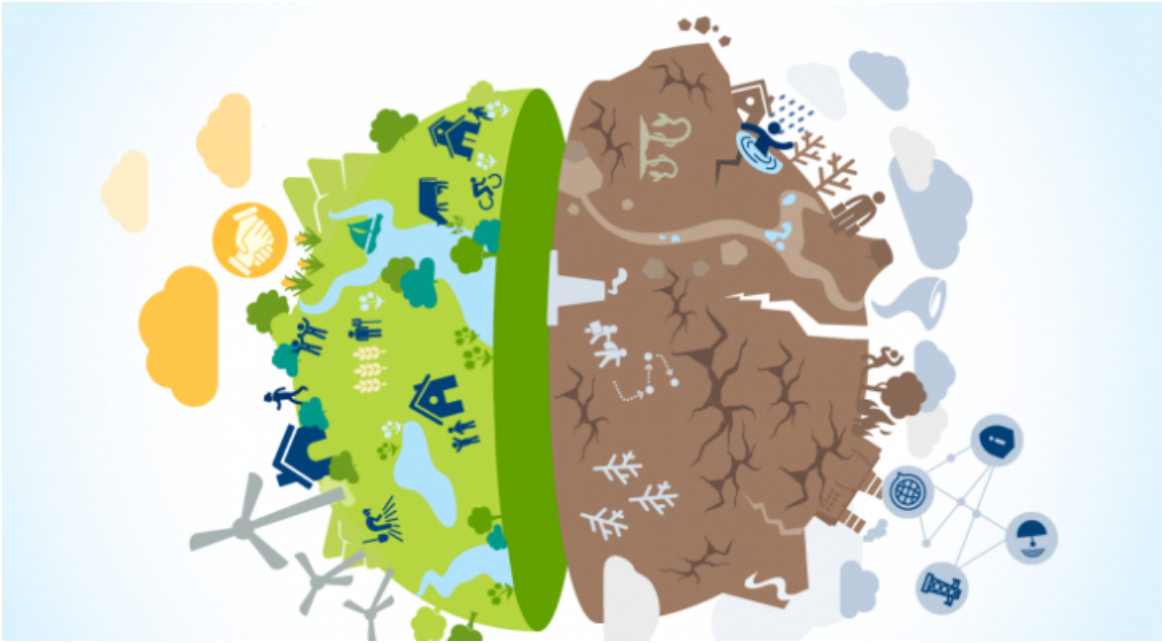


Real World Eugene Climate Resilience Hub



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Executive Summary

Real World Eugene was tasked by the City of Eugene with researching Climate Resiliency Hubs as a potential program to mitigate equity gaps amidst ongoing climate crises. The Climate Resiliency Team consulted with the City of Eugene to create a deliverable report based on the research of three case studies, federal, state and county climate documents and a targeted University of Oregon student survey. The presented research and recommendations focus on creating a Climate Resiliency Hub that serves the needs of the Eugene population. Climate Resiliency Hubs are an emerging civic tool to coordinate emergency resources to mitigate the worst effects of climate catastrophes on an already burdened population. By addressing the needs of vulnerable or historically marginalized populations in the research and development phase, the Climate Resiliency Hub will be better able to meet equity gaps and provide a resource that serves all of the Eugene population.

Purpose

It's no secret that climate change is the major issue of our time. From rising temperatures causing heat waves and wildfires to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale. Without drastic action today, adapting to these impacts in the future will only become more difficult and costly. Oregon has already begun to see the imprudent effects of delayed climate action with large destruction to the towns of *“Detroit, Blue River, Vida, Phoenix, and Talent”* as part of the *“1,221,324 acres”* burnt in the summer of 2020.¹ Unfortunately, Oregon's wet winter's have brought little relief as increases in temperatures have led to less snowfall and dryer summers.²

The City of Eugene seeks to address the vulnerabilities and risks of communities who may be disproportionately impacted by these climate crises. They identified the concept of creating community resiliency through the creation of climate resilience hubs as a way to address these equity gaps, build community capacity and increase resources to be deployed during acute climate events to mitigate long-term climate impacts. The City contracted with Real World, an undergraduate capstone class in the school of Planning, Public Policy and Management (PPPM) in which students work on projects with staff from the City of Eugene, to identify potential ways in which they can support local community organizations and leadership in creating a Climate Resilience Hub in Eugene.

The Real World Team assigned to the Climate Resilience Hub project will support the City's desires by creating a menu of resilience hub models that illustrate how the hubs can serve the needs of diverse communities throughout the city. To learn more about the Real World Team see Appendix A.

¹ Charles Davis, “5 Oregon Towns Have Been 'Substantially Destroyed' by Wildfire, Governor Says,” Insider (Insider, September 10, 2020),

<https://www.insider.com/5-oregon-towns-have-been-substantially-destroyed-by-wildfire-2020-9;>

Max Goldwasser, “‘We Haven't Peaked Yet': Oregon Already Outpacing Historic, Devastating 2020 Wildfire Season,” KTVZ, July 21, 2021,

[https://ktvz.com/news/2021/07/20/oregon-outpacing-historic-2020-wildfire-season/.](https://ktvz.com/news/2021/07/20/oregon-outpacing-historic-2020-wildfire-season/)

² Bradley W. Parks, “Climate Change in Oregon by the Numbers, from 0.1 to 200,” OPB (OPB, January 12, 2021), [https://www.opb.org/article/2021/01/12/climate-change-oregon-effects/.](https://www.opb.org/article/2021/01/12/climate-change-oregon-effects/)

Background

Due to Climate Resilience Hubs being a relatively new concept, having a clear understanding of what they are and what they do is foundational to both understanding the details laid out in this report and implementing the recommendations. Climate Resilience Hubs are a new method to create community resilience through identifying vulnerabilities and providing the resources necessary to adapt to them. Outlined below are essential definitions of community resilience and climate resilience hubs along with necessary background of how the hubs work and where the concept originated. The following definitions were pulled directly from the USDN:

What is Community Resiliency?

“Community resiliency exists when ALL community members have the ability to anticipate, positively adapt to, and thrive in a culturally relevant way amidst changing climate conditions, despite their vulnerabilities. Resiliency requires community capacity to respond to and recover from major events which requires a strong social support system that contributes to the communities recovery and enhances the quality of life during changing climate conditions.”³

What is a Climate Resilience Hub?

“Resilience Hubs are community-serving facilities designed to support the community in coordinating resource distribution and services before, during, and after a natural hazard event.”⁴

How do Climate Resilience Hubs work?

“Resilience Hubs provide an opportunity to build local community power and leadership. They are focal points for neighborhood revitalization that provide the resources residents need to enhance their own individual capacity while also supporting and strengthening their neighborhood and neighbors. Instead of being led by local

³ “USDN Resilience Hubs” USDN, n.d.
<https://drive.google.com/drive/folders/19FmIJzh3Paqzgc0wdc-BdkVFAydTSG89>

⁴ Ibid

government, they are intended to be led and managed by community members, community-based organizations, or faith-based groups. The most successful Resilience Hubs double as a year-round center for community-building and community revitalization.” “They have the potential to equitably enhance community resilience and improve local quality of life by reducing the burden placed on local emergency response teams, improving access to resources, and increasing the effectiveness and cohesiveness of community-centered institutions and programs.”⁵

Where did the concept of Climate Resilience Hub start?

“Resilience Hubs were born out of an individual preparedness initiative developed and managed by USDN’s Climate Resilience Officer, Kristin Baja, when working for the City of Baltimore. The initiative centered on helping residents develop emergency plans and build their own emergency kits, while also identifying their neighborhood assets and shortcomings. The individual preparedness efforts were concentrated in neighborhoods most vulnerable to the impacts of climate change which, unsurprisingly, had the highest percentage of low income residents and people of color. Through nearly 40 in-depth engagement sessions, Baja identified the following concerns and shortcomings:

1. Lack of access to resources to react and respond in a hazard event;
2. Lack of financial means to purchase backup food and water supplies;
3. Little or no access to a vehicle to evacuate and dependence on unreliable transit systems
4. No out of area contacts of family members.

Combining this information with the deep distrust of city government many community members also expressed, it became clear that residents wanted and needed a way to plan for, respond to and recover from extreme events on their own and without having to rely on government intervention and/or support.”⁶

⁵ Ibid

⁶ Ibid

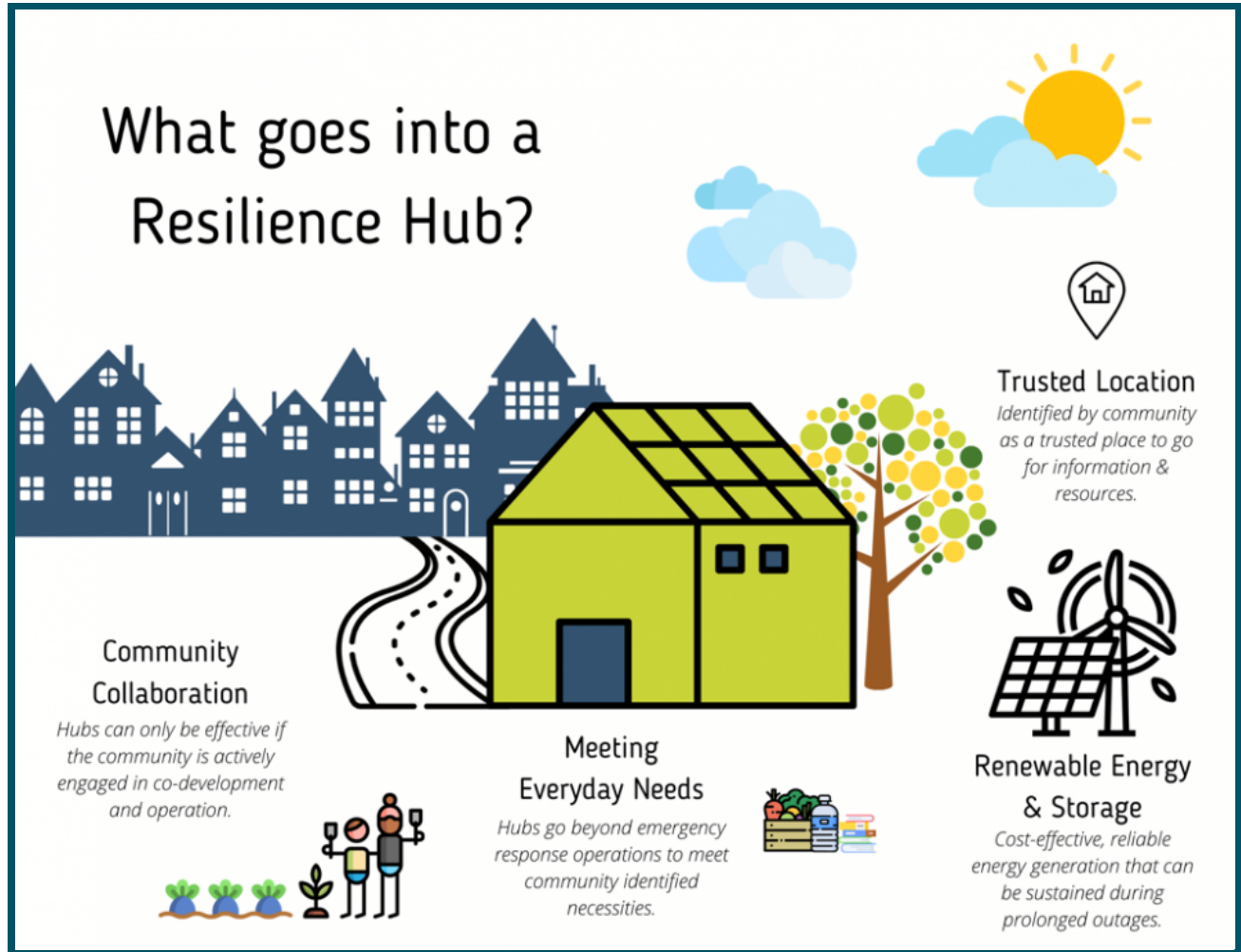


Figure 1. University of Michigan School of Environment and Sustainability⁷

⁷ University of Michigan School of Environment and Sustainability
<https://seas.umich.edu/news/implementing-resilience-hubs-ypsilanti-michigan>

Methodology

Document Analysis

The Climate Resiliency Hub Team developed a menu of three Climate Resiliency Hub design concepts and made specific recommendations based upon our research and analysis of Federal, State and County Climate documents. The foundation of our work is informed by the Climate Action Plan 2.0, the Climate Change Vulnerability Assessment for Lane, County, Oregon and the U.S. Climate Resilience Toolkit to assess local and regional climate vulnerability and risk goals. The Urban Sustainability Directors Network (USDN), also helped us to understand the hazards, risks and established research to base our product upon.

Community Outreach

To conduct a thorough and equitable survey, we interviewed Maeve Hogan, Americorps R.A.R.E. Member of Rogue Climate, to assess the needs of citizens amidst a climate emergency. Throughout our project, we consulted with Lacey Johnson, City of Eugene, Equity & Accessibility Analyst and Samantha Roberts, City of Eugene Climate Policy Analyst AIC. Their direction and feedback informed the content of our survey questions. To take it a step further, we also sent our survey to Vicki Strand, Community & Emergency Manager of University of Oregon, Safety and Risk Services. We published our survey through the University of Oregon Qualtrics and distributed the survey through University listservs, including PPPM listserv, ASUO, UO YDSA, and UO Sustainability groups. Our initial findings were presented to the Eugene Climate Resiliency Team for early feedback on our project and survey analysis.

Survey Representation

In the demographics section of our survey, we chose to offer more representational race categories than the standard US census five categories. We felt this was important to

define with our specific goals to address the unique climate needs of a diverse population. We specifically choose not to include specific buildings or site recommendations and instead focused on key needs to make a Climate Resiliency Hub successful. Further development of site location needs are best suited to long term partners further along in implementation.

Case Studies

Due to Climate Resilience Hubs being an upcoming concept in climate action, the Real World team was unable to find examples that were comparable to Eugene in population size as well as specific risks. Therefore, Real World Team looked at the following three examples of Climate Resilience Hubs in the United States: the Boyle Heights Art Conservatory in Los Angeles California which is apart of the larger NorCal Resilience Network, the Resilience Hubs Project in Austin, Texas and the Community Resiliency Hub Program in Baltimore, Maryland. These hubs and their networks were specifically chosen because they each highlighted successful traits of community climate resource centers. The Boyle Heights Art Conservatory in Los Angeles California provided specific examples of how to build community by utilizing a historically relevant building and providing culturally relevant training for their members. The Resilience Hubs Project in Austin, Texas capitalize on the use of several buildings that allows for easy zonal coverage in the case of an emergency. The Community Resiliency Hub Program in Baltimore, Maryland facilitated a network of community organizations to cooperate and provide climate based relief to a diverse population.

Document Analysis

During the inception phase, the City of Eugene identified a range of documents to help create a deeper understanding of the project goals and background. The documents included were the City of Eugene Climate Action Plan 2.0 (CAP 2.0), the Climate Change Vulnerability Assessment for Lane County, the Urban Sustainability Directors Network's (USDN) Resilience Hubs Guide, and the U.S. Climate Resilience Toolkit. These documents were supplied to the Real World team with a synopsis of the project. Analyses of the documents will be provided in this section.

Climate Action Plan 2.0 (CAP 2.0)

The Eugene City Council passed the Climate Recovery Ordinance in 2014 and set goals in motion to lead a science-based plan to limit the Earth's warming to one degree celsius. Eugene's Climate Action Plan 2.0 (CAP 2.0) was the result. This data driven document was a collaborative process that engaged local people, government and organizations. The document focus is mitigation, resilience and community capacity building. The development of CAP 2.0 spanned from 2017 through 2020, when it was approved by the Eugene City Council.

In Chapter Seven: Climate Resiliency, is guided by the Eugene-Springfield Natural Hazard Mitigation Plan. In this chapter, City of Eugene Actions are listed and address specific goals by category. Our Climate Resiliency Hub document is built upon these specific CAP 2.0 Recommendations, specifically under the Equity Panel

Recommendations:

- E12: Provide cooling stations and charging stations for unhoused people and people who need electricity to operate health care and disability-related equipment, as well as people with conditions such as multiple sclerosis and nerve disorders.
- E13: Ensure that people who need power wheelchairs for mobility, refrigeration of medicines, hearing aids and screen reading software have access to electricity if the power grid is compromised.
- E14: COE prepares itself for emergencies by considering how low income communities will not be able to pay for unexpected emergency services such as private fire fighters if local fire stations are not prepared for increased summer fires.
- E15: Locate emergency stations where food, water and medical equipment will be accessible.
- E16: As heat and fires increase, provide access to asthma and other lung related medicines for people with compromised lungs.
- E19: Train First Responders on how to address concerns of communities who have been negatively impacted by police and other government agencies historically, such as migrants, Black, Native, Pacific Islander, low income, undocumented, unhoused, LGBTQ+ communities. First Responders must have

protocols using trauma informed practices to name and address people's fears with respect to the state to be effective in an emergency.

- E20: Provide incentives to Psychological First Aid Trainings for first responders and other public officials mindful of deploying them for natural disasters. Ask ECC Partners, such as the universities, to provide training for their employees and general public.
- E22: Establish citywide protocol to support organizations that deliver food to low income communities in an emergency, such as a snow storm. Make sure food supplies are accessible to those who need it most.
- E28: Train multilingual first responders.
- E29: Activate a network of community advocates to share information within underserved communities.

Climate Change Vulnerability Assessment for Lane County (Draft 2021)

This document was prepared by the Lane County Climate Equity and Resilience Task Force with support from the GEO's Institute. To research climate impacts throughout Lane County, they conducted stakeholder workshops and a climate survey.

Lane County's climate is already changing and has warmed one degree from its baseline average. "Over the last 40 years, Lane County has warmed by about .02 degrees F per decade" (CCVA, 2021). Climate projections are four to seven degrees warmer by 2050's, 47-69% less snowfall by 2050's and 19-49% more drought stress by 2050's. In the report, they address vulnerabilities across five community systems: Health and Emergency Services, Natural Systems, Infrastructure, Business and Economy and Culture.

Findings include evidence that the cost of living is expected to rise, exacerbating the vulnerabilities of low income residents. Health risks from extreme heat are subject to increase with a lack of necessary infrastructure and cooling systems in the pacific northwest. Stress and mental health needs will increase as the impacts of climate change create displacement, instability, lack of access to support services and loss of employment or possessions. "Some populations, particularly those that have low income or communities of color are more likely to be exposed to extreme events and experience serious impacts than others. At the same time, they are less likely to have access to the resources needed to address those increasing threats" (CCVA, 2021).

Although the Climate Change Vulnerability Assessment does not develop specific strategies on how to mitigate these vulnerabilities, it identifies the need to collaborate with Lane County and community partners to implement strategies that benefit people affected by a changing climate.

US Climate Resilience Toolkit

The U.S. Climate Resilience Toolkit is a website born out of a partnership of federal agencies and organizations known as the United States Global Change Research Program. The site was “designed to help people find and use tools, information, and subject matter expertise to build climate resilience”⁸ within their communities and is managed by the National Oceanic and Atmospheric Administration (NOAA). The website provides an exhaustive amount of resources for building climate resilience including, but not limited to: a risk management framework with six steps to resilience, case studies and other reports, trainings and maps created by government agencies, non-profits, companies and scientific organizations across the globe.

Risk Management Framework: Five Steps to Resilience

This framework helps communities identify climate hazards in their region as well as provide resources to help them come up with workable solutions to reduce these climate-related risks. By applying their five steps to resilience, they believe communities can work towards a more resilient future. The five steps are:

1. *Explore Hazards*
2. *Assess Vulnerability & Risks*
3. *Investigate Options*
4. *Prioritize & Plan*
5. *Take Action*

This framework is one possibility of how Eugene can analyze their climate vulnerabilities and explore solutions, another way will be explored in the next section. Although a feasible option, this framework does not explicitly consider equity in the equation, rather it indirectly suggests it in elements like the case studies. Eugene city and community partners should take this into consideration when utilizing this website as equity will

⁸ “U.S. Climate Resilience Toolkit.” U.S. Climate Resilience Toolkit | U.S. Climate Resilience Toolkit. Accessed December 10, 2021. <https://toolkit.climate.gov/#steps>.

need to be at the forefront of every decision made to help understand the true vulnerabilities of the community.

Case Studies

In order to provide tangible examples of ways to combat specific climate issues, the website offers an extensive list of case studies across the United States which can be filtered by climate threat, topic, region or by a specific step in the framework. This may be useful to City staff and partners to discover innovative solutions to combating vulnerabilities and as mentioned earlier, does provide some examples of how to model equity when addressing climate risks.

Urban Sustainability Directors Network (USDN)

The Urban Sustainability Directors Network (USDN) is “a network of local government professionals across the United States and Canada”⁹ who collaborate on projects that seek “to address challenges and opportunities facing multiple cities.”¹⁰ Members “share best practices” through the process in order to learn from one another work towards “creating a healthier environment, economic prosperity, and increased social equity” within their own communities.¹¹ The USDN’s website highlights eleven ongoing project initiatives. All projects are funded by either an USDN-housed fund or partner network funds. They have awarded “\$15.9 million for over 344 projects”.¹² Becoming a member of the USDN and taking advantage of their grants along with the resources outlined below may be within the best interest of the community partners who are tasked with creating a hub within the greater Eugene area. For more information about these grants see Appendix B. All eleven projects are relevant to the broader conversation at hand, but the Climate Resilience Trainings Toolkit and the Resilience Hub Project provide valuable insight into the development of a Climate Resilience Hub.

Climate Resilience Trainings Toolkit

Through the Toolkit local governments and their community partners can “train staff and engage their communities in efforts to support climate resilience progress” through three trainings: the Game of Floods, the Game of Heat and the Game of Extremes. Upon comparing the descriptions of the trainings with the climate vulnerabilities outlined in the Lane County Risk Assessment Document, it may be beneficial to utilize all of them in the training of community partners associated with any future climate projects in Eugene. See Appendix C for the descriptions of the trainings. All three trainings focus on how to create “cross-department and multi-stakeholder collaboration to assess hazards, identify vulnerability and risk, and development of climate resilience actions”

⁹ Network, Urban Sustainability Directors. “Urban Sustainability Directors Network.” USDN. Accessed December 10, 2021. <https://www.usdn.org/about.html>.

¹⁰ Ibid

¹¹ Ibid

¹² Ibid

for a range of climate issues.¹³ The Toolkit also offers instructional videos, the game board, game materials, adaptation strategies, as well as the participant and facilitator workbooks for each game.

Resilience Hub Project

The USDN outlines its Resilience Hubs Project as a way to provide “opportunities for communities to become more self-determining, socially connected, and successful before, during, and after [climate] disruptions.”¹⁴ Acknowledging the systemic faults that contribute to the disproportionate effects of climate change on historically marginalized groups, the USDN focuses on solutions that counter these effects by utilizing Resilience Hubs as a way to create opportunities for these groups to feel empowered. These hubs should help them “determine their own needs, identify how to meet those needs, and build relationships that will increase their influence on future decision-making processes.”¹⁵ In order to do this they utilized their six phases of development.

Six Phases of Development

Phase One: Assess Vulnerability & Select Service Area

Requires a vulnerability assessment of the local community to “inventory spatial and temporal exposure to hazards (both natural and human-made), the sensitivity of residents and businesses to those hazards, and the community’s existing capacity to recover from disruption and adapt to long-term changes.”¹⁶

The assessment will provide useful information on who and what areas are more likely to experience greater “impacts from a changing climate.”¹⁷

Phase Two: Establish Project Team, Build Partnerships, & Set Goals

¹³ Network, Urban Sustainability Directors. “Urban Sustainability Directors Network.” USDN. Accessed December 10, 2021. <https://www.usdn.org/projects.html>.

¹⁴ Ibid

¹⁵ Ibid

¹⁶ “Guide to Developing Resilience Hubs.” USDN, n.d. ds/2019/10/USDN_ResilienceHubsGuidance-1.pdf

¹⁷ Ibid

With the local community tasked with spearheading, “local government leads and other partners”¹⁸ are asked “to actively step back and shift power to community leaders and organizations.”¹⁹ Building partnerships and trust is vital to the success of a Resilience Hub project and to “ensuring all voices are heard.”²⁰ The quality of collaboration with community partners can have a significant impact whether communities choose to be transparent, communicate needs and continuously engage. Once these collaborations are established, then all partners will work towards setting goals.

Phase Three: Identify & Evaluate Sites

This phase assumes that “service areas have been identified, prospective partners are aligned and goals are established.”²¹ From here “the next step is to identify site services” which “will require an assessment of each site and analysis of potential solutions.”²² In order to determine whether retrofitting an existing structure is financially the right option, conduct a feasibility study.

Phase Four: Identify Resilience Solutions

In this phase, the structure, site, power, communications, and operations of a given hub will need to be assessed as “a Resilience Hub must be resilient itself and provide services before, during, and after an event.”²³

Phase Five: Develop Site & Install Solutions

For phase five, the community organization spearheading has made a decision to pursue a site. “Planners will then convert the preliminary design into a fully engineered system.”²⁴ Finding a planning team that can make the necessary changes will be critical here.

¹⁸ Ibid

¹⁹ Ibid

²⁰ Ibid

²¹ Ibid

²² Ibid

²³ Ibid

²⁴ Ibid

Phase Six: Activate Site and Operations

During this phase, the Hub has had its upgrades and face lift and is now ready to start fulfilling its mission. It's important to note that despite the Hubs best efforts, "disruptions can occur suddenly and unexpectedly".²⁵ Being ready for full activation in the event of a disruption is key here so "roles and responsibilities should be clearly assigned for all involved in managing the site and providing services to the community"²⁶ in order to be successful.

Resources

A variety of resources were created through this project. Including, but limited to a whitepaper, a step-by-step development guide, an excel sheet for tracking and analyzing the six phases of development, a framework on how to power a hub, COVID-19 adaptations and other partner documents and podcasts focused on building equity and climate resilience. See Appendix D for more information on these supporting resources.

Moving forward with the creation of climate resilience hubs, the City of Eugene and supporting community partners should review the USDN Resilience Hubs White Paper and the USDN Resilience Hubs Guidance Document. The whitepaper provides a general overview along with the definitions of "community resilience" and "climate resilience hubs: which were used throughout this document. USDN Resilience Hubs Guidance Document provides a step-by-step development guide which expands on definitions, provides cost considerations, outcomes and outlines the six phases.

²⁵ Ibid

²⁶ Ibid

Case Studies

The Real World Team looked at three examples of Climate Resilience Hubs in the United States: the Boyle Heights Art Conservatory in Los Angeles California which is apart of the larger NorCal Resilience Network, the Resilience Hubs Project in Austin, Texas and the Community Resiliency Hub Program in Baltimore, Maryland. This section provides the general overview and in depth analysis of each case study.

As Climate Resilience Hubs are fluid in nature and largely dependent on the community in which they serve, it's important to acknowledge that the information in this section will reflect this. Community Resilience is not “one solution fits all” and although these case studies will provide a good starting point, nothing should be implemented in Eugene without assessing the local communities specific needs first.



LOS ANGELES

CALIFORNIA

NorCal Resilience Network

Overview

The NorCal Resilience Network defines itself as “a grassroots coalition that activates and supports community-based, nature-inspired solutions to climate change, economic instability, and social inequity in Northern California”.²⁷ They “launched the Circle of Collaborators” which is a network of “55 grassroots organizations” that strives to “bring together many communities from diverse ethnicities and geographic regions to a coalition that offers strategies for collective impact and builds collaborations for a more resilient world”.²⁸ In 2017, they launched the Resilient Hubs Initiative. This project focused on “integrating disaster preparedness, community work and sustainability into a holistic site-based model for resilience”.²⁹

Approach

The NorCal Resilience Network approach is an adaptation of the Urban Sustainability Directors Networks'.³⁰ Therefore, they created a network of “community centers, neighborhoods, places of worship and other trusted community sites that are prepared for natural disasters and other relevant stressors in their more local environment”.³¹ The purpose of these trusted community spaces are to “serve as areas to gather, distribute resources and exchange information during disasters”.³² They help to shift the power back to neighborhoods and residents, while adding an emphasis on prioritizing the development of disproportionately affected and historically marginalized communities. The following hub is an example of a NorCal Resilience Hub:

²⁷ “Our Story,” NorCal Resilience Network, accessed November 25, 2021, <https://norcalresilience.org/our-story/>

²⁸ Ibid

²⁹ Ibid

³⁰ Ibid

³¹ Ibid

³² Ibid

Boyle Heights Art Conservatory

Key Features:

- Utilizes a historically and culturally relevant building to build community
- Provides culturally relevant trainings and workshops
- Retrofitted existing infrastructure

The Boyle Heights Art Conservatory is a place of “rich history” dating back to “its original construction as a multicultural gathering place in 1925”.³³ Being a historical place of collaboration and community building allowed it to be the ideal spot for a Climate Resilience Hub. Partnering with Climate Resolve, a non-profit organization that works with the BIPOC community “to achieve a just and resilient future through equitable climate solutions”, has allowed it to accomplish great things.³⁴ As of today, “the building has been retrofitted for earthquakes, water filtration systems have been set in place, and the landscaping is drought tolerant”.³⁵ The conservatory also acts as both a cooling and a heating facility with “back-up power resources in case of a disaster”.³⁶ In order to incorporate more of their communities' cultural aspects they created a communication network which supplies information in both English and Spanish as well incorporating Indigenous methods of healing by offering workshops surrounding “native edible and medicinal plants”.³⁷ To adapt to the needs of their community during the pandemic, staff members volunteered to distribute vaccines and serve as translators.



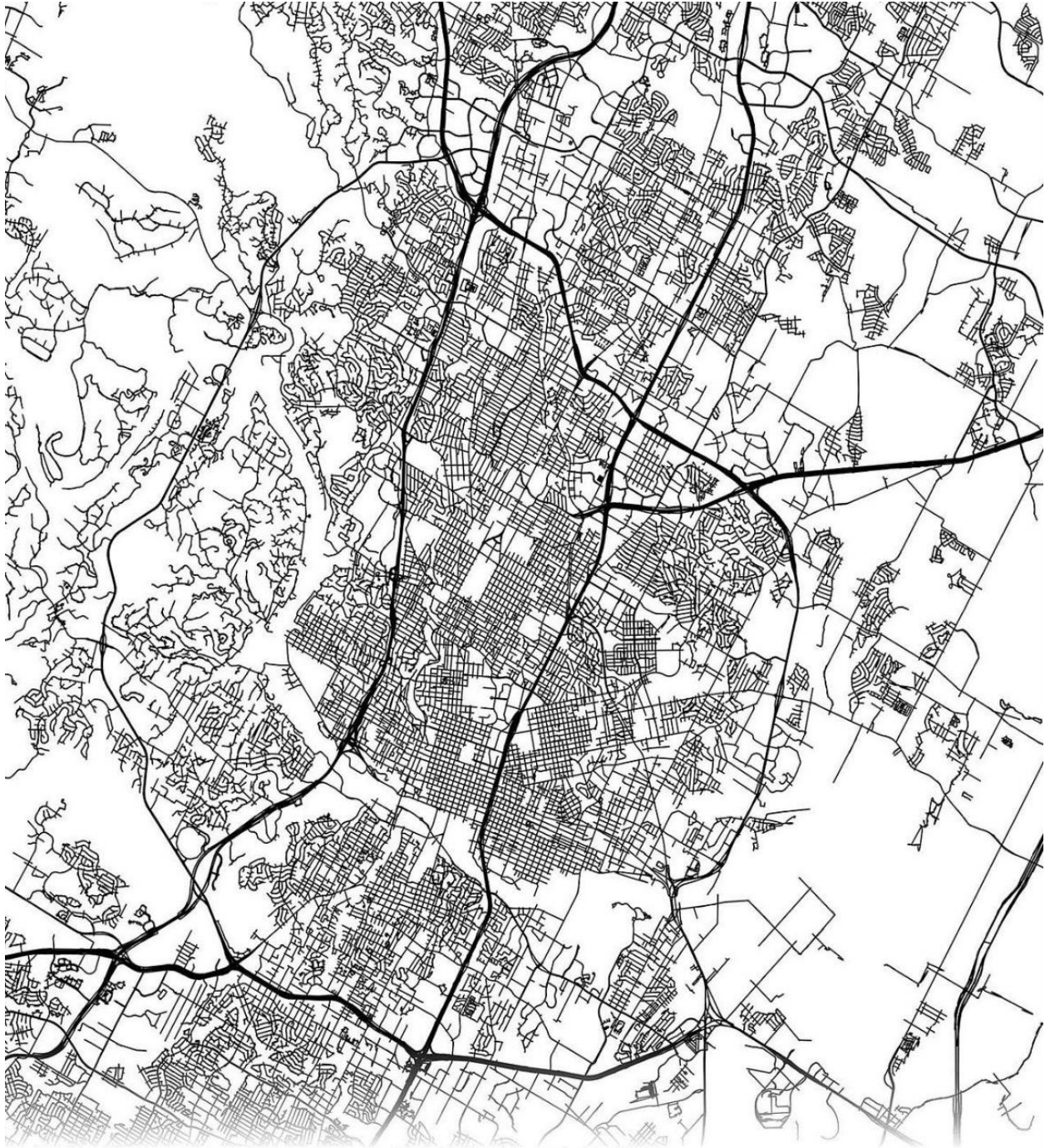
³³ “Case Study: Boyle Heights,” NorCal Resilience Network, accessed November 24, 2021, <https://norcalresilience.org/case-study-boyle-heights/>

³⁴ Ibid

³⁵ Ibid

³⁶ Ibid

³⁷ Ibid



AUSTIN

TEXAS

Resilience Hubs in Austin, Texas

Key Features

- **City-wide resilience network of hubs, to be set up during emergency**
- **Utilizes existing buildings**
- **Institutes innovative funding mechanisms**

Overview

The Resilience Hubs project in Austin, Texas is a project of the Austin Parks and Recreation department that seeks to “inspire Austin to learn, play, protect, and connect by creating diverse programs and experiences in sustainable natural spaces and public places”.³⁸ This project seeks to center a strategic planning framework, sustainability, equity, and innovative financing mechanisms in the creation of a city-wide resilience network of hubs.

Physical Locations

These hubs are designed to be adaptable and to pop-up within already-existing, public facilities, like recreation centers, schools, and other ‘critical facilities’. These facilities were identified for the project on the basis of their accessibility to the various populations of Austin and their having a context of service for their respective communities. The use of several buildings allows for easy zonal coverage in the case of an emergency, and the use of buildings that Austin residents are already likely to know of and regularly access increases accessibility, as depicted in Figure 2. Additionally, because of the use of many buildings in individual areas allows for regional variability in resources and services³⁹.

³⁸ “Resilience Hubs in Austin, Texas” Austin Parks and Recreation Department, accessed November 21, 2021, https://commons.pratt.edu/sesresearch/wp-content/uploads/sites/157/2019/06/2019_Spring_Sandoval_Summer_Presentation.pdf

³⁹Ibid.

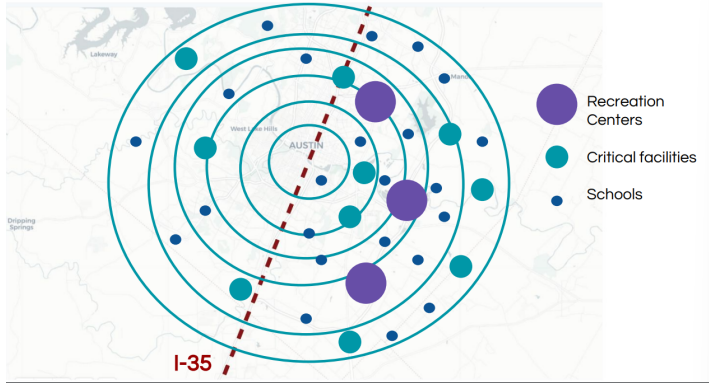


Figure 2. Outline map of network of resilience hubs in Austin, Texas.

This use of public buildings and critical facilities could be utilized in the Eugene area through the use of local Eugene schools and school zoning, as shown in Figure 3. This system would need to be assessed for equity and accessibility for residents without connections to local schools, like having children in the local school system. Additionally, local government and public service buildings like the Eugene Public Library could be used within a resilience hub system.

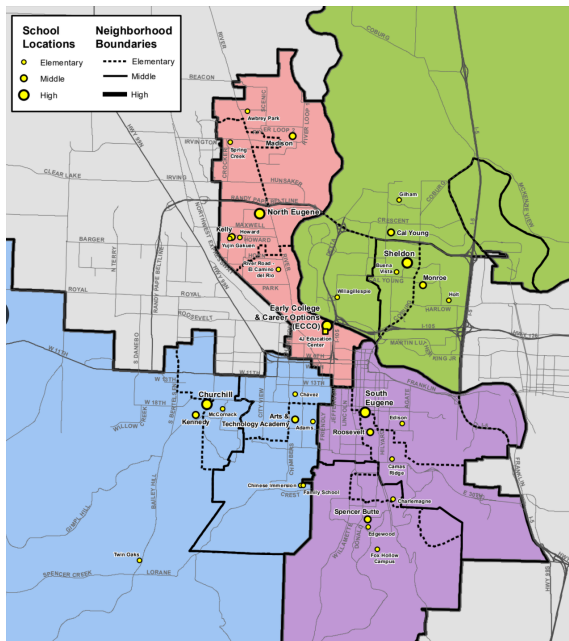


Figure 3. Map of Eugene School District.⁴⁰

⁴⁰ "Eugene School District 4J: School Locations," n.d. http://www.4j.lane.edu/wp-content/uploads/2013/03/4j_2011_map_schoollocations_color.pdf

Funding

In addition to the regional variability previously mentioned, each resilience hub location will include stored, sustainable energy; multiple sources of clean water; storage of basic resources; strong communication and community partnerships, and a variety of funding sources.⁴¹ These funding sources include:

- Sustainability investors
 - Pay into resilience fund
 - Buy resilience bonds
- Property tax advance model
 - Discount on property taxes for advance payment to resilience fund

This, alongside the funding mechanism recommendations from the earlier-mentioned Urban Sustainability Directors Network (USDN) analysis, could work well together to fund the installation of a hub network in Eugene, if properly managed.

⁴¹ Ibid



BALTIMORE

MARYLAND

Baltimore City Community Resiliency Hub Program

Key Features:

- **Network of Community Organizations working together.**
- **Funded by the City of Baltimore and Public Utility Company.**
- **Distribute resources to people who cannot access hubs.**

Operations

The Community Resiliency Hub Program is a community-centered project that “increases community capacity to prepare for, withstand, and respond to natural hazard impacts and emergency situations” (Baltimore Sustainability, 2021). The program focuses on “emergency response and recovery services to under-resourced neighborhoods and their most vulnerable residents.” This initiative is a partnership between service based community organizations and the Baltimore Office of Sustainability, Office of Emergency Management and Department of Health. The Office of Sustainability is the lead agency responsible and the program is a key component of Baltimore’s Disaster Preparedness Plan.

Distribution

There are twelve active Resiliency Hub partner organizations in the program. These trusted, service based nonprofit community organizations provide a space for vulnerable neighbors to gather in emergencies. With the help of the city and resiliency hub, they are able to provide access to essential resources and services during times of emergency. Volunteers also distribute necessary supplies to the elderly or disabled, who are otherwise unable to access the physical hubs.

Funding

The Baltimore Resiliency Hub receives grant-funded support from the city and public utility company, which includes preparedness supplies, infrastructure upgrades and training. A key aspect of their current funding initiatives assess Solar Power and Battery Storage feasibility to over 30 community organizations interested in joining the program,

and will currently fund the purchase and installations of solar capacity at four selected community partner buildings.

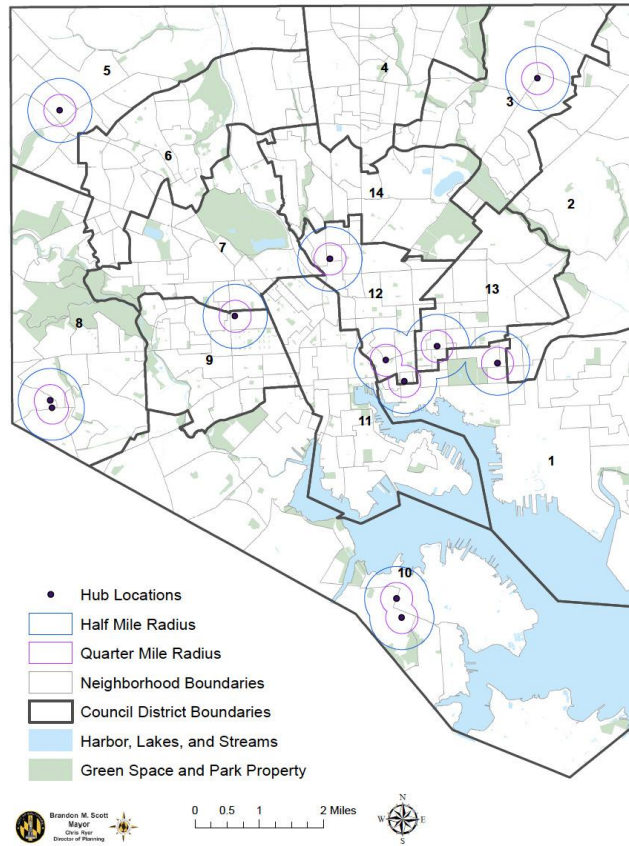


Figure 4. Depicts Baltimore City Hub network.

Survey Findings

Survey Purpose and Use

Research in the form of a survey was chosen in order to accurately determine the needs and experiences of UO students and staff who might need to access a Climate Resiliency Hub. Surveying was determined to be the most accurate way to learn this information, because of the direct interaction with students, as opposed to uninformed assumptions based on general experiences. This survey was also written and conducted with the intention to be used and adapted for surveying the greater Eugene population in future iterations of this project, if determined to be useful in engaging with Eugene residents.

In its questioning, this survey sought to gauge UO student and staff interest in resources and services; to assess UO student and staff experience, concern, and preparation for eight key climate crises and impacts; and to allow for free response discussion of the provided questions at the will of respondents. The data collected was primarily used to inform resource and service recommendations for the proposed Climate Resiliency Hub systems, as well as impacting some location recommendations, including operating hours.

Key Takeaways

- The populations surveyed were not reflective of the greater Eugene population, but were fairly reflective of UO students and staff
- The most experienced climate emergencies were wildfire smoke, a major heat wave, and High AQI (Air Quality Index above 100)
- The climate emergencies that respondents expressed the greatest concern for (marking extremely concerned or very concerned when prompted) were a wildfire (not smoke related), wildfire smoke, an earthquake, a major heat wave, and high AQI (Air Quality Index above 100)

- There was a low indication of knowledge of how to prepare among respondents, with the highest level of knowledge being preparation for the hazards of wildfire smoke, and the lowest being preparation for the hazards of severe flooding
- The great majority of respondents indicated that they were only slightly or not at all prepared for all climate emergencies listed, except for wildfire smoke and high AQI (Air Quality Index of over 100), where there was a greater level of preparation
- When prompted with resources that respondents might have for a home “Disaster Preparedness Kit” respondents had many of the more common items, like cell phone chargers and canned food, but fewer and fewer had less common emergency items like a hatchet or handheld local maps
- The majority of respondents preferred to be contacted via electronic methods
- When asked what local organizations or university groups respondents would trust to assist in a climate emergency, they were largely unsure or identified clubs and student organizations on campus, as well as state and federal emergency services, like FEMA and the fire department
- The majority of people have not participated in a natural disaster training or educational program
- Those majority of those who have participated in a natural disaster training or educational program did so through a public school program
- Survey respondents expressed interest in services that they may not use, but could see members of the broader community utilizing
- All but one general resource or service had at least one-third of respondents indicate interest, with the one outlier being a needle exchange program, with one-ninth of people indicating interest
- For cultural and experience-based needs, anti-bias training and inclusive spaces garnered the most interest
- Eighty-percent of respondents preferred for Climate Resiliency Hubs to be open during emergencies and regular operating hours, as opposed to only during emergencies

- When prompted to share any other needs that they may have or information that they would like to share, many respondents shared that information and education would be most valuable to them in a climate emergency

Background

UO students and staff were asked to participate in this survey because of the scope of this project being focused on the UO population. The UO population is not demographically-reflective of Eugene's population as a whole and as such, this survey should be seen as only representative of UO's climate needs and experiences.

The eight key climate crises and impacts that the majority of the concern, experience, and preparation portion of the survey was framed around were severe flooding, a wildfire (not smoke related), wildfire smoke, an earthquake, a major heat wave, a severe freeze, a several-day utility shut off (power, water, gas), and high AQI (Air Quality Index of over 100). These were selected based on the climate crises and impacts that Eugene has faced recently or may face due to its specific climate vulnerabilities.

The services and resources that the surveyed population was asked to express their level of interest for were based on the recommended resources and services in case of a climate emergency, as well as for general community support. To maintain the equity focus of the project, they were additionally influenced by possible cultural and experience-based variability in needs and experiences.

Methodology

This survey was administered to a variety of UO majors, clubs, and organizations via email for the first two weeks of November 2021. Its questions provided free-response opportunities for additional information to be shared by those surveyed, but primarily asked questions gauging UO student and staff interest in resources and services and assessing UO student and staff experience, concern, and preparation for eight key climate crises and impacts. Those surveyed were compensated for the sharing of their lived experiences through an optional gift card raffle.

Survey Results

How do you identify your race/ethnicity(ies)? (Select all that apply) n=62

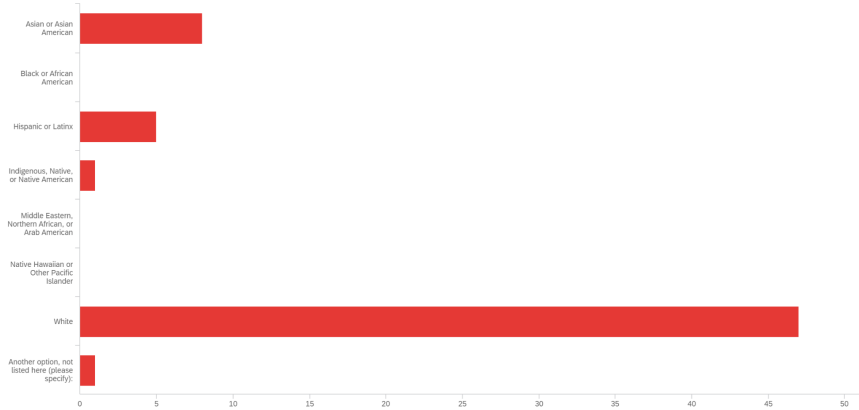
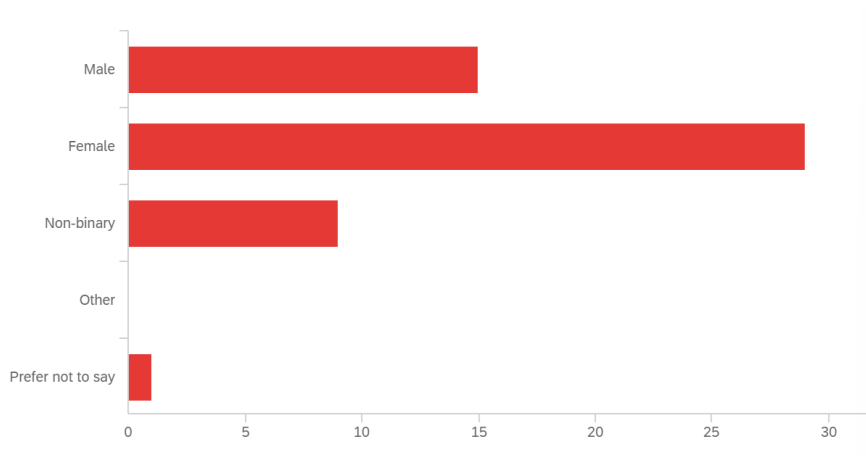


Figure. Depicts race and ethnicity survey data.

The majority of respondents identified themselves as white, with smaller groups of respondents identifying as Asian or Asian American; Hispanic or Latinx; or Indigenous, Native, or Native American. This is not a racial or ethnic diversity reflective of the university, but it does still allow for the sharing of some marginalized perspectives.

How do you identify your gender? n=54



Other Respondent Demographic Question Information

When asked how respondents identified their gender, 53.7% of respondents identifying as female, 27.78% as male, and 16.67% as non-binary. One respondent preferred not to say. This is once again not wholly reflective of the university, but does allow for the sharing of some marginalized perspectives.

When prompted to share their preferred language 100% of respondents indicated English as their preferred language. This is likely due to UO operating primarily in English, with some specific language differences in language learning classes. For housing status, 100% of respondents also indicated that they were securely housed.

When approaching the creation of Climate Resiliency Hubs, equity is a major concern, especially equitability in resource and service provision. As such, it was incredibly important in this project to ask questions that served to assess the needs and experiences of all UO students and staff. This is especially true for marginalized UO students and staff who are both at a greater risk in climate emergencies and less likely to be served by traditional emergency research and preparation, which has not traditionally centered their perspectives.

From this survey data it is clear that more research into how to support racially and ethnically marginalized voices will be necessary, as well as in how to support those who do not have English as their preferred language or are not securely housed. Those perspectives were not provided in this survey at all and thus, from this data, those voices will not be adequately served. This is particularly concerning considering the fact that many Eugene residents are unhoused or insecurely housed, and many do not prefer communicating in or are not able to communicate in English.

Have you experienced [eight climate crises and impacts]? n=55

The climate crises with the highest number of respondents having experienced them were wildfire smoke, a major heatwave, and high AQI (Air Quality Index above 100). This is reflective of Eugene having experienced all of those in just this past summer of 2021. Although many respondents may have spent the summer out of state and experienced them otherwise, this data display does indicate that responses in the survey will suit the needs of those experiences, which the majority of Eugene residents will have also had.

How concerned are you for [eight climate crises and impacts]? n=54

The climate crises with the highest level of concern were a wildfire, with 60% of the 54 respondents for that question citing that they were extremely or very concerned; wildfire smoke, with 85% or 45 respondents for that question citing that they were extremely or very concerned; an earthquake, with 61% or 33 respondents for that question citing that they were extremely or very concerned; a major heat wave, with 58% or 31 respondents for that question citing that they were extremely or very concerned; and high AQI (Air Quality index above 100), with 70% or 30 respondents for that question citing that they were extremely or very concerned. This indicates that the Climate Resiliency Hub or Hubs will need to provide the most information and education regarding these crises, as well as likely provide more support for those crises, to manage panic and concern during the respective emergencies.

How prepared are you for [eight climate crises and impacts]? n=53

In regards to preparation, there was a low indication of knowledge of how to prepare for the indicated emergencies among respondents, with the highest level of knowledge being preparation for the hazards of wildfire smoke, and the lowest being preparation for the hazards of severe flooding. The great majority of respondents indicated that they were only slightly or not at all prepared for all climate emergencies listed, except for wildfire smoke and high AQI (Air Quality Index of over 100), where there was a greater level of preparation. As such, the Climate Resiliency Hub or Hubs developed will need to provide the most pre-prepared materials for these respective emergencies, as well as the most guidance and information during those emergencies with the least level of preparation. Because a low level of preparation is true for seven of the eight emergencies, the Climate Resiliency Hub or Hubs will have to provide a significant amount of pre-prepared materials or offset that lack of preparation with guided workshops or information on how to prepare.

What resources would you need at a community-led climate resiliency hub? (Check all that apply) n=44

When asked what resources and services respondents were most interested in, respondents indicated some interest in every offered option, with some garnering more interest than others. In the free response sections, survey respondents expressed that they had even marked interest in services that they may not use, but could see members of the broader community utilizing, because of a general desire to have the whole community supported within one of these hubs.

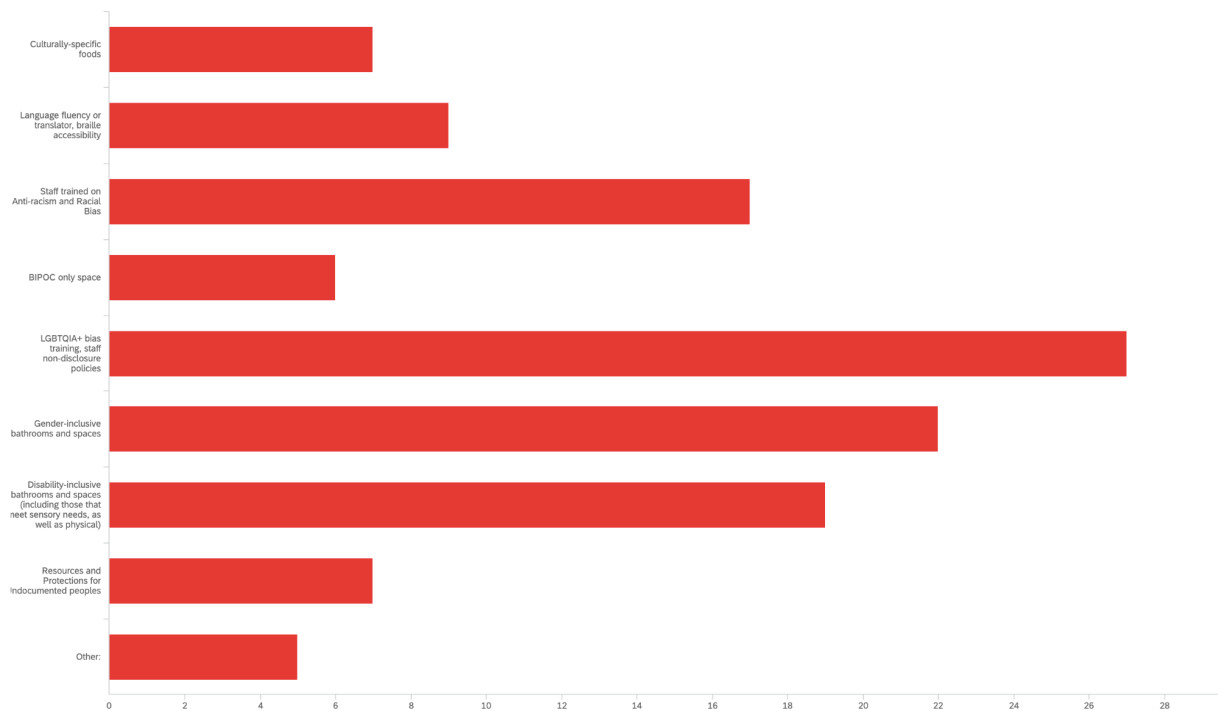
All but one general resource or service had at least one-third of respondents indicating interest, with the one outlier being a needle exchange program, with one-ninth of people indicating interest. When prompted about cultural and experience-based needs, anti-bias training and inclusive spaces garnered the most interest.

These general resources are as follows:

- Food
- Filtered water
- Power
- Batteries
- Wifi
- Laundry
- Free clothing/jackets
- Menstrual products/safer sex supplies
- Needle exchange
- Mental health resources
- Medical supplies/rapid COVID-19 tests
- Heating/cooling
- Masks
- Transportation assistance
- Free technology (computers/phones)
- Qualified personnel

- Solar power
- Generator
- Places to sleep
- Food boxes
- Prescription medications
- Rental assistance
- Utility assistance

To create a Climate Resiliency Hub that meets your cultural needs, what resources are relevant to you? (Check all that apply) n=27



When asked about culturally- and experience-based needs for resources and services, interest was indicated for all services, with differences in how many people indicated interest. When considering resources that might be needed in a Climate Resiliency Hub, it is important to provide all services that have any indicated interest, so that all needs can be met.

Adaptation of the Survey for Future Use

For future use, this survey will need to preserve all equity question elements and be analyzed by equity professionals, who are better able to proofread for any areas in which the survey may prove to inadequately serve all parts of the Eugene population. If the survey is not roughly reflective of Eugene population statistics, it will not be reflective of the Eugene population's needs. To ensure for all perspectives, future iterations of the survey will need to be spread in a way that accesses all parts of Eugene's population.

Recommendations

This section will provide a menu of recommendations for the City of Eugene and other essential community partners to take into consideration. The recommendations will be split into two categories:

1. Model Recommendation Menu
2. Resource Recommendations

The Model Recommendation Menu will include the following three options of hubs:

1. Single Standing Hub
2. Network of Community Organizations
3. Hybrid

The Resource Recommendations outline the physical infrastructure and tangible resources that should be in the Hub, as well as the equity-based and climate oriented training and services that should be provided regardless of what model is being implemented.

As emphasised throughout this report, the recommendations provided are based on the document and case study analysis as well as the survey findings. Although a good foundation, the information we provide should not be implemented without assessing the needs of the local community. Feasible options on how to go about this are provided in the document analysis through the equitable climate planning frameworks such as the U.S. Climate Resilience's five steps to resilience, the USDN's six phases of development.

Model Recommendations

Menu Option 1 - Single Standing Hub Model

To serve the needs of the Eugene community, the Climate Resiliency Hub could be a single physical location that utilizes existing infrastructure. This model would provide physical resources at the site and also distribute them to people in need.

Function:

- Potential candidates would be an existing building in use as a community center.
- Location is critical, as access to the site would be necessary in times of need. Many people would be unable to walk farther than a half mile in extreme heat, smoke or freeze.
- Survey respondents preferred that the climate hub double as a community center. Which would offer regular hours for training, studying and community engagement.

Benefits:

- Large emphasis on the community building
- Potentially cheaper to retrofit than build

Challenges:

- Limited in both size and also scope due to capacity issues
- Not accessible to all members of the community, distance is an obstacle.
- Wouldn't be able to support all members of the city during a crisis
- Would have to offer limited resources, trainings and services
- Who runs it on a daily basis?

Menu Option 2 - Network of Community Organizations Model

The Network model utilizes established community organizations and their existing infrastructure to expand the reach of the Climate Resiliency Hub. The facilities could be a mix of government, private or nonprofit buildings. The collective approach expands the efficacy of the overall program so long as there is a clear mission and purpose among participating organizations. Potential organizational structure could involve a board/committee with a member from each organization to help coordinate training, deployment of emergency services and resource distribution.

Function:

- Utilizes pre-existing infrastructure with trusted community organizations.
- Established community organizations have more impact.
- Distribution of Hubs creates more access among Eugene residents

Benefits:

- Established community organizations have long term staff and relationships.
- Regular staff with ongoing training create resilient hubs.
- More organizations to collectively fundraise and pursue grant writing.
- Elderly and disabled citizens are able to access neighborhood hubs.
- Cost effective to utilize existing infrastructure and organizations.
- Networks allow people to be met where they are; creating city wide accessibility.

Challenges:

- Collective communication with a diverse group of existing entities.
- Choosing a governing body or organizational structure to be effective across separate entities.
- Distribution of community needs will be different based on demographics and physical features at each site.
- May not be super feasible for these buildings to double as community building areas due to them already housing established organizations.
- Would require excellent communication and planning.

Menu Option 3 - Hybrid Model

This model is a hybrid of the last two models, implying that it would have a main central hub with a network of Community Organizations that could be deployed during emergencies. Since it is a hybrid, it can be easily modified to meet specific needs or challenges. This approach potentially could be a gradual progression towards a full network model. Many of the benefits and challenges are similar to the other models

Function:

- Collective communication with a diverse group of existing entities.
- Choosing a governing body or organizational structure to be effective across separate entities.
- Could be a hierarchical model with a central hub overseeing resource distribution through partner organizations.

- This model requires ongoing relationships, delegated responsibilities and trained skill sets for deployment during a crisis event.

Benefits:

- Hybridity facilitates more flexibility for deployment tactics.
- Less commitment among partnering organizations.
- Central Hub could centrally manage most program responsibilities.
- Pop up sites are disassembled after the crisis is over and return to normal use.

Challenges:

- Creating consistency among partnering pop up sites.
- Properly training and preparing partnering organizations if they are only occasional participants/providers.
- This model requires ongoing relationships, delegated responsibilities and fluid movement of funding.

Location Recommendations

Basic Resources Needed:

- Water, filtration system, food, ice, refrigeration, charging stations, basic medical supplies.

Energy Systems

- Multiple sources of non grid power (Gas Generator, Solar power, Battery Storage).
- Hybrid Resilience System (HyRS) - incorporates solar power with energy storage system and firm generation (diesel or natural gas).

Disaster Readiness:

- Heating/Cooling Shelter
- Oxygen (air filtration)
- Communication systems (if cellular service goes down).
- Retrofitted building to withstand earthquakes, heavy winds and rains.

Conclusion

The concept of Climate Resilience Hubs, although new, will provide the city and community partners with exactly what they need to create community resiliency. Through the utilization of city climate action goals, a county vulnerability assessment, the U.S. Climate Resilience Toolkit, the USDN's Resilience Hub Project, as well as the Real World Team recommendations, the city of Eugene can build community capacity and increase resources to be deployed during acute climate events to mitigate long-term climate impacts.

Appendix

Appendix A: Real World Eugene Climate Resiliency Hub Team

Willow Ryon is a fourth-year undergraduate majoring in Planning, Public Policy, and Management with minors in Nonprofit Administration and Economics. Her focus is on the intersectionality of socioeconomic status and resource accessibility, specifically in housing and education. She currently works for Prospect Management and is an Advancement Leadership Intern at the University of Oregon Foundation. After graduation she hopes to focus on addressing the housing crisis in Oregon through innovative ways with a reputable nonprofit or Americorps program.

Carly Boyer is a fifth-year undergraduate majoring in Planning, Public Policy, and Management with a minor in Nonprofit Administration. Her focus is on equitable access to natural resources, traditional skills and food sovereignty. She is a board member for Rewild Portland. After graduation, Carly hopes to work with a community organization focused on the preservation of Oregon's natural resources.

Annie Clayton is a second-year undergraduate majoring in Planning, Public Policy, and Management with minors in Environmental Studies and Sociology. Their focus is in resource justice, especially surrounding community-based solutions for food insecurity, housing insecurity, and water scarcity. They are currently writing their Clark Honors College thesis on the adaptation of the food sovereignty movement to non-agricultural, urban, and peri-urban spaces. After graduation, they hope to work with community-based organizations fighting food insecurity through mutual-aid, planning, and policy efforts.

Appendix B: USDN Fund Descriptions

The following information was taken directly from the USDN website to provide the City of Eugene with the description of the USDN funding available.

Carbon Neutral Cities Alliance Funds:

This fund “supports collaborations among international cities committed to achieving aggressive long-term carbon reduction goals.”⁴²

Partners for Places Fund:

This fund “supports collaborations between a city and a local funder to build stronger relationships across sectors and support adoption of innovations in urban sustainability.”⁴³

⁴² Network, Urban Sustainability Directors. “Urban Sustainability Directors Network.” USDN. <https://www.usdn.org/collaborative-innovation-system.html>.

⁴³ Ibid

Appendix C: Climate Resilience Trainings Toolkit Game Descriptions

The following information was taken directly from the USDN website to provide the City of Eugene and community partners with the Climate Resilience Trainings Toolkit game descriptions.

USDN Game of Floods:

“The USDN Game of Floods climate resilience training toolkit can be used by local governments and their partners to educate city staff and the community about Sea Level Rise and heavy precipitation, and their impacts to community members, population centers, and city assets & operations.”⁴⁴

USDN Game of Heat:

“The USDN Game of Heat training focuses on impacts of extreme heat to infrastructure, buildings and people. This training encourages multi-stakeholder collaboration to assess hazards, identify vulnerability and risk of high heat events, and identification of climate resilience actions to combat heatwaves and extreme heat. The training promotes incorporation of climate resilience and equity considerations into planning for and acting on heat-related hazards.”⁴⁵

USDN Game of Extremes:

“The USDN Game of Extremes training focuses on changes to riverine and coastal flooding, as well as extreme heat days, as a result of climate change. The training centers on cross-department and multi-stakeholder collaboration to assess hazards, identify vulnerability and risk, and development of climate resilience actions based on a specific budget. This training promotes incorporation of climate resilience and equity considerations into day to day activities as well as proactive planning efforts.”⁴⁶

⁴⁴ Network, Urban Sustainability Directors. “Urban Sustainability Directors Network.” USDN. <https://www.usdn.org/collaborative-innovation-system.html>.

⁴⁵ Ibid

⁴⁶ Ibid

Appendix D: USDN’s Resilience Hub Project Resources

The following information was taken directly from the USDN website to expand on the resource documents and podcasts from the USDN’s Resilience Hub project for the City of Eugene and community partners.

USDN Resilience Hubs White Paper:

“The USDN Resilience Hubs White Paper is a short introduction document that identifies what Resilience Hubs are and why they must have community needs and benefits at their core. It makes the case for increasing community resilience through enhancing community connectivity and enhancing quality of life. It is a brief introduction to Resilience Hubs and their core components.”⁴⁷

USDN Resilience Hubs Guidance Document:

“The USDN Resilience Hubs Guidance Document provides step-by-step support for local governments, communities, and partners interested in developing a Resilience Hub. This document is constantly evolving and will be updated every few months with new information.”⁴⁸

USDN Resilience Hubs Technical Power Systems:

“To address the specific and complex issues related to resilient power systems, USDN collaborated with technical experts to develop the USDN Resilience Hubs Technical Power Systems document. This document provides in-depth information about resilient power systems and hybrid solutions.”⁴⁹

USDN Resilience Hub Analysis Tool:

“This “tool” is a support document that accompanies the USDN Resilience Hubs Guidance Document. It provides teams with a number of editable spreadsheets to support each phase of developing a Resilience Hub. Sheets include items like the structure for developing a project team development or conducting an on-site kitchen assessment. This “tool” will change over time and will be updated every few months with new content.”⁵⁰

Resilience Hubs + Coronavirus Response:

“Anticipating disruptions more effectively – including outbreaks like COVID-19 or disasters such as floods, hurricanes or wildfires – requires a rethink in how we

⁴⁷ Network, Urban Sustainability Directors. “Urban Sustainability Directors Network.” USDN. <https://www.usdn.org/projects/climate-trainings.html>.

⁴⁸ Ibid

⁴⁹ Ibid

⁵⁰ Ibid

proactively prepare for crises. That’s why many cities are now working to set up Resilience Hubs, to better build community resilience.”⁵¹

USDN Guide to Equitable Preparedness Planning:

“An inclusive, community-centered planning process can maximize the benefits of climate preparedness action among lower-income populations and communities of color, while creating greater resilience by empowering those most affected to shape the decisions that will impact their lives. This framework is divided into four chapters to support community-led and supported climate preparedness planning.”⁵²

NAACP: Guide to Transforming Crisis & Advancing Equity in the Disaster Continuum

“This toolkit is designed to guide stakeholders through the process of building equity into the four phases of emergency management: prevention and mitigation, preparedness and resilience building, response and relief, and recovery and redevelopment. Each module can be stand-alone and some content in this document may help communities working to develop Resilience Hubs.”⁵³

National Association of Climate Resilience Planners: Community-Driven Resilience Planning

“This manual is intended to help new and existing multifamily housing developers, owners and organizations adapt and respond to climate change and other threats. This guide provides strategies for building multifamily resilience and opportunities to connect those strategies to community-centered Resilience Hubs.”⁵⁴

⁵¹ Ibid

⁵² Ibid

⁵³ Ibid

⁵⁴ Ibid

Appendix E: Five Steps to Resilience Descriptions

Explore Hazards

“The first step prompts a community to “consider the things their community cares about and determine which ones are exposed to harm from weather and climate-related hazards. The goal is that by the end of this step, a community will have a list of climate issues of concern.”⁵⁵

Assess Vulnerability & Risks

“The second step asks communities to consider the sensitivity and adaptive capacity of their exposed assets to determine which ones are the most vulnerable. In order to do this, a community will have to “plot the probability of the hazard against the magnitude of the potential loss. This is often contracted out in the form of a vulnerability and risk assessment, but can be run by the city, community partners or the county.”⁵⁶

Investigate Options

“Three, start to consider possible solutions for your highest risks. Through brainstorming and checking how other communities have responded to similar issues, you'll build a list of potential options. Then, through inclusive community discussions, you'll reduce your list to the actions that are feasible.”⁵⁷

Prioritize & Plan

“Evaluate costs, benefits, and your team’s capacity to implement the solutions you identified. You'll rank the expected value of each action, and integrate the highest-value actions into a step-by-step plan. By the end of the step, you'll have a comprehensive plan to implement your favored solutions as funds become available.”⁵⁸

Take Action

“Secure funds and begin implementing the first task in your plan. When possible, move to the next task. As you complete each task, check to see if your actions are producing the results you expect. Continue to monitor, review, and report on your project.”⁵⁹

⁵⁵ “Guide to Developing Resilience Hubs.” USDN, n.d. ds/2019/10/USDN_ResilienceHubsGuidance-1.pdf

⁵⁶ Ibid

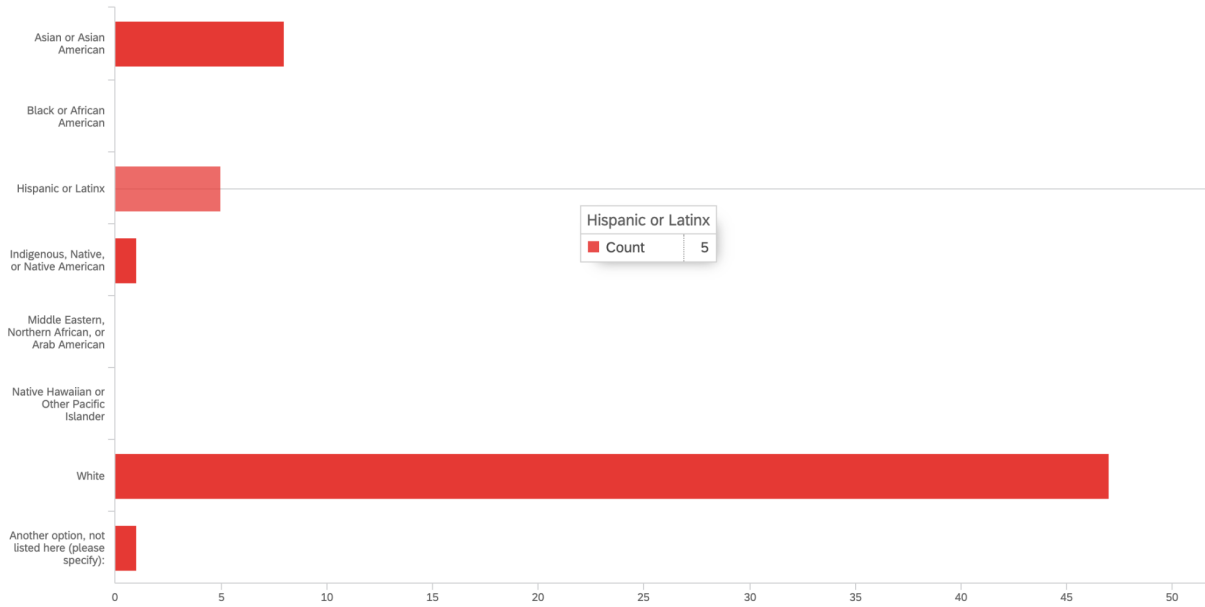
⁵⁷ Ibid

⁵⁸ Ibid

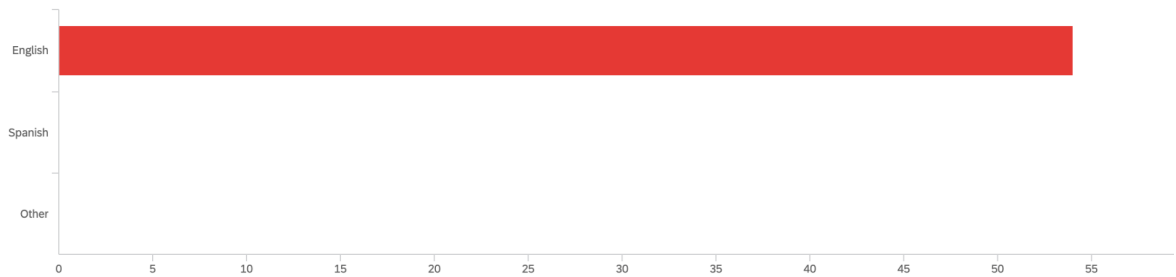
⁵⁹ Ibid

Appendix F: Survey Results Expanded

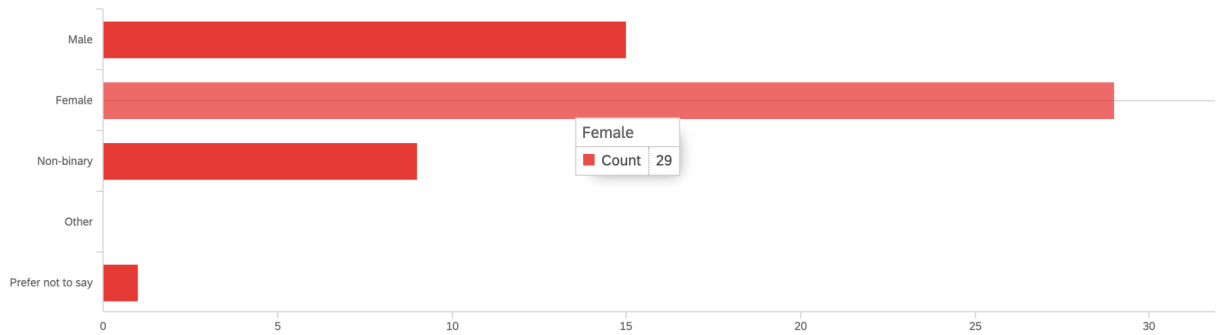
Q1 - How do you identify your race/ethnicity(ies)? (Select all that apply) n=62



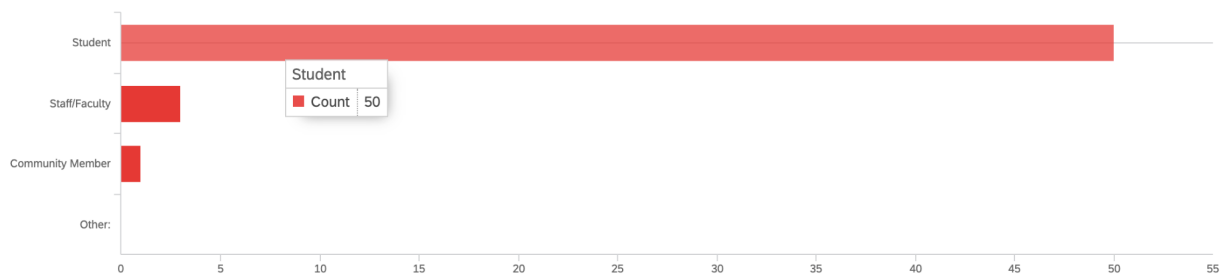
Q2 - What is your preferred language? n=54



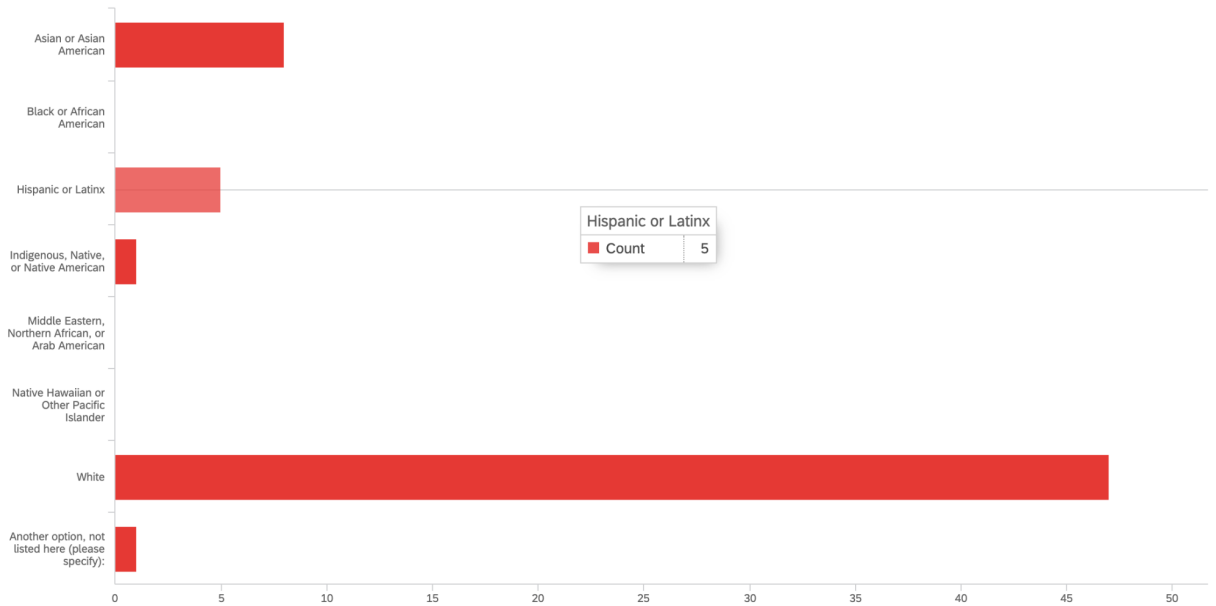
Q3 - How do you identify your gender? n=54



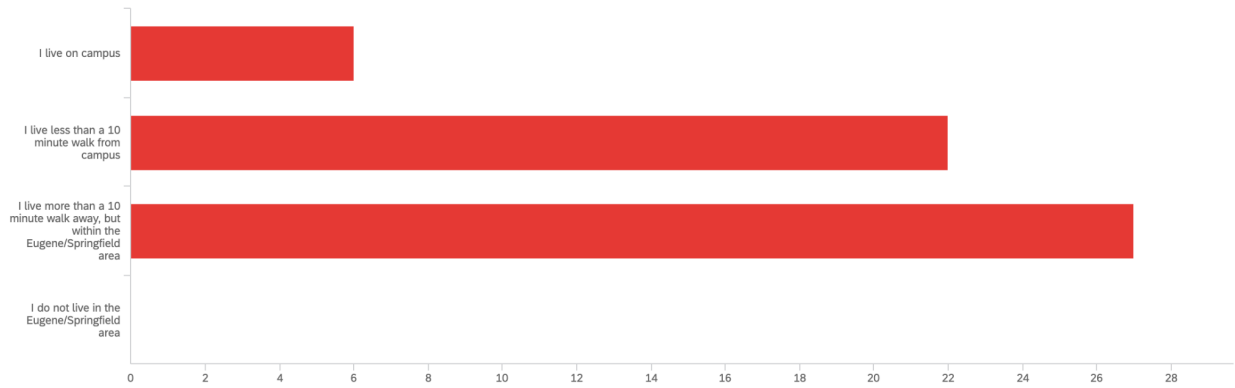
Q4 - What is your relationship to the university? n=54



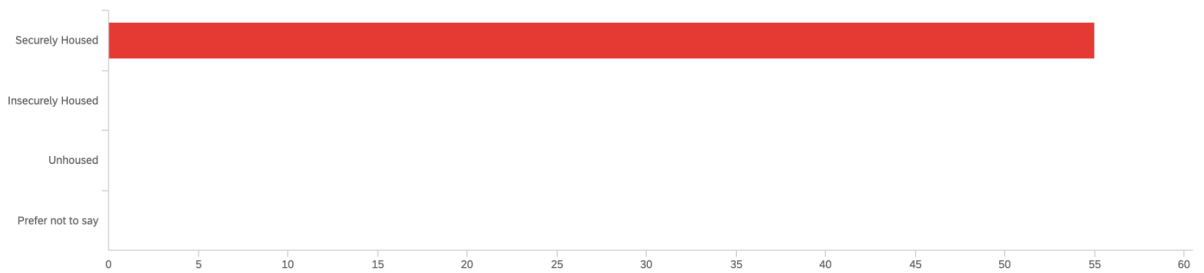
Q5 - How old are you? n=55



Q6 - Where are you in relation to campus? n=55

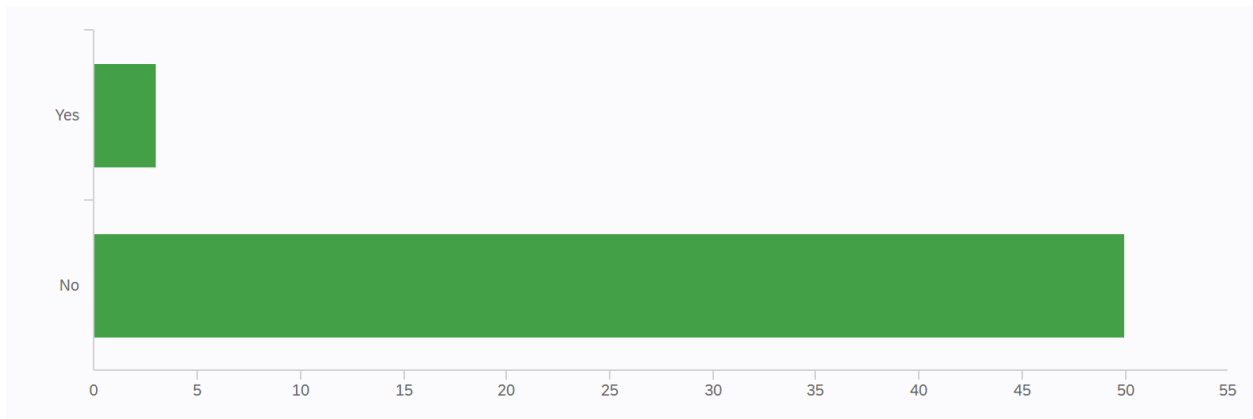


Q7 - What is your housing status? n=55

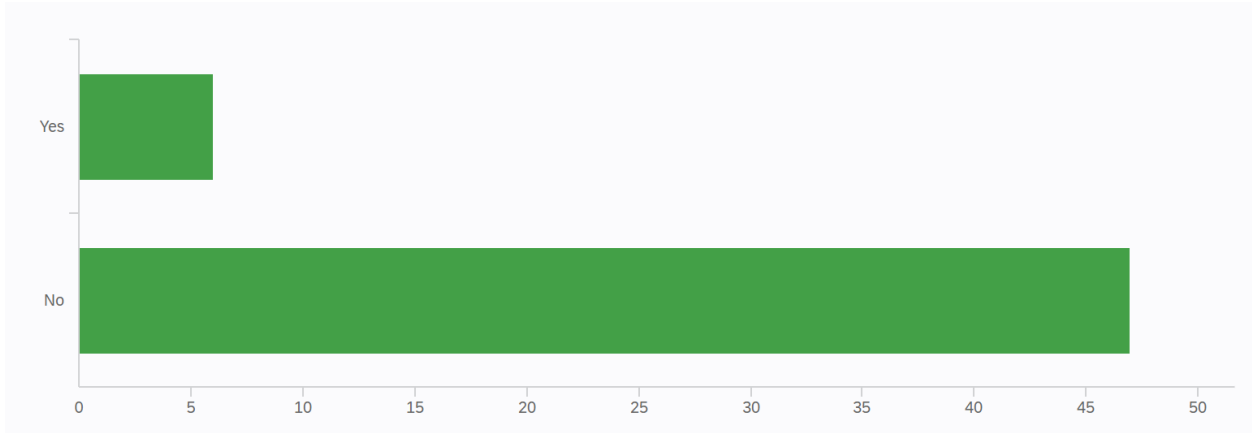


Q8 - Have you experienced ____? n=55

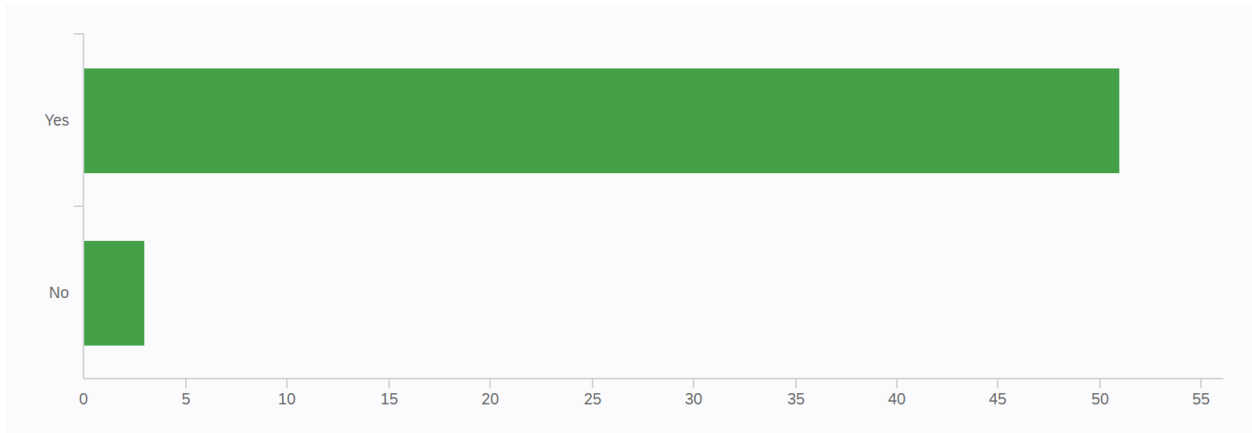
Severe Flooding



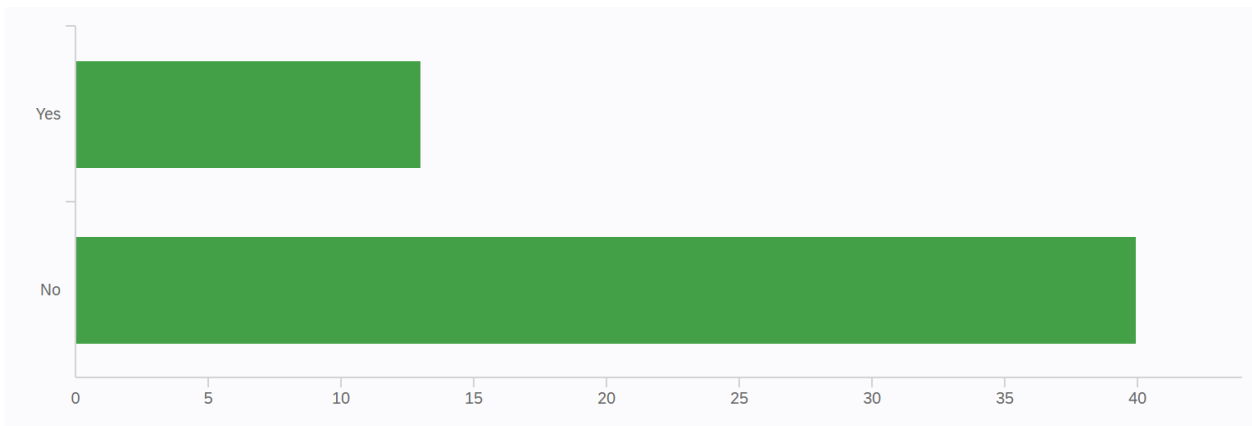
A Wildfire (Not Smoke Related)



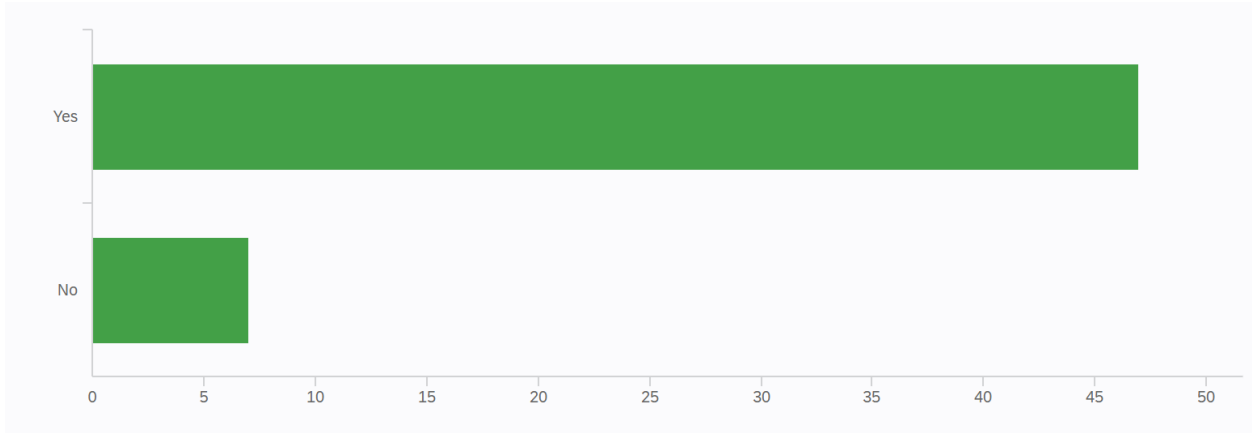
Wildfire Smoke



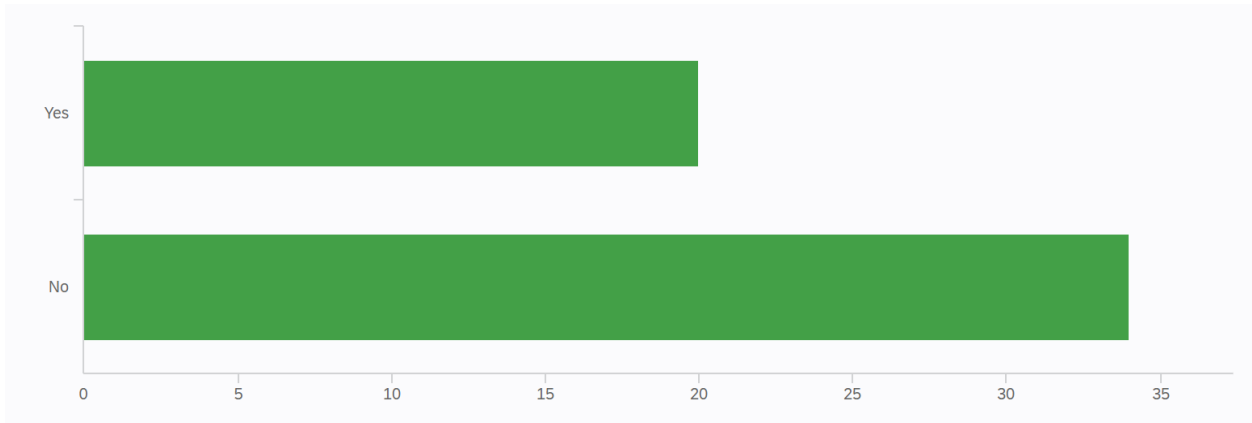
An Earthquake



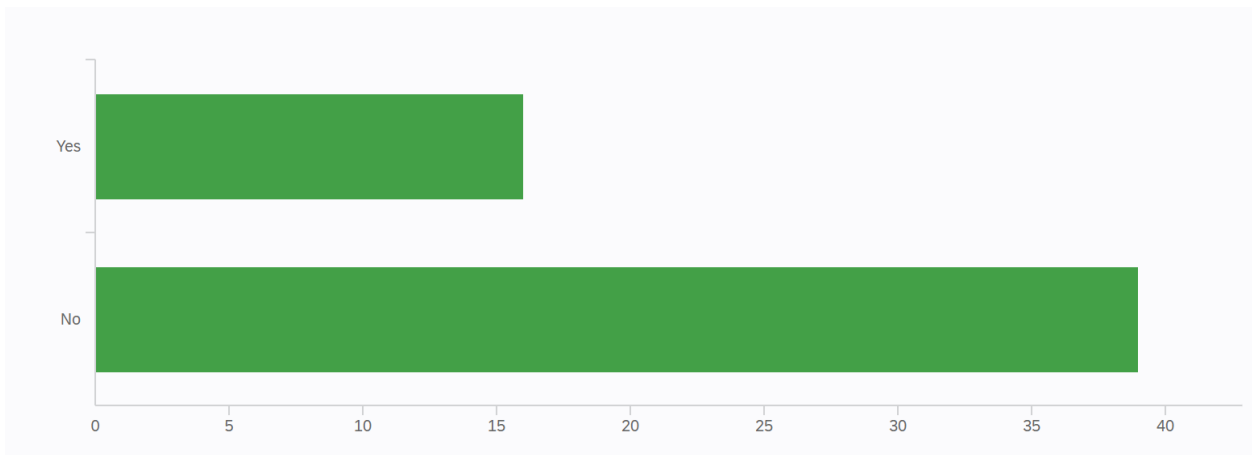
A Major Heatwave



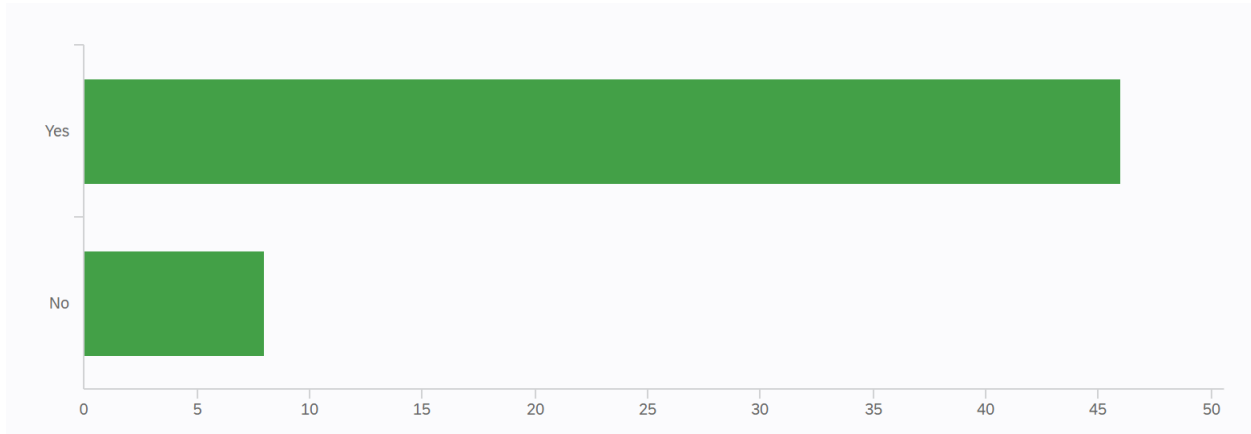
A Severe Freeze



A Several Day Utility Shut-off (Power, Water, Gas)

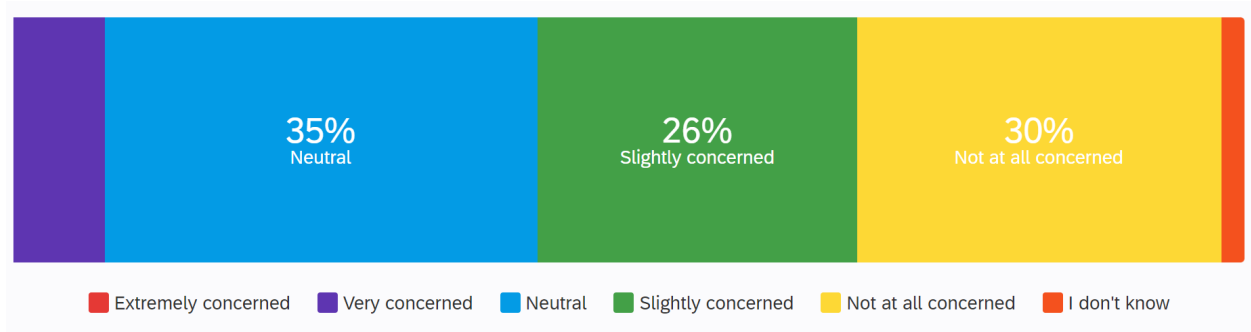


High AQI (Air Quality Index of Over 100)

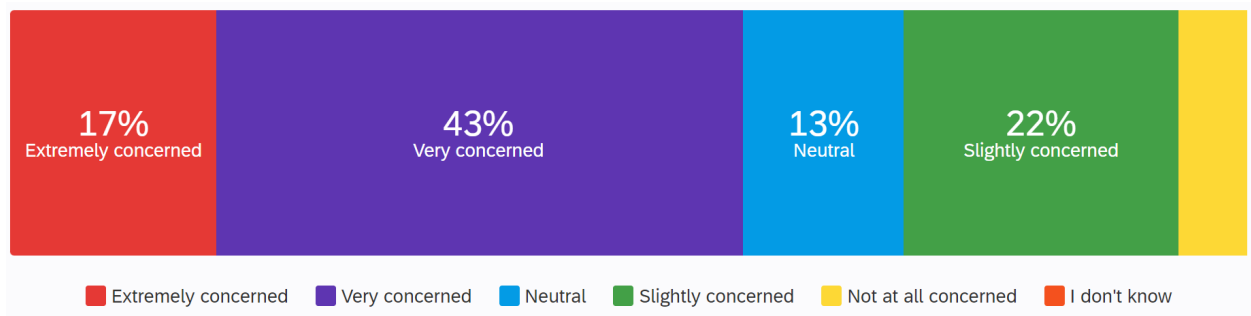


Q9 - How concerned are you for ____? n=54

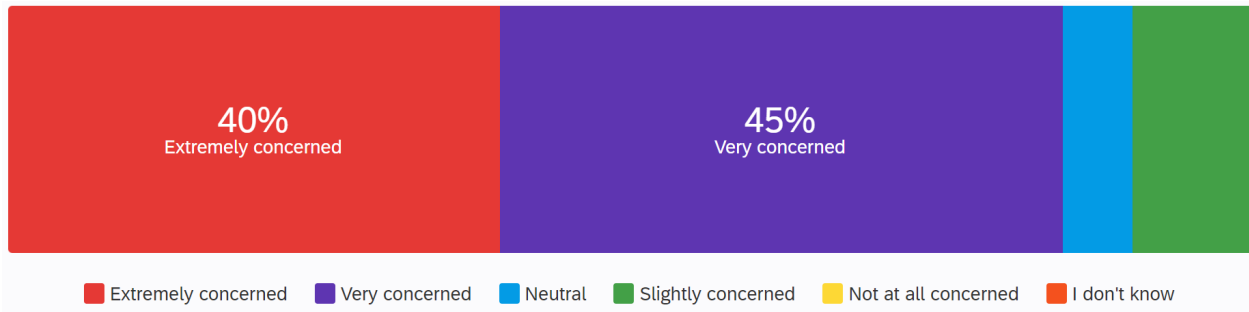
Severe Flooding



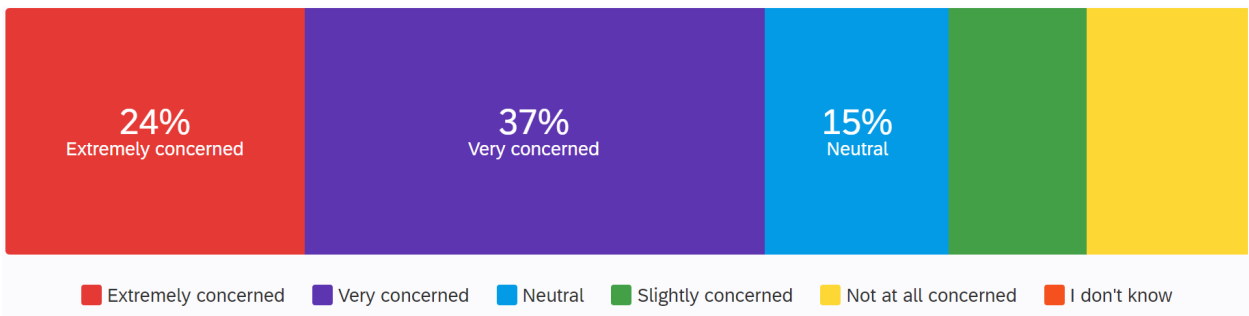
A Wildfire (Not Smoke Related)



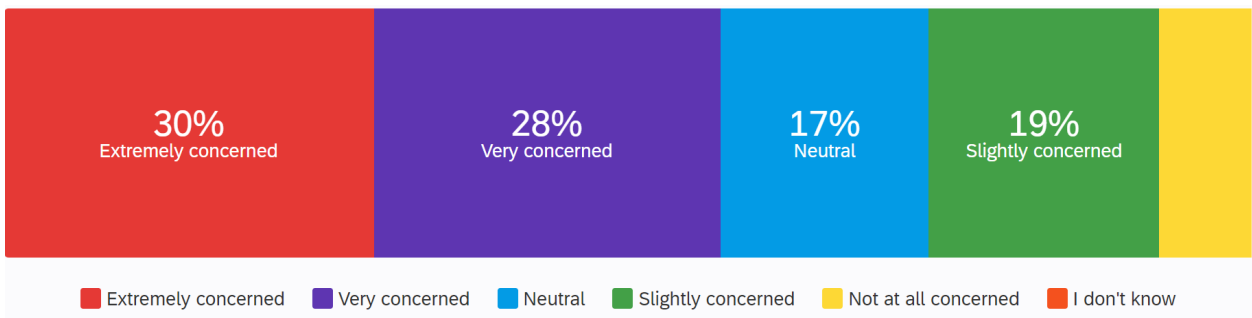
Wildfire Smoke



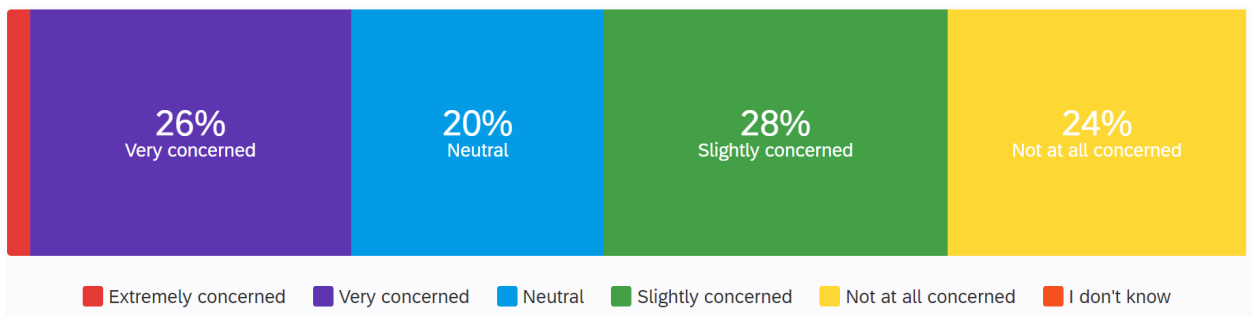
An Earthquake



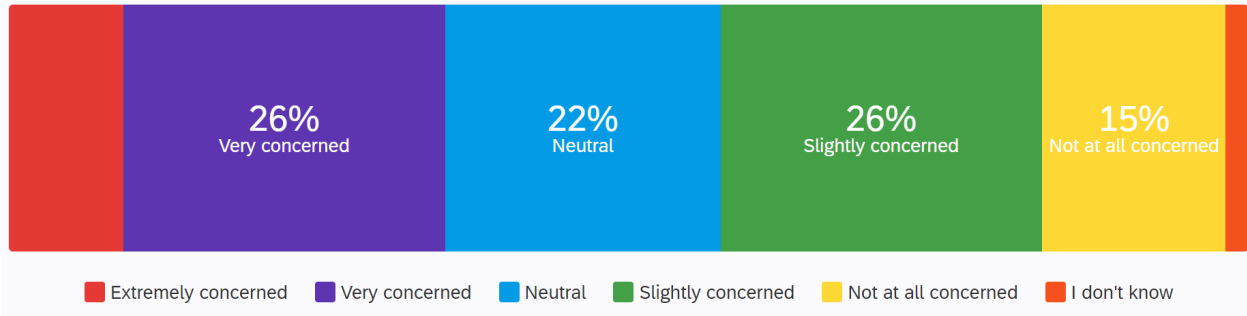
A Major Heatwave



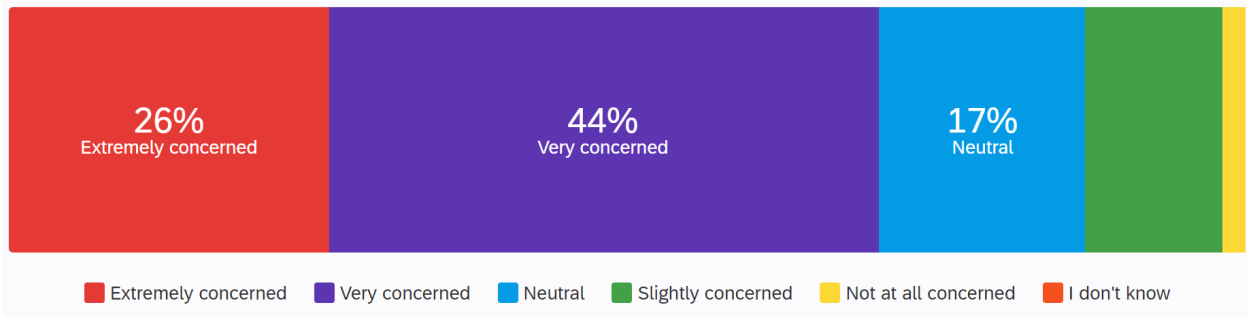
A Severe Freeze



A Several Day Utility Shut-off (Power, Water, Gas)

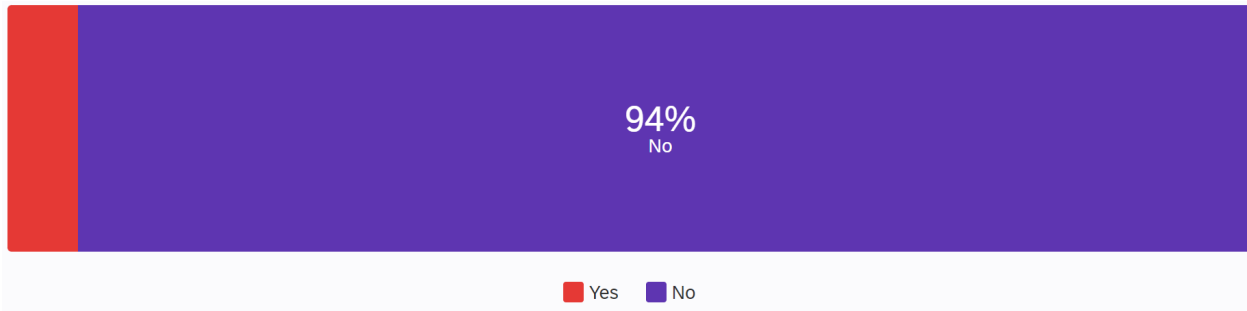


High AQI (Air Quality Index of Over 100)

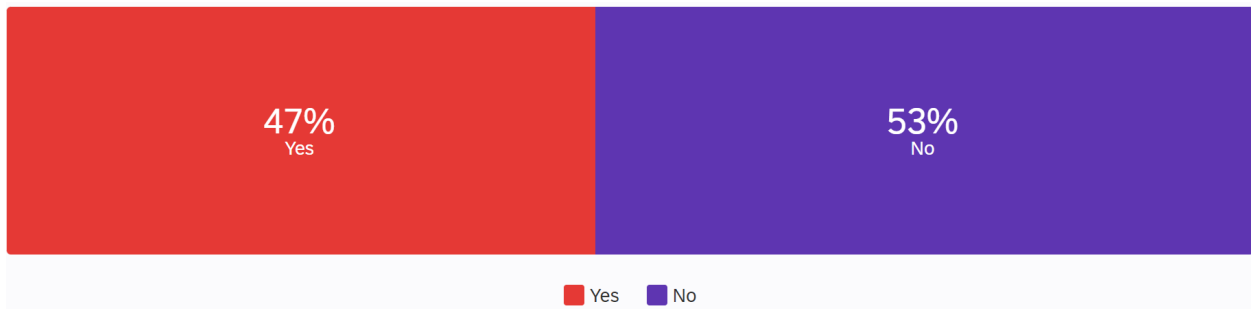


Q10 Do you know how to prepare for _____? n=53

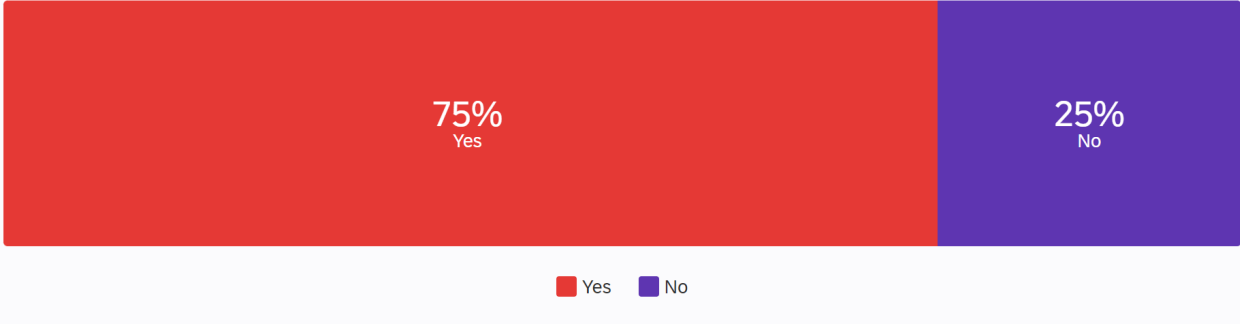
Severe Flooding



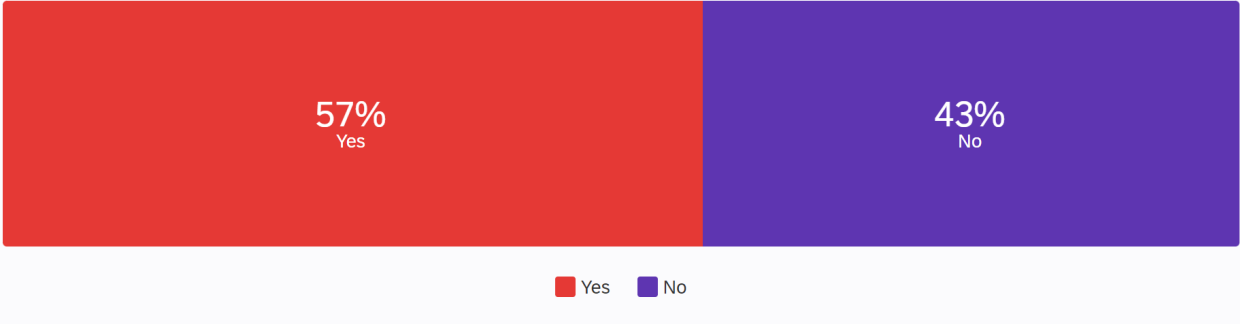
A Wildfire (Not Smoke Related)



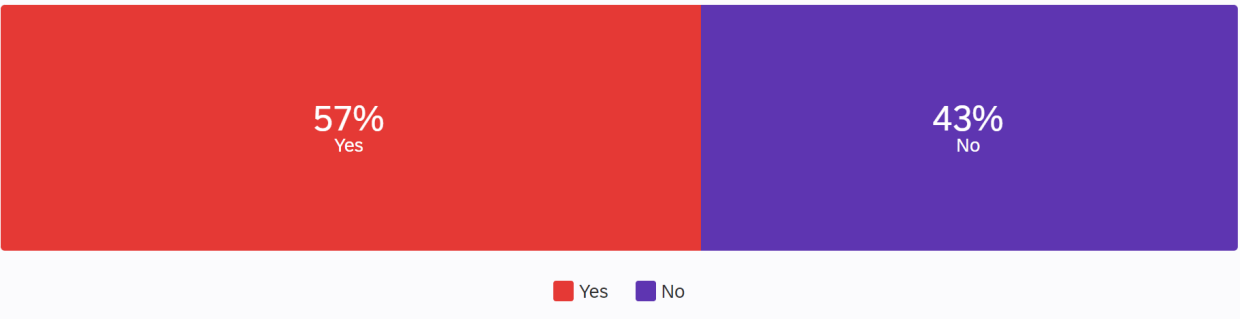
Wildfire Smoke



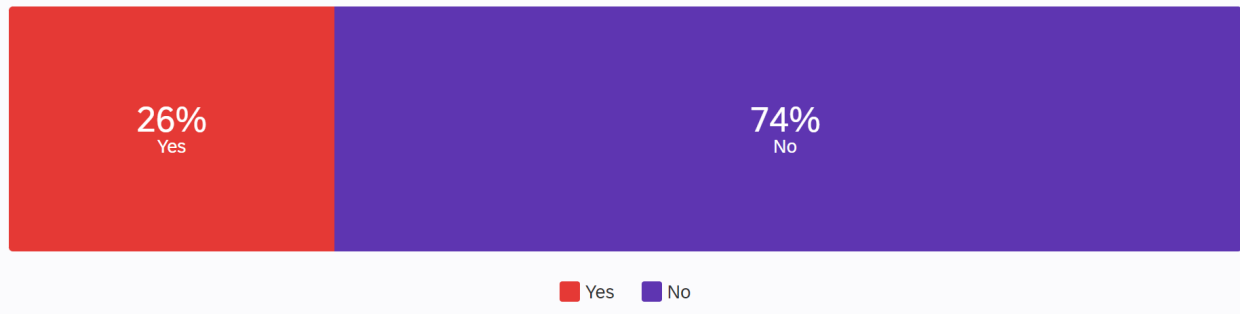
An Earthquake



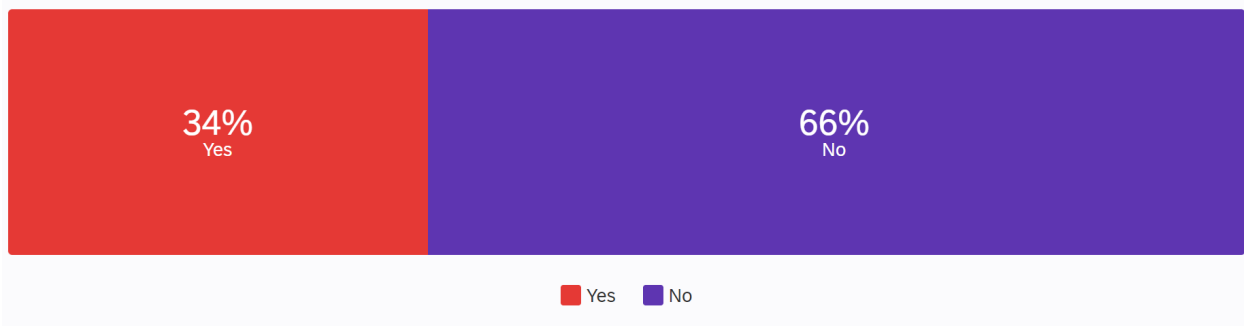
A Major Heatwave



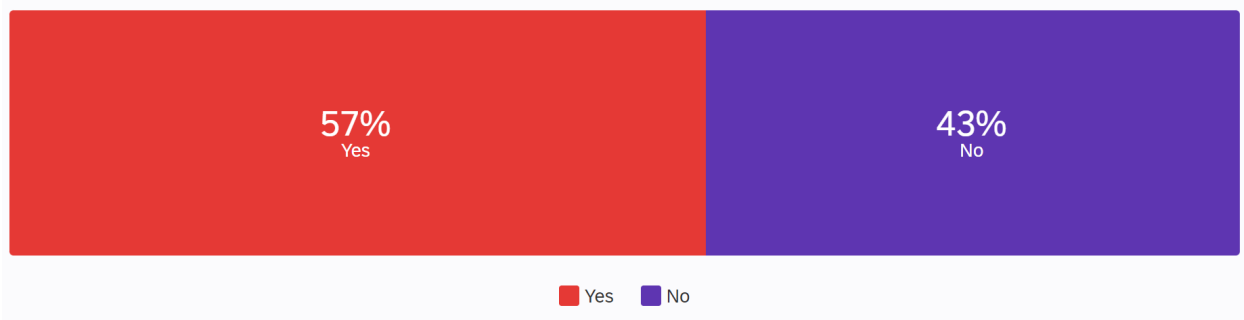
A Severe Freeze



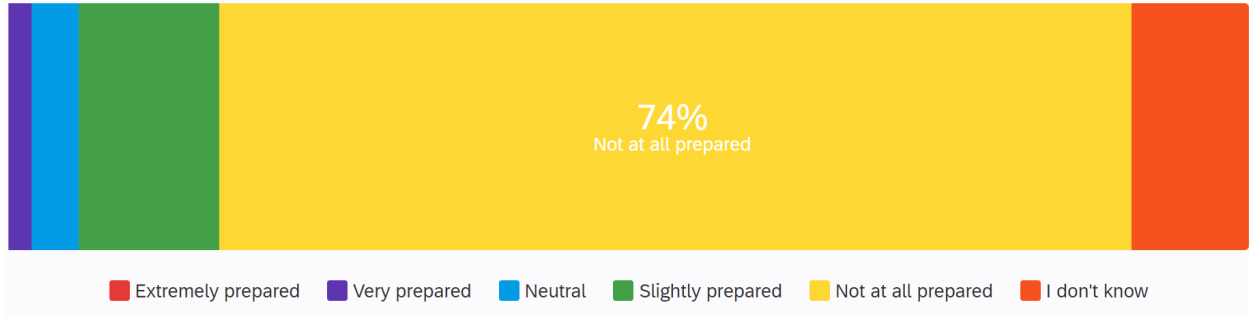
A Several Day Utility Shut-off (Power, Water, Gas)



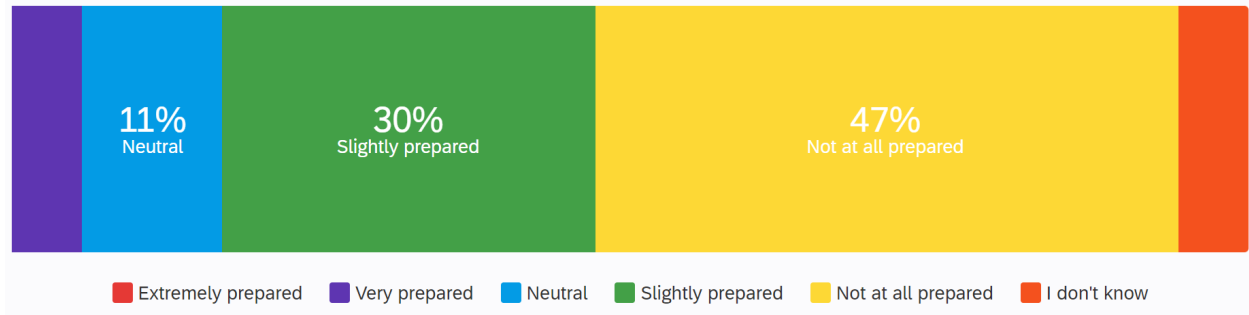
High AQI (Air Quality Index of Over 100)



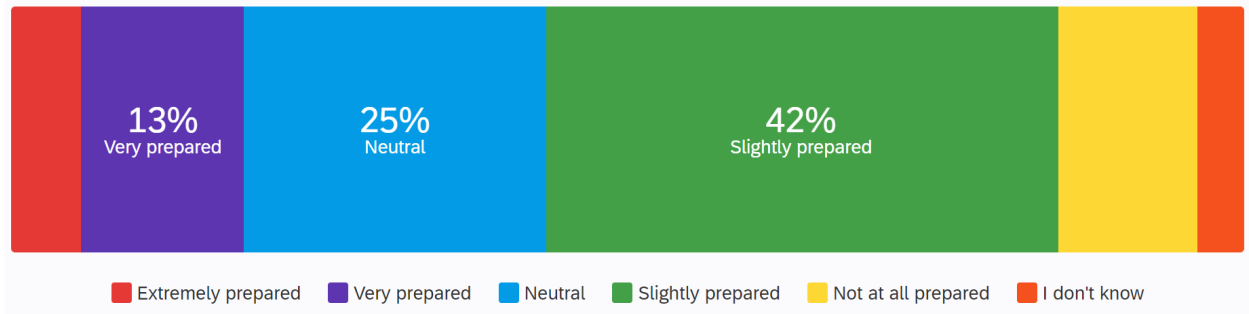
Q11 - How prepared are you for ____? n=53
Severe Flooding



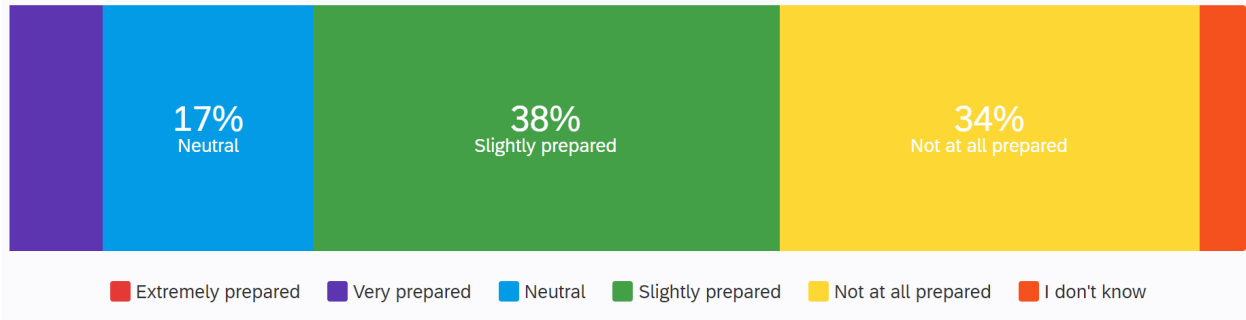
A Wildfire (Not Smoke Related)



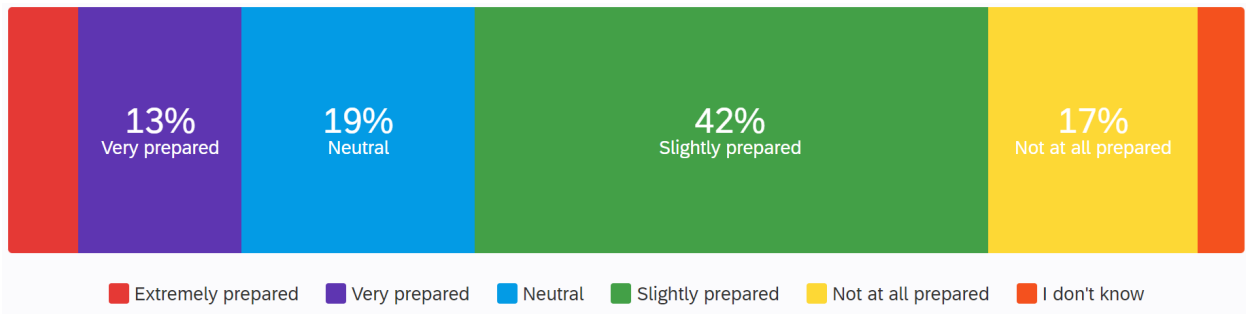
Wildfire Smoke



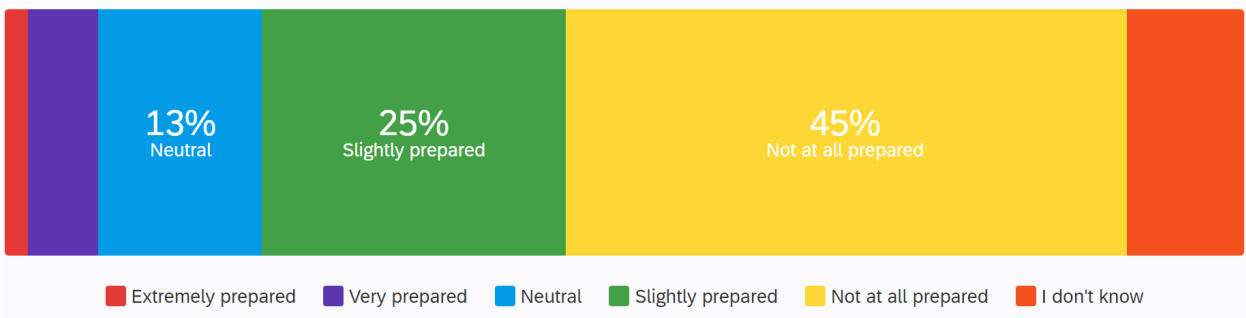
An Earthquake



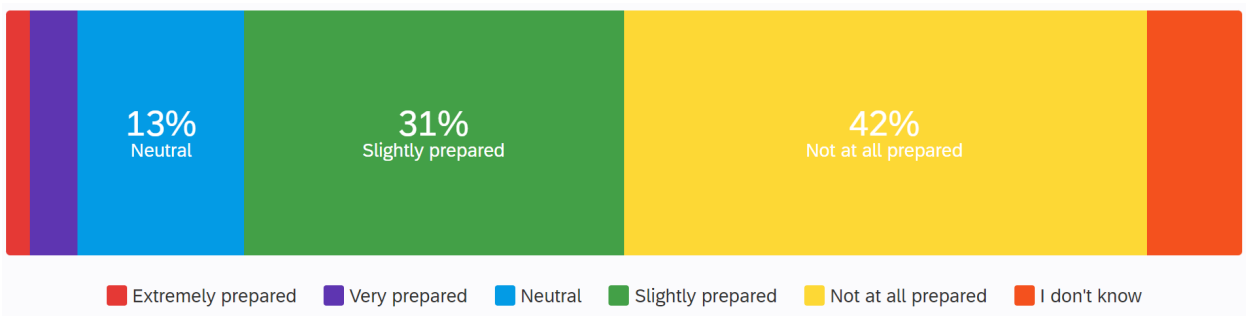
A Major Heatwave



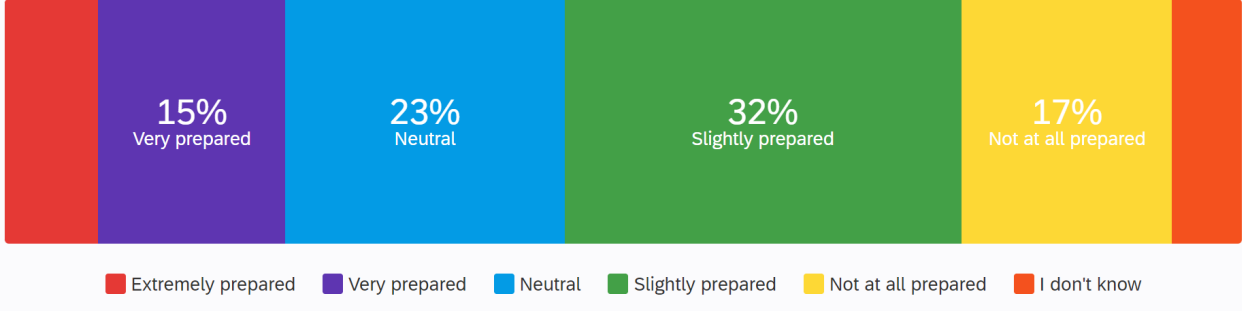
A Severe Freeze



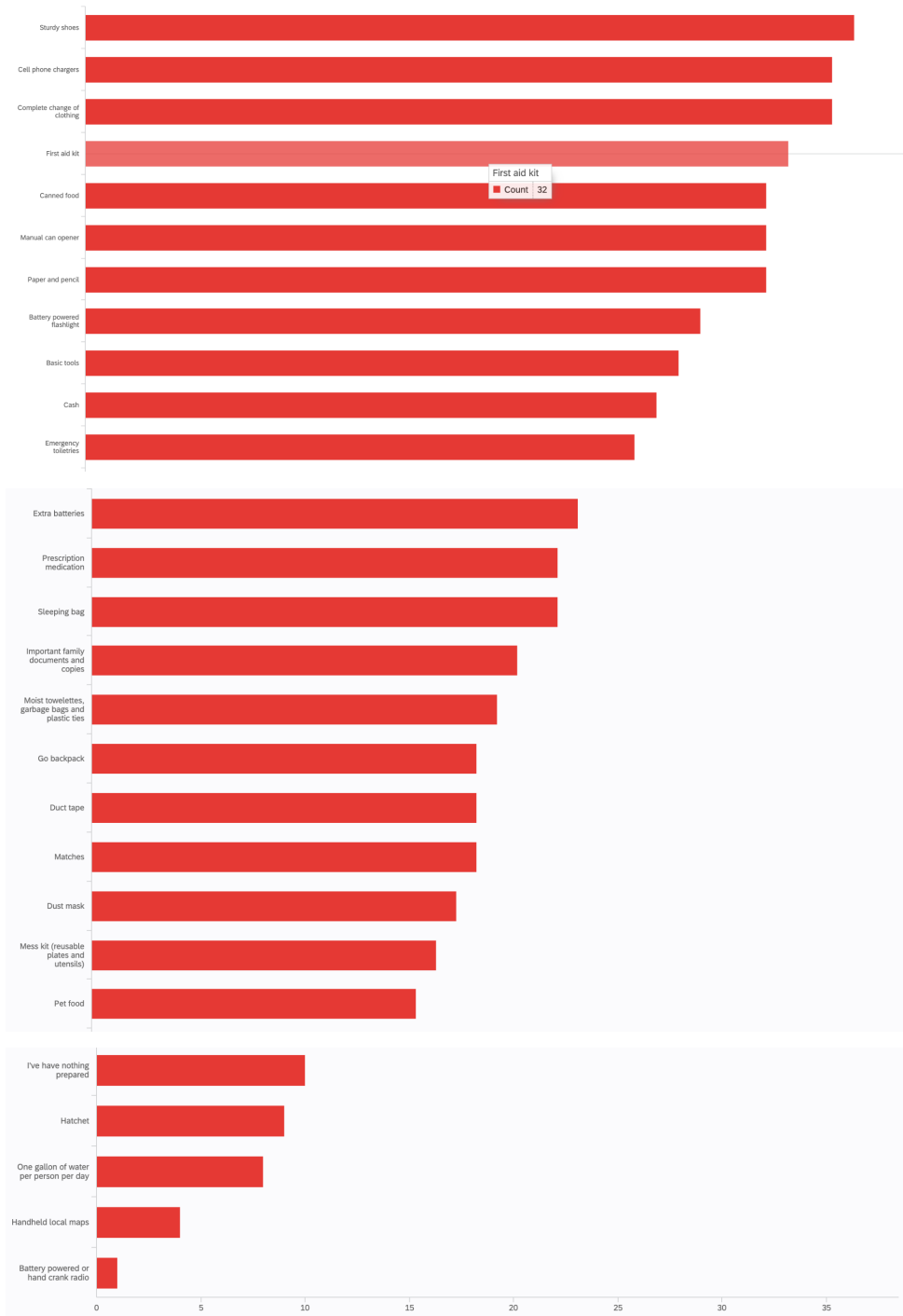
A Several Day Utility Shut-off (Power, Water, Gas)



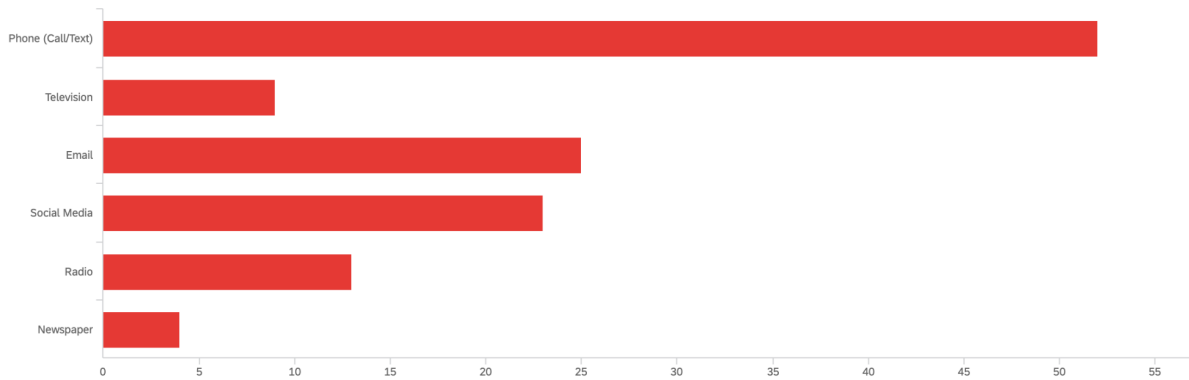
High AQI (Air Quality Index of Over 100)



Q12 - What resources do you have for a home "Disaster Preparedness Kit"? (Check all that apply) n=34


















Q13 - In a climate emergency, how would you prefer to be informed of community support? (Check all that apply) n=52



Q14 - What local organizations or university groups would you trust to assist in a climate emergency? n=40

What local organizations or university groups would you trust to assist in...

Unsure	
anyone with resources willing to help	
Local activist groups (ie HAND, Neighborhood Anarchist Collective, CORE etc.)	
UOPD, Eugene police and fire, other trained/qualified groups	
Veterans Office	
i am not sure	
Trust No One	
Eugene Emergency response teams. I'm not familiar with other local orgs or university groups.	
university of Oregon	
Risk Services	

Unknown	
I don't know, I don't really think that way.	
I don't know	
uo	
Fire department or police	
What local organizations or university groups would you trust to assist in...	
Not sure	
Food for Lane County, Peace Health, any U of O affiliated group	
University of Oregon, City of Eugene	
any	
Any	
What local organizations or university groups would you trust to assist in...	
N/A	
City, FEMA, State	
I don't know	
Red Cross	
I don't know of any	

What local organizations or university groups would you trust to assist in...

I don't know of any



unsure



the university, churches, public schools, non profits



Institute for Policy Research and Engagement



fire department



What local organizations or university groups would you trust to assist in...

ASUO



Not sure



fire department



Food for lane county



all



What local organizations or university groups would you trust to assist in...

Any who are willing to.



i don't know



Campus alerts and other news stations



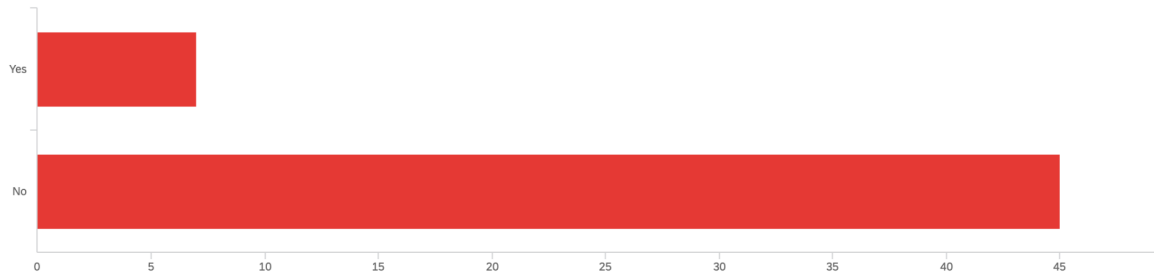
I don't know



Uni: UOregon as a whole, UO LGBTQIA group, UO YDSA Eugene: CORE, local BLM chapter, City of Eugene for info



Q15 - Have you participated in a natural disaster training or educational program? If so, through what organization? n=52



Indicated organizations

University of Oregon



I've done a ton of earthquake related stuff since elementary school. Portland public schools I guess.



Marine Corps



ca great shakeout



FEMA, OEM



High school



OMSI



Q16 - What resources would you need at a community-led climate resiliency hub? (Check all that apply) n=44

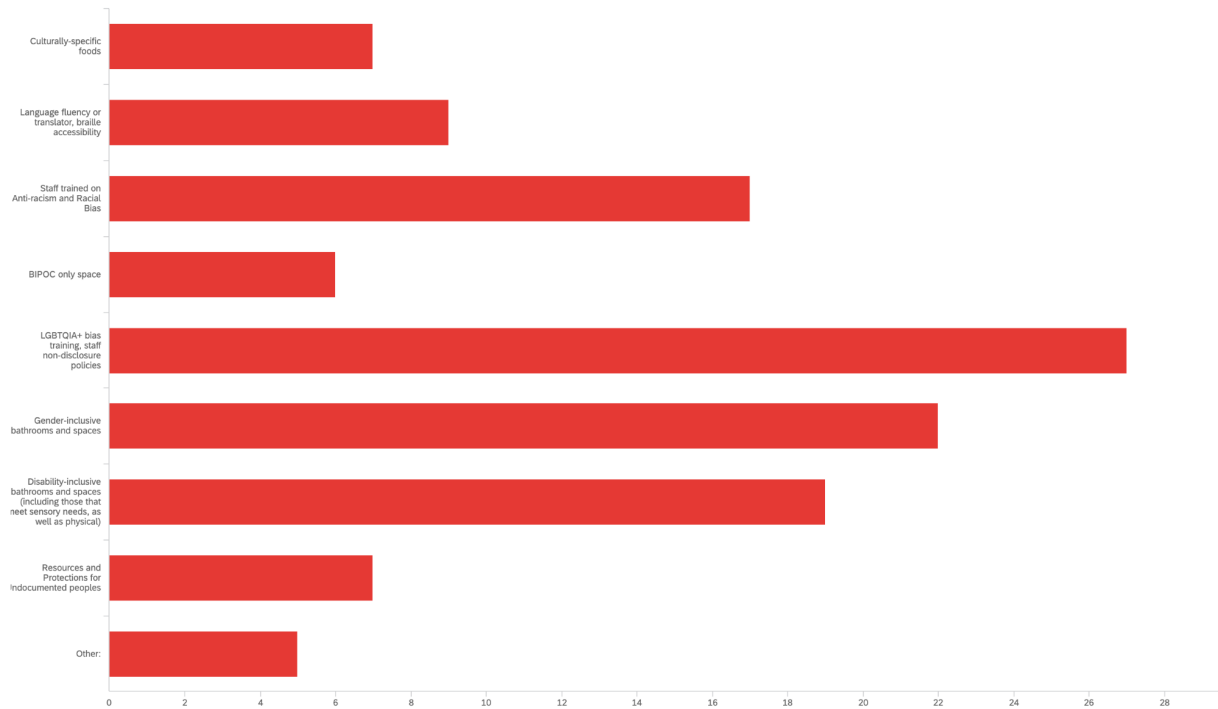
1	Food	6.61%	42
2	Filtered water	6.93%	44
3	Power	5.83%	37
4	Batteries	3.46%	22
5	Wifi	5.20%	33
6	Laundry	3.46%	22
7	Free clothing/Jackets	2.83%	18
8	Menstrual products/Safer sex supplies	4.72%	30
9	Needle exchange	0.79%	5
10	Mental health resources	5.04%	32
11	Medical supplies/Rapid tests	5.51%	35
12	Heating/cooling	5.98%	38
13	Masks	4.72%	30
14	Transportation assistance	3.46%	22
15	Free technology (computers/phones)	2.52%	16
16	Qualified personnel	5.67%	36
17	Solar power	3.94%	25
18	Generator	4.25%	27
19	Places to sleep	6.30%	40
20	Food boxes	3.94%	25
21	Prescription medications	3.31%	21
22	Rental assistance	2.36%	15
23	Utility assistance	2.99%	19
24	Other	0.16%	1

Other, indicated:

Internet access



Q17 - To create a Climate Resiliency Hub that meets your cultural needs, what resources are relevant to you? (Check all that apply) n=22



Other, indicated:

I have no specific cultural needs



I don't need any of these personally but Bias Training, BIPOC space, Translators, & resources for everyone generally seem very important.



All this is good, way less critical than the stuff on the previous page. Maslow's hierarchy of needs and all



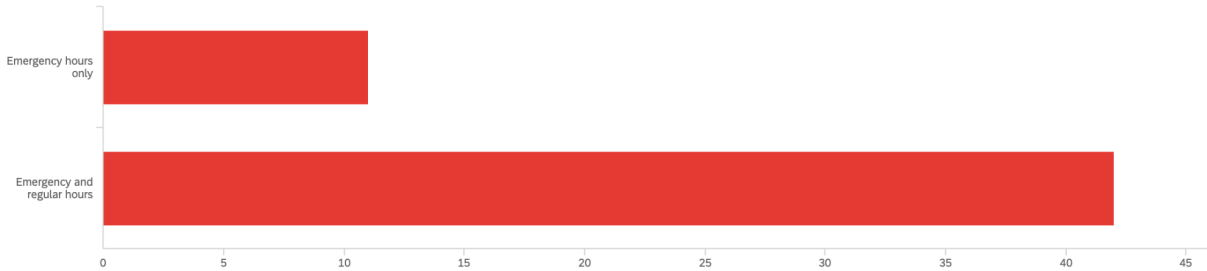
Strict mask enforcement or accommodations for those who are unable to wear them. I would be worried about Covid exposure being in close proximity with strangers.



Technically, I'd probably be fine, but these all sound great.



Q18 - Would you prefer a Climate Resiliency Hub that is only available during emergencies or that is available for emergencies and has regular hours? n=53



Q19 - Is there anything else you'd like to share regarding your needs in a climate emergency that have not been addressed here? n=14

Focus attention on Earthquake Awareness



I think outreach and education on climate emergency preparedness and informing people about climate emergency hubs would be helpful. I was unfamiliar with the term until recently.



I think that keeping a hub open for regular hours as well as emergency hours could provide a designated space for people to prepare for potential emergencies and/or get educated about what emergencies they face and how they can help mitigate them, maybe.












I think the location of the hub would be important to consider; easy access should public transportation become unreliable or infrastructure limits points of entry



Information would probably be one of the most important things for me that you might be able to provide, such as what is the situation and perhaps helping to connect me to my family.



N/A	
N/A	
Nope	
On the supplies question, all of those items would be good to have at a shelter.	
Over the counter medication (ibuprofen, allegra, etc.)	
The ability for a college renter to be prepared is a lot different than someone with an actual home	
no	
no	
resources for places around town that may be susceptible to a certain disaster (buildings not built to earthquake code, floodprone areas, places close to the forest)	

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