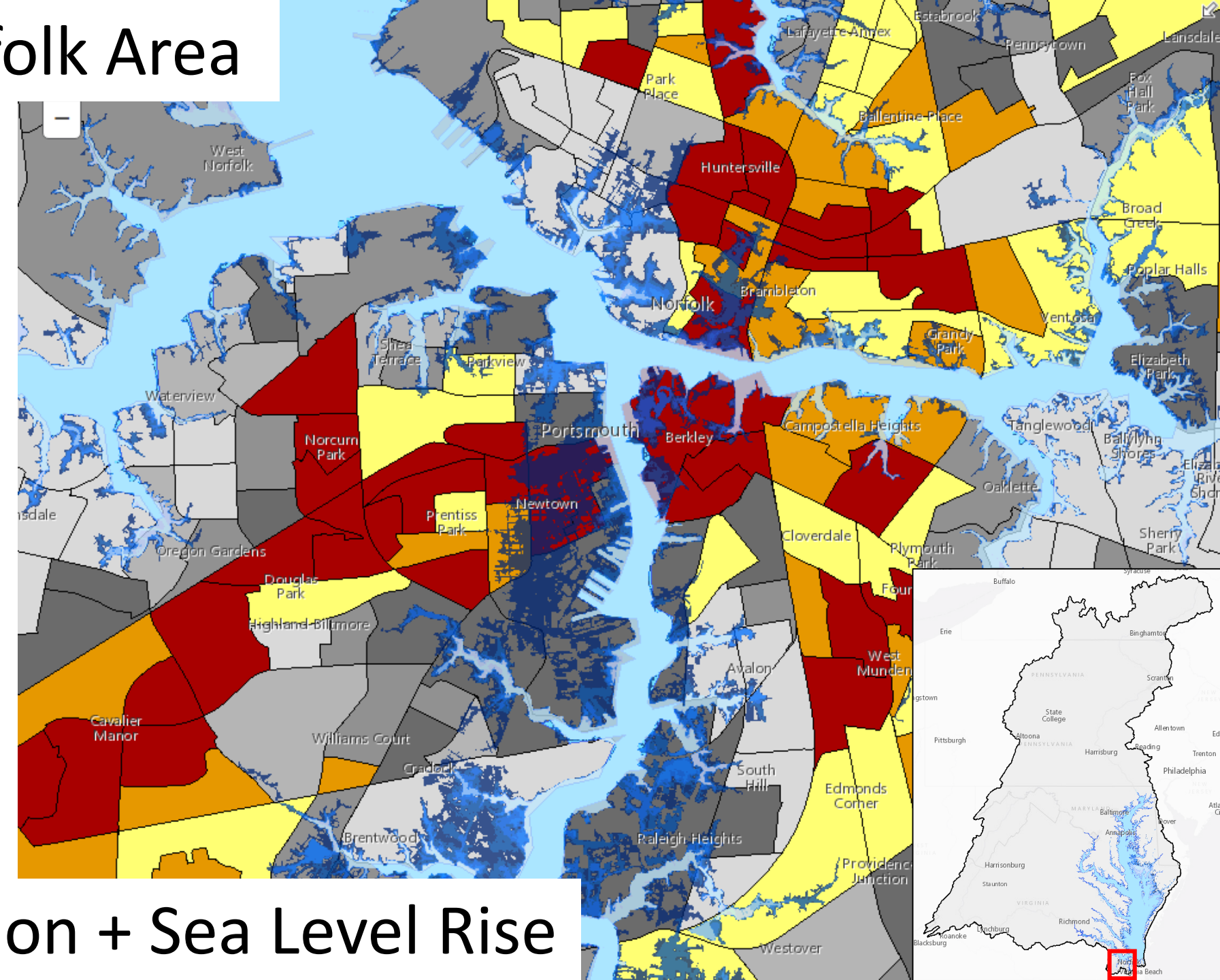
Minority Population + Flood Risk

Portsmouth/Norfolk Area



Minority Population

Portsmouth/Norfolk Area



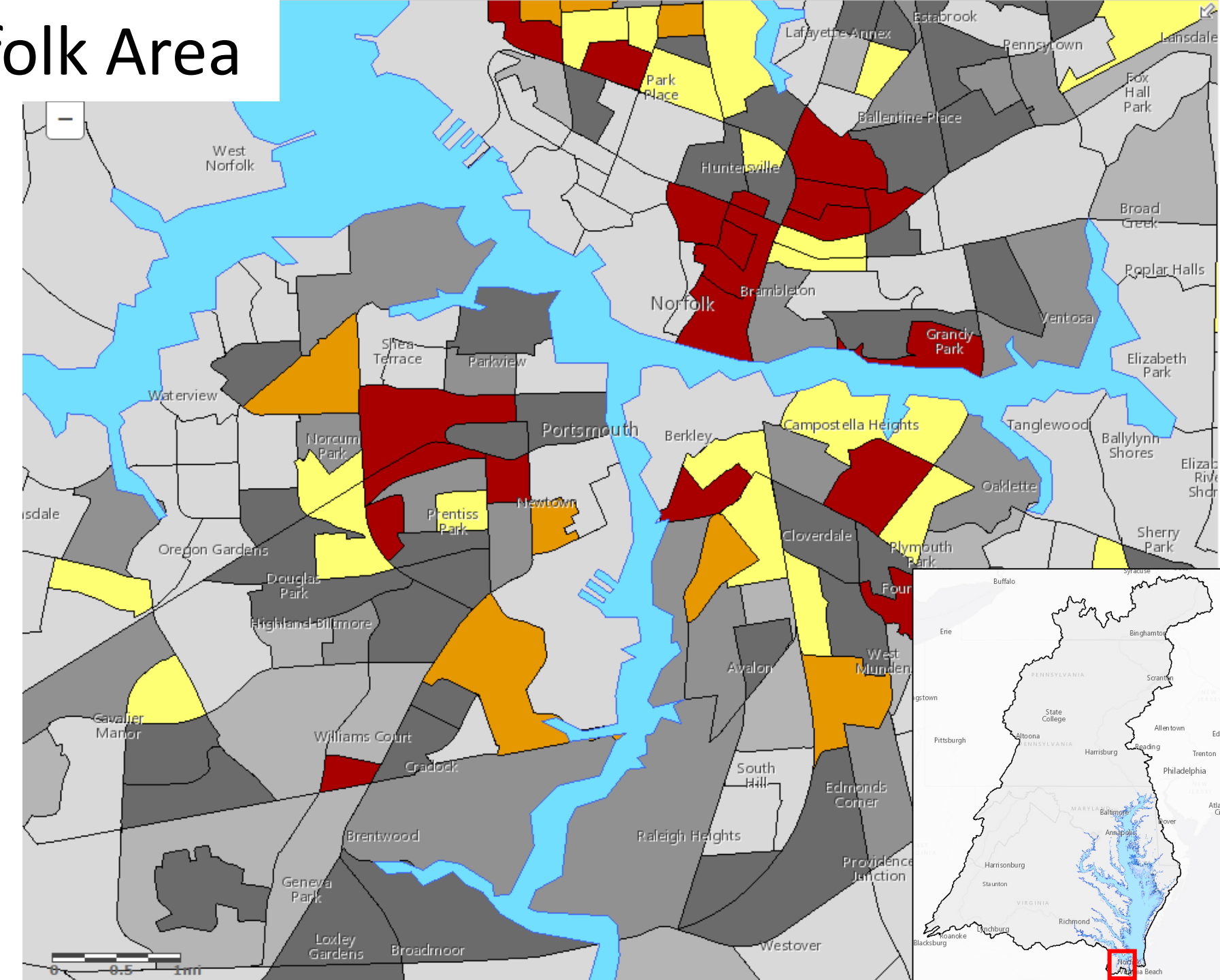
Minority Population + Sea Level Rise

Portsmouth/Norfolk Area

Demographic Indicators 2015

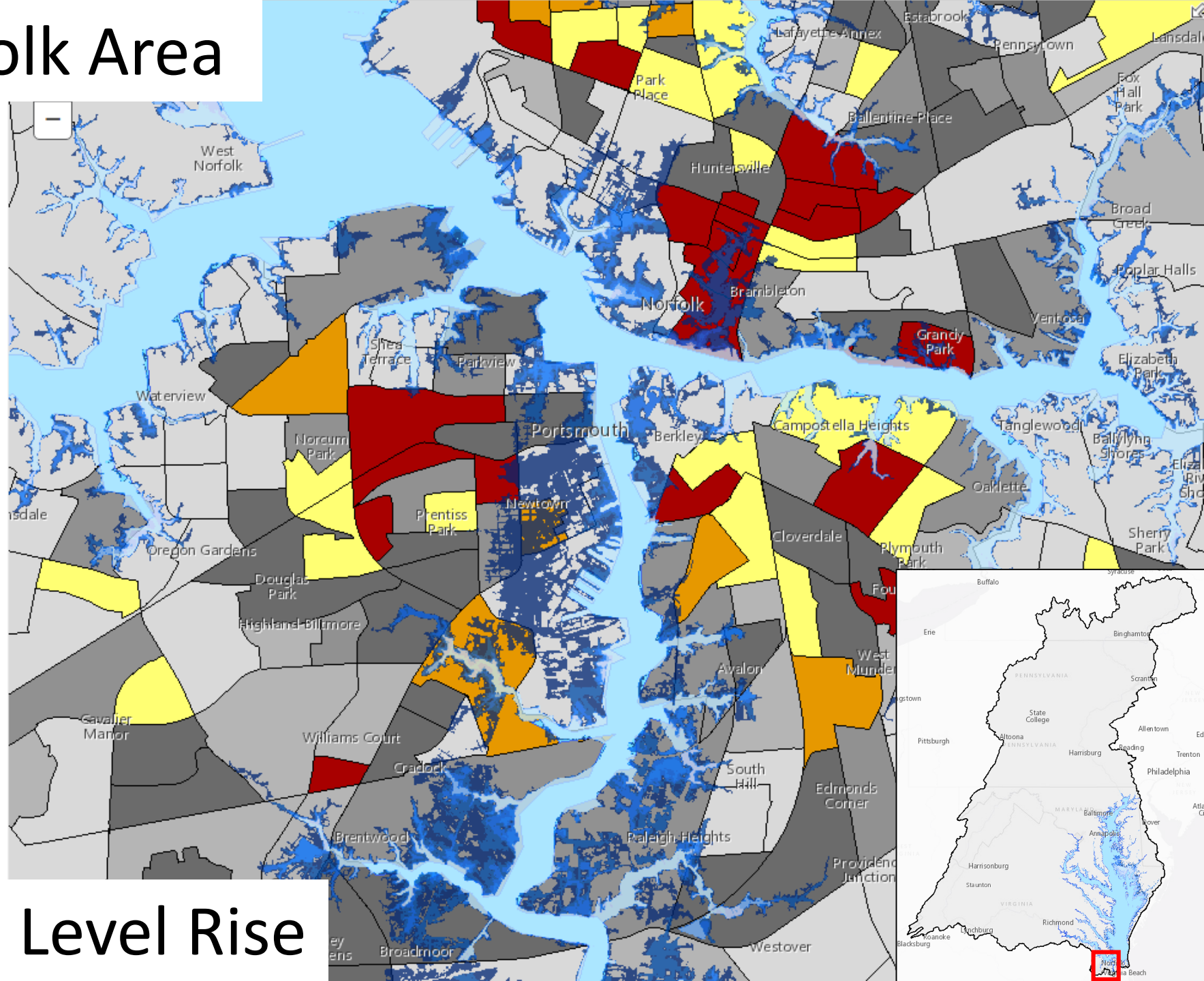
Low Income (<2x poverty level)

- Data Not Available
- Less than 50%ile
- 50-60%ile
- 60-70%ile
- 70-80%ile
- 80-90%ile
- 90-95%ile
- 95-100%ile



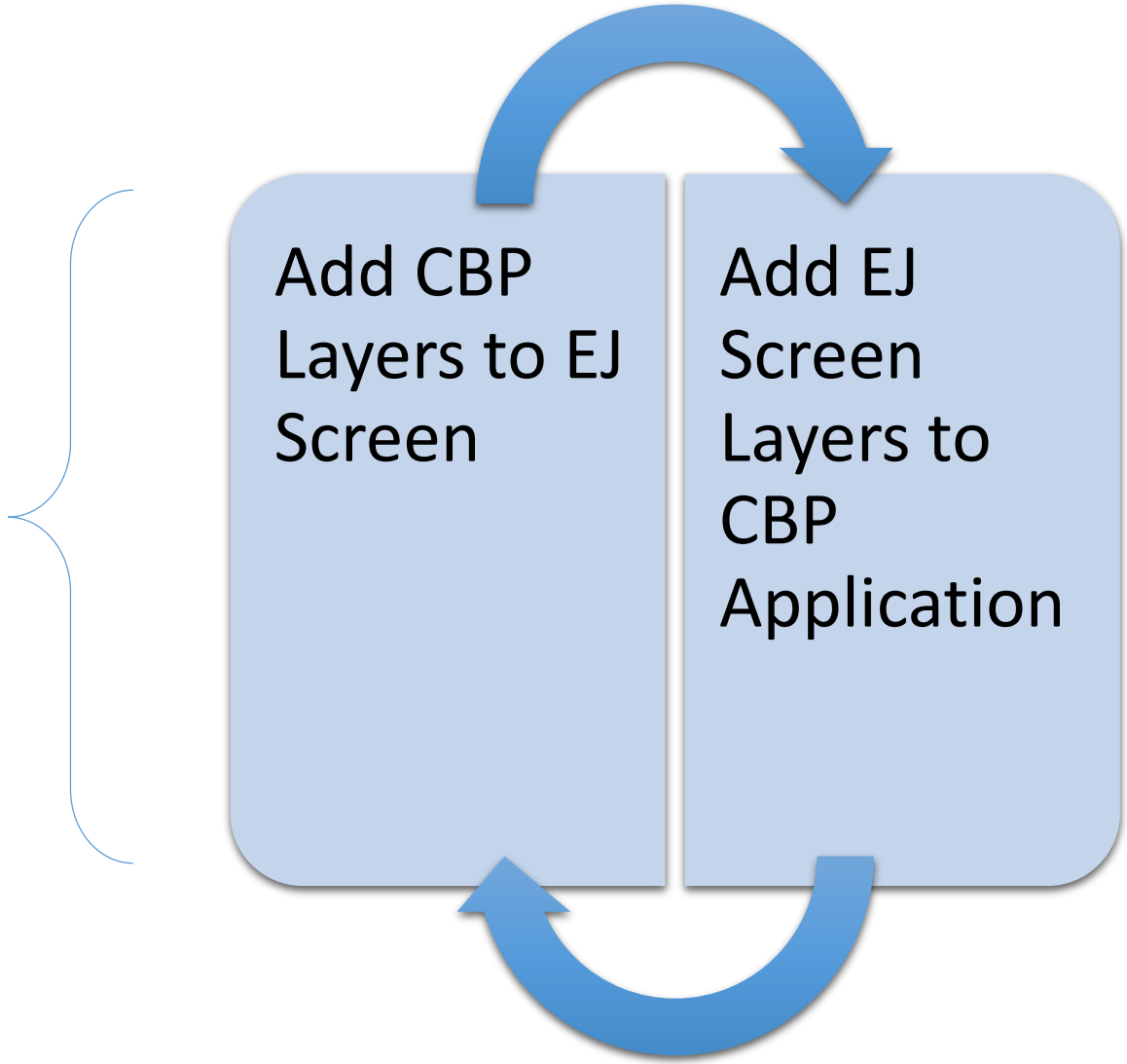
Low Income

Portsmouth/Norfolk Area



Low Income + Sea Level Rise

Options for Integrating Diversity into Other Outcomes



Layers Recommended for Cross-GIT Mapping Project

GIT 1	Priority Living Resources Areas (surrogate for Fish Habitat)
	Oyster Restoration Areas
	National Fish Habitat Action Plan (risk of current habitat degradation)
GIT 2	Regional Conservation Opportunity Areas
	Index of Ecological Integrity (NALCC)
	Brook Trout
	Black Duck Energetics Model
GIT 3	SPARROW Nutrient Loads
	Waters Impaired for PCBs
	Long Term WQ Monitoring Trends
	Water Quality Standards Attainment
GIT 4	Healthy Watersheds
	Protected Lands
GIT 5	Public Access
	Land Protection Priorities (via Chesapeake Conservation Partnership)
Climate	Sea Level Rise/Inundation
	Flood Hazard Risk (riverine)
	Wetland Adaptation Areas
Diversity	High Poverty
	Ethnic Minority
	Public Health Indicator ((e.g. cancer rates, asthma, birth defects))
Land Change	CB Land Change Model

Questions?