



CAPITAL REGION CLIMATE READINESS COLLABORATIVE

Sacramento Valley Regional Climate Symposium: Notes

Wednesday February 6th | 9:30 – 4:00 PM

Student Community Center, Multipurpose Room, UC Davis | Sacramento, CA

Welcome and Introductions

Kathleen Ave | CRC Chair & Climate Program Manager, SMUD

Chair Welcome

- Remember our tribal predecessors at this location, and, as immigrants, continue in their stewardship of the environment and keep in mind the disadvantaged groups that are disproportionately affected by climate issues. This is an optimistic event where we can take solace in the positive difference we are working to promote.

Camille Kirk | Director and Campus Sustainability Planner, UC Davis, CRC Steering Committee Member

Host Welcome

- We have diverse representation from multiple adaptation-related sectors, like students, residents, and employees of nonprofits, state and local government. After having been in a variety of organizations myself, I feel confident in describing the Capital Region Climate Readiness Collaborative (CRC) as particularly effective, especially given its small size. Seek me out or any other CRC attendees if you would be interested in joining!

Sacramento Valley Regional Report Key Findings – [Report Link](#)

Ben Houlton | Professor and Chancellor's Fellow & Director, UC Davis John Muir Institute of the Environment

- What do we value? Family, food, recreation – all affected by climate (list of changes brought by a half degree increase). Highlight on wildfire increases and Delta risks like sea level rise, rainfall variability, etc. But it's lack of cooperation that is really the biggest problem society is facing today. ("stakeholders more important than academics")
- We need "silver buckshot," because a silver bullet will not be enough. It's a great opportunity for us to become global leaders - to come together to face challenges and build up the disadvantaged. Some solutions: green bonds, green rooftops, and soil carbon retention. Economically, these solutions are profitable, let alone feasible, and it's clear that you can simultaneously reduce emissions and grow economy.

Question: Green leakage? UK/CA comparisons?

- Response: In California, energy economy and renewables investments are similar, but transportation emissions are much worse. Cap-and-trade has enough allowances and offsets that reductions have been relatively small. Changes in consumption could have a real impact here.

Question: Carbon tax?

- Response: Currently we're fundamentally cap-and-trade, largely because of our commitment to the free market. We could work to incentivize carbon withdrawals, but it currently makes sense for businesses to net emissions. Bottom line: \$50-\$100/CO2 would be what we could work towards.

Helene Margolis | Associate Adjunct Professor of Medicine, UC Davis School of Medicine

- Health impacts and prevention strategies - messy. Everything is nonlinear and interdisciplinary.
 - Examples: hydration is messy to deal with because of balance between replenishing electrolytes and exceeding healthy levels of salts and sugars; asthma risks increase from exercising outside, but obesity risks are opposite.
 - Geographic variation is complicated as well, with the Bay Area particularly affected by heat from a lack of heat infrastructure.
- We need to understand vulnerabilities. "Everyone is vulnerable at some point." Wildfires and floods, for instance, clearly have wide-ranging health effects. Emphasis on diseases and the likelihood that societal disease risk will heighten, especially because of higher temperatures.
- Holistic adaptation and mitigation required – maximize benefit, reduce unintended adverse consequences.
 - For example, build up South Sacramento to be more like East Sacramento, with trees for shade and water infrastructure. Infrastructure and built environment that emphasizes health with parks, etc. – and do not let this be limited to privileged communities.
- The good news: we already know how to protect health. One of the major things we can do is bolster public health strategies that already exist, and partner together to do what we already know how to do.

Paul Ullrich | Associate Professor of Regional Climate Modeling, UC Davis

- The top 5 warmest years in modern history were each in the last five years. The recent California drought is quite illustrative of the types of threats we're facing. We're "desperately underprepared" for flooding, and have to worry about heat and other threats as well.
- Soil moisture will decrease in the Sierra Nevada Mountains, remain about the same in the Sacramento Valley. Forest stress will increase. "Midcentury outlook is effectively locked in." In California, more rain, less snow, less overall precipitation, but more concentrated around winter (note potential for "rain on snow events,"
 - [1] whiplash events
 - When rainfall follows snowfall, melting the snow and overwhelming water systems with a sudden influx of extra water
 - [2] tinderbox
 - When a drought is followed by heavy precipitation, leading to mudslides and other damaging consequences.
 - [3] There's a 50/50 chance that by midcentury there will be an extreme flood.

- In extreme wet years, drastic increase in vegetation, leading to worse fires in dry years.
- Conclusions:
 - More extreme summer heat days
 - More risk of flooding from extreme storms
 - Less snowpack
 - Loss of our mountain forests
 - Wildfire
- Things look bad, but there is hope (laughter). Necessary solutions: co-productive, combining interests of both science and stakeholder communities.

Panel Discussion: From Science to Action

Flojaune Cofer | Senior Director of Policy, Public Health Advocates

- Public Health Advocates – data-driven systems change organization. They see everything as interconnected – climate change affects core needs through a variety of avenues, including clean air and safety. Relevant projects: Healthy Eating Active Living (HEAL) Cities Campaign, Prop 68, All Children Thrive California (ACT/CA). ACT/CA is focused on childhood trauma, which is climate change relevant because of its relation to emergencies caused by extreme weather events. It’s all integrated.

Campbell Ingram | Executive Director, Sacramento-San Joaquin Delta Conservancy

- Shoutout to Delta Stewardship Council’s upcoming Climate Vulnerability Assessment and Adaptation Strategy documents (coming soon)
- Much of the delta is significantly lower than sea level, and subsidence continues. A fear is that earthquakes or storms could turn the delta into an inland sea and throw off statewide water supply for 3-36 months. “It’s astounding” how much carbon emissions are coming from the subsided delta region (the equivalent of 5,000 vehicles; ¼ of California’s agricultural plant-based emissions). It’s a hugely important area that’s hugely at risk.

Panel questions

What is the most important climate stressor our system is facing?

- **Ben:** (Elephant analogy, where everyone sees part of the problem and argues about the nature of something that is necessarily integrative.) The two biggest immediate threats are water threats – flooding and drought. Lack of water and too much water, especially coupled with wildfire, will create a “truly devastating” cycle of region-wide catastrophe.
- **Helene:** Heat and air pollution, “offer clearest paths of interconnection” from wildfires, but also from emissions and pollutants. “An obvious place to start because of the cobenefits.” Reducing the amount of heat exposure while decreasing demand for polluting infrastructure.
- **Campbell:** I understand the need to prioritize but it frustrates me. Transportation and forests are taking a lot of attention, but we have to work on all elements. I understand prioritization is necessary, but emphasizing how interdisciplinary this is would probably be beneficial.

- **Paul:** Yeah. We need preparedness in the face of changing extremes and more extreme extremes, but also increased collaboration.
- **Flojaune:** “Avengers Model: You aren’t going to individually take down Thanos; you have to work together.” We can’t act like there’s a competition for primary victimhood. We should work on everything, even with some concessions of our priorities.
- **Campbell:** Competition just incentivizes us to scream louder and louder and get nothing done.
- **Flojaune:** and disincentivizes cooperation. Especially from a public health perspective you can see how interconnected these things necessarily are.

What challenges are there for collaboration, what is preventing solutions?

- **Flojaune:** People working in one field kind of have one job, but they have to be cognizant of the fact that they’re part of a larger system. Our approach should be interdisciplinary. Siloing is inevitable but we need a better underlying braiding of interests.
- **Paul:** There’s wide acknowledgement nowadays that siloing is no good. So we’ve taken a step in the right direction, but we need a real substantive way to tie everything together and an understanding of how investment in one area will affect the others. Suggestion for investment “at the highest levels” – so maybe in government offices that are able to see the big picture and guide collaboration.
- **Campbell:** I agree that we have to be more interdisciplinary. The Delta is kind of the silo center of the world. Funding streams are highly specified, which makes collaboration more difficult. Flexibility in funding sources and increase in entrepreneurship and capacity are the right path forward.
- **Helene:** “I think there’s a model out there, but where’s the forum?” Integrated assessment, which basically takes your scientific modeling and counts in many different perspectives, and come out with a model that can be translated for different sectors. Find the adverse effects from one sector on another. Bring people together.
- **Ben:** We have to understand these risks the same way we would understand any risk in our lives. We have health insurance because we understand that there’s a risk, and prepare for the worst possibility. Climate should be the same. We cannot afford to be preparing for the median projection. Our models and the IPCC model appear to be underprojecting the dangers facing us, and we have to be preparing for that.
- **Flojaune:** Additionally, we recognize the value of investing in prevention right now. Prevention and response both have to feature. It would be nice to never have to need a quadruple bypass. And keep in mind that exposure is related to privilege. The most important thing is that we get started now on dealing with it.
- **Shelley (moderator):** We can’t necessarily prioritize one prevention or adaptation mechanism, but perhaps we should prioritize protecting the neediest populations.

How do we think of environmental justice and equity issues associated with climate?

- **Flojaune:** The more diverse your team is, the more effective your team will be. It’s really important to bring together as many communities as possible. Even this room is not reflective of the overall Sacramento community. Our first question: who is missing from the table? We also have to ask “who is harmed right now?” We have to bridge the immediacy of who is in trouble now with the more esoteric potential for worsening down the line.
- **Paul:** Agreed. Clean water, clean air, and we have to make sure all members of the community are insulated. Do they have somewhere to go when the next wildfire hits and poor air quality

comes? We have to consider technologies available now that are not yet accessible to disadvantaged communities. We have to bring the underrepresented to the table to discuss solutions as well.

- **Campbell:** I went to a Global Transformation Forum focused on Louisiana. Same discussions with a “how do we engage and convince leadership in government to promote equity and climate justice?” We kind of have to recreate democracy; create a lower-cost culture of adaptation.
- **Helene:** Health literacy, climate literacy, and an understanding of relations between issues. But also human basics. Offering childcare, good work hours as a key component of response for public meetings and engagements.
- **Ben:** WWII was the last time UC and National Academy of Sciences came together. We’re dealing with a similar level of threat now. How do we create an equitable diverse education system that ties together different fields? Are we doing it fast enough and in the best way? No. It’s going to be messy, but we’re doing it... Diversity is key. We cannot have sustainability without diversity. We can’t continue to write publications and retreat. We have to take action!

Elected Officials Lunch Panel

Supervisor Don Saylor | Yolo County

- Yolo Climate Compact – we are going for a 90% greenhouse gas reduction by 2050. We’re updating our Climate Action Plan

Supervisor Gary Bradford | Yuba County

- Yuba County – “kind of an outlier in the Sacramento region” – the majority of our County lives on the valley floor. We benefit from 3 rivers, which come with the curse of flooding – long history of flooding, which motivated the creation of the Yuba Water Agency in 1959. They built the Bullards Bar Dam. [Forest Resilience Bonds Video](#)

Councilmember Steve Hansen | City of Sacramento

- It’s nice to be in a place where we’re all generally agreed when it comes to climate science, but I’ve realized speakers look too much like us (gesturing to other panelists) and not enough like them (gesturing toward diverse CivicSpark youths). We need women, people of color, but especially young people. A lot of the struggle is the generational shift. We have to think like young people like we did with JumpBike. Increasing private vehicle ownership could increase vehicle miles traveled by 80%. Top-down thinkers would mandate options, but I like to give people many options and allow them to vote with their feet.

Mayor Brett Lee | City of Davis

- Davis has a “pretty robust” climate action plan. The biggest problem is shifting organizational mindset, in this case to “we can and should do better.”

How do we prioritize and monetize green investing and infrastructure work?

- **Sup Saylor:** There’s this idea that growth would all take place in incorporated cities. There has been no new development outside of incorporated cities. We’ve been stingy with subdivision of agricultural lots. So the vast majority of our jurisdiction is open space and when the fires hit we had no casualties. There’s always a challenge to assimilate new challenges with old consensus. Foothills areas want new developments that would increase fire risks and make greenhouse gas targets significantly harder to reach.

- **Mayor Lee:** Woodland/Davis Clean Water Agency Board. Some ideas I've seen with water purification depend heavily on the marketing, because the technology is there. Essentially, in 20 years it will still be that when you turn the tap clean water comes out. "Toilet to tap" was just a terrible way to phrase it.
- **Sup Bradford:** There's no such thing as an average water year in California. Dry years are dry and wet years are wet, and it's looking like the dry years will be drier and the wet years will be wetter. In Yuba Water Agency, our primary concerns are flooding and supply inconsistency. We have two projects – a secondary spillway and "forecast informed operations" - working with ACE to set some line for water elevation for which water level exceedance would lead to immediate water release.
- **Councilmember Hansen:** In terms of water, the question is "what are the greatest threats to us?" We are working on levees, etc. but we also really want to reduce demand and reliance. We are working on legislation to develop an air quality disaster protocol for schools and other organizations. For adaptation, we're also working to build as much housing in our city core as possible. Putting people closer to where they work (especially lower-income people) is great for emissions reduction.

Audience Q&A:

PG&E is bankrupt as a result of climate-related issues. How do we reconcile needing a new grid with not having an agency able to do it?

- **Sup Bradford:** I love SMUD. I don't know of specific opportunities relating to PG&E bankruptcy, but we have a vision in Yuba...
- **Mayor Lee:** PG&E, an investor-owned utility, has a short-term vision. I believe, to them, community is secondary. We should be lobbying state officials to make a fundamental change. PG&E have dropped the ball many times and shown themselves not to be invested in community interests. The government's response to the mortgage crisis was to give money back to the banks, but the consumers that owed the banks still had their debt. A different approach to stabilize the system that worked elsewhere was to pay the people that owed the money.
- **Sup Saylor:** PG&E can act like a public company when it wants government assistance and a private company when it wants to avoid serving the public interest.
- **Councilmember Hansen:** Isn't SMUD helping with the CCVA?
- **Sup Saylor:** We're the only ones who contracted with SMUD. (lots of love for SMUD, leading to the break)

Equity, Justice, and Climate Adaptation

Emily Alejandrino | Senior Environmental Scientist and Tribal Liaison, Climate Change Division, Department of Water Resources – [Report link](#)

- I want to emphasize [this document](#), the first that intentionally incorporates tribal perspectives into climate adaptation ([additional resource](#)). Tribal ecological knowledge (TEK) is recently being considered in adaptation because the symbiotic relationship tribes share with the climate and the environment helps enable them to contribute a uniquely valuable perspective. Tribes functioned as land stewards throughout California, and view human/environmental interactions as a (non-hierarchical) integrated circle with humans themselves as part of the environment.

- Tribal datasets are particularly long-term and include thousands of years of oral and written documentation of traditional management. Tribes still lack management-level access to their lands, but could be newly empowered by TEK-influenced management practices, like cultural controlled burns. The report has recommendations for TEK and tribal incorporation into state and local government actions and climate planning.
- Engage with tribes, communicate with them as early as possible, even if just to inform. Treating tribes like an afterthought is not only wrong, it may hinder your project by going into it uninformed or opening yourself up for a lawsuit. Tribes are strong advocates for climate action and have much to contribute to climate action on the regional scale.
- There are instances in the report of cultural burning on Forest Service Lands. The practices are generally accepted but obviously burns are multifaceted and complicated, so implementation varies by location.

Colin Bailey | Executive Director, Environmental Justice Coalition for Water – [Report link](#)

- Not many people in the audience have read [EJCW's Climate Justice Report](#). We work with a wide variety of communities. It's all connected. Droughts, harmful algal blooms, etc. Nowadays we can still somewhat see the results of racist old zoning practices putting minorities in flood-prone zones. Sierra soils that took many years to develop are scouring away and falling into our waterways.
- Our climate justice report addresses much of this, defining climate justice as both a social movement and a concept that “no group should disproportionately bear the burden” of climate issues. The document is formed by putting out a call for people to contribute, and then if no one steps up, targeting individuals elsewhere (which is how a New Yorker ended up playing a prominent role in our process). We kept butting heads with the structure of the report as largely a literature review (“obsequiousness to citation”).
- Lots of data on vulnerability assessments and which vulnerabilities are assessed in different regions. Relevant factors – opportunity access, capital, race and poverty, etc. Exposure often most heavily depends on where you work and is not an option for the people that suffer most. Highlight on AB 805, other pieces of legislation listed on power point, displacement, “paving the way for speculative investment.”

Participant activities: Participants were asked to brainstorm two questions on a sticky note:

1. What is an action that can be taken on an individual, organizational, and regional level to ensure frontline communities have equal protection from climate impacts?
2. Who can your organization partner with who work with frontline communities? Think Community Based Organizations (CBOs), Neighborhood Associations, Community Champions, etc.

Responses

- For electric vehicle ridesharing, focus on low income communities.
 - Response: Lots of people in those communities can't even drive in the first place because their licenses have been revoked or they've never had them in the first place.
 - Response: In Sacramento we have a community electronic vehicle ridesharing program, and we saw these problems associated with inability to drive. So we (SMAQMD) partnered with Breathe California to improve outreach.
- A key component of environmental justice is effective outreach. And I've seen lots of ineffective outreach, where the outreachers figuratively (or even literally) do not speak the same language

as the communities with which they are intended to communicate. They spew a bunch of jargon and leave. It's treated like a box to check. No teamwork or continuing collaboration comes out of it. We need people who can talk to these communities, and also listen to hear the real questions out there.

- Note the difference between equality and equity. We should be aiming for equity, as climate change and other issues do not affect all of us equally.
- Overcoming differences in cultural practices is key. Communication is key. Where are we in targeting mental wellness? We have to be cognizant of the level of sustained anxiety that comes with paying so much attention to a coming crisis.
- My job is to make homes more efficient. I'd like to see that done at a larger level. For example, if trees protect people from heat, design the city to make it easier for the trees to flourish with more thought going into mulch and plot design. Fix the environment by managing for sustainability instead of expense or aesthetics. Get young adults involved and heal neighborhoods.
- Let's think more systematically and incorporate the human element.
- Vote! Vote for the leaders that care the most about climate change and justice issues and be vocal enough about these issues to inspire said leaders to listen. (Or run for office yourself.)
- One comment: the conference itself was hard to park at, etc. and could be inaccessible for some.
 - Response: we provided as much space as possible, but we do have room for growth.
- Think not who could we partner with, but who do we need to partner with.
- [Additional responses](#)

Adaptation Funding & Financing Opportunities

Julie Alvis | Deputy Assistant Secretary for Administration and Finance, California Natural Resources Agency

Bonds and Climate Investments

- A broad overview of the state's funding sources that incorporate climate adaptation and resilience. Parks and Water bonds: \$30.8B. Prop 68 paid lots of money out for natural resources, parks, flood protection, drinking water, and climate resiliency. \$1.55B for climate adaptation and ecosystem restoration. \$1.27B for water development. "These are large buckets of money, and if you look at SB5 you can see how the funding is allocated for a specific department for a specific purpose." Some of the funding is for competitive programs and will specify how much should go towards specific programs or communities. Or they could come with requirements to market across the state, consider climate, etc. It's important to consider how programs set their guidelines when allocating funding because funding is limited.
 - They have to come up with the questions that best illustrate which programs most meaningfully accomplish what the funding is trying to accomplish.
- We created a [bond accountability website](#). Prop 1E, Prop 4, Prop 68, and Prop 84... The governor's budget also contains a breakdown of the budget. [Dept Finance](#) and [Strategic Growth Council](#) also have helpful resources. You can reach out and contact me if you want to know more.

Question: What's your advice for a project looking to have access to funding?

- It's not all about being good at grant-writing. One thing we've actively tried to do is connect those who successfully got grants with those that "aren't quite there, that could benefit from the network or from learning from them." If a department is holding a workshop, go to it. Meet whoever's in the room. Meet with a department doing something (funded) similar to what you want to do and make friends and ask them about it.

Adaptation Tools and Resources

Sarah Risher | CivicSpark Fellow, Hazard Mitigation Planning Division, Cal OES

Adaptation Planning and User Needs Assessment

- The APG is around to help (especially local governments with less resources). Mandated by SB246, and updates mandated as well, as much has changed since 2012. Purpose to equip local jurisdictions with the tools to adaptation plan, including findings from CCC4A and Safeguarding CA, Adaptation Clearinghouse, as well as other adaptation planning processes.
- Our outreach results have shown lack of familiarity with APG, but plenty of suggestions for content. Requests for guidance on communication, collaboration, building relationships, and getting funding, especially with case studies and application of science. "Not all of CA's communities are like SF or SD," so for a lot of them a successful case study could help to get their leadership on board. Outreach still needs to better consider EJ, tribal, rural/broadband limited communities.
- The next stage in our plan is content development. By the end of the summer we hope to release a public review draft, hoping for a finalized draft by the beginning of 2020. We want to be pointing people in the right direction so they don't have to restructure their projects halfway through; we want unification of graphics and icons in hazard plans statewide to help maintain internal consistency. "It doesn't make sense for two contiguous communities to use different metrics" so we want a standard for metrics, and better communication regarding them. It's also helpful for readers to have the right balance of texts and infographics.
- Reach out if you have questions, suggestions, or other input. OES website is being updated, so no information on this project is there, but it will be in about a month.

Question: Not too many people knew the climate would be changing this quickly. What are you doing in terms of public outreach to help people understand the increased urgency of climate change response?

- We have a department that does a lot of outreach in regards to our three main threats, and we are going to add a climate adaptation division. I think CalOES also was in a bit of a silo in that we were emergency management "all the way" but now we're becoming more holistic in our approach to climate adaptation. Heat hazards in particular.
- We want to have case studies that simultaneously demonstrated both adaptation and mitigation. This comes from the definition we're using organizationally. We use the word "adaptation" as meaning "including mitigation" but we want to be explicit in our commitment to both aspects when we're putting out reports.

Question: Are you more focused on short-term disasters or infrastructure-type projects where you're thinking ahead to long-term climate impacts?

- I don't know what the explicit requirements are, but our APG is very adaptation-focused in a long-term sense, looking forward to preparing for disasters way ahead of time.

- Not sure how distribution happened for the first APG. Now, we're actively focused on disseminating our APG to the public and underserved communities.

Question: I remember something about FEMA requiring adaptation plans to get funding. Is this all just voluntary guidance? Does it have teeth?

- The project is funded by FEMA, with the goal of making communities more eligible for funding. We can't force APG incorporation, but it does provide a roadmap and lay out legislation that they are required to follow as well as ways to qualify for the funding.

Question: What is OES using to define regions?

- We are thinking of going with the regions laid out in CCC4A. We are behind schedule because this was supposed to come out a year after Safeguarding CA. In the future we are more concerned about watersheds and whatnot.

Question: Who's the target audience, and how do you hope to approach other audiences?

- The original authors from CalPoly will be working on this. They feel it's targeted toward jurisdictions that lack the resources to hire external consultants, but we want to present the information that it will be useful to planners, consultants, community organizations, etc.
- FEMA nationally does not recognize climate change and its role in planning preparedness. FEMA Region 9 is supportive, however, and it does play a role in their funding.

Nancy Thomas | Executive Director of the UC Berkeley Geospatial Innovation Facility (GIF)

Cal-Adapt

- [Cal-Adapt](#) is a web adaptation that links climate science and the people that would use it. California Energy Commission. We plan to focus on broadening the user base. We host the data and make it easier to use. We want to thank the people that create the actual datasets. Examine local peer-reviewed risks based on the best available science. We want to visualize and simplify datasets.
- We have narrowed down the 32 models we use to pick the 10 most representative to show in every situation and another 4 that we recommend most highly. Cal-Adapt is all open-source and enables people to build their own tools using Cal-Adapt data.
- New funding to reach out to a broader user base. What we want is user feedback. We want you to be able to see historical and projected climate data. Walkthrough of extreme heat tool, snowpack tool. We also have lots of data that don't have developed visualization tools.
- If you're interested, reach out to us! We have a newsletter. We'll probably be holding a webinar on our extreme precipitation tool. We're expanding work on wildlife and sea level rise as well.

Question: One thing I noticed is that a recent sea level rise model does not illustrate data microcosmically enough to be used as information for levees. Are model limitations included explicitly somewhere in Cal-Adapt?

- Nancy: We (might be NOAA) are developing something that recommends a particular model given what you want. I don't think there's necessarily one model that's right in all cases.

Question: Earlier today people talked about how models don't actually encompass the extent of climate change and are underestimating its seriousness. How do you deal with that?

- Nancy: We don't create the datasets. Our model is coming from IPCC models downscaled for California. We update our datasets and models as they come out, so our content should gradually improve with the quality of the data in general.

Question: When is the data updated?

- Nancy: It depends when the downscaled climate models come out. Probably around the time of CCC5A.

Question: I have a particular dataset I want to see used in Cal-Adapt. What should I do?

- Nancy: We have had requests to include particular datasets before, and we do that. So it's something we could look into. Depends where research is at the state level.

Question: How to incorporate adaptation options into on-site modeling? EG check a box to add reflective streets to your model or whatever.

- Nancy: That'd be a nice opportunity for a 3rd party tool. You could grab our data and add a layer perhaps. There's studies that measured the effectiveness of urban greening, cooling roofs, etc. But very few incorporate using multiple options at once, but it could be the combination of factors that substantively changes the output.

Question: How about looking into not only the effect of climate change on wildfire likelihood, but also the effects of wildfires on climate change?

- Nancy: That might be interested to consider in funding consideration for the next generation of wildfire modeling. Ashes could fall on ice sheets and make them melt faster

Question: Is glacier melting included in Cal-Adapt?

- Nancy: Yes. Not in all the models, but the CCC4A assessment, increased expected melt is incorporated into SLR projections.

Closing Remarks and Announcements

Kathleen Ave | CRC Chair & Climate Program Manager, SMUD

Thank you all for attending CRC's first adaptation exchange of 2019! To close the event, I'd like to recommend a book - *Rising: Dispatches From the New American Shore*. Please reach out if you'd like to join the collaborative and become a CRC member!

Additional ideas / solutions / aha moments from participants:

- 1. Work with children to build awareness for climate action at household + community levels.
 - 2. And to build social cohesion
- Provide indoor heat, humidity + CO2 sensors (low cost) in LI/EJ homes. Send data to WEF and evaluate heat exposure + key factors. See "[Harlem Heat Project](#)" online.
- Cool Davis: financial help with home efficiency upgrades, incentives for electric cars, free transit, free clothes drying racks - all so people can use less energy!

- AHA: There is no ONE indicator to FOCUS yet. So that I can carry my responsibility for Impact and you yours. There is no Bank yet, to save my non-used fossil energy neither for water. Johan Verink.
- Provide access to capital at a micro and macro level to enable resilience (i.e. local infrastructure or home infrastructure, like cisterns, cash for grass, etc.)
 - Focus more broadly on involvement + engagement in the civic process as a whole, rather than just climate impacts.
 - Meet communities where they are, literally and figuratively, to ensure their voices are heard.
- Advocate for climate justice recognition in CAPs. Keep asking for participation at your meets, and show up at theirs.

Additional resources:

[Climate Change Effects in California Tribal Communities](#)

[Tribal Communities Climate Change Vulnerability and Adaptation Matrices](#)

[Delta Wetlands Restoration: An Opportunity to Protect and Promote the Sacramento-San Joaquin River Delta](#)

[How Forest Resilience Bond Works](#)

[LGC 2018 Impact Report](#)

[CRC Factsheet](#)