Spokane Extreme Heat Resilience Plan

2025-2030

A Spokane Community Resilience Collaborative project

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Acknowledgments

The Spokane Extreme Heat Resilience Plan was made possible by a collaboration between the Gonzaga Institute for Climate, Water, and the Environment (Climate Institute); City of Spokane Office of Emergency Management; and the Spokane Community Resilience Collaborative.

Amanda Gray, a 2024-2025 CivicSpark Fellow at the Climate Institute, was primary author of this inaugural Spokane Extreme Heat Resilience Plan.

Members of the Spokane Community Resilience Collaborative provided consistent, invaluable feedback, thoughtful insights, and support throughout the entire development process. Their collaboration helped ensure this plan is both community-centered and actionable.

Special thanks to the City of Spokane for their ongoing partnership, and to Sarah Nuss, Director of Emergency Management, for her critical support and guidance in aligning this plan with local emergency preparedness efforts.

This plan is a *living document* and the result of a collective commitment to building a more resilient, informed, and prepared Spokane in the face of increasing extreme heat events.

Introduction

From June 26 to July 2, 2021, a heat dome enveloped Western North America from Northern California to British Columbia, Canada. An analysis by The New York Times suggests that around 600 excess deaths in Washington and Oregon can be attributed to the deadly event (Popovich & Choi-Schagrin, 2021). In Washington State, the heat wave resulted in at least 157 heat-related deaths, including at least 19 in Spokane County (Lau et al., 2024), making it the deadliest weather-related event in state history. Like other communities, the City of Spokane was unprepared for such an intense heat event. This plan is part of an ongoing effort to be better prepared in the future.

In Spokane, the severity of the event highlighted the urgent need for a more coordinated and proactive approach to extreme heat resilience. As the climate continues to change, such events are expected to become more frequent and intense, prompting a reassessment of current strategies and a renewed commitment to community-wide resilience.

Spokane is home to dedicated organizations and passionate individuals seeking to address the risks of extreme heat and to build necessary resilience across our community. There is a need for increased coordination between these different actors to ensure timely action that results in resilience to extreme heat for everyone in Spokane.

This plan will be the guiding framework for Spokane to effectively prepare for, respond to, and recover from extreme heat. It aims to proactively enhance our capacity to protect public health and safety, minimize the impact of heat-related emergencies, and foster overall community resilience.

Plan Development Process

It is important to recognize that this document is not the property or responsibility of any sole organization. This plan has been created *by* the Spokane community, *for* the community with the belief that different actors have different forms of agency and different levels of responsibility. To successfully protect our community from future extreme heat events, everyone has an important role to play. It is also important to recognize that the Spokane Extreme Heat Resilience Plan is a living document that will continually be improved through a community-engaged, iterative process.

Plan History

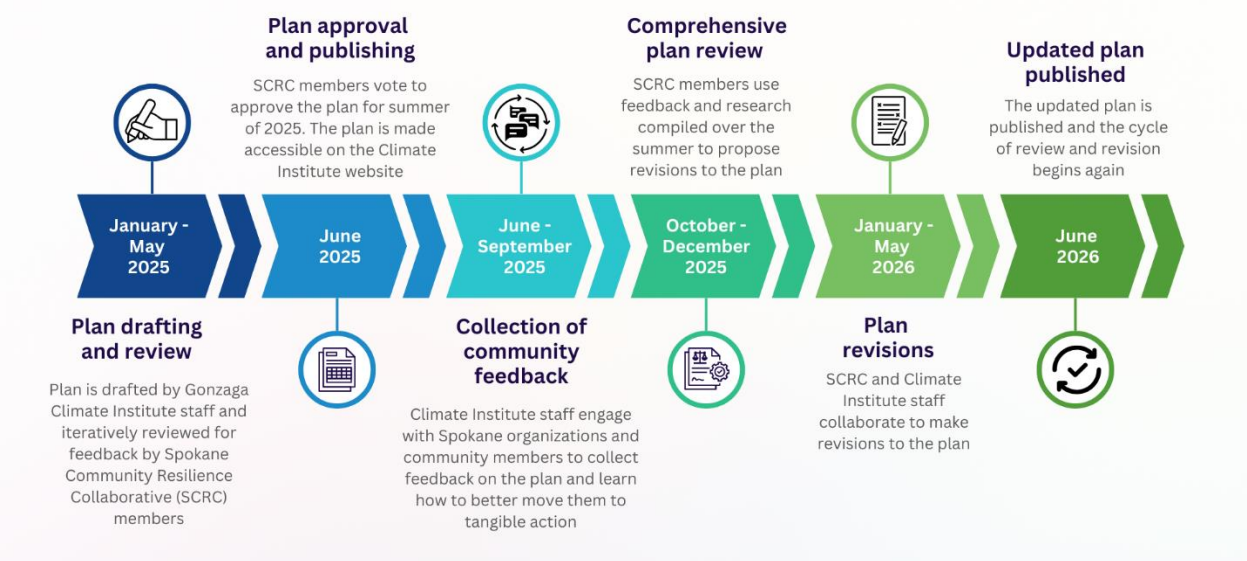
In June 2023, during a symposium focused on extreme heat, Spokane community leaders expressed a desire to see more collaboration between different actors working on extreme heat resilience in Spokane (Reed et al., 2024). In response to this need, in April of 2024, the Gonzaga Institute for Climate, Water, and the Environment (Climate Institute) founded the Spokane Community Resilience Collaborative (SCRC). By unanimous decision of the member organizations, the group made the creation of the Spokane Extreme Heat Resilience Plan and Spokane Wildfire Smoke Resilience Plan their first goal.

Staff at the Climate Institute began preliminary research for this plan in the winter of 2023, and research continued through the fall of 2024, at which point the plan moved to the drafting phase and was regularly reviewed and workshopped by SCRC members. The contents of this plan have been informed by countless hours of academic research and community engagement as well as extensive input from community leaders representing their organizations through SCRC. The inaugural plan was publicly shared in June of 2025.

Plan Future

As a living document, the Spokane Extreme Heat Resilience Plan will continue to evolve, with regular updates based on new data, community feedback, and emerging best practices. Moving forward, we are committed to refining and expanding the plan, trusting both experts and our community to help fill in the gaps and ensure it remains relevant and effective in protecting the Spokane community from the impacts of extreme heat.

Plan Development Timeline



This iteration of the plan has been intentionally formatted as a proposal. Through the summer of 2025, staff at the Climate Institute will engage with local organizations to discuss the recommendations proposed in this plan and to begin the process of transformation hypothetical to tangible.

From October 2025 through April 2026, the results of that community-engaged research will be used to transition from what are now "*recommendations*" to "*action items*" and "*potential partners*" to "*responsible actors*." Local organizations can and should provide feedback on what parts of the proposed work they are already working toward, or which are aligned with their mission and will fall into their scope of work in the coming years (see below for how to provide input). The input and specificity to be added in the second iteration of this plan will forge deeper coordination and transparency and create greater ease when assessing plan efficacy beginning in 2026.

SCRC will be responsible for ongoing review and development of this plan. As of June 2025, SCRC consists of fifteen member organizations ranging from local government, non-profits, academia, healthcare agencies, mutual aid groups, and others. More information on SCRC is available on their website.

The Spokane community is encouraged to be actively involved in the process of building extreme heat resilience locally. To make your voice heard and contribute to shaping our response to extreme heat, community members can complete the survey available on our website.

To contact the Gonzaga Institute for Climate, Water, and the Environment, email ClimateInstitute@gonzaga.edu.

Assessment of Area

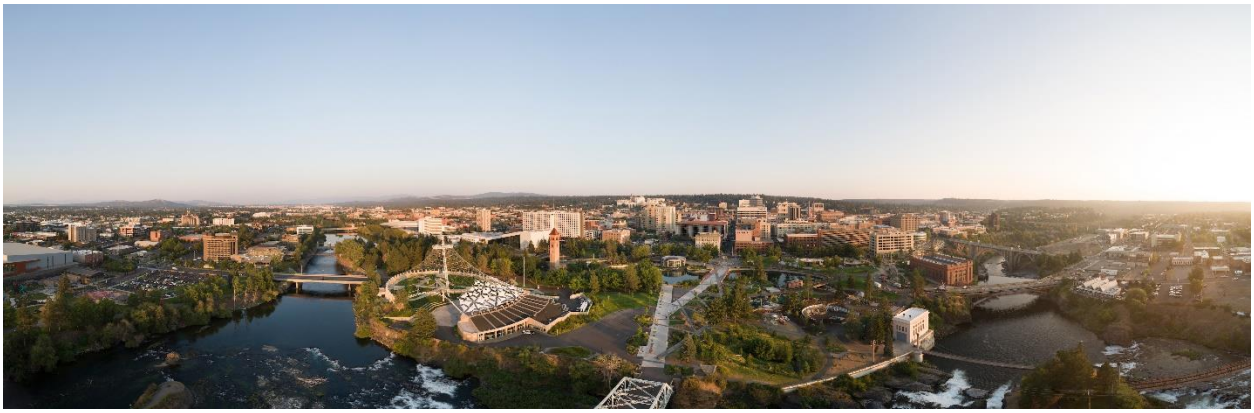


Figure 1: Riverfront Park Drone Image © Copyright Gonzaga University / Zack Berlat

Spokane, WA, with a population of 229,447 (U.S. Census Bureau, 2023), is expected to continue growing and increasing in vulnerability to extreme heat. In the 2022 survey "Perceptions and Experiences of Extreme Heat in Spokane, WA," 84.4% of respondents expressed that they view extreme heat as a significant threat, and over 50% support more trees and gardens to mitigate temperatures (Lau et al., 2024). According to First Street Foundation (n.d.), cooling demands in Spokane are projected to increase by 17.5% in the next 30 years, putting vulnerable populations—including the unhoused, elderly, pregnant people, outdoor workers, and those with chronic illnesses—at higher risk of extreme heat impacts. Existing infrastructure, particularly in lower-income areas, can exacerbate heat risks due to factors such as lack of green spaces and limited access to in-home cooling.

Extreme Heat Resilience Proposal

The following proposal outlines a comprehensive approach to building resilience against extreme heat in Spokane, with recommendations organized into four resilience categories: Preparedness, Response, Recovery, and Mitigation. These categories can be best understood within the context of an extreme heat event and actions that should be taken before, during, after, and on a continual basis.

- **Preparedness** recommendations focus on proactive measures to build resilience before a heat event such as educating community members and building strong community leader networks.
- **Response** recommendations consider what is needed during an extreme heat event. This includes examples such as creating a digital tool for heat safety and updating activation thresholds.
- **Recovery** recommendations center on conducting post-heat season outreach and regular planning reviews.
- **Mitigation** recommendations are long-term and ongoing actions aimed at reducing extreme heat exposure. Examples include the expansion of urban tree canopy, creation of ventilation corridors, and adoption of cool roofing systems.

For each category, high-level recommendations to build climate resilience are provided. Each recommendation includes the following supplemental information:

- The **Rationale** provides context, research, and supplemental information to support the recommendation.
- **Considerations** include additional details and tips that should be considered by actors who seek to make the recommendation a reality.
- **Potential Partners** are listed for each recommendation and refer to a class of organization(s) that could potentially support the work (e.g. “local government” or “nonprofit organizations”). In further revisions of this plan, community research will support the work of thoughtfully updating these to be named organizations.
- The **Timeline** proposed for each recommendation is based on what was known to be in progress or planned in Spokane in relation to that recommendation at the time of publication. Supporting information detailing planned or in-progress actions referenced in the timeline is provided in Appendix A.

An outline of each extreme heat resilience recommendation is provided below:

1. Extreme Heat **Preparedness** Recommendations
    1.1 Host extreme heat educational events
    1.2 Create extreme heat public awareness campaigns
    1.3 Establish and maintain a community leader program
    1.4 Establish and maintain a Spokane resilience hub program
2. Extreme Heat **Response** Recommendations
    2.1 Lower the extreme heat response activation threshold
    2.2 Create a comprehensive digital tool for heat safety and response
3. Extreme Heat **Recovery** Recommendations
    3.1 Conduct post-heat season community outreach
    3.2 Conduct regular extreme heat resilience plan reviews
4. Extreme Heat **Mitigation** Recommendations
    4.1 Conduct a comprehensive extreme heat resilience assessment
    4.2 Improve accessibility of high-efficiency residential HVAC systems
    4.3 Increase energy efficiency standards for Spokane buildings
    4.4 Retrofit existing community buildings for improved heat resilience
    4.5 Integrate ventilation corridors into urban planning measures
    4.6 Expand urban tree canopy and greenery
    4.7 Encourage adoption of cool roofing in public and private buildings

The following is the proposed timeline for implementing the aforementioned extreme heat resilience recommendations. Color coding is relative to the date the plan was published in June of 2025.

	2025				2026				2027				2028				2029			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1																				
1.2																				
1.3																				
1.4																				
2.1																				
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3.1																				
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4.1																				
4.2																				
4.3																				
4.4																				
4.5																				
4.6																				
4.7																				

Color key:

Action in progress
Action planned
Action proposed

1. Extreme Heat Preparedness

Recommendation 1.1: Host extreme heat educational events

Rationale:

According to the Environmental Protection Agency (2025), public outreach and education help ensure the safety of communities facing extreme heat. These measures help raise awareness about the growing risks of extreme heat, especially as climate change increases the frequency and severity of heatwaves. Educational sessions can clarify health risks, teach people how to identify symptoms of heat-related illnesses, and provide essential strategies to prevent them.

Considerations:

Distribution of heat preparedness kits could happen during these events. Community leaders and resilience hubs could help coordinate the events (see Recommendation 1.3 and 1.4). Workshops should cover topics including:

- Signs and symptoms of heat exhaustion and heat stroke
- Home cooling strategies (e.g., using fans, shades, and coolers)
- Safe outdoor activity recommendations
- How to assist others who may be at higher risk

Potential Partners:

- Local health agencies
- Resilience hubs
- Utility and weatherization providers
- Nonprofit organizations

Timeline[1]:

Recommendation 1.1 Host extreme heat educational events																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[1] To learn more about what local organizations have planned for extreme heat educational events, see Appendix E.

Recommendation 1.2: Create extreme heat public awareness campaigns

Rationale:

71% of Americans have reported experiencing extreme heat firsthand (AP-NORC Center for Public Affairs Research, 2024). As periods of intense heat become more common in the Inland Northwest, there is a growing need for public awareness campaigns that educate residents on the signs and potential dangers of extreme heat and effective ways to stay safe during extreme heat events.

Introducing Community Heat Safety Days in Spokane could provide dedicated timing and structure for such campaigns. By providing information on heat-related illnesses, cooling resources, and in-home preparation measures, these events can empower individuals to take proactive measures.

Considerations:

- Educational campaigns can include both in-person and virtual components and be integrated into other planned educational events (see Recommendation 1.1).
- Community Heat Safety Days could be hosted by different organizations, including resilience hubs (see Recommendation 1.4), on a recurring schedule to improve efficiency and collaboration across the community.
- Events should be dedicated to fostering communication amongst neighbors.

Potential Partners:

- Local health agencies
- Resilience hubs
- Nonprofit organizations

Timeline[2]:

Recommendation 1.2 Create extreme heat public awareness campaigns																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[2] To learn more about how local organizations are distributing heat safety information, see Appendix A.

Recommendation 1.3: Establish and maintain a community leader program

Rationale:

According to the research article "Explaining Civic Engagement: The Role of Neighborhood Ties, Place Attachment, and Civic Responsibility," well-developed neighborhoods are characterized by individuals who are actively involved in their communities, form strong social connections, and share common values built on trust (Dang et al., 2021). With the goal of building resilience against extreme heat, establishing a community leader program in Spokane can help foster essential connections and ensure the city is better prepared to respond effectively.

Considerations:

A community leader program could be integrated with Spokane's current Neighborhood Council model. The Community Emergency Response Team (CERT) program developed by US FEMA could provide a basic framework to follow. Leaders should be identified and trained in coordination with resilience hubs (see Recommendation 1.4)

Potential Partners:

- Resilience hubs
- Nonprofit organizations
- Local health agencies
- Local government organizations

Timeline[3]:

Recommendation 1.3 Establish and maintain a community leader program																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[3] To learn more about the community leader program being piloted for expansion, see Appendix A.

Recommendation 1.4: Establish and maintain a Spokane resilience hub program

Rationale:

Resilience hubs are existing community buildings run by trusted organizations that are strengthened to provide education and relief to community members before, during, and after extreme weather events (Urban Sustainability Directors Network, n.d.).

A network of resilience hubs could tackle key climate challenges in Spokane by strengthening local infrastructure and helping residents become more prepared for emergencies. It's beneficial to establish hubs in locations where people already have strong, trusted relationships based on prior interaction (University of Kansas, n.d.).

Considerations:

Resilience hubs should be developed in tandem with a community leader program (see Recommendation 1.3). A resilience hub program should be informed by the community, adaptable, and accessible to different kinds of organizations, including but not limited to community centers and libraries; small and large businesses; schools and colleges; and faith-based gathering places.

Potential Partners:

- Nonprofit organizations
- Local health agencies
- Local government organizations
- Businesses
- Utility and weatherization providers

Timeline[4]:

Recommendation 1.4 Establish and maintain a Spokane resilience hub program																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[4] To learn more about the planned Spokane Community Resilience Hub Network, see Appendix A.

2. Extreme Heat Response

Recommendation 2.1: Lower the extreme heat response activation threshold

Rationale:

In Spokane, "feels like" temperatures—driven by humidity, wind, and solar radiation—can create dangerous conditions at times, even when actual temperatures appear moderate. This means residents may experience heat stress at lower thresholds than previously recognized. During the 2021 Northwest Heat Dome, high nighttime temperatures paired with high daytime temperatures proved dangerous for people whose bodies did not have a chance to cool down (Shanks & Dreher, 2021). It is recommended that the current threshold of 95°F for activating city heat response be reduced to 90°F.

When temperatures rise above 90°F, prolonged exposure can lead to heat-related illnesses such as cramps, heat exhaustion, and heat stroke (First Street Foundation, n.d.). These conditions pose a significant risk to vulnerable groups, including young children, older adults, pregnant individuals, and those with medical conditions or medications that affect the body's ability to regulate temperature.

Considerations:

- Heat is experienced differently throughout Spokane because of the Urban Heat Island effect.
- Studies should be done to assess the cost of changing the City of Spokane activation threshold for heat response.
- This would also lower Spokane Transit Authority's activation threshold for free and/or low-cost transportation during days of extreme heat to 90°F.

Potential Partners:

- Local government organizations
- Higher education institutions

Timeline:

Recommendation 2.1 Lower the extreme heat response activation threshold																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

Recommendation 2.2: Create a comprehensive digital tool for heat safety and response

Rationale:

Developing a comprehensive digital tool would aid in improving public safety and coordination during extreme heat events in Spokane. Timely, accessible communication can significantly reduce health risks (Coyne & Dieperink, 2025). Effective tools for heat safety and response include emergency alert systems and a "one stop shop" digital platform with reliable information on staying safe from extreme heat in Spokane.

Spokane organizations and residents would benefit from a centralized, user-friendly digital platform to ensure consistent messaging, help residents make informed decisions, and enhance the city's overall emergency preparedness and response.

Considerations:

Spokane County's existing ALERT Spokane system could be integrated with the digital tool to deliver real-time notifications about upcoming heat events, share the locations of resilience hubs (see Recommendation 1.4), and provide practical heat safety guidance.

Local organizations like health agencies should be encouraged to collaborate and promote this one digital tool rather than sharing information across competing websites.

Potential Partners:

- Nonprofit organizations
- Local government organizations
- Higher education institutions
- Resilience hubs
- Local health agencies

Timeline:

Recommendation 2.2 Create a comprehensive digital tool for heat safety and response																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

3. Extreme Heat Recovery

Recommendation 3.1: Conduct post-heat season community outreach

Rationale:

Conducting post-heat season outreach related to extreme heat can help ensure community members are not suffering lasting impacts from summer heat events. This feedback can also inform priorities for future heat seasons. After heat season has passed is an ideal time to encourage community members to plan for the next heat season well in advance, like starting to save up for a new AC unit during the cooler months. Storytelling during this time could play a powerful role in this outreach by elevating personal experiences, highlighting community responses, and identifying gaps in support systems (Hou, 2023).

Considerations:

- Post-heat season outreach could be coordinated with community leaders and resilience hubs (see Recommendations 1.3 and 1.4).
- Outreach methods should be accessible and consider intersectional experiences of overburdened populations (e.g., language access, time limitations, childcare, transportation, etc.).
- Storytelling informed by narratives shared during this outreach can validate the struggles and successes of those affected and open dialogue for the future.

Potential Partners:

- Nonprofit organizations
- Local government organizations
- Resilience hubs

Timeline:

Recommendation 3.1 Conduct post-heat season community outreach																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

Recommendation 3.2: Conduct regular extreme heat resilience plan reviews

Rationale:

Extreme heat events vary annually in intensity, frequency, and impact. Lessons learned from each heat season can help improve future extreme heat safety efforts. Regular reviews of this plan will identify gaps and challenges; incorporate new research and community feedback; and evaluate efficacy. Regular reviews will help to ensure that this plan remains a functional, community-informed, and up-to-date resource for all.

Considerations:

Interactive workshops and forums can be used to identify any gaps or challenges in the current plan. These events can take different forms: digital, in-person, standalone, or integrated into existing events (see Recommendation 1.1 and 1.2).

Community leaders and organizations should be engaged in open conversation to ensure transparency and accountability as the Spokane Extreme Heat Resilience Plan continues to evolve. Public updates and opportunities to engage with this plan could be posted in the heat safety digital tool (see Recommendation 2.2) and promoted by resilience hubs (see Recommendation 1.4)

Potential Partners:

- Local government organizations
- Nonprofit organizations
- Higher education institutions
- Resilience hubs

Timeline[5]:

Recommendation 3.2 Conduct regular extreme heat resilience plan reviews																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[5] To learn more about the plan for reviewing and updating this plan, see Appendix A.

4. Extreme Heat Mitigation

Recommendation 4.1: Conduct a comprehensive extreme heat resilience assessment

Rationale:

As extreme heat becomes more frequent, the associated risks can also intensify due to the convergence of various socio-economic and demographic factors, population growth, an aging population, and persistent poverty (ClimaHealth, 2025). To better understand the effects of extreme heat on the City of Spokane, a comprehensive extreme heat resilience assessment should be conducted. The assessment should identify needs and barriers to resilience in Spokane, as well as identify communities with unique and/or heightened vulnerabilities to extreme heat.

Considerations:

Extreme heat resilience assessments include data on access to air conditioning, urban tree canopy, and heat-oriented building codes. Much of this research already exists for Spokane but would benefit from being compiled in one comprehensive assessment focused on extreme heat.

Potential Partners:

- Local government organizations
- Homeowners and landlords
- Utility and weatherization providers
- Higher education institutions

Timeline[6]:

Recommendation 4.1 Conduct a comprehensive extreme heat resilience assessment																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[6] To learn more about extreme heat resilience assessment activities that are in progress or planned, see Appendix A.

Recommendation 4.2: Improve accessibility of high-efficiency residential HVAC systems

Rationale:

Improving accessibility to high-efficiency residential HVAC systems that can provide in-home cooling is essential for creating healthier and more equitable communities. HVAC systems account for a significant portion of household energy use, and First Street Foundation predicts cooling demands in Spokane to increase by 17.5% in the next 30 years (n.d.). Recent research has demonstrated that 84% of survey respondents in Spokane have in-home air conditioning (58.8% with central air and 34.9% with a portable or window unit), but 23% reported limitations to use, primarily due to utility costs (Lau et al., 2024).

Considerations:

Services aimed at increasing accessibility of air conditioning should consider both homeowners and renters as well as renter/landlord dynamics. It is important to factor in access to in-home cooling as well as the cost of maintenance. Low-cost weatherization services and utility bill assistance can support income-eligible residents.

Potential Partners:

- Utility and weatherization providers
- Nonprofit organizations
- Homeowners and landlords

Timeline[7]:

Recommendation 4.2 Improve accessibility of high-efficiency residential HVAC systems																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[7] To learn more about planned programs to increase HVAC accessibility, see Appendix A.

Recommendation 4.3: Increase energy efficiency standards for Spokane buildings

Rationale:

Updating building codes in Spokane is a critical step toward addressing the growing threat of extreme heat while supporting sustainable development and long-term community well-being. Buildings are particularly vulnerable during heat events, and they also contribute significantly to the problem—accounting for over 25% of Washington State's carbon emissions, second only to transportation (Washington State Department of Ecology, n.d.). Impervious surfaces in the built environment—particularly roads, parking lots, and buildings—intensify extreme heat by reducing moisture in the air and absorbing significantly more heat than natural vegetation (Luedke, 2019). By adopting stricter energy efficiency standards—such as enhanced insulation, energy-efficient HVAC systems, reflective roofing, and passive cooling designs—Spokane can reduce indoor temperatures, lower energy demand for cooling, and protect residents from heat-related health risks.

Considerations:

A preliminary cost and benefit analysis supported by local research institutions would be useful to determine efficacy and efficiency of new standards. Changing standards would require a thorough plan for implementation that includes educational resources and financial support for those required to comply.

Potential Partners:

- Local government organizations
- Higher education institutions
- Utility and weatherization providers
- Homeowners and landlords

Timeline:

Recommendation 4.3 Increase energy efficiency standards for Spokane buildings																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

Recommendation 4.4: Retrofit existing community buildings for improved heat resilience

Rationale:

Retrofitting existing community buildings improves energy efficiency, safety, and resilience while extending their usable lifespan. Many older structures were built under now-outdated codes and lack modern systems that can reduce environmental impact and operating costs. Retrofitting allows for the integration of new technologies, such as insulation, efficient HVAC systems, and renewable energy sources, which can significantly lower energy consumption and carbon emissions.

Considerations:

Buildings that receive retrofitting should be provided the opportunity to join the resilience hub network (see Recommendation 1.4). Effective retrofitting practices that could be pursued for community buildings include updating insulation, installing electric heat pump HVAC systems, and incorporating photovoltaic arrays paired with battery storage.

Potential Partners:

- Utility and weatherization providers
- Resilience hubs
- Local government organizations

Timeline[8]:

Recommendation 4.4 Retrofit existing community buildings for improved heat resilience																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[8] To learn more about what community buildings have planned retrofitting projects, see Appendix A.

Recommendation 4.5: Integrate ventilation corridors into urban planning measures

Rationale:

Ventilation corridors bring fresh air into urban spaces by harnessing natural wind flow, helping to flush out air pollutants, odors, and excess heat while improving overall climate conditions and reducing the urban heat island (UHI) effect (Zheng et al., 2022). Urban planning that incorporates ventilation corridors—such as open green spaces, tree-lined streets, and strategic building placement—can significantly improve airflow across neighborhoods, especially in densely built areas. At the same time, efforts can be made to enhance ventilation systems in homes (see Recommendation 4.4). Designing homes and buildings with built-in, efficient ventilation systems from the outset ensures healthier living conditions, reduces long-term energy costs, and minimizes the need for retrofits or emergency upgrades as climate conditions worsen (see Recommendation 4.3). Together, outdoor and indoor ventilation strategies can work together to create a more resilient Spokane.

Considerations:

Local research institutions could conduct a feasibility study for integrating ventilation corridors and wind-friendly architecture into local transportation and building planning.

Potential Partners:

- Higher education institutions
- Local government organizations

Timeline:

Recommendation 4.5 Integrate ventilation corridors into urban planning measures																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

Recommendation 4.6: Expand urban tree canopy and greenery

Rationale:

Urban greenery and tree canopy provide a wide range of benefits, including temperature regulation by offering shade and reducing the urban heat island effect, as well as improving air quality by absorbing pollutants (Citygreen, n.d.). They help manage stormwater, support local biodiversity, and enhance the visual appeal of streets and neighborhoods. Additionally, green spaces promote mental health, encourage outdoor activity, conserve energy by lowering cooling needs, and contribute to economic vitality by boosting property values and attracting foot traffic and new businesses (Wilson & Xiao, 2023). A 2016 study found that in Sacramento, CA, a 10% increase in neighborhood tree cover was associated with notable health benefits, including a 10.4% reduction in asthma, a 7.4% reduction in high blood pressure, and a 1.4% increase in social cohesion (Ulmer et al., 2016). These findings underscore the critical role of urban greenery not only in supporting overall community well-being, but in directly mitigating the health risks associated with extreme heat by lowering neighborhood temperatures and providing essential shaded spaces.

Considerations:

- Mapping of urban heat islands and health disparities can be used to inform the priority status of neighborhoods poised for urban tree canopy expansion.
- Community tree planting days can encourage community members to feel invested in their neighborhood and empowered to build local resilience.

Potential Partners:

- Local government organizations
- Nonprofit organizations
- Higher education institutions

Timeline[9]:

Recommendation 4.6 Expand urban tree canopy																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

[9] To learn more about what is planned in Spokane for expanding urban tree canopy, see Appendix A.

Recommendation 4.7: Encourage adoption of cool roofing in public and private buildings

Rationale:

Cool roofs use various materials designed to reflect heat, helping to reduce indoor temperatures, decrease energy use, and combat the urban heat island effect in neighborhoods (U.S. Environmental Protection Agency, 2014). While regular roofs can get as hot as 150°F on a sunny summer day, a cool roof can be more than 50°F cooler under the same conditions (U.S. Department of Energy, n.d.). Cool roofs help lower indoor temperatures, which can cut down on energy use and cooling costs in air-conditioned buildings and improve comfort and safety.

Considerations:

- Cool roofing could be considered as a strategy in new building standards (see Recommendation 4.3).
- Incentives could encourage property owners to adopt cool roofs, and a public demonstration project at a local library or other community building could engage the community and show the benefits of cool roofing technology.
- Most buildings can benefit from a cool roof, though it's important to consider local climate and specific building needs before making the switch.

Potential Partners:

- Local government organizations
- Nonprofit organizations

Timeline:

Recommendation 4.7 Encourage adoption of cool roofing in public and private buildings																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Color key	Action in progress	Action planned	Action proposed

Conclusion

Extreme heat poses an urgent and growing threat to Spokane's health, safety, and overall well-being. The 2021 Northwest Heat Dome was a stark reminder of the severe impacts that such events can have on our community, particularly among the most vulnerable populations. The Extreme Heat Resilience Plan represents Spokane's commitment to addressing those risks through coordinated action, grounded in extensive research and community collaboration.

By fostering partnerships across organizations, leveraging local knowledge, and integrating best practices, the Spokane Extreme Heat Resilience Plan lays a strong foundation for community resilience. It is not just a blueprint for emergency response, but a comprehensive framework focused on prevention, preparedness, and recovery. As climate change continues to intensify heat events, this plan will serve as a living document—adaptable and responsive to new challenges and insights.

Together, Spokane's residents, leaders, and partners can build a safer, healthier future—one where the risks of extreme heat are minimized and community strength is maximized. The commitment to collaboration and continuous improvement embodied in this plan will be essential to protecting everyone who lives in Spokane from the impacts of extreme heat, now and in the years to come.

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Appendix A: Explanation of Recommendation Timelines

The goal of this appendix is to provide further insight into the actions outlined as "in progress" or "planned" in the timeline proposals used throughout the Extreme Heat Resilience Proposal.

The color key for the timelines is as follows:

Action in progress
Action planned
Action proposed

The periods "in progress," "planned," and "proposed" are relative to the date on which the plan was adopted: June 2025.

For each timeline included in the proposal, this document will list the activities that informed the timeline and link to further information about those activities, when available.

Recommendation 1.1 Host extreme heat educational events																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned for Recommendation 1.1:

- The Carl Maxey Center, in partnership with the City of Spokane, is planning to host a FEMA Community Emergency Response Team (CERT) training for East Central community leaders.
- Faculty in the Public Health department at Gonzaga University are supporting the Carl Maxey Center in their CERT training effort and plan to conduct research around feasibility and implementation.

- The Gonzaga Climate Institute plans to host resilience hub trainings during the summer and fall of 2025.

Recommendation 1.2 Create extreme heat public awareness campaigns																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned Recommendation 1.2:

- The Carl Maxey Center developed and began distribution of extreme heat educational materials for East Central residents.
- Spokane Regional Health District shares educational materials on extreme heat at events and online throughout the summers.
- The Gonzaga Climate Institute shares educational materials on extreme heat at events and online throughout the summers.
- Spokane Neighborhood Action Partners promotes their Cooling Fund throughout the summers.

Recommendation 1.3 Establish and maintain a community leader program																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned Recommendation 1.3:

- The Carl Maxey Center and City of Spokane are partnering to pilot a CERT training program in East Central which could serve as the foundation of a future community leader program.

- The City of Spokane, in partnership with faculty at Gonzaga University's Public Health Department, will assess if the program piloted in East Central can evolve to be replicated by other neighborhoods and integrated into the Spokane Community Resilience Hub Network model.
- The Gonzaga Climate Institute plans to coordinate with the City's Office of Neighborhood Services and the Spokane Neighborhood Leadership Academy to explore a partnership aimed at achieving this recommendation.

Recommendation 1.4 Establish and maintain a Spokane resilience hub program																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned for Recommendation 1.4:

- The City of Spokane and Gonzaga Climate Institute are working with the Spokane Community Resilience Collaborative to create a training and certification program for local organizations that would like to become resilience hubs.
- Five Spokane organizations have so far agreed to join the planned Spokane Community Resilience Hub Network: Carl Maxey Center; Northeast Community Center; West Central Community Center; Spokane Public Library: Central Branch; and Spokane Public Library: Liberty Park Branch.
- The Dr. Martin Luther King Jr. Family Outreach Center has also expressed interest in joining a resilience hub program and is currently working on infrastructure upgrades to their building. These upgrades are funded by a Named Communities Investment Grant from the Avista Foundation, and upgrades are being overseen and informed by staff at Avista.

Recommendation 2.1 Lower the extreme heat response activation threshold																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

No actions were in progress or planned in regard to updating the heat activation threshold at the time this plan was published.

Recommendation 2.2 Create a comprehensive digital tool for heat safety and response																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

While many organizations share digital heat safety resources, there were no actions in progress or planned to create one comprehensive tool at the time this plan was published.

Recommendation 3.1 Conduct post-heat season community outreach																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

No actions were planned or in progress regarding conducting post-heat season community outreach at the time this plan was published.

Recommendation 3.2 Conduct regular extreme heat resilience plan reviews																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned for Recommendation 3.2:

- The Spokane Community Resilience Collaborative plans to conduct annual reviews of the Spokane Extreme Heat Resilience Plan and make updates based on community feedback.

Recommendation 4.1 Conduct a comprehensive extreme heat resilience assessment																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned for Recommendation 4.1:

- The City of Spokane is undertaking a major update to their Comprehensive Plan that will integrate climate change considerations and includes a climate risk and vulnerability assessment. Updates to the Comprehensive Plan are required by the Washington State Growth Management Act and due in 2026.

Recommendation 4.2 Improve accessibility of high-efficiency residential HVAC systems																				
2025				2026				2027				2028				2029				
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	

Actions in progress and planned for Recommendation 4.2:

- Spokane Neighborhood Action Partners regularly provides support to low-income Spokane residents for installation of electric heat pumps and plans to continue doing so for the coming years.

Recommendation 4.3 Increase energy efficiency standards for Spokane buildings																				
2025				2026				2027				2028				2029				
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	

As of the time of publication, there were no actions in progress or planned in regard to changing energy efficiency standards for Spokane buildings.

Recommendation 4.4 Retrofit existing community buildings for improved heat resilience																				
2025				2026				2027				2028				2029				
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	

Actions in progress and planned for Recommendation 4.4:

- In 2025, the Northeast Community Center completed renovations to update their HVAC system.

- The Carl Maxey Center and the MLK Community Center have renovations planned to update their outdated HVAC systems in the coming years.

Recommendation 4.5 Integrate ventilation corridors into urban planning measures																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

At the time of publication, there were no actions planned or in progress in Spokane in regard to ventilation corridors in urban planning.

Recommendation 4.6 Expand urban tree canopy and greenery																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Actions in progress and planned for Recommendation 4.6:

- In September 2023, the U.S. Department of Agriculture announced a $6 million grant award to Spokane Urban Forestry. These funds will be used to plant and care for trees in areas of Spokane that have the most need, to replace dead trees that have been removed, to create more equitable canopy coverage, and provide community forestry education. The City of Spokane has a tree canopy coverage goal of 30% by 2030 (City of Spokane, 2021).
- Approximately 250 trees will be planted each Spring and Fall with help from the SpoCanopy program partnership with the Lands Council, workforce training groups, and tree planting contractors.

Recommendation 4.7 Encourage adoption of cool roofing in public and private buildings																			
2025				2026				2027				2028				2029			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

At the time of publication, there were no incentive programs for cool roofing in Spokane that were known to the authors.

Spokane Extreme Heat Resilience Plan

2025-2030

A Spokane Community Resilience Collaborative project

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