

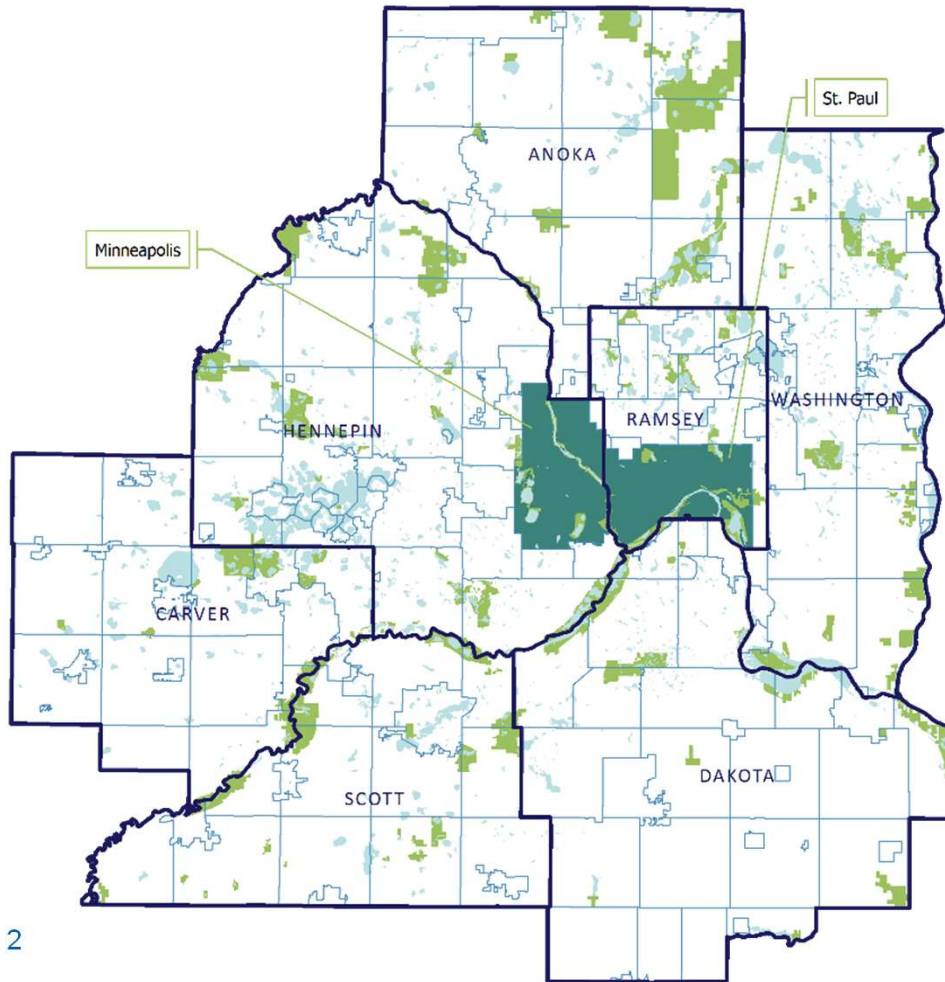
Embedding Practice & Collaboration – The Key to Resilience

MN Water Utility Resilience Workshop

July 18, 2019



Twin Cities Metropolitan Region



- 7 counties
- 181 cities and townships
- 3 major rivers
- Nearly 3 million people today
- Projected growth of 783,000 people by 2040



Mission

- Regional planning framework
- Transportation, water resources, parks, and aviation systems
- Guide efficient growth of the metro area
- Operate transit and wastewater services
- Administer housing and other grant programs



The One Water Approach

- **Water Supply**
- **Stormwater**
- **Wastewater**
- **Water Quality**

An average home
can collect over

600
GALLONS
OF WATER

during
moderate rain



3 Rivers

St. Croix River Flow:

320

Million
Gallons/Day

Minnesota River Flow:

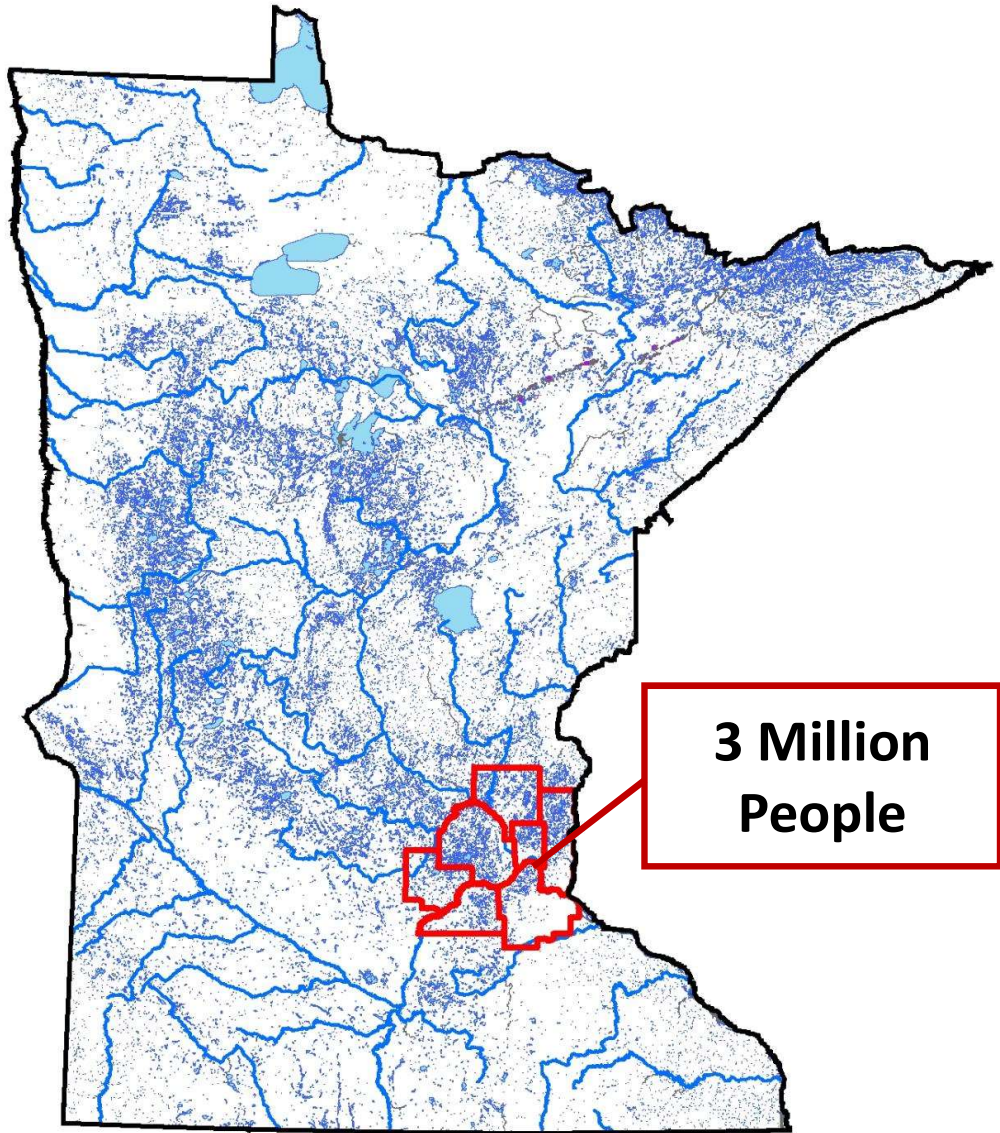
1,290

Million
Gallons/Day

Mississippi River Flow:

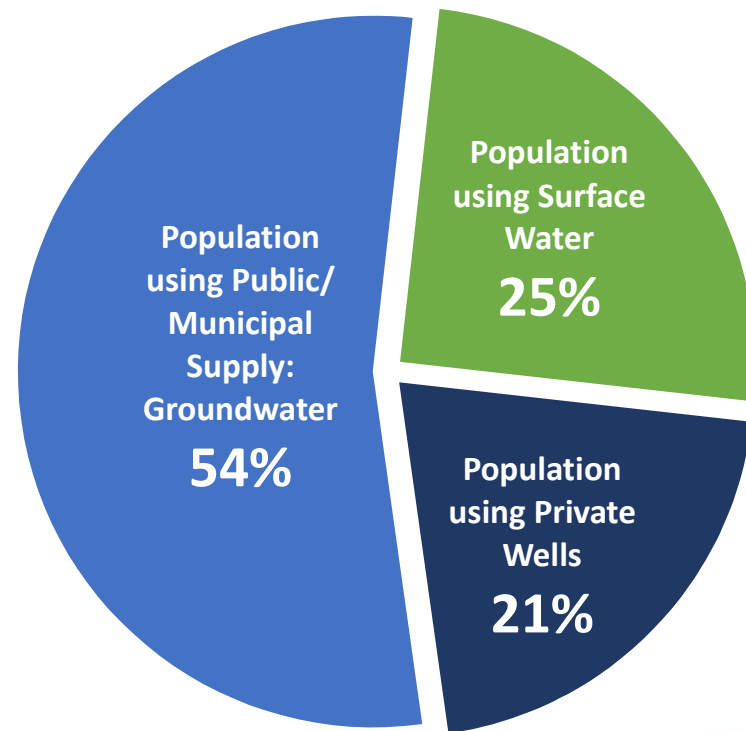
1,940

Million
Gallons/Day



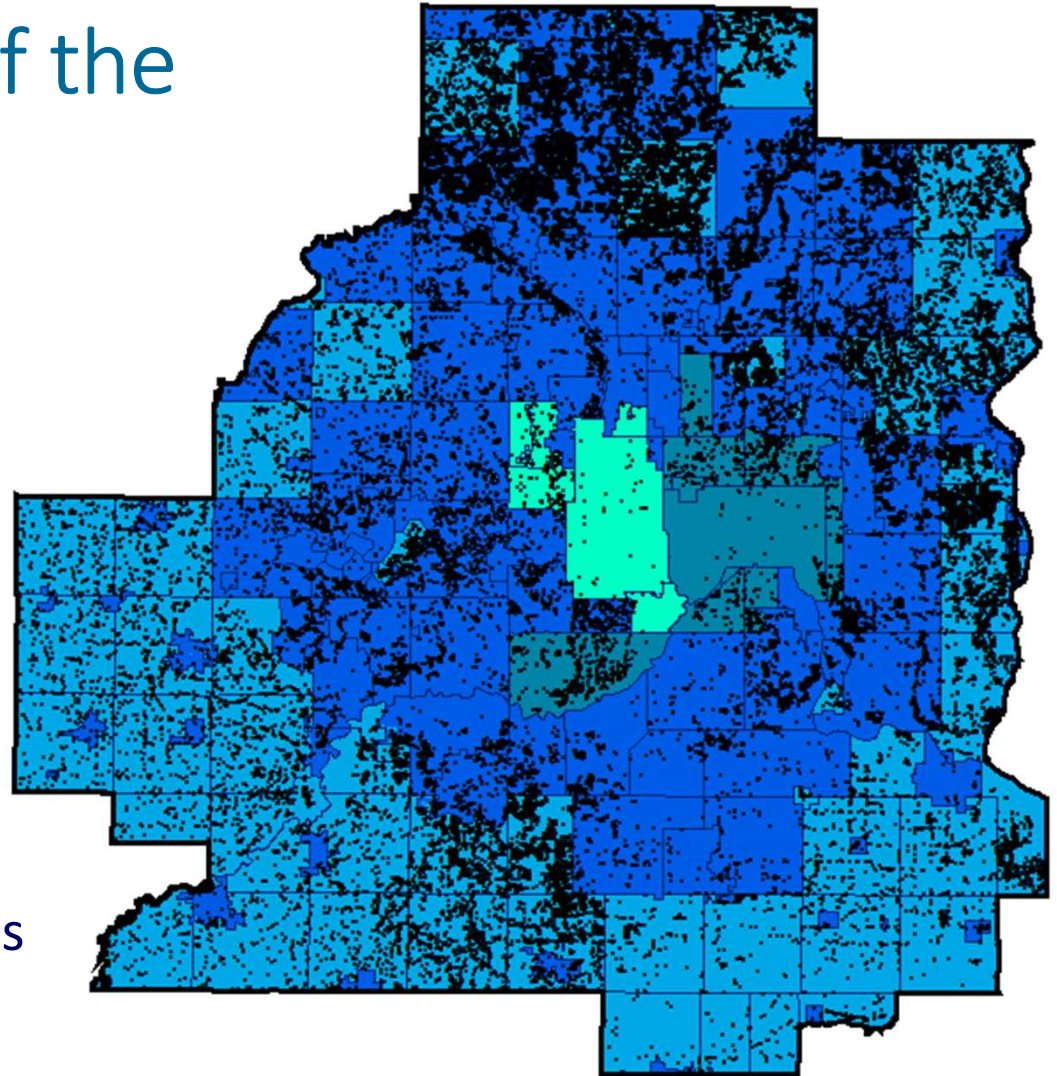
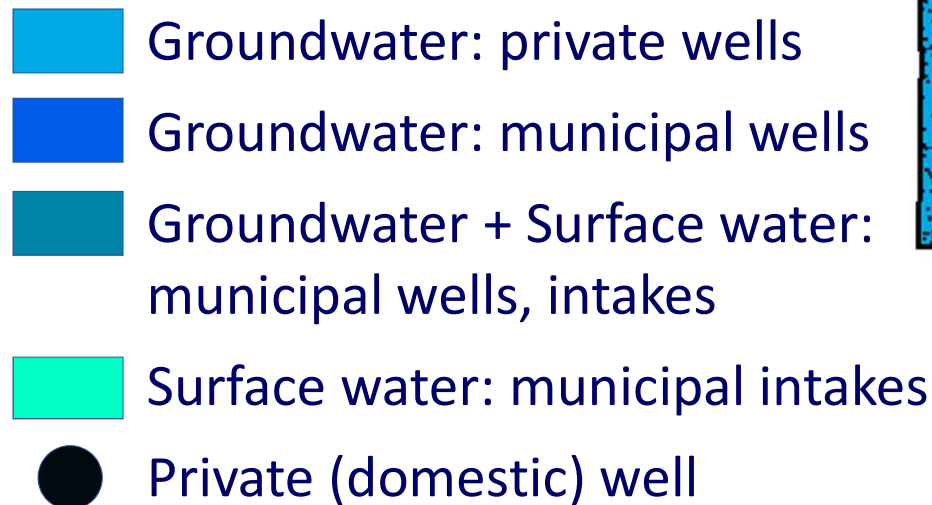
Minnesota

Land of 10,000 Lakes!

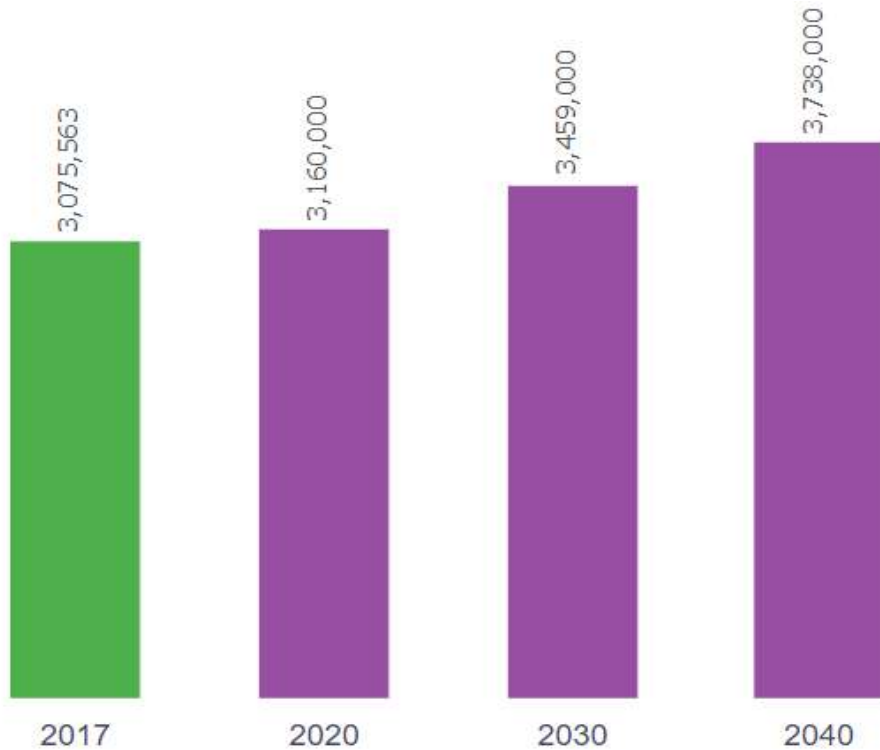


Water Supply Sources of the Twin Cities Metro Area

- 186 Cities and townships
- 100+ Water utilities

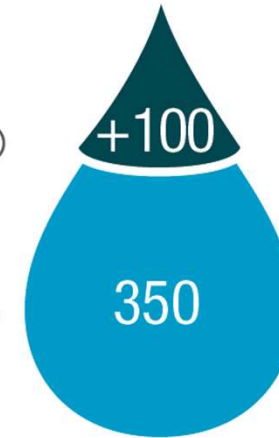


Growing Population Increases Municipal Water Use



2040
More Use:

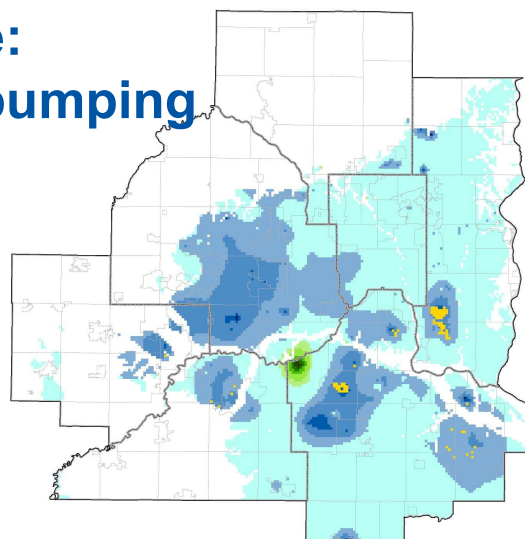
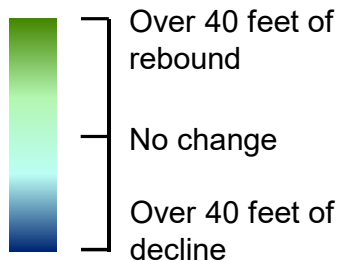
2015
Water Use:



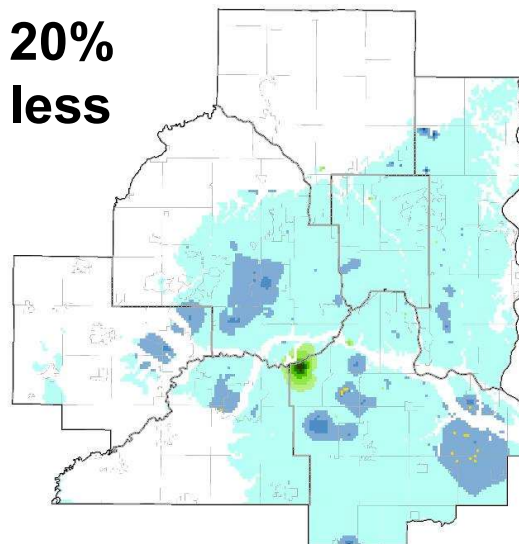
Million Gallons
per Day

 Population: Estimates  Population: Forecasts

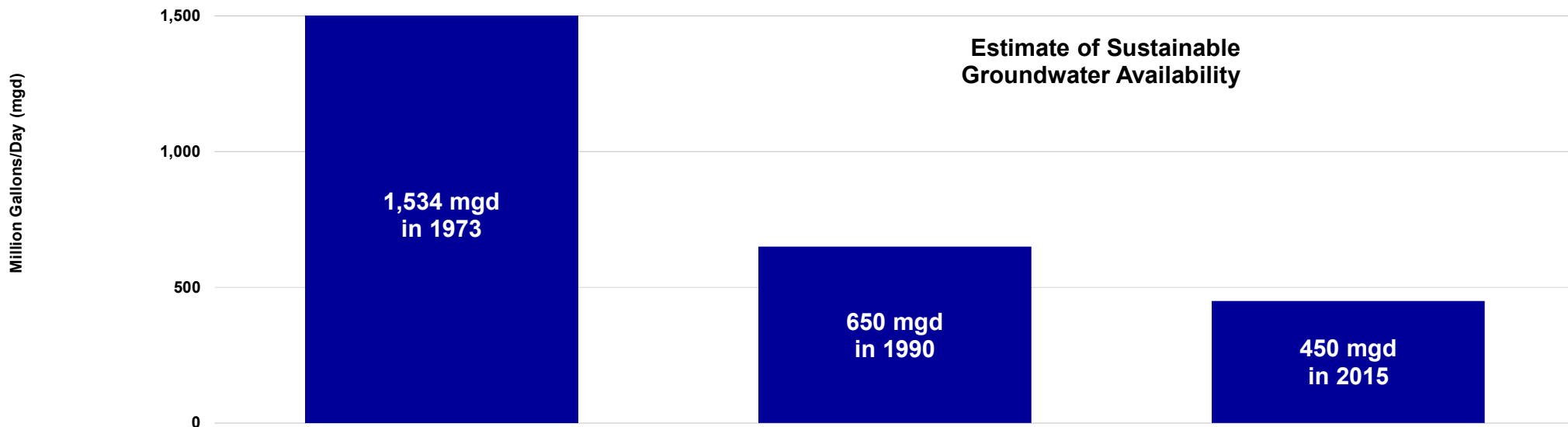
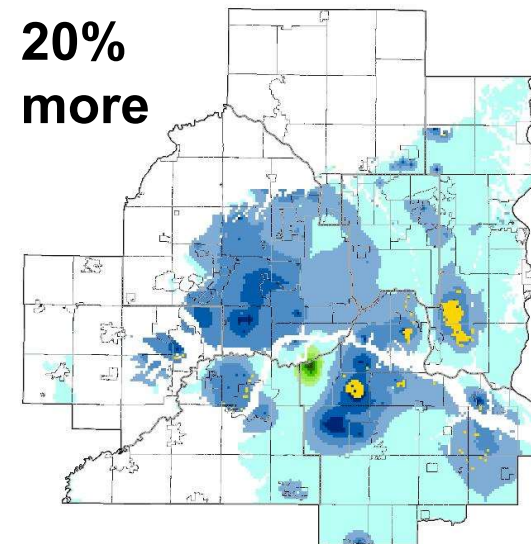
Aquifer change: 2010 vs. 2040 pumping



20%
less



20%
more



Embedding Practice - Localized Flooding



IMAGE SOURCE: City of St. Louis Park

Observation of Mega Rain Events* in MN

Over half of Mega Rain Events since 1866 occurred since 2002

Challenges

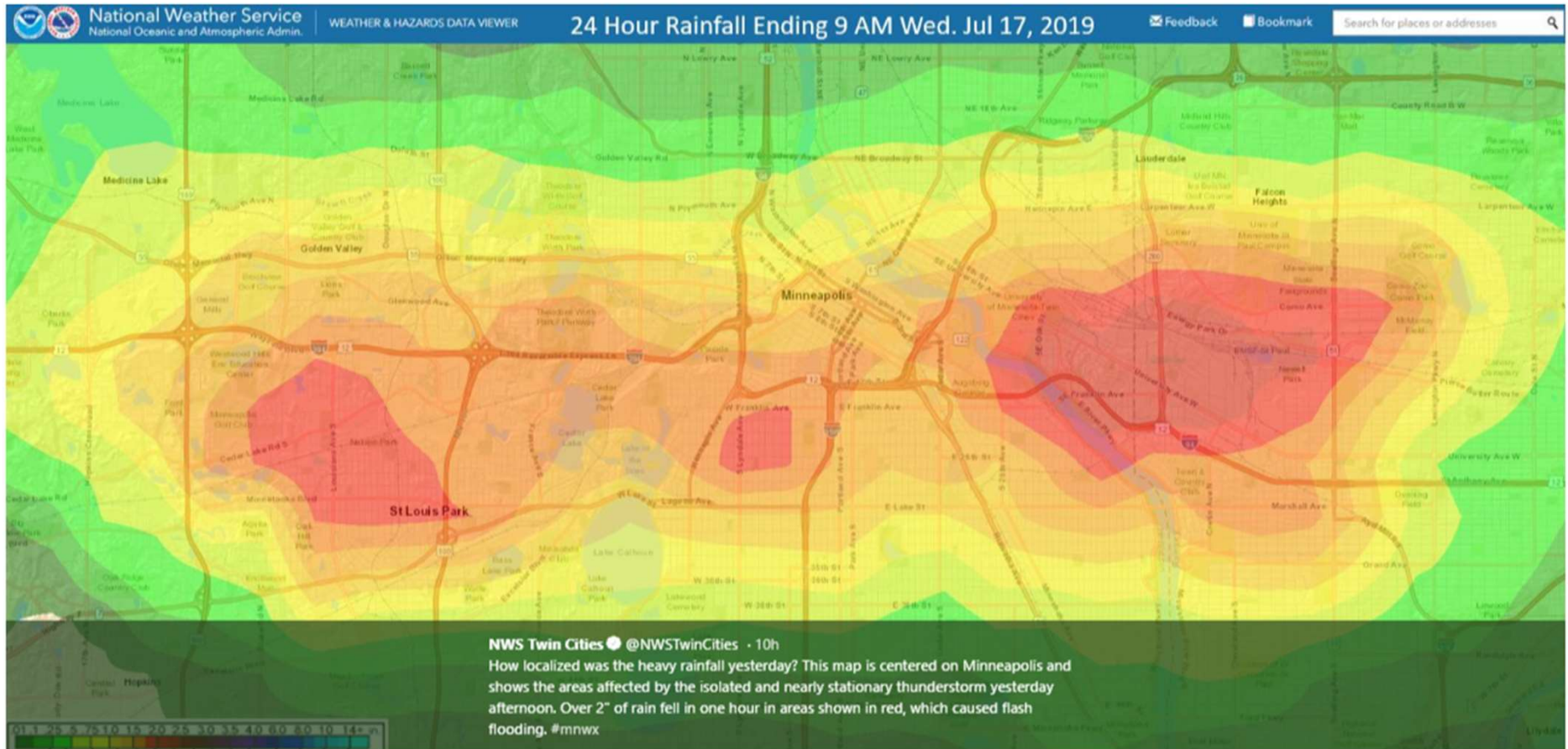
Most infrastructure planned for 5 to 10 year storm events

Under new modelling, the 100-year event has increased by 25%

*Defined as 6" or greater rains covering at least 1000 sq. mile and a peak amount of 8" or greater



27th and Lyndale Ave (2 days ago)



27th and Lyndale Ave (2 days ago)

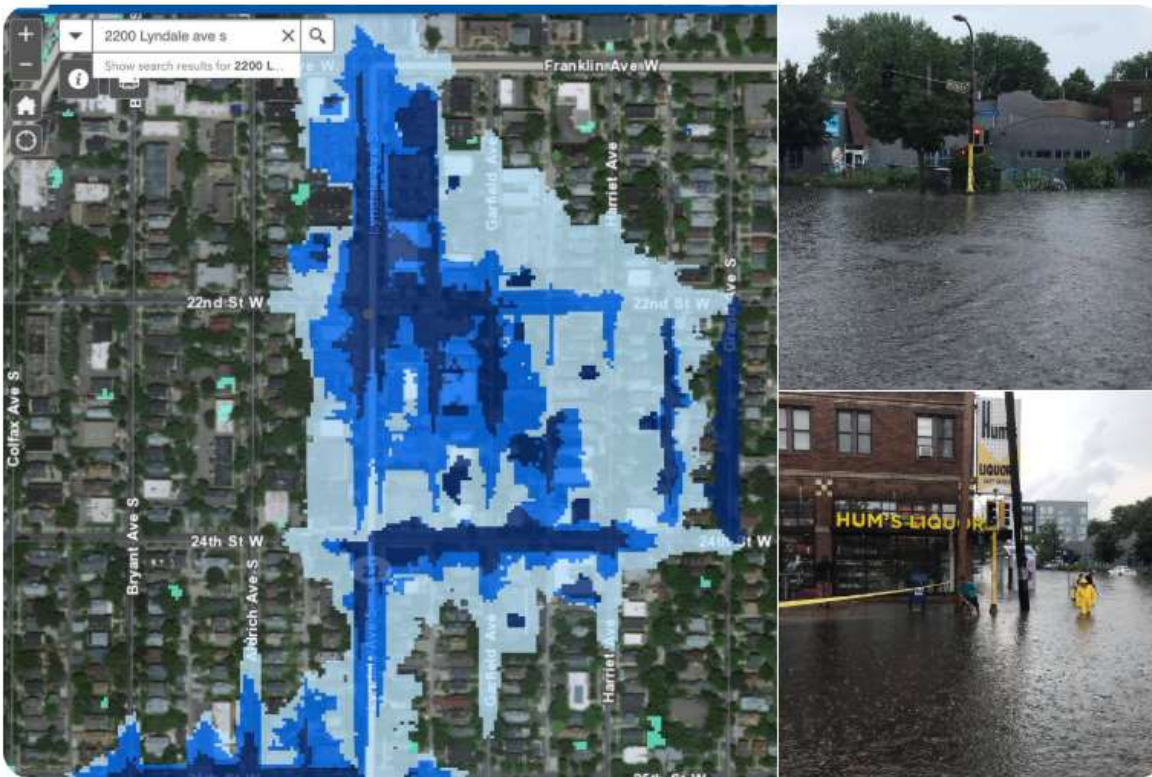




Brian Shekleton @Shek · 22h

As #ClimateChange increasingly impacts MN weather, using tools like the @MetCouncilNews Localized Flood tool when changes are made to existing infrastructure can help lessen the effects of an #UrbanFlood

metro council.maps.arcgis.com/apps/webappviewer/index.html?id=2200LyndaleaveS
#MNwx

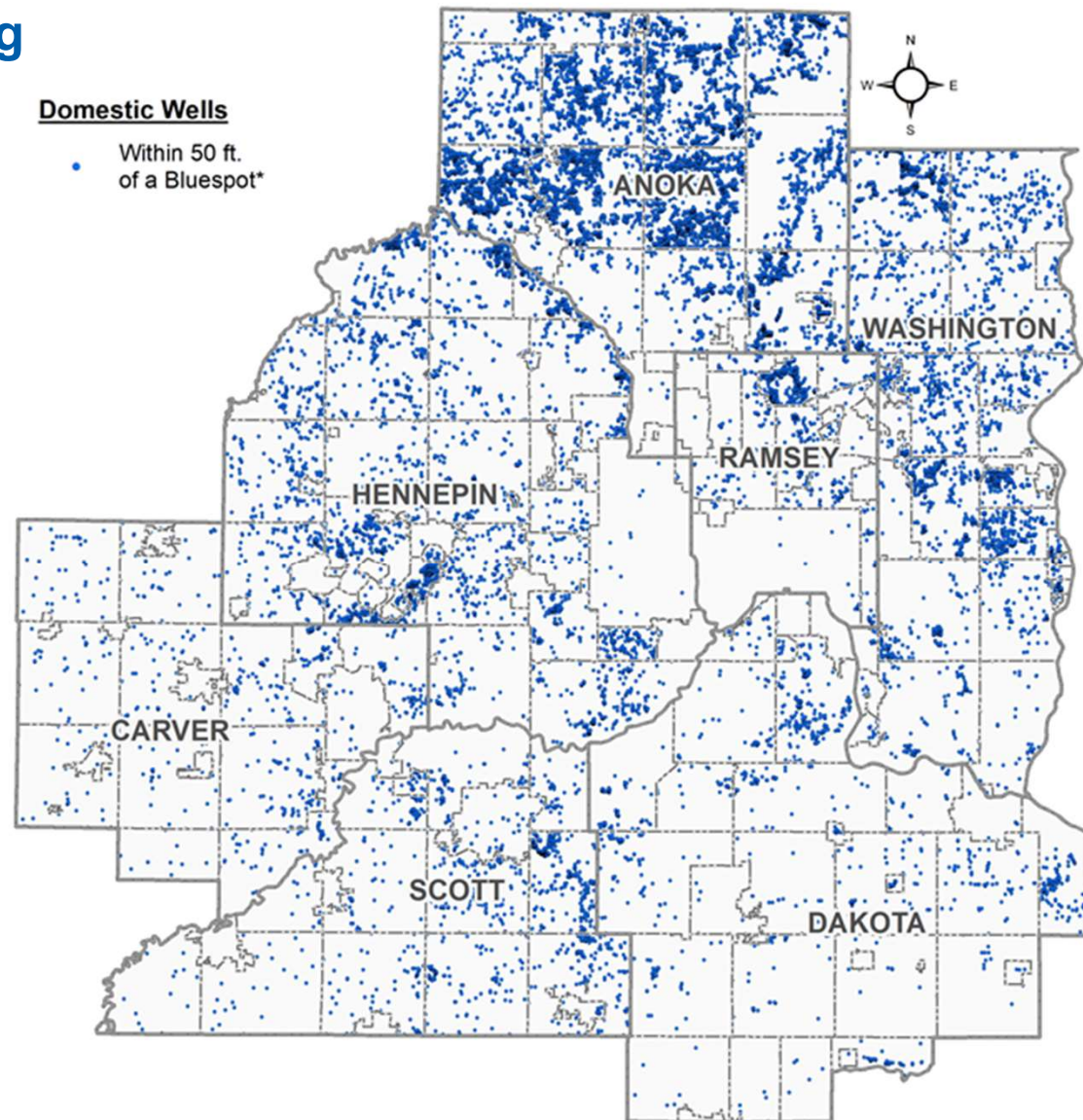
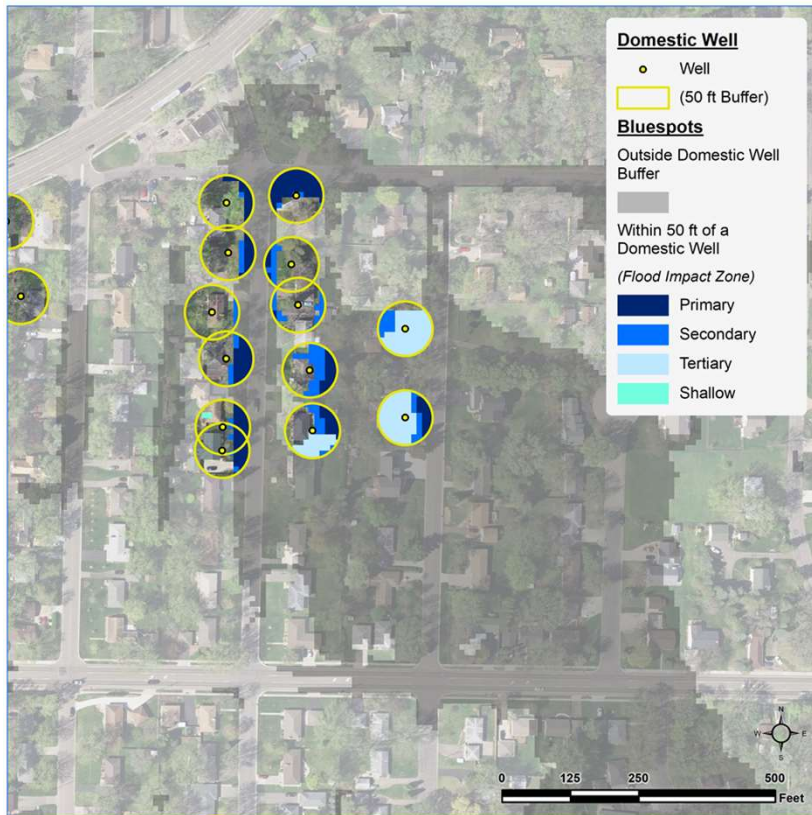


🗨️ ↻️ ❤️ 7

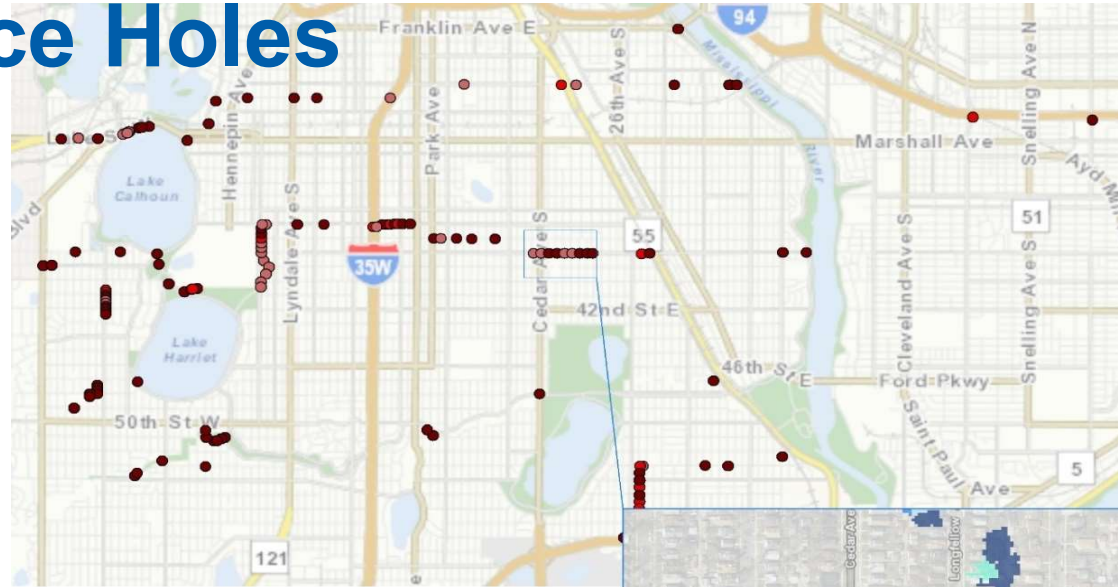


Water Supply & Localized Flooding

Domestic Wells Overview & Domestic Wells Local Example



Maintenance Holes



- Maintenance Holes**
- Flood Impact Zone*
- Primary and Shallow
 - Secondary
 - Tertiary
 - None

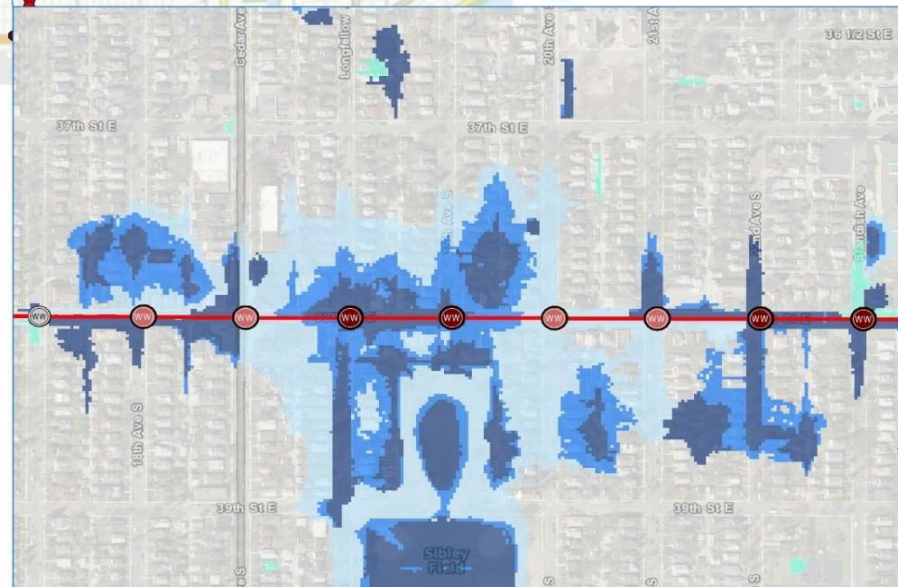
MCES Interceptors

- Gravity

Flood Impact Zones

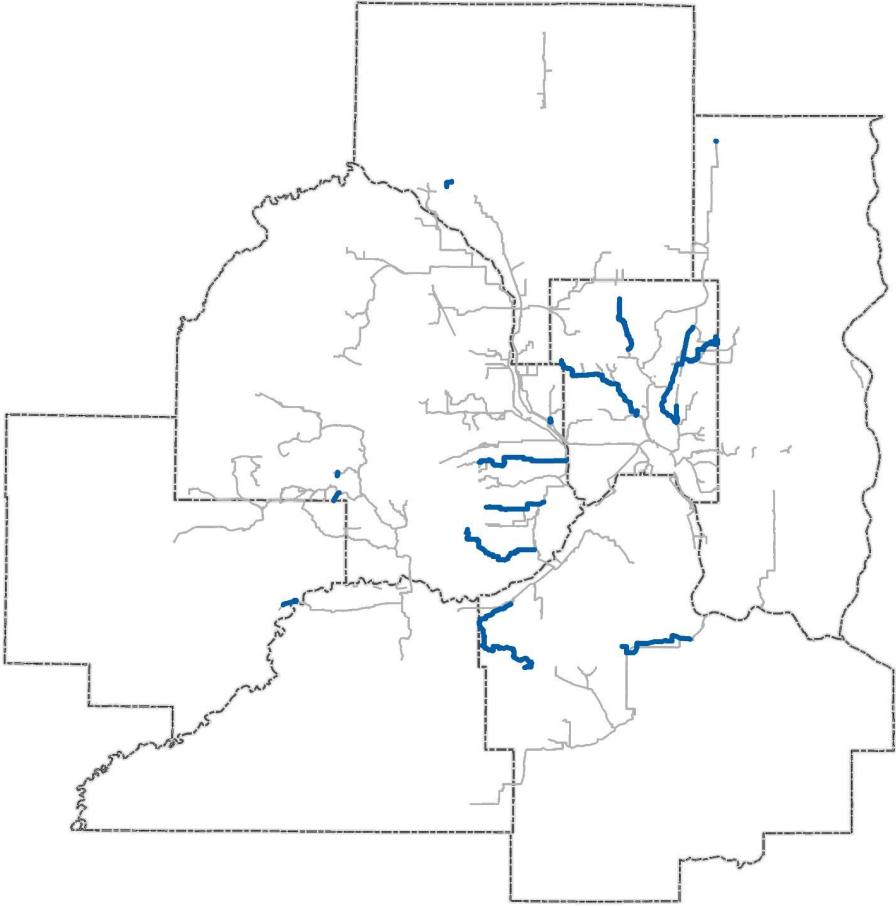
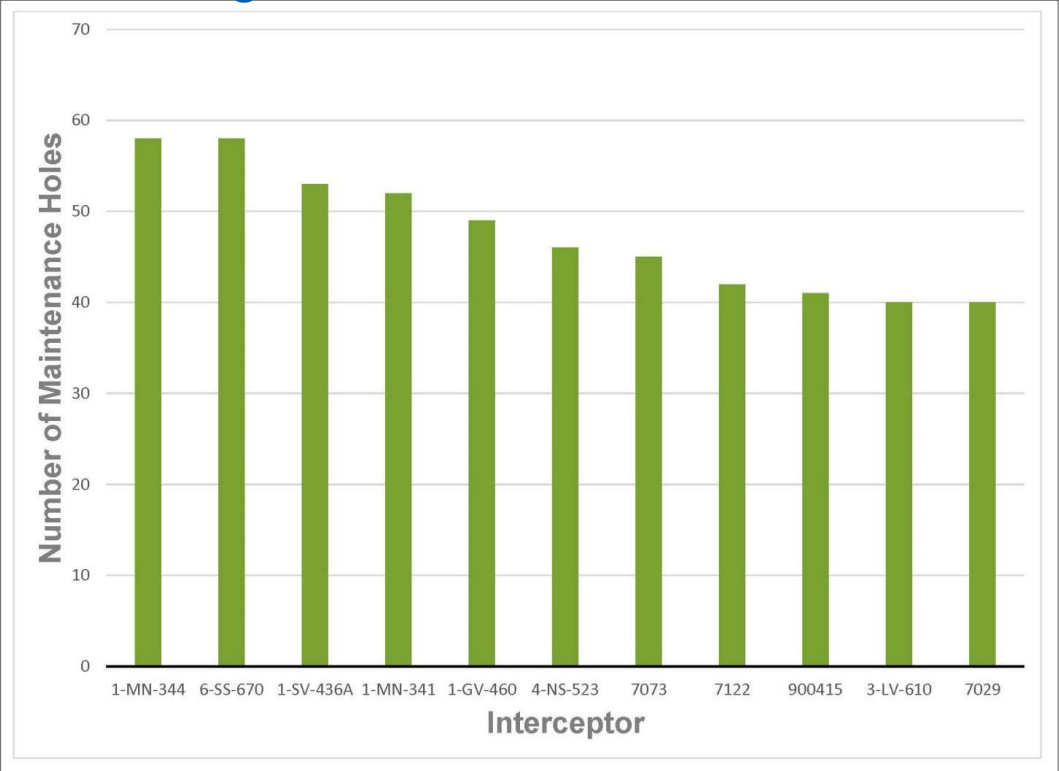
- Primary
- Secondary
- Tertiary
- Shallow

Inflow & infiltration (I&I) concern

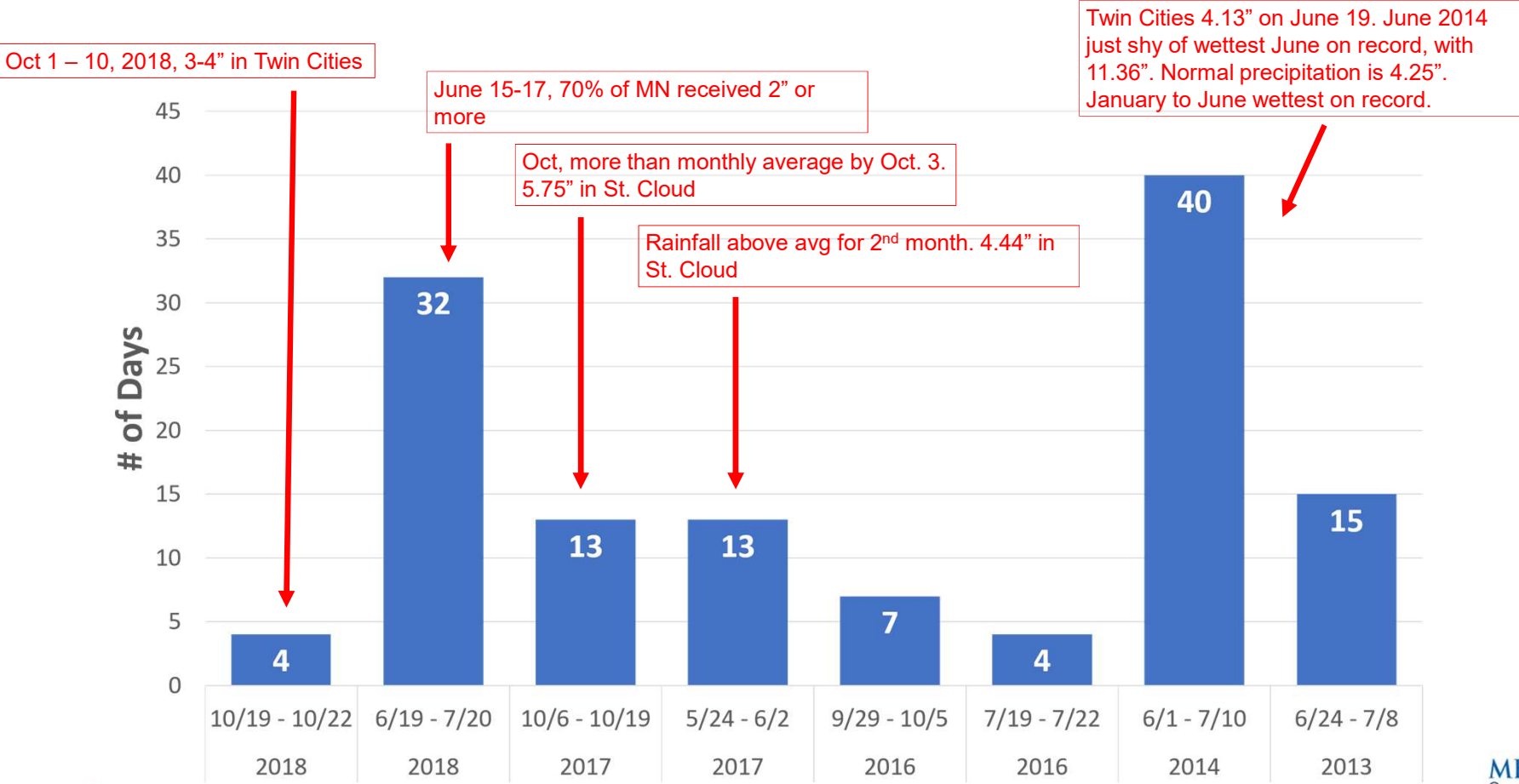


Interceptors

Target interceptors with the highest concentration of maintenance holes in localized flooding areas



Metro Rain-related Effluent Pump Operations Events



Resources – Localized Flooding

<https://metrocouncil.org/cva>

Localized Flood Map Screening Tool

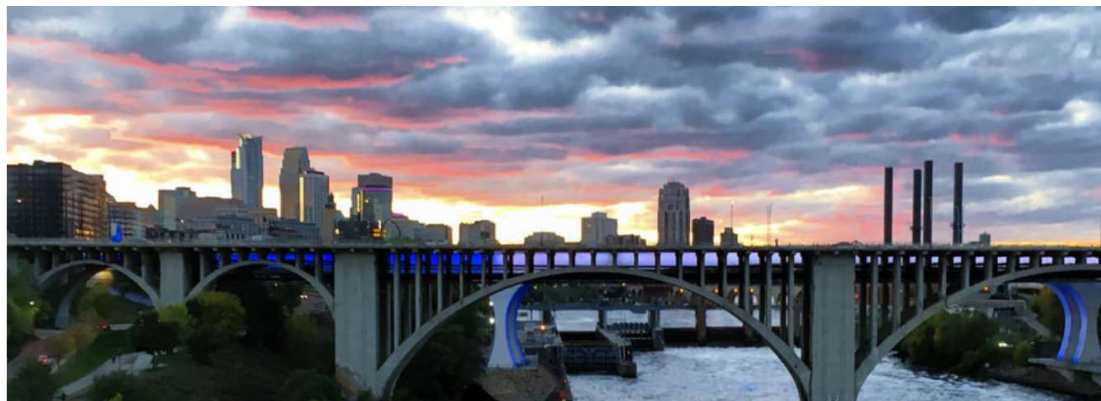


Localized Flooding Story Map

Calming the Storm: Localized Flooding in the Twin Cities Region

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- 1. [What is this?](#)
- 2. [Introduction: Mapping Localized Flood Risk](#)
- 3. [Transportation & Transit](#)
- 4. [Metropolitan Council Facilities](#)
- 5. [Wastewater](#)
- 6. [Regional Parks & Trails](#)
- 7. [Water Supply \(Coming Soon\)](#)
- 8. [What can communities do?](#)
- 9. [Next Steps](#)

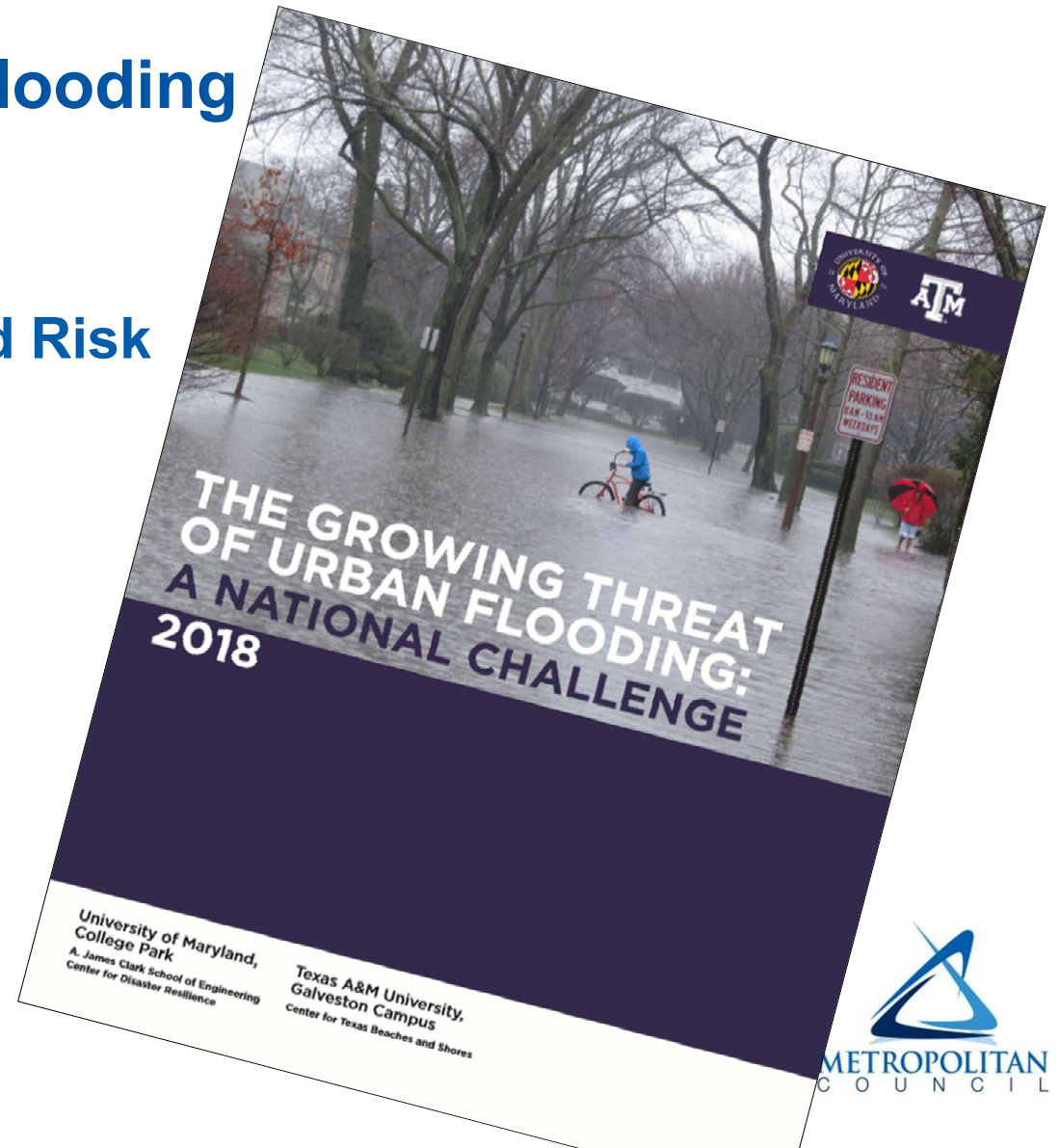


Resources – Localized Flooding

April 2019 edition of the Flood Risk Management Newsletter

Includes the following:

- Explains the issue
- Provides national context
- Includes recommendations



Start 'In House' to Convene with Others Effectively



Metro Area Water Supply Advisory Committee (MAWSAC)



18 Members + TAC

- State agencies
 - Counties
 - Municipalities/utilities
-

Created by Minnesota Legislation

- Minnesota Statutes, Section 473.1565

Purpose

- Assist and guide Council water supply planning
- Approve Master Water Supply Plan
- Appoint Technical Advisory Committee



Climate Change & Emissions Team (CCET)

- **Internal & Interdivisional**
 - Community Development
 - Metro Transit
 - Environmental Services
 - Regional Administration
 - Communications
 - Research
 - Transportation Services
 - Water Supply
 - Water Resources
 - Procurement



 Be the Solution. **Save Energy.**



Stakeholder Partnerships – Community Resilience Workshops



3 Cohorts

- 15 Communities
- 9 Watersheds
- 3 Counties



IMAGE SOURCE: Freshwater Society



Any Questions?

THANKS!

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Local Planning Assistance

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