MANAGEMENT AND BUDGET
MANAGEMENT ANALYSIS AND DEVELOPMENT

Local Resilience and Climate Adaptation Planning Survey

Minnesota Pollution Control Agency
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Executive summary

Background

In February 2025, the Minnesota Pollution Control Agency (MPCA) invited more than a thousand local governmental organizations as well as Tribal Nations located within the geography of Minnesota to complete its fourth iteration of the "Survey of Local and Tribal Planning Efforts for Local Resilience and Climate Adaptation." Invited governmental organizations included cities, towns and townships, soil and water conservation districts, water management organizations and watershed districts, counties, metropolitan planning organizations, regional development commissions or organizations, and the eleven Tribal Nations located within Minnesota. The survey asked these organizations about specific types of plans and planning efforts (including water plans, natural resources plans, health and safety plans, and more), barriers encountered and resources needed for planning and implementation, and impacts of extreme weather events on their communities.

The MPCA is committed to supporting local and Tribal planning efforts for resilience and climate adaptation. This commitment is embedded in Minnesota's Climate Action Framework (2022 CAF), which includes the resilient communities goal. A measure of progress for this goal states that by 2030, 100% of Minnesotans live in communities with plans that identify climate risks and actions to build resiliency. The 2025 survey, in combination with data from the previous three local planning and climate adaption surveys fielded in 2016, 2019, and 2022, helps quantify climate planning by Minnesota communities.[1] For the first time, the survey data is supplemented with grantee data from recently implemented MPCA grant programs that fund local and Tribal climate planning and implementation efforts. Together, these data provide a "statewide indicator" that helps gauge how Minnesota is advancing on the measure of progress.

Key findings

Analysis of the survey and grantee data resulted in five key findings, which provide insight into the status and ongoing local efforts to prepare communities for extreme weather events and longer-term changes in our climate:

- **More than 50 percent of invited local governments and Tribal Nations have engaged in planning on local resilience and climate adaptation**. This is the 2025 statewide indicator and is based on both the survey and grantee data (see Figure 1).
- **The percentage of local governments and Tribal Nations that have included climate adaptation content in various types of plans and planning effort has increased**. Water plans and planning efforts are the most commonly reported plans with climate adaptation content, followed by health and safety

[1] For more detail on the first three iterations of this survey, see the MPCA's website on Climate Adaptation Planning: https://data.pca.state.mn.us/views/Climateadaptationsurvey/ClimateAdaptationPlanning?%3Aembed=y&%3AisGuestRedirectFromVizportal=y (Accessed: June 20, 2025).

plans and natural resources plans. This finding is true for 2025 survey respondents compared with each previous survey, as well as for the four-survey aggregate of invited organizations compared with the previous three-survey aggregated data.

- **Eighty-eight (88) percent of organizations that responded to the 2025 survey reported impacts of extreme weather and climate change on their communities, with residents and natural resources most impacted.** Severe windstorms/hail, flooding and air quality were identified as having the biggest impacts on residents, while drought, insect/disease challenges and flooding most impacted communities' natural resources.
- **Lack of financial resources and lack of internal staff capacity are the top barriers encountered by local governments** trying to plan and implement plans related to local resilience and climate adaptation according to the 2025 survey data.
- **Financial assistance to plan and construct resilient infrastructure would be the most helpful type of assistance** for organizations that responded to the 2025 survey.

Figure 1. 2025 Statewide indicator of local resilience and climate adaptation planning

Detail on key findings

The following section is a summary of the detail that supports the five key findings. It starts with the statewide indicator analysis, followed by brief discussions of the percentages of organizations engaged in different types of planning, recent impacts of extreme weather and climate change reported by the majority of 2025 survey respondents, the top barriers to planning and implementation, and the top resource and assistance needs of responding organizations.

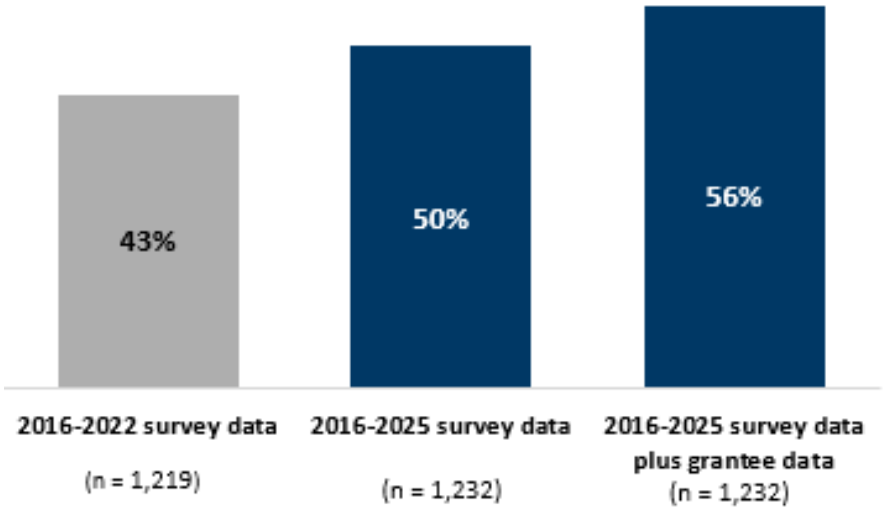
Statewide indicator of local planning

One of the primary purposes of the local resilience and climate adaptation survey is to estimate the statewide indicator, which is used to measure progress in local planning for climate adaptation and resilience. For the last survey report, responses from the 2016, 2019, and 2022 surveys were combined to develop the indicator. In this aggregated survey method, used for the first time in 2022, organizations are counted only once (unique organizations) and, if they responded to more than one survey, their most recent response is used. Figure 2 shows the evolution of the statewide indicator from 2022 to 2025. In 2022, the aggregated survey data indicated 43 percent of unique organizations that had been invited to the 2016, 2019, and 2022 surveys had at least one relevant plan with climate adaptation and resilience content. With the addition of the 2025 survey, aggregated results for all four surveys show an increase to 50 percent of unique invited organizations that have any kind of relevant plan.

Since the 2022 survey, the MPCA has awarded more than $90 million in grants to Minnesota local governments and Tribal Nations for resilience planning and implementation of existing plans. The availability of this recent grantee data for organizations invited to the surveys offers an expanded opportunity to measure progress in local resilience and climate adaptation planning. When all four years of survey data are combined with grantee data, 56 percent of unique invited organizations have relevant plans or planning efforts in place.

In sum, and as shown in Figure 2, the results of the aggregated data from the four surveys alone and combined with the grantee data provide a high level of confidence that more than 50 percent of local governments and Tribal Nations currently have some type of plan or planning effort in place that explicitly addresses local resilience and climate adaptation. The results of these analyses were used for the 2025 statewide indicator in Figure 1. The percentages are based on the number of unique organizations invited to the survey. All grantees included in the analysis are organizations that were also invited to the survey.

Figure 2. Aggregate approaches to statewide indicator: 2016-2022 survey data, 2016-2025 survey data, and 2016-2025 survey data plus grantee data, as a percentage of unique *invited* organizations



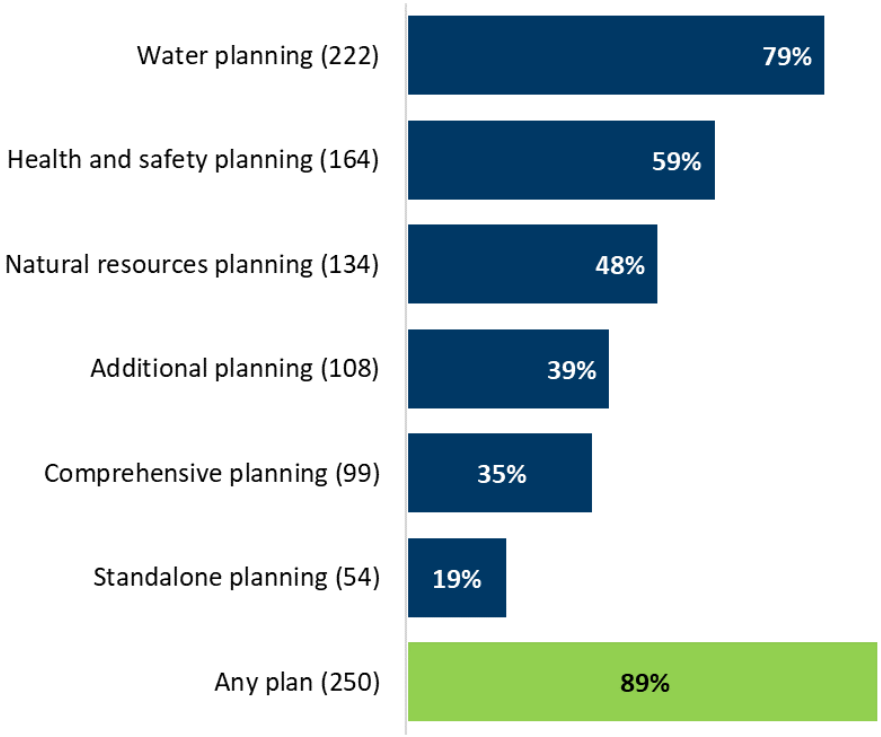
Types of local planning – 2025 survey and aggregated survey data

Figure 3 provides an overview of planning efforts by type of plan for 2025 survey respondent data only. While the order of plan types is the same as in 2022, the percentages for each category are between 7 and 20 percentage points higher. This could indicate that, despite a lower response rate for the 2025 survey, local organizations are generally more engaged in all types of planning that includes content on local resilience or climate adaptation.

Other notable findings from the 2025 data include:

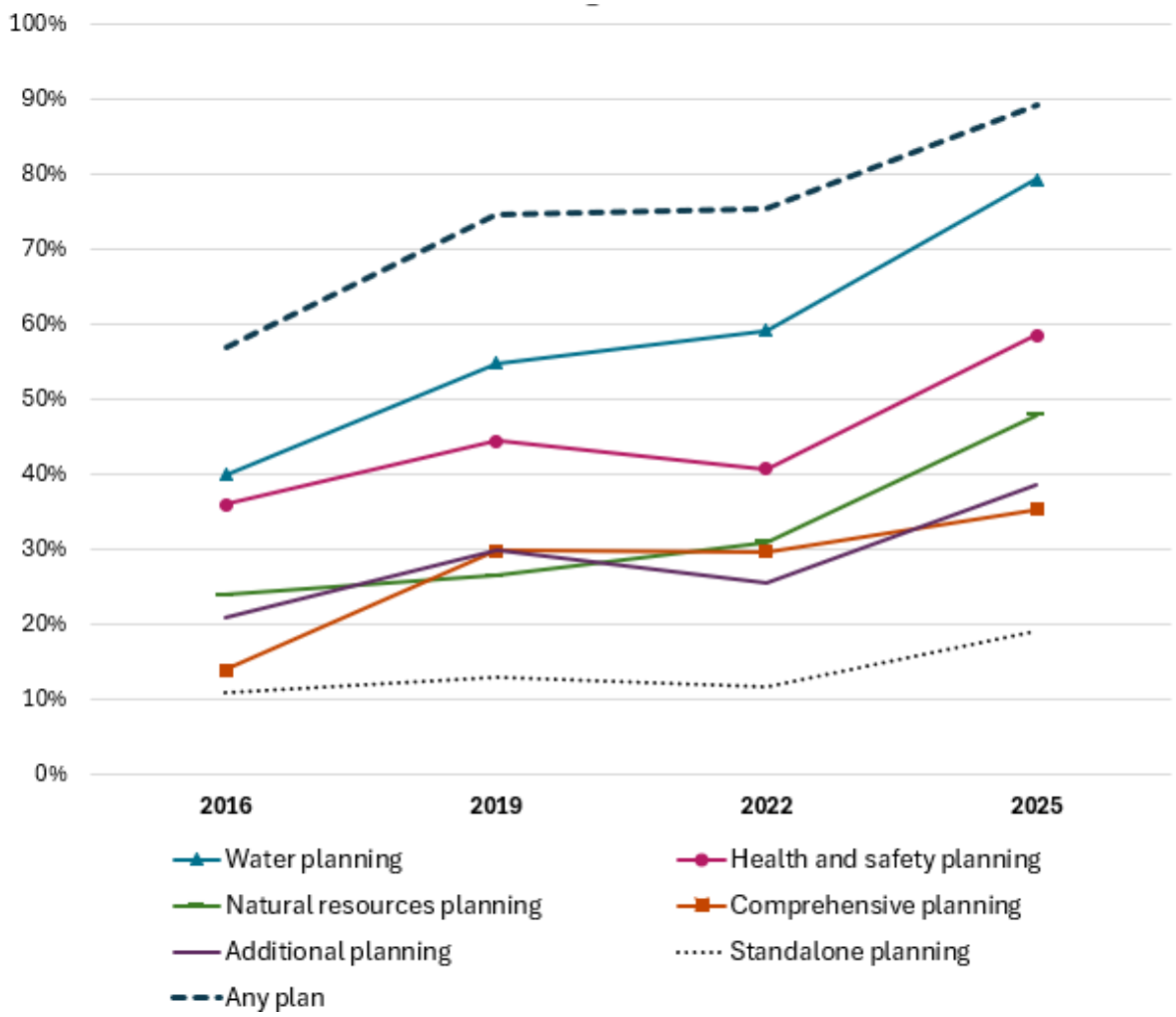
- More than three-quarters of responding organizations are engaged in water plans or planning efforts with climate adaptation and resilience content, which is 20 percent higher than in 2022.
- Health and safety planning efforts that include content on climate adaptation and resilience were the second most common plan type, and showed an increase of 18 percent compared to the 2022 survey
- The percentage of respondents engaged in natural resource planning increased from 31 percent in 2022 to 48 percent in 2025.
- Organizations engaged in standalone planning reached nearly one out of five respondents (19 percent), which is 7 percent higher compared to the 2022 survey.

Figure 3. 2025 survey data: local resilience or climate adaptation content in planning efforts by type of plan, as a percentage of *responding* organizations



The trends in the types of plans and planning over time are shown in Figure 4 (for responding organizations only). The percentages for every planning type in 2025 are higher compared with all previous surveys.

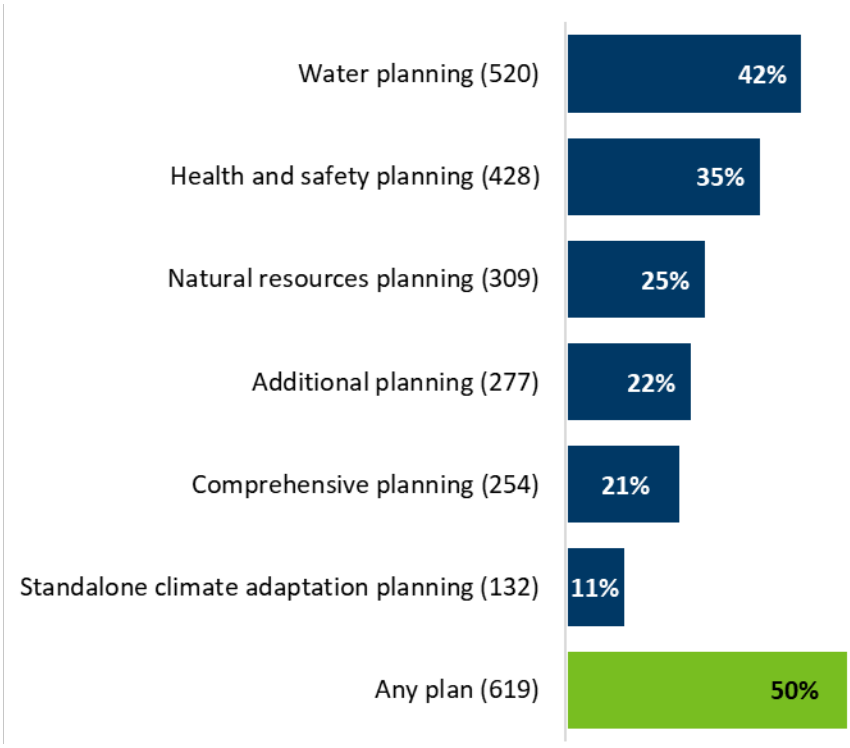
Figure 4. 2016-2025 survey data: Percentage of *responding* organizations with types of plans or planning efforts over time



A different subset of invited organizations has responded to each iteration of the survey, so responses to a particular survey are not necessarily representative of all organizations invited to participate. Reviewing the aggregated 2016-2025 survey results by type of plan for unique *invited* organizations helps establish the floor or minimum of local governmental organizations' planning efforts and indicates they are engaged in a wide range of planning. Figure 5 shows that organizations most often have water or health and safety plans that specifically address climate adaptation and resilience in some way. The percentage of invited organizations having each type of plan increased compared with the aggregated 2016-2022 survey data. Water plans showed the biggest increase at 8 percent. Other categories of plans also saw an increase ranging from a 3 percent increase for standalone planning to a 7 percent increase for health and safety planning. Reviewing the aggregated 2016-2025 survey results by type of plan for unique *invited* organizations rather than the subset of responding

organizations provides a more accurate view of the minimum percentage of organizations involved in planning efforts.

Figure 5. 2016-2025 aggregated survey data: local resilience or climate adaptation content in planning efforts by type of plan, as a percentage of *invited* organizations



Impacts of extreme weather events

The first part of the 2025 survey asked respondents about their communities' recent experiences with extreme weather events and longer-term trends associated with the changing climate. The vast majority of respondents (88 percent out of 280 organizations) selected at least one weather event or trend, similar to 2022 and 2019 survey results. The survey also asked, for the first time, about the types of impacts these recent events and trends had on their communities. The top two types were impacts on residents and impacts on natural resources, which received almost twice as many responses as each of the other types of impacts (impacts on tourism and/or community events; impacts on buildings and infrastructure; and other local or organizational economic impacts).

In terms of the specific events and trends that impacted their community's residents, 59 percent out of 280 respondents selected unseasonal or more severe windstorms/hail, 58 percent selected too much water (flooding), and 51 percent selected air quality changes. For impacts on their community's natural resources, 54 percent of respondents selected too little water (drought), 46 percent selected increased insect or disease challenges, and 46 percent selected too much water (flooding).

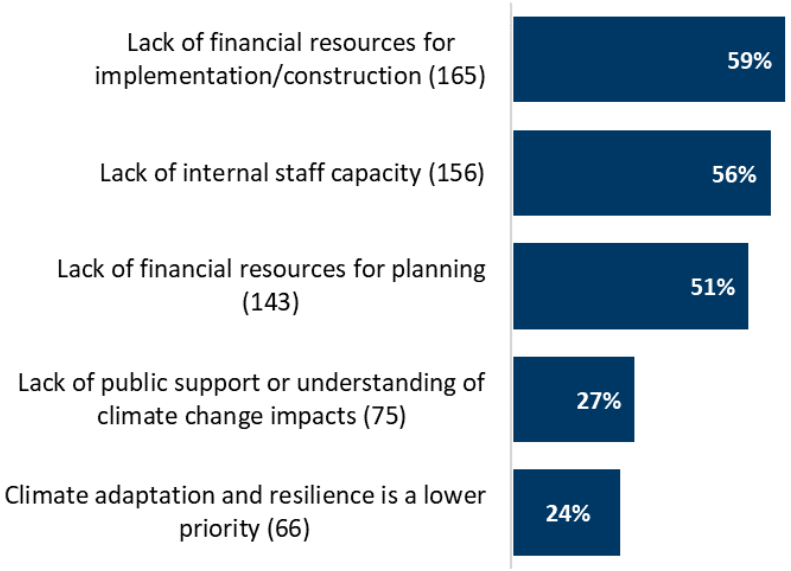
Table 1. 2025 survey data: Top three weather events or climate-related trends by type of impact

Types of impacts	Unseasonal or more severe windstorms /hail	Too much water	Air quality changes	Increased insect or disease challenges	Changes in winter conditions	Too little water
Impacts on buildings & infrastructure	■	■			■	
Impacts on residents	■	■	■			
Impacts on tourism, community events, cultural impacts		■	■		■	
Natural resources impacts		■		■		■
Other local or organizational economic impacts	■	■			■	

Barriers to planning and resources needed

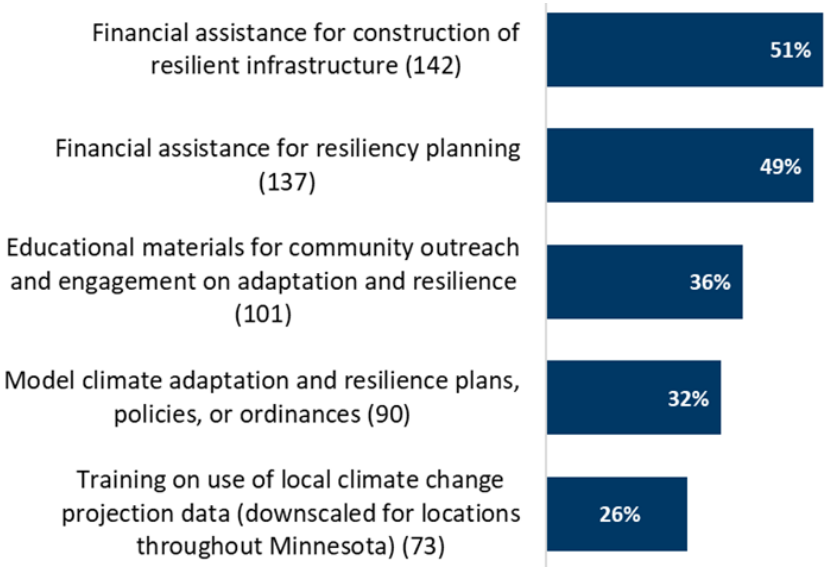
In 2025, a new survey question was added to understand the main drivers of difficulties in local resilience and climate adaptation planning and implementation. As shown in Figure 6, the barrier selected most was lack of financial resources for implementation/construction, followed closely by lack of internal staff capacity and lack of financial resources for planning. Other barriers, such as lack of public support or understanding of climate change, were chosen by far fewer respondents.

Figure 6. 2025 survey data: Top 5 barriers organizations have encountered as they have tried to plan and/or implement plans related to local resilience or climate adaptation



Given the main barriers, it is not surprising that financial assistance was also the top answer when respondents were asked about the kind of resources and assistance that would be most helpful to further their planning and implementation efforts. Financial assistance for construction of resilient infrastructure (implementation) received slightly more responses than financial assistance for planning (see Figure 7). Other needs include practical resources and tools to support planning and implementation efforts, such as educational materials for community outreach, model climate adaptation and resilience plans, policies and ordinances, and training on how to use local climate change projection data. These needed resources might provide more support to local government staff and make sense in light of a top barrier being the lack of internal staff capacity.

Figure 7. 2025 survey data: Top 5 kinds of resources and assistance that would be most helpful to further organizations' planning and implementation efforts



Recommendations for future surveys

Key recommendations for future surveys and other efforts to improve understanding of the level and quality of local and Tribal climate adaptation planning include:

- **Continue to coordinate survey approaches with Minnesota's Climate Action Framework (CAF)**: While several questions were updated in the 2025 survey to align with the 2022 CAF, the survey likely underestimates how many governmental organizations have plans, and it was not designed to quantify how many Minnesotans live in communities with plans. Future efforts to measure progress should try to align better with the end goal for planning in the upcoming 2025 CAF and pay particular attention to language and terminology to capture the full breadth of resilience and adaptation planning that may use different names or labels.
- **Continue to learn about inter-governmental coordination around resilience and climate adaptation planning**: Data from the 2025 survey showed a 114 percent increase over the 2022 survey for organizations that reported coordinating with other governments. It would be helpful to identify further ways of cultivating or supporting such coordination. The responses on non-governmental plans and actions also indicate there is more to learn about partnership efforts and community-based activities.
- **Consider alternative methods to a survey and what organizational contacts to use**: A comprehensive survey might not be the only or best way to measure local plans and planning efforts. Responses to the 2025 survey indicate many local governments and Tribal Nations might lack capacity to complete such a survey. Alternative methods could include a shorter pulse survey or in-depth interviews. Targeting the survey to those individuals most knowledgeable about the topic might also help address the capacity issue. Data from the 2025 survey about the organizational role of respondents who helped complete the survey may provide insight on this issue.

Background

In February 2025, the Minnesota Pollution Control Agency (MPCA) invited more than a thousand local governmental organizations as well as Tribal Nations located within the geography of Minnesota to complete its fourth iteration of the "Survey of Local and Tribal Planning Efforts for Local Resilience and Climate Adaptation." Invited governmental organizations included cities, towns and townships, soil and water conservation districts, water management organizations and watershed districts, counties, metropolitan planning organizations, regional development commissions or organizations, and the eleven Tribal Nations located within Minnesota.

The survey is part of MPCA's larger commitment to supporting local and Tribal planning efforts for resilience and climate adaptation. These support efforts are guided by:

- The Climate Action Framework (CAF) initiated under Executive Order 19-27 (see textbox below for more detail), which was first published in September 2022 by the State of Minnesota with input from over 3,000 Minnesotans and is currently in the process of being updated for release in late 2025.
- The One Minnesota Plan, a comprehensive policy agenda developed by Governor Walz's administration, which has a measurable goal for "Climate Resilience." This is the same goal as the 2022 CAF resiliency goal (see textbox on page 15).[2]
- Statutory authority provided in Minnesota Statutes 116.391, which contains the "Resilient Minnesota Community Act," adopted during the 2024 legislative session.
- The MPCA 2024-2028 Strategic Plan, Goal 4.2: "Increase resiliency in communities, businesses, waterways, contaminated sites, and infrastructure."
- Grant appropriations and authorizing language from the Minnesota legislature.

Executive Order 19-37

In late 2019, Executive Order 19-37 established the Climate Change Subcabinet and the Governor's Advisory Council on Climate Change to promote coordinated climate change mitigation and resilience strategies in the state of Minnesota. Subsequent implementation created five action teams to develop the CAF and report to the Climate Subcabinet. An interagency Resiliency and Adaptation Action Team (R&AAT) replaced the Interagency Climate Adaptation Team (ICAT). Following publication of the 2022 CAF, the interagency team was reconfigured again to create the Resilient Communities Goal Team and tasked with monitoring progress and updating the CAF in 2025.

The 2025 local resilience and climate adaptation survey and the CAF Resilient Communities Goal, which help to measure progress toward the state's goals, are built upon work begun in 2015. At that time, the Interagency Climate Adaptation Team (ICAT) developed a set of five statewide indicators to track progress towards achieving "a resilient, economically thriving, and healthy Minnesota that is prepared for both short- and long-term climate

[2] https://mn.gov/mmb/one-mn-plan/measurable-goals/climate-resilience.jsp

changes and weather extremes." One of these five indicators focused on climate adaptation planning by state agencies, local units of government, and Tribal Nations.

The MPCA led data collection for this indicator. In 2016 and 2019, the MPCA asked Management Analysis and Development (MAD) to develop, administer, and analyze an online survey of Minnesota cities, counties, watershed districts, soil and water conservation districts, Tribal Nations, and relevant state agencies. The survey gathered data for the indicator and provided information to help the MPCA and ICAT identify ways to make progress in this area. In 2022, the MPCA conducted a third iteration of the survey, again in partnership with MAD, to help inform development of the Climate Action Framework (CAF).

The 2025 survey intends to help measure progress toward the CAF Resilient Communities goal that, by 2030, 100 percent of Minnesotans will live in communities with plans that identify climate risks and actions to build resiliency. The survey asked organizations about:

- **Impacts of extreme weather events** on their communities.
- **Specific types of plans and planning efforts** for local resilience to extreme weather events and other climate impacts, including water plans, health and safety plan, natural resources plans, comprehensive plans, and more.
- **Actions** taken to adapt or increase resilience for their communities.
- **Barriers** to planning and/or implementation.
- **Resources and assistance** utilized or needed.

Minnesota's Climate Action Framework (CAF) Resilient Communities Goal

The 2022 CAF contains six goals with priority actions and measures of progress. The Resilient Communities Goal is: "Provide each Minnesota community with tools to plan for and become resilient to its unique climate impacts." One of the three measures of progress for this goal is: "By 2030, 100% of Minnesotans live in communities with plans that identify climate risks and actions to build resiliency." This measure aligns with the One Minnesota Plan's goal "Climate Resilience." The 2025 CAF is being reorganized into seven goals. The survey question asking about actions that communities took to adapt or increase resilience was categorized in alignment with these seven goals.

Survey development and outreach

The 2025 local resilience and climate adaptation survey was designed around the core of the 2022 survey, with the main set of questions centered on local plans and planning efforts in various topic areas, including comprehensive planning, natural resources planning, health and safety planning, and more. Additionally, in the fall of 2024, the MPCA gathered a group of leaders from across ten state agencies to provide guidance on refining survey questions and response options as well as identify new questions to add to the 2025 survey.

Interagency Advisory Group

For the first time, the MPCA sought to gather an interagency group (IAG) of leaders representing ten state agencies[3]. In consultation with the MPCA, MAD designed and facilitated three meetings with the IAG in the fall of 2024 to:

- Identify their organizations' needs regarding the survey.
- Review existing survey questions to assess whether those addressed their needs.
- Propose new or revised survey questions to fill gaps.
- Suggest organizational contacts and opportunities for outreach.

Survey updates

Based on these IAG meetings, the MPCA and MAD updated existing questions, including:

- Reconfiguration of the question about extreme weather events and longer-term trends associated with climate change to obtain data about the impacts on residents, buildings and infrastructure, natural resources, community events/tourism/culture, and the local or organization's economy.
- Additional response options for specific types of planning.
- The use of categories proposed for the upcoming 2025 Climate Action Framework (CAF) action steps to categorize the list of possible local actions taken by organizations.

Several new survey questions were also incorporated, including:

- A question that asked responding organization whether they were aware of any non-governmental community-level plans or planning efforts.
- Several questions about funding, services, and technical assistance the organization tried to obtain and what happened if they did.

[3] Agencies represented on the Interagency Advisory Group included the Commerce Department, MN Department of Health, MN Housing Finance Agency, Department of Labor and Industry, Department of Natural Resources, MN Pollution Control Agency, Department of Public Safety, MN Department of Transportation, and the Metropolitical Council. Full membership details can be found in Appendix D.

- A question about barriers that organizations may have encountered as they tried to plan and/or implement plans related to local resilience or climate adaptation.

For a complete overview of the changes made to the 2025 survey as compared to the 2022 survey, see Appendix B. The full 2025 survey text is available in Appendix C.

Outreach efforts

MAD sent the 2025 survey to the identified official contact for each local governmental organization, including cities, towns and townships, soil and water conservation districts, water management organizations and watershed districts, counties, metropolitan planning organizations, and regional development commissions or organizations, and for each Tribal Nation located within the geography of Minnesota. With encouragement and suggestions from the Interagency Advisory Group, the MPCA and MAD aimed to increase the response rate to the 2025 survey compared with the previous surveys. Specifically, the MPCA and MAD:

- Provided sample language and encouraged Interagency Advisory Group (IAG) members to reach out to their constituencies.
- Sent advance, reminder, and follow-up emails from multiple sources–the MPCA Commissioner, Qualtrics (MAD's survey platform), and MAD staff.
- Extended the survey deadline to allow invited organizations more time to complete the survey.
- Reached out to multiple organizations representing the invitees–the League of Minnesota Cities, MN Small Cities, Minnesota Association of Soil & Water Conservation Districts (MASWCD), MN Watershed, Association of Minnesota Counties, Regional Development Commissions (RDCs), and Minnesota GreenStep Cities–asking them to reach out to their members and constituencies and encourage them to complete the survey.
- Worked with Tribal Nations through the MPCA's Tribal liaison to tailor language and to send the survey invitation from a trusted representative.

Appendix A includes a detailed description of survey methods and invited organizations.

Approach to analysis

This section provides an overview of the analytic approach used in the rest of the report, including the 2025 response rate and use of additional data to supplement 2025 survey data.

Note: The graphs in the report typically show the proportion of responses based on the total number of survey respondents, not just the percentage of respondents who answered a particular question, unless otherwise noted. For many questions, totals do not equal 100 percent because respondents could select multiple options, or because not all respondents answered the question. For similar reasons, the sum of all responses to a particular question may be different than the total number of respondents.

2025 response rate

Despite the increased outreach efforts, the response rate to the 2025 survey was 24 percent, which is significantly lower than the three past surveys, all of which had a response rate of 30 percent or higher (the next section provides more analytic detail on the 2025 response rate). This is especially disappointing given the many ways the MPCA and MAD, together with the IAG, sought to increase the response rate in 2025. Possible contributing factors to the lower 2025 response rate include:

- **Demands on staff time to apply for climate funding**: Leading up to the survey, staff of local governments and Tribal Nations had been responding to multiple climate grant funding opportunities (requests for proposals) offered by the MPCA, along with funding opportunities from other Minnesota state agencies and the federal government. Submitting applications requires a substantial commitment of staff time. When the 2025 survey invitation arrived, staff with this expertise may have had a limited amount of time and needed to turn attention to other local needs and responsibilities.
- **Competing opportunities and priorities**: With limited staff capacity, local and Tribal governments often juggle multiple priorities. Local and Tribal governments may have been overwhelmed with climate-related state and federal technical assistance opportunities and information requests during 2024. The requests timed most closely with the survey involved multiple feedback sessions related to a planned update of the Climate Action Framework in 2025, as well as multiple trainings offered on infrastructure resilience and climate data.
- **Change and uncertainty:** Actions at the federal level started just weeks before the survey with potential impacts for funding, positions, and regulations that support local and Tribal governments. As a consequence, local and Tribal governments may not have viewed the survey as a priority.

To address the significantly lower response rate, the MPCA and MAD looked to other possible indicators of local resilience and climate adaptation plans and planning efforts, including past surveys and climate grant activity.

Use of aggregated survey data

The MPCA has fielded a survey about climate adaptation and local resilience planning four times—in 2016, 2019, 2022, and 2025. As in 2022, MAD supplemented the most recent survey data with past survey data and analyzed

the combined, unique responses to the current and past surveys. This aggregated approach expands the percentage of responding organizations from 24 percent of those invited in 2025 to 62 percent of unique organizations invited to the four surveys combined. Excluding responses from the same organization across the years avoids overestimating the amount of relevant planning by the organizations targeted in the survey. Aggregating responses of all four surveys provides a more thorough understanding of progress in local planning for resilience and climate adaptation and is used to determine the statewide indicator based on the number of invited organizations.

Developing the statewide indicator solely based on survey responses and the number of invited organizations likely underestimates the actual percentage of governmental organizations with plans that address climate adaptation and resilience. Grantee data and anecdotal information indicate that more organizations are, in fact, engaged in planning. To address this potential underestimation of local planning used to determine the statewide indicator, grantee data can be used to supplement the survey data, as described below.

Grantee data as a supplement to survey data

Since the 2022 survey, the MPCA has awarded numerous grants to local governments and Tribal Nations to support local resilience and climate adaptation planning and implementation, starting with a $2 million appropriation from the 2021 Minnesota legislature and then ramping up dramatically with $105 million in appropriations from the 2023 Minnesota legislature. In the preceding years, the MPCA had only been able to award a few small environmental assistance grants for climate adaptation. The grants awarded since the 2022 survey are a source of data about the type and extent of local resilience planning that can supplement the survey data, as described below.

Background on climate grants

The 2022-2023 biennial appropriation of just under $1 million each year for a local government climate resiliency and water infrastructure (resiliency) grant program for local governments and Tribal Nations allowed the MPCA to offer funding specifically for planning resilient local stormwater, wastewater, and other public community infrastructure. The 2024-2025 biennial appropriation of $49 million each year made it possible, for the first time in Minnesota, to offer resiliency implementation grants specifically for construction of already planned resilient local infrastructure projects. The MPCA also continued to offer resiliency planning grants for hazard modeling, feasibility analysis, and design of stormwater, wastewater, and other community infrastructure.

The Minnesota Legislature appropriated an additional $5 million for the 2024-2025 biennium to create a new local climate action (LCA) grant program offering grants up to $50,000 per project. Funding was designed to both support local jurisdictions in developing and implementing plans of action to adapt to extreme weather events and a changing climate, and to help them reduce contributions to the causes of climate change.

Local resilience and/or adaptation planning as part of grant projects

The MPCA awarded over $90 million in climate planning and implementation grants during the span of the 2022-2023 and 2024-2025 biennia. All resiliency planning grants awarded for stormwater, wastewater, and community resilience projects in state fiscal year (SFY) 2022 through SYF 2025 as well as resiliency implementation grants awarded for resilient infrastructure projects in SFY 2024 and SYF 2025 involved local resilience/adaptation planning.[4] As of the writing of this report, grantees awarded these planning grants have resilience plans, are engaged in such planning, or will be developing plans soon. Grantees awarded resiliency implementation grants all identified existing plans in their grant applications. Local government and Tribal grantees awarded LCA grants currently are developing or implementing plans of action to adapt to extreme weather and a changing climate or reduce local contributions to the causes of climate change, or they will be soon.

In other words, these local government and Tribal grantees are part of the known universe of governmental organizations that have "any plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts," which is how the 2025 survey asked about organizations' planning efforts. Combining survey data with grantee data for organizations invited to the survey increases the total number of unique local governments and Tribal Nations for which climate adaptation planning information is available, as not all grantees responded to one or more surveys. See the Supplemental grantee data response rate analysis section below for more detail.

Implementation Grants for Resilient Infrastructure

The Implementation Grants for Resilient Infrastructure required planning documents as part of the application. Allowable options included one or more of the following, as applicable to the project:

- Climate vulnerability assessment
- Stormwater modeling
- Wastewater modeling
- Design/energy modeling
- Emergency preparedness/response plan that identifies specific resilience needs
- Climate action/adaptation plan
- Project plan
- An equivalent planning document

[4] See the MPCA's website on grants, loans, and contracts for more information on specific grant programs: https://www.pca.state.mn.us/business-with-us/grants-loans-and-contracts (accessed June 20, 2025).

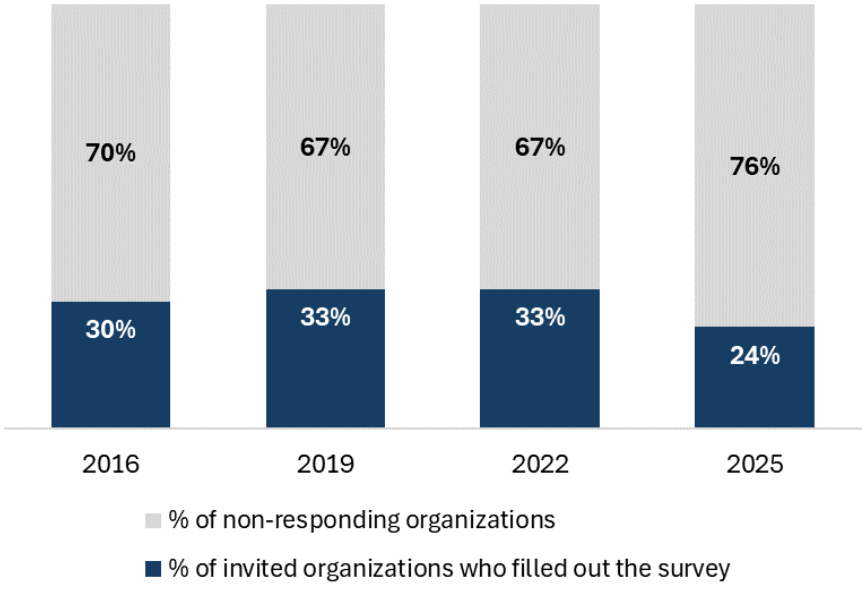
Response rate analysis

This section of the report describes the three methodological approaches to the response rate: (1) the 2025 survey response rate, (2) combining the 2025 survey with past surveys (or "the aggregate response rate"), and (3) supplementing survey data with grantee data. It also describes key attributes of each dataset.

2025 response rate analysis

Two-hundred-and-eighty organizations responded to the 2025 survey, representing 24 percent of all survey recipients (N=1,148). The 2025 response rate was 9 percentage points lower than the 2022 and 2019 response rates, which were both 33 percent. It was 6 percentage points lower than the first survey in 2016, which was 30 percent.[5]

Figure 8. Response rate for each survey, 2016–2025.



While the 2025 response rate was lower than in previous years, the characteristics of responding organizations in 2025 generally reflect the characteristics of the organizations invited, similar to previous surveys. In other words, the organizations that participated generally responded in proportion to the percentage of organizations invited in that category. Table 2 shows that the percent of survey responses from each *type* of organization along with the percent of each type of organization invited to the survey. Cities made up by far the largest percent of organizations invited to complete the survey (72 percent). They, in turn, also far exceed other organization types in the level of responses at 63 percent. This level of response was followed by soil and water conservation districts (SWCDs) that made up 8 percent of responses, counties, towns/townships, and water

[5] . The previous section includes a discussion of possible contributing factors to the lower 2025 response rate.

management organizations (WMOs)/watershed districts (WDs) which each made up 7 percent of total responses. Regional development commissions or organizations (RDCs), metropolitan planning organizations (MPOs), and Tribal governments represented both the fewest responses, *and* each consisted of only 1 percent of invitations.

Table 2. 2025 survey data: Responses by organization type

Organization type	Responses	Response rate	Percent of survey responses	Percent of survey invitations
City	176	21%	63%	72%
County	19	22%	7%	8%
Metropolitan planning organization (MPO)	5	63%	2%	1%
Regional development commission (RDC) or organization	8	80%	3%	1%
Soil and water conservation district (SWCD)	30	33%	11%	8%
Town/township	19	35%	7%	5%
Water management organization (WMO)/watershed district	19	31%	7%	5%
Tribal government	4	36%	1%	1%
Total	**280**	**24%**	**100%**	**100%**

While cities made up most of the respondents, they also had one of the lowest response rates for an organizational type (21 percent). It is worth noting that the vast majority of cities in Minnesota have populations of 5,000 or less. MPOs and RDCs had the highest response rates but also represent two of the smallest categories by absolute numbers.

Responding organizations also generally reflected the geography of invited organizations. As shown in Table 3 and Figure 9, most regions had similar percentages of survey responses and survey invitations, with the metro and southeast areas showing the highest response rates. The northeast region made up only 9 percent of invited and responding organizations, but it has fewer organizations than other regions and its regional response rate was very close to the overall response rate.

Table 3. 2025 survey data: Responses by region

MPCA regions	Responses	Response rate	Percent of survey responses	Percent of survey invitations
Metro	63	27%	23%	20%
North Central	34	21%	12%	14%
Northeast	24	23%	9%	9%
Northwest	47	21%	17%	19%
Southeast	64	28%	23%	20%
Southwest	48	24%	17%	18%
Total	**280**	**24%**	**100%**	**100%**

Figure 9. 2025 survey data: Responses by MPCA region compared to 2022 and 2019 survey data (note: these data are not available for the 2016 survey)

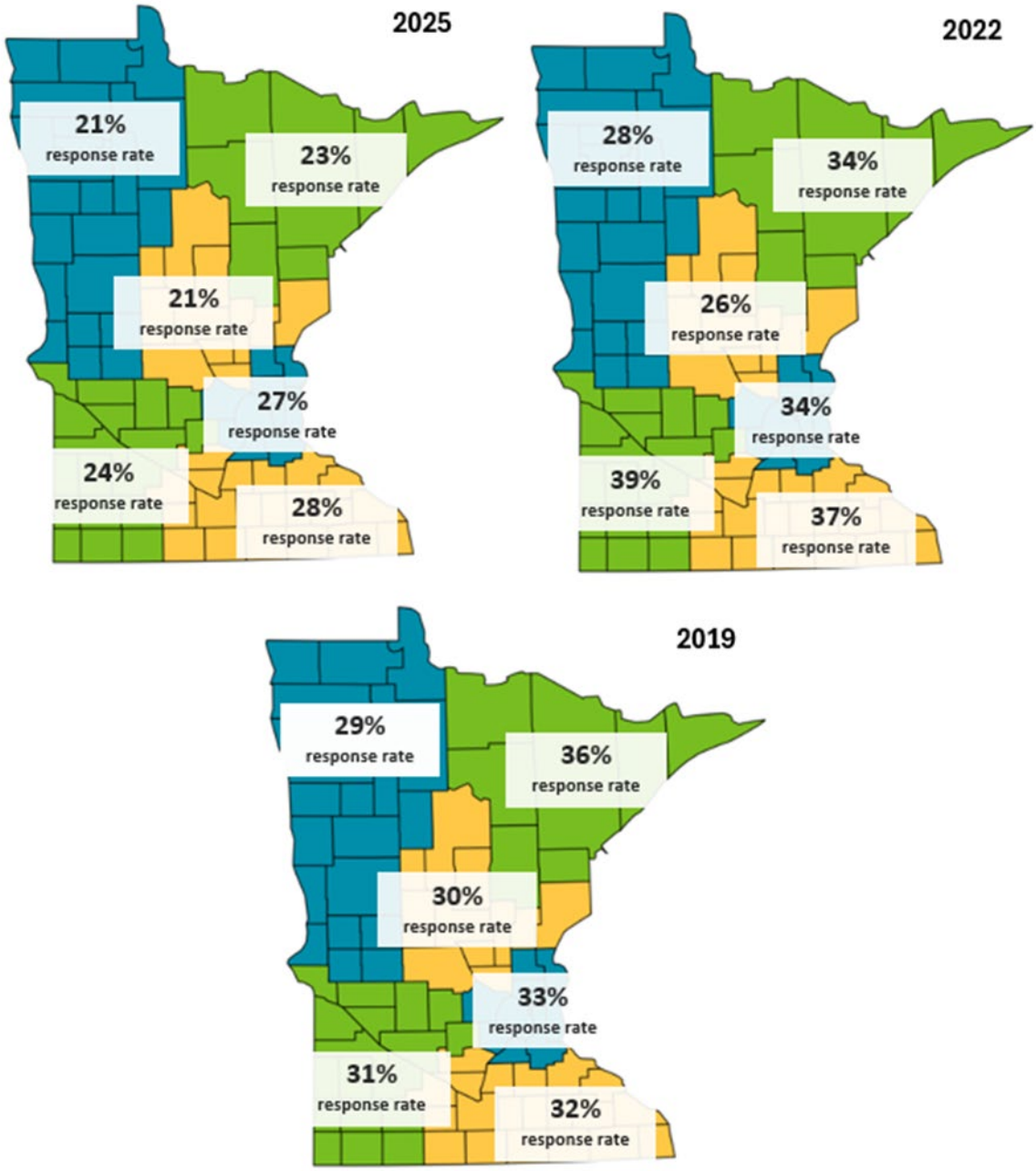


Table 4 and Table 5 below show the 2025 distribution of responses by size of community and size of organization based on number of employees. These distributions are very similar to previous surveys.[6]

Table 4. 2025 survey data: Responses by community size

Size of community	Responses	Percent of survey responses
Under 5,000	163	58%
5,000 to under 10,000	31	11%
10,000 to under 20,000	21	8%
20,000 to under 50,000	23	8%
50,000 or more	37	13%
Size not indicated	5	2%
Total	**280**	**100%**

Table 5. 2025 survey data: Response by organization size.

Number of employees	Responses	Percent of survey responses
0–10	165	59%
11–50	61	22%
51–200	28	10%
201–500	10	4%
501–1,000	4	1%
over 1,000	7	3%
Number not indicated	5	2%
Total	**280**	**100%**

[6] While the previous two tables have a "percent of survey invitations" column, it is not possible to calculate that field for the "number of employees" characteristic. MAD only receives that characteristic information from responding organizations that answer the relevant survey question.

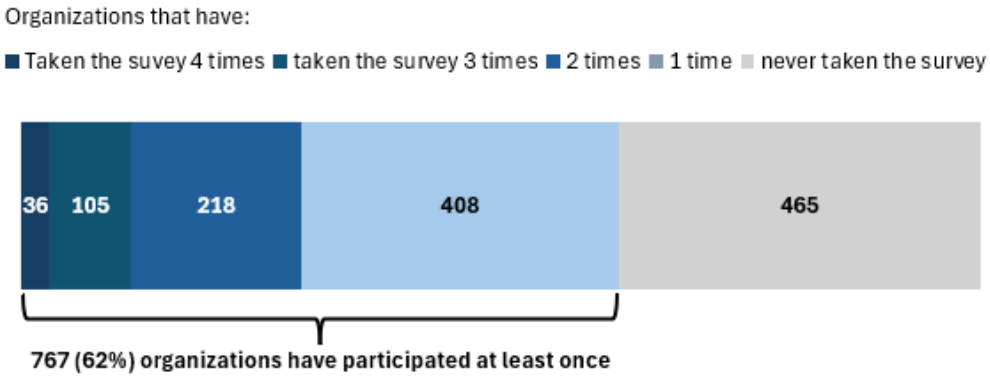
Aggregate response rate analysis

In analyzing the response rate, it is important to consider how well any one survey may represent the general population of invited governmental organizations and Tribal Nations. So, to better understand local resilience and climate adaptation planning in Minnesota, this report also looks at responding organizations over the aggregate of all four surveys. Starting with the third survey in 2022, MAD conducted an analysis of the aggregate response rate for all three surveys (2016, 2019, and 2022).[7] For the 2025 survey report, an aggregate analysis of all four surveys is useful and provides valuable organization-level longitudinal data for all governmental organizations ever invited since the first survey.

Over all four survey iterations (2016, 2019, 2022, and 2025), 1,232 unique organizations have been invited to participate. Not all organizations were invited each year; the 2025 survey invited some new townships, for example, but did not invite state agencies that had been invited in 2016 and 2019. [8] The vast majority of organizations have been invited to participate all four times. For the purposes of the aggregate response rate analyses, this report excludes state agencies.

Figure 10 shows the aggregate response rate across all four surveys: 767 organizations, or 62 percent of organizations ever invited, have participated in the survey at least once. This is 5 percentage points higher than the aggregate response rate in 2022 for the three surveys, which was 57 percent. Figure 10 also shows that 36 organizations have responded to all four surveys.

Figure 10. 2016–2025 aggregate survey data: Number of times organizations have participated in the survey



Analyzing the characteristics of organizations that have ever responded compared to the full list of invited organizations indicates that the survey data represents a majority of every type of governmental organization.

[7] Across these surveys, as well as the 2025 survey, most organizations received a survey invitation each time. A small subset of organizations received invitations to participate only once, twice, or three times—this was especially true for towns and townships. Most notably, state agencies were invited to participate in the 2016 and 2019 surveys but were excluded from the invite lists in 2022 and 2025 given that they are statewide rather than local governmental organizations.

[8] The League of Minnesota Cities provided a spreadsheet with contact information for its member cities. MAD primarily used the spreadsheet to obtain contact information for cities and some towns/townships.

Table 6 shows how many organizations of different types have responded versus the number invited. At the high end, most soil and water conservation districts (SWCDs) and Tribal Governments responded to at least one of the four surveys, closely followed by regional development commissions or organizations (RDCs) and watershed districts/management organizations (WMOs). Cities and townships have the lowest category response rates, but 58 percent of cities and half of the invited townships still responded at least once.

Table 6. 2016-2025 aggregate survey data: Responses by organization type

Organization type	Number that responded at least once	Number that were invited at least once	Percent in category ever responded
City	511	885	58%
County	63	87	72%
Metropolitan planning organization (MPO)	6	9	67%
Regional development commission (RDC) or organization	10	12	85%
Soil and water conservation district (SWCD)	77	93	90%
Town/township	34	68	50%
Tribal government	10	11	91%
Water management organization (WMO)/watershed district	55	67	82%
Total	**767**	**1,232**	

Responding organizations also represent all six MPCA geographical regions (see Table 7). While the Southwest and Southeast regions are best represented, well over half of invited organizations responded to the survey at least once in each region. Taken together, these analyses show that participating organizations in the 2016–2025 surveys generally reflect the governmental type and regional representation of invited organizations.

Table 7. 2016–2025 aggregate survey data: Responses by MPCA region

MPCA regions	Number that responded at least once	Number that were invited at least once	Percent in category ever responded
Metro	161	254	63%
North Central	100	181	55%
Northeast	68	117	58%
Northwest	133	228	58%
Southeast	159	239	67%
Southwest	146	213	69%
Total	**767**	**1,232**	

Supplemental grantee data response rate analysis

Since the 2022 survey, the MPCA has awarded numerous local resilience and climate adaptation planning and implementation grants to local governments and Tribal Nations. For the purposes of this report, information from 142 grantees is used as an indication that these organizations have plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts (see Table 8). All these grantee organizations were invited to the surveys but only some of them responded in 2025 or to earlier surveys. When the survey and grantee data are combined, organizations are counted only once (unique organizations), and their most recent response or grantee status is used when there are multiple responses for one organization. The addition of unique organizations from the grantee data provides planning information for an additional 111 organizations when 2025 survey and grantee data are combined, and an additional 50 organizations when the aggregated 2016-2025 survey data and grantee data are combined.

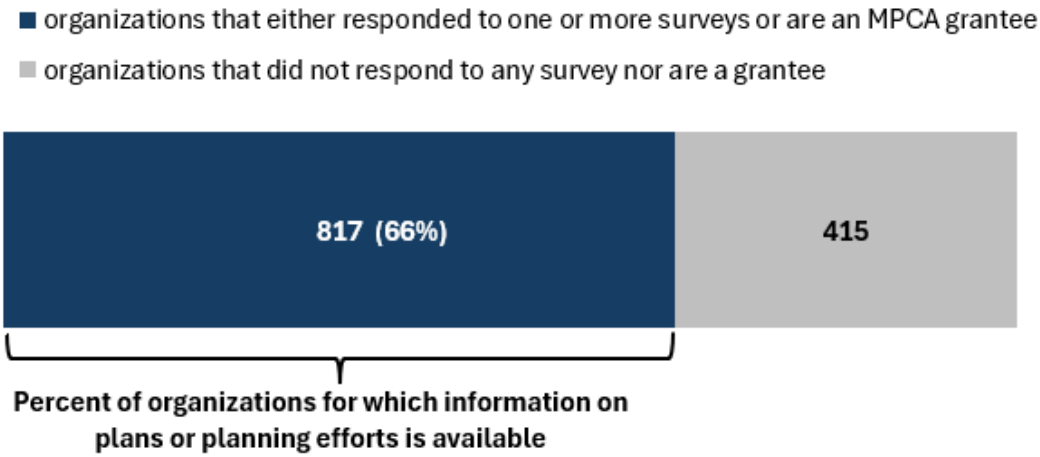
In other words, planning information exists for 391 (34 percent) of unique invited local governments and Tribal Nations for 2025. Combining aggregate survey responses (2016–2025) plus grantee data results in planning information for 817 (66 percent) of unique invited organizations (see Figure 11).[9]

Table 8. Survey data combined with grantee data

Survey years	**2025**	**2016–2025**
Total number of grantees	142	142
Number of unique organizations who did *not* respond to the survey(s) but are a grantee	111	50
Number of unique organizations responding to the survey(s)	280	767
Total unique organizations (grantees plus survey respondents)	391	817
Percent of *invited* organizations for which data on plans or planning efforts is available (from survey(s) plus grantee data)	**34%**	**66%**

[9] MAD checked the grantee list against the survey invite list to ensure that all grantees had also been invited to complete the current and past climate adaptation planning surveys, which was indeed the case.

Figure 11. 2016-2025 aggregated survey data supplemented with grantee data: Number of unique organizations for which climate adaptation planning information exists



Statewide indicator on local planning

One of the primary purposes of the local resilience and climate adaptation survey is to estimate the statewide indicator, which is used to measure progress in local planning for climate adaptation and resilience. With the adoption of the 2022 Climate Action Framework and its resilient communities goal, the measure of progress for this goal is defined as: "By 2030, 100% of Minnesotans live in communities with plans that identify climate risks and actions to build resiliency."

The survey data provides numbers of local and Tribal governments with relevant plans rather than the population covered by those plans. It cannot directly measure progress as defined for this goal. The statewide indicator for local planning discussed below shows the percent of Minnesota communities with relevant plans but not the percent of Minnesotans covered by those plans.

The survey data can be used, however, to get a rough sense of population coverage within the 7-county Twin Cities Metropolitan Area (metro) where about 60 percent of Minnesotan residents live. Other data available to MPCA, independent of the survey, suggest that most if not all of these metro counties have either climate adaptation and local resilience content in their plans, or standalone plans that address these issues. Within the metro there are also overlapping local jurisdictions with such plans that cover most of the population.

As discussed in previous sections, MAD used one methodology for calculating the indicator in 2016 and 2019, but in 2022, started analyzing the aggregate data across all three years as an opportunity to rethink the methodology. The availability of grantee data in 2025 offers an expanded opportunity to measure progress using a statewide indicator. Following is a stepped approach to determine the statewide indicator:

1. Explore the 2025 survey data.
2. Combine all four surveys into aggregate data.
3. Combine survey data with grantee data.

The conclusion based on this stepped approach is that more than 50% of local governments and Tribal Nations currently have some type of plan or planning effort in place that explicitly addresses climate adaptation and/or local resilience.

Figure 12. 2025 Statewide indicator of local resilience and climate adaption planning

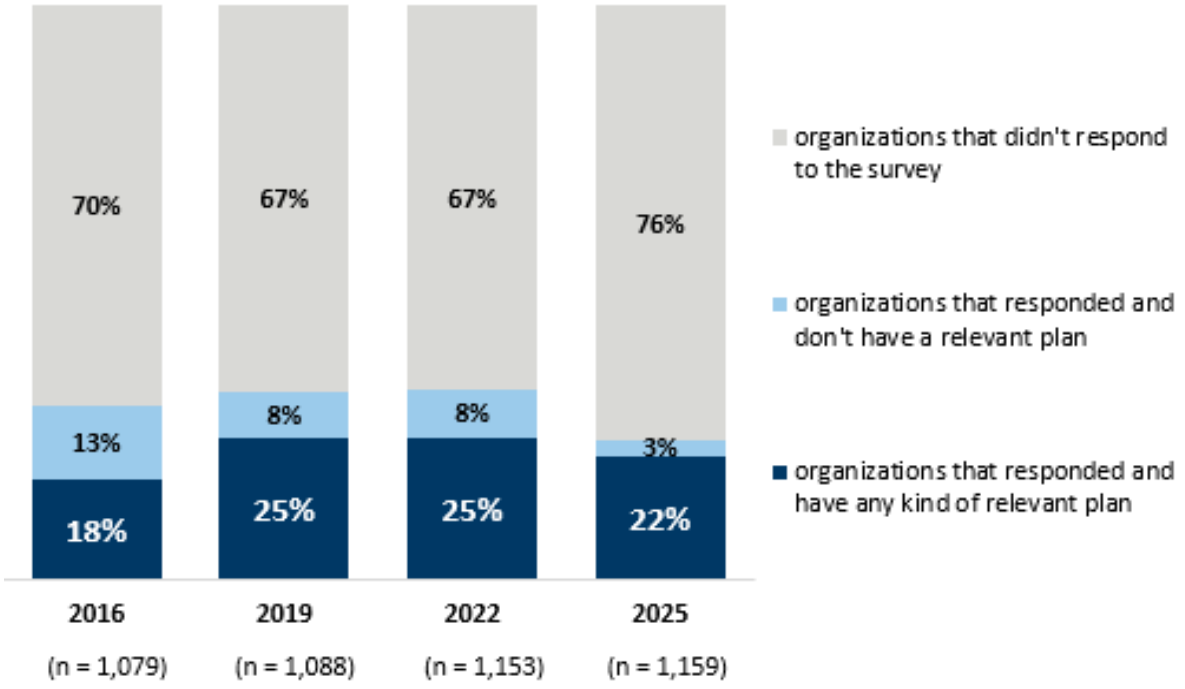
More detail about the methodology used for each of these steps is provided below. Additional analysis will be needed to better understand what percentage of all Minnesotans are represented by these local governments and Tribal Nations that have relevant plans or planning.

2025 survey data on planning

Historically, reports for this survey have estimated the extent of statewide planning efforts by examining the data for that survey in the context of all organizations invited to participate in the survey that year. MAD took the total number of responding organizations that indicated they were engaged in any type of planning efforts with content specifically related to climate adaptation or resilience (250 in 2025) and divided that by the total number of organizations invited to participate in the survey (1,159 in 2025). Using this approach, 22 percent of organizations invited to take the survey in 2025 reported that they have at least one plan or planning effort with content that specifically addresses climate adaptation and resilience.

Using this historical method, Figure 13 shows the percentage of invited organizations that reported they have at least one plan or planning effort with content that specifically addresses climate adaptation and resilience. While the percentage of organizations that responded that they have any kind of relevant plan increased to 25 percent in 2019 from 18 percent in 2016, the indicator stayed roughly flat from 2019 to 2022 and decreased in 2025, likely due to the overall lower response rate. However, of those responding organizations in 2025, few (3 percent) indicated they have no relevant plan at all compared to previous survey years (8 or 13 percent).

Figure 13. Organizations reporting climate adaptation or resilience content, as a percentage of *invited* organizations[10]

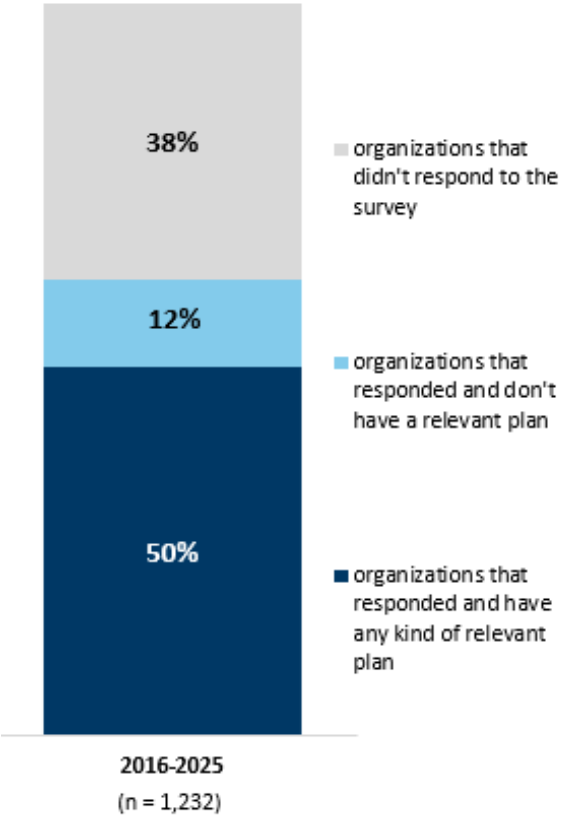


Aggregated survey data on planning

The previous analysis provides a baseline: the percent of local governments and Tribal Nations for which almost absolute certainty that they have local plans or local planning efforts in place. Aggregated survey data was used as a statewide indicator for the first time in the 2022 survey final report. In this method, organizations are counted only once and, if they responded to more than one survey, their most recent response is used. In the 2022 version of this report, the aggregated data showed 43 percent of organizations that had ever been invited to the three surveys (2016, 2019, and 2022) responded that they had any kind of relevant plan with climate adaptation and resilience content. With the addition of the 2025 survey, aggregated results for all four surveys (2016, 2019, 2022, and 2025) show an increase to 50 percent of invited organizations that have any kind of relevant plan. This is a 7 percent increase from the 2022 indicator.

[10] A respondent was designated as being engaged in climate adaptation or resilience planning if they selected any of the plan/planning types in survey questions about climate adaptation or resilience planning efforts.

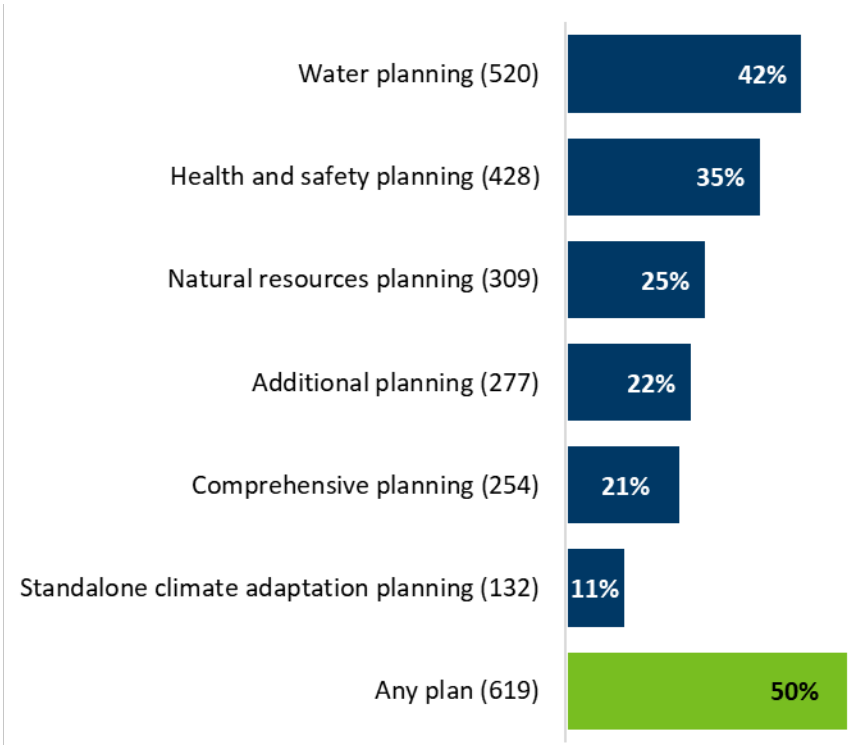
Figure 14. Local planning for aggregated 2016–2025 survey data as percentage of *invited* organizations



Reviewing aggregated survey results by type of plan can provide a broader view of the survey respondents' planning efforts and indicates that responding governmental organizations are engaged in a wide range of planning efforts. Figure 15 shows that, based on the results of all four surveys,[11] organizations most often have water or health and safety plans that specifically address climate adaptation and resilience in some way. This is an 8 percent increase compared to the aggregated 2016–2022 survey data – the biggest increase among the different types of plans/planning efforts. Other categories of plans also saw an increase ranging from a 3 percent increase for standalone planning to a 7 percent increase for health and safety planning.

[11] Grantees are excluded from this analysis as data on their type of plans or planning efforts is not available.

Figure 15. Aggregated 2016-2025 survey data: Organizations that have climate adaptation or resilience content in different plan types, as a percentage of *invited* organizations (n=1,232)



Aggregated survey data on planning and grantee data combined

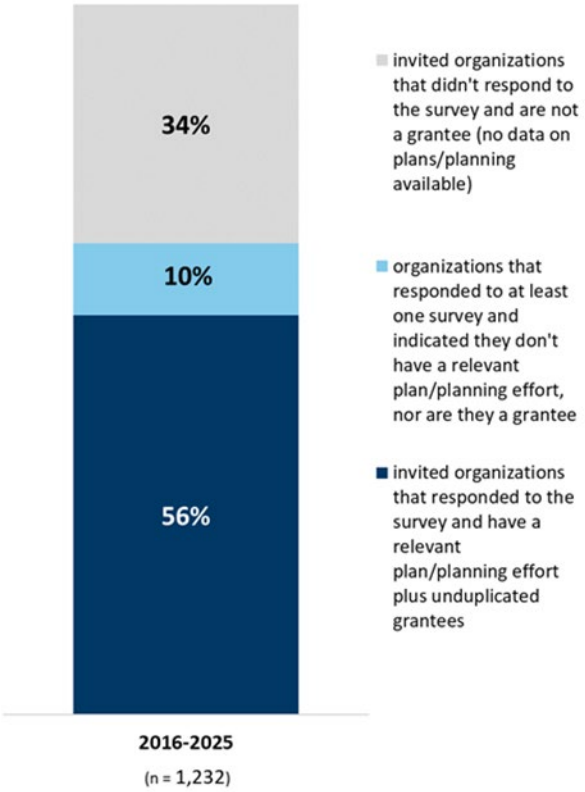
Table 9 shows the combined data for all four surveys and grantee data. As shown below, more than half of invited organizations have plans or planning efforts in place. Adding unique grantee organizations to the 2016–2025 aggregated survey respondents with a relevant plan increases the percentage of organizations that have local planning by 6 percent to 56 percent. Compared to the 2022 statewide indicator of 43 percent local planning documented in the last report, this is a 13 percent increase.

Table 9. Aggregated 2016–2025 survey data on organizations with plans combined with grantee data

Number of organizations	2016–2025
Number of unique responding organizations reporting any type of plan	619
Number of unique responding organizations who reported no plan but are a grantee	23
Number of unique invited organizations who did not respond to the 2016-2025 surveys but are a grantee	50
Total of unique responding organizations having any kind of relevant plan plus total number of unique grantees	692
Percent unique invited organizations with relevant planning	56%

Figure 16 shows that if the aggregated survey data and grantee data are combined, over half of invited organizations have plans or planning efforts in place.

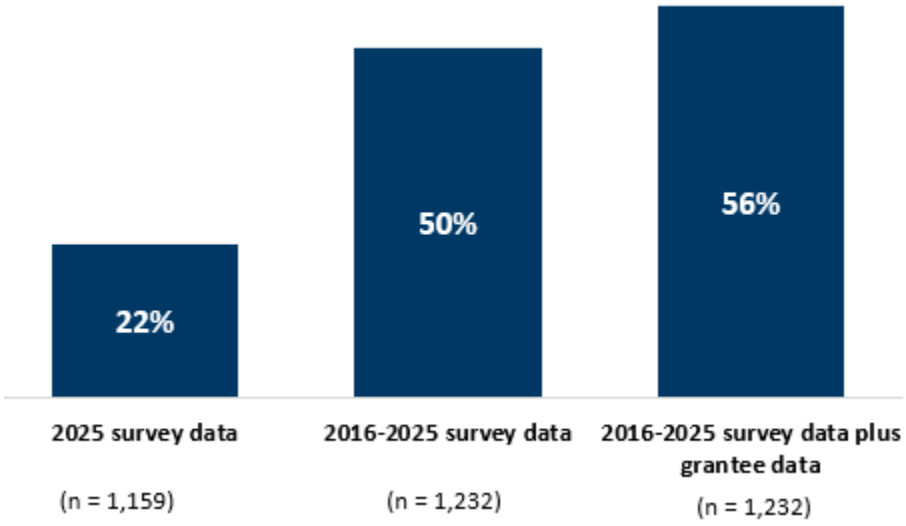
Figure 16. Aggregated 2016–2025 survey data and grantee data combined



Summary of the stepped results to statewide indicator

Figure 17 sums up the percentage of organizations that have any relevant plan across different data and combinations of data, as a percentage of unique *invited* organizations. With the inclusion of more survey years and the grantee data, the percentage goes up to 56 percent. This analysis was used to develop the 2025 statewide indicator.

Figure 17. Summary of stepped approach to the 2025 statewide indicator of local adaptation and resilience planning based on different data and combinations of data, as a percentage of unique *invited* organizations



There is no perfect way to calculate the statewide indicator of local planning without access to information about *all* local and Tribal governments' plans and planning efforts in Minnesota. Each of the approaches has some drawbacks.

Using the 2025 survey data provides confidence that these organizations have plans or planning efforts in place because these organizations self-reported their plans and answered many other questions related to extreme weather events, actions, and needed resources. The survey is sent to the entire population of relevant organizations. This methodology combined with the lower response rate in 2025, however, makes it harder to draw conclusions about well how these respondents reflect the broader population of invited organizations.

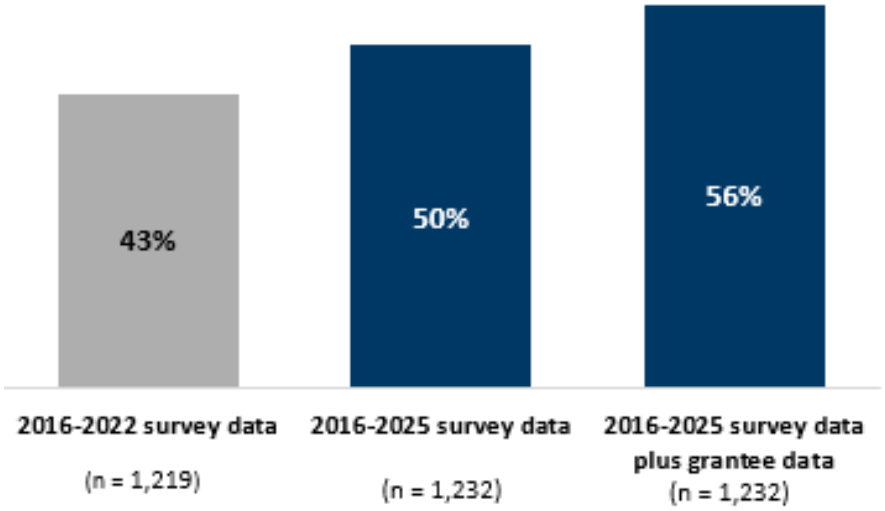
Combining the 2025 survey with past surveys addresses this drawback by including responses from many more organizations. Although some of the plans reported in earlier surveys might not be as relevant or in use anymore, many plans are revisited on a 5 to 10-year cycle. This increases confidence that most of the plans and planning efforts reported in past surveys are still in place.

Grantee data has the advantage of providing additional recent planning information. Twenty-three organizations who responded to earlier surveys and indicated they had no plan or planning efforts have become grantees since the 2022 survey. The drawback of using only the 2025 survey and grantee data is that these sources leave

out many organizations because they did not respond to the most recent survey nor were awarded a grant. Combining aggregated survey data with grantee data provides the most comprehensive picture.

The combined data described above provide a high level of confidence that more than 50 percent of invited Minnesota local governments and Tribal Nations have engaged in relevant planning on local resilience and climate adaptation. This has been selected as the new statewide indicator for 2025, rather than focusing on only one of the stepped results. This 2025 statewide indicator is more than a 7 percent increase compared to the 2022 statewide indicator of 43 percent and surpasses the halfway point for local government engagement in resilience planning (see Figure 18).

Figure 18. Aggregate approaches to statewide indicator of local adaptation and resilience planning: 2016-2022 survey data, 2016-2025 survey data, and 2016-2025 survey data plus grantee data, as a percentage of unique *invited* organizations



The final sections of this report focus on the 2025 survey data only and discuss respondents' answers to questions about specific types of plans, barriers to planning, and resources needed to engage in planning and implementation.

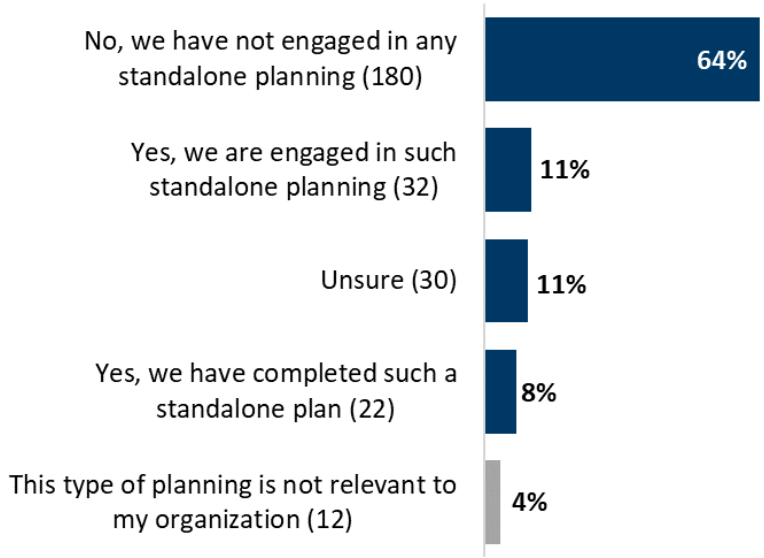
2025 Survey respondents' planning efforts

The sections below show the results of the 2025 survey by type of plan or planning effort. The survey asked respondents to review lists of types of plans and planning efforts, and to identify which their organization engaged in that included content specifically addressing climate adaptation and resilience. All charts and percentages presented in this section are based on the overall response of 280 completed surveys, unless otherwise noted.

Standalone planning

Figure 19 shows that in 2025, 19 percent of organizations indicated that they either completed a standalone plan that specifically addresses climate adaptation and resilience (8 percent) or are currently engaged in the standalone planning process (11 percent). This is an increase compared to 2022, when 12 percent of respondents completed and/or were engaged in standalone planning. Of the 280 responding organizations in 2025, 64 percent noted that they are not engaged in standalone planning.[12] This is 9 percentage points lower than in the 2022 survey, suggesting more organizations might be looking to standalone planning to address climate adaptation and resilience.

Figure 19. 2025 survey data: Has your organization engaged in standalone organization-wide or community-wide climate action planning efforts that explore multiple local climate vulnerabilities and approaches to adapt and increase local resilience?

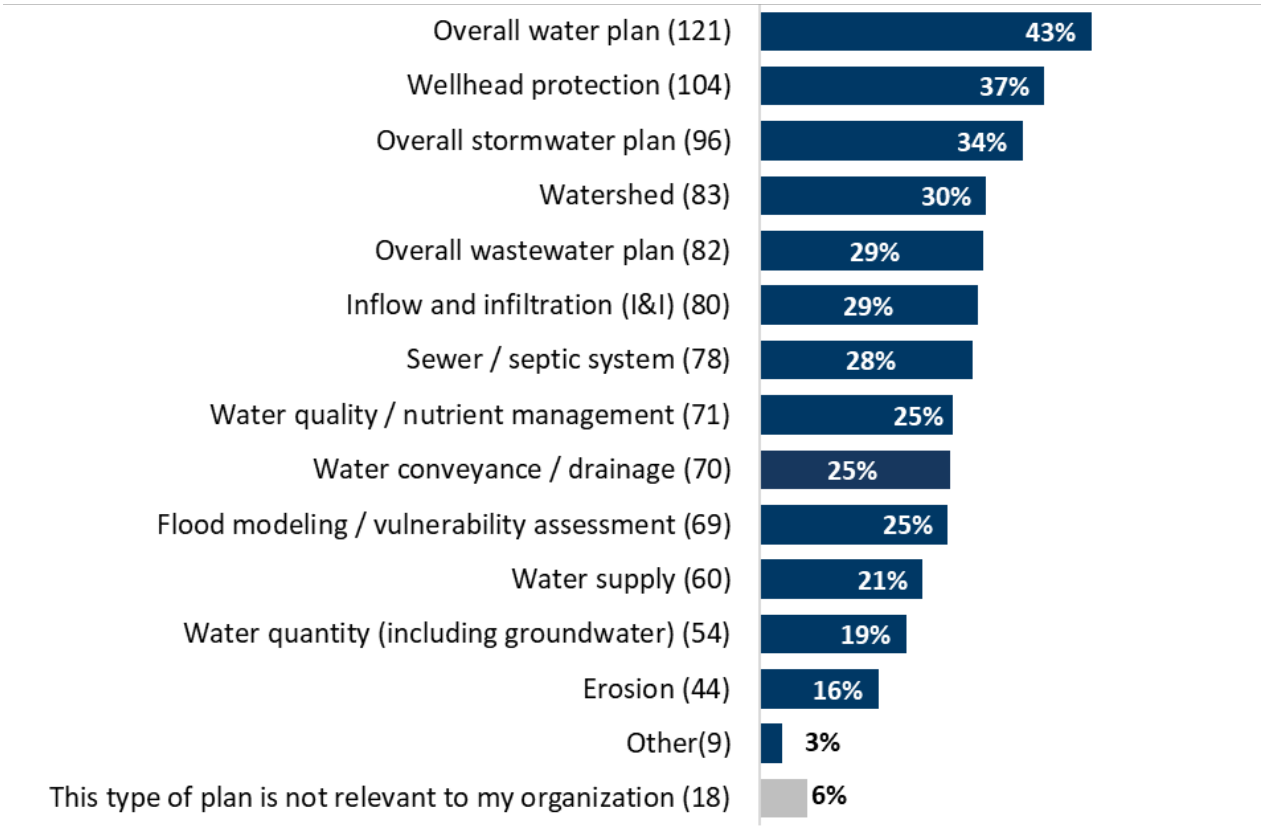


[12] The survey question clarified that standalone plans in this context are not water plans, health and safety plans, natural resource plans, or other more field-specific or project-focused plans e.g., localized area of flooding, resilience hub, energy, etc. and that these were covered in other sections of the survey.

Water planning

Figure 20 shows how many respondents (out of 280) chose each of the different types of water plans in 2025. The three most common water plan types selected were overall water plan (43 percent), wellhead protection (37 percent), and overall stormwater plan (34 percent). Watershed, wastewater, and inflow and infiltration plans of various types were the next most commonly selected. Only 18 organizations (6 percent) responded that water-related plans were not relevant to their organization.

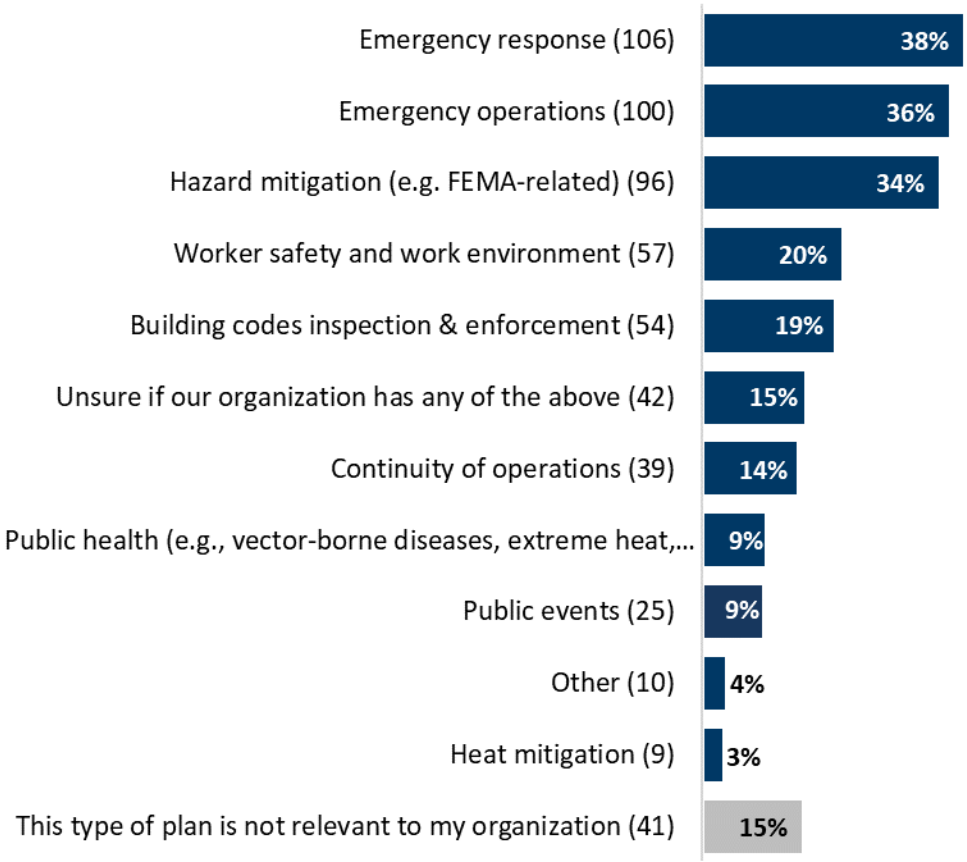
Figure 20. 2025 survey data: Does your organization have any water-related plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.



Health and safety planning

Figure 21 shows that among health and safety plans, 2025 respondents most often have emergency response plans (38 percent) and emergency operations plans (36 percent) that contain relevant content. This is a significant jump compared to 2022, when 23 percent and 15 percent of respondents had emergency response and emergency operations plans, respectively. The next most common response was hazard mitigation plans (34 percent), which also showed an increase – although smaller – from 30 percent reported in the 2022 survey.

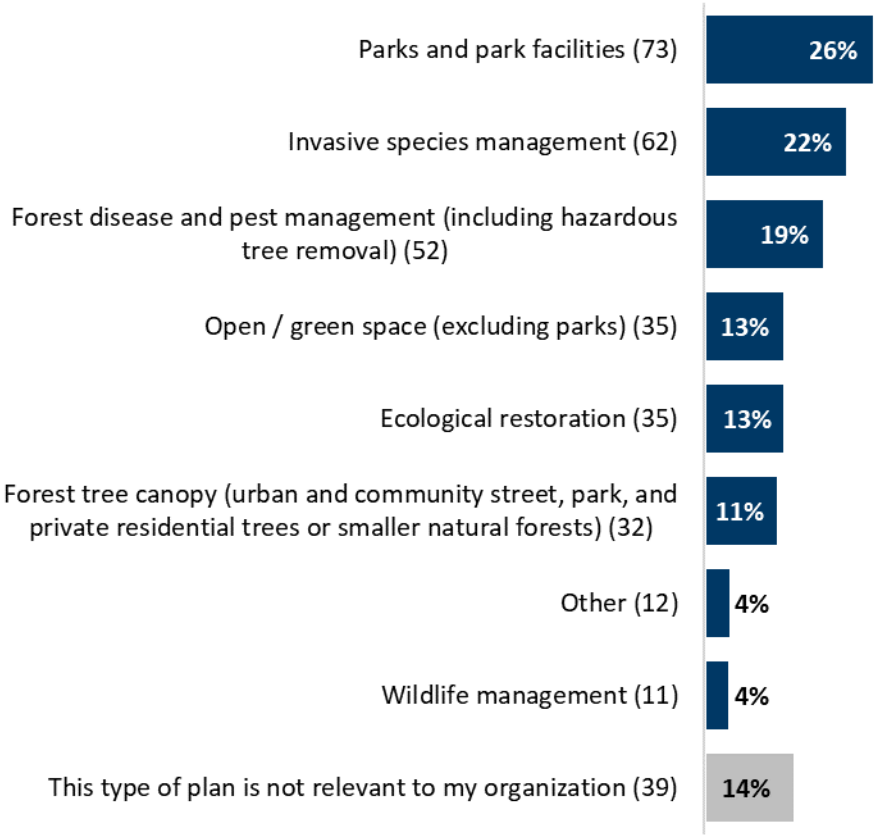
Figure 21. 2025 survey data: Does your organization have any health and safety-related plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.



Natural resources planning

In 2025, parks and park facilities plans (26 percent) and invasive species management plans (22 percent) were the most common natural resources plans selected. This was true in 2022 and 2019 as well, although a larger percentage of organizations selected these plans in 2025. In 2022, 10 percent fewer of survey respondents (16 percent) indicated their organization had a parks and park facilities plan (or planning efforts) with local resilience content, and 9 percent fewer (13 percent) had an invasive species management plan (or planning efforts). The 2025 survey modified the "Forest management" response option to "Forest disease and pest management (including hazardous tree removal)," which 19 percent of respondents selected versus only 6 percent for the 2022 option.

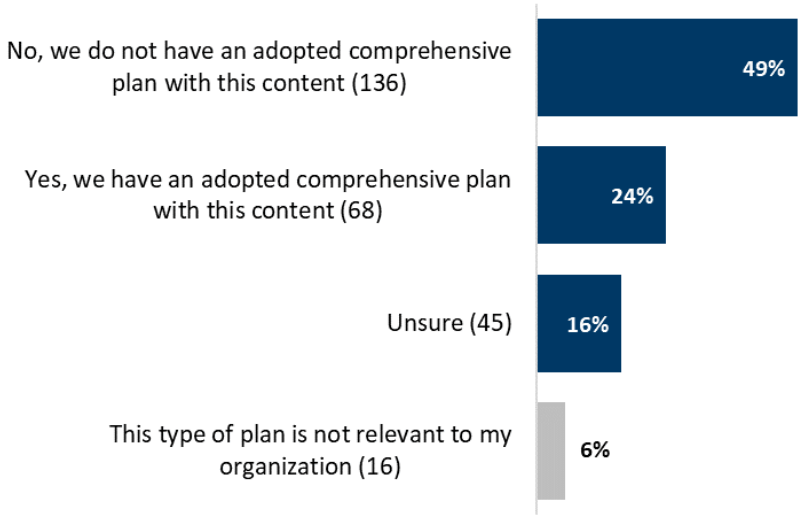
Figure 22. 2025 survey data: Does your organization have any natural resources-related plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.



Comprehensive planning

In 2025, 24 percent of respondents said they had adopted a comprehensive plan with content that specifically addresses climate adaptation and resilience.[13] This is almost 10 percentage points higher than the proportion of 2022 respondents who indicated their organization had an adopted comprehensive plan with local resilience and/or climate action content. Figure 23 shows the full results.

Figure 23. 2025 survey data: Does your organization have an adopted comprehensive plan with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts?



When asked whether their organization is currently engaged in a comprehensive planning process with content that specifically addresses local resilience and/or climate impacts, 61 respondents (or 22 percent) indicated that they are. Thirty of these organizations already have a comprehensive plan with relevant content in place.[14] This compares to the 15 percent reporting comprehensive planning with relevant content in 2022.

[13] The survey question defined a comprehensive plan as referring to a plan that includes objectives, policies, standards and programs to guide public and private land use, development, redevelopment and preservation for all lands and waters within the jurisdiction of the local governmental unit, as defined in Minnesota Statutes 473.859.

[14] Twenty-one organizations did not have a comprehensive plan in place at the time of the survey but indicated they engaged in the planning process. Another five respondents indicated they are unsure whether their organization has an adopted comprehensive plan with relevant content but that their organization is currently engaged in a comprehensive planning process. Five more respondents indicated this type of plan is not relevant to their organizations, yet that they are engaged in a comprehensive planning process, perhaps with other organizations that are required to complete a comprehensive plan.

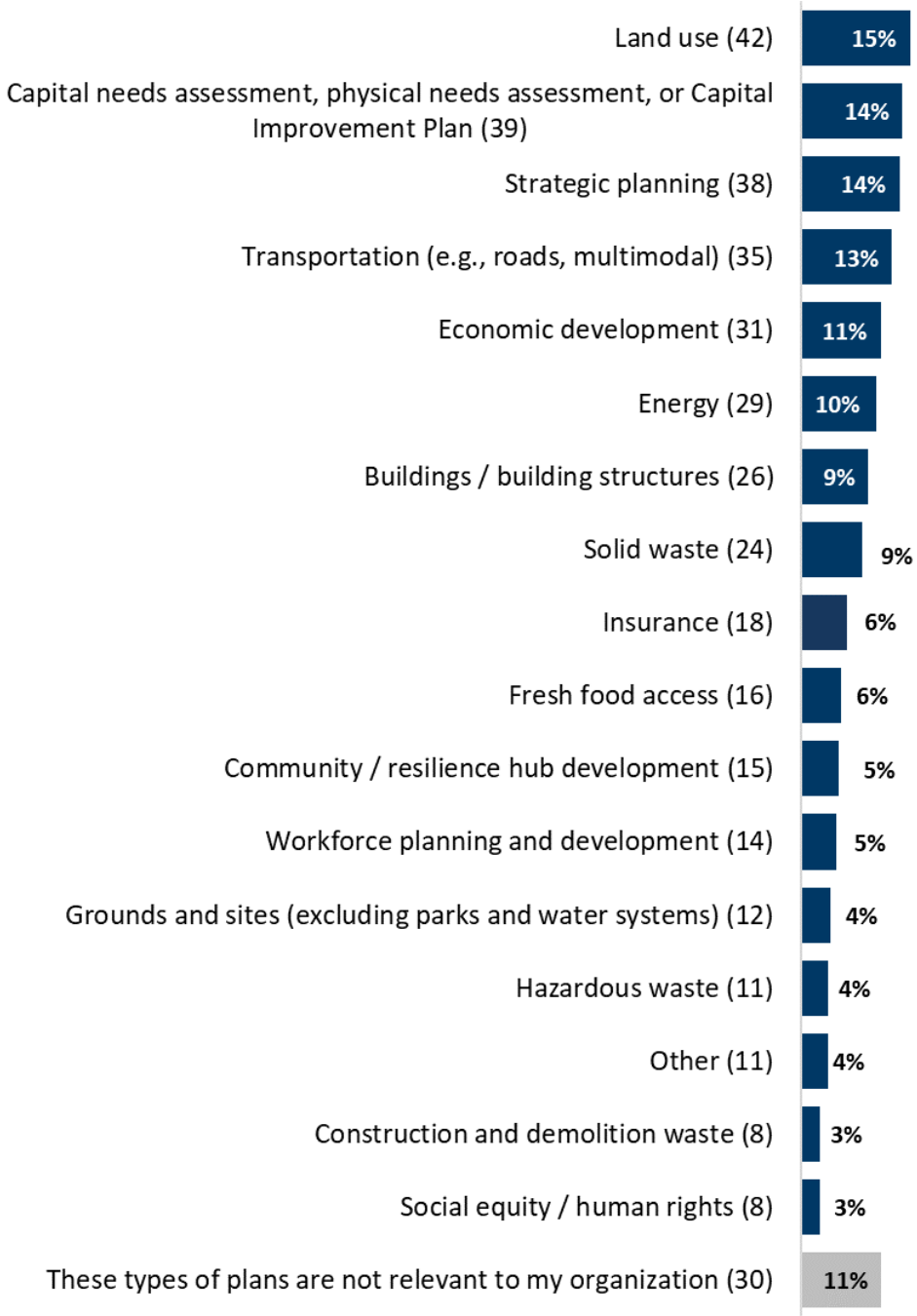
Overall, in 2025, a third of respondents (94 unique organizations) indicated that they already had and/or currently were addressing local resilience and adapting to climate change impacts as part of their comprehensive planning process.[15]

Additional planning efforts

One of the last planning questions asked whether organizations have engaged in particular types of additional planning efforts (not covered in previous categories) that specifically address climate adaptation and resilience. Far fewer respondents chose additional planning options compared to other types of planning. The most common selections for this question were land use (15 percent, up 3 percent from 2022), capital needs assessment (14 percent compared with 7 percent for the 2022 category of "capital budget"), and strategic planning (14 percent, up from 9 percent in 2022).

[15] This excludes the five organizations who responded that comprehensive planning is not relevant to their organization yet were engaged in a comprehensive planning process. These are likely organizations, such as regional development organizations, who are engaged in the comprehensive planning process of other local governments.

Figure 24. 2025 survey data: Has your organization engaged in any additional planning efforts with content (not included in other plans) that specifically discusses efforts to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.



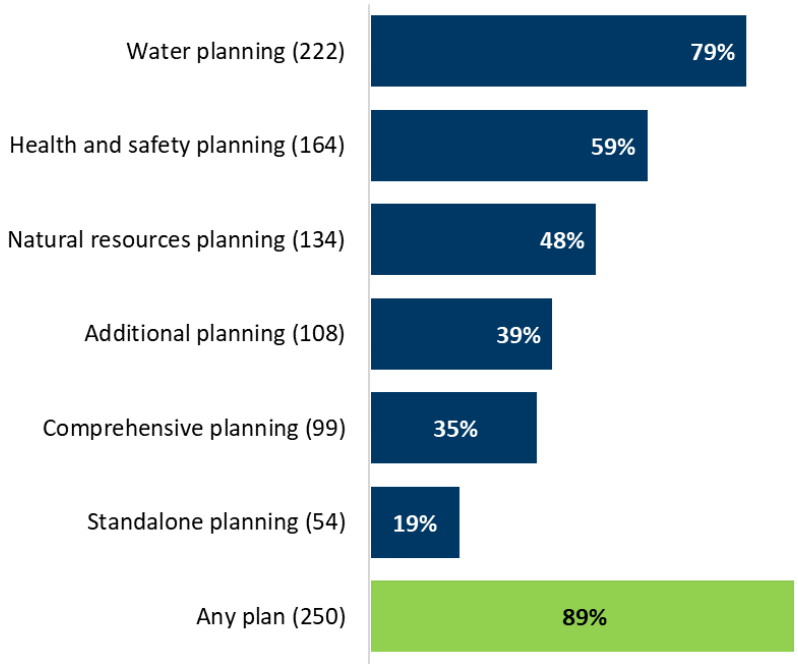
An in-depth view of planning efforts

Planning efforts by type of plan

Reviewing survey results by type of plan can provide a broader view of the survey respondents' planning efforts. Figure 25 provides an overview of planning efforts by type of plan. While the order of frequency across plan types is the same as in 2022, the percentages for each category are between 7 and 20 percent higher. This could indicate that, despite a lower response rate for the 2025 survey, local organizations are generally more engaged in all types of planning that includes content on local resilience or climate adaptation.

- More than three-quarters of responding organizations are engaged in water plans or planning efforts with climate adaptation and resilience content, which is 20 percent higher than in 2022.
- Health and safety planning efforts were the second most common plan type and were 18 percent higher than in 2022.
- The percentage of respondents engaged in natural resource planning increased from 31 percent in 2022 to 48 percent in 2025.
- Nearly one out of five respondents were engaged in standalone planning (19 percent), 7 percent higher than in 2022.

Figure 25. 2025 survey data: Local resilience or climate adaptation content in planning efforts by type of plan, as a percentage of *responding* organizations[16]

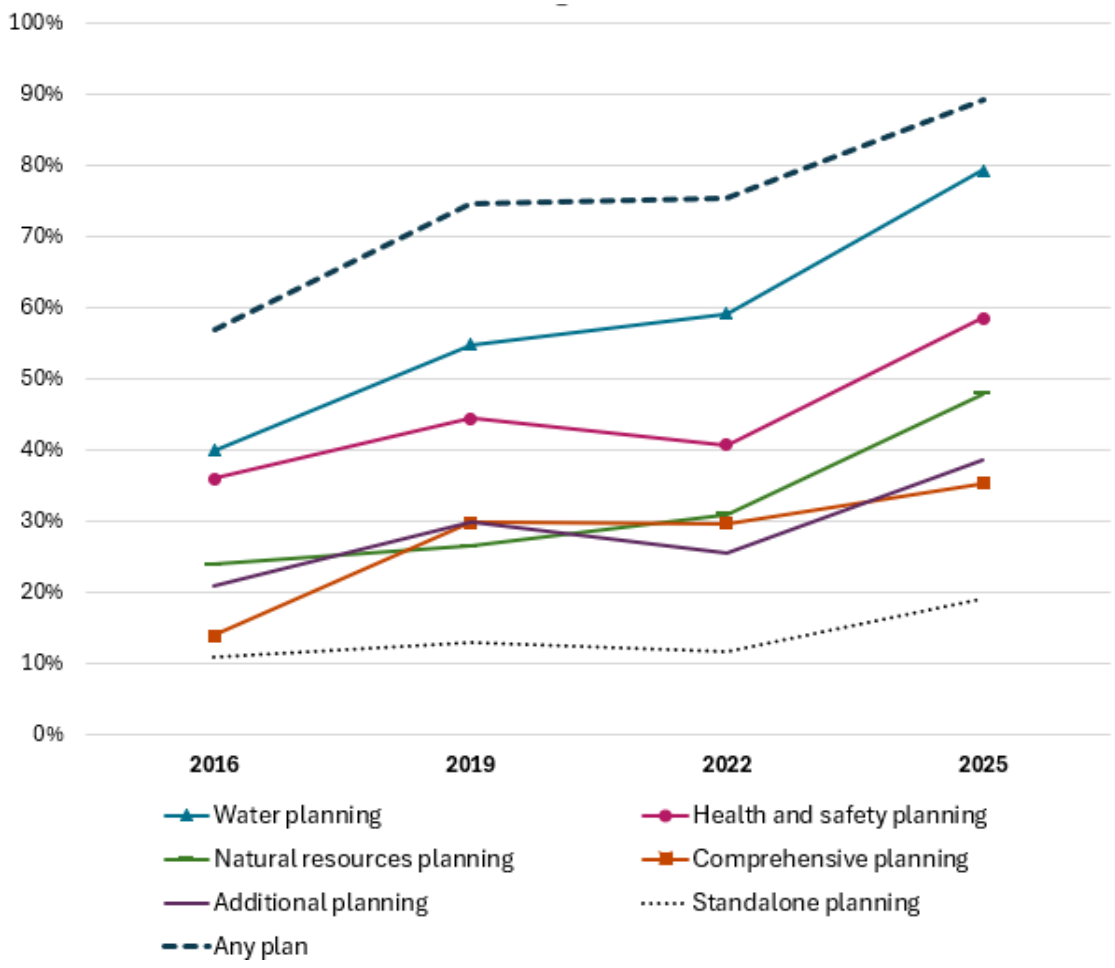


[16] A respondent was designated as being engaged in climate adaptation or resilience planning if they selected any of the plan/planning types in survey questions about climate adaptation or resilience planning efforts. These

Overall, 89 percent of respondents to the 2025 survey reported having at least one plan or current planning effort that addresses local resilience or climate adaptation. This is a notable increase from 75 percent in 2022 and also suggests that, despite a lower response rate for the 2025 survey, local organizations are generally more engaged in all types of planning that includes content on local resilience or climate adaptation. This likelihood is further supported by the fact that only 22 percent of grantees known to have engaged in local resilience and adaptation planning responded to the 2025 survey.

More detail about the trend in overall planning and types of plans over time for survey respondents is shown in Figure 26.

Figure 26. 2016-2025 survey data: Percentage of *responding* organizations with types of plans or planning efforts over time.



totals when compared with previous tables may not add up to 100 percent because respondents may select more than one answer and some respondents did not provide any answer. To review the detailed survey questions for each type of plan, see the preceding sections.

Non-governmental planning efforts

For the first time, after each plan-specific question the 2025 survey asked respondents if they were aware of any non-governmental community efforts related to this type of plan or planning. The purpose of this new question was to get a sense of what local resilience and climate adaptation planning efforts exist that are not initiated by local governments themselves.

The largest number of responses to the non-governmental planning question were provided under standalone planning. Most of the 24 responses cited planning led by another governmental organization or by a partnership of nonprofit organizations and a local government or state agency. The next most common response involved resilience actions taken by nonprofits and businesses, such as river restoration, energy use reduction, tree planting, forest assisted migration, and pollinator garden installation. A few responses shared awareness of local non-governmental planning, including this example:

> *Yes, we're connected with a wide variety of academic and community-based orgs who are advancing resilience and climate adaptation planning efforts.*

After standalone planning, the next highest number of responses was under water planning, followed by health and safety, and natural resources, respectively. Again, the bulk of the responses cited planning efforts by other local governments or described governmental organizations coordinating with non-governmental partners. Some responses described resilience actions taken by nongovernmental organizations such as a river alliance and local lake associations. Emergency response coordination and ecological restoration efforts also were mentioned. A few responses shared awareness of local planning led or coordinated by non-governmental associations. Examples include:

> *Minnesota Rural Water Association (MRWA) emergency response planning.*

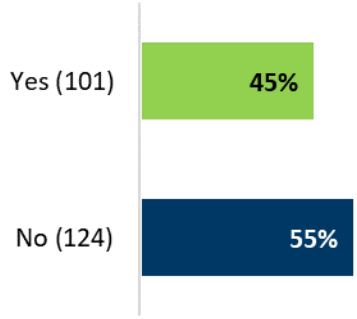
> *Minnesota Municipal Utilities Association (MMUA) along with the American Public Power Association (APPA) coordinate mutual aid resource sharing for reconstruction of electric infrastructure following severe weather events. Our Public Utilities has participated with this planning and action response for many years.*

Coordination and actions

Intergovernmental coordination

Figure 27 shows that 45 percent of the 2025 survey respondents indicated they had coordinated with other local, regional or Tribal governments. This is a significant increase from 2022, when 21 percent of respondents said their organization had coordinated with other governmental organizations. The survey also asked respondents to provide more detail on which organizations they coordinated with for planning or implementation. Ninety-four respondents included this detail, most frequently mentioning a county, followed by watershed districts and regional organizations.

Figure 27. 2025 survey data: Has your organization coordinated with any other local/regional/Tribal governmental organization(s) within Minnesota on climate adaptation and resilience planning or implementation?



Actions on climate adaptation and local resilience

The 2025 survey also included a revised question to learn what specific actions local governments/organizations were taking to increase community and/or environmental resiliency. Optional answers were grouped in accordance with the seven goals anticipated to be used in the 2025 update of the Minnesota Climate Action Framework: clean transportation, climate smart natural and working lands, resilient communities, clean energy and electricity, healthy lives and thriving communities, clean economy, and efficient and resilient buildings. There was an eighth option of “other” for respondents to describe other actions not represented by the previous seven categories.

The most frequently reported actions for any of the seven categories were implementing watershed management best practices (other than shoreline restoration) (35 percent of responding organizations); protecting drinking water (34 percent); preserving mature trees as well as planting additional trees (33 percent); and improving community connectedness via walkability, bikeability, public gathering spaces, and pedestrian safety (33 percent). The next most common actions were upgrading existing or constructing new built infrastructure and implementing shoreline restoration (both 24 percent of responding organizations).

Additionally, the 11 percent of respondents who chose “other” actions described efforts outside of these categories. Responses included actions such as installing rain gardens, partnering with nature centers for community tree replacements, applying for grants for additional shade structures, geothermal installation at a city hall building, upgrading lights for government facilities, and facilitating presentations on shoreland resiliency and other estuary and port restoration and resiliency topics. Lastly, 31 percent of respondents noted they were not aware of any actions taken by their organization to increase community/environmental resiliency.

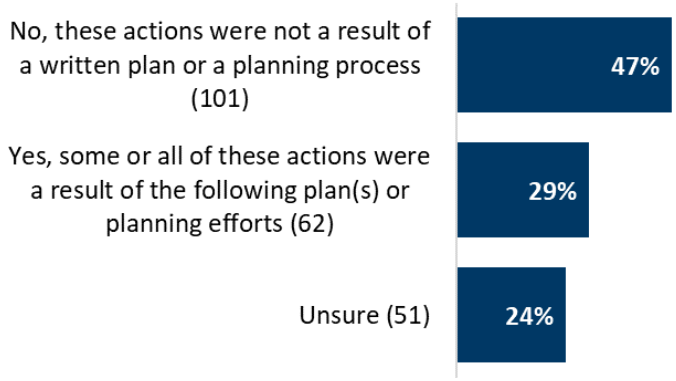
Table 10. 2025 survey data: In the past three years, what actions has your organization taken to adapt and/or increase the resiliency of the community or environment to extreme weather events or other impacts of our changing climate? Please select all that apply, regardless of whether taking these actions was a result of your organization's planning efforts.

Clean transportation	
Equipment conversion	14%
Improved community connectedness	33%
Installed electric vehicle charging stations	14%
Powered electric vehicle charging stations with renewable energy	3%
Climate smart natural and working lands	
Implemented shoreline restoration	24%
Implemented other watershed management best practices	35%
Resilient communities	
Preserved mature trees, planted additional community trees	33%
Provided outdoor structures for shading, added publicly accessible water features	14%
Reduced impervious surfaces and increased reflectivity of surfaces to reduce urban heat	6%
Upgraded existing or constructed new built infrastructure	24%
Amended / implemented new ordinance(s) or policies for improved resilience	9%
Clean energy and electricity	
Installed or invested in renewable energy	17%
Installed electric energy storage	0%
Healthy lives and thriving communities	
Took action specifically to reduce risk(s) faced by the most climate-vulnerable populations	5%
Protected drinking water	34%
Clean economy	
Supported commercial and small business resilience and sustainable practices	10%
Efficient and resilient buildings	
Upgraded existing or constructed newly built public housing, libraries, or other buildings	10%
Other	
Other	4%
None that I am aware of	31%

Participants were then asked if any of these actions taken were a result of a written plan or planning process. The largest group of respondents (47 percent) noted that these actions were not the result of a written plan or

planning process. However, for the 62 respondents who noted that these actions were taken as a result of a written plan or planning process, most reported these actions were a part of their water plans/planning process, followed by comprehensive plans and standalone plans.

Figure 28. 2025 survey data: Were any of the actions your organization and/or community took a direct result of a written plan or a planning process that addressed local resilience or climate adaptation?



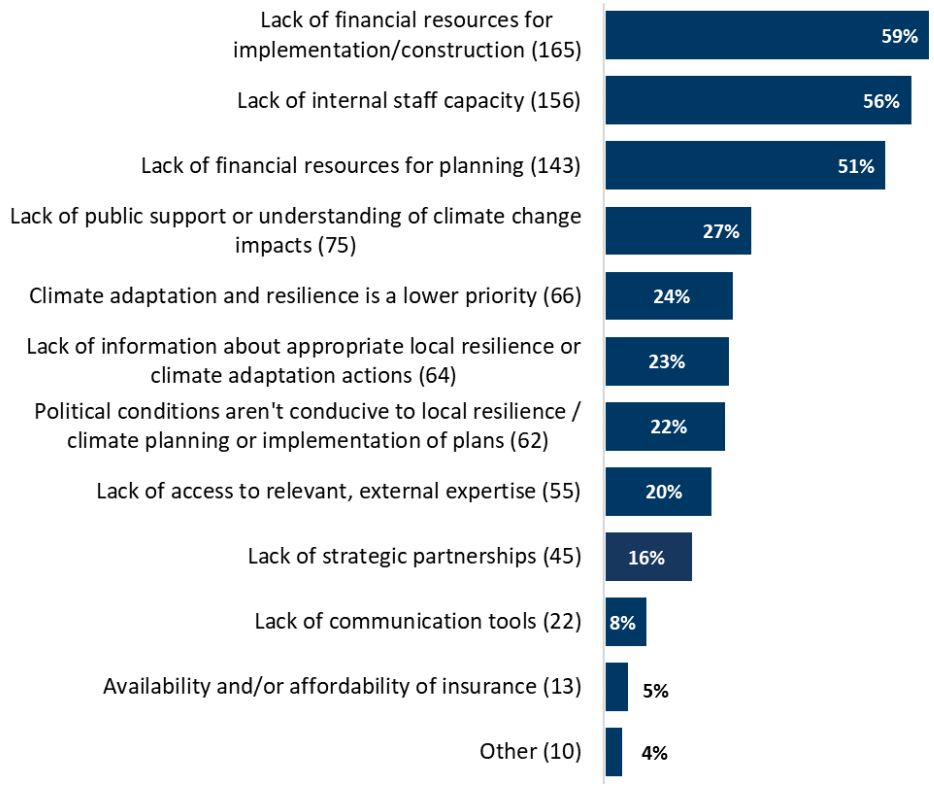
Barriers, resources, and assistance needed

Barriers to planning and implementation

In 2025, a new survey question was added to understand the main drivers of difficulties in local resilience and climate adaptation planning and implementation. As shown in Figure 29, the most common barrier (165 or 59 percent of respondents) was lack of financial resources for implementation/construction, followed closely by lack of internal staff capacity (156 respondents). Lack of financial resources for planning was selected by half of respondents. Other barriers, such as lack of public support or understanding of climate change, were chosen by far fewer respondents.

The top barrier to local resilience and climate adaptation efforts varied across government types. For example, cities, water management organizations, Tribal governments, counties, and regional development commissions most often noted a lack of financial resources for implementation/construction as a barrier. Townships, metropolitan planning organizations, and soil and water conservation districts most often noted a lack of internal staff capacity. This may reflect the differing roles and/or funding sources available to the organization type. Though this variation is notable, the total number of respondents per government type in this data set varied widely. In this case, 140 cities answered the barriers question compared to fifteen counties, therefore further analysis would be needed to determine cause and true scale.

Figure 29. 2025 survey data: What barriers has your organization encountered as you have tried to plan and/or implement plans related to local resilience or climate adaptation? Select all that apply.



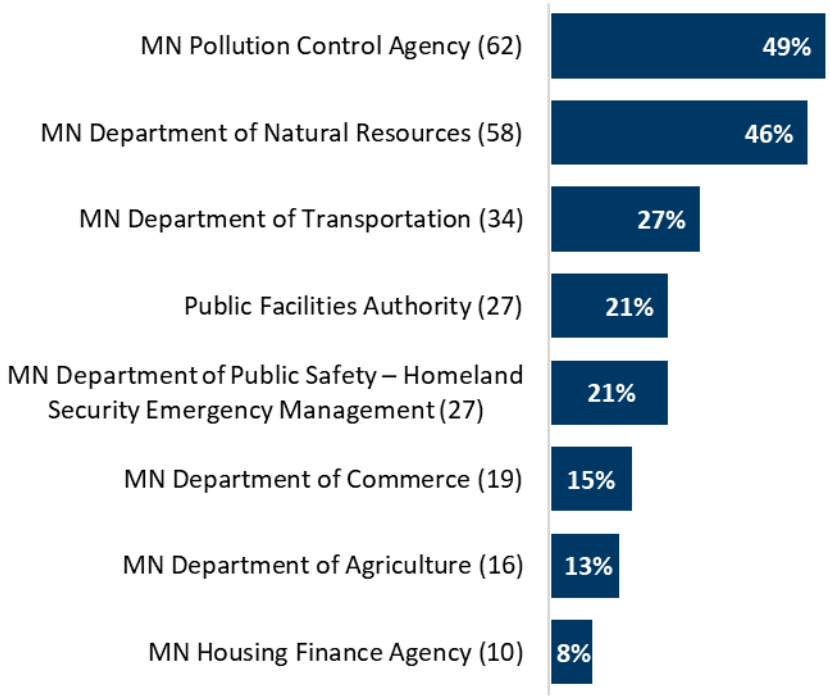
Resources used for planning and implementation

State funding

Respondents were asked if they have tried to obtain any state funding to assist with local resilience and climate adaptation planning or implementation efforts. Of the 261 responses to this question, 126 organizations (45 percent), including two Tribal governments, responded that they had sought some state funding.

The next question asked respondents from which state agency (or agencies) they had tried to obtain funding, and whether they applied and received all, some, or none of the funding they sought and/or whether they had a current application pending. Figure 30 shows the percentages across state agencies, combining the response options. Among the 126 organizations that had sought state funding, almost half had tried to obtain funding from the Minnesota Pollution Control Agency. Funding sought from the Minnesota Department of Natural Resources was a close second.

Figure 30. 2025 survey data: From which of the following state agencies has your organization tried to obtain state funding during the past three years to support local resilience and climate adaptation planning or implementation efforts? Please select all that apply. (n=126)



A final follow-up question asked whether this state funding provided a match or helped organizations qualify for other (non-state) funding or assistance. Twenty-six percent (33 out of 126 organizations) responded “yes.” Most participants responded “unsure” (41 percent) or “no” (29 percent).

Federal, regional, and philanthropic funding

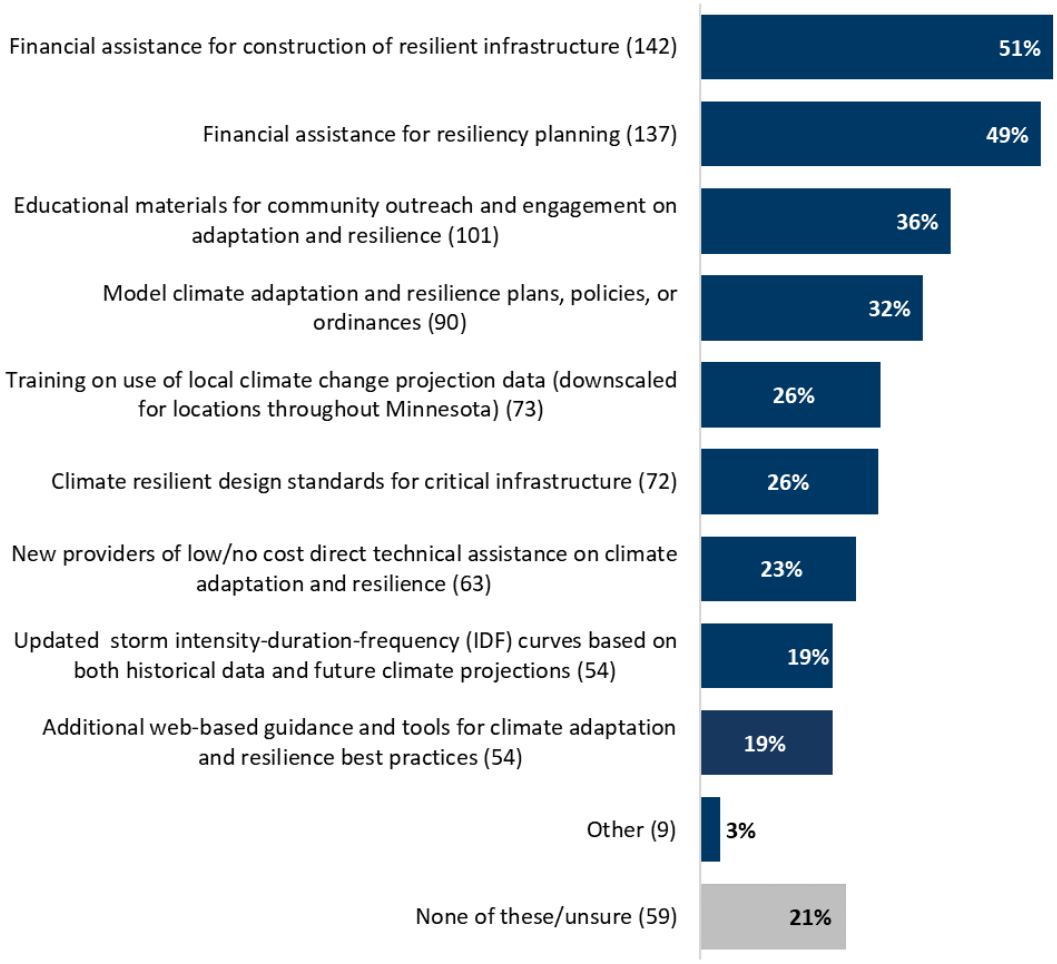
In addition to questions about state funding, respondents were also asked whether they tried to obtain federal, regional, or philanthropic funding or assistance for local resilience and climate adaptation planning and implementation efforts. Slightly more than one-quarter (74 organizations amounting to 26 percent) responded yes. Most stated they were unsure (16 percent) or that they had not sought out this type of funding (51 percent).

Assistance needed for planning and implementation

Similar to past surveys, respondents were asked about the kind of resources and assistance that would be most helpful to further their planning and implementation efforts. Unsurprisingly, given the main barriers, financial assistance was the top answer. As seen in Figure 33, financial assistance for construction of resilient infrastructure (implementation) received slightly more responses (142 respondents) than financial assistance for planning (137 respondents). The next most frequently selected needs include practical resources and tools to support planning and implementation efforts, such as educational materials for community outreach and engagement, model climate adaptation and resilience plans, policies and ordinances, and training on how to use local climate change projection data. These resources might provide more support to local government staff and make sense in light of a top barrier being the lack of internal staff capacity.

Notably, respondents across all organization types rated financial assistance for both construction and resiliency planning highly as a helpful resource, with the exception of townships and soil and water conservation districts who noted financial assistance for resiliency planning and educational materials for community outreach and engagement as the two most helpful resources. In addition, Tribal governments reported educational materials for outreach and community engagement as the most helpful resource.

Figure 31. 2025 survey data: What kind of resources or assistance would be most helpful to your organization to make progress on local resilience and climate adaptation planning and implementation? Please select all that apply.



Impacts of extreme weather events

The first part of the survey asked respondents about recent experiences of extreme weather events and longer-term trends associated with the changing climate on their communities. The question listed a series of events and trends, such as water-related trends (for example, flooding and drought) and seasonal changes (for example, later ice-in/early ice-out), and asked how these have impacted communities in different ways, including:

- Impacts on residents (health and safety, property losses, insurance costs, etc.)
- Impacts on buildings and infrastructure (damage, financing and insurability, etc.)
- Natural resources impacts
- Impacts on tourism and/or community events, cultural impacts
- Other local or organizational economic impacts (workforce, budget, etc.)

The list was not intended to be exhaustive, and respondents could also enter their own events and trends and impacts. This question was designed to frame the overall survey topic for survey respondents, and to gather respondents' general ideas and impressions to potentially better understand organizational planning regarding climate adaptation and local resilience.

The vast majority of respondents (88 percent out of 280 organizations) selected at least one weather event or trend, similar to 2022 and 2019 survey results. The top two impact types by far were impacts on residents and impacts on natural resources. These two impact types received almost twice as many responses as each of the other options.

For the specific events and trends that caused impacts on their community's residents, 59 percent out of 280 respondents selected unseasonal or more severe windstorms/hail (59 percent), too much water (58 percent), and air quality changes (51 percent), as having an impact on their residents. For impacts on their community's natural resources, 54 percent selected too little water, 46 percent selected increased insect or disease challenges, and 46 percent selected too much water.

Table 11 shows the top three recently experienced weather events or trends that respondents connected with each of the five impact types. As in the previous surveys, organizations that experienced more climate-related events or trends more frequently identified plans or planning activities than those organizations that did not.

Table 11. 2025 survey data: Top three weather events or climate-related trends by type of impact

Types of impacts	Unseasonal or more severe windstorms /hail	Too much water	Air quality changes	Increased insect or disease challenges	Changes in winter conditions	Too little water
Impacts on buildings & infrastructure	■	■			■	
Impacts on residents	■	■	■			
Impacts on tourism, community events, cultural impacts		■	■		■	
Natural resources impacts		■		■		■
Other local or organizational economic impacts	■	■			■	

Note: Weather events or climate trends that did not make it into the top three are not shown here.

Figures 32 to 36 show all the extreme weather events and other climate-related trends that respondents to the 2025 survey selected as affecting each of the five impact areas. This analysis further illustrates how respondents' answers varied by impact area. For example, for impacts on both residents and buildings and infrastructure, respondents' top responses were the same: "unseasonal or more severe windstorms/hail" and "too much water (flooding)." However, "air quality changes" was the third most selected impact on residents, whereas "changes in winter conditions" was the third most selected weather trend to impact buildings and infrastructure.

Figure 32. 2025 survey data: Impacts on buildings and infrastructure (damage, financing and insurability, etc.)

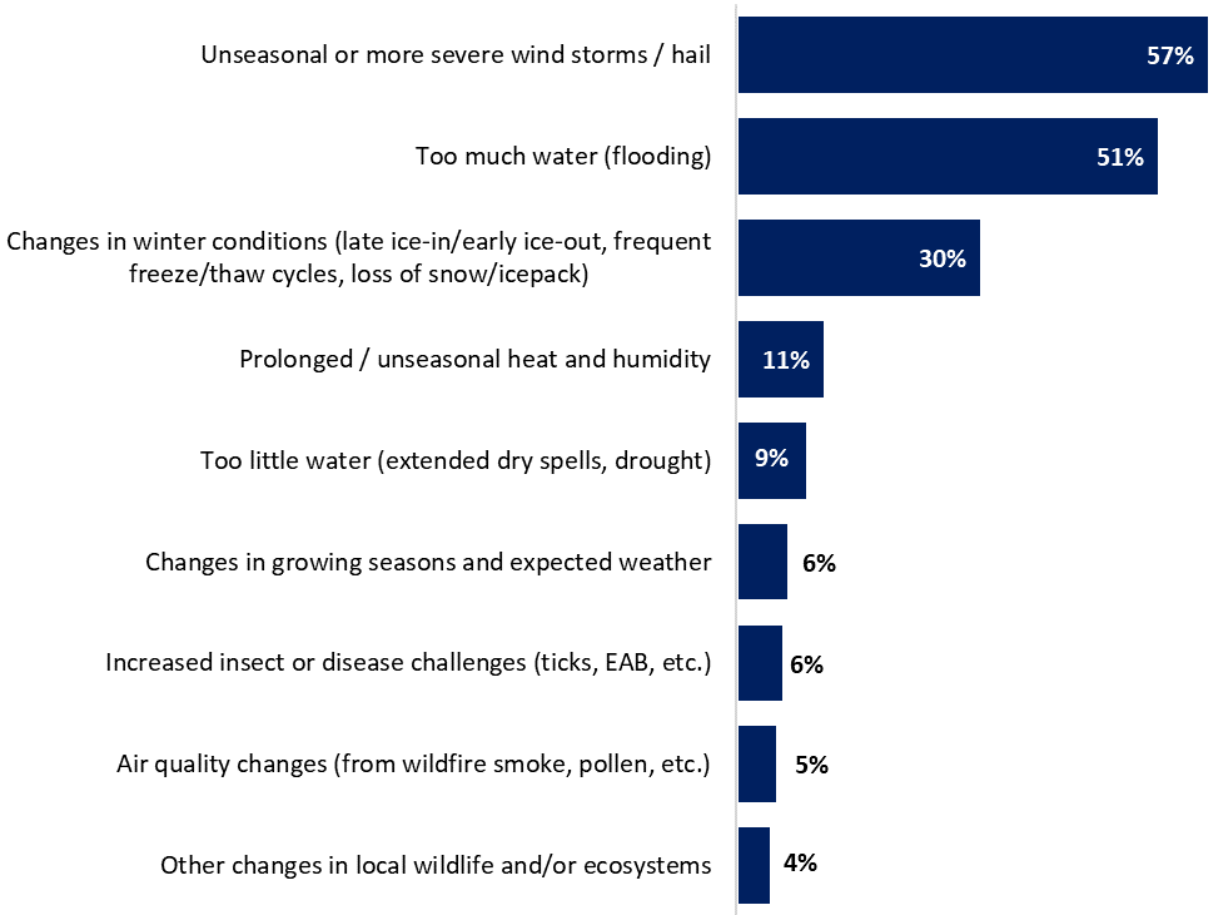


Figure 33. 2025 survey data: Impact on residents

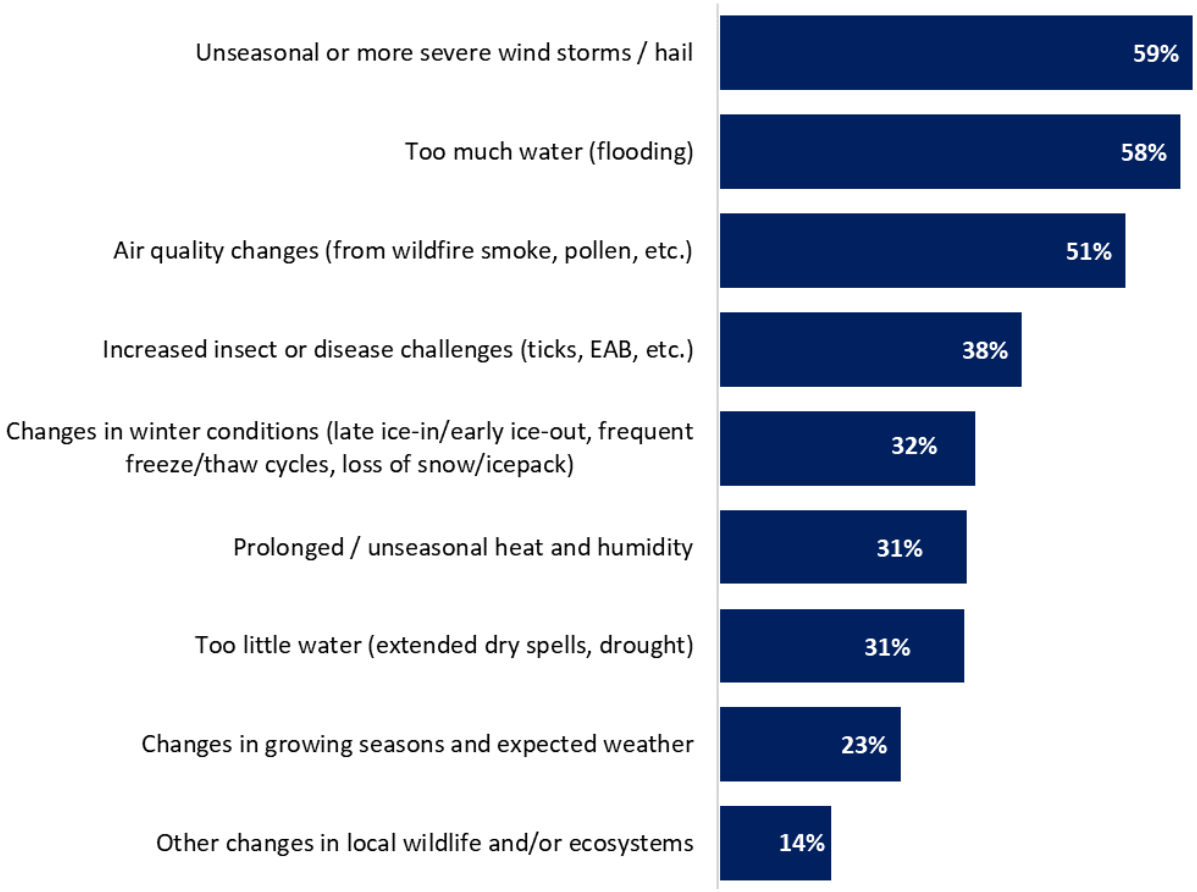


Figure 34. 2025 survey data: Impacts on tourism and/or community events, cultural impacts

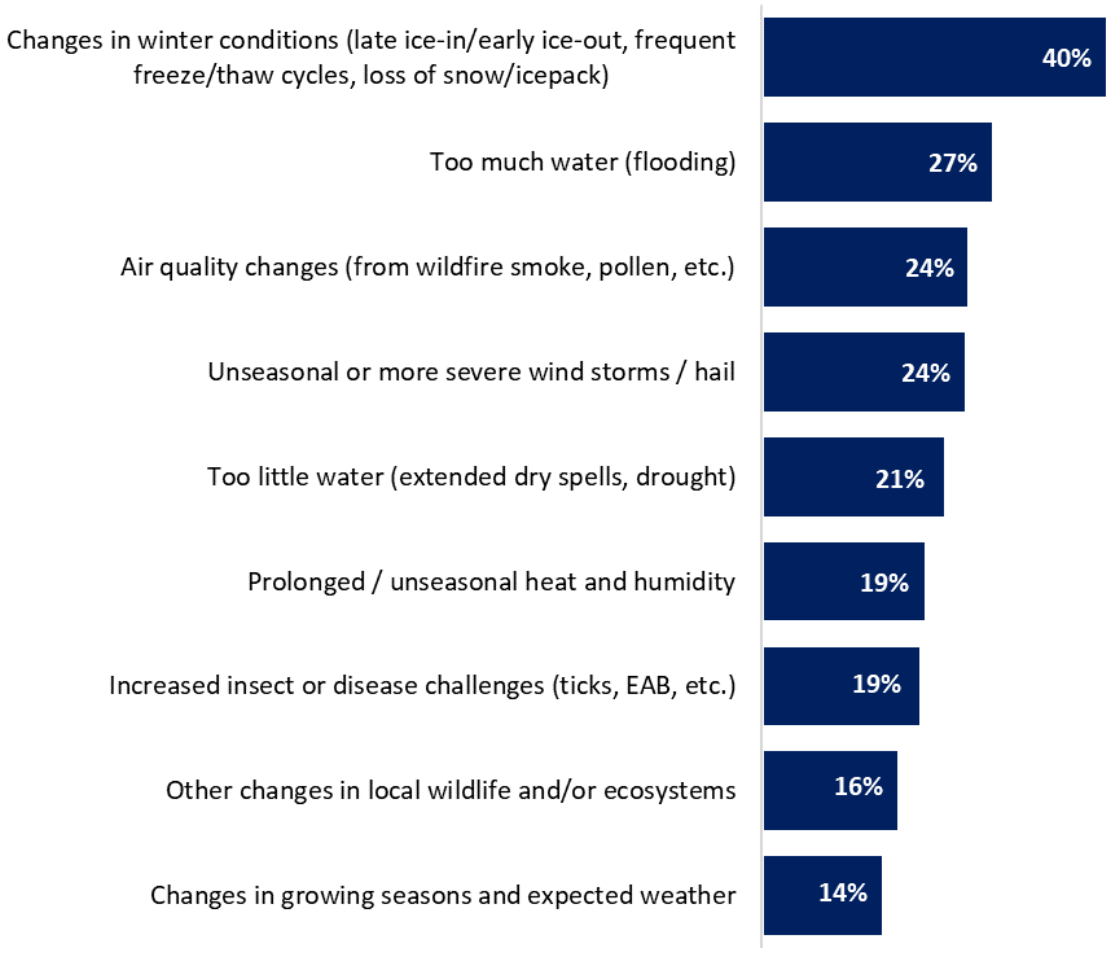


Figure 35. 2025 survey data: Natural resources impacts

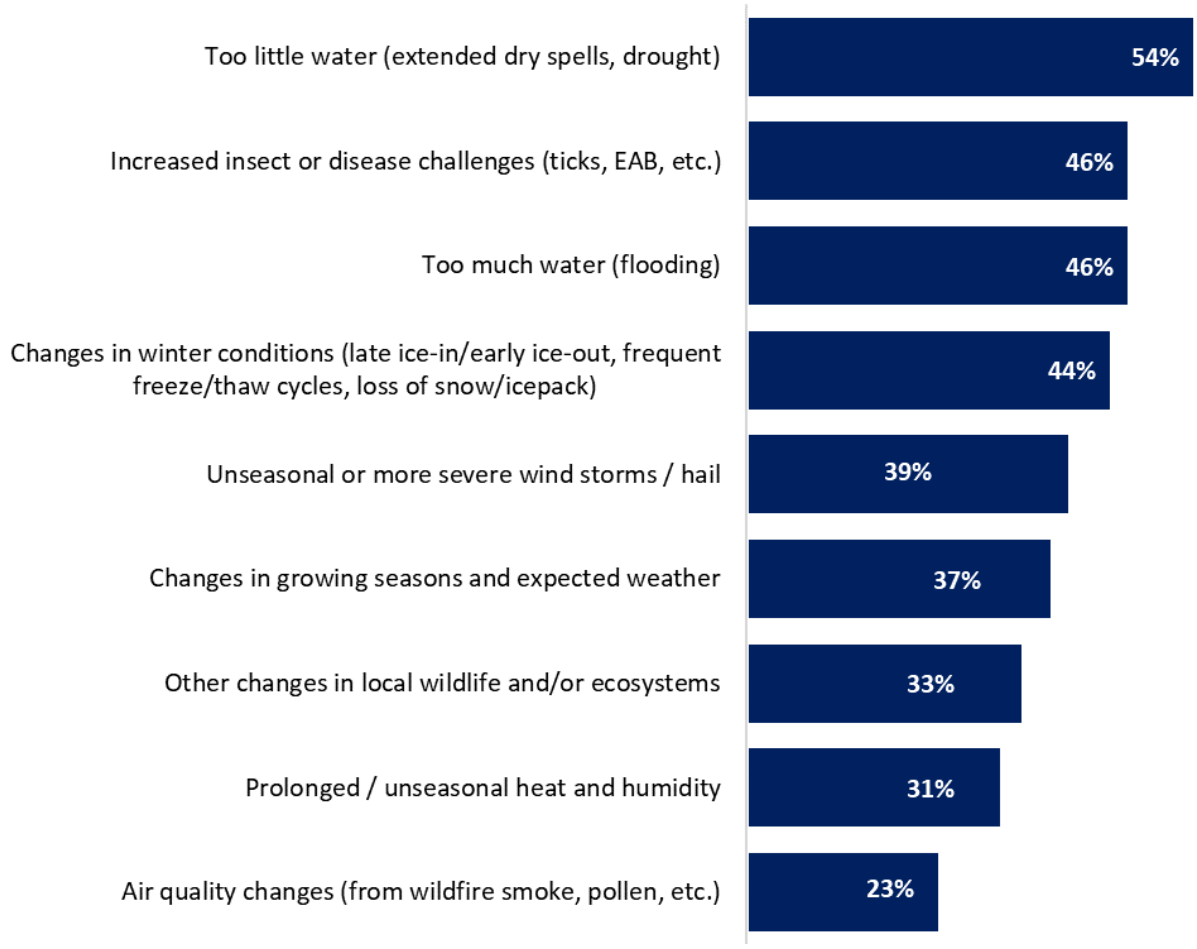
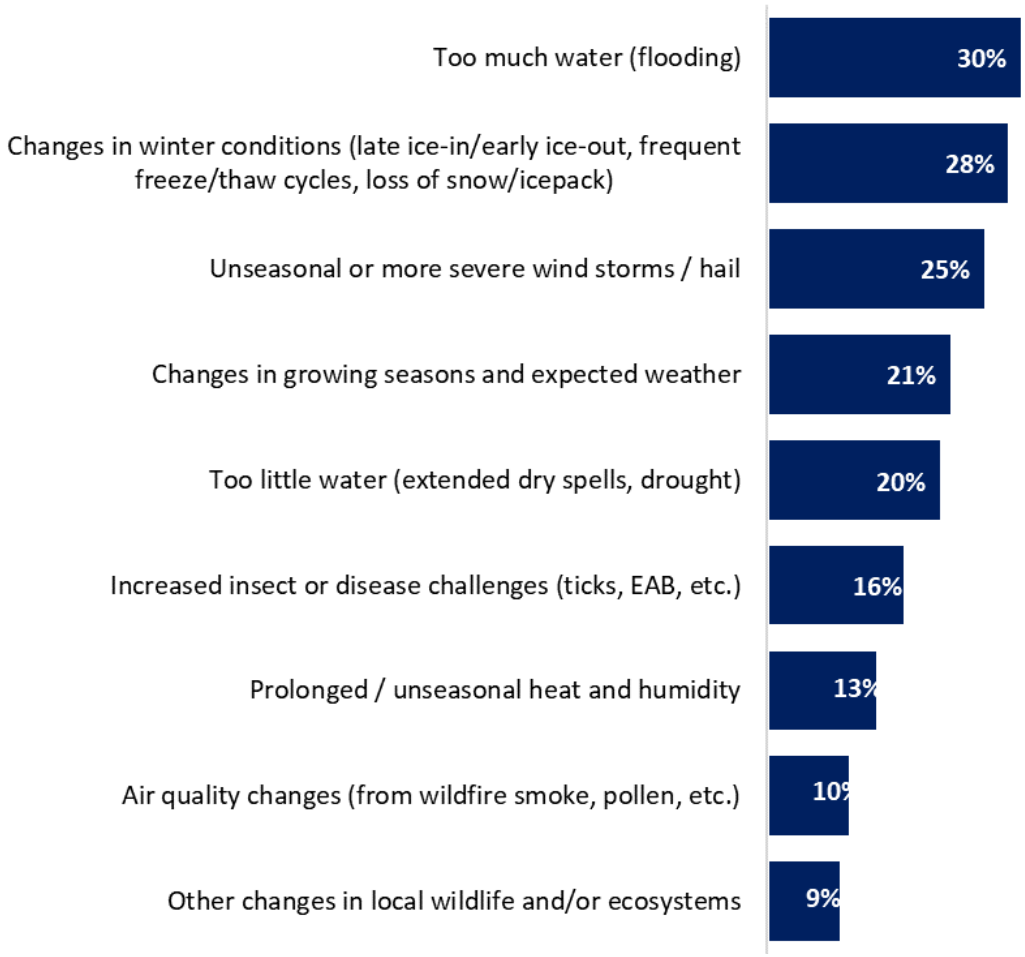


Figure 36. 2025 survey data: Other local or organizational economic impacts (workforce, budget, etc.)



As in the previous surveys, organizations that experienced more climate-related events or trends more frequently identified plans or planning activities than those organizations that experienced fewer or no extreme weather events or climate change trends.

Final comments from respondents

At the conclusion of the 2025 survey, participants were invited to share additional thoughts, ideas, questions or comments. Of the 280 respondents to the survey, 34 submitted additional comments.

Of those additional comments, 38 percent of respondents noted lack of resources to engage in climate resiliency planning or actions, confirming findings based on the closed-ended question that asked about barriers. Many noted that their organization served small communities and thus had limited staff. For example, one respondent noted:

> *We are a city of 62. I feel like these things are great and could be very useful but there is no staff or finances to do this.*

Some respondents noted that there are opportunities for improving access to resources for local governments and organizations and that the current process for applying for funding can be difficult and complicated. Particularly, one respondent stated:

> *I hope there will be a follow up on this survey as, based on questions, I feel there are already some resources available that we can start working off of and I would like to get access to them.*

A few related comments discussed the need for effective messaging and climate education resources. For example, one respondent suggested:

> *During plan amendments and renewals, the collaboratives and joint power entities should be given support and resources to incorporate climate adaption and resilience with a focus on language to address political challenges and lack of community support in certain regions. Focus on vulnerability, risk assessment, resource strengths, and leaving a legacy for future generations.*

Recommendations for future surveys

Similar to the previous surveys, MAD's role in this project included survey development, administration, and analysis, with the expectation that the MPCA would identify implications from the survey data and develop next steps. Advice on survey issues may be useful, however, so MAD offers the following recommendations for future surveys.

Continue to coordinate survey approaches with Minnesota's Climate Action Framework (CAF): Several questions were updated in the 2025 survey to align with the 2022 CAF. However, given the survey approach to ask local governments and Tribal Nations about their plans and planning efforts, the survey likely underestimates how many governmental organizations have plans, and it was not designed to quantify how many Minnesotans live in communities with plans. Future efforts to measure progress should try to align better with the end goal for planning.

Continue to learn more about governmental coordination around resilience and climate adaptation planning: Data from the 2025 survey showed a 114 percent increase over survey data in 2022 for organizations that reported coordinating with other governments. This significant jump would be helpful to analyze in more detail, not only to understand the causes, but to identify further ways of cultivating or supporting that coordination.[17]

Continue to learn more about non-governmental plans and actions for local resilience and climate adaptation: Answers to the newly added open-ended question about non-governmental plans suggest there is quite a bit happening outside (or in coordination with) local governments, at the community level. A better understanding of this can help measure progress toward the statewide resilient communities goal.

Consider alternative methods to a survey: While MAD continues to recommend that the MPCA conduct an assessment of local planning on a roughly three-year cycle, a comprehensive survey might not be the only or best way to measure local plans and planning efforts. The low response rate as well as several respondent comments to the 2025 survey indicates local governments and Tribal Nations might lack the capacity to complete such a survey. Alternative methods could include a shorter pulse survey to gauge overall planning efforts with in-depth interviews that ask about barriers, resources, and actions. This would allow for measuring progress while simultaneously avoiding survey fatigue.

Consider what language and terminology to use: Several Interagency Advisory Group members observed that local resilience or climate adaptation planning can happen under many different names or labels. It might not be identified as climate-related, and yet still increase a communities' local resilience to extreme weather events. Efforts were made in the 2025 survey to modify language that had become politicized. The next survey could explore further how to solicit relevant data from communities in a way that captures their full breadth of relevant planning.

[17] In December 2024, the Metropolitan Council hosted a Climate Summit in which participants from local governments across Minnesota participated in group discussions and presentations on topics related to climate planning. Many participants noted a desire for increased intergovernmental coordination, which further justifies more analysis in addition to the results of this survey.

Consider the organizational contact(s) to invite to the survey: MAD recommends that the MPCA considers who the survey is sent to in addition or instead of the official contact in the future. The 2025 survey collected data about the organizational roles of the people who filled out the survey. This information can be used to explore alternative or additional contacts for local government and Tribal organizations. Targeting the survey to those individuals most knowledgeable about the topic might also help address the internal staff capacity issue. It should be noted that this recommendation has some practical drawbacks and likely will take a lot of pre-planning to identify and obtain reliable contact information.

Continue to explore cumulative results, possibly with other grant data or data sources from other state agencies: Analyzing the results of individual surveys is necessary and helpful to understand snapshots in time. However, cumulative results across survey years, possibly in combination with other data sources, provide a fuller picture of the level of local plans and planning efforts. These analyses provide better estimates to use in determining the statewide indicator than single-year results.

Consider how to obtain grants information through the survey: In 2025, survey respondents were asked for detailed information about grant funding, other resources, and assistance. Only 22 percent of organizations known to have been awarded grants by the MPCA responded to the 2025 survey. In the next three years, these state, federal, and philanthropic opportunities are anticipated to shrink dramatically. The next survey may want to reach out directly to known grantees and ask them to participate in the survey to provide data about actions and results from implementation of their relevant plans, including the number of Minnesotans who are benefitting.

Use future surveys or other methods to better understand barriers to planning and implementation: Barriers that may inhibit climate adaptation planning and efforts were explored for the first time in the 2025 survey. The reported barriers varied across governmental organization types. This variation could be ripe for further analysis to determine the cause and how certain governmental organization types are better able to overcome certain barriers.

Appendix A: Survey methods detail

Overview

Number of survey recipients: 1,159

Survey design: The MPCA and Management Analysis and Development (MAD), with input from the Interagency Advisory Group

Survey in the field: February 19 through March 24, 2025

Distribution: Contacts in township, city, and county governments; contacts in Tribal Nations; contacts for soil and water conservation districts, watershed districts, and regional development organizations/commissions (additional description below in *Survey recipients* section)

Data collection: MAD

Analysis/report: MAD and the MPCA

Design/sampling: Attempt at a 100 percent census of the governmental organizations selected

Survey recipients

The MPCA obtained the email list of cities from the League of Minnesota Cities. The contacts for city governments were typically the city administrator, city clerk, city clerk/treasurer, or some combination of those titles. The email list of cities included some townships, but not all townships in Minnesota. The MPCA provided contact information for MAD to obtain the email list of counties from the Association of Minnesota Counties. The contacts for counties were typically the county administrator or coordinator.

MAD obtained lists for soil and water conservation districts, watershed districts, and water management organizations from the Minnesota Board of Water and Soil Resources. In these organizations, the survey typically went to the district manager or administrator.

MAD worked with the MPCA and its tribal liaison to identify the lists of Tribal government contacts for the eleven Tribal Nations located within Minnesota's geography. They were typically in natural resources, environmental, or planning departments.

MAD found contacts for regional development organizations/commissions on their organizational websites.

MAD sent the survey invitation to all survey recipients on February 19, 2025. The next day, a GovDelivery email addressed from the MPCA Commissioner was sent to the same individuals to explain the survey and encourage organizations to respond. MAD updated the original recipient list to reflect changes in contact details based on these initial two correspondences (survey invitation and MPCA email).

Survey administration and analysis

MAD administered the survey online using Qualtrics, which records data as questionnaires are completed. The survey invitation from the MPCA Commissioner indicated that MAD was conducting the survey for the MPCA, and that MAD would maintain the privacy of data obtained from survey respondents. The survey also stated that some organizational data might be identified publicly in data dashboards.

The survey was open from February 19 through March 24, 2025.

To increase response rates, MAD's survey software sent two reminder emails to nonrespondents during the course of the survey. MAD also sent individual follow-ups to the official contacts at those organizations with partially completed surveys. The initial deadline of March 12 was extended by a week for all invitees and by another four days for those organizations that started the survey but had not submitted it by the extended deadline.

The MPCA also reached out to multiple organizations representing the invitees—the League of Minnesota Cities, MN Small Cities, Minnesota Association of Soil & Water Conservation Districts (MASWCD), MN Watershed, Association of Minnesota Counties, Regional Development Commissions (RDCs), and Minnesota GreenStep Cities – asking them to reach out to their members and constituencies and encourage them to complete the survey.

Finally, MAD corresponded separately with Tribal Nations through MPCA's Tribal liaison to tailor language specifically to them and to send the survey invitation to Tribal Nations from a trusted representative.

Other details

Partial responses and data cleaning: The survey dataset includes partial responses, but only those where the respondent advanced past the first question in the survey.

Precision of estimates and representativeness: Researchers can provide information on precision of estimates (level of confidence or margin of sampling error) when survey respondents are selected randomly from a population and when survey response rates are sufficiently high. This survey was designed to collect information from as many representatives of local, regional, tribal, and state governmental organizations in Minnesota as possible. Because this was not a truly random sample, it would not be appropriate to calculate measures such as margin of error.

The tables and charts in this report present the information provided by individual organizations that responded to the survey. Some surveys are designed to gauge the attitudes or behaviors of an entire population or group, and the results can be said to be representative. As noted above, this survey was designed to collect input from as many organizations as possible. The organizations that responded to this survey may not be representative of all governmental organizations invited—the survey respondents may be particularly interested in climate adaptation and resilience or may be more inclined to affirm that they are engaged in planning activities with content specifically related to climate adaptation or resilience.

Appendix B: Survey development

With input from the Interagency Advisory Group, the MPCA and MAD research team developed the survey questions based on the previous survey. They updated existing questions and incorporated new survey questions for the 2025 survey in the following ways:

Updates to existing survey questions

- Moved several demographic questions to the beginning of the survey.
- Reconfigured the question about extreme weather events and longer-term trends associated with climate change to obtain data about the impacts on residents, buildings and infrastructure, natural resources, community events/tourism/culture, and the local or organization's economy.
- Reordered the questions and listings of local plans and planning efforts to better differentiate among types of plans and limit duplicate answers referring to the same plan. A few more plan options were added.
- Provided the definition of a comprehensive plan to clarify to survey respondents how to distinguish it from other types of plans.
- Streamlined options listed in the question about local actions taken and organized the list using categories for the Climate Action Framework (CAF) action steps. The revised question was moved from near the beginning to near the end of the survey.

New survey questions

- After each planning question, the survey asked if the responding organization was aware of any non-governmental community-level plans or planning efforts on that particular topic.
- Multiple questions were added about funding, services, and technical assistance the organization tried to obtain and what happened if they did.
- A question was included about barriers that organizations may have encountered as they tried to plan and/or implement plans related to local resilience or climate adaptation.
- Information was requested about the organizational position(s) of the person(s) who could best fill out any future surveys.

MAD tested the questionnaire with its internal survey team, three local governments, and MPCA staff.

Appendix C: 2025 Survey of Local and Tribal Planning Efforts for Local Resilience and Climate Adaptation

Introductory text

Thank you for taking this survey!

What is the purpose of this survey? Every three years starting in 2016, the Minnesota Pollution Control Agency (MPCA) has commissioned this survey of governmental organizations* to learn how these organizations are planning and preparing to better understand local climate vulnerabilities, increase local resilience to extreme weather events, and adapt to other climate impacts. The state's goal is to have 100% of Minnesotans live in homes and places where resilience actions are taken by 2030. The MPCA also wants to learn what additional resources would support organizations' local resilience and climate adaptation planning and implementation efforts.

* For purposes of this survey, governmental organizations include cities, towns/townships, soil & water conservation districts, water management organizations / watershed districts, counties, metropolitan planning organizations, regional development commissions or organizations, and Tribal Nations located within this geography.

What questions are included in the survey?

Questions in the survey are grouped into the following sections:

- Organizational information;
- Impacts of extreme weather events on your community;
- Types of plans and planning efforts for local resilience to extreme weather events and other climate impacts;
- Actions taken to adapt or increase resilience for your community, and
- Barriers to planning and/or implementation, and resources and assistance utilized or needed.

Who should fill out this survey at my organization?

The survey link is specific (unique) to your organization. This survey has been sent to you as the official contact for your organization. Others affiliated with your organization, however, may have more specific knowledge to answer some or all of the questions in the survey. They may have already heard about the survey and reach out to you about completing it.

If you are not the best person in your organization to fill out the survey or certain parts of it, you have several options: Forward the survey invitation with the survey link to someone else in your organization and ask them to

complete the survey and submit it; *or* Forward the survey invitation with the survey link to multiple people in your organization and ask them to fill out specific parts of the survey. These responses will be saved automatically and then you can submit the survey when all parts are completed; *or* Gather information from your colleagues and then fill out the survey and submit it. If you cannot complete the survey at one time, you can return to the survey later by using the same survey link you received in your invitation. Your responses will be saved automatically.

Be sure to submit the survey when it is completed. If you have questions about filling out the survey with multiple people, or how to share it with others in your organization, you can contact Kim Napoline at kim.napoline@state.mn.us or 651-259-3720.

What do we mean by climate vulnerabilities, resilience, and adaptation?

Our local communities are increasingly vulnerable due to the more extreme weather events and other impacts of our changing climate in Minnesota, including warmer and wetter weather overall with increasing intensity and frequency of heavy rainfall, warmer winters and declining frequency of extreme cold, and increasing incidence of heat waves and periods of drought. *Resilience* is the ability of local communities to be prepared for, adjust to, and minimize the effects of extreme weather events and other impacts of our changing climate. *Adaptation* is taking action to prepare for and adjust to both the current and projected impacts from our changing climate.

Data privacy

Management Analysis and Development (MAD) is conducting this survey. MAD is a neutral consulting group within Minnesota Management and Budget, which is a separate state agency from the MPCA. MAD will create a summary report of all survey responses and will share responses with the MPCA. MAD will not attach your personal name or email address to your responses in files shared with the MPCA and will remove potentially identifying information from written comments. Any potentially identifying information that you provide is considered private data under the Minnesota Data Practices Act (Minnesota Statutes §13.64). MPCA may use the survey responses to create online data dashboards, and these may show some specific data for your organization such as types or number of plans.

Accessibility

The MPCA is committed to providing access to everyone who wishes to participate in the survey. This survey is accessible for screen readers. If you need other accommodations in order to complete the survey, please contact Kim Napoline at kim.napoline@state.mn.us or 651-259-3720.

Questions?

If you have any questions about climate adaptation and community resilience, please contact Amanda Wold at the MPCA at amanda.wold@state.mn.us or 218-316-3858 or Laura Millberg at the MPCA at laura.millberg@state.mn.us or 651-757-2568. If you have any technical problems with this survey, please contact Kim Napoline at kim.napoline@state.mn.us or 651-259-3720. Thank you!

About your organization

The following questions ask details about your organization type and size.

1. **Please select your organization type:**
    - City
    - Town / township
    - Soil & water conservation district
    - Water management organization / watershed district
    - County
    - Metropolitan planning organization
    - Regional development commission or organization
    - Tribal government
    - Other, namely:
2. **What is the number of employees in your organization?**
    - 0-10
    - 11-50
    - 51-200
    - 201-500
    - 501-1,000
    - over 1,000
3. **What is the size of the community your organization serves?**
    - Under 5,000
    - 5,000 to under 10,000
    - 10,000 to under 20,000
    - 20,000 to under 50,000
    - 50,000 or more

Impacts of extreme weather events on your community

4. **In recent years, the following extreme weather events and longer-term trends in Minnesota have been associated with a changing climate. Which of the following have directly affected your community's residents, buildings and infrastructure, natural resources, tourism, or had other impacts on the local economy or your organization? Select all that apply.**

    The question below asks participants to describe impacts of various extreme weather impacts on their community, including:
    - Impacts on residents (health & safety, property losses, insurance costs, etc.)
    - Impacts on buildings & infrastructure (damage, financing & insurability, etc.)
    - Natural resources impacts
    - Impacts on tourism and/or community events, cultural impacts
    - Other local or organizational economic impacts (workforce, budget, etc.)

	Impacts on residents (health & safety, property losses, insurance costs, etc.)	Impacts on buildings & infrastructure (damage, financing & insurability, etc.)	Natural resources impacts	Impacts on tourism and/or community events, cultural impacts	Other local or organizational economic impacts (workforce, budget, etc.)
Too much water (flooding)	☐	☐	☐	☐	☐
Too little water (extended dry spells, drought)	☐	☐	☐	☐	☐
Prolonged / unseasonal heat and humidity	☐	☐	☐	☐	☐
Changes in growing seasons and expected weather	☐	☐	☐	☐	☐
Unseasonal or more severe wind storms / hail	☐	☐	☐	☐	☐

	Impacts on residents (health & safety, property losses, insurance costs, etc.)	Impacts on buildings & infrastructure (damage, financing & insurability, etc.)	Natural resources impacts	Impacts on tourism and/or community events, cultural impacts	Other local or organizational economic impacts (workforce, budget, etc.)
Changes in winter conditions (late ice-in/early ice-out, frequent freeze/thaw cycles, loss of snow/icepack)	☐	☐	☐	☐	☐
Increased insect or disease challenges (ticks, EAB, etc.)	☐	☐	☐	☐	☐
Air quality changes (from wildfire smoke, pollen, etc.)	☐	☐	☐	☐	☐
Other changes in local wildlife and/or ecosystems	☐	☐	☐	☐	☐

	Impacts on residents (health & safety, property losses, insurance costs, etc.)	Impacts on buildings & infrastructure (damage, financing & insurability, etc.)	Natural resources impacts	Impacts on tourism and/or community events, cultural impacts	Other local or organizational economic impacts (workforce, budget, etc.)
Another event or trend	☐	☐	☐	☐	☐

Planning for local resilience to extreme weather events and other climate impacts

Planning to better understand local climate vulnerabilities and increase local resilience is one approach that governmental organizations can take. The next series of questions asks for information about the types of plans or planning your organization may have in place that include content which will increase local resilience.

5. **Has your organization engaged in standalone organization-wide or community-wide climate action planning efforts* that explore multiple local climate vulnerabilities and approaches to adapt and increase local resilience? *Standalone plans in this context are NOT water plans, health & safety plans, natural resource plans, or other more field-specific or project-focused plans e.g., localized area of flooding, resilience hub, energy, etc. These are covered in other sections of the survey.**

   - Yes, we have completed such a standalone plan.
   - Yes, we are engaged in such standalone planning.
   - No, we have not engaged in any standalone planning.
   - Unsure
   - This type of planning is not relevant to my organization

6. **Are you aware of any *non-governmental* community efforts related to standalone local resilience or climate adaptation planning efforts? If so, please briefly describe.**

Planning for local resilience to extreme weather events and other climate impacts, cont'd

Organizations also include content that benefits local resilience and climate adaptation in other plans, such as water plans, health and safety plans, and many other types. The following questions ask about these plans. We are interested in any plans applicable to your organization, whether locally generated and/or required for your organization by any level of government.

7. **Does your organization have any *water-related* plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.**

   - Overall stormwater plan
   - Overall wastewater plan
   - Overall water plan
   - Erosion

- Flood modeling / vulnerability assessment
- Inflow and infiltration (I&I)
- Sewer / septic system
- Water conveyance / drainage
- Water quality / nutrient management
- Water quantity (including groundwater)
- Water supply
- Watershed
- Wellhead protection
- Other:
- Unsure if our organization has any of the above
- This type of plan is not relevant to my organization
-

8. **Are you aware of any *non-governmental* community efforts related to water plans or planning efforts? If so, please briefly describe.**
9. **Does your organization have any *health and safety-related* plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.**

    - Building codes inspection & enforcement
    - Continuity of operations
    - Emergency operations
    - Emergency response
    - Hazard mitigation (e.g. FEMA-related)
    - Heat mitigation
    - Public events
    - Public health (e.g., vector-borne diseases, extreme heat, asthma/air quality)
    - Worker safety and work environment
    - Other:
    - Unsure if our organization has any of the above
    - This type of plan is not relevant to my organization

10. **Are you aware of any *non-governmental* community efforts related to health and safety plans or planning efforts? If so, please briefly describe.**
11. **Does your organization have any *natural resources-related* plans or planning efforts with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.**

    - Ecological restoration
    - Forest disease and pest management (including hazardous tree removal)
    - Forest tree canopy (urban and community street, park, and private residential trees or smaller natural forests)
    - Invasive species management
    - Open / green space (excluding parks)
    - Parks and park facilities
    - Wildlife management
    - Other:

- Unsure if our organization has any of the above
- This type of plan is not relevant to my organization

12. **Are you aware of any *non-governmental* community efforts related to natural resources plans or planning efforts? If so, please briefly describe.**

13. **Does your organization have an adopted *comprehensive plan* with content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts? A *comprehensive plan* refers to a plan that includes objectives, policies, standards and programs to guide public and private land use, development, redevelopment and preservation for all lands and waters within the jurisdiction of the local governmental unit, as defined in Minnesota Statutes 473.859.**

- Yes, we have an adopted comprehensive plan with this content
- No, we do not have an adopted comprehensive plan with this content
- Unsure
- This type of plan is not relevant to my organization

15. **Is your organization currently engaged in a *comprehensive* planning process that is considering content that specifically discusses how to increase local resilience to extreme weather events and/or adapt to climate impacts?**

- Yes
- No
- Unsure
- This type of plan is not relevant to my organization

16. **Has your organization engaged in any additional planning efforts with content (not included in other plans) that specifically discusses efforts to increase local resilience to extreme weather events and/or adapt to climate impacts? Please select all that apply.**

- Buildings / building structures
- Capital needs assessment, physical needs assessment, or Capital Improvement Plan
- Community / resilience hub development
- Economic development
- Energy
- Fresh food access
- Grounds and sites (excluding parks and water systems)
- Insurance
- Land use
- Transportation (e.g., roads, multimodal)
- Solid waste
- Hazardous waste
- Construction and demolition waste
- Social equity / human rights
- Workforce planning and development
- Strategic planning
- Other:
- Unsure if our organization has any of the above

- These types of plans are not relevant to my organization

17. **Has your organization coordinated with other local, regional, federal or Tribal governmental organization(s) on local resilience and climate adaptation planning or implementation?**

- Yes. Please add which organizations you have coordinated with and for which type(s) of planning and/or implementation:
- No
- Unsure

Local resilience and climate adaptation implementation and actions

We are also interested in learning whether your organization has implemented resilience or climate-related actions included in your plans, or other actions your organization or community has undertaken to increase the resiliency of your community and environment to prepare for more extreme weather events and other impacts of our changing climate.

18. **In the past three (3) years, what actions has your organization taken to adapt and/or increase the resiliency of the community or environment to extreme weather events or other impacts of our changing climate? Please select all that apply, regardless of whether taking these actions was a result of your organization's planning efforts.**

Clean Transportation:

- Equipment conversion (e.g., reduced chloride pollution, cleaner energy source)
- Improved community connectedness (e.g., walkability, bikability, public gathering spaces, pedestrian safety)
- Installed electric vehicle charging stations
- Powered electric vehicle charging stations with renewable energy
- Other:

Climate smart natural and working lands:

- Implemented shoreline restoration
- Implemented other watershed management best practices (e.g., habitat and stream connectivity, septic system improvements, tree preservation in climate vulnerable areas)
- Other:

Resilient communities:

- Preserved mature trees, planted additional community trees (beyond replacement), planted tree species that are more climate-resilient
- Provided outdoor structures for shading, added publicly accessible water features for cooling, designated additional community/public cooling center(s)
- Reduced impervious surfaces and increased reflectivity of surfaces to reduce urban heat (e.g., installed permeable pavers, pervious concrete, porous asphalt, green space, cool roofs)
- Upgraded existing or constructed new built infrastructure to better address heavy/intense precipitation (e.g., frequently flooded roadway, stormwater capacity, wastewater assets)
- Amended / implemented new ordinance(s) or policies for improved resilience
- Other:

Clean energy and electricity:

- Installed or invested in renewable energy (e.g., wind or solar installation, solar garden participation)

- Installed electric energy storage
- Other:

Healthy lives and thriving communities:

- Took action specifically to reduce risk(s) faced by the most climate-vulnerable populations in the community
- Protected drinking water
- Other:

Clean economy:

- Supported commercial and small business resilience and sustainable practices (82)
- Other:

Efficient and resilient buildings:

- Upgraded existing or constructed newly built public housing, libraries, or other community buildings (e.g., resilience hubs) to withstand future extreme weather and air quality impacts (84)
- Other:
- None that I am aware of

19. Were any of the actions your organization and/or community took a *direct result of a written plan or a planning process* that addressed local resilience or climate adaptation?

- Yes, some or all of these actions were a result of the following plan(s) or planning efforts:
- No, these actions were not a result of a written plan or a planning process
- Unsure

Barriers, resources, and assistance needed

The MPCA also wants to learn more about barriers to organizations' local resilience and climate adaptation planning and implementation as well as additional resources that would support organizations' planning and implementation efforts.

The next set of questions asks about barriers to planning and implementation, resources and funding, and further assistance needed.

20. What *barriers* has your organization encountered as you have tried to plan and/or implement plans related to local resilience or climate adaptation? Select all that apply.

- Lack of financial resources for planning
- Lack of financial resources for implementation/construction
- Availability and/or affordability of insurance
- Lack of internal staff capacity
- Lack of access to relevant, external expertise
- Lack of information about appropriate local resilience or climate adaptation actions
- Lack of communication tools
- Lack of strategic partnerships
- Climate adaptation and resilience is a lower priority
- Political conditions aren't conducive to local resilience / climate planning or implementation of plans
- Lack of public support or understanding of climate change impacts
- Other:
- None of the above

Resources-State funding

21. **Has your organization tried to obtain any state funding during the past three years to support local resilience and climate adaptation planning or implementation efforts? (*see examples and then check Yes/No/Unsure below the examples*) Examples of grant programs at each state agency:**

MN Pollution Control Agency: Planning Grants or Implementation Grants for Stormwater, Wastewater or Community Resilience, Local Climate Action Grants, Small Business Assistance Grants and Loans

Public Facilities Authority: Clean Water Revolving Fund, Point Source Implementation Grants, Water Infrastructure Fund, Small Community Wastewater Treatment Program

MN Department of Natural Resources: Preparing for EAB, Shade Tree Bonding, Protect Community Forest, Forest Health and Resilience, Sustainable Urban Forest Resilience ReLeaf, Tribal Community Forestry, Centering Communities in Canopy Solutions

MN Department of Public Safety–Homeland Security Emergency Management: Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance

MN Housing Finance Agency: Publicly Owned Housing Program, Local Housing Trust Fund Grants, Manufactured Home Community Redevelopment Program, Greater Minnesota Housing Infrastructure Grants

MN Department of Commerce: Solar on Public Buildings, State Competitiveness Fund, Minnesota Climate Innovation Finance Authority, Electric Grid Resilience Grants

MN Department of Transportation: National Electric Vehicle Formula Funds, Safe Routes to School, Transportation Alternatives

MN Department of Agriculture: Agricultural Growth, Research, and Innovation (AGRI) Program including the new Prepare Grants

- Yes
- No
- Unsure

22. **[If they selected "Yes" in Question 21] From which of the following state agencies has your organization tried to obtain state *funding* during the past three years to support local resilience and climate adaptation planning or implementation efforts? Please select all that apply.**

	Applied and received all	Applied and received some	Applied but received none	Application Pending
MN Pollution Control Agency	☐	☐	☐	☐
Public Facilities Authority	☐	☐	☐	☐
MN Department of Natural Resources	☐	☐	☐	☐
MN Department of Public Safety – Homeland Security Emergency Management	☐	☐	☐	☐
Minnesota Housing Finance Agency	☐	☐	☐	☐
MN Department of Commerce	☐	☐	☐	☐
MN Department of Transportation	☐	☐	☐	☐
MN Department of Agriculture	☐	☐	☐	☐
Other:	☐	☐	☐	☐

23. **[If they selected "Yes" in Question 21] Did this state funding provide a match or help your organization qualify for other (non-state) funding or assistance? If so, please explain.**

- Yes. Please explain:
- No
- Unsure or N/A

24. **In the past three years, has your organization tried to obtain any federal, regional, or philanthropic funding or assistance for local resilience and climate adaptation planning and/or implementation?**

Examples of grant and assistance programs:

Federal agencies: Bipartisan Infrastructure Law including EPA Community Change Grants Program, NOAA Coastal Resilience Grant Program, USDA Forest Service Urban and Community Forestry Program, USDA Natural Resources Conservation Service Watershed Protection and Flood Prevention Operations (WFPO) Program, EPA Region 5 Thriving Communities Technical Assistance Center (TCTAC)

Regional governmental and nongovernmental organizations: Regional Sustainable Development Partnerships, Metropolitan Council Municipal Inflow & Infiltration Grant Program, Regional Development Organizations services, League of MN Cities Grant Navigator funding

Philanthropic: Blandin Foundation Small Community and Rural Placemaking Grants, McKnight Foundation Midwest Climate & Energy Grant Program, Bush Foundation Community Innovation Program

- Yes
- No
- Unsure

25. [If they selected "Yes" in Question 24] Which funding, services, or technical assistance has your organization tried to obtain or participate in during the past three years to support local resilience and climate adaptation planning or implementation efforts? Please select all that apply.

	Applied and received all	Applied and Received Some	Applied and received none	Application Pending	Received technical assistance	N/A, Unsure
Federal grants and/or loans	☐	☐	☐	☐	☐	☐
MN regional government funding / services / assistance	☐	☐	☐	☐	☐	☐
Philanthropic grants / loans / assistance	☐	☐	☐	☐	☐	☐

26. [If they selected "Yes" in Question 24] Did the federal, regional, and/or philanthropic funding provide a match or help your organization qualify for state or other funding or assistance? If so, please explain.

- Yes. Please explain: _____
- No
- Unsure or N/A

27. **Has your organization tried to obtain or participate in any of the following partnerships *or challenge programs* during the past three years to support local resilience and climate adaptation planning or implementation efforts? Please select all that apply.**

	Applied and received all	Applied and Received Some	Applied and received none	Application Pending	Participated	N/A, Unsure
Xcel Energy's Partners in Energy or other utility programs	☐	☐	☐	☐	☐	☐
Minnesota Gold Leaf Challenge Program	☐	☐	☐	☐	☐	☐
Minnesota GreenStep Program for Cities and Tribal Nations	☐	☐	☐	☐	☐	☐
Minnesota GreenCorps or another climate-related AmeriCorps program host site	☐	☐	☐	☐	☐	☐
Other:	☐	☐	☐	☐	☐	☐

28. **[IF they selected any box other than only "N/A, Unsure"] Did the partnership or challenge program provide a match or help your organization qualify for state or other funding or assistance? If so, please explain.**

- Yes. Please explain:
- No
- Unsure or N/A

29. **What kind of *resources or assistance* would be most helpful to your organization to make progress on local resilience and climate adaptation planning and implementation? Please select all that apply.**

- Training on use of local climate change projection data (downscaled for locations throughout Minnesota)
- Updated storm intensity-duration-frequency (IDF) curves based on both historical data and future climate projections
- Climate resilient design standards for critical infrastructure
- Financial assistance for resiliency planning
- Financial assistance for construction of resilient infrastructure
- New providers of low/no cost direct technical assistance on climate adaptation and resilience
- Additional web-based guidance and tools for climate adaptation and resilience best practices
- Educational materials for community outreach and engagement on adaptation and resilience
- Model climate adaptation and resilience plans, policies, or ordinances
- Other:
- None of these/unsure

30. **Finally, for future surveys, we are trying to better understand who in your type of organization would be the best person to receive surveys related to local resilience and climate adaptation planning and implementation. What office/role do you, and others who helped fill out the survey, fill in your organization? Select all that apply.**

    - Administration
    - Official (Council/Board member; Commissioner)
    - Planning
    - Natural Resources / Conservation
    - Engineering
    - Public Works
    - Public Health
    - Emergency Services
    - Communications / Outreach / Education
    - Finance
    - Other:

31. **Please share any additional thoughts, ideas, questions, or comments.**

Thank you for completing the survey! Please make sure that you have completed all questions before hitting "Submit." If multiple people at your organization are filling out this survey, make sure to not hit "Submit" until everyone is done. Thank you again—we value your input and feedback!

Appendix D: Interagency Advisory Group

The Interagency Advisory Group consisted of the following members:

- Peter Brickwedde (Department of Commerce)
- Amber Dallman (MN Department of Transportation)
- Breanna Ellison (MN Pollution Control Agency)
- Kate Knuth (MN Pollution Control Agency)
- Madisson Masucci (Department of Natural Resources)
- Cassandra O'Hern (Department of Public Safety)
- Kate Perushek (Department of Labor and Industry)
- Kirstin Raab (MN Department of Health)
- Katherine Teiken (MN Housing Finance Agency)
- Eric Wojchik (Metropolitan Council)