

12th Annual Rising Voices Workshop

Co-creating Research, Policy, and Action: The Rising Voices of Indigenous Peoples and Partners in Weather and Climate Science

RISING VOICES CENTER FOR INDIGENOUS AND EARTH SCIENCES

Hybrid: In-person Boulder, CO and Virtual

May 6—8, 2024



WORKSHOP REPORT

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Workshop Citation

The Rising Voices Center for Indigenous and Earth Sciences (2024), The 12th Annual Rising Voices Workshop (RV12): Co-creating Research, Policy, Practice, and Action: The Rising Voices of Indigenous Peoples and Partners in Earth Systems Science. Hybrid (In-person Boulder, CO and Virtual), May 6-8, 2024.

**Please note that if material is cited from the sections shared by workshop presenters, credit needs to be given to that person(s); it is their knowledge and wisdom being shared.*

Background

[The Rising Voices Center for Indigenous and Earth Sciences](#) (RV) facilitates intercultural, relational-based approaches for understanding and adapting to extreme weather and climate events, climate variability, and climate change. RV supports a growing network of Indigenous, tribal and community leaders, atmospheric, social, biological and ecological scientists, students, educators and experts from around the world. At its core, Rising Voices aims to advance science through [collaborations](#) that bring Indigenous and Earth sciences into partnership, provides [opportunities](#) for Indigenous students and early career scientists through scientific and community mentoring, and [supports](#) adaptive and resilient communities through sharing scientific capacity.

Rising Voices' mission is to center relationships to interweave Indigenous and institutional approaches to Earth Sciences. In this way, we cultivate more inclusive innovative responses to extreme weather, water, and climate change impacts. Our Vision is to see Indigenous and institutional collaborations that uplift a climate resilient and justice-forward world for all generations. This includes envisioning collaborative research that brings together Indigenous knowledge and science with Earth sciences in a respectful and inclusive manner to achieve culturally relevant and scientifically robust climate and weather actions. In doing so, Rising Voices seeks to advance science, remove the boundaries between science and society, and create innovative partnerships among collaborators with diverse disciplinary and cultural backgrounds to support adaptive and resilient communities.

Rising Voices is co-administered by the University Corporation for Atmospheric Research/National Center for Atmospheric Research (UCAR|NCAR) and the Livelihoods Knowledge Exchange Network (LiKEN) in partnership with Haskell Indian Nations University, National Oceanic and Atmospheric Administration's (NOAA) Office for Coastal Management, NSF National Ecological Observatory Network (NEON), and the Indigenous Speaker Series.

The Rising Voices Center for Indigenous and Earth Sciences is entering an exciting, emerging new phase, as we work to pivot into a more place-based, actionable science initiative for intercultural climate collaborations and collaboratively work together to move from a decade+ of Rising Voices' recommendations into action and commitment. At this significant juncture as Rising Voices transitions into its next phase, it's important to reflect on where we've been, to set

a path forward for where we will go. Thank you to all of you for being part of, and shaping, this journey.

About Rising Voices: [Website](#), [Introductory video](#), link to [previous workshops](#)
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WORKSHOP OVERVIEW

The RV12 Workshop Theme

In 2013, the first Rising Voices workshop at the National Center for Atmospheric Research (NCAR) asked: *What are the elements of successful co-production of science and policy in the related fields of extreme weather and climate change?* Over a decade later, engaging both Indigenous and colonial Earth sciences to address climate change challenges is increasingly accepted and promoted within mainstream scientific enterprises. Funding agencies and institutions are increasingly requiring “meaningful community engagement” for research proposals and the “co-production of knowledge” is the term du jour in climate science research.

“The urgent threat posed by our climate crisis necessitates innovative actions. Innovation is an opportunity to look beyond Earth sciences to solutions in other knowledge systems and, in doing so, to support the rising voices of those who have been historically marginalized.”

– Lazrus et al., 2022

In this context, and building from the Rising Voices’ [Declaration on Relationships and the Wise Use and Applications of Technologies for Climate Actions for Everyone](#), we’re poised to learn from where we’ve been and grow into where we’re going. How can we work to better advance science, remove the boundaries between science and society, and create innovative partnerships among collaborators with diverse disciplinary and cultural backgrounds to support adaptive and resilient communities, and to achieve culturally relevant and scientifically robust climate and weather actions?

This workshop brought participants together to work on proposed pathways and guidelines for intercultural collaborations for co-created, place-based Earth systems science research, policy, practice, and action. The focus included the:

- Rising Voices’ core priorities: (1) advancing science through collaborations that bring Indigenous and Earth sciences into partnership; (2) create opportunities for Indigenous students and early career scientists through scientific and community mentoring, and (3) support adaptive and resilient communities through sharing scientific capacity.
- Topics: Community relocation/site expansion; Education, Communication, Training, & Outreach; Energy Systems; Food Systems; Human Health; Phenology; and Water

Systems.

- Regions: Pacific Coastal (Pacific Islands, Alaska, Northwest); Grass/shrub/arid lands (Southwest, Plains/North Central, South Central); Deciduous Forests (Midwest/Great lakes, Northeast); Atlantic Coastal (Gulf Coast, Southeast, Caribbean Islands, Northeast)

The Rising Voices Center serves as connective webbing, creating linkages and space for new collaborations to have their own life. This workshop focus was in direct response from requests by Rising Voices participants to initiate more regional and place-based work for a process of co-learning together.

The objective was to:

Develop general guidelines, principles, and evaluative processes that can be adapted for place-based intercultural collaborations in support of climate actions and the initiation of such collaborations in the relationship building phase.

As Rising Voices is working to pivot into a more place-based, actionable science initiative for intercultural climate collaborations, the goal of this convening was to build from long-standing engagement to collaboratively work together to move from a decade+ of Rising Voices' recommendations into action and commitment.

Community Agreements

There were several community agreements shared among the RV12 participants, including: (1) [Rising Voices Ethics Guidelines](#), (2) [UCAR/NCAR Participant Code of Conduct](#); (3) [Workshop Report and Outcomes](#)

Intended Workshop Outcomes

As with previous Rising Voices workshops, one key outcome of the workshop was to foster new and existing relationships to facilitate collaborations between Indigenous and Earth sciences in response to the climate crises. The workshop activities yielded notes and transcripts, which were used to develop this summary workshop report and to continue to develop a set of guidelines to consider for centering justice in convergence research, which will be shared publicly on the Rising Voices website and shared with the Rising Voices listserv and all workshop participants.

The intention of the RV12 planning team is to work with the editors of a special issue of a peer-reviewed journal to publish these guidelines in a format where they can reach a broader audience, extending the reach of the RV12 workshop into communities, classrooms, research sites, and board rooms. The goal is to create, collectively, something that's actionable beyond the workshop for a justice-forward approach to addressing the climate crisis and supporting future generations in a changing climate.

DAY 1: Monday, May 6th, 2024

Workshop Opening

The workshop opened with welcome and prayer by Steven LaPointe (Lakota), a Native American Culture and Education Specialist. Steven set the tone for the gathering, reminding everyone that as we come together as Earth Warriors, we are modeling for the next generation of leaders. We come together for a common cause, changing the narrative of climate action, and defending our sacred Mother Earth.

Ava Hamilton (Arapaho), a Rising Voice Council member, welcomed everyone to Place. She reflected on the ways in which Indigenous Knowledges are scientific, being thousands of years old. Ava emphasized how important it is to listen to everyone – scientists and Indigenous knowledge holders – the importance of being together as people, as community, and that Rising Voices is a safe place to ask any question. She shared about the diversity of the Front Range area, with over 200 tribes from across the country, Canada, and Mexico represented in the region. Ava informed the group about the upcoming celebrations for 150-years of Colorado statehood, which raises back up the differences in our histories and the clear need for the education system to be teaching about Indigenous Peoples' existence. She feels that change in how communities are starting to know that Indigenous Peoples' are still here, that Native history is part of the land they live on. Science is not separate from that history, it's not separate from life. As Ava welcomed everyone to Arapaho homelands, she shared:

“I want us all to be friends, relatives, and good people to each other, on the most sacred of all sites, Mother Earth, the planet Earth. That's the most sacred site that there can ever be anywhere at any time. And it's been disturbed, and we need the science to learn and listen to what's happening and what shouldn't be happening. So let's enjoy each other and have fun.”

Julie Maldonado (RV Co-director, LiKEN) provided an overview of the workshop theme (see above), with the reminder that, in the spirit of Rising Voices, as with previous RV workshops, one key outcomes of the workshop is fostering new and existing relationships to facilitate collaborations between Indigenous and Earth sciences in response to the climate crises. Another key outcome is to develop general guidelines, principles, and evaluative processes that can be adapted for place-based intercultural collaborations in support of climate actions and the initiation of such collaborations in the relationship building phase. The goal is to collaboratively work together to move from a decade+ of Rising Voices' recommendations into action and commitment. In doing so, we reflect on intercultural collaborations for climate action; what does that feel like, look like? How to imagine that into existence – what would it take? What is needed? What does it provide? What is life giving?

As part of the workshop registration, participants were asked to share what the workshop theme – *Co-creating Research, Policy, and Action: The Rising Voices of Indigenous Peoples and*

Partners in Weather and Climate Science – means to them in the context of their climate-related work and place? Below is a word-cloud based on participants' responses:



As we moved together through the day, we shared introductions, learned from the wisdom of our Elders, engaged in group dialogues, and came together in smaller working groups to focus on key questions around the workshop theme, and shared our reflections.

This year's workshop is especially significant because it could not have happened without the continued commitment and love by so many in the RV family. For the leap of faith, from what started out as a conversation, literally over the water cooler at NCAR, between RV co-founders Bob Gough and Heather Lazrus, has grown and evolved over the past 12-years into a vibrant community. As Rising Voices started in its early years, we shared a belief that bringing together a diversity of people, of knowledge systems, of ways of understanding and knowing, in coming together could not only work to create effective and culturally appropriate adaptation pathways, actions, and commitments, but could in the process create real transformative change. We are grateful to be part of this journey, together, one that would not be possible without our ancestors, those who came before us and who continue to light our way.

Diamond Tachera (kanaka 'ōiwi; NSF NCAR) welcomed everyone and introduced Gretchen Mullendore, the Director of the [Mesoscale & Microscale Meteorology Lab](#) Director, where Diamond is a project scientist. Diamond acknowledged that a big reason her position exists is because of the faith that Gretchen has in what we do.

Gretchen Mullendore (NSF NCAR), provided the welcome from NSF NCAR. In doing so she acknowledged the ways in which she continues to learn by coming together in spaces like this. Gretchen also recognized that while co-creation is a strong part of NSF NCAR's mission, and NSF NCAR's success is because of bringing community in to share ideas, that the community NSF NCAR has partnered with has not always been fully inclusive of Indigenous voices. Yet, she is "heartened by the intentionality to evolve towards a fully inclusive community" and that we need to remember, "innovation comes from our hearts, as well as from our brains...So as

individuals and as institutions, we have an opportunity to move ahead with innovative actions that are filled with compassion and filled with wisdom.”

Setting the framework: Where we’ve been, where we’re aiming to go

Following the welcome remarks, the [Introducing Rising Voices video](#) was shared, to provide the background and context about what Rising Voices is, what it has been, and how it has evolved over the years. Participants shared in introductions about the seed they’d like to plant today.

PANEL – Planting the seed: Connections, Opportunities, and Engagement

Shantel Martinez (moderator), Bill Thomas, Daniel Wildcat, Paulette Blanchard, Diamond Tachera, Corinne Salter, Tyler Moore

Shantel Martinez (UCAR) asked the speakers to *share about the seed you’d like to plant today in the context of Co-creating Research, Policy, and Action: The Rising Voices of Indigenous Peoples and Partners in Weather and Climate Science*

Bill Thomas (Native Hawaiian / NOAA Office for Coastal Management) reflected on the way we’ve heard the term science used but looking back at the original intent, “that experiential knowledge is something that’s so important to all of us. It’s not just science. It’s how to understand the world that we live in. Being able to live within that world responsibly.” Tyler Moore (Cherokee Nation of Oklahoma / Haskell Indian Nations University) shared that the seed he is planting is what’s been instilled in him, “Know that you have a voice and you have a strong voice. Use that as best as you can.” Diamond followed with a similar reflection of planting the seed of confidence, “a seed that I am still growing, especially in this leadership capacity.” She expressed her gratitude in sharing the stage together and “engaging in how to know.”

Corinne Salter (Marshallese / Louisiana State University) shared her seeds of cultural identity: “as mentors in mentee–mentor relationships, we need to have an intercultural awareness of the people that we are mentoring and the Indigenous voices that we are mentoring because a lot of times, not being able to have that right to identity and to voice and to who we are. And what we present in these spaces can keep us from having this holistic perspective, which can really aid the science that has historically oppressed our people.”

Daniel Wildcat (Yuchi member of the Muscogee Nation of Oklahoma / Haskell Indian Nations University) planted a seed:

“When you live in a world full of gifts...that leads to a sense of gratitude. And I think that’s so important in the work that we do, always expressing gratitude...then I think we have a responsibility in our lives, to practice generosity...think of these as the three G’s of Indigenous living: gifts, gratitude, and generosity...if we embody that in our work, it’s going to be good work.”

Paulette Blanchard (Absentee Shawnee Citizen and Kickapoo descendant / Haskell Foundation) planted the seed to:

“always find ways to nurture the connection between our elders and our youth...to not dismiss the extreme changes in our environments that have happened, but also to remember that it's incredibly important to nurture the confidence, the curiosity, the passion, and the responsibility of our youth, to our planet, because care is taught, care is passed on, care is not always inherent in a being, it has to be taught. And so it's important that we continue to teach our young people to care for their environment, care for each other, care for our humanness. And to really understand the responsibility that we have as climate advocates for our planet.”

Shantel shared that one of the main pillars of Rising Voices has been to provide opportunities for Indigenous students and early career scientists through scientific and community mentoring. Considering in particular co-mentoring relationships (how mentoring works both ways) and growing connections, from each speaker's perspective:

- *What are pathways for cultivating relationships and collaborations among people from a diversity of cultural backgrounds, including mentoring relationships, to support bringing your whole self to climate-related work and scientific collaborations?*
- *What are lessons or key takehomes from your experiences that are important to embody in diverse intercultural collaborations across Indigenous and Earth sciences for climate actions? Perhaps from a story of a mentor that helped you on your path?*

Bill reflected on growing up as one of the few Hawaiians in science programs, and the importance of passing onto those that are coming up behind us and understanding “that we carry the past, present and future with us.” In doing so, “we have to make sure that we understand our responsibilities, but also be strong and fearless.” Bill shared about the importance of talking with students at scientific meetings in spaces such as poster sessions to be able to talk one-on-one, which is how he met Diamond at the American Geophysical Union several years ago when she was in graduate school and he mentioned Rising Voices, and now she's the RV co-director, “So having those engagements here with everybody is really important, because every single one of you gives something to them.” Bill also reflected on the ways that definitions, such as the federal government's myriad of definitions of resilience, box things in limitations, but “from the Indigenous perspective, resilience,, understanding that systems that we live in, and being able to live within them...that's actually the way that we've done it since humans began, it's just that some of us have lost that ability to understand what that means in the greater perspective.”

Paulette shared how it is about bringing our whole selves into these kinds of spaces, which starts with our mentors who “create space and allow us to fill it and who guide us with grace, knowing that we're going to make mistakes” and being there to brush the dust off and encourage to keep going. Paulette reflected on all the different kinds of mentors for different stages of life, education, disciplines, worldviews, and more:

“mentoring is an incredibly important key component of not just understanding our identity as indigenous peoples, but as Indigenous scholars and as researchers and as scientists...the confidence and self love that we try to create for our students in our programs by giving them the tools to cite other Native scholars, giving them the tools to

decolonize their own methods and methodologies, giving them the opportunities to apply to be fellows at UCAR/NCAR...this is really a powerful space to meet and expand those opportunities and to grow the confidence that is needed.”

Tyler shared from his experiences that a good mentor creates space to become your own person while also “giving their own stories, their own history. Let the student be the student while learning from you.” Dr. Wildcat shared about the idea of embodiment and that “one of the ways we can serve as mentors, is just trying to embody that change that you want to see.” The three things he recommends is considering the institutions where we work, to keep the office door open to create space for conversation and to be a positive influence, and to try to embody being your best self and people will notice “the way that you work and the way that you interact.”

Corinne reflected on the importance of mutual respect between mentors and mentees and being aware of respect for our elders, and considering how as young people it can be difficult to share our Indigenous knowledge learned through lived experiences, so it’s especially important:

“as mentors to really listen whenever young people are speaking as well. Because a lot of times, it can be risky for us to share our information and to share our knowledge and speak in an empowered way...we learn from our elders, but we also pass on their knowledge through being the young people to carry on their traditions, and carry on their knowledge and information.”

Diamond reflected on her most valuable mentorship experiences, which have generally been from unstructured places, like seeing Uncle Bill at AGU:

“These moments where I’ve met people on a human level that turned into mentorship have been the most valuable to me as a growing scholar or Indigenous scientist. Because the person I’m meeting is able to bring their whole selves into that mentorship role...are you able to bring your whole self and and if you don’t have that capacity, that’s okay...being able to share that helps us build that connection and make that connection stronger. Let’s just be humans.”

Building off what Dr. Wildcat shared in terms of embodiment, Shantel posed to the group, *what are lessons or key takeaways from your experience that are important to embody in diverse intercultural collaborations across Indigenous and Earth sciences for climate actions and a story about a mentor that helped you on your path?*

Dr. Wildcat shared that the most important communication skill is where the person mentoring listens and pays attention. He remembered as a young Indigenous scholar meeting Vine Deloria Jr., who took him out to lunch and “really wanted to know about me...he wanted to know, what are you working on? What’s of interest to you? What I would like to recommend is that all of you mentors and future mentors, be an active listener. And find out about the young people that you are working with...and be willing to share about yourself.” Building from what Dr. Wildcat shared, Corinne discussed how sometimes “using your identity as a way of speaking and sharing that with other people can also be a grieving journey...as mentors, whenever you expect people to share their full identity, you also have to acknowledge that there is grief that comes with this and

there can be a lot of shame, and a lot of heartbreak that comes with sharing that identity...it is so important to listen and to also be present.”

Bill reflected on how mentoring works in both directions, and in the ways that we’re connected to the lands, the water, much like the deeper meaning of *aloha*:

“the most intense, most intimate way of exchanging a greeting...the *ha*, the breath of life. But it’s also that acknowledgement, that when you’re accepting the breath of life, accepting all of those that require the breath of life...the animals, the plants, the things that create the breath of life, the water, the atmosphere, are things that we’re related to because we have that one piece in common. So when you say *aloha*, you have that greeting, and exchange the *ha*, you’re accepting your responsibilities...mentoring goes both ways, we have to understand those words that we use, so we can have a much more meaningful relationship.”

In closing the session, Shantel asked each of the speakers to share *what is your vision for the future to create a culture change to address climate change?*

Corinne emphasized the importance of community-centered work and how often in Western scientific spaces:

“We are asked to put the science above our communities. And in the future, I envision young people who keep their community so central to all of the work that they do; if it’s not serving your community, or if it feels as if your community voice is being co-opted for the sake of science...that science will once again be used as a tool of oppression that just continues the same systems that we’ve experienced in the past...And I hope that as young people, we feel empowered to always ask more of our mentors...share with them so that you can keep your community centered in all of the work that you do.”

Paulette encouraged the younger folk to be visible, heard, present, and be brave, to take chances where they are willing to fail or hear the word ‘no’ and keep moving towards their goal until you get the ‘yes.’ She shared how finding a place in a space like UCAR/NCAR has allowed her to have lots of different mentors:

“from different directions to grow as a social scientist, working with physical scientists, in ways that challenge the norm of science...keeping that cultural component to the work that you do...that makes what we do valuable, relevant, timely, and useful to the people...with this convergence of cultures, as well as disciplines and identities and personalities, that’s where the opportunity to really see science change, grow and become what we as a society need it to be, so that we can exist among and adapt to the changes that are happening.”

Tyler reflected on how Indigenous knowledge is a compounding knowledge that’s thousands of years old and it will “radically change your lives. And even if you don’t understand what your elder is saying at the time, you don’t understand the story that they’re giving you, eventually will come to you...one of the strengths of Indigenous knowledge is for many of our peoples, it’s an oral tradition, it’s passed on from one to another from one generation to the next...It’s a

relationship that has cultivated indigenous cultures, our mentor and mentee traditions that have gone back for generations. Let's continue that tradition." Along a similar vein, Bill reminded us to never forget the importance of storytelling and that "you need to be able to tell stories that everybody can understand, everybody can hear."

Dr. Wildcat shared that to deal with the physical climate change and foster a cultural climate change, "Let's leave behind the world of resources and acknowledge we live in a world full of relatives. And then we can honor just as much as inalienable rights. We now have to accept unalienable responsibilities, we have to be good relatives in this world." Diamond picked up on that thread and challenged us to think about how we are all relatives and co-conspirators and to help with this cultural change; how do we make these conversations together everywhere and often, stirring the pot, "my vision is that my position doesn't have a special title, that it's just what it is."

Shantel reminded everyone gathered that considering co-mentoring relationships (mentoring that works both ways) and growing connections, if you are looking for mentorship connections and/or are willing to connect as a mentor, there is an online form to fill out and after the workshop, we will share this list with those signed-up to be in touch to connect together.

Group dialogues

Following the conversation, Katie Jones (enrolled Amskapi Piikani, Blackfeet / National Ecological Observatory Network, NEON) encouraged participants to engage in small groups to consider: *What are pathways for cultivating relationships and collaborations among diverse people to support bringing your whole self to climate-related work and scientific collaborations?*

Examples of intercultural collaborations that center justice in climate research and action

For inspiration for what's possible through this type of work, three examples were shared through video and audio-recordings, including:

- [The Rising Voices, Changing Coasts \(RVCC\) Hub](#), which is a coastal research project that brings together university-trained scientists and Indigenous knowledge-holders to study the interactions between natural, human-built, and social systems in coastal populated environments.
- *Enabling Tribal Data Sovereignty: Supporting Great Plains and Northern Rockies Tribes Data Needs*. James Rattling Leaf, Sr. shared about a collaborative project to offer human, technical, and financial resources to tribes and tribal programs for specific health, environmental, or socioeconomic data related problems in the Great Plains and Northern Rockies region, with the to increase tribes' ability to access, interpret and apply data for governance, planning, and for improving economic opportunity and tribal sustainability.
- *Blues to Bitterroots Coalition - Camas to Condors Project: Seasonal Round Trail Project – a Multicultural Collaboration for Climate Resilience*. The objective of this project is to develop a plan and vision for the Tribe and regional collaborators to work on landscape level planning efforts that focus on connectivity for wildlife, and on habitats that support

traditionally harvested plant foods. This planning effort is a step towards culturally-centered and traditional knowledge informed restoration focused on critical linkages of the Nez Perce Precious Lands and its watershed, and keystone symbolic species such as camas, Coho salmon, and California condor.

PANEL – Building relationships and trust: Scientific collaboration responding to communities’ needs - building air quality sensors in Lāhainā

Diamond Tachera (moderator), Keahi Tajon, Maraya Ben-Joseph, Agbeli Ameko, Keith Maull

The central theme of this panel was sharing an example of how a project can happen in response to something instead of scientists who read a proposal to say, we think you need our help, and will you sign off on our thing to say you're our community partner. Maraya Ben-Joseph (Olohana Foundation) shared the story of how the air quality sensors work in Lāhainā following the August 2023 fire came to be through relationships built at Rising Voices. Through initial relationships years ago, Olohana collaborated with NSF NCAR scientists (Agbeli Ameko) through a NSF INCLUDES grant to set up 3D printed weather stations on the Hawaiian Island; the relationships planted the seed for re-establishing that connection in May 2023 when Agbeli and another NSF NCAR scientist Keith Maull were giving an open Internet of Things (IoT) training at the Rising Voices workshop. Maraya and Keahi Tajon (Olohana) participated in the training, focused on the refined open design, utility, and the modularity of the 3D printed weather stations to make them more accessible and relevant to communities.

Soon after the training, Keahi was called to action with Lāhainā community hubs, continuing from connections established during the TMT (Thirty Meter Telescope) protests. During the initial phases of people trying to get back into their homes where smoke and ash had settled, Keahi noted that nobody was wearing protective masks such as n95s, and started identifying people were getting sick; however, the local clinics didn't have heavy metal toxicity testing capabilities. Keahi reflected on the technologies he learned about 3D modeling through video-games as a distraction when his sister, at a young age, suffered from an adult-form of leukemia; they live in plantation towns and when sugarcane is harvested in the plantations there are all kinds of poisons sprayed onto the cane fields. Layer on a wildfire and diminished air quality, and you're now breathing in those poisons.

Blending the practical, innovation, artistic design, and cultural connection, Keahi gave the example of a seaweed - *limu* - in Hawai'i that they pay attention to because it indicates the health of the rest of the pond; this is one of those community pillars that if you support, "you will support the whole house."

Maraya shared that following the Lāhainā fire, the Department of Health set up Purple Air monitors in places that needed electricity and wi-fi, both of which were not present in the burn zones. These monitors were not giving relevant information to the communities, and with the shifting winds, the community was lacking trust in those monitors. This raised up for her, "can we make our own monitors that the community has access to the data and is able to carry with them...make it actually relevant and useful and helpful." She called Agbeli and Keith; because

they already had built a relationship they were able to begin work immediately in the disaster context. And with Keahi's tenacity and desire to learn, they've been able to collaborate on culturally relevant air quality monitors.

To launch the efforts, Diamond applied for and received initial funding from the University of Hawai'i at Mānoa for purchasing parts, and through NSF NCAR got an NSF EAGER (EARly-Concept Grants for Exploratory Research) grant for the weather stations, modeling, and ACOM (Atmospheric Chemistry Observations & Modeling) sampling. The work started with remote coaching from Agbeli and Keith in Colorado, with Diamond building the weather stations in her living room in Hawai'i and Keahi learning to make the 3D print designs.

It was through these relationships on a human-level that enabled the collaboration and continuing to dream into the future for what can be doing together in addition to air quality, considering the soil, streams, oceans, health, and how to make science relevant to communities and empowering communities with their own data.

Kumu Ramsay Taum (Kānaka Maoli; Pacific Island Leadership Institute) shared an underlying message of how during the Lāhainā fires the local communities relied on traditional transportation before they ever traveled by roads; they are an ocean community. This raises up not having "to wait for permission to behave in the way our ancestors did to survive." As has been described here, relationships are preparedness; twelve-years of preparedness of getting together facilitated a phone call when the time came; building those relationships now "are part of the preparedness when the time comes."

Importantly, it's also the ability to serve when called to action through those relationships. As Diamond put forward, "if you are at an organization that has the capacity to serve a community, what are you willing to do when you're called to action?...that's a really important part of the reflection that we have to make as a scientific community. Who are we serving and why are we serving?"

Day 1 Wrap-up

To wrap-up the day and transition to evening activities, Julie shared an announcement that the U.S. Global Change Research Program (USGCRP) is [seeking your input](#) to inform the development of the [Sixth National Climate Assessment](#) (NCA6), the U.S. government's premier resource for communicating the risks climate change poses to the Nation—and what's already being and can be done to minimize those risks. Public review and input at this early stage is vital to the future direction of the report. You can find more information on the request in the [Federal Register Notice](#), and Rising Voices will be co-hosting with the Institute for Tribal Environmental Professionals (ITEP) a webinar on Tuesday, May 28th, *6th National Climate Assessment: Learning From Indigenous NCA Authors & Future Involvement Opportunities*.

Giving tribute to the Rising Voices co-founders, the group watched a short tribute video to Heather Lazrus, whose words in the video reflected the inspiration behind Rising Voices,

“Indigenous knowledge has a huge role to play in adapting to and mitigating the impacts of climate change around the world. Firstly, we often talk about people who've lived in place for a very long time, often for much longer than scientific records that we have. So it can provide a temporal depth that we don't have access to otherwise, there's also a more holistic way of thinking and a lot of different knowledge systems that can help us understand what impacts truly mean, it's what is actually being impacted and how that impacts different social and cultural systems more broadly...So it includes hydrology, it includes ecosystem sciences, it includes pretty much anything because climate is so expansive it has its fingers in every system that we have on this planet to keep us alive.”

As Heather concluded, “I feel so strongly that you get more perspectives and more folks you have around the table with more different backgrounds, and that we're at a time when those perspectives will help us find more and better solutions.”

Transitioning to the annual evening “Bob-fest”, sharing a meal together and presentation of the Bob Gough Award for Climate Justice in Action, we watched the brief [tribute video to RV co-founder Bob Gough](#), in which Bob reflected:

“The change is not going to come to us wrapped and labeled as climate. It's going to come to us in weather extremes and in disasters. And the more communities can prepare for dealing with such weather extremes, build their resilience, the easier it will be for those communities to face whatever climate change ultimately is seen as throwing at them.”

The Bob Gough Symposium, “Climate Change is Inevitable, Adaptation is Optional”

Bob Gough, co-founder of the Rising Voices movement, was a visiting scientist at the National Center for Atmospheric Research (NCAR) in 2011, where he vocalized his musings on wondering how far we have really come in decades of attempting to integrate Indigenous and Western perspectives in weather and climate research and policy. This led to the first Rising Voices Workshop in 2013, which brought Indigenous and non-Indigenous Earth scientists into conversation about weather and climate change by asking the question: “What are the elements of successful co-production of science and policy in the fields of extreme weather and climate change?” Rising Voices is one node in the constellation that was Bob's lifework and legacy. Bob was a connector, instigator, and by his own measurements, “the most interesting man in the world.”

The Bob Gough Award for Climate Justice in Action was created to recognize an individual from within the Rising Voices community for their long-term and dedicated service to climate justice. The Award was presented at this year's Annual Bob Gough “Climate Change is Inevitable, Adaptation is Optional” Fest, which is held as part of the Rising Voices workshop. This year's award honored Elder Rosina Philippe (Atakapa-Ishak/Chawasha, Grand Bayou Indian Village)

for her leadership in climate action and lifetime of dedicated work and advocacy. As longtime collaborator, Kristina Peterson (Lowlander Center) shared:

“Elder Rosina has and continues to be a fighting light of justice and hope for the lifeworld of the [Mississippi Delta] and all that dwell within. The fight increases each day as industrial exploitation enhanced by government policy violence challenge the very existence of the lifeworld, history and future. Rosina does not back down nor will she be deterred from standing up against the powers and principalities. With every fiber of her being she educates, advocates, leads and inspires.”

Elder Rosina is one of the founding members and leaders of the [First Peoples' Conservation Council of Louisiana](#) (FPCC), which provides a forum for State- and non-federally Recognized Native American Tribes in Coastal Louisiana to identify and solve natural resource issues on their Tribal lands, in partnership with the USDA's Natural Resources Conservation Service. She has hosted or traveled to 100+ universities to present on environmental planning and cultural integrity, and partnered with many universities to do low-carbon and sustainable innovative designs that will help water communities adapt in place. She has shepherded local Tribal youth to represent and have their voices heard at distinguished venues, such as the UNFCCC Conference of Parties and Youth Climate Summits, and helped many doctoral students come to those 'aha moments' in their academic pursuits. Elder Rosina has also helped create Indigenous-community 'declaration of principles' protecting Indigenous intellectual property rights and helped people understand the power of traditional knowledges and Indigenous peoples' intense connection-science of place. She has a keen ability to communicate across diverse networks of agencies, organizations, communities, and scholars and connect across ways of understanding and knowledge systems. Through her actions, voice, and handling of politically and socially complex situations, Elder Rosina is an exemplary leader and advocate for her community and all coastal Peoples.

DAY 2: Tuesday, May 7th, 2024

PANEL: Research, Policy, and Action: Scaling across governance systems

Aranzazu Lascurain (moderator), Ramsay Taum, Chief Deme Naquin, Jainey Bavishi

Aranzazu Lascurain (NOAA Office for Coastal Management) opened the session by sharing the vision of bringing this group together, who represent or have worked in different regions within specific cultural contexts, and working in the space of uplifting and empowering communities for decades, to learn from and listen about their experiences and lessons learned for scaling up governance and within governance scales, from working quickly to considering long-term institutional change. Starting with Chief Deme Naquin (Jean Charles Choctaw Nation), whose Tribal Council has been working on community-led resettlement for the past two decades, which has been touted by reporters, researchers, and agencies as a “success.” *Can you share about the factors that led to the Tribal Council making the difficult decision to resettle and what has come to pass in that resettlement process?*

Chief Deme shared that the resettlement process started when the Island was left out of the Morganza to the Gulf Hurricane Protection System. Elder Chief Albert Naquin, who was chief at the time, and the Tribal Council had to make that tough decision to resettle because there was constant flooding and storms were devastating to the place. They worked together with the [Lowlander Center](#) and many other partners, holding workshops and developed [a plan for their vision of their community resettlement](#), including housing for the elders, parks, pow-wow area, place to move to during hurricanes for elders if they needed assistance, and more to reestablish a whole community. As a non-federally recognized Tribe, when the opportunity arose for HUD's Disaster Resilience Competition, the Tribe had to apply through the State's Office of Community Development, which then took over the process when the funds were awarded. The State purchased the land, and then with \$43 million built 32-houses, "it is not a success, as they seem to tell people that it's a success." The houses, not quite two-years old, are already falling apart from poor construction and not built with features appropriate for living in a hurricane-prone area. Tribal leaders were invited to State-led meetings but the decisions were already made. A major lesson is to make sure that you are in control of your community's vision. Since this process has unfolded, the Tribal Council has worked with Earthrights International to file a civil rights complaint against the State's Office of Community Development; citing discriminatory practices, the Tribe "urges the U.S. Department of Housing and Urban Development to intervene in the disastrous Isle de Jean Charles relocation plan." For more details, read the complaint [here](#).¹

Aranzazu reflected on how Chief Naquin has had to navigate multiple levels of governance, the state, federal, and international levels, to try and rectify what can be done to the not-successful resettlement project. Considering the diversity of experiences and working on climate actions, Jainey Bavishi (NOAA) has experience scaling innovative approaches, from the community level, to large municipalities, and to the federal government. *Can you share how you've worked to navigate these different scales of governance and their contexts?*

Jainey shared that on her first day of graduate school, Hurricane Katrina made landfall in Louisiana. She moved to the Gulf Coast to help with the recovery, and witnessed first-hand how when the Bring New Orleans Back Commission released its infamous green-dot map, entire neighborhoods were slated to be returned to green-space, without any community consultation, engagement, or notice. Such plans are built on the back of legacies of redlining and segregation, with deep distrust from this history; resilience now has a negative connotation, as "people are tired of bouncing back time and time again from institutional failures and harms." Learning from post-disaster work in India following a super-cyclone, and the intimate connections between social, economic, and environmental conditions, her work in the Gulf region focused on building a regional coalition of community leaders to tell their stories to policymakers in Washington, DC, to in turn provide policy and resources that consider these experiences. Jainey emphasized the importance of "showing up" in this work; "showing up at churches and community meetings, at coffee shops, and barber shops and fishing piers, in front stoops, and that's how I built relationships and earned the trust of the people I was working with.

¹<https://earthrights.org/wp-content/uploads/2023/12/IDJC-Resettlement-Title-VI-Complaint-for-website.pdf>

And I thought we were in the business of policy advocacy at the time, but actually, we were in the business of building civic infrastructure.” This realization showed its importance following the Deepwater Horizon Oil Spill in 2010, when Gulf Coast leaders were able to leverage their relationships and connections for advocacy efforts in response to the disaster.

Relatedly, as Director of the Mayor's Office of Climate Resiliency in New York City, she realized that “one of our most important ingredients” in preparing the city for climate change impacts was keeping these issues front and center; with the memory of Hurricane Sandy, but also experiences of sunny day flooding, climate change was playing out in the communities in the present. Even while dealing with the COVID-19 pandemic, communities were also demanding prioritizing climate resilience. Critical to engaging in this work has been learning “about the power of people.” Jainey brings these lessons to her role as the assistant secretary of commerce for oceans and atmosphere and deputy NOAA administrator, leading development of [NOAA's Equitable Climate Services Action Plan](#),² which emerged from a request for information NOAA released, asking communities what information they needed, and what science information tools they needed from NOAA to make decisions in response to climate change and other stressors, if they're able to access NOAA information, and if it's helping them make decisions. Implementing equity is “taking that feedback and baking it into how we do our day to day business. It's everyone's job.”

Recognizing the large breadth of dynamics across diverse contexts that Ramsay has facilitated, *can you speak to how we consider governance from a community-centric perspective, and what that looks like?*

Ramsay emphasized, “It starts out with knowing who our community is and being inclusive of that, which includes our ancestors.” Part of the first step in addition to showing up, is knowing who you are and how your community defines itself, and the role of protocol in shifting the system. The act of restoring their fish ponds, for example, requires working across multiple jurisdictions – federal, state, county, private landowners – this calls for ways to “reframe, redefine, and refocus.” Now that they're being invited to the table, there's two ways of engaging communities, “by invitation or by invasion. And always working for the invitation. So setting the groundwork, setting the parameters, and knowing that we are in our place, dealing with settlers, dealing with foreign principles.” The first step is the community understanding who they are “before they're defined by someone else.” And taking the root word of community and reframing as “communing”:

“How do we commune with you? How do we become partners in this knowing that you're still standing on my neck?...if it weren't for *Aloha*, if it weren't for those principles, then it could be adversarial...So starting at the top of the page with every meeting with every opportunity is asking how do we make this work? and knowing who we're doing it for. And for most of us, it's always our descendants, our grandchildren, as well as for the *'āina*, the land. and asking those questions, making sure those chairs are never empty. So it's how we show up and under what context; the content isn't as important as the

² <https://www.noaa.gov/sites/default/files/2024-04/NOAA-ECSAP-Final.pdf>

context, because the content's always going to change. But the context is the same for us all the time."

Aranzazu reflected on how this shows ways we can change and shift our thinking to work together in a complimentary way, and considering the resources that communities have and have exercised for a long time to solve their problems. In that light, turning back to Chief Deme, *What would success have looked like for your community?*

Chief Deme shared that the people were uprooted. There's only four residents still living on the island. There are "weekend warriors" that have fishing camps though, and after the residents started moving, Terrebonne Parish put \$3 million into building fishing piers on the Island Road. The Tribe has a vision for a whole community, bringing their culture back.³

Aranzazu spoke to the effort to bring back the community together in a space the community imagined to have a life-enhancing future. Chief Deme emphasized that they're not giving up; they're still fighting, such as putting the [complaint](#) forward, to build their community back up. She lifted up that one of the gifts that the Jean Charles Choctaw Tribe has provided is not only expressing your experience through this whole process, but also drafting [A Community Field Guide to Engagement, Resilience, and Resettlement: Community regeneration in the face of environmental and developmental pressures](#),⁴ on how this process would look like being led by community.

Ramsay emphasized that the idea of "success" wasn't from the community's standard. Underlying all of this is redefining what the metric of success is, "if the metric of success is one based on accounting procedures, which is about how we deliver funds...is very different than success on the ground of those receiving those funds, and what our intentions on how to use those funds might be if it's about funding. And if the success metric is always about how many, how much, that's very different from those of us on the ground that are measuring it by how well. One is about accountability, while the other is about accounting...it's really clear that we have to reframe and redefine the metric of success in order to ask the question whether or not we were successful."

Being in the space at NSF NCAR, there's a lot of talk about climate data and climate services and working in partnership and convergence across Indigenous and Earth sciences; Aranzazu asked Jainey to share further on the climate data and livelihoods priorities express in NOAA's Equitable Climate Services Action Plan.

Jainey explained how they heard through the request for information that climate services are overwhelmingly difficult to navigate, unclear what the tools are useful for, and which resources can be used for what purpose. A need included was to provide hyper-local data for community,

³ Jean Charles Choctaw Nation's Preserving Our Place project, led by Tribal Secretary Chantel Comardelle, <https://www.preservingourplace.com/>

⁴<https://static1.squarespace.com/static/5672cfb1d82d5e366e753691/t/5dfc077ef8a68c27967cc40c/1576798088266/FINAL+FIELD+GUIDE+reduced.pdf>

municipal, and personal planning, which calls for data that is appropriately scaled, as well as need for technical assistance and engagement. There was also a need expressed for integrating social science with physical risk data to better understand what the health-related climate change impacts are or even for planning for climate migration and relocation. Some who responded to the information request, “pointed out that if we did better in diversifying our workforce, we would have more perspectives within the agency that could both help build relationships with communities that we are trying to serve, but also broaden our perspective on what equitable climate services mean.”

The Plan therefore is intended to respond to those issues, focused on prioritizing accessibility and a “No Wrong Door” approach, with the idea to at the very least create web interfaces to make it easier to navigate the programs and services, “But it's just a start, we have to do more. We're also focused on providing local data, we're focused on providing technical assistance and engagement. And we're focused on creating the enabling environment at NOAA, because we've got to be honest that prioritizing user feedback and partnering with communities to create a vision for a resilient future requires a paradigm shift within our agency. So we're intentionally starting down that journey and we've created accountability mechanisms,” such as committing to creating a federal advisory committee to help with hearing from the communities working with, about how to better deliver climate services that are “useful, applicable, timely, relevant, and equitable.” Relatedly, the White House has now started an Interagency Committee on Climate Services, which is a subcommittee under the National Science and Technology Council.

Considering the questions of humanizing institutional spaces and care that we bring to these different institutional levels, Paulette Blanchard brought up yesterday how care is a learned experience; Aranzazu asked the speakers to share their thoughts on these two terms of care and humanizing spaces.

Reflecting on teachings from Papali'i Failautusi Avegalio, Jr. and Rev. M. Kalani Souza, Ramsay shared how there's the approach of problem solving and fixing, “Are we trying to fix something? Are things really broken? Or are they ill in this case, which requires healing. And if you take that perspective from fixing to healing, then the natural tendency is that you have to care enough to be able to respond to that, you shift your focus.” Perhaps this also calls for a shift from carrying capacity to care-ing capacity, “Once you start that shift, you're recognizing that there are humans, there are people...that begins to introduce new ways of thinking and behaving. And that will humanize the conversation. And it's not just about supporting the delivery systems, whether it's education, or whether it's economic development. At the end of the day, it's for the people, it's for the land, it's for our relatives.”

Jainey reflected on how some of the institutions are set up to focus on accounting, so focusing on how “we evolve some of these systems, to actually create the time and space for us to engage in a human way.” One of the ways NOAA's been doing this is by looking at their grant-making and how to better embed equity in the process and to humanize grant-making by putting “a face to a program name, to let people know that an opportunity might be coming up, and what it might take to apply for that opportunity to simplify the processes...We're trying to

take these lessons learned and institutionalize those lessons, rather than institutionalizing just the way we've always done it. We work within systems that constrain us. But some of the work is focused, even inside these institutions, on changing those systems.”

Responses from the community gathered included that despite taking actions around climate, drought, mitigation planning, there are difficulties in being able to fully exercise sovereignty that they've fought hard for, including fishing, hunting, water, and human rights; in addition to the governmental challenges, there's undermining by the energy extraction industry. This raised the question that while data is one thing, what is the structure, policy change, and funding mechanisms, considering the future with climate change? What remains are the roots in our ancestors' teachings, identifying our values and principles, and how to communicate with life elements in our own languages.

Group Dialogues

Following the conversation, participants engaged in small groups to consider: *What are the key principles of a co-governance framework that protects the rights and dignity of peoples and places?*

Storytelling & digital technology demonstration

Chris Shaeffer, Lomikai Media

Chris Shaeffer (Lomikai Media and Olohana Foundation) shared his story of becoming a videomaker, and in the understanding that “I cannot accurately tell the stories that I want to hear, I shifted to helping others tell the story.” Video is one of the easier ways to share storytelling; it doesn't replace traditional ways of sitting around the fire or at your grandmother's, but it is one way to share a message. As an example, Chris shared a pre-recorded video with Kalani Souza (Olohana), which was shot on an iPhone and edited on a laptop using a free editing software, demonstrating how it has never been easier to make video messaging.

Video-storytelling can become a community skill as the other types of skills that a community has, “it is a communication tool for that community to tell their own story, to get support, to take control of their story...That is the power of video storytelling.” And it's already happening with young people creating content showing the skills are there. For some training material that Lomikai has put together and to get oriented on what low-budget media production looks like, visit <https://studiotips.org/>

World café and Poster “walk”

Participants engaged in conversations with representatives and poster authors from various organizations, programs, and networks to learn about their programming and projects. The session included both in-person and virtual hosted dialogues. The details for this session are in Appendix 3 (page 37).

Day 2 Wrap-up

Julie encouraged everyone to reflect on for tomorrow: What is your vision? How can we grow on and lean into our strengths? Acknowledging the heaviness of these times, what are ways we can collectively make that weight a little lighter and, as Bill Thomas often reminds us, “how do we set the table for those coming up next.” We call on all of you as guides and navigators through this journey.

Working Groups

The first two days of the workshop included time for smaller working groups to meet for facilitated discussions focused on co-creating research, policy, and action.

Topical Working Groups

Rising Voices focus: Advance science through collaborations that bring Indigenous and Earth sciences into partnership

- What is your vision of meaningful collaborations?
- What are the most important aspects or characteristics to consider in creating innovative partnerships among collaborators from diverse disciplinary and cultural backgrounds to support adaptive and resilient communities?
- What qualities are attractive when forming institutional or industry partnerships? How do successful projects balance power between partners? What are the responsibilities between partners?
- What is the difference between partnerships and collaborations?
- What are aspects of a project that bring community members together? Share examples you've seen that connect with a community need.
- How can intercultural collaborations work to center relationship building? What does authentic, intentional, and meaningful engagement look like in such collaborations?
- What opportunities or challenges might emerge in such collaborative processes, and how can these be navigated?
- What are the ethical considerations? What does an ethical, accountable methodology look like?
- What are the metrics of success for co-creating research, policy, and action through diverse cultural and disciplinary collaborations? What are culturally appropriate approaches for evaluating that success?

Rising Voices focus: Provide opportunities for Indigenous students and early career scientists through scientific and community mentoring

- Students and early career professionals represent the future of science and action for climate resilience. What can we do now to uplift students and empower their growth into leadership?
- What are pathways for youth/students/early career engagement in diverse cultural and disciplinary collaborations?

Community relocation/site expansion

This group focuses on discussion on issues around communities working on community-led relocation, resettlement, or expanding into a new or ancestral site when adapting in place no longer becomes an option. The group discussion on Day 1 began with clarifications about the roles of state/federal benign and intentionally neglect, initial forced relocations, and “cost benefit analysis” in the discussion of communities’ interest and ability to adapt in place or relocate. They also discussed a narrative change that is needed to advance community sovereignty, solutions like Community Land Trusts and their benefits and risks, and other solutions for fundraising, coordinators with federal agencies, toolkits, and building relationships. Day 2 continued conversations about problems with cost-benefit analysis and the capitalist framework. The discussion also focused on moving to action, solidarity, organizing, resistance, narrative change, and a need to move from research/data to make the change. Barriers of inherent power dynamics and sense that community is “less than” the government remain challenges for communities. Self-determination, community protocols, holding to lifeways, and being able to tell their own story are necessary steps towards a more just climate solution.

Education, Communication, Training, and Outreach

This group focuses on discussion on education, communication, training and outreach considerations, strategies, and opportunities as connected to climate, weather, and water. How do we define mentorship? Can it be something more spiritual than materialistic? Our ancestors had very intentional ways to deliver messages to us, and teaching that honors these traditions could also serve as a form of mentorship. In order to move towards an education system that values other ways of knowing, we need to teach our educators how to teach differently. We need to create an education system that is not one size fits all, as Indigenous knowledge is often specific to people and place. What does it take to have an education system that is holistic, that honors emotional intelligence, other ways of knowing, and re-establishes what it means to be well educated? The Education working group also had a great focus on compiling resources that can be shared with educators.

Energy Systems

This group focuses on discussion on a just transition away from fossil fuels to cleaner, renewable energy. The group discussions focused on reframing the original questions posed: HOW to do things, rather than WHY. For example, how do we have better relationships with people and the planet? A major focus of the group discussion was on the just transition from fossil fuels to renewable energy, and the importance of collaboration during that process. How do we really collaborate without shoving Indigenous thinking into another form of thinking, as integration is too often superimposed. From an Indigenous standpoint, how do we have a better relationship with our Mother Earth? How do we incentivize doing the right thing, instead of more profit and destruction? The energy question/issue has always been how to keep the system going using a different form of energy rather than doing things differently. As we continue to think about energy systems and how to develop them in a justice-centered way, there are four dimensions to think about: distributive (benefits and burdens), procedural (who is involved/at the

table), recognition justice (whose value systems are present), and restorative (temporal component of past harms influencing today).

Food Systems

This group focuses on discussion on food security and food sovereignty, as connected to climate, weather, and water. The discussion started with returning back to our culture, tradition, and land. We need to return back to our native food systems as a solution to climate change, the health of people and ecosystems. We need access to lands that can grow traditional foods, especially traditional plants for medicine and healing. The discussions also focused on governmental and academic institution support for place-based knowledge in understanding practical and applicable food systems, acknowledging the disconnect between funders and applicants. Food is at the nexus of water, land, and energy. Essentially it is about sovereignty, and how we nourish our communities and our bodies. A participant shared their thoughts during the Food Systems working group sessions: *“Rising Voices is my favorite because you don’t have to explain why you’re here; you just get to be. You get to share your work and values with people who are here for the same reasons.”*

Health

This group focuses on discussion on individual, community, and cultural health (physical, mental, social, emotional, spiritual) as these connect to climate, weather, and water. When we talk about health, it is not just physical but also mental health. Health is so interconnected with food security and the interconnectedness of the land affecting mentality and spirituality. There are many layers to initiating practicality. A large focus of the group discussion was on the challenges faced by our family in Alaska. Elder Faye talked about the passing rate of elders in her community. In 2022, the passing rate was 70%, but has unfortunately increased to 83% this year due to the government-imposed closure of salmon fishing. In addition, the oil drilling in Alaska has had an impact not just locally, but globally. *“They’re taking out the layer of fat that protects the Earth,”* said Elder Faye.

Phenology

This group focuses on discussion on the timing of natural events, in relation to climate and plant/animal lifecycles. The discussion on Day 1 began centering the sacredness of data, highlighting past extractive experiences that caused mistrust with communities. How can we rebuild trust moving forward as we continue to study and build relationships with our places? The Indigenous Phenology Network is a great platform to connect and collaborate with other folks. Another part of the discussion focused on the challenges of research that are on different spatial scales - local, regional, national, global - and how these projects are able to discern the human impact or signal on climate change. At the end of Day 1, the conversation focused on the importance of cultural repair and healing, the preservation of language, and the value of knowledge holders in communities. Day 2 discussion focused on the importance of broadening our understanding of ways of knowing, and the burden of climate change on the next generation. There is so much pressure on the next generation to rely on technology to solve our climate problems, rather than taking care of land and cultural relations. So how do we prepare

the next generation? We need action plus observation - observation is a skill, but action is necessary.

Water Systems

This group focuses on discussion on water quality and quantity issues, including freshwater ecosystems and marine ecosystems. The discussion started acknowledging that water is not just a commodity, it is life. Restoring the rights of water to flow will also allow access to water for humans and ecosystems. Data sovereignty also was a major focus of the discussion during the working group sessions. Another discussion from the water group centered on the term “collaboration”, with one definition to produce and co-create knowledge in collecting datasets and observations, while the other being to make decisions on how to adapt or move forward to address challenges we face. These two definitions of “collaboration” aren’t necessarily exclusive, they have the same purpose behind them in that they are both a healing (not curing) process, where collaboration allows the thing to become whole again.

Regional Working Groups

To focus on sharing: **support adaptive and resilient communities through sharing scientific capacity**

- What does an adaptive and resilient community look like?
- What are the opportunities/challenges in increasing scientific capacity in communities? How is increasing scientific capacity appropriately done?
- What does it look like to focus on relationships between people, place, and all relations? How can we approach our efforts in relational terms instead of transactional ones?
- What are key principles or approaches to weave together society—science—community— students—professionals for justice-centered climate action?
- How can safe, courageous spaces be fostered through this work?
- What are the opportunities to support co-mentoring across regions?
- What does it look like to create institutional cultures of care for culturally relevant and scientifically robust climate and weather actions?

Atlantic Coastal (Gulf Coast, Southeast, Caribbean Islands, Northeast)

The Atlantic Coastal working group focused on the importance of relationship building between people, place and all relations. When approaching a community, arrive as a visitor first, not a scientist, with the intentions of being in community with that space. We need to move towards justice-centered climate actions, shifting from producing knowledge to producing action that centers community and their goals. For action to be effective, there needs to be a sense of place coming from deep relational connections with that place. We need to start thinking about longer term projects versus individual projects. How do we empower communities to tell their own stories through their own narratives? And how can we create structures that minimize harm? A participant posed the question, “*how do we deal with thousands of people whose work influences our life on a daily basis that haven’t even shown up?*”

Deciduous Forests (Midwest/Great lakes, Northeast)

The Deciduous Forests working group started the discussion focusing on the term “invasive species”, and proposing we move away from this language to recognize the (sometimes forced) migration of these beings. For example, as climate continues to impact people and species, their movement across land to access fresh water and other necessities perhaps makes them climate refugees, rather than invasive species. How can we develop a value system to introduce newcomers to our communities? And as we build out these value systems, thinking about ways to move our societies forward in a more justice-centered way, rather than going back to the way things were before. How are our cultures adapting to climate change? How are we keeping our languages alive, bridging the generational divide, and changing our lifestyles? The last part of the discussion focused on the challenges faced when submitting research proposals. How are we defining “community” in these scientific spaces, and how are these communities represented in the proposal and throughout the research process?

Grass/shrub/arid lands (Southwest, Plains/North Central, South Central)

The Grass/Shrub/Arid Lands working group started the group discussion focused on community needs, particularly housing. An adaptive and resilient community includes one with housing that protects vulnerable folk and has necessary resources. These resources include access to cultural traditions and practices that support communities' needs, which can evolve over time but ultimately support their wellbeing on multiple levels. A focus of the remainder of the conversation discussed the opportunities and challenges in increasing scientific capacity in communities - and how to ensure that communities' scientific questions are included in the proposal and research process - and how to make the research process more justice-centered and equitable. How can we approach our efforts in relational terms instead of transactional ones?

Pacific Coastal (Pacific Islands, Alaska, Northwest)

The Pacific Coastal working group started the conversation about resilience and access to traditional foods as a human right. When we talk about resilience, what do we mean? Does it include access to resources, and place, as well as allyship? For example, what is our metric of success when we talk about resilience? Are these metrics different for rural versus urban communities? With regard to food sovereignty, if you cannot grow your own food, how sovereign can your community be? Having access to food, and other traditional practices, is an important part of a community's resilience. Storytelling also serves as an opportunity to pass down the knowledge from elders, and is an opportunity for our elders to be leaders in their communities. A consistent theme throughout the conversation is about relationships, and how we interact with each other and our environments.

Day 3: Wednesday, May 8th, 2024

Localizing Rising Voices: Next steps, actions, and commitments

Day 3 was directed at generating ideas for a more place based, action oriented Rising Voices. As a community, we've invested the past 12 years, building a foundation based on personal relationships, connecting across geographies, disciplines, generations and cultural practices; as our family grows, there is opportunity to leverage this network to support community based action. Participants discussed their vision in small groups, responding to the prompts:

- What strengths or ideas do you have to support a localized and place-based future?
- What does our RV community need?
- How do we continue to build interconnected networks for knowledge sharing?

A few themes that arose in these discussions include:

Integrating Arts, Wellness, Relationship building and Nature

There were numerous calls for greater integration of art in meeting activities. Participants expressed a desire to see and share more art, co-create art together, and integrate music throughout our time together. The meeting space was also discussed as a source of disconnection that might be addressed by allocating more time to be outside together and by finding ways to engage with local communities to hear their stories in place. Spending more time outside would open space to learn from plants, air, fire and other non-human relatives and engage in ceremony in nature. Also, in the spirit of wellness, there were suggestions that integrating more un-scheduled time to allow participants to connect and be together, beyond the meeting agenda.

Fostering Continuous Engagement and Support

Ramsay Taum, on behalf of Rev. M. Kalani Souza, shared an initiative being explored in Hawaii, the Regenerative Voices for Learning Academy. The aim is to build a physical space to support scientists and students working in community by creating an atmosphere similar to the one generated during gatherings like Rising Voices, where people can come together to learn and contribute to positive change.

To maintain connection and energy between annual meetings, multiple groups proposed regular opportunities to engage with one another including informal check-ins, Zoom meetings, or online space to share stories, updates, and support. This would help sustain the connections and provide ongoing opportunities for collaboration and mutual aid. A specific idea came from Dennis Longknife Jr., to revive the practice, introduced during RV8 (2020), of sharing short 3-minute reports from home and creating a collage to share at future events.

Another opportunity to connect is through one of the topical or regional working groups. The Community Relocation/Site Expansion Group and the Indigenous Phenology Network meet periodically throughout the year and there was a suggestion that a Water Systems groups may be in the works. Participants are invited to propose and convene additional working groups to support continuing the conversations started at RV12. These connections can be particularly valuable as communities address specific climate challenges and need that vital touchpoint with other communities or individuals who have experience with similar weather, climate or extreme events. There was a suggestion to create a new topic for future meetings to connect around the unique experience and challenges of urban Indigenous communities.

Embracing Indigenous Knowledge, Protocols and Place-Based Practices:

Panels for Indigenous knowledge holders, opportunities to learn from elders. We need to hear from scientists and policymakers but in many spaces those voices are already accessible. What makes Rising Voices unique and impactful is that we can facilitate discussion that centers Indigenous and place-based knowledge systems. Our community prioritizes intergenerational transfer of knowledge. As such, we need to center the voices of our children, youth, and our elders. Additionally, mentors in Indigenous communities include our ancestors and our non-human relatives. Rising Voices would be well served by creating the space to learn from all these sources. Doing so will support climate research and resilience planning in our communities, according to our cultural ways and enable ancestral healing.

Teaching and Practicing Care:

We should never forget about the why – why we do these things for clean air, for water, for our communities to thrive and survive in any way that we can. Encouraging relationship with place, alongside the transfer of knowledge, includes giving attention to and following protocols.

For those coming from a Western science background, scientists tend to move around a lot throughout their careers; this calls for a cultural shift for earth scientists to become more rooted. To help facilitate this shift, people should be valued and supported enough to be able to stay in place and continue connection in and with community.

A key focus in teaching and practicing care is not about what you have, but what you can do with what you have that's most important. As Keahi Tajon shared, it's not about how many fingers you have, but how many fish you can carry. If we shift our perspective then it's not about decolonization but instead *reindigenizing*. As Elder Faye Ewan shared, "I'm not rich. But I'm rich in my culture, I'm rich in my language, I'm rich in what I learned from my people. That's what I call wealth."

Growing Our Garden: Closing Reflections

Shelby Ross (Oglala Lakota - Sioux), Cameran Bahnsen (Assiniboine) and Annette Woolley (Yakima and Swinomish) offered closing reflections. As early career scholars in the Rising Voices community, their insights offer guidance for how our family might continue to grow and

evolve to support one another, and in particular, members of the community stepping into their careers and leadership.

Shelby Ross, a doctoral candidate at the University of Colorado-Boulder reflected on how isolating it can be to be an Indigenous graduate student and that Rising Voices provided the opportunity to engage with like minded Indigenous people discussing and sharing common goals of working with community to fight climate change. Meetings like this, engaging with other Indigenous scholars and community members is a form of self care and a way to combat the isolation of academia. She shared that it was very empowering to be here.

This was Cameran Bahnsen's second Rising Voices and in the past year she held a position with the National Park Service at Grand Teton National Park, coordinating tribal youth programs and is currently transitioning to a role in the Office of Native American Affairs. Like Shelby, she also reflected on the isolation of being one of only a few Indigenous people in her professional life, particularly when the agency she works for is responsible for displacement of Indigenous Peoples but that this highlights wisdom shared by Kumu Ramsay Taum of the need to have our voices and a seat at the table. Cameran shared that Rising Voices provides a source of healing, joy, inspiration and community, an opportunity to be together, to share stories and to see what can come from the connected relationships that start here.

As a graduate student at the University Washington and a public school elementary teacher, Annette Woolley reflected on, and reminded us of, the importance of the youth voice. She shared that the youth voice is strong and that we have amazing thinkers and activists, that kids are ready to take the work we do and build from that into the future. We need to fight for our tribal histories to be taught. In breakout session conversations she was inspired by the idea that we "need to continue to listen to the voices of our ancestors, the land, to think of the land and our ancestors as mentors...Our original climate adaptation plans are our creation stories. if we continue to look at those as our guide, I think we'll be working in the right direction."

Following these reflections, the conversation opened up to the whole community to share reflections on their time at RV12. Participants expressed gratitude for being welcomed into the community and appreciative of the diversity of participants as well as the opportunity to learn from Elders. Themes of connection, family, community and intergenerational sharing emerged.

"It's one of the first large conventions I've been to where you don't treat each other like colleagues, you treat each other like friends and family." - Tyler Moore

Closing Ceremony

The meeting concluded with a sharing of music, Kanoho Hosoda offered a Hawaiian Oli, Phillip Chavez offered his flute song. Steven LaPointe offered the ceremonial closing for the meeting; he shared a dream, a prayer and wisdom that, "We are the prayers of our ancestors. And right now, we are good ancestors. The seven generations ahead of us is why we are here; our actions today will reverberate... We are the Earth and the Earth is us." He encouraged all working in this community to remain in contact, doing so, he said, breaks the cycle of opposing forces and renews the cycle of healing. "We're all of our relatives, our relatives, from the

beginning all the way till now. We are their prayers in this moment. They don't walk behind us, they walk with us together. That's what I see when I look out in this crowd is we're walking together in this journey. We're never alone, even though if we feel like it, they walk with us. They listen... We honor Mother Earth as we try to save mother earth for our people have clean water to have rocks to sweat with."

Appendix 1: RV12 Workshop Evaluation

To understand the impact and experience of the workshop, organizers distributed a survey to all in-person and remote attendees, inclusive of facilitators, moderators, and notetakers, after the conclusion of the workshop. Out of 231 participants, 65 responded to the survey (28 percent response rate); for facilitators, moderators, and notetakers, 19 responded to the survey out of 37 total facilitators (51 percent response rate).

Organizers structured the survey to solicit experiences and reflect on workshop themes. Primary findings by topic are summarized below:

Workshop Experiences

Overwhelmingly, participants, facilitators, moderators, and notetakers had a positive experience at the workshop. This was true of both online and in-person attendees. Over 95 percent of respondents stated they had a good experience at the workshop and all respondents agreed that Rising Voices will impact their subsequent work. Over 90 percent of all survey respondents stated they had the opportunity to contribute their thoughts to discussions, that their opinions were valued, that they had a more nuanced understanding of Indigenous and earth science co-creation, and that the workshop encouraged constructive conversation. In open-ended comments, one respondent wrote “It was such a privilege to share space with so much wisdom. I felt that the workshop struck a great balance between western scientist and indigenous voices such that both felt valued and were able to connect.”

These positive experiences were carried through outside of the conference. Respondents stated they made connections for mentoring, formed research partnerships or ideas for graduate work, and learned models of community engagement for current projects, which includes ongoing work in Lahaina, Hawaii for air quality monitoring, United Nations Rapporteur responses in Alaska, and hazard mapping in coastal Louisiana.

Pillars of Rising Voices

Respondents felt that the workshop supported the core pillars of Rising Voices. Among participants who responded to the survey, 97 percent felt the workshop supported diverse ways of knowing, 98 percent felt the workshop supported sharing scientific capacity, and 99 percent agreed the workshop provided mentorship, resources, and opportunities to pursue scientific careers. Together, these results show strong support for the core objectives of Rising Voices.

In open ended comments, respondents described Rising Voices as a supportive place where both successes and challenges could be shared without judgment, creating opportunities to meaningfully learn from others. Respondents appreciated the visibility of mentoring opportunities, student achievements, and elders. One respondent commented “I am grateful for the many opportunities I had to listen to people already co-creating climate-related research, policy, practice, and action in the context of Indigenous and Earth science collaborations. The emphasis on knowledge generation alongside practical implementation of the knowledge was highly informative and illustrative of the work we're attempting to do in the RVCC Hub project.”

Feedback and Reflections

Both respondents and facilitators provided feedback and reflection on Rising Voices programming and future recommendations. Many respondents used this opportunity to thank organizers and share appreciation for their experience. Among participants, concrete recommendations included more focused breakout and working group sessions and incorporating art and storytelling into programming. Facilitators, moderators, and notetakers echoed these sentiments, and also suggested creating participant and project directories to facilitate collaboration and collective action. Both groups also emphasized the importance of high-quality online participation options in the future.

Considerations for Rising Voices 2.0

As Rising Voices now enters its thirteenth year, organizers have proposed “Rising Voices 2.0,” a reorientation to climate action, building on deep collaborations and relationships developed through past workshops and projects. Rising Voices 2.0 is envisioned as place-based initiatives that can be shared as lessons learned, co-created knowledge, and models of engagement to share across the network and shape future convergence science.

With this goal in mind, the following recommendations based on the Rising Voices 12 evaluation findings should be considered:

- **Develop a project and person directory.** All three pillars of Rising Voices center on connection. Networking opportunities available at the workshop were appreciated, but many people were unaware of online attendees, how to connect with speakers outside of the workshop, connecting with mentors at a later point, and the projects that are arising from Rising Voices relationships. A voluntary directory hosted through a Google site or other platform private to the Rising Voices community may help facilitate connections outside of the annual workshop. Information could include areas of interest, current projects, and availability for mentorship. This would allow community members to search and share updates throughout the year.
- **Focus on localities.** Many survey respondents commented on how much they appreciated concrete, place-based initiatives presented from Maui and Louisiana. These initiatives, rooted in local context with tangible outcomes, inspired thoughts about how those models of co-creation could be leveraged for other work in other communities. Future workshops or panels may focus on specific initiatives, projects, or peoples, inviting others to learn and build on emerging knowledge systems.
- **Reorganize breakout sessions and working groups.** The large size of many breakouts prevented deep learning and movement to actionable goals. Additionally, many survey respondents commented that the discussion questions were too broad. Future workshops and meetings should consider more specialized topics, capped group sizes (with multiple groups on one topic permitted), and questions that drive toward measurable outcomes.
- **Provide optional facilitator training.** Some survey respondents commented that certain speakers took up too much space during panels and breakouts, or that

conversation veered away from prompts in an unproductive way. Additionally, some facilitators and moderators noted they would appreciate a check in prior to the workshop. These issues may be remedied by offering an optional facilitator training, helping to support facilitators and moderators to recognize and step when conversation becomes inequitable and help get the group back on track. This may also support career development for those interested in future facilitation opportunities.

- **Ensure content is oriented to climate action.** Most workshop participants are aware of the challenges to addressing climate change and the gaps that need to be addressed for meaningful collaboration. Workshop attendees are eager to turn this awareness into action that can address those gaps, including expanding on localized knowledge, launching projects, and developing goal-oriented plans for Rising Voices workgroups. Future content should focus on driving to action rather than rehashing challenges.

Appendix 2: RV12 Workshop Agenda

Day 1: Monday, May 6, 9:00AM--5:00PM Mountain Time

Location: NSF NCAR's Center Green Campus (3080 Center Green Drive, Boulder)

8:00: *Orientation for 1st time RVers/students (optional)*

8:30: *Coffee & Tea at NSF NCAR Center Green*

9:00: Opening Ceremony – Steven LaPointe

9:20: Welcome to Place – Ava Hamilton

9:30: Welcome to the 12th Annual Rising Voices Workshop and Workshop Overview

9:50: Welcome to NSF NCAR – Gretchen Mullendore

10:00: Rising Voices Introduction Video

10:15: Setting the framework: Where we've been, where we're aiming to go

10:20: Introductions

10:45: *Break*

11:00: Planting the seed: Connections, Opportunities, and Engagement

Shantel Martinez (moderator), Paulette Blanchard, Diamond Tachera, Bill Thomas, Tyler Moore, Daniel Wildcat, Corinne Salter

12:10: Group dialogues

12:30: *Group photo (outside)*

12:40: *Lunch (mentoring relationships - grab food and connect together at tables outside)*

1:30: Examples of intercultural collaborations that center justice in climate research and action – inspiration for what's possible!

1:45: Building relationships and trust: Scientific collaboration responding to communities' needs - building air quality sensors in Lahaina

Diamond Tachera (moderator), Keahi Tajon, Maraya Ben-Joseph, Agbeli Ameko, Keith Maull

2:35: *Transition to Working Groups - Topics*

2:45: Working Groups – Topics

Participants will select one topic to join: Community relocation/site expansion; Education, Communication, Training, & Outreach; Energy Systems; Food Systems; Health; Phenology; Water Systems.

4:00: *Break*

4:15: Share-out: initial reflections from Topics' groups

Developing guidelines, principles, and evaluative processes that can be adapted for place-based intercultural collaborations in support of climate actions and collaborations in the relationship building phase

4:45: Wrap-up Day 1; What's coming up next

Tribute to RV co-founders, Heather Lazrus and Bob Gough

Evening: Monday, May 6, 5:15--7:30PM Mountain Time

The annual Bob Gough-fest, “Climate Change is Inevitable, Adaptation is Optional”

Location: *In-person*; NSF NCAR & UCAR Foothills Laboratory (3450 Mitchell Ln, Boulder)

5:15: The Bob Gough Award for Climate Justice in Action

5:30: Dinner and conversation around the firepit

Day 2: Tuesday, May 7, 9:00AM--5:00PM Mountain Time

Location: NSF NCAR’s Center Green Campus (3080 Center Green Drive, Boulder)

9:00: Welcome to the Day

9:10: Recap of Day 1/Process Day 2

9:15: Research, Policy, and Action: Scaling across governance systems

Aranzazu Lascurain (moderator), Ramsay Taum, Chief Deme Naquin, Jainey Bavishi

10:15: Group dialogues

10:35: *Break & Transition to Working Groups - Topics*

11:00: Working Groups – Topic

Participants will stay in their same topic group from the prior day: Community relocation/site expansion; Education, Communication, Training, & Outreach; Energy Systems; Food Systems; Health; Phenology; Water Systems

12:15: *Lunch*

1:15: Storytelling & digital technology demonstration - Chris Shaeffer, Lomikai Media

1:30: World Café & Poster “walk”

Participants will engage in conversations with representatives from various organizations, programs, and networks and with poster author(s) to learn about their programming and work.

2:30 *Transition to working groups - regions*

2:40: Working Groups by Region

Participants will select one region to join: Atlantic Coastal (Gulf Coast, Southeast, Caribbean Islands, Northeast); Deciduous Forests (Midwest/Great lakes, Northeast); Grass/shrub/arid lands (Southwest, Plains/North Central, South Central); Pacific Coastal (Pacific Islands, Alaska, Northwest)

4:00: *Break*

4:15: Share-out: initial reflections from Regional groups

Developing guidelines, principles, and evaluative processes that can be adapted for place-based intercultural collaborations in support of climate actions and collaborations in the relationship building phase

4:45: Wrap-up Day 2; What's coming up next

Day 3: Wednesday, May 8, 9:00AM--12:00PM Mountain Time

Location: NSF NCAR's Center Green Campus (3080 Center Green Drive, Boulder)

8:30: *Coffee & Tea at NSF NCAR Center Green*

9:00: Welcome to the Day

9:10: Recap of Day 2 / Process Day 3 & Focused goal of today

9:15: Localizing Rising Voices: Next steps, actions, and commitments

Share reflections from Topics & Regional Groups – develop draft guidelines, principles, and evaluative processes that can be adapted for place-based intercultural collaborations in support of climate actions and collaborations in the relationship building phase

10:15: Break

10:30: Localizing Rising Voices: Next steps, actions, and commitments (continued)

11:15: Growing Our Garden: Closing Reflections

Annette Woolley, Cameran Bahnsen, Shelby Ross

11:45: Closing Ceremony – Steven LaPointe

Appendix 3: World café and Poster hosts

Title: NSF NCAR Education, Engagement, and Early-Career Development (EdEC)

Host: Rebecca Haacker & Jerry Cycone, NSF NCAR Education, Engagement, and Early-Career Development (EdEC)

Description: NSF NCAR Education, Engagement, and Early-Career Development (EdEC) is the education and training team at NSF NCAR committed to inspiring, engaging, and informing the public about the science happening at NSF NCAR and in our broader scientific community. We support and train the next generation of diverse scientists and engineers through partnerships with K-12 schools, universities and research institutions to forge connections and strengthen programs in the Earth system sciences. Programs and events range from internships and early-career professional development to community engagement opportunities, aimed to educate everyone from the general public to students and current scientists.

Opportunities: NSF NCAR EdEC offers a wide range of opportunities for engagement through public events and research partnerships, student internships and fellowships, workshops, and summer schools. We also have postdoctoral opportunities, grant funding opportunities for faculty, and many other programs!

Title: The CLIMATE (Cultural, Learning, and Institutional Model to Accelerate Transformations for Environmental) Justice Initiative

Host: Kathleen Johnson, Stephanie Martinez, & Christina Marsh, University of California-Irvine's CLIMATE Justice Initiative

Description: The CLIMATE (Cultural, Learning, and Institutional Model to Accelerate Transformations for Environmental) Justice Initiative at the University of California-Irvine tackles issues of local climate change and environmental injustice through collaborative, community-engaged research. We seek to transform the culture of the geosciences by fostering a learning environment that brings on-the-ground challenges of environmental justice and sustainability into the heart of our research and education. Learn more here:

<https://sites.ps.uci.edu/climatejustice/>

Opportunities: We offer fully-funded PhD fellowships to UCI graduate students and postbaccalaureate fellowships to recent graduates from any institutions. Fellows receive mentorship and participate in a range of professional development activities. They also receive cross-disciplinary training in climate science, environmental justice, and community-engaged research methods. They conduct co-designed research projects with one of our community-based organization partners, including: Sacred Places Institute for Indigenous Peoples, GREEN-MPNA, Orange County Environmental Justice, and Crystal Cove Conservancy.

Title: American Geophysical Union (AGU) Thriving Earth Exchange

Host: Amanda Shores & Natasha Udu-gama, AGU Thriving Earth Exchange

Description: AGU Thriving Earth Exchange is a program that enables communities to connect with scientists and/or technical experts to address community priorities related to environmental health, pollution, resilience, sustainability, climate change, natural hazards and natural resources to develop tools and solutions that are feasible and impactful in those

communities.

Opportunities: Community leads – suggest a priority project! Community Science Fellows – become a boundary spanner! Community Scientist – contribute your science!

Title: EPA Region 8’s environmental justice program

Host: Andrea Trujillo Guajardo & Kayleigh Moses, US Environmental Protection Agency (EPA) R8 Children’s Health, Environmental Justice, and Equity Branch

Description: EPA Region 8’s environmental justice program is focused on ensuring that everyone in Region 8 has the same degree of protection from environmental and health hazards, and equal access to the decision-making process to have a healthy environment in which to live, learn, and work. Region 8’s EJ Team works to advance environmental justice by supporting underserved communities through connecting with, supporting, building the capacity of, and leveraging resources from both internal and external partners.”

<https://www.epa.gov/environmentaljustice/environmental-justice-your-community#region8>

Opportunities: For up-to-date information about Environmental Justice funding opportunities, events, and webinars send a blank email to: join-epa-ej@lists.epa.gov, email R8EPAEnvironmentalJustice@epa.gov, call 1-800-227-8917, or mail at EPA Region 8 Environmental Justice Program; Children’s Health, Environmental Justice, and Equity Branch; EPA Region 8 1595 Wynkoop Street Denver, CO 80202

Title: NSF Unidata

Host: Tanya Vance & Jeff Weber, NSF Unidata / UCAR

Description: NSF Unidata is one of the UCAR Community Programs. It has been funded by NSF since 1983 as a community-led Earth Systems Science data facility with a global community of education and research institutions and users, and NSF Unidata-developed cyberinfrastructure is also used by private industry, non-governmental and international organizations, and US federal agencies. As a partner, convener, liaison, and leader, NSF Unidata works to reduce barriers and time to Earth Sciences via open, accessible, equitable, and ethical capabilities, tools, and services – including near-real time data acquisition, distribution, analyzation, visualization, and management, technical support, and learning and training services.

Opportunities: There are numerous opportunities to become involved in NSF Unidata: We are a CO-PI partner with SIPI and NTU on the NSF-funded Sovereign Data Network supporting indigenous data monitoring, sovereignty, data governance, and capacity building with indigenous communities and tribal colleges and universities. We host summer student interns, provide funded Community Equipment Awards, and offer a variety of learning experiences including workshops, microlearning, eLearning, classroom modules, and other training, many of which are customizable to fit community members’ needs. We encourage community members to get involved as users, contributors, and testers for NSF Unidata products and services. We actively seek community input via our two governing committees: the Users Committee and the Strategic Advisory Committee. We are always looking for ways to partner and support the broad and diverse Earth Sciences community, if you’re interested in any of these opportunities, partnering, joining the community, or learning more, please reach out at <https://www.unidata.ucar.edu/> or directly to tavance@ucar.edu.

Title: The Environmental Center at the University of Colorado

Host: Jasmin Barco & Leoncio Lagarde, Environmental Center – University of Colorado, Boulder

Description: The Environmental Center at the University of Colorado, **Boulder** is one of the oldest Environmental Centers in the nation, started in 1970 by students for students, at the University.

Opportunities: For current or prospective CU students, become involved with the Environmental Center- follow us on Instagram and sign the pledge to be a sustainable buff! Learn about our social and climate justice efforts of bringing in social justice to labs, the Climate Justice Leadership Alliance micro-credential. Over the summer there are opportunities for community to help with zero waste efforts on campus with the summer concerts!

Title: Kīpuka Kuleana

Host: Sarah Barger, Kīpuka Kuleana (Kauaʻi, HI)

Description: Kīpuka Kuleana is a Native Hawaiian women-led 501(c)(3) organization and community land trust that protects cultural landscapes and family lands on Kauaʻi. We seed land return and repatriation through: education of and partnerships with landowners to return lands to local hands; support for long-time families working to keep their lands (connecting them with legal tools, mediation services, conservation resources, etc); acquisition and holding of lands in trust (via fundraising through our Hōʻahu Lands Tax) on behalf of ʻohana so that they may return to their ʻāina (land) and stay connected to their piko (center); and research collaboration with our growing network of indigenous leaders on ʻĀinaback/Landback and climate adaptation efforts in indigenous communities.

Opportunities: Reach out to us at admin@kipukakuleana.org if you'd like to be on our email list, talk story about our projects or share resources for Landback. If you are on Kauaʻi, we can point you to volunteer opportunities to mālama ʻāina (care for land) through community work days. You can learn more about our work at www.kipukakuleana.org and connect with us on Instagram (@kipukakuleana) or Facebook (Kīpuka Kuleana page).

Title: American Society of Civil Engineers, Committee on Adaptation to a Changing Climate

Host: Mari Tye, NSF NCAR/ASCE CACC

Description: Natural and Nature based solutions (NNBS) are increasingly being applied as part of engineering solutions for a variety of projects, with organizations such as the ASCE and US Army Corps of Engineers developing guidance documents on their design. However, Indigenous cultures, values, and stewardship of ecosystems are not typically represented. How can ASCE engage with Rising Voices to better reflect Indigenous Knowledges and develop shared terminology and understanding around NNBS implementation?

Opportunities: For anyone in the area: ASCE 2024 Cold Regions Engineering Conference May 13-16 2024 Anchorage, Alaska will have two sessions on NNBS How would you like to engage? Talk to Mari (maritye@ucar.edu).

Title: Agriculture, land management, and terrestrial ecosystems in Earth system models

Host: Danica Lombardozi, Colorado State University & NSF NCAR; Lorena Medina Luna, NSF NCAR

Description: Earth system models represent terrestrial ecosystems, agriculture, and land management to understand the interactions of these systems with climate change. Would your community be interested in using information from these models to help plan for climate change?

Opportunities: We invite you to join the conversation to help shape the future development and uses of models. Input from your perspectives on what could be useful for your communities is highly valued. We will host a workshop to provide more information about models and continue discussions about how these models can be useful to your communities.

Title: Albemarle-Pamlico Tribal Coastal Resilience Connections

Host: Jocelyn Painter, PhD Student, Duke University

Description: The project concentrates efforts in the Albemarle-Pamlico National Estuary Partnership program area in southeast Virginia and northeastern North Carolina but aims to learn from, elevate, and highlight great work that tribal communities are already doing throughout Virginia, North Carolina, and the southeast coastal plain. Major components include educating resilience practitioners from agencies, universities, and other organizations on best practices for engaging with Tribes, ensuring all communities are included in resilience planning, and increasing awareness and fostering discussion among tribal communities around the risks and threats of climate change.

The next steps for our partnership include (but are not limited to):

- outreach via community paddles and other events
- continuing to collect water stories, observations, and community perspectives on environmental change
- integrating those stories onto mapping platforms that will also more accurately represent present day Tribal communities and ancestral territories in our region
- expanding capacity and leveraging new sources of federal and other funding (there are very few federally recognized Tribal Nations, especially with present day connections to the AP region and tailored funding opportunities tend to be limited)
- creating tools and resources tailored to the southeast region
- continuing to strengthen connections with agencies, universities, and other non-native resilience practitioners and establish best practices for working with Tribes
- ensuring that all Tribal communities and Indigenous people with present-day and ancestral ties to our region are included in climate resilience and adaptation planning and decision making regardless of recognition status, jurisdictional boundaries, and or other similar constraints.

Title: NSF NCAR Library & Archives

Host: Jennifer Phillips, NSF NCAR Library Director; Krista Gawlowski, Collections Strategies Librarian

Description: At the Library, our dedicated and expert staff provide high-touch and customer-centered services, including reference and research support, data management planning, access to archival materials, citation management, and bibliometrics/research

analytics in support of the advancement of Earth system science for NSF NCAR and UCAR. The Mesa Lab Library in Boulder, Colorado offers a welcoming space for both individual study and collaboration and a highly specialized collection of scholarly resources on topics related to atmospheric and solar science, computational modeling for weather and climate, technology development, and beyond.

Opportunities: We encourage open science (open access publication, open data, open source software) and recognition for research outputs beyond peer-reviewed publications. OpenSky, UCAR's institutional repository, provides free and open access to many of the publications, scientific presentations, posters, and other research materials produced by our staff. The Archives is a rich resource for photos, videos, newsletters, reports, artifacts, and other materials that document the history of Earth system science.

Title: Great Plains Tribal Water Alliance

Host: Azmal Hossan & Kynser Wahwahsuck, Great Plains Tribal Water Alliance

Description: The Great Plains Tribal Water Alliance is a certified 501© non-profit organization. It serves as an advisory committee to the Great Plains Tribal Chairman's Association on all matters about technical and policy issues regarding the water resources of members of Tribal Nations in the Northern Great Plains.

Opportunities: Anybody interested in Tribal water sovereignty and Tribal water justice can engage with the Great Plains Tribal Water Alliance to do research, community engagement and outreach, water justice activism, and policy development, etc.

Poster Title: "They write reports for us sometimes, but they've never been here": Tribal climate adaptation water needs in South Dakota

Poster Abstract: Water is so sacred (and contentious) for Tribal nations because of its economic, cultural, ceremonial, and spiritual significance. Due to climate change and other structural barriers like settler colonialism, Tribal water resource managers in South Dakota are experiencing greater challenges in managing in-stream flows and groundwater across their reservations. Based on document analysis and in-depth interviews with the Tribal water resource managers, the current project aims to assess water needs and priorities for the federally recognized nine Tribal nations in South Dakota to make them better positioned to adapt to the changing climate.

Title: A Path for Love and Care: Climate Adaptation

Host: Melissa Awbrey, Tulane University

Description: *A Path for Love and Care: Climate Adaptation*, explores possibilities for centering love and care in our efforts to adapt to climate change. This exploration grows out of my personal and professional experiences and study and is not currently affiliated with an organization or a program.

Opportunities: It's a conversation...please join and see where it takes us!

Poster Abstract: Current efforts to mitigate and adapt to climate change often focus on *what* needs to be done. Though these efforts sometimes address human and social aspects through more effective communication and coordination, authentic collaboration, and integration of diverse ways of knowing for example, they rarely if ever intentionally and explicitly center love and care as an integral part of the process. I argue that for climate adaptation strategies to

avoid maladaptation and instead work toward a more just, equitable, and sustainable future, love and care must play a vital and credible role in *how* we respond to climate change.

Title: Human Rights and Climate Change in K-12 Classrooms: Educational Resources
Developed for the RHRN Global Climate Summit

Author(s): Patrick Chandler, Anne Gold (CIRES); Jonas Smead, Elizabeth Gordon (Stober Elementary School); Caley Gallison (Horizons K-8 School); Peter Szameitat (Fairview High School); Martha Alvarez (Palmer High School); Cooper Anstett, Collette Heskett (CU Teach program); Kristen Mcdermott (Centaurus High School)

Abstract: In December 2022, United Nations Human Rights, CU Boulder, and the Right Here, Right Now (RHRN) Global Climate Alliance hosted a three-day global climate summit addressing human rights and climate change. To support educators and youth attending the summit, educator guides were developed to match each RHRN theme: Impacts, Obligations, and Solutions. During the summit, a group of teachers worked together to develop lessons focused on braiding climate change and human rights across grade levels and subjects. Together, the educator guides and teacher-designed lessons work to inspire teachers to bring a human rights focus on climate change into their classrooms.

Title: How to aid in shifting from extractive research to self-determined research: Indigenous Climate Adaptation Initiatives in the Southwest

Author(s): Aida Wates and Dominique David-Chavez, Indigenous Land & Data Stewards Lab, Colorado State University

Abstract: The overarching question for this project is: How are climate adaptation initiatives addressing calls for policy and practices that support rather than erode Tribal sovereignty and self-determination? As guided and co-produced with a transdisciplinary team including Southwest Tribal rights-holders, we center three fundamental study questions and objectives for shifting from extractive to self-determined research and data governance: Q1) What are current patterns and trends in Indigenous research and data governance for climate adaptation projects engaging Indigenous knowledges and practices? Obj1) Conduct a U.S. national-scale scoping review Q2) To what extent, and through what processes are Indigenous-focused climate adaptation projects in the Southwest addressing key areas of concern as defined by Indigenous value and governance systems (e.g., sovereignty, relationships, cultural humility, ethics, data and resource sharing practices, etc.)? Obj2) Draw on Indigenous research and governance frameworks, and knowledge sharing guidelines for federal/non-Tribal and Tribal partnerships to complete a regional, cross-case analysis. Q3) What factors and indicators characterize Indigenous self-determined climate adaptation initiatives as shared through an exchange of Tribal success stories? Obj3) Host an inter-Tribal knowledge exchange and participatory mapping workshop with Southwest Tribal resource managers and decision-makers. The questions in this presentation address extractive research practices in the United States and will help to provide examples of self-determined Indigenous research. Examples include: access to data reflecting community priorities, values, and knowledge-bases, rather than external agendas; strengthening nation-to-nation relationships and engaging in meaningful Indigenous consultation.

Title: Tribal Soils Initiative

Author(s): A. Tyson, USDA (U.S. Department of Agriculture) ARS (Agricultural Research Services) PDI (Partnerships for Data Innovations) / Colorado State University; A. Ashworth, P. Owens, USDA ARS; C. Kreman, Quapaw Nation; S. Russell, USDA ARS PDI / Colorado State University; S. King, Quapaw Nation J. Ippolito, Ohio State University

Abstract: The Quapaw Tribal Nation are advancing approaches to hazard mitigation and risk management aimed at increasing food security and sustainability of agriculture and ranching activities. This includes rehabilitation of land altered by mining back to productive status for the growing of corn, beans, and wheat alongside land used for grazing. The goals of this project include integration of multiple data sources, local technical ecological knowledge, and remote sensing to promote water and nutrient-smart agriculture. The Tribal Soils Explorer, an interactive web app, offers farmers and land managers soil property information previously unavailable.

Title: Building Relationships For The Future: How To Develop Partnerships For Long Term Ecological Research

Author(s): Charles White (University of Minnesota), Amoke Kubat (Yo Mama's House), Shanai Matteson (Water Bar and Studio), Mae Davenport (University of Minnesota), Erin Bogle (Mallipu Medicines), Mary Marek-Spartz (University of Minnesota), Rebecca Montgomery (University of Minnesota), Gayatri Narayanan (Metro Blooms), & Michael Dockry (University of Minnesota)

Abstract: The Minneapolis- St.Paul Long Term Ecological Research (MSP-LTER) project is a transdisciplinary science initiative exploring the ecological, biophysical, social dimensions of the urban environment. To understand the transformative effect of long-term community-engaged research, the MSP-LTER has restructured relationships from transactional connections to substantial, relational partnerships. Through the deepening of our relationships and building trust we have developed these guiding principles: acknowledging past harms, going slow, disrupting power dynamics, and being vulnerable together. As our community partners' needs change, our approaches will adapt through an iterative process of relationship building, open communication, and mutual support based on our guiding principles.

Title: United States Environmental Protection Agency (EPA) Environmental Justice Technical Assistance and Grant Opportunities

Author(s): Andrea Trujillo Guajardo and Kayleigh Moses; EPA R8 Children's Health, Environmental Justice, and Equity Branch; Environmental Justice, Community Health, Environmental Review Division

Abstract: This poster demonstrates the current Environmental Justice Technical Assistance and Grant Opportunities available with the United States Environmental Protection Agency (EPA). The poster caters to an audience within EPA Region 8 – which encompasses Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming, and 28 Tribal Nations – but is broadly applicable as well. Our goal is to share these resources widely in an effort to promote and make more accessible the Environmental Justice Technical Assistance and Grant Opportunities currently offered by EPA.

Title: The Coronal Solar Magnetism Observatory (COSMO)

Author(s): Maurice Wilson, Christa Bell, Sarah Gibson, Stephanie Roberts, Ben Berkey, Joan Burkepile, Damon Burke, Andrew Carlile, Marc Cotter, Giuliana de Toma, Alfred de Wijn, Samaiyah Farid, Dennis Gallagher, Mike Galloy, Holly Gilbert, Mitch Jeffers, Amy Knack, Don Kolinski, Daniela Lacatus, Krista Laursen, Nir Patel, Lisa Perez-Gonzalez, Caitlynn Quinn, Scott Sewell, Steven Tomczyk, & Mike Wiltberger, NSF NCAR High Altitude Observatory (HAO)

Abstract: Society is increasingly reliant on technologies that can be damaged by space weather events, such as coronal mass ejections (CMEs). These CMEs are immense clouds of material that can cause large magnetic storms in Earth's upper atmosphere, affecting technologies – and therefore the lives and livelihoods of people around the world. The Coronal Solar Magnetism Observatory (COSMO) is a proposed suite of ground-based instruments designed to study magnetic fields and plasma conditions in the Sun's coronal atmosphere. The goal of COSMO is to make global measurements of the corona's magnetic and plasma properties to understand solar eruptions and coronal magnetic evolution.

Title: Understanding the Relationships: People, Place, Technology, the Environment, and Climate Change

Author(s): Ava Hamilton & Tim Schneider, representing The Rising Voices Center for Indigenous and Earth Sciences

Abstract: The 11th annual Rising Voices workshop, held in Spring 2023, focused on the theme of Understanding the Relationships: People, Place, Technology, the Environment, and Climate Change. Emerging from the workshop, the Rising Voices workshop planning team, with input from workshop participants, prepared the *Declaration on Relationships and the Wise Use and Applications of Technologies for Climate Actions for Everyone* to guide the use and applications of technologies to heal relationships between people, place, technology, and the environment for future generations. The Declaration's core principles and content emerged from the stories, wisdom, knowledge, insights, and reflections participants shared at the workshop. This Declaration is a response to concerns about the over-reliance on modern technological solutions to the climate crisis and the impacts of modern technology on our relationships. It sets forth principles for technology design, development, use, application, and decision-making processes under rapid global change.

Title: Indigenizing Your Research: Recommendations from the Earth Data Relations Working Group to Implement Indigenous Data Governance across Earth Sciences

Author(s): Katherine Jones, Lydia Jennings, Julie Maldonado, Stephanie Carroll, Riley Taitingfong, Andrew Martinez, Rosanna 'Anolani Alegado, Jennifer Balch, Dominique David-Chavez, Ruth Duerr, Dennis Dye, Noor Johnson, Terry Ketchum, Katie Spellman, Bill Thomas, Adrien Tofighi-Niaki, Jeff Weber

Abstract: Amidst the open/big data revolution, Indigenous Peoples' expertise has been largely excluded from Western systems of scientific inquiry practices. At the US federal level, there is growing momentum for incorporating Indigenous Knowledges in Earth Science research and land management activities and increased visibility for Tribes and knowledges held by Indigenous communities. Western scientists and institutions increasingly acknowledge that Indigenous Data Sovereignty and Governance are key considerations in ethical decision making in research. While the CARE Principles for Indigenous Data Governance provide a

framework for respectful engagement with Indigenous Peoples, there are still many questions about how best to enact these Principles in Open Science projects and apply them into digital ecosystems. Over the course of a year-long conversation, the Earth Data Relations working group explored each aspect of the data and specimen life cycle at the National Ecological Observatory Network (NEON), a continental scale Open Science project. The working group used this specific example to develop a set of broadly applicable recommendations to bring Earth Systems projects at all scales into better relations with Indigenous data stewards and suggest a new model for ethical research practices. Here we share those recommendations and demonstrate how all researchers at any career stage can support implementing Indigenous Data Governance in Earth System Sciences.

Title: A Machine Learning Approach to Sagittaria Mapping for Coqui Conservation

Author(s): Aiyasha M Ghani & Nishan Bhattarai, University of Oklahoma's Department of Geography and Environmental Sustainability; Adam Terando, Southeast Climate Adaptation Science Center

Abstract: The main island of Puerto Rican archipelago boasts culturally, historically, and ecologically significant geological formations, ecosystems, plants, and animal species. A recently discovered endangered species, *E. juanariveronii* - 'Coqui llanero' inhabits the Northern Karst of Boriken, with limited known habitat across the island. *Sagittaria lancifolia*, bulltounge arrowhead or 'duck potato', is known to house *E. juanariveronii* egg clutches. Hence, mapping *Sagittaria* offers insights into *E. juanariveronii* habitat. Using Landsat and Sentinel-2 data, we analyzed *Sagittaria*'s spectral responses and explored machine learning algorithms for spatial mapping."

Title: Restorative Diets: A methodological exploration comparing historical and contemporary salmon harvest rates

Author(s): Erika Gavenus, Rachelle Beveridge, and Terre Satterfield, University of British Columbia – Institute for Resources, Environment, and Sustainability

Abstract: Indigenous peoples face persistent interruptions to their relational food systems. Along the coast of what some call British Columbia these include the Crown's use of disrupted diets to determine fisheries restoration goals and management decisions. The resulting "shifting baseline" effect holds repercussions for First Nations working to restore their food and governance systems. We worked in partnership with First Nations along the Central Coast to develop a set of methods for exploring diets less disrupted by colonial fisheries policies—restorative diets, which we apply to the case of Pacific salmon to prompt conversation about the fair distribution of harvestable fish.

Title: Earth Systems Science for the Anthropocene

Host: Michele Clark, Arizona State University

Description: Earth Systems Science for the Anthropocene aims to re-imagine the structure and outcomes of STEM research at the graduate level, by providing Immersive, Interdisciplinary, Identity-based Team Science Experiences (IIITSEs) to solve challenges that have emerged as human activity has led to significant impacts on the planet's climate and ecosystems. IIITSEs are collaborative, culturally affirming, and solutions-oriented research projects that center

diverse knowledge systems to respond to community needs, support cohorts of racially diverse faculty and students, and promote a just, equitable, diverse, and inclusive campus and community within and beyond the STEM disciplines.

Opportunities: Graduate (and some undergraduate students) will be able to apply for a paid summer research experience that is hybrid (mostly remoted with 1-2 week field intensive) in 2025 and 2026. Can join the organization informally to stay aware of discourse on culturally-affirming research experiences in academic institutions at the graduate level

Title: The Advancement of Science (AAAS) Dialogue on Science, Ethics, and Religion (DoSER) program

Host: Curtis Baxter, Senior Program Associate at the AAAS in the DoSER program

Description: The DoSER program seeks to fulfil the mission of the AAAS of “Advancing Science and Serving Society” by facilitating and providing space for thoughtful and impactful conversations between the scientific, religious, and spiritual communities. We carry out our work through a variety of grant funded projects, hosting public lectures, and partnering with organizations and individuals who align with our objectives.

Opportunities: One current opportunity is working with theological education institutions who are engaging topics around climate science and are looking to include Indigenous voices that are often left out of the conversation. We are always looking for partners to collaborate with on submitting session proposals at various science society meetings.

Title: Quality Education for Minorities (QEM) Network

Host: Wendy Todd, Erin Lynch, Sylvia Pu, Mercy Mugo, Nel Rodriguez, & Taylor Lightner

Description: We are part of a team housed Quality Education for Minorities that is dedicated to advancing minority participation and leadership in the national debate on how best to ensure access to quality education for all citizens. Our current project focuses on centering Native and Indigenous voices to create a culturally responsive framework for student success driven by Indigenous Community participation.

Opportunities: Participate in future groups to discuss higher education success and needs surrounding their experience, with a special emphasis on those attending Tribal Colleges & Universities (TCUs) and Native American Serving Non-Tribal Institutions (NASNTIs).

Appendix 4: List of Attendees

The participants' list below is based on the in-person participation and what was captured from the zoom sign-in for those who participated during at least some portion of the workshop. Given the hybrid nature of the event and with some people participating for a portion, and last minute add-ons and cancellations, this list is generated to the best extent possible:

In-person

Wai Allen	Andrea Guajardo
Agbeli Ameko	Rebecca Haacker
Kristen Aponte	Theresa Halsey
Melissa Awbrey	Ava Hamilton
Cameran Bahnsen	Juli Hazelwood
David Bailey	KanoHo Hosoda
Jasmine Barco	Azmal Hossan
Sarah Barger	Hope Hunter
Zethan Barros	Naomi Jacquez
Kelley Barsanti	Aiyana James
Morey Bean	Nicole James
Jamie Belone	Hazel James-Tohe
Maraya Ben-Joseph	Alessandra Jerolleman
Janna Black	Katie Jones
Dylan Blaskey	David Kane Levelt
Edna Brillon	Alex Kimball Williams
Cam Brinkworth	Marda Kirn
Laura Brown	Leoncio Lagarde
Christina Callicott	Steven LaPointe
Duncan Campbell	Aranzazu Lascurain
Monica Caparas	Danica Lombardozzi
Isabella Carriere	Dennis Longknife Jr
Patrick Chandler	Julie Maldonado
Phillip Chavez	Brigid Mark
Yifan Cheng	Shantel Martinez
Chantel Comardelle	Stephanie Martinez
Natalie Cross	Keith Maul
Doug Crow Ghost	Joe McInerney
Jerry Cycone	Brendan McInerney
Theresa Dardar	Evy McUmbert
Dominique David-Chavez	Lorena Medina Luna
Chris Davis	Jennifer Menke
Lilia Davis	Tyler Moore
Katie DeHart	Jeffrey Morissette
Mackenzie Englishoe	Monica Morrison
Faye Ewan	Kayleigh Moses
Tiffany Fourment	Amber Moulton
Miriam Frank	Melissa Moulton
Aiyasha Ghani	Alejandro Murillo
Caio Goolsby	Deme Naquin
	Sheena Naquin

Serena Natonabah
Andrew Newman
Madeline Nyblade
Jennika O'Brien
Robin O'Malley
Jocelyn Painter
Devon Parfait
Florencia Pech-Cardenas
Kristina Peterson
Rosina Philippe
Pah-tu Pitt
Scott Pruitt
Bob Rabin
Alexandra Ramos
Reno Red Cloud Snr
Mary Reed
Timberley Roane
Stephanie Roberts
Teresa Romero
Shelby Ross
Corinne Salter
Kevin Sampson
Jenniffer Santos-Hernández
Janine Savok
Tim Schneider
Timothy Schoechle
Doug Schuster
Chris Shaeffer
Marianne Shiple
Amanda Shores
Marsha Small
Sarah Swanson
Diamond Tachera
Keahi Tajon
Jean Tanimoto
Ramsay Taum
Kammie Tavares
Kadidia Thiero
Bill Thomas
Mari Tye
Alicia Tyson
Natasha Udu-gama
Kynser Wahwahsuck
Jessica Wang
Aida Wates
Melissa Watkinson-Schutten
Jeff Weber
Sashi White
Maurice Wilson

Lisa Winingerr
Christopher Wirz
Katie Wolfson
Sarah Woods
Annette Woolley
Chase Yakeleya
Daniel Zietlow

Virtual

Papali'i Dr. Tusi Avegalio
Jen Ayers
Jordanna Barley
Kelley Barsanti
Curtis Baxter
Jeana Baudouin
Jainey Bavishi
Nikki Becker
Carolina Behe
Tiyana Blackeagle
Paulette Blanchard
Debra Bolton
Melissa Brodeur
Cathie Buchanan
Debra Butler
Tina Calderon
Robyn Cascade
Donna Chrisjohn
Michele Clark
Natalea Cohen
Amelia Cook
Sofi Courtney
Grace Crain-Wright
Mike Daniels
Ryan DeHamer
Marcy Delos
Kristina Disney
Octavio Farias
Samaiyah Farid
Cheebo Frazier
Nancy Frost
Omar Gates
Erika Gavenus
Michelle Glass
Corrie Grosse
Karen Grosskreutz
Joseph Gum
Rebecca Haacker
Sharon Hausam

Amy Hendricks
Robbie Hood
Tom Hopson
David Hsu
Ren Huffman
Sarah Inskeep
Naomi Jacquez
Izula Jade
Adriene Jenik
Kathleen Johnson
Sarah Johnson
Timothy Juliano
Owana Ka'ōhelelani
Katie Kamelamela
Linda Kiltz
Melanie Kirby
A. Korosi
Laura Landrum
Kapi`olani Laronal
Emily Larson
Gabriella Lassos
Emma Joy Layton
Penelope Leal
Julia Lenhardt
Yifan Li
Taylor Lightner
Katie Love
Lucía Macías-Serrat
Zachary Malley
Sydney Mantell
Christina Marsh
Lorena Medina Luna
Evan Campbell Mix
Fawn-Amber Montoya
Patmarie Nedelka
Jillian Neuberger
Meg Nyberg
S. N. Nyeck
Chris Obi
Jocelyn Painter
Maggie Poulos
Sylvia Pu
Claire Purgus
Katy Putsavage
Claire Raftery
Sylvia Reeves
Timberley Roane
Alyssa Rosemartin
Elise Rosky

K. Sampson
Oral Saulters
Marie Schaefer
Sabine Schelch
Leila Joyce Seals
Eileen Shea
Valerie Sloan
Sara Smith
Kitty Sopow
Jennifer Stadum
Julie Stowell
Bonnie Sundance
Renzo Taddei
Ryan Tenney
Vivian Underhill
Tanya Vance
Jason Vargo
Noelani Villa
Curtis Walker
Jessica Wang
Daniel Wildcat
Yvette Wiley