



Water Equity Mapping Tool



Metropolitan Area Water Supply Advisory Committee

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Project's purpose



Develop a tool that can inform the region to support water equity's policy desired outcomes



All residents **have access to safe and affordable water** for drinking, recreation, cultural, social, spiritual, or communal uses.



The public and ecosystem health benefits of **clean, safe surface and drinking waters** are fully achieved in all communities in the region.



Water utility and ecosystem services gaps are prioritized and addressed in **overburdened communities.**



Historically marginalized and overburdened populations are centered in water planning and management conversations and decisions.



Improvements to the regional wastewater conveyance and treatment **systems enhance regional aesthetics and amenities as directed by communities.**

Equity (1 of 2)

Regional Goals

The Met Council has endorsed these goals for our region to achieve through our policies, practices, programs, and partnerships. Click on a goal to read more.

Equitable and inclusive region

Our region is equitable and inclusive. Racial inequities and injustices experienced by historically marginalized communities have been eliminated; and all people feel welcome, included, and empowered.

Healthy and safe communities

Our communities are healthy and safe. All our region's residents live healthy and rewarding lives with a sense of dignity and wellbeing.

Dynamic and resilient region

Our region is dynamic and resilient. Our region meets the opportunities and challenges faced by our communities and economy including issues of choice, access, and affordability.

Lead on climate

We lead on addressing climate change. We have mitigated greenhouse gas emissions and have adapted to ensure our communities and systems are resilient to climate impacts.

Natural systems

We protect and restore natural systems. We protect, integrate, and restore natural systems to protect habitat and ensure a high quality of life for the people of our region.

Equity (2 of 2)



Equity

We value the people and communities of our region. Our region is economically and culturally vibrant. We also recognize, however, the harm and disparities that injustices, including racism, have created.

We are dedicated to creating systems, policies, and programs that repair and heal past harm, foster an equitable future, and eliminate disparities. Communities that have been marginalized in the past will be at the center of this work in leadership roles.



Leadership

We value those in our region who inspire and motivate others for positive change. Our region is known for its civic engagement. We need broad and inclusive leadership to help confront the significant challenges we face around equity, climate change, safety, and other pressing issues.

To maximize the potential of our region and its communities, we turn to leadership that is diverse, collaborative, culturally competent, and innovative. We encourage this kind of leadership across all sectors including business, government, nonprofit, and education.



Accountability

We value being effective in our work and achieving measurable outcomes. Our region is known for its research, initiatives, and collaborations. We must be open to criticism and clearly understand when we are not achieving results or have harmed communities.

We recognize that we can maximize our effectiveness by being in partnership with others. We will also be transparent and flexible so that we can change course when needed.



Stewardship

We value our region's resources. Our resources include our natural, economic, and financial resources as well as our infrastructure. We recognize that these resources may be vulnerable over time to changing conditions, including from climate change.

We must design our systems and allocate our resources in ways that can be sustained over time and support the needs of future generations.

Research Question



How can we spatially identify priority areas for equitable water planning in the region?

1. Where are water-related challenges concentrated?
2. Where are communities experiencing greater vulnerability?
3. Where do these overlap and then highlight potential priority areas for intervention?

Approach

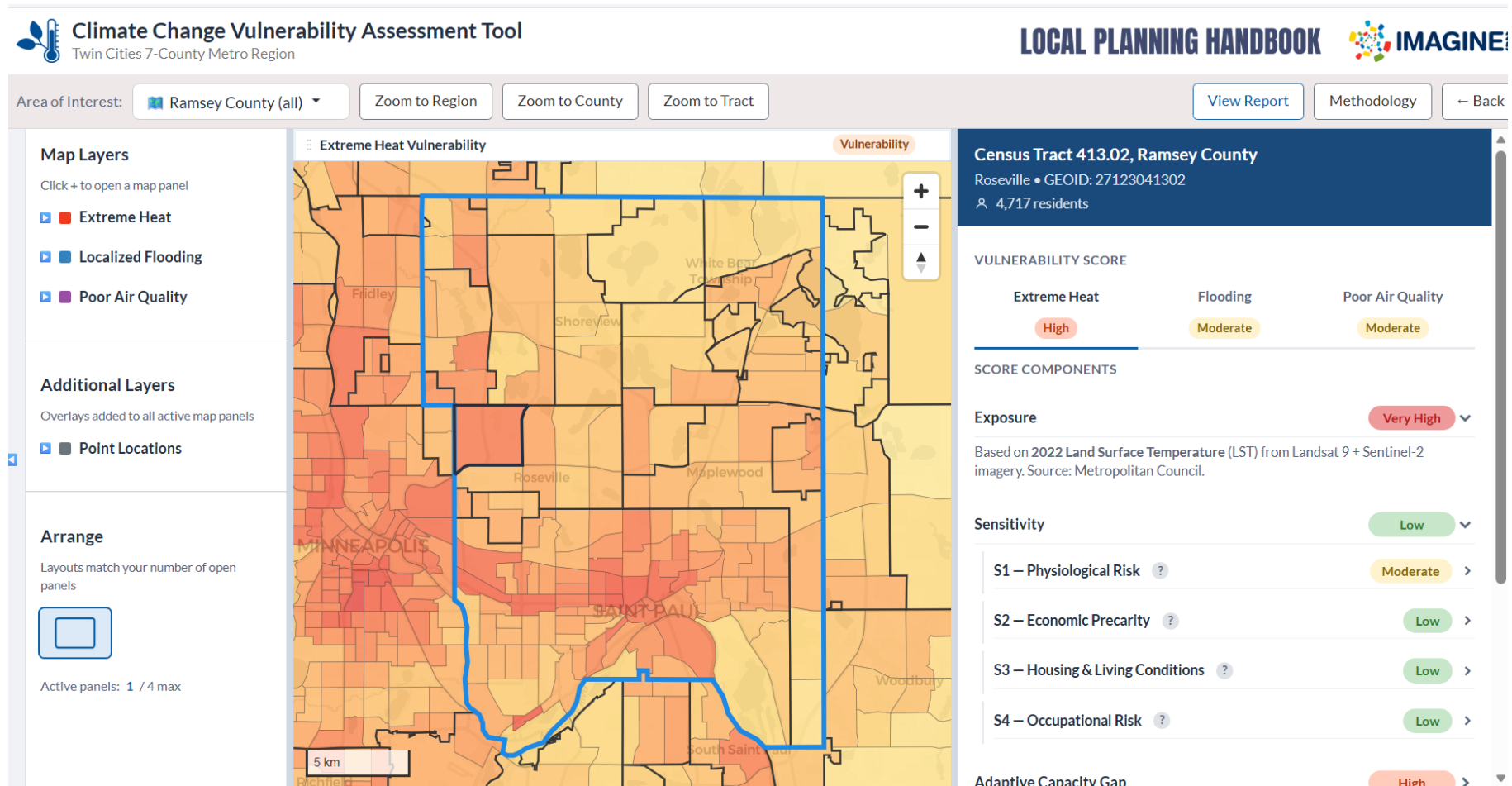
Composite Index



"a measure that combines multiple parameters or indicators to provide an overall assessment of the environmental health status of a particular area or population, often **summarizing underlying information via a single value or ranking**" (Price et al., 2024)

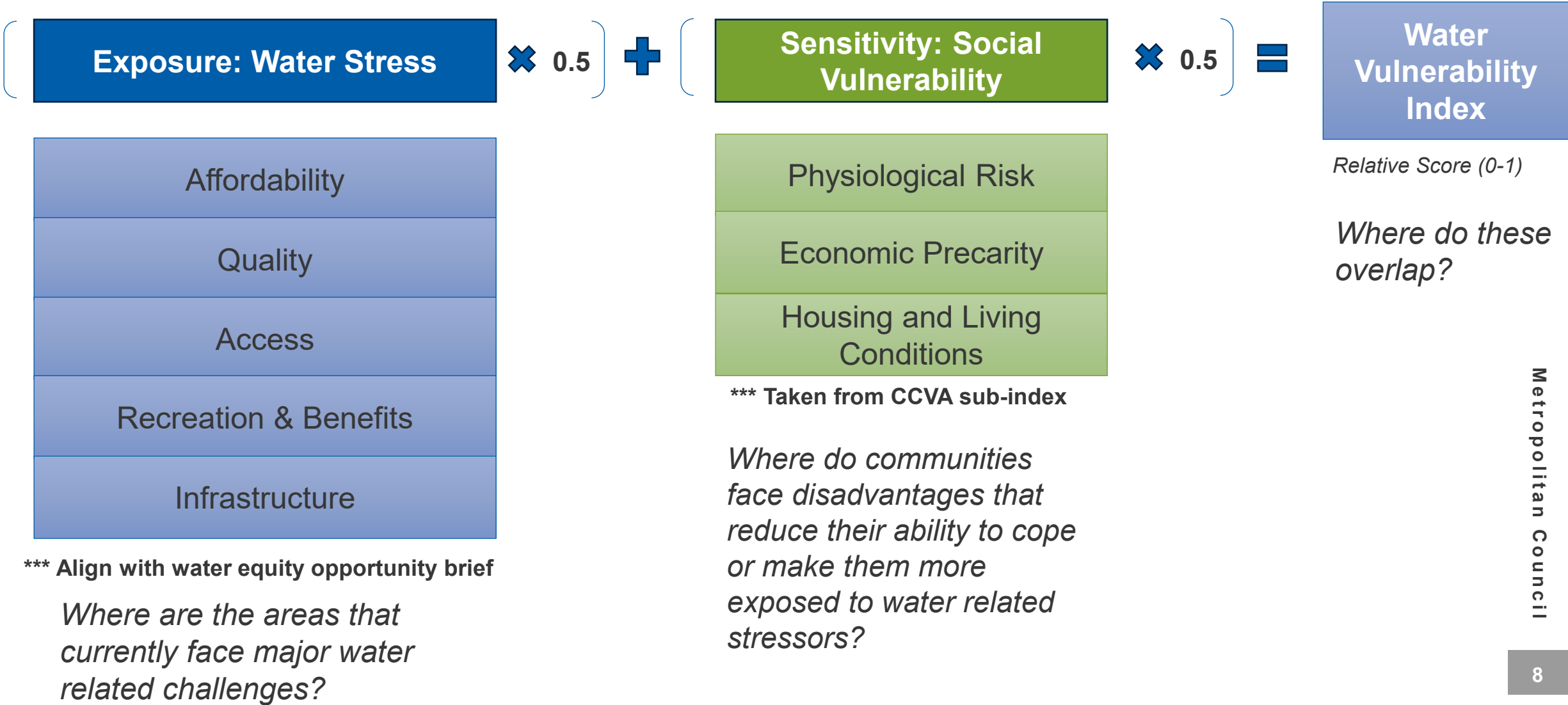
Used in many mapping tools assessing social vulnerability and environmental justice. Based and adapted from CDC SVI, EPA EJ Screen, CT EJ Screen and CCVA.

Example



Potential Model

GOAL: Identify census tracts facing water-related burdens while considering social vulnerability and equity layers across the metro region.



Output

	Social Vulnerability - - >					
Water Stress v		Very Low	Low	Moderate	High	Very High
	Very Low	Very Low	Very Low	Low	Low	Moderate
	Low	Very Low	Low	Low	Moderate	Moderate
	Moderate	Low	Low	Moderate	Moderate	High
	High	Low	Moderate	Moderate	High	Very High
	Very High	Moderate	Moderate	High	Very High	Very High

Water Vulnerability Index

Strengths

- Can summarize multi-dimensional realities into a single score
- Easy to interpret, sub-indexes allow themes to focus/ develop planning signals
- Provide multilayered context for an area

Limitations

- Not focused on specific challenge, broad exploratory tool
- Place-based tool that needs further community consultation
- Weights and indicator selection might be subject to bias
- Data availability can constrain inclusion of water metrics

Progress Check



Methodology Report Draft



Presentations and Feedback



Connecting with other agencies to ask about similar work



Developing Scope and Framework – EJ Playbook alignment



Data Mining for Proxies for Each Theme – Dataset Inventory



Running Trials in R and ArcGIS for the Water Vulnerability Index



Thank you

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