

# Before we begin...

- Welcome! If you are joining us for the first time, please take a moment to introduce yourself in the chat function.
- This workshop will be recorded.
- All participants have been muted.
- Please enable "speaker view."
- If you have any technical questions, please chat Alisa Goren or email her at [alisa@brsinc.com](mailto:alisa@brsinc.com).

A sunset over a field of grain with a dark teal text box overlaid. The sky is filled with vibrant orange and red clouds, and the sun is low on the horizon. The foreground shows a field of golden-brown grain, likely wheat or barley, with some stalks in sharp focus.

EP A BUILDING BLOCKS FOR REGIONAL RESILIENCE

**WELCOME**

Workshop #2

# Workshop Agenda

TOPICS FOR TODAY

- State and Regional Resilience Goals
  - State Context
  - Ranked Regional Resilience Priorities
- Small Group Activity: Implementation Plans
- Wrap-up and Next Steps



# Poll Question

Please select your **TOP THREE** of the five Regional Resilience Strategies for Southern Minnesota.

1. Manage tile drainage during extreme precipitation events.
2. Reduce stormwater runoff through nature-based solutions such as vegetative buffers.
3. Reduce tillage by encouraging alternative residue management methods such as cover crops and crop rotation.
4. Mitigation in flood-prone areas and restore flood plains.
5. Promote water harvesting, collection and storage.

---

# Survey Results

## REGIONAL RESILIENCE STRATEGIES

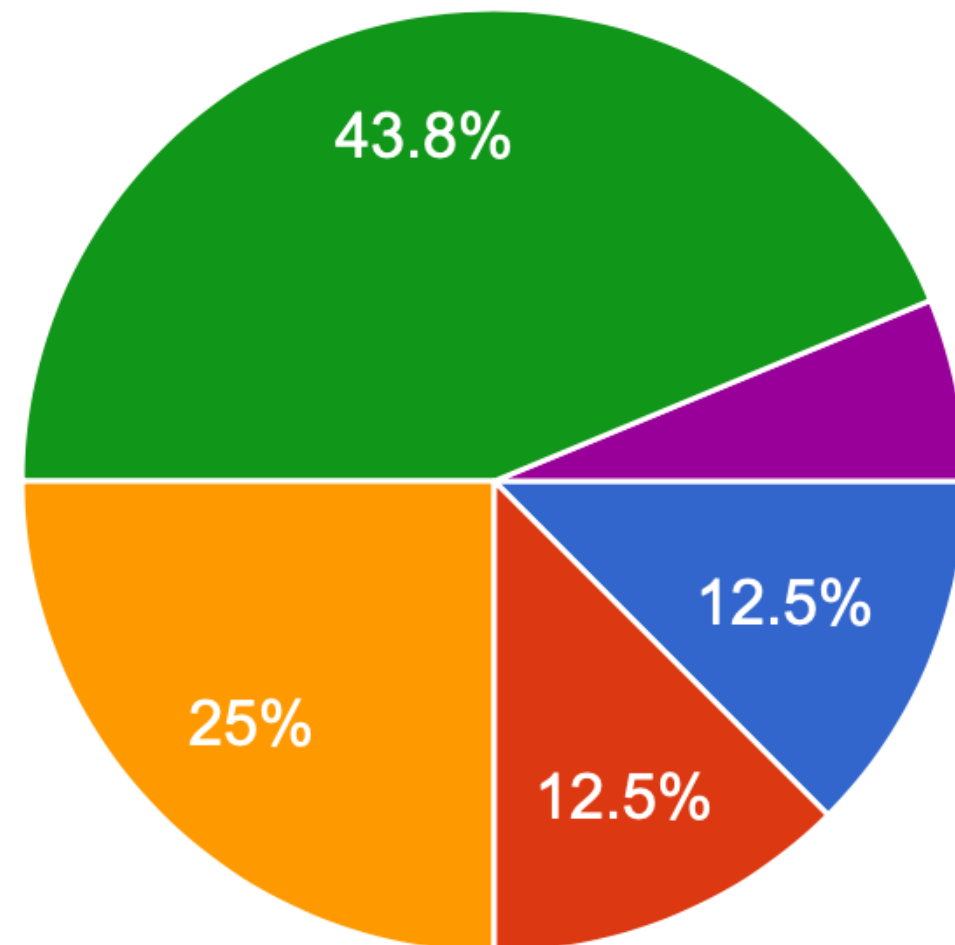
We asked for your thoughts on how to prioritize existing regional resilience strategies.

Participants ranked the following as their top priority.

# Survey Results

## REGIONAL RESILIENCE STRATEGIES

We asked for your thoughts on how to prioritize existing regional resilience strategies. Participants ranked the following as their top priority.



- Manage tile drainage during extreme precipitation events.
- Reduce stormwater runoff through nature-based solutions such as vegetation.
- Reduce tillage by encouraging alternative residue management methods.
- Mitigate flood-prone areas and restore floodplains.
- Promote water harvesting, collection and storage.

---

SURVEY/POLL RESULTS

14 OUT OF 15

RESPONDENTS IDENTIFIED

“MITIGATING FLOOD -PRONE AREAS AS ONE OF THEIR TOP THREE PRIORITIES”



MEANWHILE, ANOTHER 4/5 IDENTIFIED

“MANAGING TILE DRAINAGE” AS ONE OF THEIR TOP THREE PRIORITIES



PRESENTATIONS

# State Resilience Goals





---

# Interagency R&AT Draft Climate Actions

SHARON STEPHENS



# Minnesota's Climate Initiative

## **Resiliency & Adaptation Action Team (R&AT)**

**Sharon Stephens – Climate Change Adaptation Coordinator**



# Resiliency & Adaptation Action Team

- One of five climate action teams under the Climate Subcabinet created by Governor Walz by Executive Order 19-37.
- Resiliency & Adaptation Action Team (R&AT) – expanded from long-term (2004) Interagency Climate Adaptation Team (ICAT)
- Sub-teams drafted climate action recommendations based on six areas identified in the 2017 ICAT Report [Adapting to Climate Change in Minnesota](#).
- Emphasis on adaptation climate actions that build resiliency in communities and vulnerable populations.

# Describing the Process



## Minnesota's Climate Initiative

In December 2019, Governor Tim Walz signed **Executive Order 19-37**, describing the size and scope of the climate crisis, and the need to protect all Minnesotans from the most severe economic, health, and ecological impacts.

Guided by the 2007 Next Generation Energy Act, Minnesota has existing goals to reduce greenhouse gas (GHG) emissions in the state by 30% by 2025 (from 2005 levels) and by 80% by 2050.

Minnesota did not meet its 2015 goal of 15% GHG reduction, and we're not on track to meet our 2025 goal, either. The Executive order recognizes that *we must redouble our efforts to meet Minnesota's future goals.*

### Climate Change Subcabinet

The Executive Order established a Climate Change Subcabinet, executives from 15 state agencies and boards, and chaired by the Commissioner of the Minnesota Pollution Control Agency (MPCA), Laura Bishop, the purpose of the Climate Change Subcabinet is to:

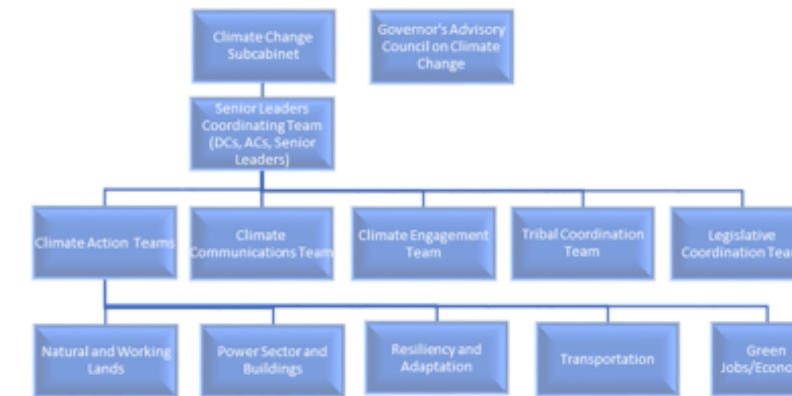
- ✓ Recommend policies and strategies to bring Minnesota back on track to meet or exceed our GHG reduction goals, enhance the climate resiliency of Minnesota's natural resources, working lands, and communities, and help our state prepare for climate change impacts that cannot be avoided or mitigated
- ✓ Engage with Minnesotans on these important topics, build partnerships, and incorporate the perspectives of people who experience disproportionate impacts from climate change — including communities of color, indigenous people, and rural Minnesotans
- ✓ Promote equitable policy solutions that can reduce current disparities in Minnesota

The Subcabinet also will consider how these policies can encourage economic development, innovation, job creation in our state, and how to promote a green economic recovery.

### What is the process for identifying these policies?

To develop initial policies and strategies for consideration by the Climate Change Subcabinet, five sector based of "Action Teams" were formed to pull together subject matter expertise from across state agencies and gather deep knowledge about specific areas of our economy and society to inform our climate solutions.

The Action Teams cover natural and working lands, power sector and buildings, climate resilience and adaptation, transportation, and green jobs and economy. The teams are responsible researching and gathering ideas; and identifying a range of policies and strategies for the Subcabinet and the Governor's Advisory Council<sup>1</sup> to consider, evaluate and implement.



They are working together to ensure that agencies named in the Climate Change Executive Order consider initial climate change strategies in their preparations for the 2021 legislative session. This work also involves identifying and advancing policies, projects and partnerships beyond the timeframe of the upcoming legislative session, recognizing that some ideas and opportunities will take longer to develop. Action teams are also responsible for engagement with communities, partners and stakeholders.

### Why engagement is important

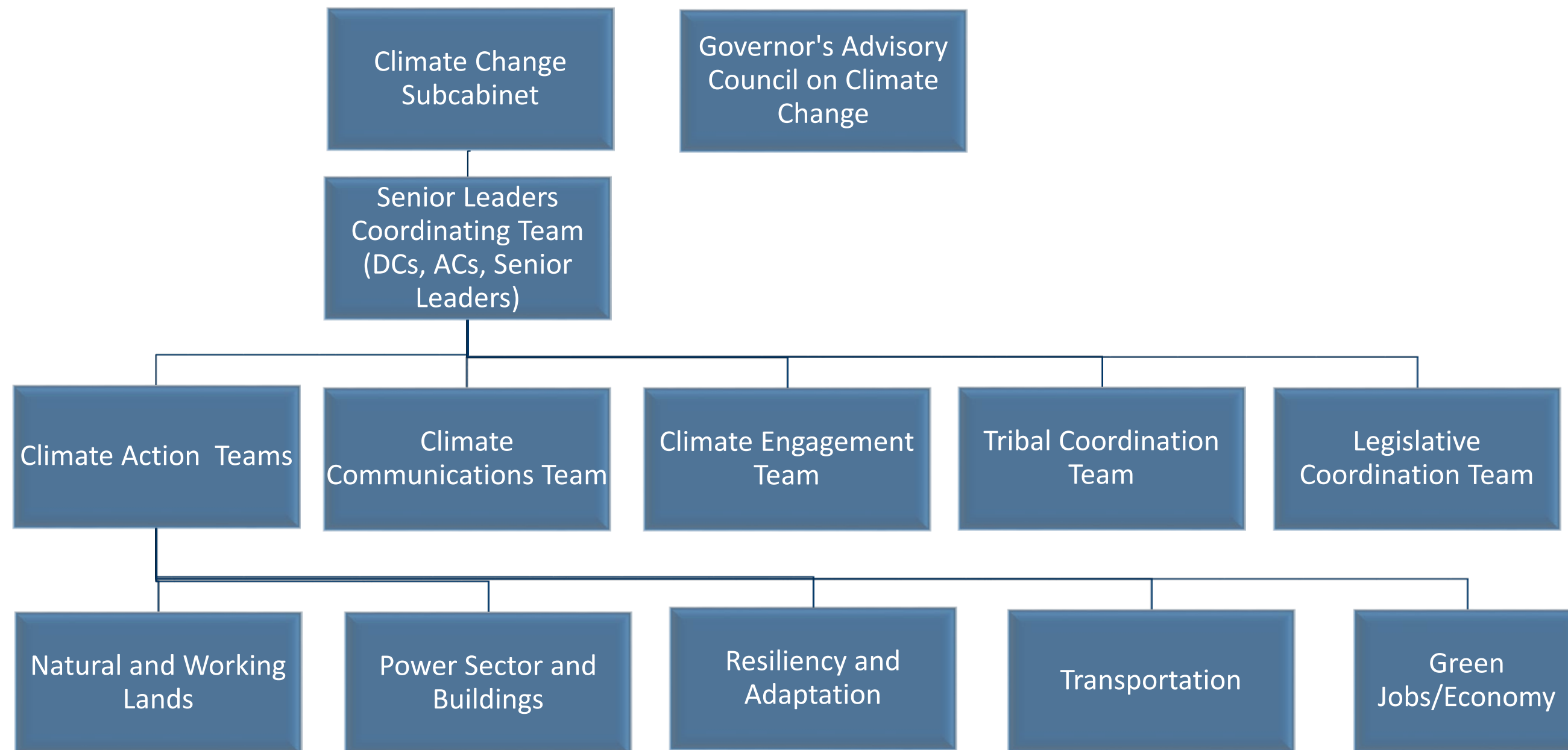
Successful climate policy development must include meaningful involvement by the communities most impacted by climate change, as well as communities historically under-represented. An inclusive approach is critical to success.

The Walz-Flanagan Administration is committed to a robust engagement process starting with the Action Teams connecting with thought leaders, partners, community groups, and other stakeholders to initiate new relationships, build upon existing ones, and actively seek input and feedback on climate policy proposals for Minnesota.

This is an invitation to participate in a climate conversation and to help create climate policy solutions together. We anticipate that there will be additional opportunities for other public participation going forward, and we will be sharing updates about the Subcabinet's work in the coming months.

<sup>1</sup> The Governor's Advisory Council is a citizen's board appointed by the Governor to advise the Subcabinet.

# Climate Change Subcabinet



# R&AT Climate Action Initiatives

## 1. Create state adaptation funding

- Cost share grant program for assessment, planning and design of resilient infrastructure and critical facilities; habitat protection; acquiring easements in vulnerable areas; and agricultural resilience; (Not eligible for bonding)
- Public Facilities Authority (PFA) administered bond funding for grants and loans to LGUs to use for resilient infrastructure projects such as waste water, storm water and water supply and other critical facilities;
- Create guidelines/criteria for resilient projects receiving resilience funding, including ways to prioritize the needs of vulnerable populations

## 2. Fund University of Minnesota to produce high-resolution, dynamically-downscaled climate projections for Minnesota

# Climate Projection Data

Color key: white cells & **red letters** = insufficient;  
light gray cells & *italic letters* = better/intermediate; dark gray cells = best

	What MN has to date	What's soon available	What MN needs
Model type (downscaling)	<b>Statistical</b>	Physical/Dynamical	Physical/Dynamical
Geographic specificity	<b>National coverage</b>	MN only	MN or local region only
Coverage of Minnesota	100%	<i>99.x% (small parts of extreme north missing)</i>	100%
Resolution of physical processes	<b>N/A (statistical models do not resolve physical processes)</b>	<b>10-km scale:</b> <i>resolves some weather, but not individual thunderstorms</i>	<b>4-km scale</b> (quarter township): resolves most "mesoscale" weather including individual thunderstorms
Purpose for creation of datasets	<i>Develop national standardized data</i>	<i>Aid agricultural, pest, and water-valuation research projects in MN</i>	Specifically to produce best possible climate scenario data for Minnesota
Time coverage	Continuous through 2099	<b>Two slices: 2040-59, 2080-99</b>	Continuous through 2099
Time units of analysis	<b>Monthly</b>	<i>Monthly, seasonal, annual, by time slice</i>	Hourly, daily, monthly, seasonal, annual, multi-annual for any desired time period
Available variables:	<b>Pre-determined: temperature, precipitation, counts of days above thresholds</b>	<i>Predetermined by parent research projects, and secondarily by DNR budget: Temperature, precipitation for sure; Possibly snow depth, evapotranspiration, solar radiation, and soil moisture</i>	User-determined beforehand: temperature, precipitation, snowfall, snow depth, relative humidity, evapotranspiration, runoff, soil moisture, heat index, wind chill, wind speed, thunderstorm frequency, severe weather parameters, metrics of extremes, anything requested by user and deemed feasible

# R&AT Climate Action Initiatives

3. Create credit system to incentivize ecosystem-based green infrastructure and natural stormwater management.
4. Develop vulnerable populations climate data tools - Expand MDH & DNR pilot program providing flooding and extreme heat regional and county data and vulnerable populations to include data on air pollution, vector borne disease, and other climate hazards that place vulnerable populations at higher risk.
5. Increase building resiliency – Research the ability to increase resiliency of Minnesota's buildings to address extreme precipitation, urban heat islands, and other climate change impacts.



# R&AT Climate Action Initiatives

6. Create a state inventory of water storage opportunities in agricultural landscapes – Examine opportunities for on-farm and off-farm temporary storage using landscape mapping (through tools such as LiDAR) to identify potential water storage areas.
7. Launch Climate Change, Impacts, and Adaptation website - provides single portal access to climate change observations, projections, impacts, and adaptation strategies specific to Minnesota. Includes customizable summaries, data sets, graphics and analyses of Minnesota's observed climate trends and projected climatic conditions through 2099.

# R&AT Comment Form



## Resiliency & Adaptation Team Climate Initiatives Comment Form

Name/organization:  Date completed:

Contact person:

Title:

Email:

Phone:  \*

\*Please provide a cell or direct number as many staff are working from home due to COVID-19

Would you like to participate in a one-hour online climate initiative engagement forum using Skype or Microsoft Teams to ask questions or provide additional information about these initiatives?

Yes  No

Do you wish to be kept informed about Minnesota's Climate Initiatives?

Yes  No

\_\_\_\_\_  
Your comments are greatly appreciated. Thank You!

Questions may be directed to Sharon Stephens, Resiliency & Adaptation Team Coordinator  
Minnesota Pollution Control Agency (MPCA)

EMAIL the completed form to [sharon.stephens@state.mn.us](mailto:sharon.stephens@state.mn.us)

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000. TTY users can call the Minnesota Relay Service at 711. Minnesota is an equal opportunity employer and provider. 08/24/2020

## Resiliency & Adaptation Action Team Climate Initiatives

### 1. Create state adaptation funding

Establish and fund adaptation and resiliency financing mechanisms:

- 1) A cost share grant program for LGUs to use for assessment, planning and design of resilient infrastructure and critical facilities; habitat protection; acquiring easements in vulnerable areas; and agricultural resilience.
- 2) Public Facilities Authority (PFA) administered bond funding for grants and loans to LGUs to use for resilient infrastructure projects such as wastewater, storm water and water supply and other critical facilities.
- 3) Develop guidelines/criteria for resilient projects receiving resilience funding including ways to prioritize the needs of vulnerable populations

Adaptation funding is essential to build state and local capacity for climate resilience. Adaptation projects such as vulnerability assessments, climate adaptation planning, and the planning and design of resilient infrastructure projects are not eligible for bond funding. Water quantity projects do not qualify for bond funding under current statutory authority. Separate adaptation funding will provide necessary resources for increasing resiliency.

*Insert comment, feedback or recommendation about this climate initiative into the space below.*



# Poll Question

Choose the actions that would be most helpful to your regionally -specific work (select your top three):

- Create state adaptation funding
- Fund U of M to produce high-resolution, dynamically-downscaled climate projections for Minnesota
- Create credit system to incentivize ecosystem-based green infrastructure and natural storm water management
- Develop vulnerable populations climate data tools
- Authorize flexible building codes
- Create a state inventory for agriculture drainage
- Launch Climate Change, Impacts, and Adaptation website



---

# State Hazard Mitigation Plan

JENNIFER NELSON DAVIS

# State of Minnesota All-Hazard Mitigation Plan

*Including Recommended Actions for  
Climate Adaptation*

*Jennifer Nelson Davis, State Hazard Mitigation Officer*



# Plan Sections

1. Introduction
2. Planning Process
3. State Profile
4. Hazard Identification and Risk Assessment
5. Hazard Mitigation and Climate Adaptation Strategy
6. Coordination of Local Mitigation Planning

*Climate change adaptation may be defined as developing and implementing strategies, initiatives, and measures to help human and natural systems prepare for and address climate change.*



# Hazard Mitigation, Climate Adaptation, and Resilience Strategies

- State Policy – All Hazard

For each Hazard:

- Data
- Local Planning and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs
- Mitigation Preparedness and Response Support



# State Hazard Mitigation Plan Goals and Objectives

Goal 1: Enhance the **State's capacity** to make Minnesota more resilient to the effects of all hazards.

Goal 2: Build and support **local capacity** and commitment to increase resiliency to all hazards.





# Hazard Mitigation, Resilience & Climate Adaptation Actions

**Flood Goal:** Reduce deaths, injuries, property loss, and economic disruption due to all types of flooding (riverine, flash, coastal, and dam/levee failure). ICAT Recommendation #1 Actions for Flooding (Flash, Riverine, Lakeland and Wetland)

- **Strategy:** Natural Systems Protection
- **Action:** Stream corridor protection projects and restoration and soil erosion control projects will be used to prevent or reduce risks and increase the protection of natural resources from flooding.
- **Funding and Resources:** Local, HMGP, PDM, MN DNR, BWSR, PFA, USACE, NRCS, FSA, MPCA
- **Timeframe:** ongoing, pre and post disaster



# Funding and Implementation

- Disaster funding
  - DR-4442 \$10m
- Pre-Disaster funding
  - Building Resilient Infrastructure and Communities (BRIC)
  - Flood Mitigation Assistance (FMA)
- Continued outreach and education!

Please visit our website!

[dps.mn.gov/divisions/hsem/hazard-mitigation/Pages/state-hazard-mitigation-plan.aspx](https://dps.mn.gov/divisions/hsem/hazard-mitigation/Pages/state-hazard-mitigation-plan.aspx)



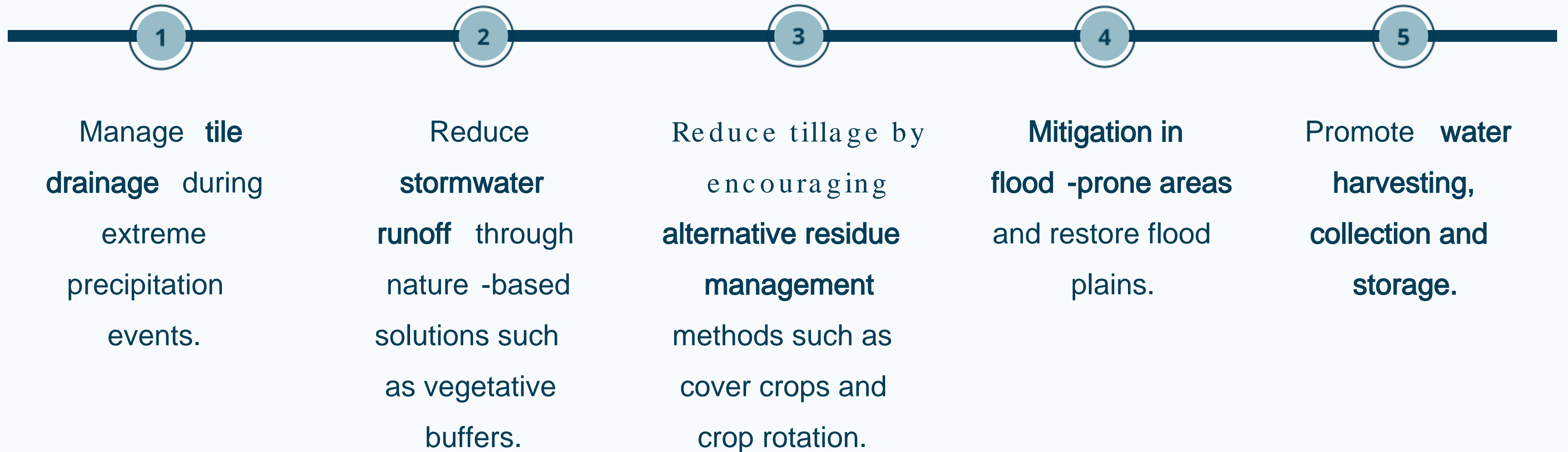
# Strategy Development Worksheet

Example from EPA & FEMA  
Regional Resilience Toolkit

## Strategy Development and Implementation: Southern Minnesota

STRATEGY DEVELOPMENT INFORMATION						
Problem statement	Among all hazards, flooding had the greatest impact on the region, to the sum of \$1.9-billion of potential risk to critical facilities, and the problem is increasing.					
Strategy name	5. Promote water harvesting, collection and storage.					
Strategy summary	City Public Utilities (Water) Departments or Municipal Separate Storm Sewer Systems (MS4s) in Region Nine should partner with MPCA and their Watershed Management Districts to promote rainwater harvesting best practices to homeowners and facilities managers. Rainwater harvesting workshops could be promoted through local environmental outreach groups to increase awareness.					
Hazard(s) addressed	Flooding					
Strategy type	Operational	Programmatic	Plans, Regulations, and Policy Development	Capital Improvement/ Infrastructure Project	Education/ Outreach/ Coordination	Evaluation
Process/ implementation mechanism	Long Range Planning	Land Use Planning	Capital Planning	Operations	Emergency and Hazards Planning	Project Planning and Design New Initiatives
Responsible agency						
Partners						
STRATEGY IMPLEMENTATION INFORMATION						
Priority (1-5 scale)						
Actions/ activities						
Staff lead						
Cost estimate						
Benefits (losses avoided)						
Potential funding sources						
Timeline						
Related policies						

# Break -out Rooms



---

WORKSHOP #2

# Wrap -up + Next Steps

---

# Workshop #3 Agenda:

- Recap of Workshop 2
- Presentation + Discussion on "Making the Business Case for Resilience"
- Small Group Exercise: Making the Case
- Wrap -up & Next Steps



# Workshop #3

Please visit the workshop website to watch a "Funding 101" video from Headwaters Economics.

All workshop materials are available on the website at:

[brsinc.com/ minnesota](https://brsinc.com/minnesota)

WE LOOK FORWARD TO SEEING  
YOU AT THE THIRD WORKSHOP!

September 2, 2020 at 10:00 a.m. CST



---

# Conclusion