

Informing effective and equitable environmental policy

Deconstructing Evaluation to Build a Resilient Future

BEST PRACTICES FOR MEASURING IMPACTS OF THE COMMUNITY RESILIENCE CENTERS GRANT PROGRAM



BY KATIE FREIBERG

JUNE 2025 STUDENT REPORT Informing effective and equitable environmental policy



Deconstructing Evaluation to Build a Resilient Future

Best Practices for Measuring Impacts of the Community Resilience Centers Grant Program

BY KATIE FREIBERG

JUNE 2025

ACKNOWLEDGMENTS

I am deeply grateful to my client, the California Strategic Growth Council (SGC), and the Community Resilience Centers (CRC) team for sponsoring this report and welcoming me into the team. It has been an honor to support such a visionary program. A special thank you to the following individuals:

- Anna Jane Jones, Program Manager of Community Resilience Centers
- Dora Monterroza, Resilient Community Associate Planner
- Jin Zhang, Resilient Community Associate Planner
- Jessica Cervantes, Resilient Community Associate Planner
- Jess McCool, Resilient Community Associate Planner

I extend my deepest thanks to my faculty advisor, **Dr. Kelly Turner**, who took on the role with such generosity and care, in addition to her many responsibilities as Associate Professor of Urban Planning and Geography and Associate Director of the Luskin Center for Innovation (LCI).

I would also like to thank the following supporters whose contributions of resources and wisdom paved the way for this work:

- Amar Azucena Cid, Deputy Director of Community Investments and Planning at SGC
- Hoi-Fei Mok, Deputy Director of Equity and Government Transformation at SGC
- Kristopher Eclarino, Senior Technical Manager at Climate Resolve
- Leah Hubbard, Director of Strategic Partnerships at Estolano Advisors
- Riley O'Brien, Director of Spatial and Quantitative Data Analysis at Estolano Advisors
- Samantha Nuno, Grants and Proposals Manager at Climate Resolve
- **Dr. Stephen Wong**, Assistant Professor, Department of Civil and Environmental Engineering at the University of Alberta

Finally, I would like to thank the **UCLA Luskin Center for Innovation** for supporting this research and providing an invaluable platform to share findings with a broader community of practitioners, scholars, and change-makers.

Report designed by Katie Freiberg. Cover photo credit: Pixdeluxe / iStock

About the Author:

Katie Freiberg recently graduated from the UCLA Luskin School of Public Affairs with her Master's in Urban and Regional Planning. This report was the culmination of her capstone research, which she produced while juggling roles as Graduate Student Assistant with the California Strategic Growth Council (client) and Grant Writing Consultant with Climate Resolve. In these roles, she exercised her passion for connecting frontline communities with funding opportunities that enable meaningful climate action.



This report was prepared in partial fulfillment of the requirements for the Master in Urban and Regional Planning degree in the Department of Urban Planning at the University of California, Los Angeles. It was prepared at the direction of the Department and of California Strategic Growth Council as a planning client. The views expressed herein are those of the authors and not necessarily those of the Department, the UCLA Luskin School of Public Affairs, the UCLA Luskin Center for Innovation, UCLA as a whole, or the client.

TABLE OF CONTENTS

Executive Summary2					
Introduction	5				
Literature Review	8				
SGC's Community Resilience Centers Program Round 1					
Methodology	17				
Stakeholder Interviews	17				
Review of Prior SGC Engagement Materials	19				
Review of Existing, Relevant Evaluation Frameworks	20				
Findings and Recommendations	21				
Core Components & Structure of Evaluation					
Recommendations for Evaluating Resilience Services and Programs	24				
Recommendations for Evaluating Capital Projects and Services	28				
Example Indicators and Metrics	30				
Analysis of Evaluation Challenges and Recommendations	34				
Criteria for Selecting a CRC Evaluator					
Core Competencies					
Recommended Activities					
Comparison of Findings	41				
Existing Relevant Evaluation Frameworks					
Important Learning Outcomes and Future Research	46				
Conclusion	49				
Appendices	51				
References	75				

Informing effective and equitable environmental policy



EXECUTIVE SUMMARY

The **Community Resilience Centers (CRC) Grant Program** is a landmark effort by the California Strategic Growth Council (SGC) to **fund place-based infrastructure and services** that **strengthen local resilience to climate change and social vulnerabilities**. This report synthesizes key findings from interviews, document analysis, and community input to develop a responsive, equity-centered evaluation framework for the CRC program. The framework aims to ensure that implementation efforts are measurable, meaningful, and adaptable to the diverse contexts of communities served.

Key Findings

The **evaluation must be grounded in mixed methods**, combining quantitative metrics (e.g., greenhouse gas reductions, energy usage, service counts) with qualitative insights (e.g., community narratives, perceived safety, trust). Evaluation should track both **process and outcomes**, begin with clear **baseline data**, and include **longitudinal tracking** to understand change over time. It must also be **hypothesis-driven**, aligned with theories of change, and responsive to evolving local priorities.

Critically, the evaluation should be **community-centered**. This includes cocreated indicators, participatory methods like community-based participatory research, trauma-informed approaches, and culturally responsive tools. Evaluation should not simply extract data but build capacity among grantees—especially those with limited resources.

Significant challenges persist, including a lack of baseline data, tools to evaluate social resilience, and real-time usage data during climate emergencies. Furthermore, challenges in disentangling the effects of capital projects from community programming, resource burdens on small

EXECUTIVE SUMMARY

community-based organizations, and community engagement fatigue require careful design to mitigate.

Recommendations

Recommendations include offering a **menu of indicators**, supporting **community co-design of tools**, embedding evaluation into **annual reporting**, and using both **traditional and culturally specific metrics**. Evaluation should prioritize **transparency, ethics, and equity**, while allowing for adaptive, modular structures. Evaluators should support grantees with technical assistance, storytelling, accessible data tools, and feedback loops. To ensure sustainability, the program should explore diversified funding sources, co-ownership models, and shared staffing structures.

Cross-Cutting Recommendation:

Strengthen Local and Community-Led Data Practices

- Promote community ownership of data through training and participatory evaluation design.
- Invest in creative data collection methods such as storytelling exhibits and art-based feedback.
- Support local partnerships (e.g., with academic institutions) to generate, store, and interpret data.
- Create indicator menus for measuring soft outcomes, including:
 - Participation (frequency, diversity, reasons for engagement or non-participation)
 - Accessibility (language, location, cultural relevance)
 - Trust and relationship indicators (perceived safety, satisfaction, leadership visibility)

EXECUTIVE SUMMARY

Conclusion

Evaluation is not simply about accountability—it is a strategic opportunity to learn, adapt, and invest in what works. This report lays the groundwork for an evaluation framework that centers communities, aligns with state equity goals, and generates meaningful insights to shape the future of resilience in California.



Informing effective and equitable environmental policy





In its inaugural round of funding (FY 2022-2023), the **California Strategic Growth Council's (SGC) Community Resilience Centers (CRC) Grant Program** was provisioned \$98.6 million to award to communities across the state of California to support the planning and construction of neighborhoodserving 'community resilience centers.' Community resilience centers are **designed to be adaptive, community-serving hubs which can build community preparedness and resilience** through programming and activate as shelters during extreme weather events. As California faces severe climate threats such as flooding, earthquakes, wildfires, and extreme heatwaves, residents—especially those who reside in disadvantaged communities—may face challenges such as inconsistent power supply, lack of emergency response planning, and limited resources (food, shelter, water, refrigeration, etc.).

SGC's CRC program **funds planning, development, construction, and upgrades** of neighborhood-level Community Resilience Centers to provide shelter and resources during climate and other emergencies, such as extreme heat events and poor air quality days. The program also **funds ongoing year-round community services and programs**, such as food distribution and workforce development training, that build overall community resilience. Funding for CRC Program Round 1 is through the General Fund's Climate Budget, and as of April of 2024, the CRC program has awarded its appropriated funds to 24 projects across the state, broken down by its three grant types (11 planning grants, 4 project development grants, and 9 implementation grants).

Resilience centers are a newer yet critical intervention, quickly gaining traction across the United States with increasing spotlight on statewide and federal funding opportunities. The oversubscription of SGC's CRC program in

INTRODUCTION

Round 1, revealed by a comparison of the total number of applicants (n=189) to the number of awarded applicants (n=24), is indicative of the need for community resilience funding across the state. While the CRC program is California's first statewide grant program specifically aimed at funding neighborhood-level community resilience centers, it builds upon statewide efforts to build local resilience across California communities including the California Climate Adaptation Strategy and Extreme Heat Action Plan.

The findings in this report apply to the nine (9) implementation grant awardees from the following counties: Los Angeles, Alpine, San Diego, Contra Costa, Nevada, Madera, Riverside, and Sonoma. Of these awardees, five (5) are located in and benefit SB 535 Disadvantaged Communities, six (6) are located in and benefit AB 1550-Designated Low-Income communities, two (2) are located in and benefit unincorporated communities, three (3) are located in and benefit rural communities, and one (1) is led by a California Native American Tribe.



Figure 1. Map of Round 1 CRC Implementation Grant Awardees



Data sources for this report include qualitative interviews with key stakeholders, including CRC practitioners, grantees, and evaluation consultants; and analysis of Request for Information (RFI) submissions on program evaluation. Additionally, the report dives deep into challenges and needs related to evaluating community resilience infrastructure and programs/services. This research aims to illuminate best practices, challenges, and other community needs and provide SGC with guidance on forming an evaluative framework for the CRC program.

Informing effective and equitable environmental policy





Introduction

The purpose of this literature review is to outline the environmental, political, and social context out of which the need for community resilience centers emerges. This section lays the foundation to the research question: **How can community and climate resilience programs be effectively implemented and evaluated to address under-served community needs, and what strategies can overcome key data and evaluation challenges?**

Key Terms and Definitions

For the scope of this report, climate resilience and community resilience are defined as follows, per CRC R1 Guidelines¹:

- **Community Resilience:** The capacity of a community to withstand, recover, and learn from adverse events (climate or otherwise) and strengthen future response and recovery efforts. Inclusive of resources, connections and networks, knowledge and information, trust and social cohesion, access and opportunities, and overall equity and well-being.
- Climate Resilience: For the CRC program, climate resilience is strengthened locally through specific strategies, activities, and capacity to prepare for climate impacts including drought, extreme temperatures, floods, sea level rise, and wildfires.

Furthermore, we define the components of an evaluation framework as follows:

• **Evaluation:** An assessment of the strengths and weaknesses of a program, policy or initiative. Evaluation compares stated outcomes (pre-

¹ Strategic Growth Council. (2023). Community Resilience Centers: Round 1 Guidelines (Revised). Retrieved from https://sgc.ca.gov/grant-programs/crc/docs/20231214-CRC_Round_1_Guidelines_Revised.pdf

implementation) with actual outcomes (post-implementation) through data collection and analysis and is often integral to decision-making processes.²

• Framework: A set of a consistent guidelines or indicators used to develop, assess, and/or implement an initiative.³

Putting it together, a **CRC Evaluation Framework** is a tool for measuring impacts on climate and community resilience, including the strengths and gaps of CRC implementation and programming, using specific, measurable outcomes to inform decision-making around CRC guidelines and funding.

Social Vulnerabilities Lead to Disproportionate Environmental Impacts

As California faces severe climate threats, residents may face challenges such as **inconsistent power supply**, **lack of emergency response planning**, and **scarcity of essential resources** including food, shelter, water, and power. Of those residents, vulnerable peoples who reside in **disadvantaged communities will experience amplified risks** including limited access to emergency resources and other life-threatening obstacles which can occur in the aftermath of disaster. **Youth, the elderly, people with disabilities, Indigenous people, incarcerated individuals,** and **low-income communities**, among other vulnerable communities, are especially sensitive to the impacts of climate change.⁴ In response to these adverse, varying impacts, policymakers and environmental analysts alike have begun to use tools such as **CalEnviroScreen 4.0**, to track disparate climate and community health burdens, such as air pollution and asthma prevalence, across the state of California.⁵ Other tools include the **Public Health Alliance of Southern**

² Patton, M.Q. (1987). Qualitative Research Evaluation Methods. Thousand Oaks, CA: Sage Publishers.

³ Partelow, S. What is a framework? Understanding their purpose, value, development and use. J Environ Stud Sci 13, 510–519 (2023). <u>https://doi.org/10.1007/s13412-023-00833-w</u>

⁴ Asian Pacific Environmental Network (APEN). (2019). Mapping Resilience: A Blueprint for Thriving in the Face of Climate Disasters. Retrieved from <u>https://apen4ej.org/wp-content/uploads/2019/10/APEN-Mapping_Resilience-Report.pdf</u>

⁵ California Office of Environmental Health Hazard Assessment. (2023). CalEnviroScreen 4.0. Retrieved from <u>https://oehha.ca.gov/calenviroscreen</u>

California's California Healthy Places Index (HPI)⁶ and California Building Resilience Against Climate Effects Climate Change and Healthy Vulnerability Indicators (CalBRACE CCHVIz), which contribute to the environmental and social understanding of climate change.⁷ The state is one of the most powerful actors that is poised to fund resilience initiatives, and these tools reinforce the need for swift and substantial intervention.

Over the past two decades, the state of California has amplified its commitment to climate resilience through a number of bills, executive orders, and climate strategies. These strategies include **SB 1000** (2016), which requires cities and counties to include an Environmental Justice element in their general plans, and **AB 1550** (2016), which builds on **SB 535** (2016) to increase the percentage of state funds allocated to disadvantaged and low-income communities. However, state investments must be partnered with local agency collaboration and community stakeholders' input to mutually activate and implement these programs.⁸ This type of community buy-in, especially from residents who are extremely vulnerable to climate impacts, ensures that residents are aware of and trust the resources available to them as they co-lead the development process.

What are community resilience centers?

Community resilience centers ("resilience centers") are **adaptive**, **permanent**, **community-serving hubs** which can **build community preparedness and resilience** through programming and activate as shelters during extreme weather events. Also known as resilience hubs, these infrastructural spaces provide a **range of services to meet community needs**, from providing

⁶ The Healthy Places Index (HPI) is a comprehensive data and policy platform that advances health equity through open and accessible data. It evaluates the relationship between 23 key drivers of health and life expectancy at birth, which can vary dramatically by neighborhood. California Healthy Places Index. (2022). Retrieved from https://www.healthyplacesindex.org/

⁷ CCHVIz presents indicators for six climate-related exposures—including extreme heat, wildfire smoke, air pollution, sea level rise, drought, and flooding—and combines them with data on population sensitivity and adaptive capacity to generate composite climate vulnerability scores. The tool provides interactive maps, graphs, and downloadable data that allow users to explore which communities are most at risk, and why. California Department of Public Health. (2019). Retrieved from https://skylab.cdph.ca.gov/CCHVIz/8 Lou, Z. (2020). Resilience Before Disaster. Asian Pacific Environmental Network. Retrieved from https://apen4ej.org/wp-content/uploads/2020/10/Resilience-Before-Disaster-FINAL-UPDATED.pdf

emergency response and recovery resources to offering workforce development training opportunities. A successful resilience center is community-driven; provides resilience-building services, such as first-aid training workshops; and utilizes resilient and sustainable design, such as solar and battery storage.⁹ The **Urban Sustainability Directors Network** recommends six phases to implement an **optimal resilience center**:

- Assess vulnerabilities, sensitivities, adaptive capacities, and select a service area.
- 2) Establish project team, build partnerships, and set goals.
- 3) Identify and evaluate sites, measuring factors like site size and capacity, transportation and access, resilience capacity, financial risk and management, and infrastructure condition (the fewer costly upgrades needed, the better).
- 4) **Identify resilience solutions**, such as floodproofing, water storage, fuel supply, and energy generation and storage.
- 5) **Develop site** and **install solutions**.
- 6) Activate site and operations, including clear plans to activate the site in the event of disruption and communicate with community members.¹⁰

Resilience centers fill an urgent need for **hazard mitigation** and **preparedness** while nurturing community engagement and development. In neighborhoods like Boyle Heights, Los Angeles, where hot summer days occur too frequently, a shelter from the heat is essential to protecting vulnerable residents. **The Boyle Heights Arts Conservatory (BHAC)** is a resilience center which has found success in providing residents with resources like a hospital-grade air filtration and cooling system and programming such as weekly Dungeons and Dragons games. BHAC invites

 ⁹ PSE Health Energy, Communities for a Better Environment, and Asian Pacific Environmental Network. (2024). Building Community Resilience Across California: A Statewide Analysis of Climate Vulnerability and Resilience Hub Potential. Retrieved from <u>https://www.psehealthyenergy.org/wp-</u> <u>content/uploads/2024/04/Building-Community-Resilience-Across-California.pdf</u>
 ¹⁰ Urban Sustainability Directors Network. (2019). Guide to Developing Resilience Hubs. Retrieved from

¹⁰ Urban Sustainability Directors Network. (2019). Guide to Developing Resilience Hubs. Retrieved from <u>http://resilience-hub.org/wp-content/uploads/2019/10/USDN_ResilienceHubsGuidance-1.pdf</u>

residents to shelter from the heat and access food and water while acting as a place of gathering and entertainment.¹¹ In another example, the remote county of Tuolumne, California, located three hours south-east of Sacramento, built two resilience centers as part of an initiative to recover from the 2013 Rim Fire. With medical providers and food banks located far away from where they were living, residents decided to spend \$25 million to construct **resilience centers in Groveland and Tuolumne** which could provide resources in the event of another disaster. These centers also offer temporary overnight shelter to people experiencing homelessness over the age of 60, people with disabilities, families with children, and youth ages 18 to 26.¹²

SGC's Community Resilience Centers Program Round 1

In addition to planning, development, construction, and upgrading of neighborhood-level Community Resilience Centers, SGC's CRC Grant Program funds ongoing year-round community services and programs, such as food distribution and workforce development training, that build overall community resilience. The funding for SGC's CRC Program was appropriated as part of the 2021-2022 California General Fund budget as part of the historic State of California Climate Budget Package with language for the program codified by SB155 (2021), AB211 (2022), and AB179 (2022). As of April of 2024, the CRC program has awarded its appropriated funds to 24 projects across the state, broken down by its three grant types: eleven (11) planning grants; four (4) project development grants; and nine (9) implementation grants. This report focuses on the nine (9) implementation grants from the following counties: Los Angeles, Alpine, San Diego, Contra Costa, Nevada, Madera, Riverside, and Sonoma. Of these

¹¹ The Guardian. (2022). 'A Living, Breathing Building': The Rise of Resilience Centers Amid Extreme Heat in the US. Retrieved from <u>https://www.theguardian.com/us-news/2022/sep/23/california-extreme-heat-resilience-centers</u>

¹² The Union Democrat. (2023). Tuolumne County Opens Community Resilience Centers as Warming Shelters. Retrieved from <u>https://www.uniondemocrat.com/news/article_38aa8bb2-b927-11ed-9eaf-1f05363d2f54.html</u>

selected awardees, five (5) applications are located in and benefit SB 535 Disadvantaged Communities, six (6) applications are located in and benefit AB 1550-Designated Low-Income communities, two (2) applications are located in and benefit unincorporated communities, three (3) applications are located in and benefit rural communities, and one (1) application is led by a California Native American Tribe.¹³ Information on awards for Round 1 CRC Implementation projects and grantees can be found in **Appendix A**.

Statutory Provisions

The statutory foundation enabling CRC program evaluation is laid out in **AB 211**, which mandates that SGC prepare and submit an annual report on the CRC program to the Legislature and the Legislative Analyst's Office, beginning October 31st, 2025, and continuing until all program funds are expended. This statutory requirement ensures **ongoing oversight** and **accountability** for CRC program outcomes.

Supporting this, the CRC Program Guidelines requires an evaluator develop a **statewide evaluation plan** and **framework** to assess projects' specific, measurable outcomes as they pertain to climate and community resilience, which must include usage details.¹⁴ The guidelines further specify that the evaluation timeline extends through April 20th, 2029, by which point evaluators are expected to complete their assessment of current intervention strategies. Notably, the evaluation process is designed to be dynamic, beginning data collection as soon as indicators become applicable and embedding evaluation metrics into grantees' ongoing annual reporting.

 ¹³ Strategic Growth Council. (2023). Community Resilience Centers: Round 1 Planning, Project Development, and Implementation Grant Recommendations. Retrieved from <u>https://sgc.ca.gov/meetings-events/council/2024/04-24/docs/20240424-Item5_CRC_R1_IG_PD_Awards_Staff_Report.pdf</u>
 ¹⁴ Strategic Growth Council. (2023). Community Resilience Centers: Round 1 Guidelines (Revised). Retrieved from <u>https://sgc.ca.gov/grant-programs/crc/docs/20231214-CRC_Round_1_Guidelines_Revised.pdf</u>

The Return on Investing in Community Resilience

Resilience is an inherently complex and context-dependent concept. Its meaning varies based on personal experience, geographic location, political context, and cultural values—making it difficult to define universally and even harder to measure. Community resilience centers, which integrate both physical infrastructure and social programming, further complicate the task of assessing impact and return on investment. Yet these challenges underscore a critical tension: **publicly funded programs are increasingly expected to demonstrate measurable success to secure sustained support.** For resilience initiatives that address layered and long-term vulnerabilities—such as climate risks, social inequities, and economic instability—**traditional metrics often fall short**. This makes the development of meaningful, flexible, and equitable evaluation frameworks not only important, but essential.

In a world where deployment of emergency response is frequently reactionary, resilience centers are a preparatory measure against environmental disasters. It is cheaper to fund infrastructure that anticipates disaster than recover the costs of responding to its wake. While costly in initial investment, community resilience centers yield a high return on investment, as they produce employment opportunities, energy cost savings, and reductions in the cost of carbon emissions.¹⁵ According to the 2024 Climate Resiliency Report by the U.S. Chamber of Commerce, "**Each \$1 invested in disaster preparation saves \$13 in economic costs, damages, and cleanup.**" In modeling a disaster scenario for a drought/heat wave in Redding, California, the Chamber of Commerce reported that \$83 million of resilience and preparedness investments would save 474 jobs, retain \$67 million of output, and keep more than \$31 million of income in the area.¹⁶ Since 1980,

¹⁵ Urban Sustainability Directors Network. (2019). Resilience Hubs: Shifting Power to Communities and Increasing Community Capacity. Retrieved from <u>http://resilience-hub.org/wp-</u>content/uploads/2019/10/USDN_ResilienceHubsGuidance-1.pdf

¹⁶ U.S. Chamber of Commerce. (2024). The Preparedness Payoff: The Economic Benefits of Investing in Climate Resilience. Retrieved from <u>https://www.uschamber.com/security/the-preparedness-payoff-the-economic-benefits-of-investing-in-climate-resilience</u>

the U.S. has experienced **400 weather and climate disasters** each **totaling damages in excess of \$1 billion**, for a **total cost (of all 400 events) of over \$2.78 trillion.**¹⁷ The state of California has experienced nineteen (19) wildfires, fourteen (14) droughts, six (6) floods, four (4) severe storms, and three (3) freezes.¹⁸ Figure 2 shows the costs, type, and number of billion-dollar disaster events (CPI-adjusted) in California from 1980 to 2025.

Disaster Type	Events	Events/Year	Percent Frequency	Total Costs	Percent of Total Costs
Drought	14	0.3	30.4%	\$10.0B-\$20.0B	10.7%
Flooding	6	0.1	13.0%	\$10.0B-\$20.0B	12.4%
Freeze	3	0.1	6.5%	\$10.0B-\$20.0B	10.0%
Severe Storm	4	0.1	8.7%	\$2.0B-\$5.0B	2.3%
Tropical Cyclone					
e Wildfire	19	0.4	41.3%	\$100.0B-\$200.0B	64.6%
Winter Storm					
All Disasters	46	1.0	100.0%	\$100.0B-\$200.0B	100.0%

Figure 2. Billion-dollar Disaster Events in California since 1980

Figure 2. Matrix displaying the number, frequency, and costs of billion-dollar disaster events in California since 1980. Source: National Centers for Environmental Information. (2025). California Billion-Dollar Disaster Events 1980-2025 (CPI-Adjusted).

Notably, **extreme heat events (EHEs)** are not listed in the chart above, as FEMA and other federal agencies have yet to recognize EHEs as natural disasters. In 2024, the California Department of Insurance attempted to quantify the health and safety, economic, infrastructural, energy, and governance impacts of seven (7) extreme heat events from 2013 to 2022. The conservative estimates of quantified outcomes (such as prenatal outcomes, premature mortality, hospital visits, etc.) totaled more than **\$7.5 billion**

¹⁷ National Centers for Environmental Information. (2024). Billion-Dollar Weather and Climate Disasters. Retrieved from <u>https://www.ncei.noaa.gov/access/billions/</u>

¹⁸ National Centers for Environmental Information. (2024). California Billion-Dollar Disaster Events 1980-2024 (CPI-Adjusted). Retrieved from <u>https://www.ncei.noaa.gov/access/billions/state-summary/CA</u>

dollars.¹⁹ The report also acknowledges that many of these quantified costs are disproportionately experienced by extremely vulnerable racial and ethnic sub-populations. Figure 3 displays the total costs by sector of these recent extreme heat events in California.





Figure 3. Total costs by sector of seven (7) recent extreme heat events in California from 2013 to 2022. Source: California Department of Insurance. (2024). Impacts of extreme heat to California's people, infrastructure, and economy.

¹⁹ California Department of Insurance. (2024). Impacts of extreme heat to California's people, infrastructure, and economy. Retrieved from <u>https://www.insurance.ca.gov/01-consumers/180-climate-change/upload/Impacts-of-extreme-heat-to-California-s-people-infrastructure-and-economy-by-California-Department-of-Insurance-June-2024.pdf</u>



Informing effective and equitable environmental policy





Introduction

In June of 2024, I initiated the search for a client partner for my UCLA Luskin graduate capstone. Having previous familiarity with SGC and community resilience centers through prior work, I reached out to SGC staff to convey my interest in working on a CRC evaluation process. I met with CRC team staff several times in the months leading up to my 2024 fall quarter start date to brainstorm parameters for the capstone project. In November of 2024, I applied to and received a graduate student assistantship role with the CRC team, which enabled me to have more consistent touch points with SGC staff regarding CRC evaluation components. Up to this report's publish date, I met weekly with CRC team staff on the process and progress of my capstone.

Using primary and secondary data sources, I aimed to capture **multidisciplinary perspectives** on designing a community resilience centered evaluation framework. To do so, I conducted **eleven (11) stakeholder interviews** with twelve (12) interviewees; **coded feedback from prior SGC engagements**, including a Request-for-Information (RFI) listening session and interviews with technical evaluation consultants; and **analyzed existing community resilience evaluation frameworks**. The following methodology sub-sections are not listed in order of operations, as these processes were co-occurring throughout my analysis.

Stakeholder Interviews

With support from SGC staff and leadership, I identified a list of over eight (8) non-SGC affiliated interviewees with relevant experience to the project. All participants were connected to someone on SGC staff, and I received support facilitating introductions for three (3) potential interviewees. The majority of

METHODOLOGY

potential participants came from my contacts in the field of climate resilience and planning, through my previous work with Estolano Advisors and Climate Resolve. These individuals were selected through convenience sampling, given the increased likelihood of response due to our prior connection. While most outreach efforts followed a standard email template with personal and project introductions, some were personalized to reflect prior relationship experience with the individual (see standardized email template in Appendix **B** of this report). The five (5) individuals who volunteered their time to be interviewed for my capstone project consisted of two (2) Estolano Advisors consultants; two (2) Climate Resolve staff members; and one (1) University of Alberta teaching staff. External interviewee profiles can be found in Appendix **C** of this report. In addition to interviewing external subject matter experts, I connected with seven (7) SGC-affiliated individuals including two (2) SGC leadership staff and five (5) implementation grantees under executed contracts. Each interview lasted approximately 35 minutes and followed a scripted set of questions (attached to **Appendix D** of this report). Interviews were facilitated over Zoom, recorded with participants' consent, and conducted through February, March, and April of 2025. I used video recordings and auto-generated transcriptions to analyze guotes, key themes, and other findings.

Additionally, I interviewed the five (5) SGC Grant Managers (CRC staff) responsible for overseeing implementation grantees to gain insight on their learnings from working with grantees. These conversations were geared toward context-setting and not used for analytical purposes.

METHODOLOGY

Figure 4. Research and Report Timeline

Discovery & Planning

Fall 2024

- Weekly meetings with CRC Team to discuss and plan steps to achieve project goals
- Meet with faculty advisor, Dr. Kelly Turner, and sign client-student agreement with capstone stakeholders
- Draft literature review and data and analysis plan

Finalization & Dissemination

Spring 2025

- Present research and findings at Careers, Capstones, and Conversation event
- Solidify findings and recommendations
- Share report with SGC, UCLA Luskin School of Public Affairs, UCLA Luskin Center for Innovation, and research participants

Learning & Development

Spring - Summer 2024

SGC staff interview eval experts (n=3)

- SGC staff host RFI Listening Session and opens call for submissions for feedback on CRC program evaluation
- Meet with CRC Team to brainstorm scope of work for evaluative framework research project

Research & Analysis

Winter 2025

- Draft interview protocol, outreach to potential interviewees, and refine interview questions
- Conduct interviews with subject matter experts (n=7) and sample of CRC implementation grantees (n=3)
- Analyze and code feedback from RFI submissions and interviews
- Draft report and preliminary findings

Figure 4. Methodology timeline. Graphic made by Katie Freiberg.

Review of Prior SGC Engagement Materials

In March 2024, SGC staff conducted three (3) 30-minute interviews with evaluation framework experts: 1) Amy Ramos, consultant for Harder + Company Community Research; 2) Jason Karpman, Project Director at UCLA Luskin Center for Innovation; and 3) Jennifer Kim, TCC program analyst. The purpose of these conversations was to gauge best practices for conducting program evaluation from a provider perspective. These interviews did not follow a strict protocol and were catered specifically to the unique testimonies of the interviewee. In my analysis of these interviews, I examined SGC notes, researched biographies for each interviewee, and analyzed publicly available evaluation program materials relevant to the interviews.

METHODOLOGY

In June 2024, SGC released a Request for Information (RFI) and hosted a state-wide, public listening session to solicit feedback on evaluating Round 1 of the CRC program. Both the RFI and the listening session used the same set of questions to solicit feedback on potential evaluation frameworks/best practices; I subsequently modeled my interviews using the same questions to maintain consistency across methods. Approximately 50 people attended the listening session to provide feedback, captured anonymously by SGC notetakers, and the formal RFI solicitation received two submissions. The CRC team consented to my review, analysis, and incorporation of all RFI and listening session responses in my capstone project. I coded these responses to learn what participants identified as success factors for evaluating the CRC program.

Review of Existing, Relevant Evaluation Frameworks

In my findings section, I explore existing evaluation frameworks relevant to community resilience centers evaluation. I discovered these resources by conducting a keyword search through academic journals and online reports from state and local agencies; interviews with research participants; and recommended sources from SGC staff. In my analysis, I compare existing findings and frameworks to my research.

Informing effective and equitable environmental policy



FINDINGS AND RECOMMENDATIONS

The CRC program is a cornerstone investment in equitable climate resilience. To effectively assess its impact, this synthesis identifies core components of an evaluation framework, flexible and responsive methods, key indicators types. project challenges to anticipate, and across strategic recommendations. It blends technical rigor with community-centered approaches, drawing heavily from stakeholder input. Through the following synthesis and discussion, I aim to underscore what one participant succinctly summarized: "Evaluation should not feel like an extractive audit. It should be a tool communities can actually use to learn and grow" (Kristopher Eclarino, Senior Technical Manager at Climate Resolve).

Core Components & Structure of Evaluation

Core components of an evaluative framework must not only capture tangible outputs like facility upgrades and program delivery, but also the deeper, often intangible, impacts on community resilience, trust, and cohesion. As grantees implement diverse CRC projects across California, a robust evaluation approach must provide consistency without rigidity—allowing local selfdetermination, adapting to emerging challenges, and ensuring alignment with grant requirements. This section outlines the foundational elements that will guide the design of a meaningful, equitable, and effective evaluation process for CRC implementation.

- Mixed Methods Approach: Quantitative data (e.g., GHG reductions, kWh saved, service counts) must be paired with qualitative stories of community impact. This dual approach captures tangible outcomes in addition to lived experiences.
- 2. **Process + Outcome Evaluation:** Measure both *what was done* (e.g., timeline, milestones, process) and *what changed* (e.g., outcomes for

community resilience, emergency preparedness). Establish clear baselines before interventions and track progress over time, recognizing that some resilience outcomes emerge years later.

- Hypothesis-Driven Models: Evaluation should be grounded in measurable theories of change and linked to broader strategic goals to ensure that each program component is on track to achieve desired outcomes.
- 4. Adaptability, Flexibility, and Local Self-Determination: Frameworks should evolve alongside emerging community priorities and new environmental challenges.
- 5. Community-Centered Approaches: Participatory evaluation methods (e.g., community-based participatory research) elevate local voices and ensure relevance, thus serving as good models for evaluation. Communities should be empowered to define what resilience means locally and select their own indicators of success. Validating nontraditional data like relationship-building, narrative accounts, and perceived safety can serve as critical evaluation metrics.
- 6. Ethical and Cultural Responsiveness: Trauma-informed, culturally competent methods ensure safety, trust, and equity. Evaluation should include tools that are linguistically and culturally appropriate, using cultural competence frameworks like the Cross-Cultural Adaptability Inventory (CCAI).²⁰
- 7. Responsible Data Practices and Infrastructure: Evaluators should utilize multi-source data collection methods—including administrative records, survey data, participatory focus groups, and real-time feedback—to create a holistic view of impact. Technological tools like Tableau (for dashboards) and NVivo (for qualitative coding) can

²⁰ CCAI is one of the earliest formative assessment tools designed to gauge an individual's potential to adapt successfully in a different cultural context. This 50-item self-assessment measures four key dimensions: emotional resilience, flexibility and openness, perceptual acuity, and personal autonomy. Source: HubICL. (2018). Cross-Cultural Adaptability Inventory (CCAI). Retrieved from <u>https://hubicl.org/toolbox/tools/920</u>

enhance rigor and accessibility. If these tools are adopted, evaluators should be responsible for their implementation and oversight. However, the evaluation team should consult grantees to ensure that data visualizations are accurate and respectful of the communities they represent. Ethical data use is non-negotiable: evaluation must prioritize community consent, privacy, and sovereignty.

- 8. Strategic and Operational Components: Other important evaluation structures include: 1) System mapping and feedback loops, which involve causal loop diagrams to understand how CRC activities influence broader systems; 2) Cross-Strategy Impact Analysis, which measures how different CRC activities interact with and reinforce one other; and 3) Independent Evaluation, which ensures neutrality and credibility in the evaluation process. These early evaluation planning phases are crucial to avoid data gaps later, several of which we will explore in the challenges section of this report.
- 9. Alignment with Grant Reporting Requirements: Implementation Grantees are already required to document key milestones—including engagement activities, activation plans, project public and deliverables—through their Annual Progress Reports, due each year on October 31st. These reports include four core sections: (1) Annual Summary Report, (2) Equipment Inventory Record, (3) Leveraged Funding Report, and (4) Indicator Tracking (Evaluation Report). Embedding evaluation metrics into the Indicator Tracking section of these annual reports offers a practical, streamlined opportunity to collect meaningful and consistent data over time. This approach would reduce administrative burden by using existing reporting structures rather than creating new, parallel systems. In addition, integrating evaluation into annual reports supports longitudinal tracking²¹ of CRC

²¹ Longitudinal data track the same individuals or units—such as people, households, or organizations across multiple points in time. This approach is especially valuable for measuring progress and identifying patterns. Source: U.S. Bureau of Labor Statistics. (2025). What are Longitudinal Data? Retrieved from https://www.nlsinfo.org/content/getting-started/what-are-longitudinal-data

impacts, offering a clearer view of trends in community resilience, facility performance, and social outcomes across multiple years.

Evaluating the effectiveness of CRCs involves tracking a wide range of activities — from physical capital projects like facility upgrades to communitycentered programs and services. Each of these components presents unique challenges to evaluation, including differences in timelines, complexity in measuring outcomes, and resource constraints among grantees. Resilience services and programs often require capturing changes in behaviors, social cohesion, and knowledge — intangible outcomes that are difficult to measure using traditional evaluation tools. Meanwhile, evaluating capital projects demands an understanding of long construction timelines, infrastructure performance over time, and the interconnected impacts of facilities and programs.

To ensure fair, accurate, and meaningful assessments of CRC implementation, evaluation strategies must anticipate and address these distinct challenges. The following section outlines the top challenges identified for evaluating resilience programs, services, and capital projects — and offers a set of practical best practices that can guide grantees, evaluators, and funders toward more effective, equitable evaluation approaches.

Recommendations for Evaluating Resilience Services and Programs

1. Use mixed methods to capture both hard and soft outcomes. Challenge:

Intangible outcomes like trust, social cohesion, preparedness, and perceived resilience are hard to measure using traditional quantitative tools. These outcomes require storytelling, qualitative methods, and long-term tracking to capture meaningfully.

Best Practice:

Combine quantitative metrics (e.g., participation numbers, knowledge assessments) with qualitative tools (e.g., interviews, focus groups, storytelling). Validate intangible outcomes like trust, preparedness, and social cohesion through narrative methods alongside measurable indicators.

2. Build baseline and longitudinal tracking into early program design. Challenge:

Many CRCs lack robust pre-implementation baseline data and systems to track change over time. While a single resilience assessment can provide a baseline, integrating resilience measures into ongoing planning and decision-making requires long-term metrics to monitor progress—or setbacks—over time and across different areas.²² Without this evaluation, it is difficult to understand whether services truly improve resilience over multiple years.

Best Practice:

Collect baseline data before program launch to establish a foundation for future comparison. Include lightweight, annual reporting check-ins tied to grant cycles to track evolving impacts over time without overburdening grantees. Implement a data collection model that is feasible for grantees to implement beyond the grant period, enabling them to continue gathering helpful data on their project's impacts.

3. Separately track capital project outputs and service/program outcomes in the evaluation framework.

²² Cutter et al. (2019). Existing Longitudinal Data and Systems for Measuring the Human Dimensions of Resilience, Health, and Well-Being in the Gulf Coast. The National Academies of Sciences, Engineering, and Medicine. Retrieved from https://www.nationalacademies.org/_cache_80ac/content/4885770000234289.pdf

Challenge:

Separating the effects of services/programs from capital investments (like facility upgrades) is complex. Additionally, social change from programs unfolds slowly, often out of sync with grant reporting timelines.

Best Practice:

Design the evaluation framework so that it separately tracks capital project outputs (like facility improvements, energy performance, and ADA upgrades) and service/program outcomes community resilience behaviors, trust (like levels. or preparedness improvements). This prevents the two from being blurred in reporting. Instead of trying to isolate strict causality (which is often unrealistic in complex community systems), evaluators should assess the contribution each component makes to observed outcomes, using qualitative methods like interviews and focus groups to understand perceived impacts. Communicate clearly to grantees and stakeholders that some impacts will unfold over multi-year periods and set shared expectations for staggered reporting and evaluation checkpoints.

4. Ensure evaluations are resource-conscious and scalable.

Challenge:

Smaller organizations delivering services may lack evaluation staff, tools, and funding to implement rigorous mixed-methods evaluations. Overly complex or resource-intensive evaluation frameworks could unintentionally burden grantees, especially those serving priority populations.

Best Practice:

Design evaluation tools and methods that match the capacity of smaller, under-resourced organizations (e.g., templates, mobile

surveys, short interviews). Distinguish between "required" and "optional" metrics to avoid overwhelming service providers.

5. Embed community ownership to ensure equity, accessibility, and community trust.

Challenge:

Effective evaluation must be accessible to all, but many tools are not yet designed that way. Furthermore, distrust of government processes can limit community willingness to participate in evaluation activities, particularly among historically marginalized groups.

Best Practice:

Involve community members and participants in defining success, selecting indicators, and collecting data. Use participatory evaluation frameworks like Community-Based Participatory Research (CBPR)²³ and ongoing feedback loops. Prioritize equity, accessibility, and cultural relevance in all tools. Make evaluation materials multilingual, culturally appropriate, and ADA-accessible. Focus on building trust by framing evaluation as a tool for shared learning and continuous community improvement, not compliance.

²³ Community-based participatory research (CBPR) is a collaborative approach that brings together community members, researchers, and stakeholders as equal partners throughout the research process. By valuing each group's unique expertise, CBPR aims to address health disparities and drive meaningful, lasting social change through shared knowledge and action. Source: Collins et al. (2019). Community-based Participatory Research (CBPR): Towards Equitable Involvement of Community in Psychology Research. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC6054913/

Recommendations for Evaluating Capital Projects and Services

 Build flexible, staggered evaluation timelines that recognize that capital projects and services mature at different rates.
 Challenge:

> Capital projects (e.g., construction, retrofits) typically have long planning, permitting, and construction periods, while services/programs (e.g., resilience training, workshops) often launch earlier and deliver impacts more quickly. This mismatch makes it hard to synchronize evaluation timelines and produce comprehensive reports that reflect both sides equally.

Best Practice:

Plan staged evaluations (e.g., construction completion milestones, followed by service implementation assessments) instead of forcing a single evaluation timeline.

2. Emphasize systems thinking and interconnected impact.

Challenge:

Capital improvements and resilience services often reinforce each other (e.g., a new CRC building increases participation in emergency trainings). Isolating the specific impact of one component—such as infrastructure alone—versus combined programmatic impacts is extremely challenging.

Best Practice:

Use systems mapping tools (like causal loop diagrams) to show how infrastructure and services interact. Accept that attribution will often be collective, and frame evaluation findings around synergistic impacts, not isolated outputs.

3. Prioritize capacity-building for integrated evaluation.

Challenge:

Evaluating physical infrastructure alongside service delivery demands significant staffing, technical expertise (e.g., engineering, program evaluation), and long-term monitoring that many small grantees lack. Without dedicated evaluation resources, tracking real outcomes (beyond "building completed" milestones) is hard.

Best Practice:

Offer technical assistance, shared templates, and tools that allow grantees to track both infrastructure and service outcomes within a single, manageable system. Build evaluation training into grant support, especially for small or under-resourced grantees.

4. Design multi-source, integrated data strategies.

Challenge:

Different data systems may be used to track facility metrics (e.g., energy use audits) versus program outcomes (e.g., community survey results). Integrating these data types into a cohesive, meaningful story about resilience improvement requires specialized tools and skills that grantees may not have.

Best Practice:

Encourage grantees to use linked datasets (e.g., facility energy audits + community user surveys) to tell a fuller story. Promote tech-enabled data platforms (dashboards, mobile surveys) that allow real-time tracking across both physical and programmatic components.

5. Embed longitudinal metrics into annual reporting requirements to measure meaningful, long-term impact.

Challenge:

Infrastructure often yields benefits over decades (e.g., reduced utility costs, shelter access during extreme weather events), but most grants and evaluations operate on much shorter cycles. Capturing long-term resilience, community trust, and behavioral changes linked to capital investments requires sustained, longitudinal evaluation approaches.

Best Practice:

Use required annual reporting as a built-in opportunity to gather standardized, longitudinal data on facility use, resilience benefits, and community outcomes. Focus on feasible, light-touch data points that show progression over time (e.g., cumulative number of residents served during emergencies, annual energy savings).

Example Indicators and Metrics

To measure the success of required CRC functions, evaluations must be able to account for capital projects and service delivery components. Participants suggested the following metrics and indicators in response to the required CRC functions:

- 1. Open and accessible to the public and offer Community Resilience Services and Programs year-round to community members.
 - a. Open and accessible year-round: Number of days per year the CRC is open; community utilization rates (average daily visitors compared to maximum capacity), accessibility index (ADA compliance, hours, languages); participation rates in services and programs; and inclusivity metrics (demographics of users compared to local population).

- b. Community Resilience Services and Programs: Number and type of programs offered; satisfaction and perceived value of programs (through surveys); retention rate of participants; demographic reach and equity metrics; and continuous feedback and program improvement.
- c. Public Engagement and Cultural Accessibility: Number of public meetings held (multilingual, culturally relevant); meeting accessibility (time of day, location); community feedback loops (surveys, listening sessions); and qualitative data (testimonials, stories).
- 2. Able to be activated seven (7) days per week for heat waves and other climate emergencies that do not require overnight sheltering.
 - a. Number of emergency activations (per year); activation readiness (time from declaration to full setup); peak daily visitors during emergencies compared to maximum capacity; response time (average response to individual requests); staff readiness (percentage trained for emergency roles); and resource sufficiency (percentage of needs met).
- 3. Able to be activated for overnight-shelter 24/7 during larger-scale climate emergencies OR able to coordinate transport of community members to an identified nearby evacuation shelter.
 - a. Overnight Shelter or Evacuation Coordination: Overnight capacity utilization (sheltered compared to maximum capacity); shelter duration (average consecutive nights); safety metrics (security incidents per number of shelter-nights); evacuation coordination efficiency (time from decision to shelter arrival); and special needs accommodation (percentage of requests met).
 - b. **Emergency Preparedness and Response:** Completion and implementation of Emergency Plan; number of community

members trained in preparedness; frequency of emergency drills; public awareness levels (survey-based); and coordination metrics (number of partners involved).

To effectively assess the progress of CRC proposals in achieving climate and community resilience, it is essential to align evaluation metrics with the seven strategy areas outlined by the CRC Implementation Grant Program. The following two pages highlight participant-suggested metrics and indicators per CRC strategy.

Suggested Metrics and Indicators Per CRC Strategy



Energy Resilience

- Infrastructure & Efficiency: kWh saved/year, GHG emissions avoided, energy audits, installation of backup batteris and generators.
- Community Access:
 Number of residents served during
 outages, hours of backup power
 available, energy cost reductions.
- Education & Engagement: Number of classes/workshops held, participant knowledge gain (pre/post), energy resilience awareness.



Water Resilience

- Usage & Efficiency: Reduction in water usage, use of recycled or harvested water, water-efficient fixtures installed.
- Emergency Access: Availability of water resources during crises, drought resilience days.
- Community Impact:
 Community training on
 conservation, partnership
 with local water agencies.

Nature-Based Solutions and Food Security

- Food Access & Security: Pounds of food grown/distributed, food security during emergencies.
- Environmental Benefits: Green space added, reduction in urban heat, biodiversity increases.
- Community Engagement: Cultural appropriateness of food, training on urban agriculture.

Air Quality and Public Health

- Monitoring & Improvements: Installation of air monitoring stations, measured reduction in pollutants.
- Health Outcomes: Reductions in respiratory illness, increased use of clean air centers.
- Community Education: Number of workshops, filters distributed, public health partnerships.
Suggested Metrics and Indicators Per CRC Strategy



Mobility and Access

- Infrastructure Improvements: Miles of sidewalks/bike lanes repaired or added, ADA-compliant infrastructure.
- Access Metrics: Transit access to CRCs, frequency of shuttle services, demographic of users.
- **Community Perception:** Survey data on ease of access and safety, mode-shift to sustainable transport.



Emergency Preparedness and Critical Communication

- **Preparedness Infrastructure:** Redundancy of communication systems, response time reductions.
- Training & Awareness: Number trained in emergency protocols, number of alerts received, community awareness levels.
- Community Reach:
 Trusted messenger network
 development, materials distributed in
 multiple languages.



Workforce Development, Education, and Training

- Participation & Outcomes: Number trained, certificates earned, job placements, income improvement.
- Equity Metrics: Demographic breakdowns, inclusion in apprenticeships, wage equity.
- Systemic Impact:
 Number of employer/educational
 partnerships, retention rates,
 community-led initiatives.



Other Strategies

- Community Engagement & Social Cohesion:
 - Engagement Depth: Number of events, satisfaction levels, feedback mechanisms.
 - Social Networks: New partnerships formed, strength of collaborations.
 - Resilience Mindset:
 Survey data on
 community knowledge,
 readiness perception,
 trust in CRCs.

Analysis of Evaluation Challenges and Recommendations

Despite the ambition and potential of CRC projects, several persistent evaluation challenges threaten to undermine a full understanding of their long-term impact. Issues such as missing baseline data, difficulties in capturing social resilience, inconsistent data systems, and resource constraints across grantees complicate both implementation and measurement efforts. In addition, new concerns—including the reliability of federal data sources and evolving climate-related risks—highlight the need for adaptive, forward-looking evaluation strategies. This section explores the most pressing challenges and systemic barriers facing CRC evaluation, providing critical context for shaping resilient, equity-driven solutions.

Baseline and Longitudinal Data Deficiencies

Challenge:

Most CRC grantees lack sufficient baseline data on resilience, health, and capacity metrics prior to program launch. Data is often outdated, fragmented, or aggregated at a level that hides local nuances. Additionally, metrics to evaluate the specific return on investment (ROI) of CRCs are largely missing due to the complexity of their multifunctional nature. As Georgette Gómez, Community Development and Strategy Officer at Casa Familiar, emphasized, "You can't measure energy resilience or social trust in a one-year snapshot. You need a foundation and a long view."

Recommendations:

- Incorporate baseline assessments as a required early-stage activity.
- Establish longitudinal tracking through annual evaluation check-ins.
- Partner with local agencies (e.g., health departments, utilities) to access more granular data.

- Use proxy indicators (e.g., ER visits during heat waves) where direct data is unavailable.
- Build data-sharing agreements into grant structures to enable access to relevant external datasets.

Need for Community-Generated and Qualitative Data

Challenge:

Quantitative data alone cannot capture intangible elements like community trust, cohesion, or safety. These lived experiences are essential to measuring social resilience but are often overlooked in traditional evaluation. Grant administrators, including state agencies like SGC, appreciate data that is tangible and impactful, which numbers alone cannot provide. Samantha Nuno, Grants Manager at Climate Resolve, noted, "The data we need most—like trust, safety, sense of belonging—doesn't come from surveys alone. It comes from lived experience."

Recommendations:

- Integrate participatory tools such as storytelling, photovoice, and community-led focus groups.
- Include narrative-based components in both interim and final reports.
- Train grantees in qualitative data collection techniques to democratize data gathering and increase trust.
- Encourage the co-creation of community-defined indicators that reflect local values and needs.

Difficulty Measuring Intangible Outcomes (Soft Data)

Challenge:

The need for qualitative data leads to challenges in measuring "soft" outcomes—outcomes like trust, leadership development, civic engagement, and/or mental health resilience remain methodologically challenging but essential. As Riley O'Brien, Director of Survey and Spatial Data at Estolano Advisors, stated, *"It's hard to capture social resilience with numbers. You need stories, trust, and relationships—and those aren't easily counted."*

Recommendations:

- Use mixed-method approaches combining surveys, interviews, and focus groups to assess trust, safety, and engagement.
- Apply proxy indicators, such as frequency of participation, satisfaction rates, or increased volunteerism.
- Analyze change in behavior or perceptions over time (e.g., sense of belonging pre/post CRC involvement).
- Empower trusted community leaders to engage residents in these evaluations, increasing both participation and validity.

Resource and Capacity Limitations

Challenge:

Many small community-based organizations (CBOs) and community partners lack dedicated evaluation staff or tools, making comprehensive evaluation feel burdensome or inaccessible. Catherine Couch, Founder and CEO of Ceres Community Project, captured this tension, noting that grantees often ask, *"Did we do what we said we*

would do?" as the baseline for evaluation, expressing hesitance about deeper, more resource-intensive tracking.

Recommendations:

- Provide technical assistance and ready-to-use toolkits for data collection and analysis.
- Offer simplified templates or mobile-based tools that minimize administrative burden.
- Embed evaluation support within the grant (e.g., funding for staff time or technology).
- Focus early capacity-building on how evaluation can support—not just audit—grantee goals.

Unreliable and Politically Vulnerable Data Sources

Challenge:

A few participants expressed concern over the reliability and longevity of data sources under the Trump Administration. As DEI-data tools go dark due to federal policy (as the Centers for Disease Control and Prevention's Social Vulnerability Index already has²⁴), experts worry about the effect on measuring resilience in environmentally and socially vulnerable communities. All awarded R1 CRC Implementation awardees represent disadvantaged and underserved populations and regions, and the need for resilient data for baseline and longitudinal analysis is critical.

²⁴ Sherman, C. and Glenza, J. (2025). CDC webpages go dark as Trump targets public health information. Retrieved from <u>https://www.theguardian.com/us-news/2025/feb/04/dcd-pages-trump-public-health</u>

Recommendations:

- Identify and pilot alternative or locally developed data sources for mapping vulnerability.
- Build flexibility into the evaluation framework to accept alternate sources if federal ones go offline.
- Encourage collaboration with local universities and nonprofits to create community-controlled datasets.
- Document contingency plans in grant guidelines for applicants relying on volatile federal data.

Criteria for Selecting a CRC Evaluator

Selecting the right evaluators for the CRC Implementation Grant Program is critical to ensuring that the evaluation process is rigorous, equitable, and meaningful for communities. Based on conversations with evaluation experts, grantees, and invested community members, several key qualifications have emerged. CRC evaluators must demonstrate expertise in mixed-methods approaches and systems thinking—capable of capturing both tangible and intangible outcomes across complex resilience ecosystems. In this section, I outline core competencies and recommended activities for CRC program evaluators. I present an alternative version of these findings in the form of a sample job posting in **Appendix E** of this report (with the disclaimer that the official posting will take the form of a more comprehensive solicitation).

Core Competencies

Evaluators should possess a **multi-disciplinary background**, with proven experience assessing both infrastructure (e.g., construction projects) and community-based services (e.g., resilience programs and workforce training). Given the program's emphasis on equity and community empowerment, evaluators must also have a strong track record of conducting **participatory**,

equity-centered evaluations and applying trauma-informed, culturally responsive methodologies.

Familiarity with climate resilience metrics and California-specific policy frameworks will also be essential, as will a demonstrated ability to support not extract from—grantees. Evaluators should prioritize capacity building by helping grantees develop surveys, analyze data, facilitate peer learning spaces, and build internal evaluation systems. **Strong communication** and **data visualization skills** are equally important: evaluators must be able to synthesize complex findings into accessible formats, including white papers, community newsletters, short videos, infographics, maps, and dynamic dashboards. Given the linguistic diversity of CRC communities, the ability to speak and translate Spanish and/or other culturally relevant languages is highly encouraged to ensure meaningful engagement and reduce language barriers.

Recommended Activities

In practice, evaluators will support grantees through a variety of activities. Early in the grant period, evaluators should assist grantees with **baseline-setting**, establishing clear pre-implementation metrics across facility, service, and community engagement activities. Throughout the program, evaluators should provide **technical assistance and capacity building**—offering toolkits, survey design support, data analysis services, and templates for engagement and reporting. It will be critical that evaluators **minimize administrative burdens**, streamlining data collection and reporting so that grantees can focus their time and resources on program delivery rather than paperwork. In keeping with the principles of transparency and reciprocity, evaluators should **share evaluation results openly with communities** through accessible mediums like digital dashboards, town halls, and multilingual newsletters.

Finally, evaluators should play an active role in **filling critical data gaps**, particularly by identifying and vetting alternative data sources (e.g.,

alternatives to federal datasets that may become unstable). They may also offer access to **user-friendly technologies**—such as mobile surveys and realtime dashboards—to support efficient and participatory data collection. In all phases, evaluators must uphold the principle that evaluation is not an extractive exercise, but a collaborative tool for learning, improvement, and community empowerment.

Comparison of Findings

The evaluation of community resilience centers is still an emerging field with significant gaps. To my knowledge, this report is the first of its kind—uniquely positioned to provide recommendations for evaluating community resilience centers. Notably, there are no widely published metrics or indicators specifically designed for resilience hubs.²⁵ Similarly, the effectiveness of community resilience programs has not yet been clearly demonstrated, largely because there are no established tools or frameworks available to measure community-based resilience outcomes at the neighborhood level.²⁶ Some reports such as the Urban Sustainability Directors Network's *Guide to Developing Resilience Hubs* (2019) briefly reference evaluation components such as annual reporting²⁷ but provide little detail on concrete evaluation processes or methodologies.

²⁷ Urban Sustainability Directors Network. (2019). Guide to Developing Resilience Hubs. Retrieved from http://resilience-hub.org/wp-content/uploads/2019/10/USDN_ResilienceHubsGuidance-1.pdf

²⁵ Ciriaco, T. and Wong, S. (2022). Review of resilience hubs and associated transportation needs. ScienceDirect. Retrieved from <u>https://www.sciencedirect.com/science/article/pii/S2590198222001579</u>

²⁶ Eisenman, D., Adams, R., and Rivard, H. (2016). Measuring Outcomes in a Community Resilience Program: A New Metric for Evaluating Results at the Household Level. National Library of Medicine. Retrieved from <u>https://pmc.ncbi.nlm.nih.gov/articles/PMC5077704/</u>

Existing Relevant Evaluation Frameworks

Several established frameworks provide useful context and contrast for evaluating CRCs. In this section, I analyze four frameworks for measuring relevant policies and programs.

 The Centers for Disease Control and Prevention (CDC) Program Evaluation Framework offers a structured, public-health-centered approach emphasizing systematic, consistent data collection to inform decisions, ensure accountability, and drive continuous improvement. It prioritizes stakeholder collaboration, equity, and learning throughout its six-step process (from context assessment to action), with five standards—relevance, rigor, objectivity, transparency, and ethics guiding high-quality evaluations.²⁸ Figure 5 below summarizes the evaluation steps and standards included in the CDC framework. While this provides a solid model, it is more oriented toward public health programs and lacks community-specific resilience tools.

²⁸ U.S. Centers for Disease Control and Prevention. (2024). CDC Program Evaluation Framework. Retrieved from <u>https://www.cdc.gov/evaluation/php/evaluation-framework/index.html</u>



Figure 5. CDC Program Evaluation Framework

Figure 5. CDC Program Evaluation includes six evaluation steps, captured in this graphic from U.S. Centers for Disease Control and Prevention. (2024). CDC Program Evaluation Framework.

- 2. The 2022 Federal Emergency Management Agency's Community Resilience Indicator Analysis (CRIA) focuses on pre-disaster community conditions, using quantitative, publicly available data filtered by strict inclusion criteria.²⁹ While useful for broad, generalized risk assessment, it does not capture real-time or post-implementation impacts, nor does it integrate community-driven indicators or qualitative outcomes like social cohesion, which my findings present as critical.
- The Transformative Climate Communities Evaluation Plan: A Road Map for Assessing Progress and Results of the Round 1 Place-based Initiatives (2018), co-developed by the UCLA Luskin Center for

²⁹ Federal Emergency Management Agency. (2022). Community Resilience Indicator Analysis: Commonly Used Indicators from Peer-Reviewed Research. Retrieved from <u>https://www.fema.gov/sites/default/files/documents/fema_2022-community-resilience-indicatoranalysis.pdf</u>

Innovation (LCI) and UC Berkeley Center for Resource Efficient Communities, stands out for its participatory, place-based approach that blends quantitative data (e.g., GHG reductions, transportation outcomes) with grantee input on which indicators matter most.³⁰ Similar to my findings, TCC emphasizes baseline data, process and outcome evaluations, and continuous framework refinement. Notably, it uses a logic model co-developed with communities and offers flexibility through mechanisms like "evaluation bucks" which partners assign to indicators they want to measure, aligning closely with my recommendation to let communities co-define resilience and evaluation priorities. Certain components of the TCC evaluation process may not be relevant to CRC evaluation. According to Jennifer Kim, SGC program analyst for the TCC program, the evaluation team looked to California Air Resources Board (CARB) Greenhouse Gas reporting data, which is not a required performance indicator built into the CRC program. The evaluation consultant team convenes with grantees annually to include an evaluation component in each grantee's mandatory yearly progress report. While the annual report is grantee-led, the evaluation component is heavily supported by the evaluation team, which pulls grantee-provided data into a spreadsheet and/or dashboard system for SGC.

4. Finally, the Evaluation of the California Climate Investments (CCI) Technical Assistance Program (2022) emphasizes climate equity, drawing on grantee and community feedback to build a rubric of ten equity-focused indicators.³¹ Its attention to promising practices and actionable recommendations mirrors my findings on the importance of

³⁰ UCLA Luskin Center for Innovation and UC Berkeley Center for Resource Efficient Communities. (2018). Transformative Climate Communities Evaluation Plan: A Road Map for Assessing Progress and Results of the Round 1 Place-based Initiatives. Retrieved from <u>https://www.sgc.ca.gov/grant-</u> programs/tcc/docs/20190213-TCC_Evaluation_Plan_November_2018.pdf

³¹ Harder+Company Community Research and Strategic Growth Council. (2022). Evaluation of the California Climate Investments (CCI) Technical Assistance Program. Retrieved from https://harderco.com/sample_work/evaluation-of-the-california-climate-investments-technical-assistance-program/

capacity-building, grantee support, and evaluation as a learning—not just compliance—tool. The report also relies on proxy indicators for analysis of outcomes, noting that the measurement of systems-level change cannot be achieved by one single indicator.

these valuable alignment with In terms of predecessors, the recommendations for a CRC evaluation model in this report share strong resonance with approaches like the Transformative Climate Communities (TCC) framework and the California Climate Investments (CCI) evaluation, particularly in the use of **mixed-methods**, **community co-design**, and **equity**centered indicators. However, my report deviates in key ways from more rigid or top-down frameworks like FEMA's Community Resilience Indicator Analysis or some public health-focused models, by placing heavier emphasis on local self-determination, culturally responsive metrics, and adaptive, modular design. This divergence offers important contributions to the broader field of climate and resilience evaluation, highlighting pathways to integrate community voice, lived experience, and social dimensions into frameworks that have historically prioritized infrastructure or quantitative indicators.

Important Learning Outcomes and Future Research

Through my data collection and analysis process, I encountered several important and sometimes unanticipated learnings beyond the scope of my initial research. Through interviews with evaluators, grantees, and community stakeholders, and a careful review of SGC program data, I identified subtle tensions and practical challenges that merit further exploration.

One of the clearest tensions emerged around grantee hesitation toward **expansive evaluation**: while most grantees recognized the value of rigorous evaluation, many expressed concerns about the additional administrative burden, especially for under-resourced organizations. New staff, staff turnover, and other capacity constraints challenge the work grantees are scoped to do, and participating in data-heavy evaluation can be an additional burden. This insight reinforces the importance of designing evaluation frameworks that balance accountability with feasibility, minimize redundant reporting, and offer capacity-building support. To determine local community needs, the evaluator should carve out one-on-one time with grantees. According to the R1 CRC guidelines, grantees must set aside a minimum of 3% of proposed implementation grant funds for collecting and tracking data for purposes of program evaluation.³² For large implementation projects, setting aside a greater percentage of the budget for evaluation (such as 5-10%) could ensure that the awardee has the time and resources to collect meaningful data. A substantial funding set-aside that supports this work creates useful data for grantees, stakeholders, and grant administrators, creating consequential testimonies and datasets which can open up pathways to other funding resources. In the design of future CRC rounds, quidelines which set aside a larger portion of the budget could bolster grantee enthusiasm for rigorous evaluation.

³² Strategic Growth Council. (2023). Community Resilience Centers: Round 1 Guidelines (Revised). Retrieved from <u>https://sgc.ca.gov/grant-programs/crc/docs/20231214-</u> <u>CRC_Round_1_Guidelines_Revised.pdf</u>

Another unanticipated learning was the need for greater attention to nontraditional data sources, such as community narratives, art-based storytelling, and culturally specific indicators. While these were included in the proposed framework, stakeholders emphasized their practical importance far more frequently than anticipated, suggesting that future research could formalize and refine how such qualitative data is collected, analyzed, and incorporated into resilience metrics.

Additionally, one research participant suggested that the evaluators publish a **white paper** summarizing **lessons learned, best practices**, and **innovations**. This would not only disseminate knowledge but also invite peer feedback to refine future iterations of the framework.

Finally, a variety of **bureaucratic obstacles** can also challenge the evaluator role, as with TCC the time between contract approval, amendment, and execution took approximately one year. Given the relatively short, 5-year timeline of CRC program evaluation and the potentially lengthy time to procure a qualified evaluator, SGC and the CRC team should begin the solicitation process as soon as possible. In <u>Appendix F</u>, I include a recommendation for the timeline and phases of CRC evaluation, also depicted in Figure 6 below.



Figure 6. Recommended Timeline and Phases for CRC Evaluation

Figure 6. Gantt chart displaying recommended evaluation phases for third-party CRC evaluator. Graphic made by Katie Freiberg.

Future research should continue testing the proposed mixed-method and participatory approaches, especially in evaluating **longitudinal impacts** and exploring how community trust, cohesion, and governance evolve over time alongside capital investments and service expansions. There is also a need to investigate how evaluation frameworks can remain robust and meaningful even when external shocks (e.g., policy changes, funding freezes) disrupt planned data collection tools or funding streams.



Informing effective and equitable environmental policy





As CRCs continue to evolve as **anchors of community resilience**, it is essential that evaluation frameworks honor the diverse realities, strengths, and visions of the communities they serve. Communities must have the ability to **define resilience according to their lived experiences**, not solely through externally imposed measures. To achieve this, best practices must be embedded from the start: offering a menu of standardized and flexible indicators; supporting community-led evaluation design that respects local language and culture; building continuous feedback loops through participatory sessions; and using non-traditional, culturally responsive metrics that **elevate lived realities alongside statistical outcomes**.

Summary of Metrics and Project-Specific Indicators

Common Metrics to Use Across All CRC Projects

- Outputs: Facilities built, programs delivered, events held.
- Outcomes: Increased resilience, user satisfaction, improved health, enhanced community cohesion.

Project-Specific Indicators

- Facility Construction & Retrofits: Energy efficiency, usage during emergencies, emissions reductions.
- Campus Amenities: Green space created, biodiversity benefits, social cohesion impacts.
- Resilience Programs: Skills gained, behavior change, health outcomes, employment pathways.

CONCLUSION

Transparency and **communication**—especially around roles, timelines, and expectations—are vital to fostering trust, while equity must be the lens through which all evaluation efforts are conducted, using trauma-informed, power-aware practices. Long-term sustainability demands attention as well. Redundancy must be built into staffing structures to protect against burnout and leadership gaps, and evaluators must be sensitive to community engagement fatigue, designing evaluations that include regular, respectful pulse checks rather than repetitive questioning. Finally, scenario planning must be incorporated into resilience strategies to ensure CRCs can adapt to evolving climate, social, and funding landscapes. A strategic, participatory, and community-centered approach will ensure that CRC evaluation is not only rigorous but also empowering—and that the centers themselves continue to serve as **trusted lifelines for generations to come**.





Appendix A

CRC FY 2023-2024 Implementation Grant Awardees and Selected

Projects³³

Project Name:	Avalon Health Resilience and Access Center (AHARC)
Lead Applicant:	St. John's Community Health (SJCH)
County, CalOES Region:	Los Angeles, Region 1
SGC Award Amount:	\$10,000,000
Brief Project Summary:	St. John's Community Health aims to create a community-driven, safe-haven CRC with the infrastructural capacity and human capital to prepare for, respond to and recover from climate, public health, and other emergencies. The proposed project area is in a very low-income, mixed industrial and densely populated neighborhood. The area faces the challenge of urban heat islands due to escalating frequency and intensity of extreme heat events. The region is prone to water shortages due to reduced precipitation, placing strain on local water resources. Project area places a critical focus on addressing the foremost climate change risks and exposures that have a profound impact on South Los Angeles community. By recognizing and addressing these and other multifaceted climate change risks, the CRC project seeks to empower the South LA community to proactively mitigate and respond to these challenges while bolstering community resilience.

³³ Project summaries are sourced from Strategic Growth Council. (2024). Attachment A: Project Summaries for CRC Round 1 Project Development and Implementation Grant Award Recommendations. Retrieved from https://sgc.ca.gov/meetings-events/council/2024/04-24/docs/20240424-ltem5_CRC_Attachment_A_PDG_and_IG_Project_Summaries.pdf

nd reinsulating the building. The sure low-flow fixtures, drought aping, generator, water-resistant d emergency pumps. The CRC will centers, shaded areas, pet od distribution year-round and here will be a commercial kitchen visions and a community garden nd community education. Daredness activities and training , along with workforce ainings and programs. The Avalon nd Resilience Center Project will al, dental, and behavioral health reatment for substance abuse, d care, and harm reduction are community services and offered at the site for social

Project Name:	Hung A Lel Ti t'ába káŋa "Bear Cave"/ Resiliency Operations Center
Lead Applicant:	Washoe Tribe of Nevada & California
County, CalOES Region:	Alpine, Region 4
SGC Award Amount:	\$10,000,000
Brief Project Summary:	The Washoe Tribe of Nevada & California has a vision for the CRC project to create a merging point for all the Washoe Tribe's resiliency- enhancing programs, to provide shelter and resources during climate and other emergencies and offer ongoing year-round community services that build community resilience while respecting the community's desire to minimize outside influence and retain limited land for additional housing. The project is located on tribal land in Alpine County and addresses critical needs for this isolated community which faces challenges from wildfires, earthquakes, extreme heat, floods,

mudslides, power outages and disruptions, and storms.
Proposed grant activities include renovation and expansion of three community structures, which will become CRC Facilities: a gym, the fire station, and an education center. There will be solar panels with battery storage for a safe and efficient alternative power generating grid to reduce energy costs and provide backup power; upgraded community kitchen appliances in a community kitchen; and secure storage for response equipment. A community garden, greenhouses, and rainwater recycling system will be designed and installed, along with wi-fi hotspots, and covered outdoor recreation/picnic areas. The grant will also support longer-term programs and services, including workforce development, education and training, healthcare services, cultural resources, and youth after- school tutoring/education/meals programs

Project Name:	Ramona Community Resilience Campus (RCRC)
Lead Applicant:	Ramona Municipal Water District (RMWD)
County, CalOES Region:	San Diego, Region 6
SGC Award Amount:	\$9,996,195
Brief Project Summary:	The Ramona Municipal Water District aims to provide a secure, convenient, and accessible multi-benefit space for community members to congregate safely before, during, and after an emergency. The campus will be comprised of three sites that will provide a strong backbone for the CRC to bring existing community services together. The capital projects address the greatest needs of the priority populations in the community in order to effectively, efficiently, and thoughtfully respond to climate hazards and other local emergencies/impacts. Proposed grant activities include renovation and
	Proposed grant activities include renovation and retrofitting of existing structures, including

Project Name:	Harbour Hall – CRC
Lead Applicant:	Pogo Park
County, CalOES Region:	Contra Costa, Region 2
SGC Award Amount:	\$10,000,000
Brief Project Summary:	Pogo Park and their co-applicant aim to create a new Community Resilience Center named Harbour Hall that will provide resources during climate and other emergencies. The CRC would serve Richmond's Iron Triangle, which is a critically disadvantaged, industrial neighborhood facing environmental challenges from major pollution sources, and must endure a toxic mix of social and environmental conditions, including generational poverty, food insecurity, and underfunded schools. Planned, designed, and later managed by community residents, Harbour Hall and the surrounding facilities will become a trusted, community-serving public space that will provide energy access, assistance, and resources to the community during disaster emergencies, post recovery, and year-round. Proposed grant activities include retrofitting Harbour Hall and construction of a new commercial kitchen and water storage facility.
	There will be installation of solar panels and a solar battery backup. Campus amenities will include bioretention planters, trees, and

landscape, and installation of benches and electrical receptacles in the park area for charging of devices such as cell phones, medical devices, power wheelchairs, and personal communication devices. The project will provide workforce development opportunities, Community Emergency Response Team (CERT) trainings and emergency supplies, and provide community programming for youth seniors and families
programming for youth, seniors, and families.

Project Name:	Revitalizing Western Nevada County's Veterans' Halls
Lead Applicant:	County of Nevada
County, CalOES Region:	Nevada, Region 4
SGC Award Amount:	\$10,000,000
Brief Project Summary:	County of Nevada and the co-applicants propose a combination of capital improvements and programming for the renovation of two existing Veteran's Halls that have each served their surrounding communities broadly for generations. They aim to improve community resilience to extreme heat, wildfires, and winter storms that affect the areas, while expanding successful programs that provide food and introducing additional programming to the community.
	Proposed grant activities include energy efficient building upgrades, extensive plumbing improvements, and installation of HVAC systems. An elevator is planned for installation at the Grass Valley building to ensure ADA accessibility. Both facilities will have asbestos remediation, and snowplows will be purchased to ensure access to the CRCs while enhancing emergency preparedness and critical communications. Parking lots will be repaired and receive ADA improvements. Commercial kitchens will be installed at each site to facilitate both refrigerated and shelf stable food storage, a meal program during sheltering days, and classes on cooking healthy meals, commercial certification, and other

	topics such as CPR certification and first aid will be offered.
SGC Award Amount:	\$10,000,000

Project Name:	La Semilla Community Resilience Center
Lead Applicant:	Casa Familiar
County, CalOES Region:	San Diego, Region 6
SGC Award Amount:	\$8,459,468
Brief Project Summary:	Casa Familiar Inc. envisions La Semilla to serve residents during climate and emergency events and provide programming and services year- round that will empower residents to address air pollution, extreme heat, drought, energy use, and other climate and community risks. There are five sites that comprise the CRC campus: La Estancia is the main facility to house services and programming and act as a community hub and cooling zone during emergencies, and The Food Forest is a community garden with a greenhouse, offering educational opportunities to residents and support to local food systems. El Nido will showcase resiliency features and provide sustainability/resiliency programming, Cypress Plaza will serve as an outdoor gathering place, and the Parking Grove will contain EV charging stations to encourage zero-emission transportation.
	Proposed grant activities include site acquisition and construction of CRC facilities with installation of photovoltaic panels, backup generator, EV charging stations, and broadband connections. There will be installation of site landscaping for shade, food, and air purification with installation of water reclamation technologies for irrigation. Community engagement and programming will include gardening, food preservation and composting, emergency preparedness, climate resiliency programming, cultural traditions and knowledge sharing, workforce development, and

Project Name:	Madera County Hope Center Construction Project	
Lead Applicant:	Madera County Department of Public Health	
County, CalOES Region:	Madera, Region 5	
SGC Award Amount:	\$10,000,000	
Brief Project Summary:	The Madera County Department of Public Health envisions the Hope Center to be a robust Community Resilience Center, intertwining essential community services and climate resilience. The project site has been chosen with consideration to accessibility and the needs of the community, as well as the ability to provide essential services and programming during disasters and emergencies, and for ongoing community needs.	
	Proposed grant activities include preconstruction design work and permitting, and construction of the building site and campus amenities. The facility will foster energy, water, and air quality resilience through a variety of capital design elements including installation of solar photovoltaic panels, microgrids, EV chargers, water efficient fixtures, filtration and purification systems, efficient HVAC, air filtration/purification equipment, and incorporation of heat reflective measures. The grounds will use climate-smart landscaping and water efficient features. The facility will include a community garden for localized food production, and commercial kitchen for food storage and distribution at the site. It will also provide trainings onsite including CPR, First Aid, in addition to offering behavioral health programming, health education and distribution of clothes, food, water, hygiene supplies, and N95 masks.	

Project Name:	Coachella Community Resilience Center	
Lead Applicant:	City of Coachella	
County, CalOES Region:	Riverside, Region 6	
SGC Award Amount:	\$10,000,000	
Brief Project Summary:	The City of Coachella and their co-applicants envision creating a more equitable, climate- resilient community by retrofitting the Hidden Harvest building into the city's Community Resilience Center. The proposed CRC is an essential milestone in the City of Coachella's foc on building a sustainable future for its most under resourced communities. The city aims to create the resources necessary for residents with a long history of disinvestment and hardships to thrive with access to the CRC campus that will be an emergency shelter, food hub, business incubato and educational center. The CRC will prioritize flexibility, sustainability, and accessibility in its design to accommodate all individuals' needs, including the community's priority populations.	
	Proposed grant activities include solar installation and battery storage installation. Kitchen and bath fixtures will be installed, along with pet shelter equipment, furniture and fixtures. Campus amenities include a barn, campus irrigation system, composting area, tool sheds, and agricultural and green space areas. Offsite campus amenities include upgrades to streetscape with installation of railroad crossing, and new standard EV parking and sidewalks. Implementation of programs at the CRC include rideshare, small business incubator, workforce training and development, community gardens, and farmworker support. Additionally, emergency resilience, health education, cooking and food preparation, and mental and developmental health plans will be developed and executed.	

Project Name: In (C)	ne Center for Food, Youth & Community YFC)	
Lead Applicant: Ce	Ceres Community Project	
County, CalOES So Region:	Sonoma, Region 2	
SGC Award Amount: \$4	,794,563	
Brief ProjectCertoSummary:opfactorialopfactorialsososososososoneprowordandisaandisaanProplafactorialsysbaeffwithpeaddintanintfiltbyeleaftshsh	eres Community Project aims to develop and berate a fully accessible, energy efficient CRC cility in Southwest Santa Rosa, a neighborhood th some of the lowest health outcomes in onoma County. They plan to advance health and cial equity by addressing the nutrition and food curity needs of low-income community embers and responding to emergency food beds. Youth engagement will be achieved by oviding job training, and community members buld have access to disaster-readiness training id essential survival resources during times of saster, access to meals, groceries and water, id charging for phones and electronics. oposed grant activities include preconstruction anning, design, and facility construction. The cility design includes an advanced microgrid stem that is solar powered with a battery tokup system and a generator. Low flow water ficient fixtures, drought resistant landscaping th drip irrigation, bioretention facilities and ermeable pavement are all design elements to ldress water resilience. There will be earthworks tegrated into the design including rain gardens id parking stalls for EV charging. The site will clude heat pumps and building envelope air ration measures. ADA accessibility is addressed addition of an elevator feature, and a 10-seat ectric van will provide transportation as needed ter school or during disasters to overnight elters. Year-round programming and training are	

Appendix B

Standardized Email Outreach Template

Subject: [REQUEST] Interview for UCLA Capstone Project on Evaluative Framework for Community Resilience Centers

Dear [Name],

I hope this email finds you well. My name is Katie Freiberg, and I am a current Master's in Urban and Regional Planning student at UCLA. For my capstone project, I am working with the California Strategic Growth Council to create an evaluative framework for Round 1 of the Community Resilience Centers (CRC) program. The CRC program will fund planning, development, construction, and upgrades of neighborhood-level Community Resilience Centers to provide shelter and resources during climate and other emergencies. The program will also fund ongoing year-round community services and programs, such as food distribution and workforce development training, that build overall community resilience. As of April 2024, the CRC program has awarded \$98.6 million to 24 projects across the state, broken down by its three grant types (11 planning grantees, 4 project development grantees, and 9 implementation grantees).

We are investigating lessons learned, data gaps, and community needs from the implementation grant track which will impact the design of future rounds of programming. Given your expertise in [insert subject matter expertise] as it relates to the field of climate resilience, I thought of you as an important subject matter expert to reach out to.

Would you be open to scheduling a 30-minute interview with me, so that I can learn more about your professional experience as it relates to my project?

Thank you in advance for your time and consideration.

Appendix C

Interviewee Profiles

Interviewee Name	Title, Organization	Relevant Expertise
Amar Azucena Cid	Deputy Director of Community Investments and Planning, Strategic Growth Council	Amar Azucena Cid has over 15 years of experience in transportation, housing, and community planning across public and nonprofit sectors. Her work is grounded in racial and environmental justice and shaped by both lived and professional experience. Before joining SGC, Amar led Caltrans' Office on Race and Equity (CORE), the first of its kind at a State DOT. She also played a key role in implementing California Climate Investment programs, supporting zero-emission transit, student fare-free programs, and services benefiting priority populations. ³⁴
Cathryn Couch	Founder and CEO, Ceres Community Project (R1 CRC Implementation Grantee)	In addition to leading Ceres Community Project, a recipient of the CRC implementation grant award, Cathryn Couch serves on the board of Partnership HealthPlan of California, the Advisory Board of the Food is Medicine Coalition, and is a founding member of the California Food is Medicine Coalition. She also advises the Food & Society initiative at the Aspen Institute. ³⁵
Christopher Jones	Deputy Director of Operations, Madera County Department of Public Health (R1	In his role, Christopher Jones helps to lead the implementation of Madera County's CRC project in addition to managing the application of core public health principles

 ³⁴ Strategic Growth Council. (2025). Amar Azucena Cid Biography. Retrieved from https://sgc.ca.gov/about/staff/
 ³⁵ Food is Medicine Coalition. (n.d.) Cathryn Couch Biography. Retrieved from https://fimcoalition.org/staff/cathryn-couch/

	CRC Implementation Grantee)	across diverse initiatives for the county.
Hoi-Fei (Fei) Mok	Deputy Director of Equity and Government Transformation, Strategic Growth Council	Fei Mok brings over 14 years of interdisciplinary experience spanning environmental science, climate policy, and social justice to their work advancing equitable, community-led strategies for local climate resilience. Before their current role, Fei served as Sustainability Manager for the City of San Leandro, where they led a range of climate initiatives— including the development of resilience hubs, urban tree canopy expansion, solar and EV infrastructure deployment, and sea level rise planning. ³⁶
Georgette Gómez	Community Development and Strategy Officer, Casa Familiar (R1 CRC Implementation Grantee)	Georgette Gómez helps to manage and execute Casa Familiar's CRC award. Her experience is in leading efforts to develop affordable housing while advancing goals related to air and water quality, energy efficiency, and greenhouse gas reduction. She also serves on California's inaugural Board of Environmental Safety. ³⁷
Kristopher Eclarino	Senior Technical Manager, Climate Resolve	Kristopher Eclarino is an expert in research, data analysis, and strategic reporting. He serves as Project Manager for the Ready for Tomorrow (RfT) program, which links disadvantaged communities in Southern California—identified through CalEnviroScreen 4.0—to vital climate planning resources, funding opportunities, and research support. Within RfT, Kristopher also

 ³⁶ Strategic Growth Council. (2025). Hoi-Fei Mok Biography. Retrieved from <u>https://sgc.ca.gov/about/staff/</u>
 ³⁷ Board of Environmental Safety. (2025). Meet the Board of Environmental Safety Appointees: Georgette Gómez. Retrieved from <u>https://bes.dtsc.ca.gov/about/</u>

		leads the Grant Writing Assistance Program, helping local governments secure federal, state, and philanthropic grants to support their climate resilience and planning efforts. ³⁸
Leah Hubbard	Director, Strategic Partnerships, Estolano Advisors	Leah Hubbard focuses on advancing community development initiatives that promote socio- economic and racial equity, environmental stewardship, and inclusive economic growth. She has engaged with stakeholders across the spectrum—from grassroots organizers to high-level decision- makers. She works closely with communities and partners to design and implement effective plans and policies that drive meaningful change. ³⁹
Maria Genie and Kim Sleder	Chief Administrative Officer, St. John's Community Health; Director of Institutional Giving, St. John's Community Health (respectively)	Maria Genie and Kim Sleder, as program leaders at St. John's Community Health, help to oversee the implementation of CRC R1 funds for the Avalon Health Resilience and Access Center (AHARC) project.
Riley O'Brien	Director, Spatial and Data Analysis , Estolano Advisors	Riley O'Brien leads spatial and quantitative data analysis and oversees projects addressing transportation equity, environmental justice, housing affordability, and workforce development. He supports California grant programs—including Affordable

 ³⁸ Climate Resolve. (2025). Kristopher Eclarino Biography. Retrieved from <u>https://climateresolve.org/team_members/kristopher-eclarino%E2%80%8B/</u>
 ³⁹ Estolano Advisors. (2025). Leah Hubbard Biography. Retrieved from <u>https://estolanoadvisors.com/leah</u>

		Housing and Sustainable Communities and Transformative Climate Communities—by collaborating with local governments and nonprofits to map proposed projects, build partnerships, refine budgets, and prepare application materials. ⁴⁰
Samantha Nuno	Grants and Proposals Manager, Climate Resolve	Samantha Nuno focuses on securing new funding opportunities through grant writing and partnership development. She is especially passionate about advancing the Ready for Tomorrow program, which provides grant writing support to disadvantaged communities (DACs) and disadvantaged vulnerable communities (DVCs) in Southern California—connecting them to climate planning resources, research, and funding opportunities. ⁴¹
Dr. Stephen Wong	Assistant Professor, Faculty of Engineering - Civil and Environmental Engineering Dept, University of Alberta	Dr. Stephen Wong specializes in the intersection of evacuation planning, decision-making, and shared mobility, with the goal of advancing transportation systems that are more resilient, sustainable, and equitable. His dissertation developed data-informed evacuation and resilience strategies to help government agencies better prepare for, respond to, and recover from disasters. He currently leads the Resilient and Sustainable Mobility and Evacuation (RESUME) Group. ⁴²

 ⁴⁰ Estolano Advisors. (2025). Riley O'Brien Biography. Retrieved from <u>https://estolanoadvisors.com/riley</u>
 ⁴¹ Climate Resolve. (2025). Samantha Nuno Biography. Retrieved from <u>https://climateresolve.org/team_members/samantha-nuno/</u>

⁴² University of Alberta. (2024). Stephen Wong Biography. Retrieved from <u>https://apps.ualberta.ca/directory/person/sdwong1</u>

Appendix D

Interview Preamble

Thank you for taking the time to meet with me today to discuss a vision for an evaluative framework for Round 1 of the Strategic Growth Council's Community Resilience Centers program. As of April 2024, the CRC program has awarded \$98.6 million to 24 projects across the state through planning, project development, and implementation grants.

For my UCLA capstone project, I am focusing on the 9 implementation grantees who each received award amounts between 4.5 to 10 million dollars. Implementation Grants are intended to fund new construction and upgrades of neighborhood-scale facilities as Community Resilience Centers, bridging physical and social infrastructure investments to build climate and community resilience. This grant track provides funding for the implementation of Capital Projects, as well as Community Resilience Services and Programs, such as CRC Facility Construction and Retrofits and Campus Amenities. I'm investigating lessons learned, data gaps, and community needs which will impact the design of future rounds of programming through interviews with subject matter experts on evaluative frameworks and climate resilience, as well as conversations with Round 1 Implementation grantees.

I have a list of prepared questions I will ask, but if a question does not feel relevant to your expertise, we can skip it. I anticipate this interview to take approximately 30 minutes. All feedback is helpful and may be nonanonymously incorporated into a final report that I will submit to the UCLA Urban Planning Department and to SGC.

Interview Questions:

- 1. What core components must a program evaluation framework for the CRC Implementation Grant Program include and why?
 - a. How can a framework be flexible and enable local communities to self-determine goals and indicators to measure local resilience?
 - b. What existing data/information gaps might pose a barrier to comprehensively evaluating the impact of a CRC?
- 2. CRC Implementation Grants will provide funding for implementing (1) CRC Facility Construction and Retrofits in addition to (2) Campus Amenities and (3) Community Resilience Services and Programs. What key indicators and metrics should be used to assess the success and impact of these proposal types? (This could include standard or differing indicators/metrics for each project type as well as community).
 - a. How can a framework be flexible to account for the different types of Implementation Grant proposals?
 - b. What are best practices for evaluation frameworks for programs that support capital projects?
 - c. What are best practices around evaluation frameworks for programs that support services and programs?
 - d. Are there limitations/challenges to tracking programs that support both capital projects and programs?
- 3. To achieve the CRC Implementation Grant Program Objectives, each CRC proposal must include at least four (4) of the strategies listed below. What key indicators and metrics could be used to assess each strategy's progress in achieving climate resilience and/or community resilience?
 - a. Energy Resilience
 - b. Water Resilience
 - c. Air Quality and Public Health

- d. Nature-Based Solutions and Food Security
- e. Emergency Preparedness and Critical Communication
- f. Mobility and Access
- g. Workforce Development, Education, and Training
- 4. All CRCs must meet the required functions below. What metrics or indicators will measure the success of these functions?
 - a. Open and accessible to the public and offer Community Resilience Services and Programs year-round to community members;
 - b. Able to be activated seven (7) days per week for heat waves and other climate emergencies that do not require overnight sheltering; and
 - c. Able to be activated for overnight-shelter 24/7 during largerscale climate emergencies OR able to coordinate transport of community members to an identified nearby evacuation shelter.

5. What are important considerations for collaborating with diverse grantees in the development of the evaluation framework?

- a. What are best practices for an evaluator working with a community partner? (e.g., communication expectations, timeline development, feedback practices)?
- b. What types of activities, methods, or tools should be included in the evaluation process to support grantee capacity?
- c. What local dynamics and capacity challenges may present a barrier here? What resources or structure might help alleviate these challenges?
- 6. The CRC model calls for robust, meaningful, and culturally appropriate community engagement throughout all phases of the project. What are metrics or indicators to measure the impact and strength of a project's community engagement and/or local community governance?

- 7. What are potential challenges for sustaining the long-term operations of a CRC? (e.g., administrative overhead costs, management, investments, etc.)
- 8. What types of expertise, competencies, and skills are essential in an evaluator for this program? What types of criteria should SGC consider in selecting a third-party evaluator?
- 9. What types of activities should a third-party evaluator consider for this scope of work?
- 10. Other Recommendations?

Appendix E

Sample Job Posting for Evaluator

Disclaimer: This sample job posting was created with the intention of translating the findings of this report into a simple, standardized format. The official solicitation for CRC evaluators will likely take the form of a more comprehensive solicitation seeking a team of consultants.

Role: Community Resilience Center (CRC) Program Evaluator

Location: Flexible (Remote/Hybrid Options Available) Employment Type: Full-Time Contract (3+ Years Preferred)

Position Summary

The CRC Program Evaluator will lead a complex, mixed-methods, participatory evaluation process for the California Strategic Growth Council's (SGC) Community Resilience Centers (CRC) Implementation Grant Program. This role requires technical expertise in evaluation methods and a deep commitment to community-centered, culturally responsive, and equity-driven evaluation practices.

The Evaluator will co-design, implement, and manage a longitudinal evaluation framework that captures both the tangible outcomes (e.g., GHG reductions, energy resilience improvements) and the lived community impacts (e.g., increased social cohesion, resilience mindset) of CRCs across diverse communities.

Key Responsibilities

Evaluation Planning & Framework Development

- Co-develop an adaptive, mixed-methods evaluation framework that integrates quantitative metrics (e.g., energy audits, facility use) and qualitative data (e.g., storytelling, participatory feedback).
- Collaborate with grantees and communities to define locally relevant indicators of resilience, offering a standardized menu while allowing for flexible customization.
- Establish baseline data collection plans and develop longitudinal tracking methodologies.

Data Collection & Analysis

• Lead diverse data collection strategies, including site visits, surveys, participatory focus groups, story-based methods, and administrative record reviews.
- Oversee data quality, security, and ethical governance, data sovereignty agreements, and trauma-informed practices.
- Utilize tools such as Tableau, NVivo, GIS, and participatory digital platforms for data visualization, qualitative coding, and mapping.

Grantee Capacity Building & Technical Assistance

- Develop user-friendly evaluation toolkits, templates, and reporting systems for grantees.
- Deliver trainings and coaching sessions on evaluation methods, data collection, and participatory approaches.
- Provide ongoing technical assistance and troubleshooting support to grantees.

Reporting & Dissemination

- Produce high-quality reports, including annual evaluation summaries, midpoint learning briefs, longitudinal impact studies, and final summative evaluations.
- Create accessible public-facing reports (plain language, multilingual formats), infographics, dashboards, and community case studies.
- Translate evaluation findings into actionable policy briefs and recommendations for future program improvements.

Systems and Strategic-Level Activities

- Conduct systems mapping to identify feedback loops, cross-strategy impacts, and resilience-building pathways.
- Integrate scenario planning and stress testing into evaluation processes.
- Support the design of cross-site learning exchanges and communities of practice across CRC sites.

Required Qualifications

- 5+ years of experience leading complex, interdisciplinary, and community-based evaluation projects.
- Deep experience in mixed-methods evaluation, participatory research, and developmental evaluation models.
- Demonstrated proficiency with qualitative and quantitative analysis tools (e.g., NVivo, Tableau, GIS platforms).
- Expertise in equity-centered, trauma-informed, and culturally responsive evaluation practices.

- Ability to create adaptable, flexible evaluation frameworks suitable for multi-component programs (capital projects + community services).
- Strong communication skills, including technical writing, facilitation of participatory workshops, and policy brief development.
- Experience working with under-resourced, diverse, and historically marginalized communities.
- Knowledge of California's climate resilience, disaster response, and infrastructure landscapes is highly desirable.
- Familiarity with federal/state data tools (e.g., CalEnviroScreen 4.0, Social Vulnerability Index) and alternative data strategies.

Preferred Qualifications

- Bilingual or multilingual fluency (Spanish, Tagalog, Mandarin, or other languages relevant to CRC communities).
- Experience evaluating resilience hubs, sustainability programs, disaster preparedness initiatives, or large infrastructure grants.

Core Competencies

- Systems Thinking and Strategic Vision
- Flexibility, Adaptability, and Creative Problem-Solving
- Cultural Humility and Community-First Mindset
- Analytical Rigor and Attention to Detail
- Collaborative, Transparent, and Ethical Practice

Appendix F

Recommended Timeline for Evaluation

The final report for Implementation grantees will include the following sections:

- Section 1: Final Report Narrative
- Section 2: Equipment Inventory Record (if relevant)
- Section 3: Leveraged Funding Report (if relevant)
- Section 4: Indicator Tracking (Evaluation) Report (if relevant)

The third-party CRC evaluator will support grantees with developing the final report. The following is a proposed timeline of evaluator activities, assuming the third-party evaluator contracts with SGC by Fall of 2026. Disclaimer: Final hiring process, timeline, and evaluator scope of work is up to the discretion of SGC.

Fall 2026 – Spring 2027

Phase 1: Evaluation Planning and Design

- Reassess and refine evaluation framework in collaboration with grantees and SGC, referencing lessons learned from previous annual reports and Extreme Heat Community Resilience Program efforts.
- Identify data needs for Final Report Section 4 (Indicator Tracking) and Section 3 (Leveraged Funding), if applicable.
- Confirm project-specific evaluation questions and establish timelines for data gathering.
- Update logic models, theory of change diagrams, and set reporting formats for final analysis.

Deliverables:

- Updated Evaluation Plan
- Data collection templates
- Stakeholder engagement schedule

Spring 2027 – Fall 2027

Phase 2: Baseline Data Collection and Capacity Building

• Work with grantees to gather any remaining baseline or contextual data prior to final implementation phases.

- Provide technical assistance to ensure consistency and completeness of data for Sections 2 (Equipment Inventory) and 3 (Leveraged Funding), if relevant.
- Offer support in data entry and usage tracking to prepare for final Indicator Tracking reporting.

Deliverables:

- Finalized baseline metrics
- Grantee data collection support logs
- Interim technical assistance reports

Winter 2027 – Fall 2028

Phase 3: Implementation Monitoring and Formative Evaluation

- Conduct ongoing documentation and formative evaluation of CRC activities, facility usage, and service delivery.
- Hold mid-cycle check-ins with grantees to refine data or identify gaps.
- Begin drafting summaries of trends in program implementation and challenges, with attention to trust-building, social resilience, and infrastructure impact.
- Collect narrative and qualitative data for Section 1 (Final Narrative).

Deliverables:

- Progress memos and grantee snapshots
- Preliminary findings for Section 4 (Indicator Tracking)
- Community engagement summaries

Winter 2028 – Winter 2029

Phase 4: Summative Evaluation and Impact Analysis

- Analyze cumulative program data to assess CRC outcomes in climate and community resilience.
- Synthesize quantitative and qualitative data to evaluate alignment with goals and logic models.
- Draft Final Report Sections 1–4 in collaboration with grantees and SGC.
- Prepare cost-benefit summaries or ROI analysis where applicable.

Deliverables:

- Drafts of Final Report (all applicable sections)
- Data visualizations and interpretation memos
- Recommendations for scaling and replication

Winter 2029 – April 20, 2029

Phase 5: Dissemination, Policy Influence, and Continuous Learning

- Finalize the CRC Final Report for submission to SGC by the April 20 deadline.
- Prepare materials for sharing findings with stakeholders and communities (e.g., infographics, summary briefs, presentations).
- Support SGC with legislative briefings or conference presentations, ensuring insights inform future CRC rounds and state resilience efforts.

Deliverables:

- Final Report (Sections 1–4 as applicable)
- Public-facing summaries or dashboards
- Lessons learned + policy recommendations brief



- Asian Pacific Environmental Network (APEN). (2019). Mapping Resilience: A Blueprint for Thriving in the Face of Climate Disasters. Retrieved from <u>https://apen4ej.org/wp-content/uploads/2019/10/APEN-Mapping_Resilience-Report.pdf</u>
- Board of Environmental Safety. (2025). Meet the Board of Environmental Safety Appointees: Georgette Gómez. Retrieved from <u>https://bes.dtsc.ca.gov/about/</u>
- 3) California Department of Insurance. (2024). Impacts of extreme heat to California's people, infrastructure, and economy. Retrieved from <u>https://www.insurance.ca.gov/01-consumers/180-climate-</u> <u>change/upload/Impacts-of-extreme-heat-to-California-s-people-</u> <u>infrastructure-and-economy-by-California-Department-of-Insurance-</u> June-2024.pdf
- California Department of Public Health. (2019). Retrieved from https://skylab.cdph.ca.gov/CCHVIz/
- 5) California Healthy Places Index. (2022). Retrieved from https://www.healthyplacesindex.org/
- California Office of Environmental Health Hazard Assessment. (2023). CalEnviroScreen 4.0. Retrieved from https://oehha.ca.gov/calenviroscreen
- 7) **Climate Resolve.** (2025). Samantha Nuno Biography. Retrieved from https://climateresolve.org/team_members/samantha-nuno/
- Climate Resolve. (2025). Kristopher Eclarino Biography. Retrieved from <u>https://climateresolve.org/team_members/kristopher-</u> <u>eclarino%E2%80%8B/</u>
- 9) **Ciriaco, T. and Wong, S.** (2022). Review of resilience hubs and associated transportation needs. ScienceDirect. Retrieved from

https://www.sciencedirect.com/science/article/pii/S259019822200157 9

- 10) **Collins et al. (2019).** Community-based Participatory Research (CBPR): Towards Equitable Involvement of Community in Psychology Research. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC6054913/
- 11) Cutter et al. (2019). Existing Longitudinal Data and Systems for Measuring the Human Dimensions of Resilience, Health, and Well-Being in the Gulf Coast. The National Academies of Sciences, Engineering, and Medicine. Retrieved from <u>https://www.nationalacademies.org/_cache_80ac/content/488577000</u> 0234289.pdf
- 12) Eisenman, D., Adams, R., and Rivard, H. (2016). Measuring Outcomes in a Community Resilience Program: A New Metric for Evaluating Results at the Household Level. National Library of Medicine. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC5077704/
- 13) **Estolano Advisors.** (2025). Riley O'Brien Biography. Retrieved from https://estolanoadvisors.com/riley
- 14) **Estolano Advisors.** (2025). Leah Hubbard Biography. Retrieved from https://estolanoadvisors.com/leah
- 15) Federal Emergency Management Agency. (2022). Community Resilience Indicator Analysis: Commonly Used Indicators from Peer-Reviewed Research. Retrieved from <u>https://www.fema.gov/sites/default/files/documents/fema_2022-</u> <u>community-resilience-indicator-analysis.pdf</u>
- 16) Food is Medicine Coalition. (n.d.) Cathryn Couch Biography. Retrieved from https://fimcoalition.org/staff/cathryn-couch/
- 17) Harder+Company Community Research and Strategic Growth
 Council. (2022). Evaluation of the California Climate Investments (CCI)
 Technical Assistance Program. Retrieved from

https://harderco.com/sample_work/evaluation-of-the-californiaclimate-investments-technical-assistance-program/

- 18) HubICL. (2018). Cross-Cultural Adaptability Inventory (CCAI). Retrieved from <u>https://hubicl.org/toolbox/tools/920</u>
- 19) Lou, Z. (2020). Resilience Before Disaster. Asian Pacific Environmental Network. Retrieved from <u>https://apen4ej.org/wp-</u> <u>content/uploads/2020/10/Resilience-Before-Disaster-FINAL-</u> <u>UPDATED.pdf</u>
- 20) National Centers for Environmental Information. (2024). California Billion-Dollar Disaster Events 1980-2024 (CPI-Adjusted). Retrieved from https://www.ncei.noaa.gov/access/billions/state-summary/CA
- 21) National Centers for Environmental Information. (2024). Billion-Dollar Weather and Climate Disasters. Retrieved from https://www.ncei.noaa.gov/access/billions/
- 22) Partelow, S. (2023). What is a framework? Understanding their purpose, value, development and use. J Environ Stud Sci 13, 510–519. Retrieved from https://doi.org/10.1007/s13412-023-00833-w
- 23) **Patton, M.Q.** (1987). Qualitative Research Evaluation Methods. Thousand Oaks, CA: Sage Publishers.
- 24) **PSE Health Energy, Communities for a Better Environment, and Asian Pacific Environmental Network.** (2024). Building Community Resilience Across California: A Statewide Analysis of Climate Vulnerability and Resilience Hub Potential. Retrieved from <u>https://www.psehealthyenergy.org/wp-</u>

content/uploads/2024/04/Building-Community-Resilience-Across-California.pdf

25) **Sherman, C. and Glenza, J.** (2025). CDC webpages go dark as Trump targets public health information. The Guardian. Retrieved from https://www.theguardian.com/us-news/2025/feb/04/dcd-pages-trump-public-health

- 26) **Strategic Growth Council.** (2025). Amar Azucena Cid Biography. Retrieved from <u>https://sgc.ca.gov/about/staff/</u>
- 27) **Strategic Growth Council.** (2025). Hoi-Fei Mok Biography. Retrieved from https://sgc.ca.gov/about/staff/
- 28) **Strategic Growth Council.** (2023). Community Resilience Centers: Round 1 Guidelines (Revised). Retrieved from <u>https://sgc.ca.gov/grant-programs/crc/docs/20231214-CRC_Round_1_Guidelines_Revised.pdf</u>
- 29) **Strategic Growth Council.** (2023). Community Resilience Centers: Round 1 Planning, Project Development, and Implementation Grant Recommendations. Retrieved from <u>https://sgc.ca.gov/meetings-</u> <u>events/council/2024/04-24/docs/20240424-</u> <u>Item5_CRC_R1_IG_PD_Awards_Staff_Report.pdf</u>
- 30) Strategic Growth Council. (2024). Attachment A: Project Summaries for CRC Round 1 Project Development and Implementation Grant Award Recommendations. Retrieved from <u>https://sgc.ca.gov/meetingsevents/council/2024/04-24/docs/20240424-</u> Itom5_CRC_Attachment_A_RDC_and_IC_Project_Summaries.pdf
 - Item5_CRC_Attachment_A_PDG_and_IG_Project_Summaries.pdf
- 31) **The Guardian.** (2022). 'A Living, Breathing Building': The Rise of Resilience Centers Amid Extreme Heat in the US. Retrieved from <u>https://www.theguardian.com/us-news/2022/sep/23/california-</u> <u>extreme-heat-resilience-centers</u>
- 32) **The Union Democrat.** (2023). Tuolumne County Opens Community Resilience Centers as Warming Shelters. Retrieved from <u>https://www.uniondemocrat.com/news/article_38aa8bb2-b927-11ed-9eaf-1f05363d2f54.html</u>
- 33) UCLA Luskin Center for Innovation and UC Berkeley Center for Resource Efficient Communities. (2018). Transformative Climate Communities Evaluation Plan: A Road Map for Assessing Progress and Results of the Round 1 Place-based Initiatives. Retrieved from <u>https://www.sgc.ca.gov/grant-programs/tcc/docs/20190213-</u> <u>TCC_Evaluation_Plan_November_2018.pdf</u>

- 34) **University of Alberta.** (2024). Stephen Wong Biography. Retrieved from https://apps.ualberta.ca/directory/person/sdwong1
- 35) **Urban Sustainability Directors Network.** (2019). Guide to Developing Resilience Hubs. Retrieved from <u>http://resilience-hub.org/wp-</u> <u>content/uploads/2019/10/USDN_ResilienceHubsGuidance-1.pdf</u>
- 36) Urban Sustainability Directors Network. (2019). Resilience Hubs: Shifting Power to Communities and Increasing Community Capacity. Retrieved from <u>http://resilience-hub.org/wp-</u> content/uploads/2019/10/USDN_ResilienceHubsGuidance-1.pdf
- 37) **U.S. Bureau of Labor Statistics.** (2025). What are Longitudinal Data? Retrieved from <u>https://www.nlsinfo.org/content/getting-started/what-are-longitudinal-data</u>
- 38) **U.S. Centers for Disease Control and Prevention.** (2024). CDC Program Evaluation Framework. Retrieved from <u>https://www.cdc.gov/evaluation/php/evaluation-framework/index.html</u>
- 39) **U.S. Chamber of Commerce.** (2024). The Preparedness Payoff: The Economic Benefits of Investing in Climate Resilience. Retrieved from https://www.uschamber.com/security/the-preparedness-payoff-the-economic-benefits-of-investing-in-climate-resilience

