Community Voices Volume 1

Climate Stressors Report: Perceptions and Experiences of Mountain West Climate-Health Engagement Hub Advisory Board Members

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San Luis Valley
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Executive Summary

Purpose

The Mountain West Climate-Health Engagement Hub was launched in March 2023 to promote climate resilience and health equity for rural and urban communities in the Mountain West region. To guide our efforts around knowledge exchange, capacity building, and action, we established four advisory boards during our first year—the San Luis Valley Community Advisory Board (SLVCAB), the West Denver Community Advisory Board (WDCAB), the Climate Science Advisory Board (CSAB), and the Policy and Practice Advisory Board (PPAB). Members include community leaders, residents, researchers with expertise in climate change and health, and environmental policy and practice experts.

Method

Qualitative inquiry was identified as the most appropriate approach to gather perspectives from members from the SLVCAB, WDCAB, CSAB, and the PPAB regarding climate stressors in urban West Denver and the rural San Luis Valley of Colorado. The team conducted eight key informant interviews with the WDCAB, nine with the SLVCAB, six with the CSAB, and 10 with the PPAB. We also distributed short surveys and "homework assignments" to advisory board members to gather additional information and input. Using thematic analysis, we analyzed data from interviews and assignments to identify patterns (Braun & Clarke, 2006). The analysis process involved data preparation, coding, theme development, and validation. Themes were based on multiple similar responses, grouped under headings aligned with the project framework provided by the National Institutes of Health (NIH): Community Perceptions; Knowledge, Attitudes, and Beliefs about Climate Stressors; Community Resilience to Climate Change; Opportunities for Improving Resilience; Mountain West Hub Priorities; and Hope.

Results Summaries

Insights from the San Luis Valley Community Advisory Board

The San Luis Valley Community Advisory Board (SLVCAB) highlighted a cohesive sense of community and support networks but noted challenges such as geographic isolation and socioeconomic inequities. They further reported a sense of warranted distrust towards outsiders, exacerbated by an influx of newcomers.

Knowledge, Attitudes, and Beliefs about Climate Change Stressors in San Luis Valley

SLVCAB members identified perceptions of drought, wildfire, air quality, and heat, and their intersections as key climate stressors. These stressors impact water resources, emergency services, health, and infrastructure, highlighting the interconnectedness of climate challenges.

Community Resilience to Climate Change

Themes discussed by SLVCAB members included community resilience, barriers, and individual actions. While resilience was evident in collaboration and community resourcefulness, challenges such as income inequality and limited funding were discussed as challenges to proactive efforts.

Opportunities to Improve Resilience (efforts for collective action)

SLVCAB explored opportunities for collective action, including adaptation and mitigation

efforts; infrastructure improvements, including retrofitting homes with air conditioning; insulation; and wildfire mitigation measures. Communication and collaboration emerged as important components of improved resilience. Suggestions included language equity through translation services, enhanced collaboration with existing partners, and advocacy efforts to amplify the valley's resilience initiatives.

Perspectives of Hope

Hope stems from the community's history of resilience, commitment to sustainability, and deep sense of connection to the SLV. These factors inspire confidence in the SLV's ability to adapt to climate change.

Insights from the West Denver Community Advisory Board

The West Denver Community Advisory Board (WDCAB) reflected on the community's strengths and concerns, highlighting diversity and resourcefulness as notable assets. The community's emphasis on family and social relationships fosters cohesion. Concerns such as gentrification, reduced community connections, safety issues, and lack of accessible resources also were identified, underscoring challenges facing the community.

Knowledge, Attitudes, and Beliefs about Climate Stressors

WDCAB members identified drought, air quality, heat, and wildfire as key climate stressors. Drought concerns included water quantity and quality, while air quality issues were linked to historical injustices and health impacts. Heat was recognized as a visible sign of climate change, with implications for outdoor activities and health. Perceptions about wildfire highlighted the impact of smoke and human behaviors on community safety. A prevailing perception is that human behaviors, both intentional and unintentional, often contribute to wildfire occurrences.

Community Resilience to Climate Change

Three key themes emerged regarding community resilience—West Denver's progress in climate-friendly initiatives, individual actions, and barriers to resilience. Despite challenges like distrust in institutions and financial constraints, efforts such as climate-friendly transportation and youth involvement show promise. For example, e-bike subsidy programs and free RTD bus passes are already in place. Young leaders in the Mile High Youth Corps actively participate in climate resilience initiatives, such as canvassing the neighborhood to change light bulbs, defective furnaces, or anything that can cause a fire.

Opportunities to Improve Resilience (efforts for collective action)

The WDCAB identified opportunities for collective action, emphasizing equity, community-led initiatives, and collaboration. Strategies include advocacy for legislation, education, and exploring green infrastructure solutions to enhance resilience. Specifically, schools and communities would benefit from an opportunity to provide climate change education. Green infrastructure solutions, such as securing funds to offer solar panels to community residents, may create an environmentally sustainable built environment.

Perspectives of Hope

Despite challenges, sources of hope include the community's history of resilience, youth engagement in climate action, and faith/spirituality. These sources inspire confidence in the community's ability to confront climate change and work toward a sustainable future.

Insights from the Climate Science Advisory Board

The Climate Science Advisory Board (CSAB) identified communication strategies and techniques for discussing climate information, emphasizing trusted messaging, clarity, creativity, urgency, and expert consultation. Special considerations for emergency response communications also were highlighted. Overall, these themes provide insights into the perceptions, challenges, and resilience strategies of diverse communities in the face of climate change.

Communication Strategies for Discussing Climate Information

The CSAB identified three key frameworks for effective climate communication:

- *Careful Framing:* Crafting messages for optimal impact by considering audience perceptions.
- *Science as a Framework:* Presenting information based on scientific principles.
- *Relevance:* Making climate information pertinent to the audience's lives.

Six recommended communication techniques emerged:

- *Trusted Messaging*: Utilizing credible sources, such as medical professionals and climate scientists.
- *Clarity*: Communicating information clearly and unambiguously.
- *Creativity*: Using innovative approaches to message delivery, such as infographics.
- *Communication Modalities*: Using various channels for effective message dissemination.
- *Urgency*: Highlighting the immediate importance of climate change.
- *Expert Consultation*: Seeking guidance from communication experts to enhance strategies.

Emergency Response Communications

The CSAB emphasized the need for improved communication during climate emergencies such as air quality alerts and wildfires, highlighting the importance of preparedness and rapid dissemination of information to ensure community safety.

Concerns Regarding Climate Change Communications

Challenges in communicating climate information include information accessibility, misinformation, complexity, and politicization. Systemic challenges, such as disparities between rural and urban communities, exacerbate these issues, and hinder effective communication.

Considerations for Climate Change Programs/Interventions

CSAB discussions highlighted the importance of scalability, community-based approaches, interdisciplinary collaboration, and incremental steps in designing effective interventions.

Perceptions of Climate Stressors

Discussions covered human-induced causes of climate change and the health impacts of climate stressors, emphasizing the need for awareness and proactive measures to mitigate risks.

Community Resilience

CSAB members identified resourcefulness, strong social networks, and community education as crucial factors that enhance community resilience. However, disparities in educational resources pose equity challenges.

Barriers to Resilience

Systemic barriers include challenges securing funds and addressing disparities between rural and urban communities, while individual barriers revolve around financial constraints.

Insights from the Policy and Practice Advisory Board

The Policy and Practice Advisory Board (PPAB) discussions emphasized community strengths, including engaged youth, community leaders, and existing social networks, as well as the concerns related to community resilience and the importance of community-based approaches in climate programs.

Community Strengths

Partnerships with various entities, including schools, industries, and nonprofits, aid in climate adaptation and recovery. Engaged youth, leaders, and existing social networks contribute to resilience. Community advocates play a crucial role in disseminating climate-related information. Strong educational systems and advocacy support communities' knowledge base.

Concerns Regarding Community Resilience

Individual-level challenges were discussed, such as the importance of personal socioeconomic status in influencing resilience and the ability to deal with climate impacts. Due to past harm, a warranted distrust of institutions exists among community members.

Challenges to Climate Action

PPAB members highlighted rural-urban divides, funding shortages, politicization of climate change, and job loss concerns as major obstacles to effective climate action, stressing the need for authentic community engagement.

Opportunities to Increase Resilience

PPAB members recognized the need to adapt infrastructure and public spaces to enhance resilience, including measures such as wildfire preparedness. They emphasized the need for investments in clean energy and improved transportation systems to strengthen climate resilience. Expanding cross-sector collaboration and resource sharing was highlighted as another way to increase resilience.

Economic Considerations

PPAB members acknowledged Colorado's economic diversity and momentum but emphasized the necessity of sustainable economic practices and distribution systems to address climate challenges effectively.

The PPAB identified three approaches to climate programs/interventions:

- Policy Initiatives: Legislation targeting emissions reduction and behavior change, starting at the community level.
- Community-Centered Approaches: Engaging communities in program development and tailoring interventions to local contexts.

- Communication Strategies: Culturally responsive messaging, leveraging trusted community messengers, and understanding community values.

Recommendations for Collective Action

As part of the Mountain West Hub's mission to promote climate resilience and health equity for both rural and urban communities, recommendations for collective action emphasized the importance of collaborative partnerships. Climate change and health inequities are complex issues that require coordination of multiple partners' efforts. The SLVCAB, WDCAB, CSAB, and PPAB identified the following recommendations for collective action.

Equity-Centered Approach

- Prioritizing equity involves recognizing historical distrust, adopting equity-centered mindsets, and fostering authentic community engagement. This requires acknowledging past injustices, building trust, and ensuring community ownership of initiatives for sustainable impact.

Community-Based Approaches

- Centering communities in climate programs and interventions, engaging with them in actions, and taking a community-led approach to ensure cultural responsiveness and equity.
- Leveraging community strengths such as youth engagement, existing social networks, and innovative practices.

Communication and Relationship Building

- Implementing climate awareness and education campaigns tailored to diverse communities, and prioritizing language equity and culturally responsive messaging.
- Framing messages effectively; using trusted messengers; ensuring clarity, creativity, and urgency in communication; and seeking expert consultation for enhanced strategies.

Collaboration Across Systems

- Collaborating with government agencies, industry partners, school districts, and community-based organizations to leverage existing initiatives and enhance climate resilience efforts.

Infrastructure Improvements

- Exploring green infrastructure solutions to create environmentally sustainable built environments, including electrifying transportation, transforming urban spaces, and retrofitting buildings for resilience.

Adaptation and Mitigation Efforts

- Retrofitting homes and buildings, implementing environmental modifications, and employing system and policy approaches to enhance climate resilience and mitigate risks.

Legislation and Policy Approaches

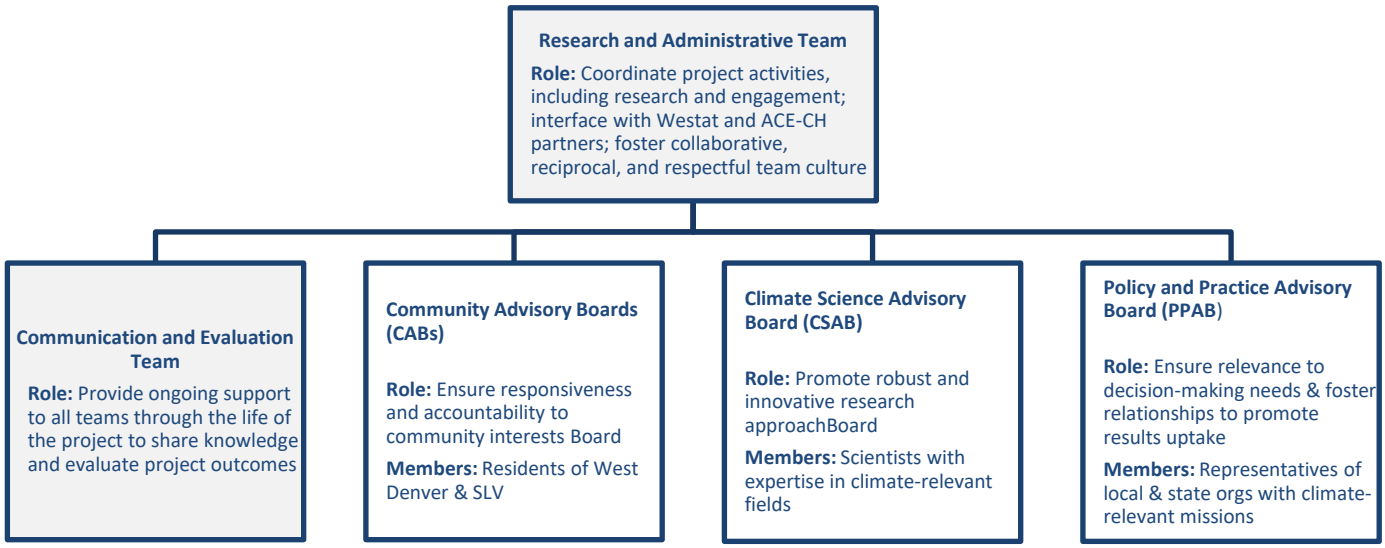
- Advocating for legislation, policy changes, and mandates to address climate action and promote behavior change at community and societal levels.

In conclusion, these recommendations emphasize the importance of equity, community engagement, effective communication, coordinated collaboration, policy initiatives, and infrastructure improvements in fostering climate resilience and health equity across diverse communities in the Mountain West region. These collective actions are essential for addressing the multifaceted challenges posed by climate stressors and health inequities, ensuring a sustainable and equitable future for all.

Introduction

The Mountain West Hub seeks to understand how rural and urban communities in the Mountain West are experiencing climate stressors (drought, air quality, heat, and wildfires), and what current and future actions they envision to build climate resilience and advance health equity. The Mountain West Hub currently is focused on two communities: the rural San Luis Valley (SLV) of Colorado and urban West Denver. To help guide our efforts and for knowledge exchange and capacity building during the first year of our project, we convened four advisory boards: San Luis Valley Community Advisory Board (SLVCAB), West Denver Community Advisory Board (WDCAB), Climate Science Advisory Board (CSAB), and a Policy and Practice Advisory Board (PPAB). Membership includes community leaders, residents, climate scientists, and environmental justice advocates. Below is a diagram that shows the structure of the Mountain West Climate-Health Engagement Hub (MWH) structure.

Mountain West Climate-Health Engagement Hub Structure



Overview: Qualitative Inquiry Process

Qualitative inquiry was identified as the most appropriate approach to gather perspectives from members from the SLVCAB, WDCAB, CSAB, and the PPAB regarding climate stressors in West Denver and the San Luis Valley. The team conducted eight key informant interviews with the WDCAB, nine with the SLVCAB, six with the CSAB, and 10 with the PPAB.

Overview: Thematic Analysis Process

We analyzed data from interviews and assignments completed by advisory board members using thematic analysis to identify patterns (Braun & Clarke, 2006). The analysis process involved data preparation, coding, theme development, and validation. Themes were based on multiple similar responses, grouped under headings aligned with the project framework provided by the National Institutes of Health (NIH): Community Perceptions; Knowledge, Attitudes, and Beliefs about Climate Stressors; Community Resilience to Climate Change; Opportunities for Improving Resilience; Mountain West Hub Priorities; and Hope.

Summaries of findings from the SLVCAB, WDCAB, CCAB, and PPAB follow. The report concludes with recommendations for action.

Findings Part I: San Luis Valley and West Denver Community Boards

San Luis Valley Community Advisory Board Qualitative Findings Summary

We used qualitative analysis to explore how members of the San Luis Valley Community Advisory Board (SLVCAB) are experiencing climate stressors using assignments and interviews. Interviews were conducted with all nine SLVCAB members, who represent community residents, leaders, and practitioners. Findings from these interviews and assignments are summarized below.

Perceptions of the SLV Community

One thing that is kind of unique about the Valley is it's a very low population density spread over lots and lots of miles. And so, there's all these little towns that each have their own identity and own community. But we also see ourselves as being interrelated.

SLVCAB's perceptions of the San Luis Valley community reflect the nuances of its strengths, as well as challenges. Interviewees highlighted a cohesive sense of community that transcends geographical boundaries, with strong support networks fostering a spirit of collaboration. Despite differing political perspectives, community members in the SLV maintain connections, emphasizing unity amidst diversity. Board members noted the logistical challenges associated with the SLV's geographic isolation.

Additionally, the prevalence of low socioeconomic status among residents underscores systemic challenges. Participants noted a sense of warranted distrust toward outsiders and institutions, rooted in past experiences. In this context, the influx of newcomers, including second homeowners (in- state and out-of-state), introduces additional complexities and tensions. These themes demonstrate that SLVCAB members recognize both resilience and obstacles in the SLV community. These insights are crucial for continued resilience and cohesion in the face of evolving socio-environmental dynamics.

Knowledge, Attitudes, and Beliefs about Climate Change Stressors in the SLV

In exploring the knowledge, attitudes, and beliefs of SLVCAB members about climate change stressors, five main themes emerged: perceptions of drought, wildfire, air quality, heat, and intersections of climate stressors. These themes highlight the complexity of the challenges faced by the community and the need for comprehensive strategies to address them.

> *One thing that is kind of unique about the Valley is it's a very low population density spread over lots and lots of miles. And so, there's all these little towns that each have their own identity and own community. But we also see ourselves as being interrelated.*

Drought. Perceptions of drought run deep, intertwined with concerns about water quality and quantity. As streams dwindle and aquifers deplete, residents grapple with the implications of declining water sources for both drinking and irrigation. Discussions about water allocation involve farmers and ranchers who are forced to share a limited supply as shifting precipitation patterns result in unreliable forecasts.

Wildfire. In recent years, wildfires have occurred in West Fork (2013), LaVeta (2018), Spring Creek (2018), and South Fork (2023). Interviewees reported concern about wildfires, including fears of environmental devastation and property loss. The community faces logistical challenges, including erratic alerts to the closure of vital roads. These conditions necessitate emergency services with a trained and prepared workforce. The impact of beetle kill on trees in the area exacerbates this fear and concern, serving as a reminder of the interconnectedness of climate stressors and their potential to fuel catastrophic events.

Air quality. Air quality emerged as a pressing concern, including the impact of pollutants on indoor environments. Health impacts, from asthma and respiratory ailments, underscore the importance of monitoring and dissemination of information to community members.

> *I know asthma rates are higher. I know the hospitals in the area, especially in Alamosa, have said that on days where it's real windy, they see an uptick of people coming into the ER with respiratory issues. Pretty closely tied.*

Heat. As temperatures rise, heat has emerged as a challenge with implications for health and infrastructure. These challenges include increased ER visits and demand for air conditioning.

Intersections of climate stressors. Individual climate stressors impact – and are impacted by – weather patterns and other environmental dynamics. Drought and heat increase dust and wind, compounding air quality problems and shaping agricultural practices. Wildfire smoke further impacts ecosystems and wildlife habitats, underscoring the interconnectedness of climate stressors and their far-reaching consequences.

Amidst these challenges, SLVCAB members demonstrate a spirit of resilience and determination as they confront and adapt to the realities of climate change through a shared commitment to protecting their communities and preserving the natural beauty of the San Luis Valley for generations to come.

Community Resilience to Climate Change (i.e., coping with, adapting to, and recovering from climate stressors such as air quality, heat, wildfire, and drought)

SLVCAB members' perceptions of community resilience to climate change highlight three key themes: community resilience, barriers to climate resilience, and individual resilience.

> *I think, because we're small communities, we know that we must work together. For instance, I suspect, in many larger towns you don't even know who's working in your public health department, but most of us around here do because we depend on the local public health department or the local fire department. I was in contact with the Colorado State Forestry Service just the other day, I'm getting to know these people for different reasons, and I think the agencies coming together is something that we're pretty good at.*

Community resilience. Participants noted a sense of resilience in the SLV community. They mentioned robust collaboration among individuals and organizations, demonstrating a strong sense of unity and mutual support. In addition, interviewees highlighted the community's resourcefulness, evident in residents' determination despite limited resources. The efficiency of emergency services and water allocation policies further contributes to the valley's resilience efforts, ensuring effective management and response to climate- related challenges.

Systemic barriers to climate resilience. Discussion of barriers to climate resilience included the themes of income inequality and competing financial priorities. Limited funding for climate initiatives and inadequate community resources are a barrier to proactive efforts to build resilience. As one participant stated, "we definitely have smaller local government budgets and are not as close to other larger entities that provide services in larger cities."

Individual resilience. In the context of systemic challenges, discussions about individual resilience highlighted the importance of self-care practices in preparing for and coping with climate stressors.

In their efforts to address these themes, members of the SLVCAB offer valuable insights into both the strengths and limitations faced by the San Luis Valley as they build capacity to adapt to and mitigate the impacts of climate change.

Opportunities to Improve Resilience (efforts for collective action)

The SLVCAB's exploration of opportunities to enhance community resilience through collective action in the SLV reveals a spectrum of strategies across various domains. Discussions centered on adaptation and mitigation efforts, including retrofitting homes with air conditioning, upgrading insulation, and wildfire mitigation measures. In addition, participants emphasized infrastructure improvements and adoption of green energy solutions to bolster the SLV's resilience against climate impacts. Suggestions also included better communication and collaboration through language equity, including translation services, enhanced collaboration with existing partners, and advocacy efforts to amplify the SLV's resilience initiatives.

Participants identified the importance of community education and engagement campaigns, emphasizing the need for increased awareness, preparedness activities, and large-scale climate change preparation efforts. These campaigns advocate for engagement approaches that leverage existing community systems for maximum efficiency and impact and use local news sources to disseminate relevant climate information. Through these themes, the SLVCAB has identified actionable pathways toward building a more resilient and united San Luis Valley.

Perspectives of Hope

SLVCAB members' perceptions of hope regarding the SLV's future as it adapts to climate change was demonstrated in a sense of the community's sense of strength and resilience. Despite facing numerous challenges, members discussed a shared sense of determination and community. The natural beauty of the San Luis Valley was also mentioned as a source of hope. A deep connection to the valley instills a sense of responsibility and commitment to sustainable practices, fostering optimism for a thriving and resilient future in the face of climate change.

West Denver Community Advisory Board Qualitative Findings Summary

We analyzed data from interviews and assignments completed by all eight West Denver Community Advisory Board members using thematic analysis to identify patterns. Our goal was to uncover underlying meanings, emotions, and patterns in the data to understand the complexities of the board members' experiences and perceptions of climate stressors. A summary of our findings follows.

Perceptions of the West Denver Community

The WDCAB reflected on their community through two distinct themes about the community's strengths and concerns. These themes provide critical insights into the complexities and challenges facing the West Denver community. They also demonstrate the relevance of addressing both strengths and concerns to foster resilience and equity.

The community's strengths emphasize the diversity that characterizes West Denver. This diversity encompasses racial, ethnic, linguistic, and generational aspects, enriching the fabric of the community. The resourcefulness observed among West Denver's residents stands

> *We address the seniors in the community because we're a multi-generational, multi-diverse, BIPOC community. I mean, we have people from Ukraine, we have people from Venezuela, we have people from Somalia and people from Vietnam. We're a very diverse community.*

out as a crucial asset, enhancing resilience in the face of climate change stressors. Moreover, the strong emphasis on family and social relationships within communities underscores how these connections play a vital role in fostering cohesion and support.

Concerns also were identified within the community, including the implications of gentrification on long- time residents that has resulted in displacement.
Evolving dynamics have reduced community connections and heightened a sense of isolation among residents. Safety concerns, ranging from violence to inadequate infrastructure such as unsafe sidewalks, take precedence over climate change-related issues due to their immediate and tangible impacts on daily life. In addition, the lack of accessible community resources, such as recreation centers and local businesses, pose significant challenges to residents, exacerbating existing inequities within the community.

Knowledge, Attitudes, and Beliefs about Climate Change Stressors in West Denver

In exploring the knowledge, attitudes, and beliefs of WDCAB members about climate change stressors, four main themes emerged: perceptions of drought, air quality, heat, and wildfire. These themes highlight the multi-faceted challenges faced by the community and the need for comprehensive strategies to address them.

Drought. WDCAB members expressed concerns regarding water quantity and quality. They highlighted the impact of drought on changes in precipitation, affecting various aspects of life, including water rights, agriculture, and food systems. The drought's effects on residential areas, such as lawns and gardens, also were noted as significant stressors.

Wildfire. WDCAB members noted the impact of smoke and air quality alerts on daily activities. Health effects, such as bloody noses and scratchy throats, were reported. While some perceive wildfires as distant occurrences in mountainous regions, recent events— like the Marshall Fire in Boulder County—have brought the threat closer to

West Denver. There is a prevailing perception that human behaviors, both intentional and unintentional, often contribute to wildfire occurrences.

Air quality. WDCAB members noted historical injustices that have contributed to disproportionate air pollution in their neighborhoods, citing proximity to polluters such as highways and industrial zones. Health impacts, particularly asthma and allergies, are highlighted, with inequities in those most affected by air pollution.

Heat. WDCAB members recognized that hotter temperatures as a visible sign of climate change. This includes concerns about limiting time spent outdoors, significantly affecting the Asian American/Pacific Islander (AA/PI) and Black communities. Access to air conditioning becomes crucial, yet affordability and neighborhood safety inequities pose challenges. Health impacts, including heat stroke, dehydration, and headaches, further exacerbate the severity of heat-related stressors.

> *I think it needs to start with our infrastructure. A lot of the existing buildings—Denver Housing Authority buildings, Section 8 housing apartment complexes—are without air conditioning.*

Community Resilience to Climate Change (i.e., coping with, adapting to, and recovering from climate stressors such as air quality, heat, wildfire, and drought)

The WDCAB members' perceptions of community resilience to climate change are described through three key themes: West Denver's resilience to climate change, barriers to climate resilience, and individual resilience.

> *How does one create trusting relationships and community connection when those that experience social privilege exacerbate push, poke, and prod without authentically getting to know me, see me. This presents a suspicion, or threat of exploitation without due diligence in collaborative work. Building reciprocal relations together thrives on the deep infrastructures of trust. The first connection is the building blocks that build capacity when planning the future alongside academia. Do not just look at the generational disparities of health, wealth, and safety, teach me how we can build community and self-organize to come together, show our authentic self, and expand on a strategic vision together.*

Community resilience. The community acknowledges progress in enhancing resilience through built environment improvements such as air conditioning in public housing and ongoing home improvement initiatives. Climate-friendly transportation initiatives, including e-bike subsidy programs and free RTD bus passes, already are in place, bolstering resilience in transportation. While the Tree Canopy Initiative marks a positive step, concerns linger regarding its implementation and educational outreach. Youth involvement emerges as a significant asset, with young leaders actively participating in climate resilience initiatives. The anticipation of the West Area Plan,

though yet to be implemented, offers hope as it includes a central focus on climate change and resilience.

Barriers to climate resilience. WDCAB members described various barriers hindering community and individual engagement in climate resilience actions. Warranted distrust in outsiders and academia, stemming from past experiences of inauthentic engagement, complicates current climate resilience initiatives. In addition, navigating arduous grant processes and inadequate funding opportunities limit the capacity of community organizations to implement resilience projects.

Personal financial constraints also pose a significant hurdle, with limited resources and rising living costs impeding investments in climate resilience measures. Addressing the root causes of inequities and navigating competing priorities in daily life remain central challenges. Overcoming language barriers and addressing gaps in understanding and belief regarding climate change also emerged as critical tasks, highlighting the need for linguistically accessible and culturally responsive resources and information. Through recognition of these barriers and building upon existing strengths, the WDCAB seeks to foster inclusive and equitable climate resilience within the West Denver community.

Individual resilience. Individual perceptions of enhancing resilience include community member recognition of the importance of improving indoor air quality through air purifiers and adjusting ventilation. Participants identified education about preventing wildfires and advocating for responsible water use within personal networks as crucial components of individual resilience efforts. Embracing climate-friendly transportation alternatives—such as biking, walking, or using public transit—was encouraged to reduce reliance on carbon-intensive modes of transportation.

Opportunities to Improve Resilience (efforts for collective action)

The WDCAB identified various opportunities to improve climate resilience through collective action, emphasizing equity, community-led initiatives, and collaboration. Focusing on an equity- centered mindset and actions was seen as essential for ensuring successful outcomes for all community members. Authentic community engagement was emphasized as a means to foster sustainable and community-led resilience actions. Furthermore, advocacy for legislation that facilitates community engagement in policy decisions was prioritized, alongside collaboration with state and federal governments to leverage existing climate-resilient initiatives and policies.

***Education emerged as a pivotal strategy**,* with a focus on creating opportunities for climate change education in schools and communities. Ensuring the representation of diverse community perspectives, especially those disproportionately affected by climate change, was discussed as an essential foundation for developing inclusive and equitable resilience strategies. In addition, exploring green infrastructure solutions offers an avenue for creating a more environmentally sustainable built environment. By embracing these opportunities and fostering collective action, the WDCAB aims to work with the West Denver community to build resilience in the face of climate change.

> *It has to be proper awareness and education. Incorporating language justice, all forms of it. And really deeply engaging in communities, creating supportive initiatives, and technical assistance around the work in general. And not just having it, really thinking about it, and making it meaningful, and how they can apply it right away. Because I feel a lot of times there is a lot of theory, and most folks need practical ways and taking actionable steps and doing it and implementing it.*

Priority Areas for the Mountain West Hub

The WDCAB identified priority areas for the Mountain West Hub, emphasizing the importance of authentic community engagement and a comprehensive climate awareness and education campaign.

> *The foundation of trust within the community heals the wounds inflicted by longstanding racism, poverty, and addiction, fostering a sense of belonging. Acknowledging the inadequacies of existing systems, which have contributed to failures, propels us toward a more promising path forward.*

Practice Authentic Community Engagement. Practicing authentic community engagement involves the Mountain West Hub team acknowledging historical context, building trust, and fostering community ownership. Recognizing and understanding the

historical and ongoing injustices experienced by West Denver residents is paramount to establishing genuine connections with the community. Building trust through active listening, centering community voices, and partnering with local leaders fosters meaningful engagement and collaboration. Ensuring that community members feel a sense of ownership and belonging to the project is crucial for its sustainability and success.

Climate Awareness and Education Campaigns. Climate awareness and education campaigns that are culturally and linguistically responsive are equally important. Culturally responsive messaging tailored to the diverse backgrounds of West Denver residents enhances awareness and engagement with climate-related issues. Prioritizing language equity by providing accessible climate-related information in multiple languages broadens participation and inclusion in the project. Meeting people where they are, with cultural humility and a commitment to learning, facilitates meaningful dialogue and increases awareness of climate change within the community. The Mountain West Hub can effectively engage the West Denver community in climate action and resilience-building efforts by prioritizing these areas.

Perspectives of Hope

In spite of the challenges posed by climate change, members of the WDCAB recognized reasons for hope. Hope stems from West Denver's history of survival and resilience in the face of past atrocities and systemic inequities. The community's ability to endure hardships and unite in solidarity inspires confidence in their capacity to confront current climate challenges.

> *That we've survived racism, redlining, displacement, colonization, genocide, sterilization, exclusion, and stereotypes… that our resiliency can lead the charge in whatever challenges or changes come our way.*

Another source of hope lies in the enthusiasm and dedication of young people, who are actively learning about and advocating for climate action. Their interactions with family members, where discussions and awareness about climate change are shared, evoke optimism for future generations. In addition, faith or spirituality provides a source of hope for many community members, fostering a belief in a higher power that oversees and guides their collective journey. These sources of hope permeate the West Denver community with resilience and determination to confront climate change and work toward a more sustainable and equitable future.

Cross-Community Comparisons

Discussions with members of both communities revealed unique perspectives regarding climate stressors and unique community strengths and barriers. However, despite their differences, there were many similarities between the communities.

Cross-Community Perspectives on Climate Stressors

Both communities had in-depth discussions about their perspectives regarding climate stressors. Key areas of overlap regarding perceptions of the impact of heat include concerns over rising temperatures, the increased need for air conditioning and concern about equitable access to it, and health impacts related to heat such as dehydration and heat stroke. Both communities shared concerns about the health impacts of poor air quality, highlighting the increased impact on individuals with asthma. Regarding drought, both communities emphasized concerns about water quantity and quality, how to equitably allocate water resources, and noticeable changes to precipitation patterns. Perceptions of wildfire differed most greatly between the two communities, with much of the discussion among the SLVCAB focused on immediate impacts while the WDCAB focused on wildfires getting closer to Denver. Both communities discussed the intersection between air quality and wildfire greatly, focusing on the health impacts of poor air quality caused by wildfire smoke. Table 1 below details a full comparison of perspectives on climate stressors.

Table 1: Cross-CAB Perceptions of Climate Stressors
Knowledge, attitudes & beliefs about climate stressors

	San Luis	Both Communities	West Denver
Heat	- Health impacts: working conditions, exposure to heat, ER visits due to heat	- Increasing temperatures - Health impacts: heat stroke, dehydration - Air conditioning: inconsistent/inequitable access	- Ability to spend time outdoors, impacts on recreation - Specific impacts for AAPI communities & young people - Mental health impacts
Air quality	- Indoor air quality - Wood stoves - Ventilation - Personal safety - Measures: air filters, masks - Alerts & communication	- Health impacts: asthma	- Proximity to polluters (traffic, industry, construction) - Health impacts- allergies - Health inequities (young people, older adults, the Black community)
Drought	- Allocation (irrigation & agriculture) - Aquifer depletion - Livelihood & existential threats	- Quantity concerns - Quality concerns - Unpredictable precipitation - Allocation, water rights, food systems	- Water for residential uses (watering lawns, playing in sprinklers)
Wildfire	- Direct impacts: fear & devastation - Logistics: roads, communications, lifestyle disruption - Firefighting - Beetle kill		- Outdoor air quality: need to stay indoors - Smoke and health impacts - Proximity: fires are getting closer
Intersections	- Impacts of dust & wind - Snow impacts - Soil health - Agricultural impacts - Wildfire and ecosystems	- Wildfire smoke & air quality	

Cross-Community Perspectives on Community Resilience

Both communities highlighted resilience as a key strength. Discussion around poverty and inequality, competing priorities and challenges with funding were salient concerns for both communities. Both communities also discussed concerns about isolation and warranted distrust due to past harm. Lastly, language equity was discussed as a barrier to climate resilience but also as an opportunity for growth to improve resilience. Community education, advocacy, and policy changes were also highlighted as opportunities for both communities.
Relatedly, general assistance with communication and education campaigns was also salient. Lastly, working to build trust with community members was essential for both communities. Table 2 below details a full comparison of perspectives on community resilience.

Table 2: Cross-CAB Perceptions of Community Resilience
Perceptions of community, resilience, opportunities & priorities

	San Luis	Both Communities	West Denver
Community strengths & resiliency	- Sense of community across the whole SLV - People come together to help one another - Connections despite political differences - Emergency services - Water allocation policies	- Resourcefulness	- Diversity (racial, ethnic, linguistic, generational) - Family & relationships - Improvements to the built environment - Climate-friendly transportation initiatives Tree canopy initiatives - Youth involvement - West Area Plan
Community concerns & barriers	- Geography & large distances - Poverty & income inequality - Warranted distrust - Outsiders (e.g., second homeowners) - Limited funding and other resources - Infrastructure	- Isolation - Poverty & income inequality - Competing priorities - Lack of resources and funding - Language barriers - Warranted distrust	- Gentrification & displacement - Public safety - Personal finances - Grant processes - Education around climate change
Opportunities	- Individual resiliency through self-care - Retrofitting homes - Building green energy infrastructure - Building connections across existing groups and systems - Advocacy & policy change - Preparedness activities - Sharing information through local news sources	- Community education - Advocacy and policy change - Language equity	- Individual resiliency- improving indoor air quality, wildfire prevention, reducing water use, green transportation - Ensuring representation of diverse voices - Collaboration with state and federal government - Community-led action - Equity-focused action
Priorities for MWH	- Assistance securing new funding opportunities	- Building trust - Communication, awareness, and education campaigns - Language equity	- Acknowledgement of historical context and background - Community ownership of projects - Meeting people where they are
Hope	- People power - Natural beauty		- Young people - History of survival and resilience - Faith or spirituality

Findings Part II: Climate Science and Policy and Practice Advisory Boards

Climate Science Advisory Board (CSAB) Qualitative Findings Summary

The CSAB is composed of scientists in climate-related fields from across Colorado. Six of the 9 CSAB members participated in interviews. A key focus of the CSAB interviews was the communication of climate-related information, including information about climate stressors, resilience, and adaptation. As a result, several themes emerged related to communication strategies for discussing climate information.

Communication Strategies for Discussing Climate Information

Frameworks for communication refers to thought processes that define an individual's approach to communicating information about climate issues. Three major frameworks for communication emerged from the data: careful framing, science as a framework, and making it relevant.

Communication techniques. Communication techniques refer to different techniques one can apply to how they communicate climate information. Six techniques were identified as common subthemes among the interviews: trusted messaging, clarity, creativity, communication modalities, urgency, and communication experts. Trusted messaging refers to communicating information in a way that one thinks the audience will find credible, which often involves messaging the information from a trusted source. Others described using clarity as a communication technique as communicating information clearly and unambiguously. Using creativity in communicating climate information refers to thinking outside of the norm in how messages are conveyed to their intended audience, such as sharing information through handing out printed infographics. Interviewees also discussed combining different communication modalities to better communicate messages. Participants discussed including the urgent nature of climate change in how one communicates information about it. Finally, several CSAB members discussed how they look to communication experts in the field of climate science and in other fields (communication, marketing, risk communication) to inform their own communication strategies.

Emergency response communications. Special consideration for communication during climate change emergencies, such as air quality alerts and wildfires, was a common theme throughout both Community Advisory Boards interviews and the CSAB interviews. CSAB members discussed the special circumstances surrounding emergency

situations and the need to be better prepared to disseminate messages and keep community members safe when such situations arise.

Concerns Regarding Climate Change Communications

The climate scientists discussed challenges they face in being able to communicate climate information effectively to communities. Although many varying concerns regarding communication emerged, the predominant ideas fell into one of two themes: information challenges and systemic challenges.

Information challenges. Information challenges are those related to the spread of and access to climate information. Accessibility of information was brought up as an important concern when crafting and disseminating climate information, both in terms of the language used and paywalls and other barriers to accessing information. CSAB members also discussed the challenges presented by the amount of misinformation being spread regarding climate-related issues. Given the large amount of false or inaccurate information presented by social media and other media outlets, special attention should be paid to crafting messages that dispel false information.

Systemic challenges. Larger systemic and societal factors that pose challenges to communicating climate information to the general public also were discussed. First, CSAB members discussed the complexity of climate issues. It can be a challenge to communicate this information so that it is digestible, while also remaining true to the scientific basis of the issue. Many climate issues are seasonal and ebb and flow in level of impact in different seasons or different years. CSAB members feel that while this can be challenging, it is important to take advantage of the moments when certain climate issues are more prevalent. The political nature of climate change and related issues was a significant topic of discussion in this area. Misinformation about climate change has become heavily politicized in media outlets. Participants discussed the challenge this intense politicization presents to their ability to communicate about climate issues scientifically, as they can been seen as disingenuous or part of an agenda.

Considerations for Climate Change Programs and/or Interventions

A portion of the CSAB interviews focused on ways to act against the impact of climate stressors moving forward. This created a rich discussion about factors to consider when crafting a climate change program or intervention.

Planning phase factors. This theme refers to specific climate change factors that are important to include in the planning phase. First, climate scientists discussed the idea of scalability, or how well a certain approach could scale over different audiences and situations. Many CSAB members felt it was a challenge to craft interventions that could be generalized to different populations.

Approaches to programming. This theme refers to various guiding approaches or frameworks that can be taken when designing or implementing a climate change related intervention or program. One of the approaches that arose was tailoring or targeting a program or intervention to a specific group. A community-based approach can be helpful in tailoring interventions because it requires deep and authentic community engagement to determine what a community wants and needs. This approach was discussed as being worth the additional investment of time and resources because it helps to best

tailor interventions to community needs. Climate scientists also discussed the need to approach designing programs from a multidisciplinary point of view and to collaborate with other fields to most effectively tackle complex climate issues. Finally, there was discussion about the idea of approaching an intervention or program with small, practical steps while working toward a larger goal, thus allowing consideration of how an intervention can be most effective at creating actionable change.

Perceptions of Climate Stressors

Although it was a smaller focus of CSAB interviews, perceptions of climate stressors were discussed. Climate scientists talked about both their own perceptions of climate stressors and their thoughts about community perceptions of climate stressors.

Causes of climate stressors. Human causes of climate change were discussed, as they were during Community Advisory Board interviews. This included discussion of how human behaviors have contributed to climate stressors, including contributions to pollution through driving, and irresponsible behaviors that can contribute to wildfires.

Impacts of climate stressors. Climate scientists also discussed the impacts that climate stressors can have on individuals and their health. Specific focus was on air quality inside homes and structures that are not well-sealed and ventilated. Climate scientists also discussed the health impacts of exposure to heat and how high heat can limit one's ability to safely spend time outside. This is especially important for agricultural workers, who must be outside for their jobs regardless of heat and air quality. Finally, the personal safety measures people take to protect themselves from the impacts of climate stressors, such as wearing masks during air quality alerts, were discussed.

Community Resilience

Many ideas about the factors that CSAB members feel support community resilience emerged from the conversations. Resourcefulness was identified, meaning communities' ability to use limited resources to overcome climate change challenges. Related to resourcefulness was discussion about social networks as a community strength that helps to bolster resilience. Finally, climate scientists also discussed the role community education about climate issues can play in increasing resilience. Communities that have more education initiatives about climate change, have a higher level of understanding of climate change, and have ways to mitigate the impacts of climate stressors can be more prepared to adapt. However, equity implications are associated with community education because the availability of funding for community education resources is not equal among all communities, and many education initiatives may not be culturally responsive to the needs of historically underserved communities.

Barriers to Resilience

While climate scientists perceive there are many strengths in communities across Colorado that will help them to adapt to and recover from the impacts of climate stressors, barriers exist that pose challenges to climate resilience. Two major themes emerged—systemic barriers to resilience and individual barriers to resilience.

Systemic barriers. In discussions about systemic barriers, several sub-themes emerged. Participants discussed barriers to acting against climate change, such as externalities associated with climate actions. Much of this conversation focused on the

potential job loss related to switching to green energy sources. Climate experts also discussed the barriers they have faced in applying for grants and securing funding for climate change work. The final sub-theme that arose while discussing systemic barriers to climate action was the differences between rural and urban communities in Colorado. This idea was pervasive throughout all the interviews conducted in this assessment, since Front Range communities have very different needs and resources available to them compared to rural communities. It can be challenging to create climate actions and programs that work across both urban and rural communities.

Individual barriers. Conversation around individual barriers to climate resilience largely focused on financial barriers and how adapting to climate change by retrofitting one's home or switching to more sustainable energy sources comes with an added cost. Many community members are dealing with financial stress and must prioritize meeting their basic needs before investing in climate resilience projects.

Opportunities to Improve Resilience

Environmental modifications. Rain barrels were discussed as ways to use rainwater for watering plants and other tasks to help conserve water in the face of drought. Planting vegetation that relies less on water also can make the environment more resilient to drought. On a larger scale, creating more sustainable infrastructure can help reduce emissions and lower risks associated with poor air quality. This discussion focused on electrifying transportation modes—such as public buses, school buses, and trucking—to reduce emissions. A final discussion focused on how to change the way space is used in cities to be more environmentally and community friendly.

System/Policy approaches. System and policy approaches refer to various policies and larger-scale initiatives that can be taken to implement climate action. One aspect involves building code updates to help structures be more resilient. Discussion also included structural retrofits to improve insulation and energy efficiency. This conversation focused on how such changes can take a top-down approach, beginning with community spaces and larger private entities to demonstrate their effectiveness. This is important because the investment to make such changes at the individual level is significant. Finally, discussion focused on environmental monitoring and installation of air quality monitors in public spaces such as schools to implement policies related to safe air quality levels and limit exposure.

Homes and buildings. More specific and detailed discussion involved retrofitting homes and buildings to make them more resilient to climate change. This included low-cost ideas for individuals, such as making air filters from a box fan and using furnace filters to help improve indoor air quality. Air conditioning also was noted as an important adaptation and resilience strategy to reduce the impacts of increasing temperatures. Climate scientists discussed first adding air conditioning to public spaces such as schools.

Policy and Practice Advisory Board (PPAB) Qualitative Findings Summary

The PPAB was comprised of 10 policy and practice experts from a wide range of fields. PPAB members have expertise in agriculture, land management, public health, program development and evaluation, medical research, social services, and economics. PPAB members also have rich lived experience—such as their family and generational ties to Colorado and their indigenous heritage—that helps to inform their thoughts and perspectives.

Community Resilience

Community strengths. Many community strengths were discussed throughout the PPAB interviews, including how various community members—such as young people who are engaged and interested in climate related issues and are interested in acting with guidance—are strong assets. PPAB members also discussed community leaders who are an asset because they are well-positioned to advocate for their community and articulate community needs. They also discussed the existing social networks in communities as a strength that can increase resilience because they connect communities and provide an avenue for sharing resources. Other community strengths discussed were creative ways of thinking and problem solving, such as innovative practices. PPAB members also discussed the resourcefulness of communities—their ability to overcome challenges with limited resources—as a strength. Finally, discussion about how the natural beauty of Colorado communities provides both a source of hope and inspiration for community members to adapt to the impacts of climate stressors.

Education. Policy and practice experts discussed that many of the communities they are part of or have worked with in Colorado have a good deal of knowledge about ecological and environmental systems; this goes a long way in understanding the impacts of climate stressors and how to adapt to them. The strong public education systems and universities throughout the state also can help support climate education initiatives. PPAB members also discussed the importance of community advocates who can help to spread important messages and information about climate change.

Engaged community partners. PPAB members discussed partners that are interested in and able to participate in efforts to help the community adapt to and recover from impacts of climate stressors as a community asset. Among these partners are school districts, industry partners, state government agencies, and community-based organizations such as nonprofits.

Concerns Regarding Community Resilience

Individual-level challenges. Individual-level challenges to resilience focused on personal socioeconomic status and how financial status impacts one's ability to be resilient to climate change. Dedicating time and economic resources to adaptation, juggling personal financial obligations, and meeting core needs can be a challenge.

Systemic challenges. Systemic challenges to resilience focused on larger challenges that impact entire communities, such as the lack of sufficient financial resources in the community to take climate action. Warranted distrust in communities due to experiences of past harm from institutions also can pose a challenge to taking climate action. Finally, some communities include a higher percentage of people who are more susceptible to the health impacts caused by climate stressors; this can pose an additional challenge to already under-resourced communities.

Opportunities to Increase Resilience

Built environment. PPAB members discussed how homes, public buildings, and third spaces[1] can be adapted to become more resilient to the impacts of climate change. Air conditioning public spaces, preparing homes for wildfires, and installing air purifiers were included in this discussion. Creation of public spaces such as parks that are safe, accessible, and resilient to climate stressors also was discussed.

Infrastructure. Changes to infrastructure also were discussed as ways to increase climate resilience. Such changes include funneling resources into clean energy and creating better systems to support electrification of transportation. In addition, improving public transportation to be more convenient and accessible can help reduce transportation-related environmental impacts.

Collaboration. PPAB members discussed how increasing collaboration among various sectors and sharing resources can help improve climate resilience. This can happen through the exchange of information and resources related to climate issues. Opportunity exists for the Mountain West Hub to help facilitate some of these connections and ease collaboration between communities.

Approaches to Climate Programs/Interventions

Policy and practice experts spent significant time discussing different ways to approach climate programs and interventions at the community level. They shared varying perspectives rooted in their wide range of professional experiences.

Legislation and policy approaches. PPAB members discussed several policy approaches to climate action, beginning with legislation around climate and mandates around emissions and other actions. They discussed taking small, actionable steps toward larger actions that seek to change behavior about climate at the community or societal level. For such behavioral, change-focused initiatives, experts agreed that

[1] Third spaces are public and commercial settings where people can relax, enjoy themselves, and feel comfortable that are neither home nor work. Finlay, J., Esposito, M., Kim, M. H., Gomez-Lopez, I., & Clarke, P. (2019). Closure of 'third places? Exploring potential consequences for collective health and wellbeing. *Health & place*, *60*, 102225.

starting small with one community might be most efficient.

Community-based approaches. A good deal of discussion focused on centering community in creating climate programs and interventions. This included not only engaging with communities on actions, but also taking a community-led approach where community members guide development of a program. PPAB members included the importance of tailoring community engagement efforts to the specific community to ensure that efforts are culturally responsive and equitable. Some specific community engagement strategies discussed include helping to connect community to resources and opportunities and centering community members' stories and experiences related to climate stressors.

Communication and relationship building. PPAB members further the discussed community engagement techniques by exploring ways to communicate and build relationships with community members. They referenced framing messages so that they are digestible and relevant to community members and working with trusted messengers in the community to disseminate information. They further discussed working to understand the community's perspectives on climate issues and gaining a deep understanding of community values as a starting point for building climate actions.

Challenges to Climate Action

The policy and practice experts also discussed larger systemic factors that pose a challenge to taking climate actions in communities. A major factor that has been a topic of discussion throughout the entire project involves the differences between rural and urban communities. This divide is challenging in Colorado because, although many resources go to urban communities, fewer resources are available in many rural communities that have unique needs and experiences of climate stressors. Despite differences in resources, funding is a challenge for climate action across the board. The intense politicization of climate change in recent years is also a challenge in all settings because it may be more difficult to gain support for initiatives. The potential for job loss in the transition to cleaner energy sources further challenges buy-in for certain climate initiatives. PPAB members discussed how many decision makers may not be aware of the needs of community members relative to climate action and reiterated the importance of authentic community engagement.

Economic Considerations

Throughout the discussion of climate resilience and climate action, PPAB members raised economic challenges for consideration.

Economic strengths. The Colorado economy contains strong points that PPAB members feel will help the state be more resilient to climate change. This includes the general economic momentum of the current robust economy, in addition to the state's high level of economic diversity. They discussed economic diversity in terms of the wide range of products (specifically agricultural) and the wide range of suppliers for the growing demand for these products.

Economic concerns. Although discussion of the strength of the agricultural sector of the economy was largely positive, several concerns were noted. These include considering climate outcomes when making economic decisions and finding more sustainable ways to distribute goods statewide. In addition to sustainable distribution,

PPAB members emphasized providing goods and services using more sustainable and environmentally friendly methods. Final discussions involved how to balance the consumer demand for certain goods and services with the ability to provide them in a sustainable manner.

Recommendations for Collective Action

Climate change and health inequities are complex issues requiring multiple partners' cohesive efforts. As part of the Mountain West Hub's mission to promote climate resilience and health equity for both rural and urban communities, recommendations for collective action emphasize the importance of collaborative partnerships. The SLVCAB, WDCAB, CSAB, and PPAB identified the following recommendations for collective action. We organize these into recommendations related to our overall efforts and engagement, recommendations related to communication and capacity building, and recommendations related to planning for community-led action.

Overarching Recommendations

Prioritizing Equity in All of Our Actions

Prioritizing equity involves the following factors.

> ***Be mindful of distrust toward individuals and entities outside the community.*** The lack of trust in outsiders, including academia, stems from past experiences of inauthentic engagement, which complicates current climate resilience efforts.
>
> ***Foster an equity-centered mindset.*** The key to ensuring successful outcomes for all community members lies in focusing on equity-centered mindsets and actions. Participants emphasized a community-led resilience approach and genuine community engagement.
>
> ***Practice authentic community engagement.*** Practicing authentic community engagement will require that the Mountain West Hub team acknowledge historical context, build trust, and foster community ownership. Recognizing and understanding the historical and ongoing injustices experienced by residents is paramount to establishing genuine connections with the community. Building trust through active listening, centering community voices, and partnering with local leaders fosters meaningful engagement and collaboration. Ensuring community members feel a sense of ownership and belonging to the project is crucial for its sustainability and success.

Specific Strategies (opportunities for the Mountain West-Hub)

Build upon the strengths of the SLV and West Denver communities by:

> ***Engaging young people.*** Young people who are engaged and interested in climate related issues are a community resource. Youth that are interested in taking action with community member guidance are welcomed as a fresh perspective and voice for their community.
>
> ***Using existing social networks.*** The existing social networks in communities are a strength that can increase resilience because they connect communities and provide an avenue for sharing resources.
>
> ***Considering innovative practices.*** Communities possess strengths for creative ways of thinking and problem solving to identify innovative practices. This was discussed in the context of a community's previous successes in creating innovative farming practices and being able to apply that way of thinking to adapt their practices to

mitigate impacts of climate stressors and build resilience. The resourcefulness of communities, or their ability to overcome challenges with limited resources, is a strength in terms of continuing to adapt to the impacts of climate stressors.

Recommendations for Effective Communication, Education, and Capacity Building

Climate awareness and education campaigns. Community education and engagement campaigns were viewed as essential for awareness. One focus should be on creating opportunities for climate change education in schools and communities. A climate awareness and education campaign that is culturally and linguistically responsive is needed. Ensuring the representation of diverse community perspectives, especially those disproportionately affected by climate change is critical to development of inclusive and equitable resilience strategies. Culturally responsive messaging tailored to the diverse backgrounds of residents enhances awareness and engagement with climate-related issues. The Mountain West Hub has the opportunity to:

- Prioritize language equity by providing accessible, climate-related information in multiple languages to broaden participation and inclusion in the project, including offering translation services.
- Meet people where they are, with cultural humility and a commitment to learning, facilitating meaningful dialogue and increases awareness of climate change within the community.
- Emphasize the need for increased awareness, preparedness activities, and large-scale climate change preparation efforts.
- Advocate for engagement approaches that leverage existing community networks and collaboration for maximum efficiency and impact and use local news sources to disseminate relevant climate information.

Communication and relationship-building. Framing messages to be digestible and relevant to community members and working with trusted messengers in the community to disseminate information was a key recommendation from advisory boards. In addition, working to understand the community's perspectives on climate issues and deeply understanding community values were identified as a starting point for building climate actions. Three key frameworks for effective communication are:

- Careful framing: Crafting messages with optimal impact by considering audience perceptions and optics.
- Using science as a framework: Presenting information based on scientific principles.
- Relevance: Making climate information pertinent to the audience's lives.

Six recommended communication techniques emerged:

- Trusted Messaging: Using credible sources, such as medical professionals and climate scientists.
- Clarity: Communicating information clearly and unambiguously.
- Creativity: Using innovative approaches for message delivery, such as using infographics.
- Communication Modalities: Using various channels for effective message dissemination.
- Urgency: Highlighting the immediate importance of climate change.
- Expert Consultation: Seeking guidance from communication experts to enhance strategies.

Recommendations for Action: How the Mountain West Hub Can Support Community-led Resilience Planning

Community-based approaches. Approaches include engaging with communities on actions and taking a community-led approach where community members guide development of a program. The importance of tailoring community engagement efforts to the specific community was stressed to ensure that efforts are culturally responsive and equitable. Specific community engagement strategies discussed include helping to connect community to resources and opportunities and centering community members' stories and experiences related to climate stressors.

Increase collaborations with a multisystemic approach. Collaboration with state and federal governments helps to leverage existing climate-resilient initiatives and policies. The Mountain West Hub emphasized intentionally engage community partners that are interested and able to participate in efforts to help the community adapt to and recover from impacts of climate stressors as a community asset. These partners include: school districts; industry partners, such as restaurant chains and food suppliers; state government agencies. such as the Colorado Department of Agriculture; and community-based organizations, such as nonprofits.

Adaptation and mitigation for homes and buildings. Participants emphasized retrofitting homes and buildings to make them more resilient to climate change. More specific and detailed discussion centered around retrofitting homes and buildings to make them more resilient to climate change, Ideas mentioned by participants included low-cost for individuals, such as making air filters out of a box fan and using furnace filters to help improve indoor air quality. Air conditioning also was mentioned as an important adaptation and resilience strategy to reduce the impacts of increasing temperatures. Climate scientists discussed initially adding air conditioning to public spaces such as schools. Discussion about retrofitting structures to make them more insulated and energy efficient, focused on how such changes could begin with community spaces and larger private entities to demonstrate the positive effects of the changes. This is important because the investment to make such changes is significant for individuals. The need to adopt wildfire-resilient building codes and strategies in at-risk areas was also discussed.

***Exploring green infrastructure solutions*.** Infrastructure improvements were discussed as an avenue for creating a more environmentally sustainable built environment. Creating more sustainable infrastructure can help reduce emissions and lower risks associated with poor air

quality by electrifying public buses, school buses, and trucking to reduce emissions. In addition, participants advocated creating a more environmentally and community friendly city space. Suggested changes included widening sidewalks, adding trees for shade, and transforming parking lots into shaded outdoor parks to provide both enjoyment and protection from the impacts of rising temperatures. Use of rain barrels and planting vegetation that relies less on water were mentioned as potential solutions to make the environment more resilient to drought. The Colorado Forest Service has launched a new initiative, a grant program designed to increase the tree canopy in disadvantaged areas of Colorado.

Systemic and policy approaches. System and policy approaches refer to various policies and larger-scale initiatives that support climate action. For example, updating building codes is a strategy that contributed to more resilient structures. Small, actionable steps build towards widespread change that impact climate-related practices at the community or societal level. Experts agreed that starting at the community level provides a starting point for widespread change. Finally, environmental monitoring and installation of air quality monitors in public spaces such as schools was suggested as a way to implement policies that provide safe air-quality levels and limit exposure.

Conclusion and Key Takeaways

The recommendations for collective action put forward by the Mountain West Hub underscore the critical need for collaborative partnerships to address the intersecting challenges of climate change and health inequities. With a focus on promoting climate resilience and health equity across diverse communities, these recommendations provide a roadmap for action that prioritizes equity, authentic community engagement, effective communication, and community-led resilience planning. Five key takeaways are included below.

- **Prioritizing Equity.** Equity must be at the forefront of all actions undertaken by the Mountain West Hub. This necessitates acknowledging and addressing distrust toward external entities, adopting equity-centered mindsets, and fostering authentic community engagement. Recognizing historical injustices and building trust through active listening and genuine collaboration are foundational to achieving equitable outcomes.
- **Engagement Strategies.** Community strengths—including engaging young people, using existing social networks, and using innovative practices— serve as vital resources for building resilience. Leveraging these strengths requires tailored engagement efforts led by community members who honor community values and respect existing resourcefulness.
- **Effective Communication and Capacity Building.** Communication strategies should prioritize language equity, cultural responsiveness, and engagement with trusted messengers within communities. By framing messages carefully, grounding them in scientific principles, and making them relevant to community members' lives, the Mountain West Hub can enhance climate awareness and education efforts. Moreover, collaborating with partners across systems and leveraging local news sources can amplify the impact of communication initiatives.
- **Community-Led Resilience Planning.** Centering communities in development of climate programs and interventions is imperative. This involves tailoring engagement efforts to specific community contexts, supporting resource connections, and centering community voices. Collaborations with diverse partners, including government agencies,

industry partners, and nonprofits, can further strengthen community-led resilience planning efforts.

- **Policy and Infrastructure Solutions.** Policy approaches, infrastructure improvements, and adaptation/mitigation efforts are essential components of climate action. Implementing legislation around climate, updating building codes, and investing in green infrastructure can facilitate the transition to a more sustainable built environment.

In conclusion, the recommendations for collective action provided by the Mountain West Hub offer a framework for addressing climate resilience and health equity. By prioritizing equity and authentic community engagement, implementing effective communication strategies, and supporting community-led initiatives, the Mountain West Hub can catalyze meaningful change and promote sustainable resilience across diverse communities.

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For More Information

For additional information about the Mountain West Climate-Health Engagement Hub and the National Institutes of Health's Alliance for Community Engagement in Climate and Health Program, please see the following:

https://www.mw-climatehealth.com/

https://www.nih.gov/climateandhealth