

# A Conversation About Building Climate Resilience on the Georgia Coast

## Summary

How is community-led work creating climate resilience on the Georgia coast? In this Drawdown Georgia webinar, co-hosted with One Hundred Miles, co-moderators Megan Desrosiers and Jazz Watts lead a conversation with Christi Lambert of The Nature Conservancy, Jill Gambill of Georgia Tech's Coastal Equity and Resilience Hub, and Dawud Shabaka of Harambee House, exploring how community-led work is building resilience along Georgia's coast.

## Key Takeaways

- Georgia's coast has experienced 8 to 10 inches of sea level rise over the past 80 years, and sprawling, inefficient development is consuming land seven times faster than the rate of population growth, putting more people in harm's way.
- The Nature Conservancy is working across scales, from statewide watershed planning down to individual communities, to build a resilient network of oyster reefs, salt marshes, and living shorelines, including a youth aquaculture training program launched by fisherman Ernest McIntosh in McIntosh County.
- Georgia Tech's Coastal Equity and Resilience Hub (CEAR) found that Pin Point, a Gullah Geechee community in Chatham County, doesn't qualify for Justice40 federal funding because it sits in a census tract skewed wealthier by surrounding development, a problem a CEAR study found affects roughly half of 145 Gullah Geechee communities studied.
- Harambee House defines resilience in two parts: the capacity to recover from acute shocks like storms, and the capacity to address chronic stressors like legacy pollution and daily exposure to diesel particulates and other toxins in historically disinvested communities.
- All three panelists emphasized that lasting resilience work requires rebuilding trust first, sharing power and resources with communities, and following, not leading, the priorities that community members themselves identify.

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Megan Desrosiers: Okay, let's get started. Good afternoon, everyone. My name is Megan Desrosiers, and I am the President and CEO of One Hundred Miles. We are a coastal conservation organization operating here on the Georgia coast, with the mission of preserving and protecting Georgia's 100-mile coast through advocacy, education, and civic engagement.

I'm here with my colleague, Jazz Watts — we're sharing a computer today, and we're going to be your moderators. I wanted to start off by welcoming you, and telling you a little about Drawdown Georgia and our goal here today. For those of you who aren't familiar, Drawdown Georgia is a statewide, research-based initiative with a vision of scaling Georgia-specific climate solutions in ways that prioritize equity and public health, create jobs, and nurture the natural environment. The goal is to build a diverse and inclusive movement to lift up and celebrate our state's

progress on five fronts: transportation, buildings and materials, food and agriculture, electricity, and land sinks.

I was looking at the Drawdown Georgia website today as I was thinking about how to introduce this panel, and their website says they bring together researchers from across the state to localize this work, and highlight climate solutions that make the most sense for Georgia, those with a strong track record that are cost-competitive and market-ready. Drawdown Georgia has grown into a "leader-full" movement, including many partners and funders working to advance climate solutions in Georgia.

The goal of our session today is to highlight some of the good people and organizations working to improve community resilience across our coast. At One Hundred Miles, we think about resilience, as it relates to humans, communities, and populations, as their ability to overcome adversity and threats. From our perspective, the panelists, Jazz, and I don't think you can think about resilience without first thinking about the threats that our communities, populations, and people have to overcome.

Two of the threats we think about a lot at One Hundred Miles — you can see the first one every day, development. Here on the coast, we're dealing with development where land consumption is outpacing the rate of our population growth by seven times. In other words, we're sprawling, we're building in inefficient patterns, and in inappropriate places. The second threat we think about is sea level rise — if you look at the data from the last 80 years, it's evident that our sea levels on the Georgia coast have risen between 8 and 10 inches, depending on where you are. When you combine inappropriate growth patterns with the rate of sea level rise, we're putting people in harm's way. And some of the conditions people live in, and their quality of life here on the coast, even further exacerbate those threats. Jazz is going to talk to you about those.

Jazz Watts: Yeah, so I think our conversation today, when we're talking about all these issues, is, how do we connect them? How do we connect the dots, whether we're talking about tidal wetlands, freshwater or coastal resilience issues, to the communities that are in these spaces. I think of these issues from a community standpoint, in a certain sense.

When we look at the fact that most of these frontline communities that are directly impacted by climate change and sea level rise are also dealing with systemic inequities, racism and poverty, lack of access to resources — all of these things mean the threats they deal with are exacerbated. So all of us are facing these challenges, but some of us are disproportionately more impacted. So as we talk today, we really want you to think about the work you're doing, and the spaces you're in — and if you think you're doing enough, maybe think about the things you haven't done, the relationships you don't have, the spaces and people you don't know, the organizations that are grassroots, or neighborhoods, or community organizations, or planning assemblies, that you're not connected to, that are right there on the front line.

So I think we're gonna go ahead and get started, but I'd just say, as we're having this conversation, really take the time to think about all of that, and most of all, to think about how it all connects, one to the other.

Megan Desrosiers: Yeah, so our three panelists are going to start off by introducing themselves and the work they're doing. We asked them to prepare around three questions — Jazz, can you read those?

Jazz Watts: Yeah, okay. So there are three questions we hope we'll be able to answer for you, and even more: how do you define resilience, what are some of the challenges for these solutions to be successful — past, present, and future — and how did the uniqueness of your situation and your work lead to that success, or even lead to the ongoing challenges you're facing today?

Megan Desrosiers: Yeah, so we're gonna kick it off with Christi Lambert from The Nature Conservancy. This is a moderated discussion, so the three panelists will go through their presentations, about 10 minutes each, and then Jazz and I have some questions for them — but we'd also like to encourage you to submit your questions in the chat.

Christi Lambert: Thank you, Megan. Really excited and honored to be here this afternoon with you all, to have this conversation. I'm with The Nature Conservancy, and I'm based out of our office on the coast, and I have the great opportunity to work throughout our coastal area. Today I want to zoom in and talk about conservation — some of the ways, from a conservation standpoint, that we work in partnership with many and work toward resiliency. I'll touch on examples from rivers to reefs, and talk about connections, and the significance from the global, national, and local levels, and how, on the Georgia coast, our work spans different scales, geographies, and land and water types. One of the things I feel is so unique here is this mosaic — a mosaic of habitats, and a mosaic of people — and how, by working together, we can strive toward a resilient Georgia coast.

All along the Georgia coast, from South Carolina to Florida, there are 100 miles of coast with multiple habitat types, and our 14 barrier island complexes. We also have to look up into the state to protect our coastal areas — the watersheds, and the land and water practices that come down through those watersheds, have an impact on our coastal areas. If you go all the way toward the coast and the mouth of those rivers, those are the watersheds for our tidal creeks, and those areas are very important for the health of our coastal waters, our salt marshes, and our oysters.

Taking that perspective and breaking it down is one of the things I've really come to appreciate even more over the years with The Nature Conservancy — looking at it from a large landscape and seascape perspective, then zooming into an intermediate scale, and then a very local scale. By working at those multiple scales, sharing, and working with people throughout, we can come up with some of the wisest and best solutions for our situations.

This is from part of our strategic plan at The Nature Conservancy — we've worked over the years with multiple stakeholders and groups throughout the coastal and inland watersheds, to develop long-term visions for a resilient network of coastal marine ecosystems, and how that network can support individual species and habitats — oyster reefs, salt marshes, sounds, and estuaries, and more — in the face of climate and population changes, so these habitats continue to provide the ecosystem services essential for both nature and people.

Georgia's salt marsh is critical — there are initiatives underway right now, with many people engaged in developing a South Atlantic Salt Marsh Initiative and action plan. Georgia has over a quarter of the Atlantic's salt marsh habitat. When we think about protecting salt marshes, we have to think about the future, and the changes projected, and how we need to protect those corridors and tidal areas, both saltwater tidal, freshwater tidal, and even freshwater forest. On the Altamaha River, there's a fantastic example of a freshwater tidal bald cypress-tupelo forest

that's globally important — it's a unique habitat type, important for filtering and protecting our water quality and water quantity now, and for the habitat it will provide in the future.

I want to zoom in on the oyster part of our coast, and our vision of working toward a resilient network of healthy oyster reefs, and the adjacent salt marshes, shorelines, and estuaries, with high productivity and species diversity. We're approaching this in an integrated way — not just looking at oysters for habitat, or oysters for commercial harvest, but the whole picture, working in partnership to have inclusive and diverse stakeholder participation, equitable participation as leaders throughout, from planning all the way through communications, and really striving for community-led leadership throughout. That means bringing together living shorelines, oysters for harvest, oyster aquaculture, oysters for community, and oysters for our traditions and heritage.

There's a project on Sapelo Island with SICARS working on oyster shell recycling, oyster restoration, and an example of a living shoreline at Little Cumberland Island. Historically, in the late 1800s along the Georgia coast, we had much more oyster reef than we have today — we've harvested oysters without returning the shells to provide that substrate, so now we're working to help restore them, for everything from habitat to oyster fisheries to shoreline protection.

This is Ernest McIntosh — Mr. McIntosh and his family are fishers based out of McIntosh County, and among the first fishers to move toward oyster aquaculture on the Georgia coast, which is a relatively new and innovative practice here. Georgia's shoreline is different from high-energy shoreline areas elsewhere, so there's a great need to develop and test methods — we're often the testing ground, starting with pilot projects. The Nature Conservancy has a program called Supporting Oyster Aquaculture and Restoration, with a small grants program, and when Mr. McIntosh secured a grant through it, he wanted to use it to engage youth, because, he said, people don't really know about oysters, they don't know that's even an option. He's working with students to develop a work-study program through McIntosh Academy, to train people in aquaculture, oyster restoration ecology, and oyster recycling.

Living shorelines are projects that use natural alternatives to bulkheads — one of the priority living shoreline projects right now on the Georgia coast is at Harris Neck, working in partnership with the local community there in McIntosh, Fish and Wildlife Service, the Department of Natural Resources, and the Gullah Geechee Cultural Heritage community, to come up with a plan connecting it to Sapelo Island and other places.

I also want to recognize Gray's Reef National Marine Sanctuary off the Georgia coast, and how that's connected — as Jazz said, let's think about connections today. I'll mention another scale of work too — the Camden County Resiliency Implementation Work Plan, with multiple partners, which my colleague Ashby Worley Nix heads up. And another different scale of project is siting — solar siting tools, which help reduce impacts on sensitive habitats while accelerating solar development in appropriate areas.

I'll close with this: thinking about coastal resiliency for nature and people, through different lenses, for healthy oceans — I think by going back and forth, zooming in on your priority, and connecting it with other priorities, we find those overlaps and opportunities for common and shared visions. I'll stop there, and I look forward to more conversation. Thank you.

Megan Desrosiers: Thanks, Christi. It's time to move on to Jill.

Jill Gambill: Hi, everybody, I'm so excited to be here — I see so many familiar names in the participant list, so it's good to connect with you all again. My name is Jill Gambill, I'm the Executive Director and a Senior Research Associate at Georgia Tech, and I lead the Coastal Equity and Resilience Hub, or the CEAR Hub. Before this, I was at UGA for 13 years, with UGA Marine Extension and Georgia Sea Grant, so hopefully we had a chance to collaborate there, and if not, I look forward to connecting with you.

The Coastal Equity and Resilience Hub is a network, or initiative, where we're bringing together nonprofit organizations, environmental justice organizations, local governments, and academic institutions, working to co-develop knowledge, tools, and approaches to building community resilience. This includes Jazz as part of the coalition, and Dawud, who'll be speaking next, is also part of the team. We try to work hand-in-hand with communities to create fair and just solutions, thinking through the disproportionate impacts Jazz mentioned earlier, and following communities in where they're leading, with our team providing support to help access data or research different issues, while communities really lead the projects.

Megan and Jazz asked for a definition of resilience — this is the one I personally use: the ability of a community to equitably prevent, withstand, respond to, and recover from a shock or stressor. "Equitably" is a really important part of that, one that often gets overlooked in resilience work. A shock is a one-time big event, like a hurricane — stressors are the longer-term, underlying pressures on a community, like climate change, or systemic inequity, racism, inequitable access to resources, or coastal development. There's an interaction between those two — if we're only thinking about the big events and ignoring those longer-term, simmering pressures, we may not actually be building the community's resilience. We focus on both reducing a community's risk, through as holistic an approach as possible, finding co-benefits, and increasing adaptive capacity — which has required us to take a hard look at some of the extractive processes and practices that have led to existing conditions, including within our own institutions, and to rethink the partnerships we're forming.

These are some of the core values underlying our work — we focus mostly on disadvantaged communities experiencing disproportionate impacts of climate change and environmental injustice. We believe the people closest to the problem are closest to the solution — a researcher who isn't from that community may have valuable information to share, but it's local knowledge, and in some cases traditional knowledge, that's most critical in helping come up with solutions. We also partner with communities focused on strengths, rather than starting from a needs-based approach — this asset-based approach, developed by Jenny Hirsch at Georgia Tech, looks at all the assets, strengths, and relationships within communities, and builds on those rather than seeing communities as a deficit. We also strive to build trust and be accountable and transparent with communities.

The next piece is really critical — we try to equitably share power and distribute resources. Sometimes that means passing funding along as much as we can to our partners, and negotiating lower indirect rates. We try to share power so it doesn't have to be us leading a project — we'd actually prefer the local community lead, while we provide support in the background. And we believe collaborating is better than working in our own silos.

This work began about six years ago, through Georgia Tech's Smart Sea Level Sensor project. You may remember, back in 2016 and 2017, the Georgia coast experienced Hurricane Matthew and Hurricane Irma, and we had a lot of flooding issues. We had one long-term tide gauge along the Georgia coast, and we were seeing very different impacts in different communities, but we

didn't have a great way of capturing that. So Georgia Tech developed these low-cost, inexpensive sensors that monitor water levels in real time, and they've been deployed throughout Chatham County — there are 64 installed right now, used for emergency management purposes. They also developed a dashboard for knowing which neighborhoods need to be responded to first, and which bridges and roads are being impacted, with a lot of modeling built in.

We initially began with a framework focused on flooding — modeling, sensors, planning, education, workforce development. But as we began working with communities, we heard about a lot of other concerns. In Brunswick, residents are very concerned about contamination from four Superfund sites. We heard about food security issues, concerns with heirs' property and land retention, and air quality issues from the ports. So we've really expanded our approach, bringing on additional partners and expertise, to have a more holistic approach as we work with communities, and to be flexible in responding to what's a priority for them.

I want to give an example of this work — one of the first communities we began partnering with is Pin Point, a Gullah Geechee community in Chatham County, in the northern part of the Georgia coast. For those unfamiliar with the term, Gullah Geechee people are descendants of enslaved Africans who were forced to work on rice, indigo, and cotton plantations, often on isolated barrier islands along the Southeast. There's a Gullah Geechee Cultural Heritage Corridor running from North Carolina down to northern Florida, a national heritage area recognized by the U.S. government. Because many Gullah Geechee communities were isolated, they've retained a lot of their language, food, music, and culture over the years.

We've been meeting with Pin Point — we have monthly community-wide meetings that are really well attended, and a committee with community leadership that we meet with weekly, talking about different priorities in building their resilience. Some relate to climate change, some are outside that scope — traffic control, for instance, with a lot of high-speed traffic going through, and they've already made progress there, getting speed bumps installed, paid for by the county. They have a lot of power outages related to hurricanes, and are making progress getting trees trimmed and dead trees removed. They're working on establishing resilience hubs throughout the community, where they can share emergency equipment and resources. They're also concerned about flooding, so we've been helping them partner with the Army Corps of Engineers to get information about their flood risk and potential actions. Failing septic systems, related both to flooding and system age, heirs' properties, healthcare, healthy food, and a lot of youth engagement and enrichment are also priorities — we're investing as part of those resilience hubs in spaces for workforce development and K-through-12 education opportunities.

I want to highlight something else about our partnership with Pin Point. Hopefully you've heard of the Justice40 Initiative — established by the White House several years ago, requiring 40% of the overall benefits from federal climate and clean energy investments to go to disadvantaged communities. The federal government developed a tool called the Climate and Economic Justice Screening Tool to identify where these disadvantaged communities are located. As we were working with Pin Point, we realized they're in a census tract that isn't categorized as disadvantaged, so they won't qualify for Justice40 funding — because they've been in their location a very long time, they're right on the water, and there's a lot of coastal development around them, with wealthier neighborhoods bringing up the census data for that tract, so they don't qualify.

We wondered if they were the only community experiencing this — we suspected not, but didn't know how to find out. So we partnered with the Pin Point Betterment Association and the Gullah Geechee Cultural Heritage Corridor Commission, and studied 145 Gullah Geechee communities. We found that about half are impacted by this same problem. We just released a report on it — I'd be happy to share it. This isn't just a problem for Gullah Geechee communities, it's really any community that's a small segment of a census tract surrounded by wealthier neighborhoods, that could have trouble accessing Justice40 funding.

Finally, I want to share a resource — I'll put the link in the chat — that's really been a guiding factor for me in thinking about how I'm partnering with communities and checking myself. It gives guidance on how much funding you're allocating to communities in your projects versus keeping internally, how much role, ownership, and power you're allocating to communities. I find it really helpful in thinking about who's setting the agenda, who's establishing who gets invited to meetings — those kinds of process questions. And I believe that's it — thank you all so much.

Jazz Watts: Thank you, Jill. And Dawud is gonna be up next — but before that, I just want to give a shout-out to Chayton, a young student watching with the rest of the audience. I'm glad he's there. Dawud, if you can take it from here — I hope folks are processing everything we're talking about, and hearing some of the different ways we're doing this work.

Dawud Shabaka: Thank you, and thank you, Jazz, because this is a great deal of information to take in, especially if you're kind of new to this type of information. I am Dawud Shabaka, and I'm with Harambee House, the Citizens for Environmental Justice. First, I want to thank Drawdown Georgia and One Hundred Miles for providing me this opportunity to be on this panel, and I want to thank my fellow panelists, Christi and Jill — I have a great deal of respect for their work, and I'm honored to be on this panel with them.

I wanted to talk briefly about Harambee House. My boss is the founder, Dr. Mildred McClain — she's a known figure here in Savannah, born and raised here, traveled the world, and returned to Savannah a little over 30 years ago to found Harambee House. It was founded by a request from a community on the west side of the city, Hudson Hill, because they were concerned about a radioactive spill that happened at the Savannah River plant in the late '80s. They weren't happy with the federal response — they felt the Department of Energy wasn't responding quickly enough, and asked Dr. McClain for assistance. She was able to bring this concern to a large audience, the state of Georgia, and to D.C., to the Department of Energy itself, and movement began — redress was made for residents in South Carolina and here in Savannah. It was that incident that showed her the need for something like Harambee House, so she began it. Her first program became what's now the Black Youth Leadership Development Institute, an annual training institute for Black youth in the city to learn how to become the leaders they truly are.

After that, she developed a series of other programs and projects, mostly directed by the concerns of community residents. Harambee House serves the entire city of Savannah, but we concentrate on the west side of the city, because those communities are closest to the port, and surrounded by the 17 industries that do business with the port.

One of the things we've discovered, working with the issues coming from these community residents, mostly on the west side, is that the idea of resiliency is somewhat fluid — it's both an idea for collecting resources, and a way of life. How we define resiliency here at Harambee House is therefore twofold. There's the capacity to secure and maintain the required resources, and to develop sustainability practices needed to anticipate, respond to, and rebuild after an

emergency, severe weather event, or unanticipated occurrence. But there's also the other part of resiliency — to develop and provide mechanisms to mitigate ongoing issues of legacy pollution, and the daily exposure to things like diesel particulate matter, fumes from diesel exhaust, and daily work-related toxin exposures. Why that's so important: growing up, we all heard the term "blue collar work," a 9-to-5 situation, but unfortunately, for a number of low-income families, and maybe first- or second-generation immigrant families, those are the jobs they can get — jobs that require staying at a work site, that may involve exposure to chemicals and toxins the rest of us don't have daily exposure to, but they do. How do you deal with ongoing daily exposure to toxins and maintain your health? That's not always a concern held in mind, but it is a concern for those with jobs in menial labor, janitorial work, and others involving daily exposure to chemicals that can be caustic to respiratory systems or skin on a regular basis. This is the type of resiliency that's not always spoken of, but that we look at.

One of the issues we're very concerned with is legacy pollution — pollution in the communities I'm speaking of that impacts particular groups of people. The Black population, people of color, and immigrant populations, because of racism or classism, have found over generations that the only housing, the only communities they can be part of, are near ports or industrial areas. This is the environment Dr. McClain discovered when she returned here to Savannah. In beginning to look at what solutions could be found, and how a process for mitigating these concerns could be developed, it became clear that the individuals constantly exposed to these hazardous conditions are the ones best suited to coming up with solutions — we like to refer to our community residents in these communities as the subject matter experts. Jill talked about that as one aspect of the CEAR Hub project, where they're going to residents in Pin Point and asking them for direction and solutions to the issues. We feel that's the correct response to the question of how we deal with those problems — it's also one of the reasons we were very happy to join Georgia Tech on the CEAR Hub project, because they recognize that to deal with these issues, we have to go straight to the individuals most impacted by them.

We at Harambee House also see the best method for finding solutions to resiliency as following the environmental justice principles instituted in 1991 in Washington, D.C., at the First National People of Color Environmental Leadership Summit. The main point of the environmental justice principles is the recognition that the planet, Mother Earth, is our home — it provides the environment for our health and survival, and the mechanisms to maintain that, but requires a concerted effort on humanity's part to be stewards of the planet, and to help Mother Earth repair itself, so it can continue providing the environment we require to live and breathe healthily. It also talks about working from the bottom up, to ensure everyone in society receives the benefits of that society — you begin by conversing with, and making decision-making policies and processes with, the most impacted, the least of these, as it were. Work from the bottom up.

Here at Harambee House, we're not really sure that the present outlook, and the present method of dealing with these issues, is a totally and completely bottom-up process. We feel, and work toward, a change of consciousness — to begin to look at, if we're truly talking about equity, then we need to adjust how public policy is administered, how it's decided, and how governance is conducted. That's quite a feat in and of itself, but one we feel is a true method to begin making solid and consistent change. We feel the most effective way to deal with the issues impacting all of us, from sea level rise to the constant increase in single-use plastics, to pesticide use, and on and on, is to have a different approach — to converse with the impacted communities, who we call frontline, defense-line communities, and develop a more practical, real-world solution base to the issues before us.

I'm going to end there, because I'd really like to go into more dialogue on these issues, and the issues brought up by my two fellow panelists. We need to find a more efficient way of dealing with the issues before us — I read a report earlier today, just one article, but I think there'll be several more, that scientists are a little concerned we've passed the tipping point. If that cry for help is in fact true, or near true, then we need to accelerate the work we're doing to remediate the issues we face. And with that, I'm gonna pass it back to Megan and Jazz. Thank you.

Megan Desrosiers: Thank you, Dawud. Thank you, Jill, and thank you, Christi — so much great information. We're at the point now where we'd like to encourage the panelists and the audience to ask questions. I have a couple of questions, and Jazz has a couple too, but we want to encourage the panelists, as Dawud mentioned, to have a dialogue with each other. Christi, I have a question for you to kick it off, about the oyster project you mentioned — could you walk through the benefits of oysters, not only in our ecosystem, but in our economic system, and how your project is working from the bottom up, but also at all levels, to improve resilience across the coast?

Christi Lambert: Thank you, Megan, love to. One of the ways of looking at oysters is thinking about how they themselves are a type of nature-based solution to some of the issues we have along the coast — we've also learned a lot from other states, like the Northeast, where they've had issues with pollution and different practices along their coastline that they're trying to restore from, and oysters are one of the ways. It's great that in Georgia we have the opportunity to be proactive, and think about oysters as a nature-based solution from the very beginning — how they can help protect our shorelines and coastlines by providing a protective layer, breaking wave energy, decreasing erosion along coastal areas, while filtering the water and providing a sustainable economic resource.

I'm hopeful that by working in partnership with fishers, farmers, and people in the community with experience with oysters and shellfish, we can come up with solutions — right now we're working to develop and test different methods for growing oysters, blending local communities' knowledge and traditions with more science. We're fortunate to be working with UGA and their Sea Grant program — we have a fellow, Daniel Harris, working with us on an integrated oyster management planning process, bringing together different communities and people to plan and be proactive. How do we know the best place to grow oysters, the best place to protect them? There's the science — DNR is bringing in science through their aquaculture program, working with federal partners and NOAA too — but also having it come up from the communities, the people who've been in this area and have this expertise, folks like Ernest McIntosh who want to share that. So those are some of the ways we're bringing together the science, sharing it, understanding the gaps, and figuring out how to partner and integrate the community as leaders in that process, so oysters and other nature-based solutions can really be activities that benefit our communities and contribute to the economy too. I'm hopeful oysters can be a way to talk about the coast, and the connections of people to the coast and its future. Thank you for the opportunity to talk about it.

Jazz Watts: Thank you, Christi, for answering that. I want to follow up on that — what's unique is that when you talk about nature-based solutions, communities, especially coastal communities but even inland ones, have always had those solutions within them. So when TNC can work with communities and support the knowledge they already have — I always say the people in communities closest to these front-line spaces were the buffers that existed. When they got displaced, that's when you started to have astronomical problems, because you have people

move into those spaces who don't respect the culture, the nature, the ecology. So thank you for that.

My next question is for Jill, and I think Dawud will be able to add to this too. You talked about the CEAR Hub working with communities and allowing them to lead — the usual framework is you get funding, and get some input from communities, but usually the one with the most resources and power drives things. What you're saying is it should be the other way around.

Jill Gambill: Yeah, I think we're trying to invert what's traditionally done, where institutions are the driving force at the center of the project, and make it more about the communities, so they're the ones with the resources to build their capacity and implement their ideas, and researchers are providing support for that. One of the reasons that realization came to me personally — I helped develop the first sea level rise plan on Tybee Island, back in 2016, only eight years ago. It was a very successful project in planning for sea level rise, but as we took that model, we realized some of the practices we were using could actually exacerbate inequality within a community, and that using traditional practices wasn't going to be successful, especially moving into marginalized communities. Realizing I had those blind spots made me more cognizant that we really have to work with community members, who may be able to spot issues or unintended consequences of actions better than I can, maybe even better than local government can — they have perspectives based on history, on how things have been implemented, where trust has been broken, where there's been inequity in the past. It's really critical to have those voices helping to lead projects.

Jazz Watts: Dawud, I wanted you to add to that — you're in a unique space, because you not only work with academic institutions like Georgia Tech through the CEAR Hub, but you also work with the City of Savannah, local governments and municipalities, and other nonprofits. How do you truly create these authentic partnerships that can be helpful and not harmful, since people can have great intentions but still inadvertently cause harm? How are you doing that with the work at Harambee House?

Dawud Shabaka: Thank you for that. One thing that became clear working with our different partners, our academic partners like Georgia Tech and Savannah State University, is that when we went into particular communities on the west side that had suffered from pollution in various ways for generations, for decades, the first obstacle we had to overcome was rebuilding trust. Even though Dr. McClain and Harambee House have been known as partners in dealing with these issues, we still had to go into communities we may not have had a relationship with, and rebuild that trust connection over a two, three, four, five-year period, simply through continued communication and consistency in responding to their questions and concerns. Once that's established, we have a road to actually begin working on the issues in front of them.

I'm speaking specifically of two particular communities — I don't believe they'd mind me naming them, Hudson Hill and the Ogeechee corridor — they've come to us with issues that have been on their table since the '50s, the '40s, the '30s, because they felt local and state government simply ignored their concerns and requests for aid. Building that level of trust is just a necessary element before we can move forward. In Hudson Hill and neighboring West Savannah, one of the things they'd like to look at is reducing their energy burden — well, let's get solar, great idea, and there are financial granting programs that could help them afford it. But they run into an issue: when you put solar on your roof, the roof needs to be stable. A lot of homes on the west side were built in the '30s, '40s, and '50s, and don't have modern installation, and because of other issues around not being able to receive loans to upgrade and fix up their homes, their

roofs are in need of repair, and their homes need energy efficiency upgrades. So a lot of households that qualify financially for solar don't qualify physically — and the reason they weren't able to get loans for house upkeep has nothing to do with them, it has to do with society's tendency toward racism and sexism over the years. That's improved some, up to today, though there are arguments on both sides of that, but we still have the issue of how we upgrade their homes. That's just one type of issue involved.

We need to look at the mechanisms that have restricted households from receiving education, medical services, opportunities, or transportation that other communities have received, and begin to redress those issues — that's a complicated and convoluted matrix of issues to deal with. That's why the CEAR Hub's work, operating from the bottom up, allows those communities to begin to redress those items one at a time. Pin Point is looking at slowing down traffic and repairing roads — can we get speed bumps, can we cut back trees to prevent them falling in severe weather and causing power line disruptions, can we bring the power lines underground so they're not even an issue anymore. Those are the types of things community residents themselves point out that the city, or county, may not have been aware of — and that's why that bottom-up approach is so effective.

Megan Desrosiers: This is great. I have a question for all of you — I don't know which of you wants to answer, or if all of you do. It's 3:11, so I want to be mindful of time — maybe only one of you should answer, but I don't care which. My question is, all of you have described work to improve resilience of Georgia's coastal communities when it relates to adversity. Jill, you put it in a way I thought was very interesting — immediate catastrophe, and I can't remember the two words, strain and stressors, and also ongoing stressors. I think as traditional environmentalists — and I was trained as a traditional environmentalist — we've been trained to think we can just come in and move forward, and the minute we get there, everything's different. But all three of you have described what we've all been experiencing over the decades, which is that you can't just come in and say "here I am to save the day." You have to come in and address the problems that got us to this place — historical problems, issues that have caused people trauma, that have broken down trust, that are the result of dysfunctional relationships. And with my environmentalist hat on, it's like, well, no, but it's about the science. So I want to know how you bridge those two — both are truths, but how do you bridge them so we can actually make progress together, and people heal, and the environment and people are stronger moving forward? Don't all jump at once.

Christi Lambert: I'll toss out one quick thought — something I think is very important is, from the very start, to be sharing the science, yes, that's important, bring it together and share it broadly for all to engage in this inclusive way. Take the short-term look, yes, but also have long-term views and plans that we keep reminding each other of — by working together, having a shared vision, we can keep making progress toward that long-term view, working together and having metrics and milestones.

Dawud Shabaka: Yeah, and this relates a bit to what I was saying about the trust issue — we're talking about intelligent people. They may not have the resources a Georgia Tech has, but they're certainly wise enough to see issues and come up with solutions. We're finding, talking to residents on the west side of the city, that they want to do the science themselves. Community-based participatory research is an approach Harambee House is looking at, that Georgia Tech is already doing with a number of communities — Jill didn't mention that part of the Smart Sea Level Sensor project has already gone into Woodville High School and Mercer

Middle School with a curriculum, so junior high and high school students are themselves building these sensors and programming them.

Jill Gambill: Right?

Dawud Shabaka: We're discovering that on the west side of the city, the adults want to do the same thing. I've started giving training on mapping tools — we're starting with the EPA's EJSCREEN tool, but also looking at CEJST, the Climate and Economic Justice Screening Tool, and others, because they want to map out areas on the west side, pull down demographic data sets, and go to the Department of Public Health and say, "in this neighborhood, we're finding the particulate matter reading is at the 97th percentile, we'd like health data over the last 15 to 20 years on asthma and diabetes, so we can compare." They're asking these questions themselves. So the idea of science isn't opposite to bottom-up, it's more "and" — we have community residents wanting to learn the science, or at least the beginning parts of it, so they can know the process, apply it themselves, and look at solutions from that standpoint.

Jill Gambill: And I know, Megan, you said we don't need to hear from everyone, but the thing that keeps me up at night is that the science is changing so quickly, still, with climate change and sea level rise. I'm on an advisory board for the NASA sea level change science team, and keeping up with the latest sea level rise science is a lot in itself. Then also understanding the changes happening within our coastal communities, at a local scale, and development and policy, and the intersection of it all, is really overwhelming — there's no way any one of us can wrap our arms around the full scope of this. Climate change is so complex, and its impacts touch on so many different aspects of our lives and the world around us, that the only way we can move forward, in my mind, is through collaboration, where we all have a little piece of the solution, and we put our heads together and are inclusive in that. Maybe that way we can make improvements and help build a more resilient coastal Georgia. But that takes time — it requires me to get to know Dawud, and know where his knowledge can interact with mine, so it requires slowing down quite a bit, which is scary when you see how fast things are changing. So there's a little tension there.

Jazz Watts: Yeah, I wanted to give you all an opportunity to ask one another questions too. I'll just point out, as we're having this conversation, I'm thinking about the power dynamics — who has the power when we're talking about working in these spaces and communities, and are they sharing it, in a way that's creating actual trust and building partnerships? I think that's part of what all three of you are talking about in this conversation. But I wanted to give you the chance to ask each other questions, if you have any.

Jill Gambill: Can I ask you a question, Jazz?

Jazz Watts: Who, me? Sure.

Jill Gambill: How do you feel — you're working throughout the Georgia coast, you have a great perspective — where do you see, what are some of the best practices you've observed that you'd recommend to all the participants to think about in their own work?

Jazz Watts: I think they need to think about what relationships they don't have. I was sitting in a meeting the other day where someone was talking about work on ditches and culverts in communities, and they had no idea there were neighborhood assemblies that existed in that space — they were giving reports to different agencies, but not the leaders of the neighborhood. So I'd say, to people looking around in the space they're working in — who is it that they haven't

talked to, what organizations are having difficulty not just making impact, but getting by? Maybe that's the partnership they need to look at. And the other side is looking in the mirror, at yourself and your organization. What's unique for me is that I work for One Hundred Miles as an environmental justice strategist, but I also come from, and work with, other organizations — I'm on the board of SICARS, and I work with the Hog Hammock Community Foundation, and others. So it's like being in two completely different spaces, being able to see this broad, bigger picture, where you can have a lot of resources in a space, but those resources aren't accessible to the people who need them most — that goes for funding, and everything else. So how do we find ways to change that? I think we constantly have to hold ourselves accountable, and realize it's okay to mess up, or realize we need to change how we do things — maybe we've done them this way for a while, but maybe it's time to change, and that can be tough, because what's comfortable is comfortable. Sometimes we use data and numbers to say we shouldn't change, but those shouldn't be the drivers — it should be about the communities and the people. So thank you for that question.

Megan Desrosiers: You wanna close us out? We have to wrap up — I'm sorry we have to go, we don't have any more time for questions.

Jazz Watts: Terrible time to wrap up — no, I'm kidding. No, this has really been great. I just want to thank all of our panelists, and Megan, and thank you all for being here. I just encourage all of you to think about what you can do differently when you're talking about communities, when you truly want to help, or partner in a space, or join a fight that's already ongoing — because in a lot of these spaces, people have already been fighting. So just keep that in mind, and I think we have to humble ourselves and recognize that we're all still learning, but "what are you doing with the power you have, and the space you occupy" should be the question we're always asking ourselves.

Megan Desrosiers: Yeah, all right. I just especially want to thank the panelists, and Drawdown Georgia for having us. I hope y'all have a great afternoon, and I look forward to seeing y'all again.

Jazz Watts: Thank you, everyone. Thank you to the panelists, and all those who joined us too — y'all are great.