

# Integrated Climate Adaptation and Resiliency Program

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## Technical Advisory Council 1<sup>st</sup> Quarter Meeting

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MARCH 25, 2022

9:30 – 2:30PM



# Morning Session Agenda

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Item 1 | Welcome & Roll Call

Item 2 | Meeting Minutes

Item 3 | State Agency Updates

Item 4 | ICARP Programmatic Updates

Item 5 | Impact Report & 2022 Work Plan

Item 6 | Resilience Metrics White Paper

Item 7 | Science Advisory Group Best Practices & Recommendations

**LUNCH BREAK**



# Afternoon Session Agenda

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Item 8 | Adaptation Planning Grant Program Workshop

Item 9 | General Public Comment

Item 10 | Closing, Future Agenda Items, & Meeting Adjourned



# Item 1 | Welcome & Roll Call

# Welcome New Councilmembers!

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Virginia Jameson  
*California Department of  
Food and Agriculture*



Veronica Beaty  
*California Coalition for  
Rural Housing*



# Item 2 | Meeting Minutes



# Item Public Comment



## ACTION

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Approve the meeting minutes from the ICARP Technical Advisory Council 4<sup>th</sup> Quarter Meeting on 12/10/2021 and the Special Meeting on 1/31/22.

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# Item 3 | State Agency Updates



# Item Public Comment



# Item 4 | ICARP Programmatic Updates



# Welcome New Staff!

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Ravneet Kaur

*Executive Fellow*



Neil Matouka

*Program Manager,  
Fifth Climate  
Assessment*



Patricia Kennedy

*Tribal Research  
Manager, Fifth  
Climate  
Assessment*



Elea Becker Lowe

*Senior Planner,  
Climate Science &  
Resilience*

# Welcome New Staff!

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Dolores Barajas  
*Program Manager,  
ICARP Regional  
Resilience Planning &  
Implementation Grants*



Nicole Hernandez  
*Associate Planner,  
Climate Science &  
Resilience*



Abby Edwards  
*Program Manager,  
ICARP Adaptation  
Planning Grants*

# TAC Priority Areas



Actionable Research & Resilience Metrics



Decision Support Tools & Guidance



Building Partnerships & Leveraging Resources



Funding & Financing



Climate Equity & Vulnerable Communities



Additional Special Initiatives



# Decision Support Tools & Guidance

- Adaptation Clearinghouse

# Building Partnerships & Leveraging Resources

- Resilience Planning & Insurance Working Group

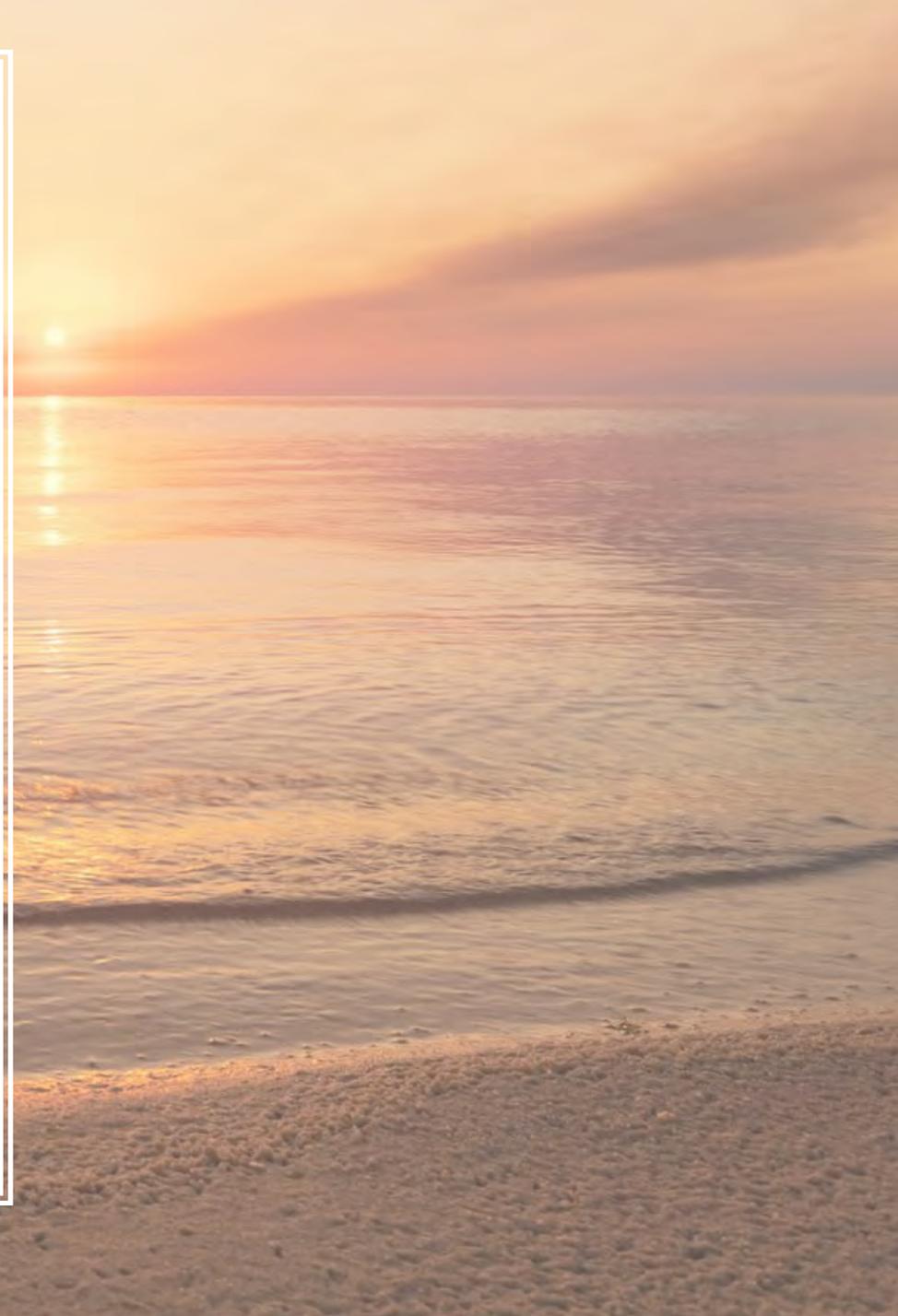
# Funding & Financing

- FEMA Cooperative Technical Partners



# Additional Special Initiatives

- California Extreme Heat Action Plan





# Item Public Comment



# Item 5 | ICARP 2021 Impact Report



# Impact Report Outline

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- Introduction
  - Climate Change in California
  - Climate Equity
  - Climate Adaptation in California
  - About ICARP
- Priority-based Chapters
  - ICARP's Programmatic Support
  - 2020 & 2021 Accomplishments
  - 2022 Work Plan

PRIORITY	Quarter 1	Quarter 2	Quarter 3	Quarter 4
<b>Actionable Research &amp; Resilience Metrics</b>	Resilience Metrics report finalized and shared with TAC Science Advisory Group vision presented to TAC	Draft Climate Adaption Strategy reporting presented to TAC for feedback Science Advisory Group established	Update on Fifth CA Climate Change Assessment	Update on Year 1 Climate Adaption Strategy implementation report
<b>Decision Support Tools &amp; Guidance</b>	Solicitations for Adaptation Clearinghouse and Cal-Adapt released	Expected release of EO N-19-19 Guidance Draft Wildfire and Flood-After-Fire Plan Alignment Compasses brought to TAC  Contracts for Clearinghouse & Cal-Adapt awarded	Expected release of Wildfire and Flood-After-Fire Plan Alignment Compass Clearinghouse user needs assessment initiated & results presented to TAC	Expected release of updated Coastal Plan Alignment Compass Clearinghouse & Cal-Adapt tool updates presented to TAC
<b>Building Partnerships &amp; Leveraging Resources</b>	Wildfire peer learning network established & workplan identified Resilience Planning and Insurance Work Group workplan	CDBG-MIT Citizen Advisory Committee	CDI-ICARP Insurance Sub-Group findings presented to TAC	Completion of peer learning network case studies CDBG-MIT Citizen Advisory Committee
<b>Funding &amp; Financing</b>	OPR CTP FY20 grant - case studies finalized and grant close-out	Stakeholder engagement for Regional Resilience Planning & Implementation Grants and Adaptation Planning Grants Overview of 2022-23 Climate Budget OPR CTP FY21 grant starts	Adaptation Planning Grant and Regional Planning & Implementation Grants Update Launch Community Resilience and Extreme Heat Grant Program	Close out of Proposition 84 grants  Grant program updates
<b>Climate Equity &amp; Vulnerable Communities</b>		Release grant solicitation for Vulnerable Communities Platform pilot communities Launch VCP user focus groups Work with selected Vulnerable Communities Platform pilot communities to build and test VCP beta		Release Vulnerable Communities Platform 1.0 for public input Vulnerable Communities Platform public input report out and next steps
<b>Additional Special Initiatives</b>	California Climate Adaption Strategy finalized and published Extreme Heat Action Plan finalized and published			

# Appendix: 2022 Work Plan



# Item Public Comment



## ACTION

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Approve the ICARP 2021 Impact Report and Work Plan.

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# Item 6 | Resilience Metrics White Paper

# ICARP Resilience Metrics Work Group

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(RMWG) initiated in June 2020

## Goals:

- Understand how entities throughout California and in other states or countries are using resilience metrics;
- Identify how the state can measure built, natural and social resilience; and,
- Develop a process for determining what guiding values are necessary to demonstrate resilience across the state.

# RMWG Process

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- Seven ICARP TAC Resilience Metrics Work Group public, virtual meetings;
- A public survey on resilience metrics efforts throughout California;
- Interagency coordination through the Interagency Resilience Work Group;
- Coordination with 2021 Update to the CA Climate Adaptation Strategy;
- Multi-state Resilience Metrics Workshop series co-led with the US Climate Alliance, RAND Corporation, and the World Bank.

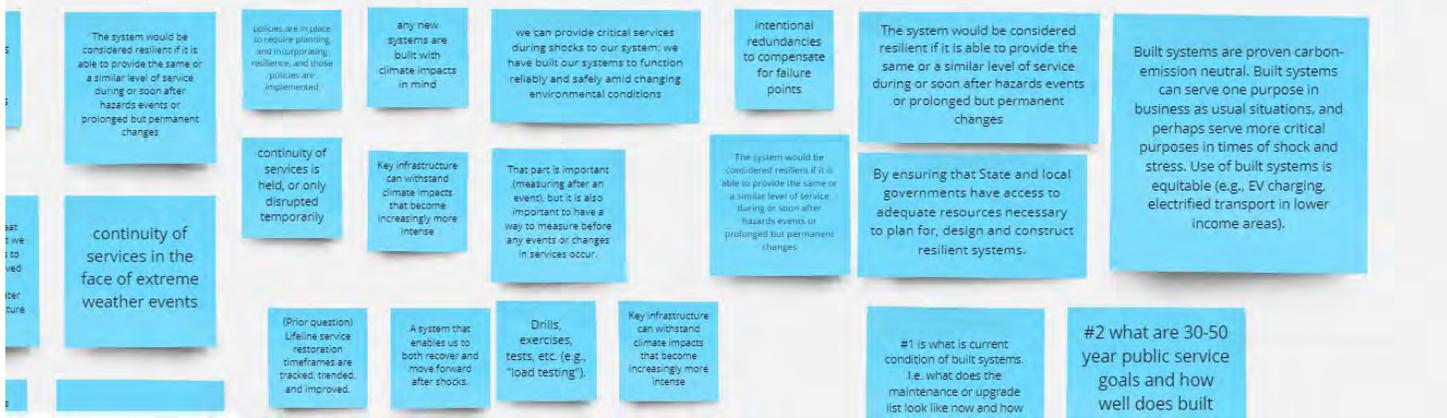
## Resilient Built Systems

"Infrastructure and built systems withstand changing conditions and shocks, including changes in climate, while continuing to provide essential services."

### Why do we want to measure resilience in built systems?



### How would we know if California has resilient built systems?



# RMWG Discussions

1. Why do we want to measure resilience in built/natural/social-human systems?
2. How would we know if California has resilient built/natural/social-human systems?



# Resilience Metrics Survey

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1. Do you use climate resilience metrics in your work?
  - a. Why do you measure climate resilience?
  - b. Please share your indicators and metrics
2. Have you come across climate resilience metrics from other organizations that you think could be useful to your work?
  - a. Please provide examples of climate resilience metrics that you think are worth sharing.
3. What do you think the state should measure to demonstrate its progress towards achieving climate resilience?

# Statewide Climate Resilience Work Inventory



**CDFA HEALTHY SOILS PROGRAM**

The Healthy Soils Program (HSP), consisting of Incentives Program and Demonstration Projects, provides financial assistance for incentivizing and demonstrating the implementation of soil management practices that sequester carbon, reduce atmospheric greenhouse gases (GHG) and improve soil health.

**WHAT IS HEALTHY SOIL?**

Soil health has been defined as the capacity of soil to function as a living system. Healthy soil also contributes to mitigating climate change by maintaining or increasing its carbon content.

**WHAT IS THE CALIFORNIA HEALTHY SOILS PROGRAM?**

Funded through California Climate Investments, the HSP has two components: the HSP Incentives Program and the HSP Demonstration Projects. The HSP Incentives Program provides financial assistance for implementation of soil health practices that sequester soil carbon and reduce GHG emissions. The HSP Demonstration Projects collect data and/or showcase California farmers' and ranchers' implementation of HSP soil health practices.

**WHICH SOIL MANAGEMENT PRACTICES ARE ELIGIBLE FOR FUNDING?**

On-farm soil management practices that are eligible include but are not limited to: mulching, compost application, herbaceous and woody plantings, cover cropping and no/reduced tillage.

**HOW MANY PROJECTS HAVE BEEN FUNDED SO FAR?**

CDFA has selected 646 projects for funding, totaling \$41.52 million in grant funds.

Updated January 2021

**BY THE NUMBERS**

- 109,809 estimated metric tons of CO<sub>2</sub>e sequestered each year
- 23,724 cars from the road each year (that's the equivalent of removing)
- 56,032 acres and building soil health on

Learn more at [cdfa.ca.gov/oe/healthysoils](http://cdfa.ca.gov/oe/healthysoils)



# Climate Resilience Indicators

## Social System

Socioeconomic, demographic, & climate exposure data determine climate vulnerability & inform action

Climate action plans & policies address health & equity

## Built System

Critical lifeline services & facilities are accessible before, during & after climate-related disasters/events

Transportation infrastructure is accessible & reliable before, during & after climate-related disasters/events

## Natural System

Nature-based solutions benefit natural & working lands

Ecosystem functions & natural processes are maintained

# Moving Forward

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Indicators have served – and will continue to serve - many purposes:

- Informed CA Climate Adaptation Strategy update
- Will providing guiding considerations as ICARP establishes new programs
- Provides statewide foundation to support local partners' resilience metrics work
- Provides flexible consistency



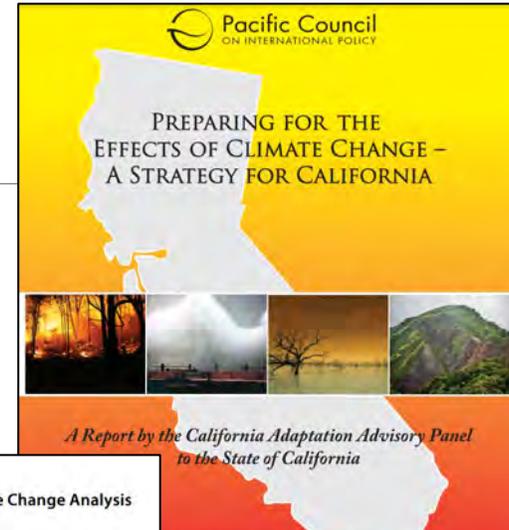
# Item Public Comment



# Item 7 | Science Advisory Group

# Background

- Identified need for statewide science advisory body to:
  - provide consistent climate science guidance across the state
  - Inform statewide climate adaptation and resilience decision making



**Perspectives and Guidance for Climate Change Analysis**  
August 2015

California Department of Water Resources (DWR)  
Climate Change Technical Advisory Group (CCTAG)

**DWR Support**  
Elissa Lynn, CCTAG Chair, DWR Division of Statewide Integrated Water Management (DSIWM)  
Andrew Schwarz, DWR DSIWM  
Jamie Anderson, DWR Bay-Delta Office  
Matt Correa, DWR DSIWM

**Editorial Review and Report Production**  
William O'Daly, Lead Editor, DWR DSIWM  
Frank Keeley, DWR DSIWM  
Jeffrey Woled, DWR DSIWM

**Technical Information Record**  
This report represents the preliminary findings from 2012-2015 by DWR's expert external advisory committee, the Climate Change Technical Advisory Group, on global climate model selection appropriate for California water resources, planning for extreme conditions, downscaling, and recommendations for future work.

EXECUTIVE

Order Instituting Rulemaking to Consider Strategies and Guidance for Climate Change Adaptation (R.18-04-019): Working Group Session Report on Item "Data Sources, Models, and Tools"

REPORT 2 OF 5  
PREPARED BY PACIFIC GAS & ELECTRIC  
EDITED BY CPUC STAFF  
MARCH 2019

Advisory	Location	Size	Members	Tasks	Meeting style	More information
Protection Science Team	CA	30	Scientific expertise and credentials with diversity of experience levels, institutions, and academic fields, including traditional ecological knowledge	Expert Taskforces, Advisory Committees, Expert Panels, production of literature reviews, consensus statements, technical review of documents or plans	Public and private	<a href="https://www.opc.ca.gov/science-advisory-team/">https://www.opc.ca.gov/science-advisory-team/</a>
Department of Resources Change Advisory	CA	14	Diverse areas of expertise to describe and assess a changing climate including: climate science, modeling, hydrology, meteorology, local planning, and social sciences.	Perspectives and Guidance for Climate Change Analysis document on the use of climate models and associated technical tools for water resource planning		<a href="https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Program-Activities/Files/Reports/Perspectives-Guidance-Climate-Change-Analysis.pdf">https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Program-Activities/Files/Reports/Perspectives-Guidance-Climate-Change-Analysis.pdf</a>
Climate-structure Group	CA	14	Scientific experts, engineers, and architects	Path Toward Climate-Safe Infrastructure in California report		<a href="https://acwi.gov/climate_wkg/ab_2800_and_california%E2%80%99s_csi_wg_water_resources_adaptation_to_climate_change_wg_03_29_2018.pdf">https://acwi.gov/climate_wkg/ab_2800_and_california%E2%80%99s_csi_wg_water_resources_adaptation_to_climate_change_wg_03_29_2018.pdf</a>
Delta Independent Board	CA	10	Prominent scientists with appropriate expertise to evaluate the broad range of scientific programs that support adaptive management of the Delta	Provide oversight and review of scientific research, monitoring, and assessment programs, plans and reports that support adaptive management of the Delta	Public	<a href="https://deltacouncil.ca.gov/delta-isb/">https://deltacouncil.ca.gov/delta-isb/</a>
Planning Arch Resilience Update Working	CA	12	Experts on climate impacts, adaptation pathways, risk modeling, infrastructure	Provide guidance on the science update to the Resilience Guidebook, to support implementation of Executive Order N-19-19	Private	
Wildfire Resilience Science Panel	CA	3	Scientists from research institutions and the USDA climate hub	Provide support to Task force leadership and working groups for action plan priorities, science-based decision making, including translating scientific findings related to agency programs, and identifying research gaps to inform future forest health projects.	Private	<a href="https://fntf.fire.ca.gov/working-groups/">https://fntf.fire.ca.gov/working-groups/</a>

# Inventory of Existing Science Advisory Bodies

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# Existing Science Advisory Bodies

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**Background research:** Reviewed 20 science advisory bodies within and outside of California

**General Composition:** Diverse technical experts who provide guidance on climate science for decision makers

**Common roles:**

- Develop climate assessments, technical reports, and guidance
- Translate data into actionable information
- Identify priority research areas
- Serve as a liaison with scientific community and policy makers

# ICARP Science Advisory Group Vision

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## **Vision**

- ICARP Science Advisory Group will promote alignment of the state's deployment of climate science in resilience planning, policy, and investments.

## **Who would the SAG include?**

- Comprised of subject matter experts across California's climate impacts with a broad range of physical and social science expertise

## **What would be the SAG's role?**

- Provide scientific and technical guidance and expertise to inform state climate science and research needs and incorporate climate science into state planning and investment decisions

# Discussion

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1. Where are the opportunities to make sure this group supports and informs local implementation efforts?
2. Does the ICARP TAC have recommendations or examples of successful science advisory bodies?
3. How does the ICARP TAC propose supporting coordination between the Council and the Science Advisory Group?



# Item Public Comment



# BREAK

## Back at 1pm

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ICARP Council Q1  
Meeting & Adaptation  
Planning Grant Program  
Workshop





# Afternoon Session Agenda

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Item 8 | Adaptation Planning Grant Program Workshop

Item 9 | General Public Comment

Item 10 | Closing, Future Agenda Items, & Meeting Adjourned



# Item 8 | Adaptation Planning Grant Program Workshop

# Adaptation Planning Grant Program Background

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OPR, through ICARP, received \$25M in the state budget to fund a Climate Adaptation and Resilience Planning Grant Program (**Adaptation Planning Grant Program**).

Funding aims to:

- fill **local, regional, and tribal** planning funding needs
- provide communities the **resources to identify climate resilience priorities**, and
- support the development of a **pipeline of climate resilient infrastructure projects** across the state.



# Key Program Priorities

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- Support **equitable outcomes**
- Support much-needed **integrated infrastructure planning** to achieve community resilience
- Help communities plan for and respond to **multiple climate risks** simultaneously
- Build **community planning and capacity**

# Interdisciplinary and All-risk Approach

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- Funding to support **interdisciplinary** adaptation planning efforts
- Provide **flexibility** to allow communities to advance local planning needs and priorities
- Funding to advance **multi-risk** vulnerability assessments and planning
  - E.g. Flood-after-fire, heat and drought





# Workshop Goals

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- Kick off public engagement process for the ICARP Adaptation Planning Grant Program
- Solicit input on how this funding can support local, regional, and tribal adaptation planning gaps, needs, and opportunities

# Breakout # 1 - Discussion Questions

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- What type of resilience and adaptation planning activities and needs could this program support?
- Where are there currently resilience and adaptation planning funding gaps and how might we structure the Adaptation Planning Grant program to fill those gaps?
- Where are there opportunities to align with other state agencies to conduct more efficient stakeholder engagement?

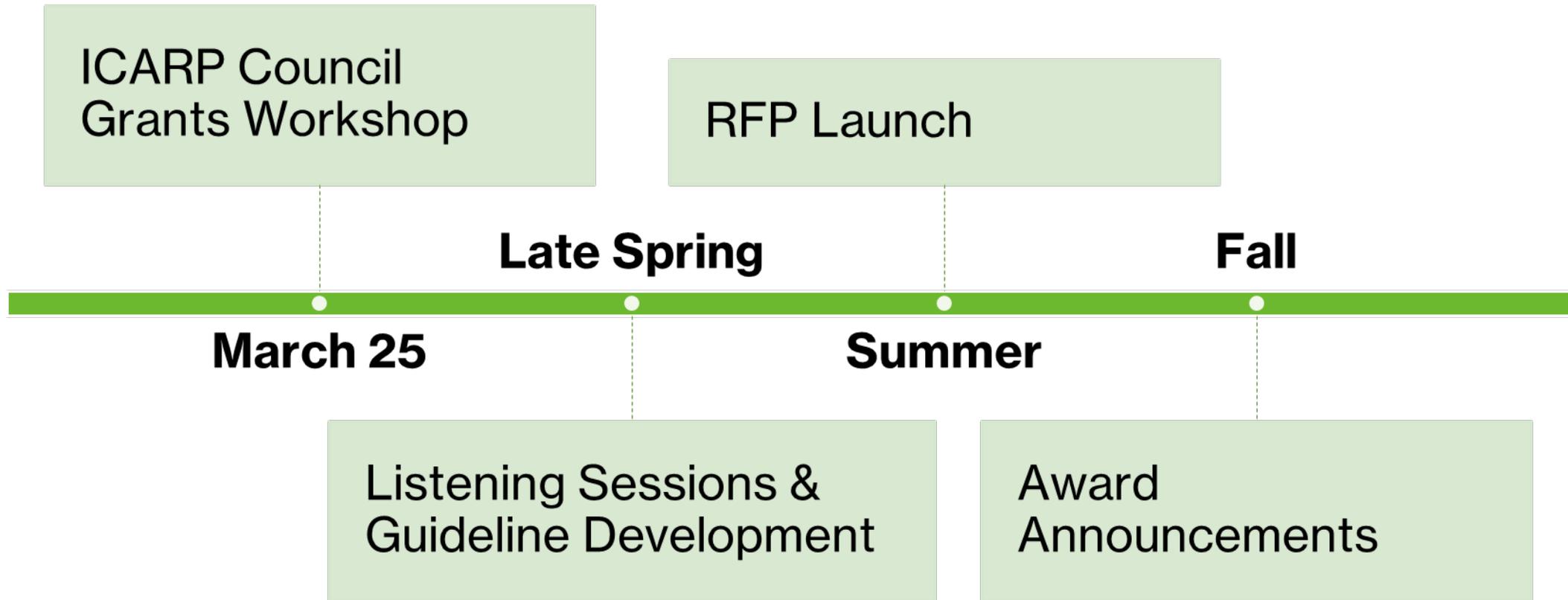
# Breakout # 2 - Discussion Questions

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- How can this funding work in coordination with other state investments? What opportunities exist to align this program so recipients can leverage other dollars?
- What should the program consider when evaluating the feasibility of funding set-asides for specific issues, geographics, etc.?
- Knowing this program seeks to support under-resourced communities, what are existing barriers to accessing similar funding programs? What do communities need to access the grant program?

# Tentative Timeline

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# Thank you!

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Abby Edwards

Adaptation Planning Grant Program Manager

[abby.edwards@opr.ca.gov](mailto:abby.edwards@opr.ca.gov)



# Item 9 | General Public Comment



# Item 10 | Closing, Future Agenda Items, & Meeting Adjourned



# Next Meetings

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Q2: June 24, 2022

Q3: September 30, 2022

Q4: December 9, 2022

Thank You!



- ∅ Nuin-Tara Key, Deputy Director, Climate Resilience [Nuin-Tara.Key@opr.ca.gov](mailto:Nuin-Tara.Key@opr.ca.gov)
- ∅ Sloane Viola, ICARP Council Program Manager [Sloane.Viola@opr.ca.gov](mailto:Sloane.Viola@opr.ca.gov)
- ∅ ICARP Newsletter & Announcements <https://tinyurl.com/icarp-newsletter>