

Keeping our Cool

A 2023 update to extreme heat tools

Metropolitan Council Meeting

14 June 2023



Today's discussion



Outline

- Met Council's previous efforts and recent updates
- Extreme heat intersects with 2050 regional vision
- Preview of updated resources
- Outreach and engagement efforts
- Q & A

Previous efforts and recent updates



Thrive MSP 2040 informed initial work on extreme heat



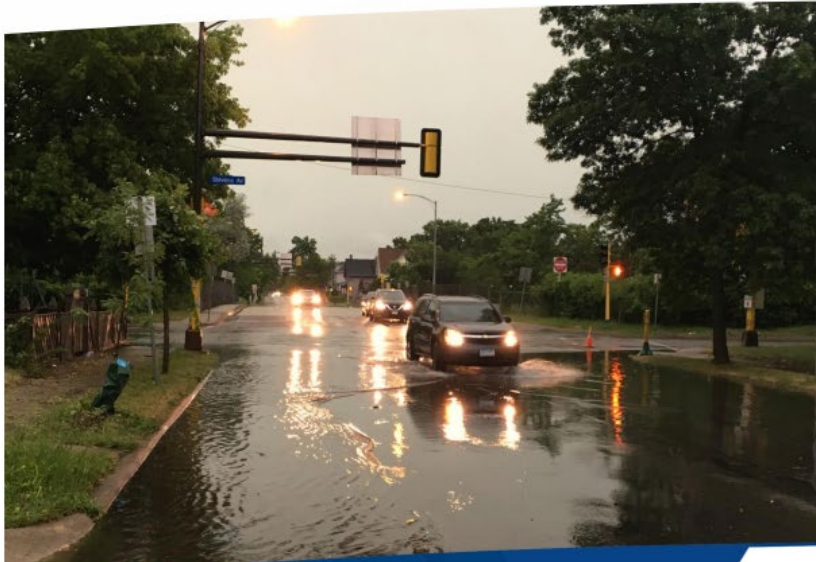
Sustainability & Livability

- Provide leadership, information, and technical assistance to support local governments' consideration of climate change mitigation, adaptation and resilience.
- Proactively address livability concerns including protecting open spaces and vegetative cover that mitigate the impact of the urban heat island.

Climate Vulnerability Assessment (2017)

REGIONAL CLIMATE VULNERABILITY ASSESSMENT

Introduction



February 2018

Extreme Heat

- [Map of historic 2016 heat wave](#)
 - Mitigating heat risk starts with understanding the spatial nature of heat and the influences from land use and the built environment.
- [Digital report \(StoryMap\)](#) explaining the connection between heat and planning
 - Planners can take an active role to increase the heat resilience of their communities.
 - Understanding human vulnerability to extreme heat impacts promotes an equitable future.

2023 update to extreme heat tool



1. **Voices** from across the region sharing mitigation and adaptation strategies for extreme heat
2. An updated and improved **map** of land surface temperature

Humanizing the data & storytelling



Responding to community need

- Pairing storytelling with quantitative research
- Centering climate justice and equity
- Impactful for broad audiences

A Resilient Communities Project (RCP)

February 2023 – April 2023

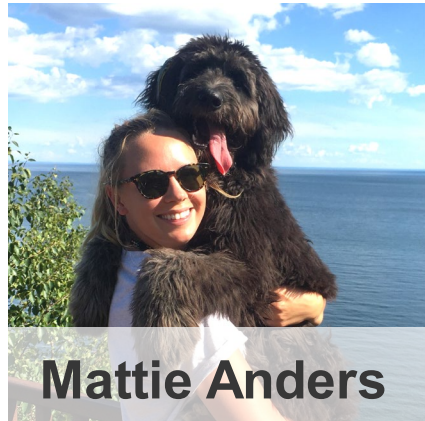


Six local experts were identified who practice in different disciplines.

Project framework was outlined using 2050 Vision Statements for guidance.

Experts were interviewed using a semi-structured process.

Main themes were analyzed and further researched to guide discussion.



Mattie Anders



Alice Hewitt



Catie McDonald



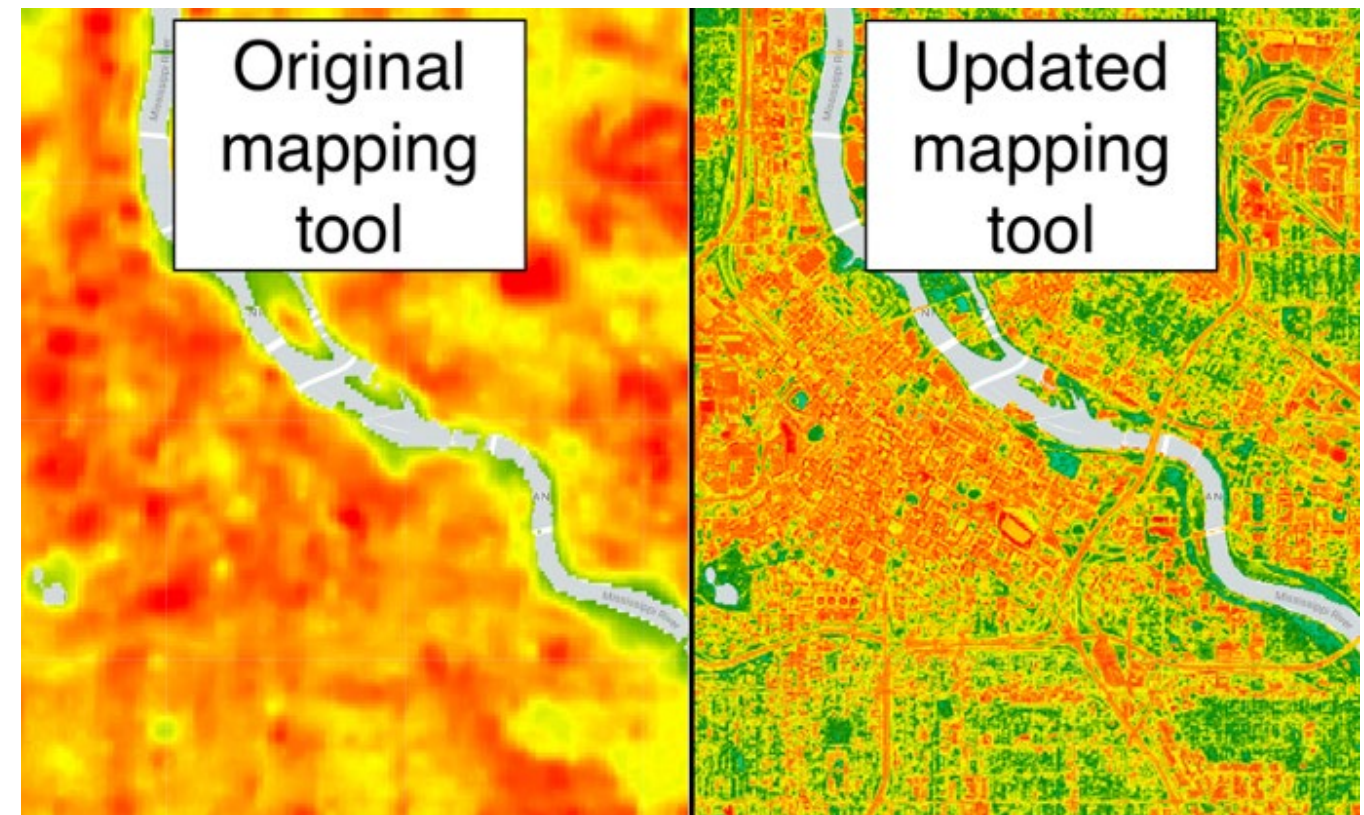
Resilient Communities Project

UNIVERSITY OF MINNESOTA

Bringing temperature maps into focus

Maps facilitate implementation

- Created using remote sensing and satellite imagery.
 - Updated date (2016 vs. 2022)
 - 10x improved resolution
- Both maps available via MN Geospatial Commons to serve complimentary purposes:
 - [2016 captures a historic heat wave](#)
 - [2022 highlights heat differences across the region](#)



Extreme heat intersects with 2050 regional vision



Our Region is Equitable, Inclusive, & Welcoming



A story about energy assistance and mutual aid

- Impacts of extreme heat are not felt equally around the region.
 - The influence of racist policies like redlining impact today's environmental conditions.
 - Hotter conditions can result in higher energy costs to cool homes.
 - Energy assistance only serves 20% of eligible households.
- Combined solutions provide access to cooling.
 - Ad hoc mutual aid groups are filling gaps.
 - Public “cooling spaces” available during daytime hours.
 - Splash pads, local lakes, and parks with shade offer relief from heat.



“Access to consistent utility services is a basic need.”
- Catherine Fair, Executive Director Energy CENTS Coalition



“I know how impossible it is to get good sleep when you have hot kids.”
- Rachel Wiken, Senior Transportation Planner

Our Communities are Healthy, Safe, and Vibrant



A story about the public health impacts of extreme heat

- Minnesota residents are unique vulnerable to extreme heat.
 - Hot weather can be deadly.
 - Climate change is increasing the frequency and intensity of heat events.
- Social determinants of health are non-medical factors which influence health outcomes.
 - Economic stability.
 - Living and working environments.



“The two main things that I’ve seen which compound the health impacts of extreme heat are the built environment as well as economic stability.”

- Dr. Laalitha Surapaneni, Assistant Professor of Medicine, UMN

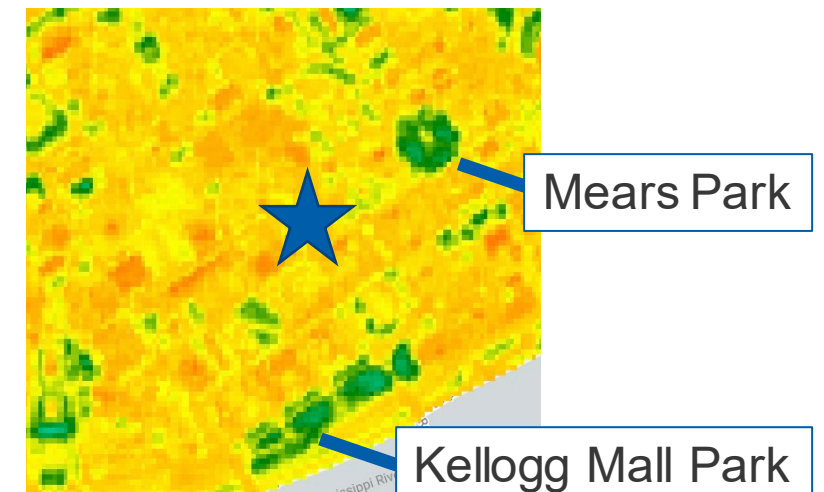
We Lead on Addressing Climate Change

A story about connecting natural and built environments

- Urban areas often have higher temperatures than outlying areas.
 - Influence of land use - more pavements and buildings that absorb heat, coupled with less green space which cools temperatures.
- Incorporating natural elements into design creates microclimates.
 - Tree spacing and shade structures.
 - Reducing impervious surfaces.
 - Incorporating green roofs and innovative stormwater management systems.



"How we've built our cities is the reason why extreme heat is intensified within them, which means there are ways to build ourselves out of this situation."
- Mo Convery, Landscape Architect at Confluence



We Protect and Restore Natural Systems



A story about strengthening connections between humans and nature

- Nature is not equally accessible around the region.
 - Environmental justice areas treated as “sacrifice zones” face disproportionate burdens.
 - Hotter environments impact stress, physical, and mental health.
- Bringing visibility to ongoing work.
 - Community gardens and urban greening can build biodiversity and social engagement.
 - Protecting existing green spaces for heat refuge.



“High currency interventions improve our residents’ total wellness and resiliency and prioritize nature-based solutions.”

- Dr. Kristi White, Assistant Professor of Medicine, UMN



“Marginalized people have always had to be adaptive; I’m continuously inspired by the resiliency of this community and Native folks.”

- Gloria Iacono, Food Sovereignty Manager at Four Sisters Urban Farm

Immersive data experience

Updating existing tools for 2023

- StoryMap
 - Integrated storytelling and multimedia components
 - Under review
- Mapping tool
 - Publicly available on MN Geospatial Commons

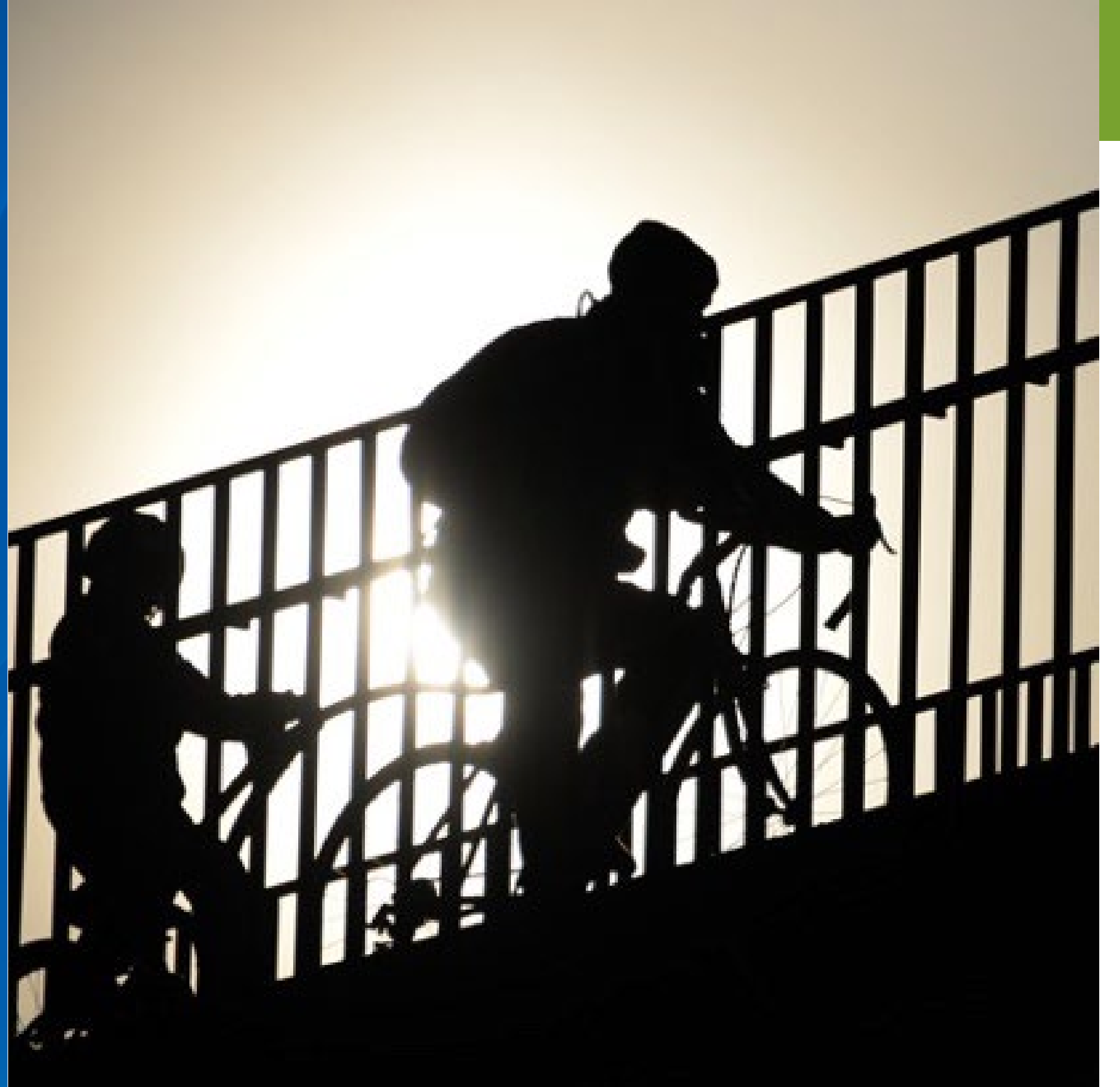
Keeping our Cool

Understanding extreme heat across the Twin Cities Region

Scroll down to begin



Outreach and engagement efforts



Outreach and engagement efforts



Training & practitioner outreach

- RCP Presentation to CD staff (April 24)
- **Council presentation (June 14)**
- Metro Update and PlanIt newsletter stories planned for summer

Community engagement

- Multi-media outreach (social media) planned for summer



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