



2025 Integrated Climate  
Adaptation and Resilience Program  
**Impact Report**



CA Governor's Office of  
**Land Use and  
Climate Innovation**

## Table of Contents

Letter from the Director .....	3
2025 Technical Advisory Council Members.....	4
Executive Summary.....	5
Introduction.....	8
Programmatic Workstreams .....	9
Council Priorities .....	12
Cultivate Trust and Empower Communities .....	14
Implement Innovative Adaptation and Resilience Action .....	16
Technical Advisory Council.....	18
California’s Climate Change Assessment.....	21
Climate Services Program .....	24
Adaptation Planning Grant Program .....	27
Regional Resilience Planning and Grant Program .....	30
Extreme Heat and Community Resilience Program .....	35

## Letter from the Director

The Governor's Office of Land Use and Climate Innovation (LCI) is pleased to share this 2025 Impact Report for the Integrated Climate Adaptation and Resiliency Program (ICARP).

Climate change is already impacting the lives and livelihoods of Californians. It is no longer a matter of if, but when and where the next heatwave, wildfire, flood, or drought will hit. At the same time, Californians are confronting increasing costs and federal disinvestment in social and climate programs. These combined challenges make ICARP's mission to advance equitable adaptation more important than ever. Since its inception in 2016, ICARP has grown significantly, which is a testament to the immense value the program has in advancing the protection and prosperity of California's communities.

In 2025, we saw exceptional progress and accomplishments for the program: the Extreme Heat and Community Resilience Program (EHCRP) awarded \$32 million and Round 1 projects kicked off; Adaptation Planning Grant Program (APGP) and Regional Resilience Grant Program (RRGP) projects delivered impact on the ground; and our climate services program launched the Vulnerable Communities Platform (VCP) and expanded its direct technical assistance. The program's delivery of cutting-edge climate science, tools, guidance, technical support, policy, and planning coordination support the entire cycle of adaptation, truly embodying LCI's vision of transformation through innovation and equity.

California's commitment to equitable adaptation is a source of hope and model for the nation and partners abroad.

I look forward to the continued growth and progress of ICARP, and I am grateful to all the partners whose collaboration has and will be essential to this success.



**Samuel Assefa**

Director  
*Governor's Office of Land Use  
and Climate Innovation*

## 2025 Technical Advisory Council Members

Abby Edwards, Chair, Governor's Office of Land Use and Climate Innovation

Jacob Alvarez, Coachella Valley Association of Governments

Nathan Bengtsson, Pacific Gas & Electric Company

Kim Clark, Southern California Association of Governments

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Gloria Walton, The Solutions Project

John Wentworth, Town of Mammoth Lakes

## Executive Summary

The [Integrated Climate Adaptation and Resiliency Program \(ICARP\)](#), established through [Senate Bill 246 \(Wieckowski, 2016\)](#), advances a cohesive and holistic response to the impacts of climate change by coordinating regional and local efforts with state climate adaptation strategies. Through its enabling legislation, ICARP is centrally focused on efforts that advance climate equity and support integrated climate strategies, or those strategies that benefit both greenhouse gas reductions and adaptation.

ICARP works to advance these priorities through four programmatic workstreams:

- Policy and programmatic alignment
- Actionable climate science
- Climate services
- Direct investments

Together, these workstreams deliver support across the adaptation cycle empowering communities and building local capacity to deliver resilience strategies. Equity is embedded across programmatic workstreams, ensuring that ICARP fosters a climate resilient future for all Californians.

This report provides an overview of ICARP's recent efforts to advance its mission, documenting key milestones achieved in 2025. Highlights include:

- **Supported wildfire recovery and resilient rebuilding in Los Angeles County.** In partnership with California Office of Emergency Services (CalOES) and federal partners, LCI staff co-led the development of a Recovery Needs Assessment for the Palisades and Eaton Fires in Los Angeles County. Completed in March, the assessment identified opportunities to support and accelerate resilient rebuilding in Los Angeles. Following its completion, staff continued to engage to help city and county government partners identify ways they could leverage existing state resources, identify program gaps, and explore areas where additional state support of guidance could be provided.
- **Launched the Vulnerable Communities Platform to identify communities most impacted by climate change.** In October 2025, LCI launched the Vulnerable Communities Platform (VCP), which integrates climate hazard and social vulnerability data to identify areas of low, medium, and high vulnerability to extreme heat, sea level rise, flooding, drought, and wildfire

through the states's Fire Hazard Severity Zones. The VCP is the first statewide tool to integrate major climate hazard data with social indicators in a single platform.

- **Advanced extreme heat resilience through targeted grant funding.** Through the Extreme Heat and Community Resilience Program (EHCRP), LCI built local capacity for heat action planning and project implementation in California's most heat-burdened communities. In its first round of funding the program awarded \$32 million across 45 grantees in 23 counties, with projects kicking off in 2025. The second round of funding, made possible through the support of the Greenhouse Gas Reduction Fund and Proposition 4, was announced in the fall.
- **Delivered on-the-ground climate adaptation through planning and regional resilience grants.** Projects funded through the Adaptation Planning Grant Program (APGP) and Regional Resilience Grant Program (RRGP) continued to advance climate adaptation and resilience outcomes statewide.
- **Captured lessons learned from the Adaptation Planning Grant Program.** As the APGP concluded in January 2026, grantees are developing case studies to capture lessons learned and best practices. These case studies will be posted on the Adaptation Clearinghouse and will highlight innovative climate adaptation planning efforts while sharing replicable strategies from funded projects.
- **Completed a Tribal User Needs Assessment to strengthen Tribal climate partnerships.** ICARP staff, in partnership with the California Indian Environmental Alliance and the Tribal Energy and Climate Collaborative, completed a Tribal User Needs Assessment. The Assessment provides recommendations to improve LCI programs, funding, technical assistance, and engagement practices to better align with and support Tribal climate resiliency and adaptation efforts, strengthening partnerships with California Native American Tribes and Indigenous communities.
- **Advanced key data products, research, and reports as well as the external review process of California's Fifth Climate Change Assessment (Fifth Assessment).** To ensure scientific integrity and readability, Fifth Assessment research products underwent a robust external review and editing process. LCI established an external Editorial Board led by Lead Editor Pramod Khargonekar (University of California, Irvine) and Deputy Lead Editor Sagar Parajuli (San Diego State University), supported by more

than 20 associate editors and 60 expert reviewers. Since September 2025, the Editorial Board has been leading a robust external review of Fifth Assessment research products.

Looking ahead to 2026 and beyond, ICARP will continue to deliver on its priorities through the continuation of work under its programmatic workstreams and strengthening the connection among them. ICARP will continue to center equity in processes and outcomes, prioritizing communities that are most vulnerable. The program will continue to foster partnerships and relationships with scientists, state and federal agencies, Tribes, businesses, local governments, and community groups so California can thrive in the face of climate change.

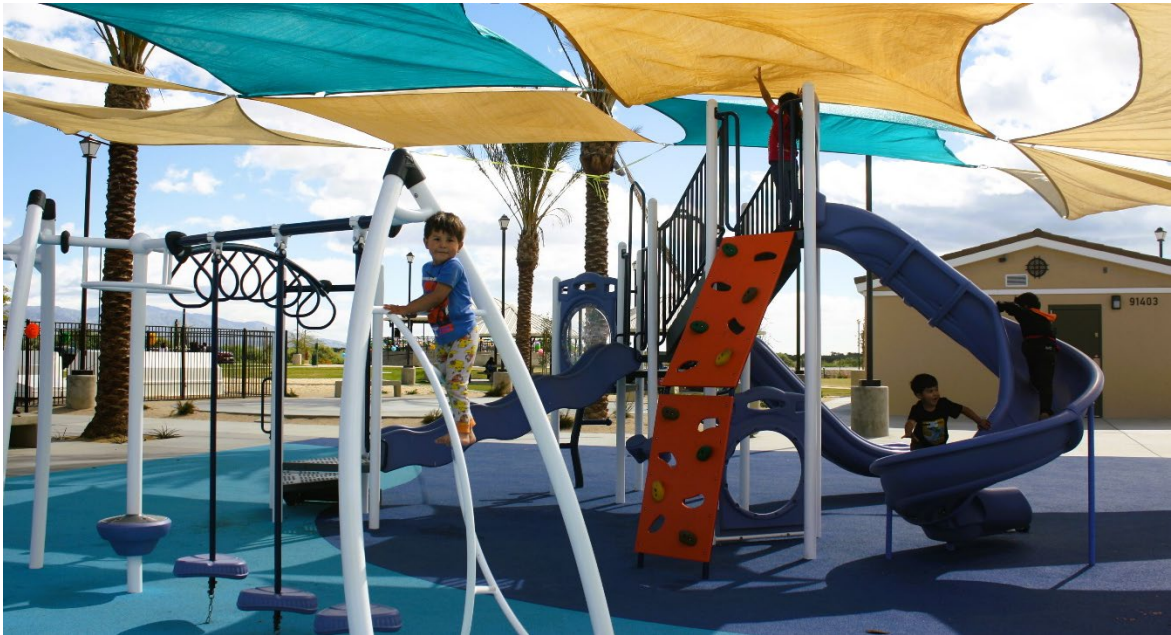


Figure 1. Children play on a playground with shade structures to protect them from extreme heat effects.

## Introduction

California is already experiencing more frequent and severe wildfires, droughts, floods, and extreme heat. The [Integrated Climate Adaptation and Resiliency Program \(ICARP\)](#), established through [Senate Bill 246 \(Wieckowski, 2016\)](#), advances a cohesive and holistic response to the impacts of climate change by coordinating regional and local efforts with state climate adaptation strategies. Through its enabling legislation, ICARP is centrally focused on efforts that advance climate equity and support integrated climate strategies, or those strategies that benefit both greenhouse gas reductions and adaptation.

At the inception of the program, ICARP developed a vision and principles to describe the characteristics of a resilient California, and how adaptation actions can contribute to this outcome. This creates a framework for action that guides adaptation efforts so California can withstand and flourish in changing climate conditions.

**ICARP Vision:** All Californians thrive in the face of a changing climate. Leading with innovation, California meets the challenge of climate change by taking bold actions to protect our economy, our quality of life, and all people. The state’s most vulnerable communities are prioritized in these actions. Working across all levels of government, the state is prepared for both gradual changes and extreme events. Climate change adaptation and mitigation is standard practice in government and business throughout the state. California meets these goals with urgency, while achieving the following long-term outcomes:

- All people and communities respond to changing average conditions, shocks, and stresses in a manner that minimizes risks to public health, safety, and economic disruption and maximizes equity and protection of the most vulnerable.
- Natural systems adjust and maintain functioning ecosystems in the face of change.
- Infrastructure and built systems withstand changing conditions and shocks, including changes in climate, while continuing to provide essential services.

The [ICARP Principles](#) emphasize integrated climate action that simultaneously reduces emissions, builds resilience, and delivers multiple benefits. They focus ICARP on equity and protecting communities most vulnerable to climate impacts. They call for science-based, collaborative, and adaptive decision-making that prioritizes natural and green infrastructure, avoids maladaptation, and addresses both immediate and long-term climate risks.

## Programmatic Workstreams

ICARP advances its statutory objectives and principles through a set of integrated programmatic workstreams. These efforts include the development and dissemination of decision-support tools, actionable climate science, guidance, technical assistance, and grant programs. By intentionally housing these efforts within a single, coordinated program, ICARP supports communities across the full adaptation cycle and unlocks synergies that would not be possible if these functions operated in isolation. This ensures that science, policy, and investment move together to drive real world climate resilience.

**Policy and programmatic alignment:** The Technical Advisory Council (TAC) serves as a crucial public forum for meaningful discussion on California’s adaptation and resilience policies, bringing together local, regional, and Tribal governments; nonprofits and boundary organizations; the private sector; and state agencies. In addition to providing strategic input on state adaptation and resilience efforts, the TAC is a space to uplift local success, challenges, and needs. Lessons learned from communities throughout the state enable ICARP to continue to lead by developing processes, policies, and programs that meet local needs and prioritize underserved communities in the state’s resilience efforts.

**Actionable climate science:** To promote science-informed decision-making, ICARP leads the development of the [California Climate Change Assessment](#) in

coordination with the California Natural Resources Agency (CNRA), California Energy Commission, and Strategic Growth Council. The Assessment consists of a portfolio of critical and cutting-edge data, research, and actionable tools that underpin state and local resilience actions. A robust, ongoing engagement initiative that uplifts the perspectives of diverse community, Tribal, and expert partners throughout the research process ensures that the state’s best available science on climate change is representative of and meaningful to California’s many users. California’s Fifth Climate Change Assessment is underway and will roll out new findings on the state’s climate future in 2026.

**Climate services:** ICARP promotes alignment of resilience priorities across state, regional, local, Tribal, and non-governmental entities through the following activities:

- Decision support tools and guidance: Develops tools and provides guidance and technical assistance to support climate-informed planning and implementation.
- Adaptation Clearinghouse (Senate Bill 246, Wieckowski, 2015): Serves as a centralized, curated resource of case studies, reports, tools, data, and best practices to inform climate adaptation planning and projects statewide.
- VCP (launched 2025): Expands access to actionable climate and vulnerability data, with ongoing support and guidance to ensure usability and relevance for a wide range of organizations and partners across California.
- Technical assistance and coordination: Provides technical assistance to grantees and partners, and coordinates with the Fifth Assessment team to support the effective use of climate data and highlight opportunities for decision-making and planning.

**Direct investments:** ICARP oversees three grant programs to fund local, regional, and Tribal adaptation and community resilience across the state.

- The APGP provides funding to address planning needs for local, regional, and Tribal communities. These resources enable communities to identify and develop strategies to respond to climate resilience priorities.
- The RRGP funds both planning and implementation projects at the regional level that advance climate resilience, focusing on projects led by regional partnerships.

- The EHCRP supports communities to prepare for the impacts of extreme heat.

Across these three grant programs, ICARP has provided \$61.8 million to 75 grantees overall. Of the total funding, 87% of investments benefit disadvantaged communities and \$8.7 million has been awarded to Tribal communities.

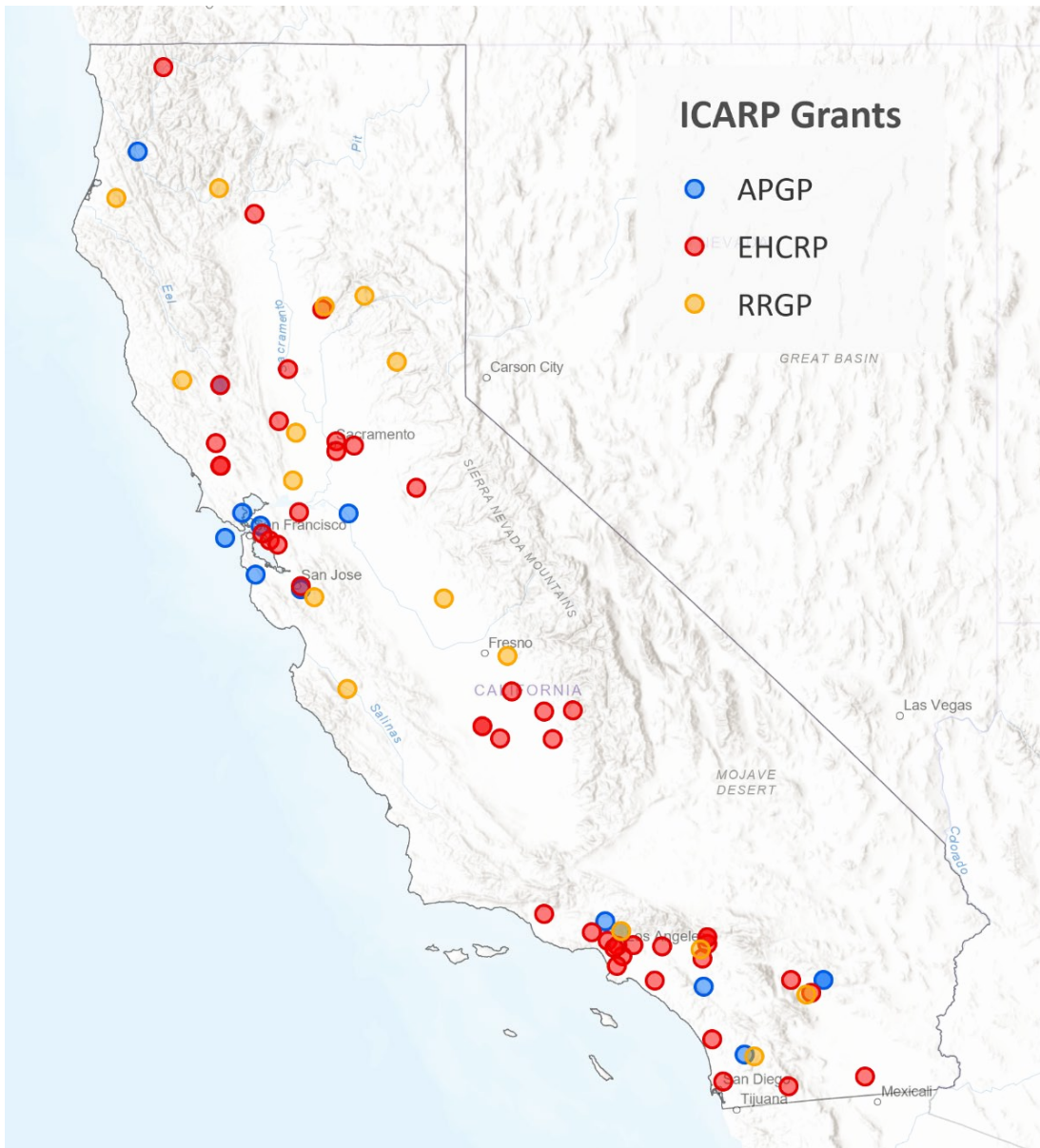


Figure 2 ICARP grant program investments in 2023-2025 with projects broken down by grant program.

UC Berkeley’s Center for Law, Energy, and the Environment (CLEE) conducted an evaluation of Round 1 of APGP and RRGP. Its findings revealed that these programs filled critical local assistance funding gaps for climate adaptation and resilience

initiatives ([Bridging the Implementation Gap](#) 2024). Specifically, the multi-hazard approach of these programs resulted in projects that span diverse sectors and foster valuable collaboration on many different fronts to boost climate resilience efforts. They provide support to align adaptation planning activities with other concurrent planning processes, such as Hazard Mitigation Plans and General Plan Element updates. They also support flexible partnership structures that enable local and regional decision-making on adaptation ([Bridging the Implementation Gap](#) 2024). ICARP grant programs prioritized projects protecting vulnerable communities and those led by Tribes, encouraging collaboration and equitable outcomes.

## Council Priorities

Each year, the ICARP Technical Advisory Council establishes priorities that guide the program's efforts over the year ahead. The 2025 priorities are advanced across our programmatic workstreams. This impact report highlights progress made on two priorities – Cultivate Trust and Empower Communities and Implement Innovative Adaptation and Resilience Action.

### Cultivate Trust and Empower Communities

Build lasting, respectful partnerships with California Native American Tribes and vulnerable communities by centering Tribal sovereignty, expanding inclusive engagement opportunities, and aligning state efforts with local needs. Improve grant accessibility, ensure language access, support informed decision-making, and enhance community capacity through targeted training and technical assistance.

### Showcase Impact Through Storytelling

Elevate the voices of local communities by sharing stories of climate resilience through accessible campaigns, case studies, and inclusive outreach. Highlight community-led successes, demonstrate the co-benefits of adaptation efforts, and use robust data to celebrate and track progress across California.

### Expand Localized Data, Research and Tools

Develop and enhance data tools and resources to guide equitable local planning and climate adaptation. Support Tribal-led and community-driven research, translate complex information for practical use, and coordinate regionally-specific strategies that reflect shared priorities and respect Indigenous data governance.

## **Implement Innovative Adaptation and Resilience Action**

Prioritize investments in frontline communities and foster cross-sector partnerships to drive equitable resilience outcomes. Leverage ICARP's coordinating role, provide technical and funding support for local efforts, and promote integrated, regionally-driven approaches to climate adaptation across jurisdictions.

## Cultivate Trust and Empower Communities

Cultivating trust and empowering communities are at the core of ICARP's work and embedded across our programs.

In each program, we are **deepening partnership with California Native American Tribes and Indigenous communities**. In 2025, ICARP staff completed a Tribal User Needs Assessment, in partnership with the California Indian Environmental Alliance and the Tribal Energy and Climate Collaborative). The Assessment provides recommendations to enhance LCI programs, funding, technical assistance, and engagement practices to better align and support Tribal climate resiliency and adaptation efforts. This initiative was funded through a Cooperative Technical Partnership Fiscal Year 2022 grant from the Federal Emergency Management Agency (FEMA).

For the first time, the Fifth Assessment has created a Tribal Advisory Group, made up of 10 members who advise the state on how best to involve Tribal communities in the climate research process. The group will provide critical review of draft research materials to ensure that the Fifth Assessment uplifts Indigenous Knowledges and expertise in meaningful ways. ICARP is also **funding 18 Tribal-led research and knowledge sharing projects** through the [Tribal Research Program](#) of the Fifth Assessment. See project profiles for [Round 1](#) and [Round 2](#) grants.

Consultation and engagement with California Native American Tribes and Indigenous communities are consistently integrated into outreach programs. For example, on October 15, CNRA and LCI held two Tribal Roundtables to inform

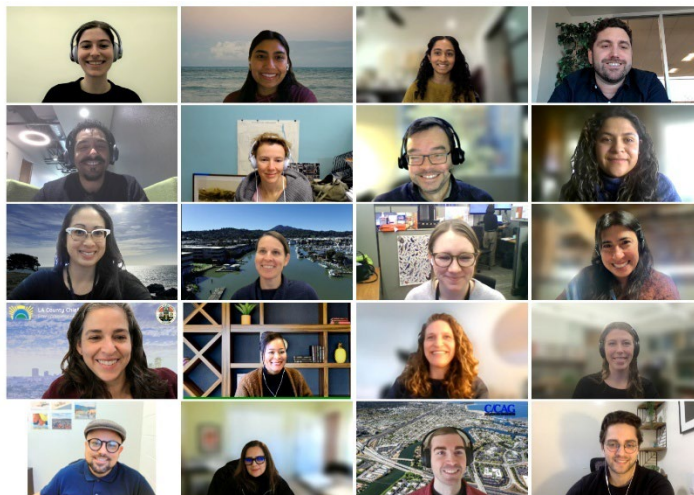


Figure 3. ICARP staff and APGP grantees gathered for a quarterly Technical Assistance Convening on Strategic Storytelling.

California's draft 2026 Extreme Heat Action Plan.

ICARP is **fostering meaningful ongoing relationships with grantees**. APGP and RRGp partnered

with the Climate Services team to survey grantees and understand potential areas for technical assistance. Grantees' priorities and

needs helped shape peer-to-peer learning sessions.

Combined, APGP and RRGP hosted seven peer-learning webinars this year with grantees on topics like community engagement, governance structures, strategic storytelling, and navigating long-term funding and financing strategies. These webinars are intended to help grantees build their understanding and deepen partnerships.

We are also **strengthening participatory and equitable grant processes that prioritize community needs**. After APGP Round 2 funding was cancelled in June 2024 due to the state's budget constraints, staff offered to review applications and provide qualitative feedback to support applicants' future grant writing proposals. Of the 94 Round 2 applications, staff reviewed and held debrief calls with all 47 applicants that requested their applications be reviewed.

The EHCRP also completed close to 40 debriefs with unawarded applicants from the first round of funding to support their efforts in applying to other grants and assess readiness for applying to Round 2 of the grant program. To inform Round 2 grant guidelines and provide applicants with information well in advance, EHCRP hosted 10 community input sessions to request feedback. In total, over 500 people attended these meetings and provided input. One important piece of feedback was to host events for applicants to interact with each other. In response, EHCRP held 10 partnership development sessions in fall 2025, with the aim of connecting potential Round 2 applicants.

**ICARP is also building capacity in vulnerable communities through focused technical assistance and training programs.** In 2025, the Climate Services team prioritized direct, personalized technical assistance. To ground-truth the VCP and create a training program to guide potential users in making use of the platform, the team created the Climate Ready Cohort (CRC). This pilot program runs a series of classes for a group of 15 community-based organizations (CBOs) and local governments from across the state to gain the skills and knowledge they need to use the VCP and other tools to create their own community climate vulnerability assessments. The cohort is under way and participants are expected to complete their final assessment case studies in summer 2026. Their process, results, and lessons learned will be turned into case studies that will guide future users.

## Implement Innovative Adaptation and Resilience Action

ICARP's model of providing technical tools, policy guidance, and funding for planning and implementation helps increase awareness and advance adaptation in frontline communities. Our grant programs **prioritize investment in communities most vulnerable to the impacts of climate change**, with 87% of investments benefiting disadvantaged communities. These programs foster diverse partnerships.

In 2025, we **utilized ICARP's role as an interagency connector to advance a comprehensive and coordinated response to climate impacts across state agencies**. For example, in partnership with CalOES and federal partners, our staff co-led the development of a Recovery Needs Assessment to support recovery from the Palisades and Eaton Fires in Los Angeles County. This assessment identifies opportunities to support and accelerate resilient rebuilding in Los Angeles. After the assessment was completed in March, our staff continued to engage to help city and county government partners identify ways they could leverage existing state resources and programs as well as identify gaps where the state could provide additional support or guidance. Our staff have also been providing ongoing technical assistance to support local leaders as they develop long-term recovery frameworks and plans in the aftermath of the fires. This work was completed under the Community Planning and Capacity Building Recovery Support Function (CPCB-RSF), which LCI leads in partnership with CalOES and integrates climate adaptation and resilience policies into hazard mitigation, emergency management, and disaster recovery programs.

In September, ICARP staff finalized a Guidebook on Aligning State and Federal Funding. The guidebook highlights promising practices, opportunities, challenges, and lessons learned to support the coordination and alignment of local, state, and federal funding streams. This guidebook serves a dual purpose: assisting state agencies in aligning their funding programs with federal implementation funding and furthering LCI's ongoing efforts to support coordination across the disaster lifecycle. This deliverable marks the conclusion of LCI's Cooperative Technical Partnership fiscal year 2022 grant with FEMA.

Another innovative program under ICARP is the Forest Sector Market Development grant, which coordinates research and planning tracks to advance a sustainable wood products market in California using wood recovered from hazardous fuel

reductions. To reduce wildfire risk, the state set a 1 million-acre goal for thinning woody biomass, which can be repurposed for the commercial market.

Under Key Action 3.10 of the [Wildfire and Forest Resilience Action Plan](#), LCI was directed to explore how best to work with local partners to create a sustainable wood products market in California, diverting wood from the waste stream and expanding economic opportunities. Since 2021, LCI has invested \$7 million through the Forest Sector Market Development grant program to improve feedstock supply chain logistics and develop a public entity model to coordinate long-term feedstock contracts between forest landowners and biomass off-takers.

Through these awards, seven pilot projects have been funded to empower local governments to better collaborate across jurisdictions, pool new and existing resources, develop shared market strategies and deploy targeted policy solutions to alleviate feedstock supply constraints across 20 counties in Northern California. This has largely been accomplished through the development of new or modification of existing Joint Powers Authorities (JPAs) into forest resilience authorities, consisting of member agencies from resource conservation districts, water agencies, fire protection districts, and city and county governments. These JPAs provide a multi-jurisdictional framework for local governments to coordinate on hazardous fuel reduction and biomass utilization projects across their jurisdictions to improve landscape resilience to wildfire.



Figure 4. TAC Chair and LCI Senior Deputy Director Abby Edwards speaks into a microphone at a TAC meeting.

## Technical Advisory Council

The ICARP TAC is a crucial state public forum exclusively dedicated to climate adaptation and resilience. It coordinates and aligns the state’s resilience efforts to better serve local implementation needs. The TAC is a forum for strategic input, broadcasting of state resilience initiatives, and elevation of on-the-ground implementation challenges. In 2025, TAC meetings focused on wildfire (March 7), extreme heat (May 16), nature-based solutions (August 22), and the intersection of water, food systems, and community resilience in the San Joaquin Valley (October 24).

In 2018, the TAC adopted a definition of climate vulnerable communities to guide adaptation action to advance equity. The TAC voted to amend the definition in March 2024 to include disability as a factor contributing to vulnerability. In May 2025, the TAC updated the definition again to add gender and recognize intersectionality, the idea that communities and individuals often face multiple forms of inequity that compound. The current definition is:

*Climate vulnerability describes the degree to which natural, built, and human systems are at risk of exposure to climate change impacts. Vulnerable communities experience heightened risk and increased sensitivity to climate change and have less capacity and fewer resources to cope with, adapt to, or recover from climate impacts. These disproportionate effects are caused by*

*physical (built and environmental), social, political, and/ or economic factor(s), which are exacerbated by climate impacts. These factors include, but are not limited to, race, class, gender, sexual orientation, national origin, income inequality, and disability. People facing multiple forms of marginalization and inequality will experience climate change impacts more intensely and face more barriers to recovery.*

While the TAC’s definition clarifies underlying factors of community vulnerability, a definition alone does not provide actionable steps to advance equity in climate adaptation plans and implementation. With input from the TAC, LCI developed [Defining Vulnerable Communities in the Context of Climate Adaptation](#) in 2018 as a starting point for practitioners to use when first considering how to define vulnerable communities in an adaptation context. This 2018 report identified gaps in tools to map community vulnerability to climate change in California, motivating the development of the VCP. With the TAC’s amendments to the definition, ICARP staff are now working to update the 2018 report. The report will review how the VCP and other tools can help identify and map vulnerable communities and elevate examples of integrating equity in climate adaptation plans and implementation.

TAC meetings highlight local efforts and success stories across California to inspire action and enhance public understanding:

- Butte County Firesafe Council, a Forest Health Program Grantee, highlighted the success of fuel treatment and wildfire prevention effort in the community of Cohasset, which reduced damage during the 2024 Park Fire and freed up resources for active firefighting in untreated areas.
- Climate Resolve staff shared their work in Boyle Heights, a neighborhood in Los Angeles, to implement a variety of cooling, greening, and pollution mitigation strategies as well as empower the community to lead climate resilience strategies.
- Siskiyou Economic Development Council provided insights from regional block grants from the California Department of Food and Agriculture Healthy Soils Program, which has supported consultations, workshops, and technical assistance for farmers to adopt practices that improve soil health, build climate resilience, and increase productivity.
- The Allensworth Progressive Association shared community projects to build climate resilience and create economic opportunities.

As ICARP continues to evolve, the lessons learned from communities will enable the program to continue to develop policies and programs that meet ICARP’s vision

of prioritizing California’s most vulnerable communities in the state’s resilience efforts.



Figure 5. TAC members touring the Allensworth Community Garden in October 2025.

In 2025, the TAC meetings **highlighted locally led efforts and success stories across California communities to inspire action and enhance public understanding.** The TAC met in Allensworth in October.

Allensworth was founded in 1908 as a center for Black innovation and a place of refuge and prosperity for Black families to thrive. Today, Allensworth has about 600 residents and is predominantly Latino/x, including many farmworkers. The community has struggled with high arsenic levels in its drinking water, a lack of economic opportunities, and increasing frequency and intensity of extreme weather. It has also been a model of innovation and partnership. The meeting was an opportunity to learn about the interconnected challenges the community faces and dive into the community-driven resilience solutions Allensworth is pursuing.

## California's Climate Change Assessment

California's Climate Change Assessment provides actionable climate science to inform local and statewide planning, policy, and investments to advance climate adaptation and resilience. The Assessment uplifts community priorities through ongoing public engagement, fosters a network of diverse experts, and equips communities throughout the state with the latest information about their vulnerability to climate change. The 2025 Annual Planning Survey conducted by LCI found that California's Climate Change Assessment is widely used by cities and counties for adaptation planning and implementation, with about 30% of respondents indicating they use the Assessment.

At the direction of [Senate Bill 1320 \(Stern, 2020\)](#) and with funding from the [2021 Climate Budget](#), ICARP is coordinating the Fifth Assessment in partnership with the California Energy Commission, CNRA, the State Energy Resources Conservation and Development Commission, and the Strategic Growth Council. The Fifth Assessment team is also coordinating closely with other state and public entities, tribes, and hundreds of community partners. [The Fifth Assessment](#) includes:

- Downscaled climate projections of California's future climate;
- Original research that fills gaps in our understanding of climate impacts;
- Regional and statewide reports (including topical reports and a statewide summary report) that unpack how climate change is affecting different communities and sectors throughout the state; and
- A first-of-its-kind Tribal Research Program.

The Fifth Assessment suite of reports, resources, and tools will roll out in 2026, including in-person and virtual events to showcase the findings and inform action.

### 2025 Highlights:

- The Fifth Assessment [Tribal Advisory Group](#) (TAG) is an advisory body of 10 Tribal members at large. Each is compensated to provide guidance and input on the Assessment's Tribal engagement process and advise the state program on appropriate and culturally relevant ways of uplifting indigenous expertise into California's research on climate change. In 2025, LCI welcomed [three new members](#) to the TAG.
- Fifth Assessment research undergoes a robust external review and editing process to ensure the scientific integrity and readability of final published

materials. LCI established an external Editorial Board led by Lead Editor Pramod Khargonekar (University of California, Irvine) and Deputy Lead Editor Sagar Parajuli (San Diego State University), supported by more than 20 associate editors and 60 expert reviewers. Since September 2025, the Editorial Board has been reviewing Fifth Assessment research products.

- Dean Tonenna of the Kootzaduka’a Tribe hosted his fellow Tribal Advisory Group members and the LCI Fifth Assessment team on his homelands to share the climate impacts being felt in his region, conservation efforts led by his Tribe, and ways that partnerships in the Mono Lake region can build resilience to climate change. Efforts like this strengthen State-Tribal partnerships and uplift successful cultural practices. This work models ICARP’s vision for a resilient future grounded in trust, storytelling, and meaningful information sharing.
- The Fifth Assessment team highlighted the Assessment process and progress at many venues, and notably, the California Climate Assessment Manager, Elea Becker Lowe, presented at the American Geophysical Union about the Assessment’s unique model for community-engaged research that elevates local expertise and lived experiences to inform decision-making at state and local levels.



**Figure 6. Members of the Tribal Advisory Group and LCI Fifth Assessment team visit the Mono Lake area to learn about the stewardship and resiliency efforts of the Kootzaduka’a Tribe.**



Figure 7. The Racial Equity and Climate Justice Report team kicks off their report development process by bringing together experts from community-based organizations and academia to inform their approach.



Figure 8. Ryan Sendejas of the Inland Deserts Regional Report team supports the Temalpakh Earth Day Celebration event to engage with local youth.

## Climate Services Program

The Climate Services Program is critical to converting climate data into adaptation strategies. The program:

- **Curates and translates** climate science to ensure it is usable and actionable;
- **Builds tools** and **creates guidance** for climate change and adaptation planning;
- **Supports users** who want help and encourages **data-informed decision-making**.

The portfolio includes tools and resources such as the Adaptation Clearinghouse and the VCP as well as direct technical assistance. The Program also supports use of data from Cal-Adapt, a product of California's Climate Change Assessments, and contributes to state adaptation guidance.

The Adaptation Clearinghouse is a library of resources that support local, regional, and statewide climate adaptation planning and decision-making. Since its creation in 2018, it has been a valuable resource for local practitioners to access case studies of adaptation projects. In 2025, LCI improved the Adaptation Clearinghouse by launching a help desk to help users find relevant and useful tools, data, and information based on common user pathways.

To help identify California communities most impacted by climate change, LCI launched the VCP in October 2025. The VCP combines climate and social data to show areas of low, medium, and high vulnerability to extreme heat, sea level rise, flooding, and drought. It also displays the state's Fire Hazard Severity Zones for wildfire. It is the first state tool that integrates data for major climate hazards with social indicators. The platform helps answer three main questions:

- Where will different climate hazards be most severe?
- Which communities are most vulnerable?
- What makes them vulnerable?

“It takes the data, makes it accessible, and makes it summarized in a fashion that is most usable and takes a lot of the scientific expertise that might not be available at a local jurisdiction and applies that information to our fingertips.”

**Kim Clark**

Urban Planner, Southern California Association of Governments  
*ICARP Technical Advisory Council Vice Chair*

The VCP also helps answer the question “What’s next?”, connecting users to adaptation guidance and resources. In the months since its release (October-December 2025), there were ~3,400 users of the VCP. This number will grow as the VCP is introduced to more users throughout the state.

*“This, for both the grantee and the grantor, offers the ability to take a look and utilize those limited dollars in specific areas of most need”*

**Jacob Alvarez**

Energy and Sustainability Program Manager,  
Coachella Valley Council of Governments  
*ICARP Technical Advisory Council Member*

Following practitioner interviews, a user needs assessment, and a review of public feedback from climate adaptation programs at LCI, the Climate Services Program is prioritizing the need for more direct, personalized technical assistance to support California adaptation practitioners. In their first phase of technical assistance in 2025, the Climate Services Program supported LCI grantees with tailored, one-on-one support for leveraging climate and environmental data, tools, and resources (see impact story below).

To help California communities leverage the VCP, the Climate Services Program kicked off a pilot “Climate Ready Cohort” in 2025. This walks trainees through creating a climate vulnerability assessment for their community using the VCP. The first cohort is mainly comprised of ICARP grantees and unawarded applicants. Cohort members will produce case studies that will guide future users and the program curriculum will be made available to the public for on-demand learning.



**Figure 9. LCI Climate Services Program staff visit the Picayune Rancheria of Chukchansi Indians to provide technical assistance for the Tribe's Climate Adaptation Plan.**

## **Impact Story: Climate Adaptation Plan Technical Assistance – Picayune Rancheria of Chukchansi Indians**

In fall 2025, the Climate Services Program provided technical assistance to the Picayune Rancheria of Chukchansi Indians (Tribal Research Grant Program Grantee) for their Climate Adaptation Plan.

Tribal members Christina Mokhtarzadeh and Tanya Williamson are leading the development of the Climate Adaptation Plan. They conducted interviews with Elders in the community to learn about changes observed in the environment, such as seasonal shifts in temperatures and changes in species distributions and forest health. These insights directly informed the climate data analysis that the Climate Services Program conducted. For example, an indicator looking at projected temperatures in October was developed because it is a critical time for first frosts, which impact harvesting of traditional resources. Using this indicator will provide the Tribe with insights about how seasonal changes documented in their interviews are expected to further change in future.

Ultimately, supporting this project with technical assistance helped ensure that rich, technical climate data was accessible and usable for the Tribe's Climate Adaptation Plan. The technical expertise of the Climate Services Program helped to bridge the gap between climate projections data and valuable strategies for climate adaptation planning.

## Adaptation Planning Grant Program

The APGP is a one-of-kind grant program that meets the diverse climate adaptation planning needs of communities across the state. In Round 1, APGP invested \$8 million across 14 grants to help communities fill planning needs, identify climate resilience priorities, and develop a pipeline of climate resilient infrastructure projects statewide. These 14 projects represent a diverse array of lead applicants and partners, including non-governmental organizations, cities, counties, CBOs, special districts, California Native American Tribes, universities, JPAs, council of government, and one metropolitan planning organization.

Key priorities of the program are to:

- Explicitly and meaningfully prioritize equitable outcomes, particularly in the most vulnerable communities;
- Encourage communities to equitably plan for and respond to multiple climate risks;
- Build statewide capacity to plan for and implement equitable planning strategies;
- Embed equity into the planning process, from project visioning through project evaluation.

By providing flexible funding to support multi-sector and multi-risk projects, the program enables communities to plan for and respond to cascading and compounding impacts at a scale that no other state grant program has done before.

Applicant testimonials below demonstrate the value of APGP funding in building partnerships, improving data-driven decision-making, and advancing coordinated climate resilience efforts:

- “The development of Lake County’s Climate Adaptation Plan expanded the county’s capacity to anticipate and address climate risks, accelerated and strengthened partnerships, and yielded adaptable, scalable strategies, providing a concrete, actionable roadmap for Lake County’s climate resilience efforts. With the dedicated resources provided through APGP, the county recruited specialized consultants, convened diverse sets of interested parties, and conducted rigorous, data-driven risk assessments to guide decisions on and prioritization of infrastructure improvements, emergency planning, and natural resource management.” - Lake County

- “The process also strengthened relationships between Tribes, local agencies, and emergency services, laying the groundwork for more coordinated emergency preparation and response to hazards like wildfire and drought.” - Ramona Municipal Water District

As the APGP concluded in January 2026, grantees are developing case studies to capture lessons learned to be posted on Adaptation Clearinghouse. These case studies will highlight the important work done by APGP grantees and provide key examples of innovative climate adaptation planning, sharing lessons learned and promising practices from their projects.

### **San Rafael Sea Level Rise Collaborative**

The San Rafael Sea Level Rise Collaborative is a community-driven effort to understand, plan, and reduce flood risks in East San Rafael, one of the Bay Area’s most climate-vulnerable areas. Before this effort, the Canal neighborhood’s vulnerability to sea level rise was technically established, but it was poorly defined in practical terms and largely unknown to the residents most exposed to the greatest risk. Through this project, the City brought together local agencies, community groups, and technical experts to establish a shared foundation of science, community awareness, resident leadership capacity, and planning tools that will guide future investments and policy updates.

The project’s most successful element was the investment in building relationships and capacity for community-driven adaptation planning. By investing in trusted local organizations, bilingual outreach, and repeated engagement, the project transformed residents from participants into co-designers of adaptation strategies.

The project also demonstrated the power of clear visual communication. Translating complex concepts (like relative sea level rise) into simple diagrams and real-world visuals allowed residents to connect their lived experiences—flooded streets, blocked access routes—to long-term adaptation choices. This project transformed how San Rafael plans for climate adaptation by embedding equity, collaboration, and technical rigor into the City’s long-term resilience framework.

### **City of San Fernando Climate Action and Resilience Plan**

The City of San Fernando developed its first Climate Action and Resilience Plan (CARP) along with updating the mobility and open space elements of the city’s general plan, which were last updated in 1987. Developing these plans together ensured goals, policies, and actions pull in the same direction. The project resulted in a forward-looking vision and strategic framework that guides the City’s path

toward greater resilience, enhances mobility and open space systems, and delivers the City's first climate action plan. Through close collaboration with partners like the Fernandño Tataviam Band of Mission Indians, Pacoima Beautiful, and Climate Resolve, the City built internal capacity to integrate climate considerations into decision-making and coordinate across departments.

San Fernando has advanced its capacity to plan for climate risks by developing a data-driven CARP, grounded in a local vulnerability assessment and shaped through robust community engagement. The process also empowered community members to understand risks such as extreme heat and poor air quality and identify neighborhood-level solutions like resilience hubs and community green spaces.



**Figure 10. The City of San Fernando bringing together community members for an interactive one-mile walkshop focused on adapting to and mitigating the impacts of extreme heat to inform the City's Climate Action and Resilience Plan.**

## Regional Resilience Planning and Grant Program

The RRGP funds planning and implementation resilience projects on a regional scale, prioritizing vulnerable communities. A regional approach facilitates multi-jurisdictional collaboration promoting efficiency, sharing of resources, and consistency in implementation.

In 2023, the program awarded \$21.8 million in grants to 16 projects. RRGP exceeded both of its funding goals, which were intended to ensure funding benefits vulnerable and disadvantaged communities, as well as California's Native American Tribes. Of the total funding, 87% will support projects that directly benefit disadvantaged communities, and 65% will go to projects where at least one applicant is a Native American Tribe.

Key Priorities of ICARP's Regional Resilience Grant Program are to:

- Support regional projects aligned with ICARP priorities that improve regional climate resilience and reduce climate risks from wildfire, sea level rise, drought, flood, increasing temperatures, and extreme heat events.
- Support projects or actions that address the greatest climate risks in the region, particularly in the most vulnerable communities.
- Fill the gaps in climate resilience funding and support sustainable and cohesive climate resilient projects.

An evaluation by the UC Berkeley Center for Law, Energy, and the Environment (CLEE) found the RRGP fills an important niche in the state's resilience funding landscape with its focus on collaborative, regional projects. The flexible partner structure and self-definition of project regions have enabled local and regional decision-making over adaptation efforts.

### Energy-Resilient Fire Services

The Energy-Resilient Fire Services in High-Threat Communities project, led by Redwood Coast Energy Authority (RCEA), is installing solar panels and batteries for fire stations in high-risk areas in Humboldt County. The goal of this work is to provide on-site electricity during emergencies and power outages to maintain critical services from fire stations.

RCEA will work with project partners to design, permit, and install solar energy and battery storage systems at 16 fire stations. Installation of this equipment will allow local fire agencies to provide power to charge medical equipment and cellular

phones and support other life-sustaining services such as cooling during extreme heat events and air filtration during fire season. Additionally, installation of on-site renewable energy systems will reduce power bills during normal operations and replace the need for generators using fossil-fuels during power outages. The grant will also support ongoing prescribed burn training provided by the University of California Cooperative Extension in partnership with the Humboldt County Prescribed Burn Association.



**Figure 11. Station briefing at one of the 16 project sites through RCEA. The RRGP grant has allowed RCEA to install solar and battery storage at volunteer fire stations, which often lose power due to extreme weather conditions.**



**Figure 11 and 12. As part of the Energy-Resilient Fire Services in High-Threat Communities project, RRGF has supported prescribed burns, firefighting certifications, and permanent fire crew to be hired.**



**Figure 13. Joint Mechoopda Tribe and Berry Creek Rancheria prescribed fire training supported through the RRGP project.**

### **Kó:dom Hỳbísín**

Kó:dom Hỳbísín (“Land Stewardship”), led by the Mechoopda Tribe, integrates cultural burns and vegetation management while developing local workforce. The project area in Butte County and lower Plumas County is increasingly impacted by wildfires. The Park Fire burned 34,000 acres of Mechoopda traditional territory, while the Thompson Fire scorched 3,789 acres, mostly within traditional territory of Berry Creek Rancheria, a key partner in this project.

The Mechoopda Tribe and their partners are advancing wildfire prevention through fuel reduction activities. Informed by traditional ecological and community knowledge, the project is supporting ecosystem restoration and revegetation.

Notably, the project has supported Tribal members to acquire federal and state recognized job certifications in prescribed fire and wildland firefighting, which will allow them to implement prescribed fire activities in the project area and be eligible for additional work opportunities.

The project builds on Mechoopda Tribe’s existing partnership with Berry Creek Rancheria, a neighboring Maidu Tribe, and CSU Chico’s Big Chico Creek Ecological Reserve. The RRGP partnership structure encouraged them to further develop and

formalize their existing relationships. They formed a collaborative that intends to continue coordinating on climate resilience, workforce development, and land stewardship initiatives beyond the RRGP grant period.

A review of the project by CLEE found RRGP funded Tribal priorities, which has been challenging to accomplish through other funding programs. In this way, RRGP advances community-centered resilience initiatives that prioritize Tribal goals, allowing for more efficient and effective use of the Tribe's limited time and capacity.

**Figure 13. Culturally significant plants the Mechoopda tribe has cultivated as part of the RRGP grant.**



**Figure 14. Creek on Mechoopda land that was revitalized as part of the RRGP grant.**



## Extreme Heat and Community Resilience Program

Extreme heat is a public health, equity, and climate resilience challenge that will impact every community in California. The EHCRP builds capacity for heat action planning and project implementation in the most heat-burdened communities. In its first round of funding, the program awarded \$32 million across 45 grantees in 23 counties, with projects kicking off in 2025. In fall 2025, the second round of funding, made possible through the support of the Greenhouse Gas Reduction Fund and Proposition 4, was announced. The program encourages communities to equitably plan and implement actions by centering the needs of the community members most vulnerable to extreme heat.

The program also supports the state's work to implement **California's Extreme Heat Action Plan (EHAP)**, a comprehensive, coordinated response across state agencies to address extreme heat. Actions in the plan are organized around four tracks: building public awareness, strengthening community response, increasing the resilience of our built environment, and using nature-based solutions. California will update the EHAP in 2026 and every three years thereafter (as required by Senate Bill 306, Caballero 2023). In 2025, CNRA and LCI kicked off the development of the 2026 EHAP.

EHCRP is also working with multiple state agencies to support the development and distribution of the Office of Environmental Health Hazard Assessment's (OEHHA) **CalHeatScore**. CalHeatScore, the first statewide extreme heat warning tool, can be used by local governments, Tribes, CBOs, schools, hospitals, senior centers, and other institutions to protect the most vulnerable Californians from deadly heat waves through increased awareness and intentional preparedness. LCI has partnered with UCLA Luskin and LA Regional Collaboration for Climate Action and Sustainability (LARC) to produce training materials, webinars, and videos to support potential users.

### Heat Action Plan for Southwest Santa Rosa

In Santa Rosa, an EHCRP project is funding the development of a Heat Action Plan for Southwest Santa Rosa. The plan will be informed by the youth advisory team as well as a diverse coalition of community members, city staff, and CBOs. The project is providing stipends to members of the extreme heat youth advisory team. "The goal is really to empower these youth to guide and inform the development of the extreme heat action plan," says Mariah Padilla, the North Bay resilience manager for Greenbelt Alliance. On Sunday, Oct. 19, the team met for a workshop

to learn about urban environments in Southwest Santa Rosa and gather data about heat variations in their neighborhood. Equipped with handheld heat guns and ambient temperature sensors, the team measured heat at four locations in a variety of settings, such as in full sun or shade, and on grass, road surfaces, sidewalks, and park structures. The hottest surface was the park's plastic slide, which was in full sun. Bree Arriaga took the temperature of the slide's surface: 127 degrees Fahrenheit. "How are kids supposed to be playing on a playground like this?" Arriaga asks.



**Figure 15. Youth advisory team learn about urban environments in Southwest Santa Rosa and gather data about heat variations in their neighborhood to inform the Heat Action Plan for Southwest Santa Rosa. Photo Credit: Amy Moore.**

## HeatShield Apparel

EHCRP is funding the HeatShield Apparel project at California State Polytechnic University, Pomona to protect farmworkers from heat-related illness and death. Sustainable fashion and textile expert, Dr. Cindy Cordoba, is co-designing and producing 100 HeatShield garments to protect farmworkers. “Through circular, user-centered design, we can create protective clothing that addresses the realities of climate vulnerability and uplifts those who are too often left out of the conversation,” she explains. On October 30 Dr. Cordoba presented the HeatShield Apparel Project to the Integrated Climate Committee on Extreme Heat. During the meeting, one of the committee members reflected on the HeatShield, “We talk about standards, enforcement, and policy all the time but seeing a solution that farmworkers could actually wear in the field makes this feel real.” Another participant remarked, “This is exactly the kind of solution we need, where science, design, and worker experience come together.” Their reactions captured the core purpose of the HeatShield project: to translate data, advocacy, and lived experience into something tangible that can protect farmworkers. The committee's response affirmed that co-designed protective garments are a pathway to closing the gap between policy and the everyday realities of farmworkers facing extreme heat.



**Figure 16. Dr. Cindy Cordoba presenting at the Integrated Climate Committee on Extreme Heat.**

In Tulare County, EHCRP is funding the Public Health Institute to lead a multi-benefit project that combines physical infrastructure, community training, and resource dissemination. Construction of a multi-purpose resilience hub gymnasium is underway at Terra Bella Union Elementary School District – a long-awaited dream and goal for this community. The district invited staff and current board members to attend a column signing, an opportunity to leave their “physical” mark on the building. Construction of the gymnasium is being funded through other means, but the air conditioning and cooling center elements are being funded by EHCRP. As part of the same project, Central California Environmental Justice Network distributed 553 resiliency kits to farmworkers in Tulare, Kings, Fresno, and Madera counties. Many recipients commented that they have not received such detailed information from their employers about how to prevent heat-related illness. The following testimony from a pair of participants in a Madera workshop illustrates the value of protecting farmworkers from extreme heat: “Mi mamá y yo trabajamos juntas en el campo. Ella ya sufrió un golpe de calor en el pasado pero no sabíamos identificar los síntomas a tiempo. Gracias a la presentación que nos dieron, ahora ya sabemos qué hacer para que no vuelva a suceder. Estamos muy agradecidas por lo que aprendimos y por todas las cosas que nos regalaron.”/ My mom and I worked together in the field. She has already suffered from heat stroke in the past, but we did not know how to identify the symptoms in time. Thanks to the presentation you gave us, we now know what to do so that it does not happen again.



Figure 17. Signatures of Terra Bella school staff and board members on the walls of the gymnasium, which is currently under construction.