

THE BROOKINGS INSTITUTION

WEBINAR

HELPING COMMUNITIES PREPARE FOR CLIMATE RISKS

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FIRESIDE CHAT:

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BRIGGS: Hi, everybody. I want to welcome you. I'm Xav Briggs, a Senior Fellow at the Brookings Institution in Washington, DC. It's my pleasure to welcome you to this session on helping communities prepare for climate risk. We're going to focus in particular on how a new generation of science can help communities become more resilient to the growing impacts of a changing climate. We're going to do that in two parts. I'll begin in conversation with the deputy administrator of the National Oceanic and Atmospheric Administration. That's a that's a mouthful. Usually we call it NOAA. And we know those folks as the weather forecasters and the folks who produce those really important storm tracker maps. But they do so much more. And a lot of their most innovative work lately has been improving the way government, including these federal agencies, support communities to adapt, to prepare for extreme weather events and in other ways to become more resilient. So we're going to we're going to dig into all that.

I'll begin with a one on one with NOAA's deputy administrator, Jaimey Bavishi. I'll introduce her in just a moment. And then and then Jaimey will moderate a panel, just an amazing group of community leaders and scientists and folks who are working right on the frontlines and at the cutting edge of that engagement of science with community knowledge, including indigenous knowledge, a partnership to make communities more resilient. Let me say just a word or two about why we think it's so important that we're having this conversation now. I think we're all aware that the impacts of climate change and the losses connected to climate change are growing across our country. And those impacts are very, very wide ranging from unprecedented wildfires and flooding to intensified mega-storms, hurricanes, some of which are becoming strong at more rapid rates than we've ever seen before.

And recent events, Hurricane Helene and Hurricane Milton in particular, remind us that we are in somewhat uncharted terrain. Some of the impacts and some of the some of the shocks that we're seeing thanks to climate change, are surprising us and surprising communities, civic leaders, businesses, people in their homes and schools and so on. And so we think it's really important to be having this conversation and having it now. We're going to look at what it means to help communities become equipped and more empowered to adapt to climate change, whatever the particular hazards they face in different parts of the country. And to help us do that. I want to welcome and introduce Jaimey. Obviously, Jaimey, as I mentioned, is Deputy Administrator of NOAA.

And she's because now, as part of the Department of Commerce, she's also Assistant Secretary of the Department of Commerce. Jainey, thank you, first of all, and welcome. Thanks for joining us.

BAVISHI: Thanks so much for having me. And thank you for thanks to Brookings for putting on this important this this essential this discussion about this important topic.

BRIGGS: Jainey, I've been looking forward to having this conversation with you and then listening to the panel for a number of reasons. And one of them is that I know you can speak. You have a perspective of someone who's, you know, worn a variety of hats, held a variety of roles. So important to understanding this issue from. Well, I mean, you grew up in the South, in North Carolina, in a state affected by climate change in so many ways, as recent and tragic events have reminded us, though, the mega storms. And you've worked in the wake of Katrina to advocate for Gulf Coast communities for an effective and fair and inclusive recovery work that mindful of the Pacific Asia Pacific Rim, including developing nations that don't necessarily have the science resources that we do, but also face important threats.

And you serve as the head of resilience at the local level for the city of New York. So you know it from that angle as well and work directly with local communities and businesses and elected officials with lots of different views. I want to ask you in a moment about some of your latest work at NOAA and this new climate action plan you guys have had released. But I want to bring these big storms that have been front and center for us, sort of affected so many people in severe ways. Bring it right into the into the conversation and ask you a few questions about that. I noted in preparing for this conversation today that NOAA describes itself sometimes as the nation's Environmental Intelligence Agency. And I love the sound of that, but I'm sort of sitting here also, you know, stunned at some of the disinformation that we're dealing with in our lives now.

Sadly, for example, before these hurricanes even made landfall, there were those spreading rumors on social media that the U.S. government was wielding weather weapons as though our government would do that to our own our own people. And then after, you know, the worst of the events as the rescue and relief efforts got underway, there were those telling communities on the ground, don't

cooperate with FEMA, the emergency management folks, too many of us. It's kind of stunning. But I guess just a, you know, a broad question to start. How do you how do you think about it? How should we think about equipping communities with intelligence and know how in an age where we're dealing with disinformation more and more?

BAVISHI: Yeah. Thanks for bringing up that. And she's out. It's so important. So let me just start by reframing NOAA's role, because we have traditionally called ourselves an agency that provides environmental intelligence. But it is. It's more than that. Right. We know there's actually a boundary spanner in many ways. We're not just a science agency. We are working in partnership with communities across the country to apply that information and actually advance adaptation and resilience solutions to prepare for the impacts of extreme weather and for climate change. And I think that's really important because there is an intelligence that comes from that application, from those partnerships, and we're bringing them that back into the agency and making sure that that information helps us design and deliver the services that people need.

But this point about disinformation is absolutely critical to talk about an address right now, because you're right, there is, you know, rumor mongering happening out there about the government's ability to control the weather. And it's just completely incorrect. I mean, as the president said, it's just ridiculous. Right. And it's and it's damaging. And it's actually quite dangerous because we need people to heed the warnings and the advisories that we're putting out there, especially when it comes to lifesaving information like weather forecasts of hurricane forecasts. You know, and I think, you know, part of the reason that we are sort of leaning into this work to make sure that we're focusing on equitable climate services is that we realize that some of our most vulnerable communities across the nation are communities that are not just facing the impacts of climate change, but those impacts are compounded by environmental, social, civic disparities that really are borne by centuries of unjust public policies.

So in some of those communities, we're very cognizant that the government is working from a place of trust deficit, right? That communities are not immediately trusting of government employees or government agencies. And we really need to rebuild those relationships to get to a place where we

can partner with those communities productively. And so this disinformation just contributes to the distrust, and that is also very damaging. So, you know, I find it really irresponsible that that rumor mongering is happening out there, especially by some of our political leaders, because it can impact people's ability and people's inclination to listen to, as I as I characterize it before, lifesaving information. That's absolutely critical to ensure that people are aware of and people act on it.

BRIGGS: If I if I hear you, Jainey, you're saying that you and your colleagues are not only aware that these storms, other extreme events, chronic extreme heat, which is affecting us more and more, arrives in communities, if you will, where there are already significant vulnerabilities and you're working harder to understand those and reflect those in the way you approach and show up, but also that you get and your team approaches this as a project of building trust in the information, in the people, providing the information so that that foundation is there to work from together. Is that fair?

BAVISHI: Absolutely. Yeah, we know that we need to make sure that we're providing information to communities that's decision relevant, that's actionable, and that's answering the questions that those communities are asking. And often we can't do that from the halls of government. We need to be in the communities working hand in hand with decision makers and community residents to understand those questions better and then provide, you know, work together to create the tools and the data that are needed to answer those questions. And that does require trust building.

BRIGGS: I don't mean to cut you off. Speaking of questions, I forgot to do one thing at the top, and that is acknowledge that lots of the folks who are tuned in sent in questions in advance. And we want to thank you. We read all of them. We're going to address quite a few over the course of the conversation here. At least we're going to try. And let me mention if during the conversation you want to send in a new question or perhaps a first question for you, you can email it to events@brookings.edu, events@brookings.edu. Jainey, before we talk more about doing things in a new way and acting on some of the principles you just outlined, I want to I want to move beyond this information as significant and irresponsible, as you say, as it is, and just ask you to share with us, you know, what are some lessons thinking about these latest hurricanes? What are some lessons you hope will take away from this experience, as terrible as it is?

BAVISHI: Yeah. Let me focus on Hawaii. You know, I think Helene and Milton were different storms, and we could tell different stories about each one of them. But let me start with home, because it was a storm where the National Weather Service got the forecast exactly right. The track of the storm followed exactly what the forecast said. And those warnings came out well in advance. However, you know, we saw hundreds of deaths in in the throughout the track locally and still many people missing and unaccounted for. And Asheville, let's just take Asheville as an example. Was previously the top of the list of many, many lists of climate safe havens. It was considered to be an area that would be spared. But we saw that that's not the case. And so I think the lesson from Helene and there will be many people, I think, weighing in on the lessons and much more to come on this front. But at least one of those lessons is that no place is spared from climate impacts. We all need to be thinking about future risk. And that really sort of gets to the heart of the conversation here about, well, then what information is needed for us to really grapple with those risks and make responsible decisions and informed decisions in the face of those risks.

BRIGGS: So why don't we dig a little more into what you guys are actually doing and how folks across the country are responding so far. I know you've got really rich stories to share. Some months back, you released a new climate action plan. And I want you to share with us, you know, tell us what you see as some of the most important things in that plan that everyone ought to know about and what's new or different about it.

BAVISHI: Yeah, I think so. So we actually started two summers ago by putting out a request for information. And we asked practitioners, community residents and teachers, whoever wanted to respond. What information do they need to respond to the climate impacts they're facing? Are they getting that information from NOAA or the federal government? And if not, what would be helpful? And we got some sobering feedback. We heard about the lack of accessibility of scientific information, data and tools. We heard that the need needed to be hype, that the need for information was one that was hyperlocal. People were not only using climate data to make decisions about their communities, futures or their towns or cities futures, but also for personal planning.

We heard the need to integrate physical risk data with data about impacts who would be impacted by these climate risks and what kinds of impacts can people expect? So that requires integration with health data, housing data, socioeconomic data. And we heard that, you know, posting a tool on a website is just not enough. We really needed to be in communities working hand in hand with decision makers to make sure that this information was understood. It's decision relevant, it's actionable. And so we took that feedback to heart and we went on a road show within the agency. So NOAA, as a 12,000-person agency and we work on climate across our six-line offices.

So from the programs in the National Ocean Service that are working directly and in hand with coastal decision makers to our satellite service, which is really working to collect the environmental observations that we need to develop climate projections. So we talked to everyone across the agency that touch the design, the development and the deployment of climate services to understand how we can take in this feedback and really incorporate it into the way we do business that no one. And so the Action plan releases a set of it outlines a set of commitments to do better. And Xav, I think you want to ask me a question, so let me pause here.

BRIGGS: You're reading my face. I just wanted to interject and ask. It sounds an awful lot like extension service knowledge, which isn't new. You know, we as a country have a lot of experience with it, not necessarily in the in the climate decision terrain, but I'm just reminding myself and everyone is tuned in, It's not for the first time in our history, we've said we're going to get the scientists out of the lab and away from the screen sometimes and work directly in communities on the meaning of science, the meaning of this information, and in fact, take signals back to take feedback from those on the front lines to do better science. Is that a fair analogy? Is that too simple?

BAVISHI: I think it's a fair analogy. However, I think what's different in this moment that we're in now is that there is an exponential increase in the need for tailored climate services. So every community is asking similar questions, but every community's context is a little bit different. And those differences can range from the hazards and risks that they face to the cultural appropriateness of information to governance structures and how that information is actually taken in and applied to budget constraints. I mean, there are all kinds of different contexts that we're operating in.

And so there is just an enormous availability of climate tools and data across the federal government. Not just that, NOAA, but communities are still saying that they're overwhelmed, dry. They're saying there's a lot out there, but we don't know which tool to use to answer the questions we're asking. And maybe none of these do answer the questions we're asking. And so we have a lot of work to do to make those tools accessible and help get communities quickly to the right information that they can use in their local planning and decision making.

BRIGGS: Can I ask you in that window to say a little bit more about who are there, say again that you want information to be more accessible, more tailored, hyperlocal, as you put it, as part of that. But I'm thinking you cannot literally be in every household in America. Nope. No agency can quite do that. When you go into local communities. Are there folks in certain roles that you that you see often elected officials? I'm imagining. But what about people who run school districts or local pastors or other community leaders? Are there folks that are sort of frequently in the conversation that you make a special effort to touch?

BAVISHI: It's really all of the above. And it also depends on the hazards, right? So we've been running, for example, tabletop exercises in communities. NOAA has been working, partnering, partnering with local city officials to run these heat table tops because we realize that it takes a very complex web of stakeholders to prepare for heat impacts. It's not just, you know, the municipal government, but it's the fire department, it's the hospital system. It's the organizations working with unhoused people. It is the school districts and the libraries that often offer cooling centers. It's the senior homes and the people who are working on elderly care. So it requires this really sort of multi-stakeholder approach.

And we realize that one of the services we can provide is to help convene all of those stakeholders and again, provide the science and the data to help sort of ground truth, the planning. But the other interesting thing about this is that we're also now creating kind of a network of practitioners that are working on heat resilience because, you know, the idea of a chief resilience officer is actually quite new there. Not that many cities do have them yet, places like Miami and Phenix, certainly.

But it's still kind of a new concept. So we're networking those practitioners so that to your point, we're not reinventing the wheel. We also have sort of streamlined ways to share best practices and strategies and so that as cities and municipalities can respond, kind of understanding the lessons that other people have learned instead of having to learn those hard lessons themselves.

BRIGGS: That's terrific. I mean, it's such a key role for you guys just given the sweep and the vastness of the country and all the different situations that you see and then can share lessons from in different communities, I wonder if you could say a little bit more about the role of technology in changing technologies like artificial intelligence. A number of folks who are tuned in send in questions about that, and I'll put it in a simple way. What what's going on that's notable. What potential do you see to make even more positive and constructive use of tools like A.I. or other technologies?

BAVISHI: Yeah, I think there's a lot of potential, but I think it's also a double-edged sword, right? So we do see the opportunity for AI to really accelerate our efforts, for example, to provide high resolution, local reliable data. So we're certainly exploring that potential. But again, we want to do this with equity in mind. So we want to make sure that we're, you know, especially as we think about kind of working with third party providers, you know, it would be a mistake to sort of get into a landscape with climate data where it's pay to play and some of the most underserved or low capacity communities can't access the data because they just don't have the resources to do so.

But let me say on this note about technology for a second, because I think there are other ways apart from I just think about the use of technology as well. And one great example is our backyard that we use program. We have been we've discovered this kind of low-cost technology, to put it to measure both wave height and temperatures. And we've been deploying these low-cost buoys that would otherwise, by the way, be hundreds of thousands of dollars and require ship time to deploy. And, you know, I mean, it would be like a massive effort to get this data otherwise. But these like they can fit on my desk, you know, and they can be deployed in partnership with indigenous communities. So the indigenous communities are able to manage them, monitor them and extract real time data.

So they'll tell us, you know, where they want them to fit out ten feet out, 20ft out, and they can provide. For example, I was just in Alaska earlier this week and was talking to a manager of the program who said that, you know, they can provide real time information about whether it's safe to go whale will whaling for these communities that are subsistence communities that rely on traditional foods or if the waves are just too dangerous and maybe it's not worth the time and the gas and you know, the costs associated with going out that day, maybe they should go hunting instead that day, right? So with the climate variability that we're experiencing now, it's harder to rely on some of these seasonal hunting and subsistence seasons that that these communities have relied on for generations. And so these booties actually provide a way of gathering information to calibrate those efforts real time, which is just an incredible thing.

BRIGGS: That's amazing. I'm a recovering engineer and it's just music to my ears. You're making me think of how we learned over and over. Often in low income countries that usable, low cost, reliable, as easy as possible to maintain. Those are things that are absolutely critical. It's not always the most sophisticated, let alone the highest cost technology. So thanks for spotlighting that. I, I want to ask you to share another kind of story, because as you and I talked about this, we began to, you know, sort of plan for this session. You told me the story of a community in Pennsylvania, Eastwick. And it really struck me and stayed with me because it seemed to bring all the ideas to life. The idea that we need to start with the best foundations in data and information that we can possibly start with, of course. But what we have and what agencies have isn't necessarily enough. Kind of like your point about Alaska just now. Things we've relied on traditionally, like flood risk data. And it took work with the community to build on that and to do much better. But you tell the story.

BAVISHI: Sure. So Eastwick is a community in southwest Philly, and it's a low-lying community on the Delaware River. And it has experienced flooding from recent storms. Ida in 2021 is a yes in 20 2020. And then before that, Sandy. So these major events have, you know, flooded this this low lying, predominantly African-American environmental justice community. And the community wanted to start thinking ahead and taking action. But the only flood maps that were available were FEMA flood maps that are based on historical data, not forward-looking data. And so they didn't have the information they needed to advocate for flood risk reduction solutions.

So NOAA's Climate Adaptation Partnerships program actually provided a grant that allowed the community to partner with Drexel University. And researchers from Drexel are working hand in hand with community residents and local decision makers to really understand where the flooding is happening, what the current impacts are and what the future impacts will be, and really sort of identify a suite of solutions that are feasible, both from an implementation perspective but also from a financing perspective. And this has enabled community, the community and equip the community to now have new maps that they can take to the Army Corps of Engineers, which is which is now Army Corps is actually investing into us investing in a study that will look at a potential flood risk reduction solution for this area of Pennsylvania. So it's just a, you know, having data. It can be a really powerful thing because it gives the community, the agency to now advocate for solutions. And they didn't have that before. So this is a cooperative research program that we've been able to invest in to help enable this partnership. But it's great to see, you know, solutions now moving forward.

BRIGGS: It's great to see what it's leading to in the way of designing better solutions that are better tailored to that to that place. Can I just make sure I follow you? So community members are doing a range of things, but a part of what they're doing is literally reporting what's going on. This is what happens and where throughout the community that may not be on your map, that may not be in your system. Is that right?

BAVISHI: That's right. They have literally had research have researchers have walked the blocks of the community with residents to document what the impacts have been, where the flooding is occurring. And, of course, then they've modeled what future impacts could look like based on that information as well and based on climate projections. And so there's a modeling exercise that's happened here, too. But it really started with understanding the impacts based on the lived experience of people.

BRIGGS: Got you. That's awesome. You got me. Here's a couple of minutes here. I'm going to hand it over to you to welcome the panel. And I know here's some wonderful some additional examples from them. Before we get there, last question I have is about how scientists are responding to all this. I mean, we're talking about expanding in some sense. I think it's a yes and proposition.

It's not instead of all the best of traditional analysis. It's an addition it enriches. But what kinds of reactions are you getting from scientists? Is it sort of this is the highlight of my career and this is amazing, or I'm not too sure about some of this. Is it a bit of both?

BAVISHI: Yeah, I think we're in the middle of a paradigm shift and I think that paradigm shift is ongoing. But I think increasingly we are realizing that we really need to emphasize and consider the lived experience of, of communities that are being impacted, place based and indigenous knowledge as part of like key components of the scientific inputs that are going into the tools and data that we're delivering to communities. And that is a bit of a shift. And you know, I think every individual sort of steeped in the physical sciences will respond differently. But I think it's an important paradigm shift to go through, to really stay relevant to, again, being able to serve communities and answer the questions that they're asking right now.

BRIGGS: That's. That's fantastic. Well, here's hoping that this keeps to keeps evolving and gets a lot of great take up in communities across the country and also that it drives important investments and important decisions. We know it's not knowledge alone, but also making the right investments. It's really going to help communities adapt. Well, Jenny, I could talk to you about this all day. This has been really eye opening just to get started. Thank you again for being with us today and being part of this session. And now I get to hand it to you who are on the panel.

BAVISHI: Well, great. Thank you so much, Sam. And I am really honored to introduce our amazing panel who will provide insights on the application of climate science and data in communities. So let me introduce the panel. Dr. Tia Martin, CEO and founder of the Black Resilience Network. Dr. Raj Pandya, Professor of Practice at Arizona State University. And Jackie Qataliña Schaeffer, who's the Director of Climate Initiatives at the Alaska Native Tribal Health Consortium. So welcome to you all, and thank you so much for joining us. Let me just ask a question to get a get the conversation started. I wonder if each of you could tell us more about the communities that you work with. The decisions that they're trying to make and what their needs are in terms of information and decision support in the face of climate change. And are these needs being met? Jackie, maybe we'll start with you.

SCHAEFFER: I'm Jackie Qataliña Schaefer. I introduced myself because I'm, in fact, from the northwest coast of Alaska. And that uniqueness matters because the people we serve in Alaska through the Tribal Health Consortium are those tribes. So in Alaska, we have 229 federally recognized tribes. And as the director of initiatives for the Alaska Native Tribal Health Consortium, we work across all those 229 tribes. We have a very small team. We have very small communities. Our community's average population is 250. Some are a little bigger, some are, well, smaller. And they have lived on those traditional lands for thousands and thousands of years. My family have lived on our traditional lands for over 500 generations. We still access the same foods and live our traditional way of life seasonally.

So how we respond in Alaska has to be unique to all of that. We have 11 distinct cultures, over 20 recognized languages, over 200 dialects. And these are people who have lived here for thousands and thousands of years. And that's important because they've lived in the same geographic space on the planet for all this time. And so to serve them and meet their needs and come up with innovative solutions, we have to meet them where they're at. They live a unique lifestyle that does not fit into any federal program. And so meeting people where they're at, I think is could apply across the nation because we have other variances that happen.

But really, the overarching goal here is to make sure we protect human life and that we protect their well-being and how they live wherever they are. And so in Alaska, we have many unique caveats because of our cultural history, but we also have many barriers and challenges because the Western process does not fit our seasonal lifestyle. So it is a unique space to work in and a unique space to be in. But I cannot imagine the Earth system without a frozen Arctic. And so we have to think beyond our localized issues and broaden it, because if the disruptions are happening four times faster in the Arctic than they are anywhere else on the planet, we all should be paying attention to that because it's going to be disruptive across the globe.

BAVISHI: Yeah, absolutely. Thank you, Jackie. Tia, I wonder if we could turn to you to add your perspective on whether climate needs are being climate data and information are being met.

MARTIN: Thank you. I appreciate you. So I am the, I wear multiple hats, but today I am here as the executive director for a nonprofit called Next Leadership Development. And our mission is to accelerate change and strengthen resilience in black communities through leadership building, creating on tables and developing partnership with allies. And one of the tables we've created is called the Black Resilience Network, which is a coalition of black led organizations where we facilitate collective care, collective action and collective impact focused on climate and disaster resilience. We have just over 100 members across 23 states and some of the most pressing decisions that we're seeing black residents network members have to face is where do they get resources to support recovery from climate related disasters and how what information can help them take more proactive action to reduce the impacts of climate change and disasters on their communities?

So I would say that there's a number of needs that are being that are not being met. So I'll give an example. So much of the funding and resources that are really focused on the response to climate emergencies or traditional climate action projects. And we're working in Cook County specifically on the west Side of Chicago, because in July of 2023, they experienced one of the worst flooding events in decades. And one of our members, Lawndale on the west side of Chicago is working with hundreds of families, primarily elders, whose homes still have mold growing over a year later. July 20th, 23 is when this flood event happened, and there are families who mold is still growing in their basement over a year later and have not received any support.

And as we think about the immediate climate adaptation realities of living with what damage we've already done and how that's impacting communities and what things they need to do to prepare for that and adjust and adapt. The other part of this is we are facing a lot of hidden crises in communities, both in urban areas like Chicago as well as a number of rural areas around the country where we have Black Resilience Network members struggling to learn more about the impacts in plain language and what it means to the work that they need to do to support communities. And the last thing I'll say about this is we really are in a place where there are more and more disasters that are presidentially declared, and there are just as many, if not more, that are not presidentially declared.

And a lot of them are happening in these invisible spaces. And there are we have been to so many communities around the country who are literally languishing because of the lack of proactive measures as well as the lack of response and recovery support necessary to be able to stay healthy and to stay where they are in their communities.

BAVISHI: Things that you have that brings up so many other threads that we could pick up on. But let me move to Raj first. And Raj, maybe you can offer your perspective on whether climate information and decision support needs are being met in the communities.

PANDYA: User ID. Thank you. Thanks for this conversation and thanks. It's an honor to be part of this panel. I'm going to answer your question with two stories, both of them true stories. First is about a young kid who goes away to graduate school and he comes home from graduate school and his grandmother says, tell me, tell me, grandson, what you've learned in graduate school. And it's a little complicated. It's a little technical. He takes a deep breath and he explains what he's been working on. And his grandmother says, this is good work. Go back to graduate school. And that pattern continues every year. When he comes home for the summer and sees his grandmother. And every year it gets a little bit harder. And finally, one year he just says, Grandma, it's really the work we do is incredibly technical. Like I can't even the words we use in graduate school, some of them I don't even know how to translate into the language we speak.

And his grandmother says, don't go back to graduate school if what you're learning can't even be translated to the language of our people, how can it be useful to her people? And I tell that story because it invites us to think about a different way of doing science. A different way. Right? What if instead of going away to graduate school and coming back, he had asked his grandmother about the things she knows, the things she cares about, and he thought about himself as a bridge between graduate school and that commute. So the second story years later, young meteorologists, young climate scientists working with people in Africa to try to buttress meteorological capacity in Africa. The assumption. Meteorology is a self-evident good. Everybody wants to know more about climate. Everybody needs to know more about climate.

Has as this person spent more and more time in Africa, people said, you know what really matters here? It's about public health. It's about wellbeing, it's about community health. And one of the ways your meteorological information might be useful is we're trying to manage this disease called meningitis. It's endemic throughout this region. It seems to have this really strong seasonal signal. In fact, it's tied like in our language, we actually call meningitis dust disease. And we know that it ends when the rains come and sometimes even a little bit before the rain come. Can we talk about that? Can we talk about how we use that information to better manage vaccines? Vaccine distribution, Because the vaccine we have sucks and we can get into the whole reasons that for that. But in the meantime, let's do what we can.

And, and we thought about websites, we thought about all of these kinds of things. And what ended up being the most effective strategy was to get on a phone call that happened once a week between people who are managing vaccines all across the Sahel and have meteorologists participate in that call, mostly to listen, but occasionally to answer questions and to give advice about where the precipitation patterns were going to change and how they were going to change. And what I learned from that was that the lessons are to listen to community priorities, to honor community knowledge, what they know about their place, that climate resilience might look really different than the way we have managed it, and that climate knowledge is necessary, but it's not sufficient to build those kinds of thriving futures.

BAVISHI: Great stories, Raj, and I think just a great way to all great perspectives to set up this discussion. I'm going to turn back to Jackie and Jackie, I know that you're kicking off a project that will help conduct community risk assessments in Alaska native villages. What information will these risk assessments provide and why? Why is this an important step toward ensuring the well-being of these communities? So you're picking up on some the language there.

SCHAEFFER: Yeah, and I really appreciate that, Raj, because really the whole program at the Alaska Native Tribal Health Consortium is looking at climate change through the lens of public health and traditional lifestyles and knowledge.

When we talk about science and when we talk about ways of living, we have a science that has been indigenous science knowledge that has is intimate with nature in ways that instruments cannot be right. So we have to look in value those aspects as well. So we have recently received a large investment from Noa and our goal really is to build out capacity but also understand what we're dealing with. So currently, small communities compete across the nation with large other tribal and organizations in tribal nations like the Navajo Nation. When you're a small tribe of 200 people, very hard to compete and all of our grant mechanisms. So funding mechanisms to access are done online in some of our communities because of the remoteness, have unstable Internet. And so what we've decided to do is really look at in order to make informed decisions, what are those tools and what is that information and data that you need to make an informed decision.

So we're standing up a risk assessment program and we define risk assessment as utilizing the scientific and engineering assessments. And then of the magnitude and timing of threats we have floods, erosion, permafrost aggregation, permafrost melt is unique to the Arctic. And so there aren't very many tools that are really useful in a financially or economic way for our tiny tribes. And so looking at hazards on the natural and built environment, social and cultural implications, and then analyzing that for potential solutions. And again, I really reiterate we need innovation because we're creating tools that don't exist. So risk assessments allows tribes to make informed decisions and also allows science and the federal partners to look at through the lens of hazard and create these long-term plans to prioritize projects.

So looking at you look at an assessment and assessment, and I think we all have agreed that it depends on where you are. Everything is very site specific. So creating data tools that collect that information. And then I think is really important also to reiterate that this information from these risk assessment, the assessments themselves will not only provide information for community leaders to make informed decisions, but it will also provide the scientists on this a science and research on the global scale to really look at what's missing. What are we missing in this Earth system assessment that we all need to pay attention to? And so we have many ways to do this. We rely on science and engineering through that western lens, but we also have indigenous knowledge. And when we pair that together, we produce different solutions.

And so we're developing those programs, that program and those tools. The guiding principles are community led, a very holistic approach because we exist within this natural earth system that is not separate from us. We don't simply live on this planet. We are part of the land. And then unifying those efforts. So our program guidance is going to come from a program development advisory group that has many different sectors, and Alaska Tribal Climate Change Advisory Group that was stood up just in the last year by our Climate Initiatives program and then a science and technical Advisory Council. So when these groups sit, they look through three different lenses and then we pool that information together. And couple that with the actual assessment.

So I think it's really important. I think we're all pulling on the same threads in order to respond and become resilient as a community. We each have a responsibility, not each of us on this panel, but each individual in the nation has a responsibility to become educated, to really look beyond the local issues, to the global issues. And then our real hope is that we're able not only to just help our communities, but really to advance and increase the dialog across the nation.

BAVISHI: Thanks, Jackie. Now, that's really powerful. And I wonder, Raj, if I could turn it back to you. And you've already alluded to this. I think Jackie's give an example, giving an example that supports this. But, you know, it seems that our concept of what counts as science is really evolving right now and was considered a scientist who's considered part of that scientific community, at least in a Western sense. And so I wonder if you could speak to how this is playing out. Maybe give us an example and what more needs to be done.

PANDYA: Yeah. Thank you. So that there's a great story someone told me about. They had done a lot of research on the Arctic and Arctic climate signals, had reams of data, and they went to the earth and they looked at that data and they published all kinds of findings about that data. And then they spent time in the Arctic and people said, you know what we're noticing? What we're noticing is that spring isn't reliable anymore. It used to happen at a time. Now it happens in a range of times. And it's interrupting migration patterns. It's interfering with everything. And she hadn't noticed that in the data. She went back and she looked in the data and it was there, but she hadn't noticed it because she hadn't lived there.

That's an example, I think, of the ways in which different perspectives, different lived experiences can enrich sort of what we understand. Another example of that that's maybe a little more subtle. I had someone say to me once that, you know what the difference between Western science and indigenous science. Western science wants to understand how the world and how nature work. Indigenous science wants to understand how to be in relation to nature. And that notion that science could be about a set of values and about some norms that was brand new to me. I hadn't even thought about that, right. It never occurred to me that there was reasons to do science or that it was okay to talk about the reasons to do science.

And what that meant was that we were assuming a certain set of reasons for science and not articulating the rest, which created a really unwelcoming environment and creates a really unwelcoming environment. It says that these things are okay, these things we don't talk about, right? So what can we do differently? I think one of the things we can do is really science education can be explicitly about asking questions about what it means to do science and what science looks like and who scientists look like and who scientists are. A simple, simple change we can all make is to talk about scientific methods, not a scientific method, because there are multiple ways to know about and engage with the world and learn about the world. I think we can work to create welcoming environments within science because the way we treat each other is also how we treat others. And you mentioned this earlier that we're sort of in a paradigm shift, right? We should ask if the structures for the old paradigm work for the new paradigm and like. Spoiler alert: no, so.

BAVISHI: Very wise, Raj, yeah, and I love that that questioning of whether the structures work for this new paradigm in this new moment we're in. Tia, I want to turn back to you. You know, when we talk about climate adaptation, we often think about the flood wall or like these infrastructure solutions. But in your work, you're very focused on social and economic resilience of communities as well. And, you know, and a theme just from this conversation so far has been wellbeing. So can you can you talk about what that type of adaptation or social and economic resilience or resilience focused on health impacts looks like? And maybe give us a couple of examples.

MARTIN: Thank you so much for that easy question. So first and foremost, I just want to say thank you to both Jackie and Raj for the contextualization of the power of communities to be equal partners in this work that we're doing around climate resilience. I think that there are often times there's a misperception that community members don't understand what's going on, and they need to be educated about that. And we waste a time trying to educate people who already understand the impacts because they've been living it every day. And just as the story example was given, they're actually experiencing the impacts and can describe it to you in the differences over time. And a number of black residents, network members, especially folks who are out in rural areas, have been there for generations, after generations, after generations.

And they can tell you the stories of how climate has evolved and where folks used to be able to farm and where folks used to be able to get water from, and all of these different changes as a result of climate impact. And as we're talking about climate adaptation and the concept that it's only about infrastructure is directly related to that concept about community knowledge and power, because we oftentimes think of climate adaptation in the ways that you described it when in reality climate adaptation is also broad, more broadly speaking, about how climate, the damage we've already done to the climate and to the environment is already impacting us in the trajectory we're already on the increase in frequency of disasters and climate emergencies that folks are having to deal with and the connections between the different types of disasters and how climate change is making these nuanced impacts on climate change, like during COVID 19, for example, and having to stay in your home while you're also dealing with the heat wave. Right?

So we there's these very more nuanced pieces. And so when we talk about climate adaptation, one of the things that Black Resilience Network members have been really keen on is this idea of a slightly adjusted version of resilience hubs. And for folks who aren't familiar with resilience hubs, there was a concept created by the Urban Sustainability Directors Network and really has these very distinct components, most of which are about infrastructure, about resilient communications, about resilient energy, and making sure that the infrastructure, the building itself, that community members are connected to its act, can actually withstand the impacts of the known threats and hazards for that particular area.

So there is a part of community resilience hubs that is about resilient programming. And so we've since adapted that to be more about resilient community benefits because people don't need more things done to them and for them they need to be in leadership roles to be able to be a part of and lead the decision-making processes around climate resilience and climate action. And what's really powerful about this idea of community resilience hubs, which is not the answer. Let me just be clear. It is not the answer. It is a powerful way to invest in communities, move dollars in communities, to build the types of expertise that they need and the types of resources and infrastructure they need in order to be more successful in the leadership roles. They're already playing those invisible leadership roles they're playing.

So with that said, we really are looking forward to highlighting the features of more social resilience and social infrastructure as a part of this work. So you think about what has already been mentioned around health and wellbeing. So public health and those social determinants of health, social capital, not just the relationships within communities and across communities, but the relationships between communities and decision makers at. Institutions who are impacting their daily lives. And so community resilience hubs have the ability to not just be this isolated initiative that happens off to the side, which is oftentimes how they're position. It's a way to say that we're doing work towards climate action, but that they're actually part of the whole climate and disaster resilience ecosystem in that emergency managers are connected to them and know that resources needed to be they need to be deployed there after disasters.

About climate action planners or climate planners are actually working with those communities as they are developing their science and research so that they can be more informed and robust. And then the last thing I'll say here is, you know, as we are looking to this idea of resilience, we've been using the word a lot, but we haven't really talked about what it is. And just very briefly, I just, you know, want to share that, You know, for a lot of the world that I live in. Resilience is bigger than climate resilience. So I oftentimes start there, which is it's the collective capabilities that we need to bounce forward after things in our lives. Right? Whether it's emergency disaster, personal disaster, and that those collective capabilities that we need in order to achieve that outcome are the result of a process, right?

That we are investing resources for folks to be able to have the kind of economic stability that they need in their communities, that we're able to invest the resources that address the preexisting conditions that folks were dealing with before we ever get to even thinking about the impacts of climate change and how that then overlays on top of those realities. And the last thing I'll say on this part that I said before I was going to be the last thing is the this piece around. It's also an outcome, right? If we do it well, we see better outcomes on the other end. And in order to do it well, we need just processes that involve communities that invest resources in communities dollars. When I say resource, I mean actual dollars in community-based organizations, grassroots organizations, the folks most connected to the most disconnected folks in our societies to be able to lead in this work. So thank you so much. This has been, I'm just grateful to be amongst you all. And I will stop now because I got a little excited.

BAVISHI: Thanks, Tia. And it's what you centered us on, what we even mean by resilience and, you know, with these recent extreme events that we've seen these hurricanes. Helene Milton You know, August was the 15th month in a row with record breaking global temperatures. And we keep seeing these climate extremes and at least in the climate resilience communities that I'm a part of where let me say the climate communities and I'm a part of resilience and adaptation, you know, ten years ago was sort of seen as defeats, right? And now it's seen as unavoidable. We have to have to invest in resilience and adaptation along with the work of investing in decarbonization. It's not optional, right? So there's this need to quickly accelerate our efforts. And I'm just wondering if each of you can maybe offer some insight on what you think is one of the keys, because I'm sure there are many, but our time is short. So what is that? What is one thing that you think is absolutely critical to accelerate this work in a way that centers the hopes and aspirations of the communities that we're serving? And Jackie, I'll go back to you.

SCHAEFFER: Yeah. You know, it's. It is. When you think about resilience, it really is like I think about adaptation. And we all we all have our own personal definitions, right? We don't have a word for that in our language. So I think that's important when we're working with people that don't understand. And I think, Roger, you hit the nail on the head, then the information isn't useful to them. And so I think it's really important to think about that.

The one thing that I really think is really important, and in this moment in time, across our nation and across the globe, is knowledge sharing and storytelling. Now, our history in Alaska, all of our communities had oral history. We didn't have written history. And when Western Americans came to colonize us, our oral history was nearly abolished because to them, if it wasn't written down, it didn't matter. It was just a story. And so for a couple generations, we had this influence that that knowledge was useless because it was a story.

But what we're finding today is that knowledge is going to save us. That is the resilience that is going to allow us to adapt in a hopeful manner, because otherwise it's a political discussion. I mean, I hope this discussion right, So we need hope infused into it. So I think it's going to be really important as we move forward to share stories, community stories and elevate that their resilience within community and highlight some of the hopes. Right. Because otherwise it's just so overwhelming. I mean, I think we can all say that the need is far greater than we're ever going to be able to respond to. So what are those words of hope? And I really think that that is critical in this time. Yeah.

BAVISHI: Tia, what about you? The key to accelerating these efforts.

MARTIN: I would say the key to accelerating these, these efforts is to acknowledge and take action on the historical context. I, I think we in science and in research, we often want to we think that we're being objective. And as human beings, there's no way to be completely 100% objective because we're humans. And it just is what it is. We can mitigate some of those things. And I bring that up because as we are working with communities, that there is this historic context that is important to adjusting some of the frames that we see communities through. So, for example, I think of Independence Heights, Houston, where we have a community historic black town that was annexed into Houston and the during urban renewal, they built a highway right through that community.

And in the process of building the highway, they also increased their flood risk because of the way that the highway was designed. So they always get more flooding on their side of town. Then on the other side of town, and if you don't have that historical context, you think people have chosen to be somewhere, You think that they don't understand the issues.

So there's a lot of reframing that we need to do around how we perceive communities and understand and learn the historical context of how we got to today so that we don't continue to make the same mistakes, but also so that we can learn from that to inform how we move forward. This is hard work. It's complicated and we need context experts from communities to really drive this work.

BAVISHI: Why is it bias? And I love the alignment between both of your answers. Raj, over to you. What is what do you think is the key to accelerating this work?

PANDYA: Sorry. Big yes to hope. History and stories. I think the other thing I want to think is we talk a lot about working with communities to solve particular problems, to tackle resilience. Somebody said to me once, I want to stop talking about resilience and I want to start talking about resistance. What if we did some work with communities to rebuild systems and imagine new systems and really sort of I think that's about sharing power. And I think it's about asking not just what does it take to be resilient in the future, but what systems may be have to be resilient in the first place and could we design ways of living that that sort of. Are adapted to changing landscapes. And maybe less about trying to fight nature or position ourselves apart from nature, but really acknowledge and embrace the fact that we are part of nature and we can learn from and with nature and each other.

BAVISHI: Yeah. Thanks, Raj. It reminds me that when I worked in the Gulf Coast after Hurricane Katrina, resilience was very much a bad word in communities because people didn't want to be burdened with the with the work, with the burden of having to bounce back after every disaster. So it makes a lot of sense to think about how we reframe. You know, we're in an election year and unfortunately, climate change is still quite politicized in our country. And we have a question from one of our audience members, Becky Bozeman from Lincoln, Nebraska, who asks, What advice or experience can you share that helps conservative communities approach climate change with curiosity rather than judgment? Who'd like to take that one?

MARTIN: I think from some of our experiences. I think one of the, one of the opportunities was actually mentioned earlier, which is plain language connecting to people's experiences. And I might get in trouble for this, but you don't always have to use the words, right? You can use the meanings.

You can connect the definitions without the words to people's experiences in plain language so that they can see for themselves, right. In that that requires a level of curiosity and facilitation to bring people along as opposed to trying to make them come along because they have the experiences and they're seeing things. They just haven't always connected the dots in the same ways. And if we want to get to action, then sometimes we have to get off of our self-righteousness that wants to use the words and get to, but how do we do this in a way that actually is going to help us accomplish the mission?

PANDYA: Much as this phrase uses, I don't care what you know until I know you care, and I think that applies. And like we had this experience where we worked with a community group and they said, we want to talk about flooding, we want to talk about why it's flooding, but we do not want to talk about climate change because it's because we don't. And we said, okay, we'll talk about flooding. And we worked with them for about six months. We did a lot of stuff. And at one point in that six months, somebody leaned over and said in a meeting, So actually, I would like to talk to you about climate change. What do you think about it? And I think the thing I took away from that was if I had started with, well, I want to talk about climate change, I never would have gotten that invitation. So.

BAVISHI: Great point, Raj. Jackie, if you have anything to add?

SCHAEFFER: Yeah, you know, it really is. It's always interesting for me, too, to hear from the rest of the nation, from people who are working in other spaces, because all I know is Alaska. But I what I do see what I share as I travel around the country and through the Circumpolar North is the connectivity. Right? So it really is it's sad that climate change is politicized. And, you know, curiosity, I always think of, you know. There was a time in humanity where and in the history of humanity, where the visionaries and the philosophers are mentioned as the ones that kept us alive. Right. And so that curiosity is always a question myself. Where is that in this space? And words are power. And so but you only know what you know until you know. So we all have to share in these spaces to get a better understanding. But the curiosity piece is we need to elevate the fact that humanity needs visionaries and curious people and creative people and innovative people and philosophers.

Otherwise, none of it, none of the outcomes are going to be about humanity. We need those aspects. We need that curiosity. And so traditionally I say if we can't translate that English word into our language, which there are many, what can we translate? Because our elders will never get it if we can't speak it to them in their language, Right? But yeah, so I think that's a big part of, of this whole events is to inspire and, and kind of poke at that curiosity. So I really appreciate that question.

BAVISHI: Yeah. Thanks, Jackie. You know, I touched on this earlier during our fireside chat, but we also got a question from the audience. Charles Xi, a student from California, who asks about the role of AI and helping for helping communities to prepare. And I wonder, given the context of our conversation about the importance of partnering with communities and really following communities lead, what do you all think is the role of AI and both benefits and downsides? Tia.

MARTIN: So we do we meeting in Next Leadership Development and in some of the work we do with the Black Resilience Network, among other work to use AI and to help synthesize data to help create easy tools for our members to access certain things. And I think there is also this reality, these layers of realities around AI that doesn't dismiss it from being helpful, but that we have to be intentional about keeping front of mind which one is that? It's trained on old data. If you're talking about open kind of new types of AI tools in that that is full of bias and full of misunderstandings of full context, social, historical, the whole range. So we have to be careful depending on the application about that. And then there's this other layer of climate impacts.

So the more we're using AI and the more the less efficient the algorithms for the different models are, the more servers and energy we're using. And so there are ways to mitigate that, right? If we used more clean energy to fuel the, you know, some of the or to support the servers and things like that, we can kind of reduce some of the impact. And I would say that a number of experts and folks who kind of know more about AI than I do see the potential for the possibilities outweighing the impact is long. And what I would say is as long as we are proactive about mitigating the impact that AI is, is having on the environment and the potential bias.

BAVISHI: Jackie, any additional thoughts?

SCHAEFFER: Yeah. You know, it's really interesting because, you know, most of our communities are off the road system. They're fly in communities who have very unstable internal. And so questions like this almost baffled me because, one, they just want access to the it's an AI is like the next step beyond that. Right? So I think we have to be really careful, especially, you know, as we progress and get more stable in in Alaska because our history is of our own and we're still capturing that history and documenting it. And again, I wouldn't want it to be skewed or misunderstood because there is no archive for Indigenous Alaska. And so to me it would be very frightening to see what the outcomes might be.

BAVISHI: It's very helpful to keep that in perspective. So we are at time, unfortunately. I feel like just as I said earlier, we could keep talking about this all day. So let me just thank all three of you for your insights and your wisdom. This is a really great conversation. And with that, I'm going to turn it back to Xav.

BRIGGS: Thank you, Jainey, thank you so much. Huge thanks to everyone on the panel, Tia, Jackie, Raj. Thank you, thank you. It's amazing the lessons you all have shared. My guess is it's also your stories that will stick with people. I want to let everyone know this conversation will continue, not today, but in the weeks and months to come. We look forward to gathering again. We're going to organize many more of these conversations. Some of them are going to get right at climate resilience and climate action of many kinds. Some are going to tackle some of the themes that are our panel just grapple with in the last few minutes, their generative A.I., other emerging technologies, how we shape their use in positive ways on behalf of communities and others will tackle some of the things that everyone on the panel at one point or another touched on, namely the underlying systems that make communities more vulnerable in the first place to all kinds of shocks and not just the shocks of climate change.

Yes, economic inequality and opportunity and security, of course, but also the steps we take as a people and through our government to show respect and recognition and create a sense of belonging and the things that are foundational to seeing each other and to being able to tackle our challenges

together. We hope you'll join us for that series of conversations. Stay tuned for more details on all of that. We want to thank all of you for tuning in and for the questions you shared and for the things you will do to make a difference in communities. Jainey ended with a question. Tied to the elections there and different views across the country. We know they are very real. It matters not only that we participate, we make our voices heard come election time, but also that we show up between elections, asking questions, being a part of solutions. And we're going to do our part to try to support that. Thank you again, everybody, and be well.