



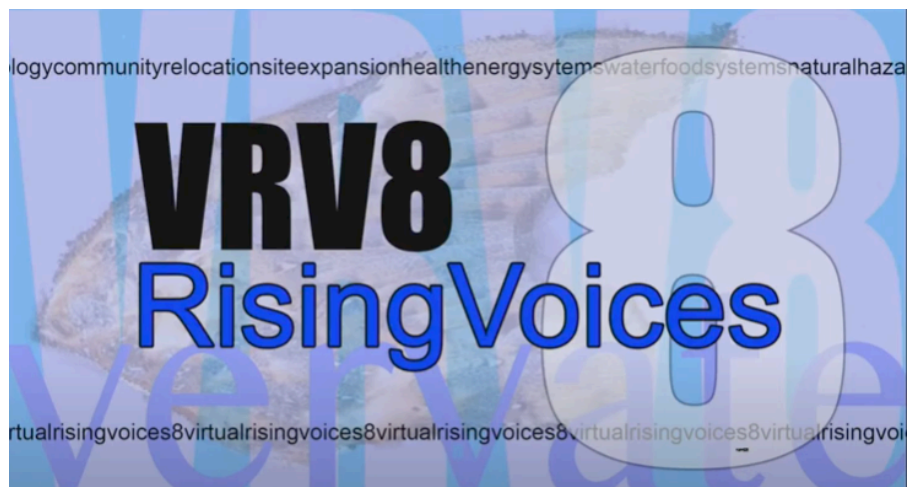
The Rising Voices Center for Indigenous and Earth Sciences



Virtual Rising Voices 8 (VRV8) Workshop

Health Sessions

October 2020



BACKGROUND AND INTRODUCTION

The [Virtual Rising Voices 8 Workshop Series](#) (VRV8) Health Sessions took place in October 2020. These virtual sessions offer the opportunity for everyone to speak, engage, and ask questions in smaller group settings similar to what would occur in person at the Rising Voices annual workshops. VRV8 is possible due to the technological broadcast network capacity developed by [Lomikai Media](#) and the [Olohana Foundation](#), who had the foresight to develop this capacity over the last few years to prepare for the very situation we find ourselves in with the novel coronavirus and COVID-19. This type of disaster preparedness has enabled our ability to be socially connected while at a physical distance.

[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 other experts from across the United States, including Alaska, Hawai'i, and the Pacific and Caribbean Islands, and around the world. It functions as a boundary network among diverse individuals and knowledge systems, and fosters relationship building based upon mutual trust and respect. It acknowledges the inherent value of Indigenous knowledge systems and Indigenous science, including but not limited to traditional ecological knowledge and adaptive practices and processes, honoring them equally with Earth science.

RV's mission is to center Indigenous knowledge systems in the Earth sciences for more innovative responses to extreme weather and climate change. The vision is more diverse and inclusive Earth sciences to drive a climate-resilient and just world. This includes envisioning collaborative research that brings together Indigenous knowledges and science with Earth sciences in a respectful and inclusive manner to achieve culturally relevant and scientifically robust climate and weather solutions. In doing so, RV 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. RV's core objectives include: assess critical community needs in relation to the impact of climate and weather extremes; encourage Indigenous and other youth to pursue a career at the science-Indigenous knowledge interface; and pursue joint research aimed at developing culturally, socially, and economically optimal plans for community action towards sustainability. RV 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, the Indigenous Peoples' Climate Change Working Group, and the National Oceanic and Atmospheric Administration's ([NOAA](#)) Office for Coastal Management.

The sixth VRV8 installment of thematic-focused months was on health. Throughout the panel and working group sessions, the main goals were focusing on particular challenges of COVID-19 and related climate or other environmental factors, and considering how we respond to these changes and bring our whole selves into this work and into collaborations.

VRV8 HEALTH PANEL SESSION

The VRV8 Health Panel Session took place on October 19, 2020. The recording of the session can be found [here](#). The session's focus was reflecting on the following questions:

1. Considering people's health, what climate-related changes are currently most impactful and important to you, your work, and your community?
2. Considering COVID-19 in particular, what particular challenges are you or your community experiencing? Are any of these challenges exacerbated by or related to climate or other environmental factors, or pre-existing situations?
3. How do you see Indigenous Knowledge, science, and sovereignty responding to these changes?
4. How do you/we bring our whole selves to this work, and how does that inform our collaborations in response to these changes?

The panel session was co-facilitated by Michelle Montgomery (University of Washington-Tacoma) and Michael Chang (Cascadia Consulting Group). Panel speakers included John Doyle (Crow/Little Big Horn College), Valerie Segrest (Muckleshoot/University of Washington), Jacqueline Qataliña Schaeffer (Inupiaq/Alaska Native Tribal Health Consortium), Lesley Iaukea (Native Hawaiian/ University of Hawai'i at Mānoa), and David Rico (Choctaw/I-Collective).

Native Hawaiian Elder Hank Fergerstrom (Na Kupuna Moku O Keawe) opened the session by sharing a chant, which he explained, "calls in for the ancestral knowledge that is just beyond the veil waiting for us to receive it."

Julie Maldonado (LiKEN) welcomed everyone and reflected on how this session's conversation would continue to build from the previous Virtual Rising Voices 8 discussions, and continue to think about the nexus between all of the working group themes. Michelle followed by introducing the questions for the panel session, and Michael introduced each of the speakers.

John Doyle, a Crow Tribal Elder and Water Quality Director at Little Big Horn College, shared how he's been working on water quality for a number of years, testing the water and trying to ensure that Crow people have safe water, combating the challenges of some homes having no access to safe water and contamination of the Little Bighorn River. This is now paired with the challenges of COVID-19, and the ways that the virus can travel through wastewater. Related to COVID-19, their community is experiencing extreme loss. They're in a very economically depressed area and have to travel far distances to more densely populated places to access groceries, increasing their chances of exposure. Further, many of their homes are multi-generational homes with 10-15 people in a home, which intensifies the problems. The risk of exposure is radiating fear in the community, and almost every day, "there's a loss, there's a death, and it's not only the loss of that person that we're losing but all of that knowledge and wisdom they carried with them and that friendship and a lot of them are relatives and so our communities are hurting right now." When saying the words "Indigenous Knowledge,"

"I think it's more than that. It's how well we know, and are we conscious of the environment that we live in, are we conscious of all that we live with, and it's not just us

at the top of the pile and everything else depends on us. We are a part of all of that and to me that's Indigenous Knowledge. It's how we're connected not only to each other but all of the things that we live with in our everyday life, the things that we don't even think of having significance are still connected to us in some way and that is Indigenous Knowledge."

In keeping track of the climate impacts they're dealing with, these include a river with warmer water; this past summer the river was very shallow and warm. On top of that, there are no jobs and there's about 8,500 Tribal members that live within the boundaries of the reservation in need and facing extreme health threats. To deal with these challenges,

"We might have to do things that are completely out of our normal way of thinking and doing but if we don't do that then our chances of recovery in not only COVID-19 but this climate change, then what? I have 14 grandchildren and great-grandchildren...many of them live with me and I do not want to leave this world in a worse shape for them to try to figure out with no direction. And so it's up to us while we're here and able to do something to make a difference."

Valerie Segrest, an enrolled member of the Muckleshoot Indian Tribe, serves as the Regional Director of Native Food and Knowledge Systems for the [Native American Agriculture Fund's](#) (NAAF). For more than a decade Ms. Segrest has dedicated her work in the field of Nutrition and Human Health Science towards the efforts of the food sovereignty movement and catalyzing food security strategies rooted in education, awareness and overcoming barriers to accessing traditional foods for tribal communities. By utilizing a community based participatory action research approach she has worked to organize tribal community members in grassroots efforts towards strengthening sustainable food systems that are culturally relevant and nutritionally appropriate. She is currently enrolled at the University of Washington in the PhD program at the College of Built Environment and Urban Planning. Sharing from what she's watching unfold throughout Indian Country, "people are getting together and working together to help revitalize their food knowledge and inspire another generation to become food producers and advocates - and that has all been challenged this year" in not being able to be together in the same ways.

Further, the changing rain and snow patterns are alternating the plant communities in the high mountain meadows and increasing the likelihood of wildfires. For weeks this past summer, at the base of Mount Rainier, they had toxic levels of air quality at the height of huckleberry picking season and when hunting season opened. Several places they would go to hunt and harvest are shut down because the roads are unsafe "and that has limited people's access now to the one thing that we're all looking forward to this fall, being outdoors and breathing and drinking that wild air." The compounding effects take a toll on mental health, which is now becoming a focus of conversation and support efforts.

"It takes a toll on you, not just physically but mentally and spiritually – to not be able to get your hands on the plants and in the mindset of harvesting and hunting which requires focus and observation of nature. Its important to remember that these foods are not just resources, they are our relatives and our greatest teachers, they are the curriculum narrated all across the landscape. So my community is really trying to mobilize a cultural curriculum written about our native plants in the context of social emotional learnings at our tribal school."

The curriculum is inclusive of the whole family.

One of the first things Valerie saw happen considering COVID-19, was that there were great food donations being made or offered but there was a “lack of infrastructure to be able to receive it, store it, distribute it properly or in most cases - large hunger organizations intercepting the food before it got to tribal communities.” Even though the federal government has a fiduciary obligation to tribes, tribes are not written into the [Emergency Food Assistance Program](#). Through NAAF’s grantees, she heard stories from people from the Navajo Nation who would travel up to four hours one way to purchase food only to get to the store and find bare shelves. This was happening at the height of the panic buying and during the state and tribal wide implementation of “quarantine” measures. It is a challenge and it should never be that “America’s first citizens are the last in line to receive emergency food assistance during a pandemic.” Valerie called forward the grassroots efforts and “people on the ground that strapped up their boots and took care of that problem.” They organized websites where you could buy people’s groceries and organized deliveries to support people who were also simultaneously furloughed from their jobs because for some, the only jobs in their communities are on the governmental side of tribes. Despite all these disruptions, “what helps me stand in my work every single day is being able to support folks who are able to innovate despite so many unknowns and who are very aware of their natural and communal ecosystems, who build up food sovereignty for years and know very well who to go to and what resources they can pull in to find solutions to help people in this time of need.”

Turning to Indigenous knowledge science and sovereignty responding to these challenges, we can be building our immune systems up, and we can do that by, “leaning into our traditional ecological knowledge because that’s the answer. The wisdom of that medicine humbly sits on the land, as it has been for thousands of years. It’s what upheld our ancestral health for centuries.” In addition to managing stress, we need to “eat well, to build your digestive fire, to pray, to meditate, to spend time with your family, to enjoy life...our traditional ecological knowledge models that for us.” Some might argue that food sovereignty is never going to work, but whether it works or not, “If I were standing at the precipice of the end of it all that I looked back and said I tried my hardest because that’s what my ancestors would have done and that’s the DNA that is inside of me.” Valerie closed by sharing what one of her mentors would say, “if we can take good care of ourselves and animate that for other people I feel like we have the potential to save the entire world. What a blessing, what a life to live.”

Jacqueline Qataliña Schaeffer is an Iñupiaq from Kotzebue, Alaska. She is currently a Senior Project Manager for the Division of Environmental Health and Engineering at the [Alaska Native Tribal Health Consortium](#) (ANTHC). She has worked in comprehensive planning, energy, housing and water/sanitation in rural communities across Alaska, utilizing a holistic approach to project development. Her passion has led her to infuse traditional Inuit knowledge into strategic planning to change the “top down” approach into a locally-driven, grassroots approach. This innovative approach allows local leadership to be empowered to own and lead the discussions and decision making. Qataliña believes her ancestors’ traditional knowledge will help bridge gaps in our multi-cultural lifestyles and create balance in how we adapt to our rapidly changing climate. Her current work includes innovation sanitation solutions for unserved communities,

tribal resiliency adaptation planning, and community engagement for community relocations due to climate impacts. Qataliña also works with various Indigenous groups to revitalize the return of traditional practices, including Inupiaq language, traditional healing treatments, medicinal plants, harvesting practices, storytelling, skin sewing skillsets, and dancing.

Qataliña shared that her perspective is infused by her background, growing up without water and sanitation in an Inupiaq traditional lifestyle, spending half the time in their community and the other half at their fish camp on the land and sea. This was the first year she was prohibited to fly up there, “so I had to change where I fished and change where I harvested but it didn’t change the fact that I was on the land and sea.” Turning to the climate-related changes, Qataliña articulated how the Arctic is warming two times faster than the rest of the planet, “and it impacts us in a way that ripples across the globe, so imagine an ice cube and as it melts, everything that’s in that space kind of disappears.” There are over 229 federally recognized tribes in Alaska, most accessible only by air with some accessible in the summer by water, “and the most impactful thing is our food and water security...The uniqueness of Alaska and our rural communities is that we still subsist off our land and sea...we still harvest annually, seasonally from our land and water and climate change and climate impacts are changing that, making it more difficult.” Yet, her ancestors have been in their region for over 17,000 years and there are stories in their oral history of summer weather year-round, which means that they dealt with extreme changes and survived and their traditional practices still survive today, providing a source of inspiration.

Turning to concerns of COVID-19 and the logistical challenges. They have small populations and it could rapidly spread with overcrowding and multi-generational homes that’s Western-designed for fewer people. They also have the history of the Spanish flu wiping out whole communities in rural Alaska,

“That was just enough generations ago where the elders in our communities remember and they remember because they became orphans, and so that knowledge of protecting our people is at the forefront of our minds...We are very social. We gather for everything, we celebrate, we mourn, we honor our elders and youth, we have annual celebrations, we constantly share our food, and now that’s been disrupted and in some cases completely ceases to exist, so it makes it very difficult because that not only affects your physical body but it affects your spiritual body and your overall health is affected because your mental health is challenged...that is probably one of the biggest challenges is how do we reach into our past to not make this mental health issue so hard.”

At the same time, there are communities already under major stress from climate impacts and being forced to relocate, lacking water and sanitation, with concerns they’re going to “just get washed away to sea and so now you have that anguish coupled with COVID coupled with the loss of elders and all their knowledge and you can’t even honor them.”

Turning to Indigenous knowledge, science, and sovereignty is one response in how to deal with that, “In our case we have that 17,000 years of ancestors guiding us...so what I’m seeing as a response to this is as COVID continues to drag on, we have more younger generations that are

seeking that knowledge...I see this younger generation gathering and subsistence for the whole community and that to me is a positive response. Our medicinal plants, when we have outbreaks I'm seeing communities go and harvest our traditional medicines and use those to help people recover. We have thousands of years of medicinal history. Most Western medicines are based on something that came from our plants or foods and those practices need to be revitalized and and to me that is how we respond. We seek the knowledge of our ancestors and we teach others and we share."

Qataliña expressed how she is now sharing that knowledge beyond her family and friends, and with the world in different ways through online platforms. Reflecting back on Valerie's comment about how we can save the world,

"I think we can. I think we could share our knowledge and and share with each other the importance of tribe, the importance of that responsibility to tribe and use our foundational values as that conduit and so I think all of this work, all that we do in this collaboration of tribal interaction, whether you're in Hawaii or Montana or the Philippines or even in India, being reminded that as Indigenous people we're strong and we've survived much, our ancestors endured and pray for us just like we prayed when we opened this conversation. We one day will be those ancestors so we have to remember that this is a continuum in time, no different than a river flowing and it's our turn now to engage, inspire, share, connect with nature, and connect with our brothers and sisters of the earth. Berry picking season just ended and we wait until after the first frost for our cranberries that are low brush to the tundra because it changes the texture and makes them sweeter...When you go to pick that single berry you're a living organism and you're connecting as energy, and we have to remember that that is healing to our physical body, our mental, our spiritual, and that holistic thought process and mindset changes how you react to crises. And to me that is what we all need to do in order to survive this rapidly changing environment, whether it's infectious [disease] or climate."

David Rico, he/him/his pronouns, is a member of the Choctaw Nation through his mother, and through his father, his Indigenous ancestors are native to northern Mexico; his blood is rooted on both sides of the newfound American border. He studied the history of science and public health at Yale University. After graduating he became a line-cook in Washington, DC and has been working as an urban farmer for Sovereign Earthworks.

David started by reflecting on so far in this conversation space he has heard music, the song of a shell, "heard people talk with deep grace and love for the earth and for the future and in these ways this is also part of the work interacting with futurisms outside of the dystopic minds." Focusing on how we bring our whole selves to this work and how that informs our collaborations in response to these changes, David shared how engaging with the whole self is something that he is spending a lot of time working with in his work on urban farming with [Sovereign Earthworks](#), a cooperative/constellation of Trans, Queer, Two-Spirit, Gender-Expansive, Black and Indigenous Folx, in Washington, DC, hoping to eventually steward an over 200-acre parcel of land to plant a food forest and offering housing and opportunities for the most marginalized people in society. He continued,

“We can bring our own touch and our own life energy entwined not only with one another but with the natural world again. As people it wasn't until relatively recently that we lost touch with our agricultural and earth-ground ways, we are animals after all, we were born of this earth. Everything that we're made of, everything that we form, everything that we influence, everything that we create, whether it be paper bags, plastic cups, whether it be remote controls or hot sauce bottles, all of the ingredients all of the particulate and matter that came to create those things came from the earth. So even being in DC, even being in a profoundly urban space, I am still surrounded by the product and by the embodiment of Mother Nature. Part of the work is...finding the divinity in all spaces of this planet and accepting that everything that we are is earthbound and if we destroy this planet and if we leave it in an unstable space for the next following generations we will wipe out a lot of what it means to thrive and to exist.”

Reflecting on thriving as a space to engage in, the question turns to the experiences of trauma and how do we heal and recognize, “the inherent trauma that's not only from our own lives but from the lives of all of our ancestors? How do we, in the length of ancestral lineage being in the middle of the preceding seven generations and the following eight, how do we use our spot in our time on this earth to feel as much of that ancestral trauma as possible? How do we engage with ourselves with reverence and respect? How do we look at the land as a place that deserves hope, healing, and well-wishing? And how do we look at our bodies as the same thing? How do we extend positive associations with all these bodies of divinity, including our own? How do we engage with ourselves in sacred spaces as sacred beings?”

All of these questions revolve around the act of self-care and self-love, and the idea of responsibility in engaging in acts of change by actively healing. Part of taking care of ourselves includes,

“recognizing that like Covid and climate change and capitalism and the contemporary workspace and patriarchy and the structures that have been created by cis hetero categories, these colonizing forces put us in a state of normal, our sense of normalcy in engaging this work by getting a job paying bills. Making it from month to month is not aimed at our health as living creatures, and so we need to stop existing in this mindset that we're going to find our ultimate healthy bodies within these systems. We need to rise to the occasion to meet these challenges, these impending infections, and this impending climate change by finding answers outside of contemporary American spaces and and dive into Indigenous Knowledge, Indigenous science, and sovereignty by asking for answers from the ancestors, by tending to ourselves, by asking for community, and reclaiming relationship with the land.”

Lesley Laukea is a Native Hawaiian from the island of Maui, Hawaii. Her work has been in sea level rise and relocation in Oceania for the past decade and has been a long-time Rising Voices member. Considering people's health and the climate-related changes that are currently most impactful and important in Hawai'i, for her community, they have inundation and drainage problems due to sea level rise and increased flooding; with the temperature rising they've seen damage to the coral reefs, and an increase in ocean acidity has threatened the reefs and other

marine ecosystems, which affects their subsistence of eating fish, leading to eating other foods that are not healthy, forcing them into a state of eating food that is not conducive to their well-being. The warmer temperatures affect not only the people but also the trees and plants, with certain plants in the mountains becoming extinct; native plants are used for medicine, and so now “you start to see a bigger picture of health where it's not just the food but it's also other dynamics that we tend to look at as being native.”

Lesley shared that what she's most affected by today is the shoreline loss in Hawai'i, with large waves, hurricanes, tsunamis, and high tides after the full moon that goes over the roads and into their crops and ecosystem. She focuses on shoreline erosion as part of her job for the State. Because of shoreline erosion they now see their *iwi kūpuna* or ancestral remains coming up. The hawaiian worldview believes the mana or energy of that person is still connected to the *iwi* or bones. In the previous week on Oahu, they had 12 cases of ancestral remains coming up. Even just during the duration of the one-hour panel session up until this point, she received three calls for *iwi kūpuna* coming up. This impacts our health because,

“it is affecting our spirituality, it's affecting our mental state, and seeing our ancestors coming up in a place that they were put to rest... it's not just about the food that makes us healthy but rather that ability to practice our traditions that lead to a healthy person and that consists of many dynamics...Hawai'i is not just seen through a tourist gaze but rather a place that has history for the past 2,000 years. In my family we can go back 68 generations and tell you who is in each generation. And so when we talk about the changes from climate change we talk about our living ancestors, as well as our ancestors that are not here physically but they are here spiritually.”

Turning to concerns around COVID-19, the big challenge in Hawai'i is the amount of people allowed to be together in the present time. They have a lot of people in their families and can see even 20 to 30 people in a household, but with COVID-19 the local orders were to have no more than 10 people in a household and then it went down to five people. So what does this mean for large family households? These questions are important because,

“it leads us back to health and welfare of our people. For instance, the beaches and parks are a place where a lot of Oceanic, Hawaiian, or Pacific people venture to on a daily basis because it connects to our gods and...when the beaches started opening again the laws were to only have two people in your party but leave the children at home or it then went down to one person in your party so you can't go to the beach with anyone else. So these are things that are happening, what does this do for the family, for the community?...And really what we've noticed during COVID-19 is that it is business as usual for the government and this pandemic just shined a spotlight on who the government marginalizes and oppresses here in Hawai'i.”

Indigenous Knowledge is a way to survive because, “we are referring to our ancestral knowledge. It is seen through agriculture and food sustainability amongst other things, their stories that connect us to place and practices, that are seen in the elements of reference which are the stars, the moon, and the sun that allows for a native management plan that includes Indigenous Knowledge. These ways of our ancestors were and still are resilient and we can

learn from their examples that are seen in stories and chants and songs and combined with modern day approaches to create new pathways and solutions for climate change and sustainability...Indigenous Knowledge is science...and the practice of it allows for sovereignty within ourselves.”

Considering how we bring ourselves to this work and how that informs our collaborations, “I don't think it's about how we bring ourselves to this work, it's rather about how our ancestors have brought us to this work.” Reflecting on the Rising Voices workshop being in Hawai'i a few years prior, Lesley shared how they were “able to show our elements of reference and how we look at them and how we connect them to climate change, and in that space, in my space, we saw that the tribes and nations that came saw things similar if not the same and knew what we were talking about and in the totality of that space we realized we're all in this together. We all have the knowledge from our kupuna and we're all coming together to find a way to move forward, with collaboration, how to be inclusive, how to communicate, how to have relationships.”

Q&A SESSION

Considering compassion and enabling of students during a pandemic, at our institution, Northwest Indian College, an elder asked us to consider what cultural practices of isolation can we reflect on?

Lesley responded to this question by sharing that her doctoral fieldwork was in voyaging practices. Her work is also at a navigational platform where she sits at the navigator's chair and looks at the stars at night and connects their stories, genealogy, cosmology to them. “It's really diving into the Hawaiian world view which gives me the confidence to then go back to my campus and face whatever I have to face there. But in that space I'm able to look at the stars or look at the sun rising and understand that there's stories that I can refer back to without someone looking at me and saying, 'Oh you're American now, the Hawaiian queen was overthrown.'...When you look at intangible culture, you can sit there without letting people know what you're doing and to me that is the best way to talk with my ancestors, understand their traditions, and just be that Hawaiian that no one else is criticizing at that moment...Sometimes we don't have to be talking about what we're thinking, we can just be there and focusing on what is. Mahalo.”

David shared in response, “For me one of the things I've been interested in is trying to reconnect with childhood. What are the things that I did when I was very young to entertain myself and deeply investigating the awkward and the silly. We have this society that really differentiates your life from childhood to teenage adolescents to middle age to elders and in all the ways that those delineations are important and useful we also have to understand that there is some amount of joy that can be obtained from just sitting with yourself trying to come up with jokes, trying to doodle some drawing, making music, learning about things like cooking, learn about the architecture of different fruits and vegetables, when you make your next dish do some silly dancing, write somebody a letter...In ways we're solitary creatures, we should find ways to combat boredom and invest in ourselves. And in ways that we're association creatures, we

should find ways that we can authentically invest in others and what that can look like is even just texting two or three people that you care about every day. It can look like writing a letter [with] ink. It can look like giving people cards and gifts out of the blue, and even though we're distanced physically that doesn't mean that we can't still invest in others. If you learn a nice little dance that you really enjoy you can put it on live-stream. Invest in the silly and the awkward."

CLOSING REMARKS

Hank Fergerstrom proceeded to close the session by sharing a chant in Hawaiian that recognizes the four gods and is about the trail of the water, from the ocean waters to the heavens to the mountaintops, and as the water finds its way back down to the ocean it'll feed all those things that are put into the ground to sustain life."

VRV8 HEALTH WORKING GROUP SESSION

Building from the [Health Panel Session](#), the VRV8 Health Working Group Session ([part 1](#), [part 2](#)) on October 30, 2020 was designed to continue the conversation from the panel session, which reflected on the same questions posed to the panel speakers.

Hank Fergerstrom opened the session with a chant that calls from a deep ancestral past where we all are family, "it calls for the ancestors to come and bring their knowledge to us and be with us."

Heather Lazrus (NCAR) welcomed everyone for this next installment of VRV8 focusing on health, and provided a brief background about Rising Voices for anyone who may be new in this space. Dr. Julie Maldonado (LiKEN) proceeded to introduce the focused topic of health and remind us of the goals for the session, especially in continuing to build from what has emerged from the previous working group discussions in looking at phenology, community relocation and/or site expansion, energy systems, water systems, and food systems. She then introduced the session's facilitator, Michael Chang, who provided a brief summary of the panel session.

Mike thanked the panel speakers, John Doyle, Valerie Segrest, Jacqueline Qataliña Schaeffer, Lesley Laukea, and David Rico, and provided the prompts from the panel session. The first one was considering people's health, what climate related changes are most currently impactful and important to you, your work, and your community? The second question was considering COVID 19 in particular, what particular challenges are you or your community experiencing, are any of these challenges exacerbated by or related to climate and or other environmental factors or pre-existing situations? The third question was how do you see Indigenous Knowledge, sciences, and sovereignty responding to these changes? And the fourth one was how do we bring our whole selves to this work and how does that inform our collaborations in responses to these changes? Some of the key takeaways in response to the first question included about how changes in both water supply and water quality affect the water availability for homes across Indian Country; John Doyle shared a story about some of his colleagues being able to

walk across one of the rivers without getting their feet wet this year, and that's a story we're hearing more and more frequently. Something else that has emerged in previous RVs as well are what are some of the seasonal and phonological impacts? Warmer temperatures and shifting water and precipitation patterns are affecting both the plant communities and some of the harvesting practices; this year especially there has been a lot of smoke and toxic air quality that has affected harvesting and hunting seasons. Inundation from storms and sea level rise are disrupting burial grounds and climate change overall has been affecting cultural foods and forcing Indigenous Peoples to eat foods that aren't conducive to their health and well-being.

Discussion around COVID-19 also emerged across all of the speaker's messages, including how there has been an unprecedented loss of elders and the Indigenous Knowledge that they hold; people live in multi-generational homes, and what are some of the considerations, policies, and safety concerns that come with that context? COVID-19 is also disrupting harvesting, hunting, and fishing seasons. Some of the speakers mentioned stories about no longer being able to travel to their homelands to be able to harvest, hunt, and fish. Anxiety, grief, and stress from these situations can be compounded both from climate change and COVID-19. And from a policy standpoint are challenges around food relief and assistance, including federal systems and policies not building tribes into them, such as the federal Emergency Food Assistance Program. Being with each other, with family and relatives is a critical part of Indigenous health and wellness, but the opportunities to be in relation with folks at least in person has been disrupted. That has had a big impact considering, how do people seek medicine, how do people seek connection, and how do people become healthier during these times?

In terms of how Indigenous Knowledge, sciences, and sovereignty respond to these changes, speakers talked about starting with ourself, how do we live in a way each day that acknowledges the world we live in and how we're connected with everything. Being with family and being with relatives also means being in good health and that's an important part of many different cultures. There have been thousands of years of resilience, of practicing, "how do we tap into that and leverage that alongside modern approaches to become more resilient and to move towards progress in the future?...The lands, the waters, the air, that's our legacy to future generations and so being in the space interacting with the space working in the space means how can we begin to understand the systems, unpack them, dismantle them in a way that enhances the health, the well-being, and the livelihoods for Indigenous Peoples and communities for generations to come?"

BREAKOUT GROUP SESSION

In the breakout group session, Darren McCrea (Colville Tribal member) shared how there is widespread tree deaths and damage in Washington state; there's a 16-million acre swath of dead trees that don't look dead but the roots have rotted away from blight. He shows this happening in his video, [Observed Evidence of Changing Forests](#). This is all also contributing to the intensity of forest fires, like matchsticks waiting to be sparked. The metaphor of a frog in boiling water was shared, expressing how these changes are creeping in slowly without reaction or realizing their true effects. The trees don't seem to be healthy enough to sequester carbon as healthy trees would. Maraya Ben-Joseph ([Olohana Foundation](#)) shared how Hawai'i is having

similar blight issues with some of their native trees, and Julie Maldonado brought up the [nearly 150 million trees that died in California](#) during the 2011-2019 drought. However, one positive that has emerged from the recent wildfires is that the broader society is finally tuning in to the importance of cultural and traditional burning practices as key to fire mitigation and a healthy ecosystem. Mike Chang shared that in Washington there's been a lot of concern of die-offs, and on the coast shellfish are declining on the coast of Washington. Tim Schneider (NCAR) recommended to participants the book, "In Search of the Canary Tree", as a relatable story to what was being expressed in the conversation, and recognizing how much we need to look at the subtle changes that are at times less visible. In considering 'solutions', Western-driven ideas of 'technology will save us' can lead to inventing things, but don't include wisdom.

Issues like this can be deeply emotional. Lynda Zambrano ([National Tribal Emergency Management Council](#)) raised concerns about health in places experiencing extreme climate impacts, such as the Bering Sea region, and what a huge spectrum is encountered when it comes to people's perspectives regarding climate change and how important it is to listen to one another. Bringing up how the forests have been cut down for lumber and replaced with soybean crops, Bob Rabin ([NOAA National Severe Storms Laboratory](#)) posed the questions of how do we emotionally deal with these changes to preserve our social, emotional, and spiritual health? Liz McDonough (LiKEN) shared that as a young person, a world in a climate crisis is the only world the younger generation has ever known. But there are things happening to give hope. Bonne Murray ([NASA MAIANSE](#)) expressed how some major organizations are realizing they need to include Indigenous Knowledge in their studies and braid Indigenous Knowledge and science with Western science.

BREAKOUT GROUP REPORT BACK

After returning from the breakout group session, Mike shared some key takeaways from the conversation. Much of the discussion focused on how do we observe climate change within our communities. There was also discussion around how in this modern world, and especially during the COVID-19 pandemic, we're staring at screens a lot, inside our cars, offices, and homes, and the opportunities to be in community and with nature has been less institutionalized within our lives. There's a tension of how, especially during COVID-19, we still make connections. The idea about connections came up a lot, connecting with friends, family, relatives, and how do we connect with each other and share, empower, and elevate our stories? For example, Darren created a video to share his experiences about what he's seen over the past few years and to elevate his stories, experiences, and knowledge to a broader audience to raise awareness. How do we continue supporting each other and sharing these stories on a regular, consistent basis?

CLOSING REMARKS

Hank closed the session with a prophecy chant about this time of change. It calls for the ancestors from above and below and talks about us all gathering together in one big *hui*, and as we do the whole nation rises.