

The Integrated Climate Adaptation and Resiliency Program

Impact Report and 2020 Program Recommendations

INTRODUCTION

California has long been a leader in addressing and understanding climate change, from setting globally ambitious greenhouse gas reduction goals, to committed investments in actionable climate science, to investing in place-based, community-driven solutions. As one of the most climate stressed places in the world, California experiences profound and varied impacts across the state's vast expanse. As a result, it is paramount that policymakers address the state's vulnerability to climate change while also tackling carbon pollution. In the wake of climate change, California is committed to reducing climate risks – from actionable science to mitigation to adaptation to ultimately resilience – while supporting the California for All agenda.

The Integrated Climate Adaptation and Resiliency Program (ICARP), established through Senate Bill 246 (2016; Wieckowski), is a critical piece in California's strategy and leadership on climate adaptation and resilience. ICARP is charged with developing a cohesive and holistic response to the impacts of climate change by coordinating state and local adaptation efforts to expeditiously advance implementation. Through the enabling legislation, ICARP focuses centrally on efforts that advance climate equity and support integrated climate strategies, or those strategies that benefit both greenhouse gas reductions and adaptation.

Senate Bill 246 established two driving components of the program: the development of an Adaptation Clearinghouse (<http://resilientca.org>) and the formation of a Technical Advisory Council or TAC (<http://opr.ca.gov/planning/icarp/tac>). The Adaptation Clearinghouse is a centralized source of information and resources to assist decision makers at the state, regional, and local levels when planning for and implementing climate adaptation projects that promote resiliency across California. The TAC supports OPR in its goal of aligning state, regional and local adaptation and resiliency efforts, with a focus on actions that improve the quality of life for present and future generations. TAC members bring expertise at the intersection of climate change and multiple sector-based areas including, but not limited to: public health, natural resources and water, environmental justice, tribal issues, and emergency services and public safety. The TAC provides thought leadership to inform the state's resilience efforts and serves as a platform for state and local dialogue. Both components – the Adaptation Clearinghouse and TAC – have seen great evolution over the program's first three years and have served to bring the state of practice to bear to accelerate strategies of adapting to climate change.

CALL-OUT BOX: What is a Resilient California?

*Climate resilience and adaptation are often discussed together, but it is helpful to distinguish between them. Generally, **adaptation** is an action or set of actions, and **resilience** describes a desired outcome. California is taking steps to prepare for the impacts of a changing climate at the state, regional, and local level. Preparing for these changes is called adaptation. A series of adaptive steps contribute to resilience.*

In a resilient California:

- » Built infrastructure systems can withstand changing conditions and shocks, including changes in climate conditions, while continuing to provide critical services;*
- » People and communities can 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 so that they do not simply survive climate-related events, but thrive despite and after these events; and*
- » Natural systems can adjust and maintain functioning ecosystems in the face of change*

Source: http://opr.ca.gov/docs/20180313-Building_a_Resilient_CA.pdf

CALL-OUT BOX: Definitions

Mitigation (climate change): A human intervention to reduce the human impact on the climate system; it includes strategies to reduce greenhouse gas sources and emissions and enhancing greenhouse gas sinks.

Adaptation (climate change): Adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Resilience (climate): Resilience is the capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience.

Source: http://opr.ca.gov/docs/20180313-Building_a_Resilient_CA.pdf

The following report highlights some of the accomplishments of ICARP since its launch in 2017, and outlines recommended programmatic next steps to advance California’s leadership on adaptation, resilience, and integrated climate action. To do so, the report touches on ongoing and emerging opportunities, challenges, gaps, and risks, and explores the work ahead for ICARP to best respond to the state of play in California. Ultimately this report – and the work of ICARP – should serve to motivate and inspire action under challenging and complex circumstances.

CALIFORNIA'S CLIMATE CHALLENGE and RESPONSE

Over the last several years Californians have experienced more frequent and severe extreme events. In parallel to California's growing leadership on adaptation and resilience, Californians were shocked and consumed by a historic and prolonged drought estimated to cost over \$600 million and the loss of 5000 jobs in 2016¹, rising seas and warmer temperatures, and some of the worst wildfires in history, all punctuated by extreme events such as heat waves and storms. In 2017 and 2018, California experienced the largest, most destructive and deadliest wildfires recorded in the state's history. In 2018 alone, California experienced both the biggest (the Mendocino Complex Fire which burned 459,123 acres) and the most deadly (the Camp Fire in Paradise which burned for nearly three weeks destroying more than 18,800 structures, and 85 Californians lost their lives)² wildfires in the state's history. These fires resulted in prolonged stretches of some of the worst air quality in the world as well as countless other public and mental health impacts, in addition to the vivid physical changes to our landscapes and communities.

Scientists have shown that climate change has contributed to the increasing size, intensity and resulting damage from wildfires in the western United States in recent years. California has experienced a fivefold increase in average annual burned area, with the largest increases in the North Coast and Sierra Nevada since 1972³. Another climate impact, sea-level rise, may threaten \$17.9 billion worth of residential and commercial buildings in California by 2050 (under a projected 50 cm of sea level rise)⁴. Continuing to grow vibrant, sustainable and resilient communities while tackling both immediate and slow-moving climate impacts is a challenge and trademark of the state's environmental and climate work.

This work – and swift response to the impacts of a changing climate – is not new to California and Governor Newsom's leadership on resilience builds on important steps taken during prior administrations. In 2005, Executive Order S-03-05 was signed, calling for periodic scientific assessments on the impacts of climate change in California. Then, in 2008, Governor Schwarzenegger issued the state's first executive order (E.O. S-13-08) on climate change adaptation, which called for the State's first climate adaptation strategy. This launched an ad-hoc framework in California of developing strategies alongside climate science assessments. California developed the first ever state-level, multi-sector climate adaptation strategy in 2009. Since then, the State has continued to develop and update this strategy, which was renamed

¹ Azuara-Medellin J., MacEwan, D., Howitt, R.E., Sumner, D.A., & Lund, J. 2016. Economic Analysis of the 2016 Drought on Agriculture. UC Davis, Center for Watershed Science.

² https://www.fire.ca.gov/media/5510/top20_acres.pdf

³ Williams, A.P., Abatzoglou, J.T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D.P. 2019. Observed impacts of anthropogenic climate change on wildfire in California. *Earth's Future*, 7, 892–910.

⁴ California's Fourth Climate Change Assessment, Statewide Summary Report. August 2018.

<https://www.energy.ca.gov/sites/default/files/2019-07/Statewide%20Reports-%20SUM-CCCA4-2018-013%20Statewide%20Summary%20Report.pdf>

the Safeguarding California Plan (Safeguarding) in 2014. The latest update (2018)⁵ builds on nearly a decade of adaptation strategies to communicate current and needed actions across state government to build climate change resiliency; the 2018 plan was released in tandem with an update to the California Climate Change Assessment (Fourth Assessment)⁶ which is a cornerstone of California’s strategy to take action based on cutting-edge climate research.

These recent efforts also built upon work of a Technical Advisory Group (TAG) established by OPR to inform the directives of Executive Order B-30-15 (2015). In addition to calling for climate to be considered in all state investment and planning decisions, E.O. B-30-15 mandates that because “climate change will disproportionately affect the state’s most vulnerable people”, planning and investments by the state must protect and prioritize the state’s most vulnerable populations. These are just a handful of examples of California’s leadership in this space.

CALL-OUT BOX: *California Climate Adaptation Legislation and Executive Orders*

Even with this long history of state leadership, a gap became apparent in recent years that such robust state initiatives needed to be better connected to – and developed to support – efforts spanning the state, especially at the local level. Entities such as OPR and programs like ICARP serve to bridge this gap by ensuring that climate research and adaptation efforts at the state level are designed to have the greatest impact for local, tribal, and regional governments – those users executing much of the day to day change in our communities and on our lands.

ROLE of ICARP in STRENGTHENING CALIFORNIA’S RESPONSE

OPR functions as the state’s comprehensive state planning agency, serving the Governor and the Cabinet as staff for long-range planning and research especially around long-term growth, community development, and land use. OPR sits within the Governor’s office and provides interagency support across the entire Cabinet; is inextricably linked to disciplines such as environmental justice, housing, transportation, climate change, and urban and rural growth; and seeks to provide solutions to the immediate challenges faced by Californians while prioritizing climate-informed and scientifically robust long-range planning. The office – with this interstitial and balancing role – is well-positioned to partner with regional and local entities across the state. In this capacity, OPR regularly functions as a coordinating body to help achieve state goals.

The Newsom Administration has made it a priority to move from bold climate ambition to action. This focus on implementing on-the-ground tangible outcomes paves the way for

⁵ <http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf>

⁶ <http://www.climateassessment.ca.gov/>

programs like ICARP. The value of ICARP has been its ability to establish strong and meaningful partnerships and bring tools, resources, and perspectives together, making them readily accessible to different audiences so actions taken have wider impact. ICARP does not serve to answer or solve every problem but rather functions as a first or initial stop in exploring and collecting strategies to adapt to climate change and ultimately build resilience. Given its structure and function, there is also nimbleness to address emerging challenges and issues, especially tricky cross-sectoral challenges that do not fall neatly within a specific entity or region's purview. This allows for the ability to think creatively about how to balance and align historically competing ideas, such as, preparedness and emergency response with long term resilience; climate adaptation and climate mitigation; the urban and rural divide; and so on. Similar to the ideology of the Newsom Administration, ICARP is built on the tenet that environmental protection and sustainable, equitable communities will only be achieved through a multi-pronged approach, and continuously looking for ways to balance decisions, goals, and priorities as harmoniously as possible.

Technical Advisory Council

In its short tenure ICARP has not only tackled several of these tough topics, but also provided guidance to state-led and other adaptation programs across California. With the launch of the program, the TAC recognized the importance of setting a clear vision and outlining core principles from which to operate and focus the program's work. This work has provided the state with a strong organizing framework on adaptation and resilience. After its initial convening in March 2017, the TAC developed a vision statement that expresses the characteristics of a resilient California and key principles to guide implementation of adaptation actions to achieve this vision. The resilience vision and principles were adopted by the TAC in September 2017 and have since been integrated into the 2018 Safeguarding California update, reflected in Southern California Association of Governments Regional Climate Adaptation Framework, and referenced in key documents such as the recently released "Mapping Resilience: A Blueprint for Thriving in Face of Climate Disasters"⁷ and "Making Equity Real in Climate Adaptation and Community Resilience Policies and Programs: A Guidebook"⁸.

⁷ <https://apen4ej.org/mapping-resilience/>

⁸ <http://greenlining.org/publications/2019/making-equity-real-in-climate-adaption-and-community-resilience-policies-and-programs-a-guidebook/>

CALL-OUT BOX: ICARP Vision and Principles

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.*

PRINCIPLES

- *Prioritize integrated climate actions, those that both reduce greenhouse gas emissions and build resilience to climate impacts, as well as actions that provide multiple benefits.*
- *Prioritize actions that promote equity, foster community resilience, and protect the most vulnerable. Explicitly include communities that are disproportionately vulnerable to climate impacts.*
- *Prioritize natural and green infrastructure solutions to enhance and protect natural resources, as well as urban environments. Preserve and restore ecological systems (or engineered systems that use ecological processes) that enhance natural system functions, services, and quality and that reduce risk, including but not limited to actions that improve water and food security, habitat for fish and wildlife, coastal resources, human health, recreation and jobs.*
- *Avoid maladaptation by making decisions that do not worsen the situation or transfer the challenge from one area, sector, or social group to another. Identify and take all opportunities to prepare for climate change in all planning and investment decisions.*
- *Base all planning, policy, and investment decisions on the best-available science, including local and traditional knowledge, including consideration of future climate conditions out to 2050 and 2100, and beyond.*
- *Employ adaptive and flexible governance approaches by utilizing collaborative partnership across scales and between sectors to accelerate effective problem solving. Promote mitigation and adaptation actions at the regional and landscape scales.*
- *Take immediate actions to reduce present and near future (within 20 years) climate change risks for all Californians; do so while also thinking in the long term and responding to continual changes in climate, ecology, and economics using adaptive management that incorporates regular monitoring.*

Keeping climate equity as a central objective of the program, following the TAC's work to develop the vision and principles, the Council adopted a definition for vulnerable communities in April 2018 and staff developed a resource guide to help local governments actuate this definition in the context of existing general plan requirements including climate adaptation (Senate Bill 379) and environmental justice (Senate Bill 1000).

CALL-OUT BOX: Vulnerable Communities Definition

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, sexual orientation and identification, national origin, and income inequality.

CALL-OUT BOX: Key Findings from OPR's SB 379 Survey and Assessment

- *In the fall of 2019, OPR conducted a survey of local governments regarding the status of Safety Element updates in General Plans to incorporate climate change vulnerability and adaptation per Senate Bill 379 requirements.*
- *OPR received a total of 64 survey responses from city, county, and special district staff across California.*
- *OPR is now analyzing and summarizing the results and will publishing a report in early 2020.*
- *Based on the key findings of the report, ICARP and the TAC could explore mechanisms to more seamlessly integrate climate adaptation and resilience into city and county General Plans, or reference in other plans such as Local Hazard Mitigation Plans, Climate Action Plans, or Adaptation Plans.*

CALL-OUT BOX: TAC Quarterly Meetings

The TAC meets quarterly at rotating locations around the state and hosts periodic workgroup meetings. All of these convenings of the TAC are open to the public and have been greatly strengthened by dialogue and exchange between the TAC, OPR staff, members of public, and invited speakers and partners. Meetings have covered an array of topics including, most recently, wildfire planning and preparedness for local governments, sea level rise science and novel approaches to coastal adaptation planning, and innovative models for funding and financing from the vulnerability assessment phase through implementation. Just this past year (2019), the TAC staff brought in partners from entities such as San Francisco Estuary Institute, Sonoma County Agricultural and Open Space District, City of Riverside, Coachella Valley Association of Governments, and the Sierra Institute. All meeting materials, past agendas and meeting notes can be accessed from the TAC meeting page: <http://opr.ca.gov/meetings/tac/>

With this foundational platform, the TAC has launched new initiatives, facilitated challenging dialogues, connected disparate partners, and most importantly provided strategic guidance. For example, following the TAC's direction at a March 2017 meeting, funding and financing for adaptation and resilience has become a major area of focus for ICARP, resulting in the release of an adaptation finance guide for local governments: *Climate Adaptation Finance and Investment in California*⁹. The guide is first and foremost written for local governments, but it

⁹ http://opr.ca.gov/docs/20181106-Keenan_Climate_Adaptation_Finance_and_Investment_in_California_2018.pdf

also serves as a roadmap for asset management and public finance processes, as well an inventory of potential funding sources.

CASE STUDY: Partnership with Federal Reserve Bank

ICARP staff and the Federal Reserve Bank of San Francisco co-hosted a series of regional workshops throughout the state in 2017-18 on climate adaptation funding and financing. The convenings brought together diverse stakeholders from local, state and federal government, private finance institutions, community-based organizations and non-profits to identify regional adaptation finance and funding needs. These convenings also provided an important capacity building and information sharing opportunity for practitioners working in finance and climate sectors. These convenings also catalyzed a number of local projects and initiatives – including efforts to support resilient housing investment in LA and sustainable recreation and forest management in the Eastern Sierra. These conversations have laid an important foundation to current adaptation funding and financing conversations across California. For example, they could provide important background to, and help guide, the implementation of specific aspects of Executive Order N-19-19, such as the directive to Department of Finance to create a climate investment framework, and have already helped to catalyze additional financing workshops being led by the Southern California Association of Governments.

Adaptation Clearinghouse

The other programmatic element of ICARP, the Adaptation Clearinghouse, has served to extend and implement the vision and philosophy of the TAC by providing a centralized and user-friendly source of information to assist decision makers across state, tribal, regional, and local governments when planning for and implementing climate adaptation efforts. Officially launched in August 2018, the clearinghouse is a single, searchable site that was developed through robust outreach and partnership.

ICARP staff worked closely with agencies such as the California Natural Resources Agency, the California Ocean Protection Council, and the California Department of Transportation (CalTrans) to aggregate relevant resources and curate the Clearinghouse webpages in a way that meets multiple state mandates and makes it apparent to end-users the critical importance of working across silos and sectors to achieve resilience outcomes. For example, CalTrans and OPR worked closely to integrate ICARP as a resource into the CalTrans Adaptation Planning Grant program (the state’s first adaptation-specific planning grant), as well as highlighting case studies on each grant award. The partnership is a crucial opportunity for state agencies to learn how future adaptation-specific grant programs can respond to local needs in a quickly-evolving field of practice, and for others visiting the Clearinghouse to see on-the-ground examples from across the state.

POSSIBLE CASE STUDY: City of Alameda Climate Action & Resiliency Plan
(adapted from SB1 Case Study on Clearinghouse)

POSSIBLE CASE STUDY: *Mammoth Lakes SB1 Funding and SB379 Update*

In addition to providing case studies and a comprehensive library of resources, the Clearinghouse team has worked to integrate existing data tools, such as Cal-Adapt¹⁰, and to develop new tools to assist and expedite action on the ground, an example of which is the Coastal Plan Alignment Compass¹¹. Led by the National Ocean and Atmospheric Administration (NOAA) and the United States Geological Survey (USGS), an interagency group developed the Coastal Plan Alignment Compass (Compass), which provides local governments information on how to align various state and federal planning requirements. The Compass provides an overview of the required elements and best practices for local coastal programs, local hazard mitigation plans, general plans, and climate adaptation plans. Importantly, the Compass identifies crosswalk opportunities between these plans, including ways to leverage vulnerability assessments, to streamline and even expedite planning efforts so that jurisdictions can shift to implementation sooner. As a development partner on the Compass, ICARP worked with NOAA and USGS to build an interactive Compass on the Adaptation Clearinghouse, quickly becoming one of the most visited sections on the site.

POSSIBLE CASE STUDY: *City of Santa Cruz aligning plans with the help of the Coastal Plan Alignment Compass*

Working closely with California Natural Resources Agency, ICARP has also aligned the Adaptation Clearinghouse with the 2018 Safeguarding California Plan. The Clearinghouse includes a series of curated topic pages, allowing users to find resources specific to the topic areas of Safeguarding. These topic pages align directly with the sectors used in the 2018 update to Safeguarding including the newly added Climate Justice and Parks, Recreation, and Cultural Resources chapters. ICARP also worked with each of the sector leads for Safeguarding to help develop topic-specific content, as well as identify key state resources for the Adaptation Clearinghouse. This includes hosting over 40 case studies highlighting statewide adaptation programs or projects.

POSSIBLE CALL-OUT BOX: *Adaptation Clearinghouse by the numbers*

¹⁰ Cal-Adapt is an online decision support tool that provides access to the wealth of climate data and visualizations: <https://cal-adapt.org/>

¹¹ <https://resilientca.org/topics/plan-alignment/>

TECHNICAL ADVISORY COUNCIL TESTIMONIALS THROUGHOUT REPORT:

“Are California's cities preparing for the impacts of climate change? The answer is yes, thanks to the Governor's Office of Planning & Research program on climate adaptation and resilience. The Adaptation Clearinghouse provides state-of-the-art ideas for cities and the Technical Advisory Council, composed of state and local agencies, helps OPR develop approaches that cities can understand and implement.” – Jonathan Parfrey, Climate Resolve

“As an elected official from a rural region, the ICARP TAC has served as an incredibly valuable forum to better understand the State of California's climate change program. The TAC and its members have provided numerous opportunities to better integrate the state's objectives into the daily lives of our community, and that's what really counts.” – John Wentworth, Town of Mammoth Lakes

“Addressing climate change represents an opportunity to improve the living and social conditions that drive public health outcomes, through “no-regret” climate measures that can increase community health and resilience, and address inequities. Changing policies and systems to reduce emissions can also bring us healthy, energy efficient and affordable housing, green spaces for recreation, urban and community greening that cools cities, safe places for kids to play and learn, access to affordable, healthy foods, walkable and bikeable communities, where there are abundant good low carbon jobs, where people know and care for one another, and are strong participants in informing and implementing solutions and policies. To achieve that, we need a holistic cross-sectoral convening approach, with many partners working on climate resilience planning that improves the social determinants of health and well-being— jobs, transportation, energy systems, land use, housing, education, and community voice in decision-making. This climate, health, and equity in all policies approach is what ICARP is working to achieve.” – Solange Gould, California Department of Public Health

“We've been building affordable housing in the San Joaquin Valley for over 55 years, helping rural communities with clean water and infrastructure needs for 45 years, and since the recent drought, added emergency services and disaster preparedness to further promote community resiliency. We have come to recognize the deep connection in all of this work.” – Tom Collishaw, Self-Help Enterprises

“To avoid the hazards of the climate crisis, we must question everything we do – including emergency response – and select solutions that also reduce climate-forcing emissions. ICARP has that principle at its core: pairing mitigation with adaptation to achieve a zero-carbon,

resilient, climate smart society, and provides the tools to get to work.” – Jana Ganion, Blue Lake Rancheria

“ICARP has waded into the tough and abstract areas of climate resilience, such as adaptation financing, helping to give cities across California a schema for bringing climate change front and center and where it should be in our thought processes and planning.” – Brian Strong, City and County of San Francisco

"The Greenlining Institute values ICARP's commitment to prioritizing equity and the needs of frontline communities that are hit first and worst by climate threats." – Sona Mohnot, The Greenlining Institute

CONCLUSION and PROGRAM FOCUS for 2020

The work and task ahead are profound. In California, climate impacts are beginning to be felt every year, across all regions of the state. These recent events confirm that climate change is not a stand-alone, isolated policy issue, but one that is tied into a host of other planning issues including housing, transportation, and public health – and like these, should be fundamental to all long-term planning and investment decisions. This has never been more illustrative than the events in California this fall, where over 2000 fires were ignited in a matter of weeks while vast swaths of the state – and roughly 3 million people – experienced unprecedented and historic Public Safety Power Shutoffs.

This confluence of questions and challenges makes the work of a program like ICARP all the more critical and the task more demanding. ICARP is a platform to bring multi-sector conversations together in order to ensure a cohesive response to climate change, so the state best supports and helps expedite local goals and implementation. Programmatically, ICARP has made significant progress in just a couple of years in spite of its relatively small size; that progress needs to continue and be built upon to be better prepared.

Over the course of 2019 the following challenges and barriers were identified as areas ICARP could focus on in 2020. These next steps serve as a guide and do not intend to be prescriptive, or to capture the full breadth or depth of ICARP’s work ahead.

- Building adaptation and resilience to an equal footing with the state’s ambitious climate mitigation efforts requires a clear set of measurable resilience goals. ICARP could serve as a venue to daylight current state resilience metrics and to identify critical gaps or areas of additional need/research. These metrics could serve as indicators of progress over the lifetime of the program.

- The TAC can continue to inform state-led programs through the development and sharing of tools and guidance to address the challenges faced by local and regional entities pursuing adaptation and resilience. One near-term effort could focus on the integration between the Adaptation Clearinghouse and Cal-Adapt to ensure that the strategy for delivering data and science becomes more of a climate services model, meaning one that is responsive to the biggest needs on the ground and paves the way for climate smart decisions. ICARP staff could also support the development of additional plan alignment compasses, similar to the coastal compass, that focus on other adaptation topics, such as fire.
- Given the program’s ability and flexibility to take on and tackle new and emerging challenges that do not neatly fall under one mandate or to the responsibility of a particular entity, ICARP could be leveraged to focus on developing issue areas such as natural climate solutions and the co-benefits and tradeoffs of integrated climate action.
- ICARP could build upon the TAC’s 2018 work to define vulnerable communities by exploring opportunities to support development of additional decision-support tools that ensure adaptation actions respond to and benefit vulnerable communities. Specifically, with the release of recent reports, such as “Mapping Resilience: A Blueprint for Thriving in Face of Climate Disasters” and “Making Equity Real in Climate Adaptation and Community Resilience Policies and Programs: A Guidebook”, there is a growing body of work that ICARP can draw from to support the development of actionable and flexible decision-support tools.
- ICARP should focus on integrating the Adaptation Planning Guide and other new tools and resources into the Adaptation Clearinghouse in a dynamic and interactive way while continuing to integrate existing California-relevant resources into the Clearinghouse. With such improvements and enhancements, the development of a long-term maintenance and update plan of the site as well as an outreach and engagement plan to ensure it best supports decision-making could also be prioritized.
- Adaptation funding and financing could continue to be a major body of work for ICARP, including: (1) Identifying opportunities to increase climate considerations in existing state funding programs, including opportunities to mobilize and leverage private capital and focus on supporting local government implementation, and (2) Focusing on the role of the private insurance markets and identifying opportunities to align public and private activities that address climate impacts and support resilience.
- ICARP should continue its coordination role to: (1) improve partnerships between state, regional, and local entities and across sectors such as transportation, agricultural, and health systems, and across the rural-urban divide, and (2) ultimately strengthen adaptation programs. While a full climate services program through ICARP staff is not feasible, ICARP could continue to explore opportunities to leverage the Adaptation Clearinghouse to support local implementation of adaptation and resilience efforts as

well as identify state initiatives the TAC could inform and advise for greater uptake and impact locally.

- Going forward, the program's progress could be informally assessed at the last meeting of each calendar year to track and improve its effectiveness and reflect on gaps in capacity and expertise.

An overarching challenge ahead for the TAC and ICARP, and adaptation practitioners at large, will be to balance immediate issues with long-term planning. While long-term climate resilience is understandably not at the forefront during disaster response and near-term recovery, ICARP and the TAC may explore and employ strategies to address barriers that lead to maladaptation and reduce the long-term health and wellbeing of people across the range of climate impacts. Never has this work been more meaningful and intertwined in all aspects of society, or has it been more apparent that California is leading the way on climate resilience through establishment of programs like ICARP. In fact, recognizing that the California Dream¹² cannot be achieved without confronting climate change and the events inextricably linked to climate change, the Governor, on the one-year anniversary of the Camp Fire, proclaimed November 8th as resilience day¹³. Now more than ever we know that reducing emissions is important for reducing the impacts of climate change but that implementing adaptation measures is just as pressing a task. ICARP's work to date and programmatic vision and work for 2020 is an important piece of this puzzle to become a resilient California.

¹² The California Dream — the idea that every person can achieve a better life, regardless of where they start out — is central to who we are as Californians. Even in a time of economic growth and record employment, too many Californians are experiencing the squeeze of stagnant wages and the rising price of building-block necessities such as housing, health care, education, and child care. We can and must reanimate the California Dream, building a California for All (source: <https://www.gov.ca.gov/>)

¹³ <https://www.gov.ca.gov/2019/11/08/governor-newsom-issues-proclamation-declaring-california-resilience-day/>