

Monday, March 16, 2026

Preconference Trainings and Workshops

9 a.m. to 5 p.m. | Open to the public

Economic Guidance for Coastal Management Professionals

Polina Dineva, NOAA Office for Coastal Management

Coastal managers often need to understand and hire economists to perform economic valuations and other assessments. These economic guidance modules provide information about multiple approaches for economic analyses and ecosystem service valuation, along with relevant examples. This two-part training helps participants better understand economic data, feel more prepared to communicate with economists, and identify possible types of analyses.

8:30 a.m. to 5 p.m. | Open to the public

Planning Considerations for Extreme Hazards

Robert Dale, National Disaster Preparedness Training Center, Maureen McCann, National Disaster Preparedness Training Center

This training equips emergency managers, first responders, and public safety professionals with tools and strategies to plan for extreme natural hazards. Participants will explore hazard identification, vulnerability assessments, infrastructure impacts, and adaptive planning. Real-world case studies and interactive activities will guide attendees in developing flexible mitigation strategies to enhance community resilience. Learn how to integrate data-driven insights and publicly available tools into planning processes to address evolving threats such as heat waves, floods, wildfires, and severe storms.

8:30 a.m. to 5 p.m. | Open to the public

Community Planning for Disaster Recovery (MGT-331)

Paul Manson, National Disaster Preparedness Training Center, Andrew Rumbach, National Disaster Preparedness Training Center

Disaster recovery is a complex, costly, and potentially lengthy process. Depending on the scope of a disaster, recovery efforts can last years and cost millions of dollars. Planning has a direct positive impact on a community's ability to recover from disasters. Planning for disaster recovery before disasters occur significantly speeds up and facilitates the post-disaster recovery process. *Community Planning for Disaster Recovery* is an eight-hour, management-level course that provides facilitated discussions on key concepts for disaster recovery planning, including the benefits of pre-disaster planning, key elements, and the plan development process. This course prepares participants to initiate disaster recovery plans and participate in the long-term recovery planning process in their own communities through the review of case studies and existing disaster recovery plans.

This course prepares participants to evaluate and develop disaster recovery plans in the context of the whole community approach to planning.

Course modules:

- Introduction to Disaster Recovery Planning
- Partners in Disaster Recovery
- Disaster Recovery Plan Elements
- Recovery Strategies
- Disaster Recovery Plan Development

9 a.m. to 12 noon | Open to the public

Building Resilience in People, Communities, Infrastructure, and Innovation Through Partnerships

Dotty Kelly-Paddock, *Hui O Hau'ula*; **Mona Curry**, *Hui O Hau'ula*; **Ilyia Azaroff**, *+LAB Architect PLLC*; **Kawika McKeague**, *G70*

Hui O Hau'ula will share how to build resilience in people, communities, infrastructure, and innovation through partnerships.

Course modules:

- Building Resilience in People and Communities Through Services Provided via a Partnership Hub (Hau'ula Civic Center in Hau'ula)
- Building Resilience Through Disaster Preparedness and Pre-Disaster Recovery Planning
- Building Resilient Infrastructure: Ko'olauloa Community Resilience Hub
- Building Resilience of Natural and Cultural Resources
- Using Innovation in Resilience: Building a Starlink Communication Network. Enable emergency communications, even during power outages.
- Building *Pilina* (relationships) Through the Cross Island Community Resilience Network. This network of fifteen communities on O'ahu have been meeting together for ten years. At the meetings, the communities share information, plan activities, and learn from one another.

1 to 5 p.m. | Open to the public

FARM-ily: Feed, Agriculture, Relationship, Mentoring – Putting the FARM into Family

M. Kalani Souza, *Olohana Foundation*; **B. Kainoa Azama**, *Olohana Foundation*

Indigenous wisdom: Preparedness, like planning, is best done in advance. Too often, disaster management is reactionary; however, it is best to have resources and capacity that can be implemented effectively and immediately. On islands or in remote areas, preparedness is paramount, as access to resources and food may quickly become limited. This training covers the first steps in advancing food security within one's own home and community through small-scale gardens and sustainable agriculture methods.

Course modules:

- Compost: waste reimagined
- Design: systems-thinking approach to the design of one's home agroforestry garden

- Implementation: facilities and operations
- Transition: capacity building, relationships, intergenerational transfer of knowledge, and intergenerational commitment to engagement

Building on PRiMO's Virtually Interconnected Community Tree Gardens (VICTree Gardens), the intersections between agroforestry, food for emergency, food as medicine, and *pilina* (relationships) are explored. Participants will engage leading experts from PRiMO's Indigenous Knowledge and Environment Hui, the Olohana Foundation, permanent agroforestry resources, the Global Breadfruit Heritage Council, and agroforestry. Join us to codesign your respective agroforestry project through activities and conversations whereby participants develop skills, competencies, and a clear, actionable design for their agroforest site, joining an interconnected FARM-ily network of expert farmers and educators cultivating a regenerative world.

This course is designed for those who want to increase their families' resilience and adaptable for homeowners and condominium and apartment dwellers.

9 a.m. to 12 noon | Open to the public

Scenario Planning Workshop

Karl Kim, *University of Hawai'i and National Disaster Preparedness Training Center*;
Jen Pepson Elwood, Dewberry

Scenario Planning Workshop is a three-hour, interactive training session on scenario planning as a tool for managing uncertainty and developing alternative futures. This workshop will focus on environmental stressors, socio-ecological forces, intervention technologies, and the transition from knowledge to action. Case studies, examples, and strategic processes will be shared and discussed.

9 a.m. to 5 p.m. | Open to the public

Building Risk Communication Skills

Tashya Allen, *NOAA Office for Coastal Management*

Motivating audiences toward action to reduce risk is a challenge. This workshop can help! Participants will develop communication skills to better connect with diverse audiences. Time is provided to practice these new skills, apply them to participants' own risk communication strategies, and collaborate with peers on local risk communication challenges.

Registrants will be asked several questions, including identifying their audience, listing common risk communication questions, and relaying what they hope their audience accomplishes as a result of their risk communication efforts, to help customize the training to be reflective of local risk communication issues.

9 a.m. to 5 p.m. | Open to the public

Facilitation Basics for Coastal Managers

Lauren Long, *NOAA Office for Coastal Management*

Productive meetings are essential to effectively plan for and manage the diverse interests and needs in our coastal communities. In this course, through lecture, discussions, and small group activities, participants will learn foundational facilitation skills, tools to engage participants, and techniques for dealing with disruptive behaviors.

Tuesday, March 17, 2026

Conference Day 1

9:45 to 11:15 a.m. | Panel

Wildfire and the Built Environment: A Regulatory and Programmatic Approach to Resiliency

Ka'aina Hull, *Kaua'i Planning Department*; **Elizabeth Pickett**, *Hawai'i Wildfire Management Organization*

Across the globe, we are seeing how wildfire as a climate hazard can and increasingly continues to have devastating impacts on the built environment. This session will introduce and assess the science and studies around wildfires and their interaction with the Wildland Urban Interface (WUI). Through wildfire case studies and laboratory analyses, a body of science has emerged with prescriptive measures that this session will survey. In line with wildfire science, the County of Kaua'i recently adopted the state's first Wildland Urban Interface ordinance aimed at historic plantation camps on Kaua'i. This session will review wildfire science and the built environment, and it will go over specific measures in Kaua'i ordinances concerning wildfire home hardening, defensible space, and resilient vegetation. The session will also go over the mechanics of incorporating the Wildland Urban Interface into zoning code as well as into the Form-Based Codes (FBCs) for the respective camps.

9:45 to 11:15 a.m. | Panel

Convergence Science: Traditional Wisdom and Modern Knowledge

Moderator: **B. Kainoa Azama**, *PRiMO IKE Hui*; **Chad Wiggins**, *Hui Aloha Kīholo*; **Kekoa Alip**, *Hui Aloha Kīholo*; **Ku'ulei Keakealani**, *Hui Aloha Kīholo*; **Tim Schneider**, *National Center for Atmospheric Research*; **Z. Kawaiola Barros**, *Olohana Foundation*; **M. Kalani Souza**, *PRiMO IKE Hui*;

What does it look like when traditional wisdom integrates with modern knowledge to create adaptation strategies as well as operational principles to support coastal communities, resilience, and regeneration? Convergent science is the valuation of both traditional wisdom and modern knowledge. Both systems must engage with and teach successive generations, preservation of practices, and the knowledge base for coastal communities to react to dynamic weather events and threats to the near coastline. Integrated and intimate knowledge of resources can assist communities, as well as scientific institutions, to understand the complexity of these varying coastlines.

This panel is at the intersection of varying fields and perspectives and offers innovative approaches that inform both the soft and hard infrastructure needed to propel effective research collaborations to meet community capacity needs. The panel covers (1) real community engagement, (2) how to move at the speed of trust, (3) the crucial components of expedient information dissemination and communication, (4) how to attract and train youth to become storytellers who respond to community needs, and (5) researcher reflections about how these approaches have caused critical changes in practices and outcomes.

By using technical capacities developed through research, panelists also intend to bring their regional partners to the room for conversations, queries, and responses directly from the people in a region impacted by the Rising Voices, Changing Coasts research funded by the National Science Foundation. How can such partnerships and relationality help to serve PRIMO as we move forward together?

9:45 to 11:15 a.m. | Talk Story

Climate Initiative Program at the Alaska Native Tribal Health Consortium: Stronger Together

Jacqueline Qataliña Schaeffer, *Alaska Native Tribal Health Consortium*

The Alaska Native Tribal Health Consortium is responding to the barriers and challenges of environmental change for rural communities, under the direction of the Climate Initiatives Program (CIP) team. One hundred forty-four (144) Alaska communities face infrastructure damage from erosion, flooding, and permafrost degradation. The Climate Initiatives Program at the consortium is dedicated to working with community partners to find healthy ways to adapt to our changing environment. CIP staff help assess unique community environments and assist in planning solutions for adaptation, mitigation, and relocation.

The Climate Initiative Program is comprised of two centers: the Center for Environmentally Threatened Communities and the Center for Climate and Health. The Center for Environmentally Threatened Communities assists with community risk assessments, planning, community development, identification of funding and grant writing assistance to acquire funding, project management, and capacity building. The Center for Climate and Health works to increase understanding and raise awareness about the connections between environmental change and community health. Another goal of the Center for Climate and Health is to identify adaptive strategies that support health and wellness.

Alaska is America's only Arctic state. Its strategic geographic location, communities, and vast natural resources are essential to the strength of the U.S. economy, national security, energy independence, and food security. Extreme weather events and natural disasters threaten the lives, health, and continued existence of Alaska communities. Our Climate Resilience Regional Challenge project is making progress to sustain and strengthen Alaska communities by increasing preparedness and reducing risk from natural disasters and environmental impacts. Learn more about how we are building a team of subject matter experts to provide technical assistance, dynamic tools, and products to help rural Alaska villages make informed decisions while facing extreme environmental impacts.

We work with 229 Tribes and strive to assist in the creation and support of resilience tools, products, and services that reflect Indigenous values, community strength, and cultural appropriate solutions. Learn how we weave community stories, history, and traditions into our ways of working upon a holistic foundation built on relationships, trust, and innovation.

9:45 to 11:15 a.m. | Panel

Food Security and Supply Chains

Paul Jung, *Hong Kong Polytechnic University*; **Nicole Boothman-Shepard**, *Boothman Global*; **Karl Kim**, *University of Hawai'i at Mānoa*; **Fernando I. Rivera**, *University of Central Florida*

This panel brings together researchers and practitioners working on island resilience and food security with an emphasis on food security and improving the management of supply chains. Paul Jung will discuss work conducted as part of an Asian Development Bank–funded project on food security in Pacific Island nations; Nicole Boothman-Shepard will present and share work on the critical role of food security as a necessary component of disaster response and recovery; Fernando I. Rivera and his team will examine how structural inequities in Hawai'i and Puerto Rico shape healthcare vulnerabilities and food import dependence in island contexts, highlighting culturally grounded and community-driven strategies in both archipelagos while emphasizing integrated pathways to resilience, self-reliance, and long-term sustainability. The panel will be supported by researchers and training providers from the National Disaster Preparedness Training Center and the University of Hawai'i Disaster Management and Humanitarian Assistance program who are working to better integrate climate and hazard preparedness through training and capacity building.

11:15 a.m. to 12:15 p.m. | Individual Presentations

Wildfire Case Studies Track

Strategies and Barriers for Addressing Wildfire Resilience Across the United States

Kettie Rupnik, *Eastern Research Group*; **AnnaClaire Marley**, *Eastern Research Group*; **Nancy Convard**, *formerly with Hawai'i State Department of Health*

As climate change intensifies wildfire risk across the United States, state, local, and regional partners are increasingly prioritizing wildfire resilience. This presentation highlights the Eastern Research Group's nationwide support for wildfire-related efforts across the disaster life cycle, including the risk assessment, planning, implementation, response, and recovery phases.

We will highlight the Eastern Research Group's support for the Hawai'i State Department of Health following the 2023 Maui wildfires. The Eastern Research Group helped develop a collaborative *Comprehensive Environmental Monitoring Plan* to unify agency efforts, identify contaminants, track pollutant movement, and inform science-based recovery. It used a conceptual site model and developed a public website to ensure data and information transparency with impacted communities. We will also discuss recommendations for applying lessons learned from this post-disaster effort to pre-recovery planning.

In northern California, the Eastern Research Group supports regional coordination, long-term funding strategies, and economic development opportunities for wildfire and vegetation management. We will highlight efforts in Lake and Sonoma Counties and the Central Sierras, where partners are exploring innovative approaches like beneficial biomass use to enhance resilience and support community economic growth.

In the Northeast, states like Massachusetts and Vermont are reevaluating wildfire risk due to climate change. We will share how each state's evolving risk was assessed using existing datasets and expert interviews.

Across these diverse contexts, common barriers and successful strategies for advancing wildfire resilience through collaboration, adaptive planning, and integrated funding will be explored. The presentation will help participants consider how to apply these lessons learned to their pre-disaster planning context and identify opportunities to enhance pre-disaster planning processes.

Using UAV-RGB Imagery to Assist in Post-Wildfire Damage & Recovery Assessments for Reforestation Sites on Guam

Jonelle Sayama, *NASA Guam Established Program to Stimulate Competitive Research*; **Romina King**, *NASA Guam Established Program to Stimulate Competitive Research*; **Leslie Aquino**, *NASA Guam Established Program to Stimulate Competitive Research*

On Guam, wildland fires are estimated to have burned approximately 23 percent of the total land area between 2015 and 2021. This poses significant risks to the island's vegetation, coastal health, and overall quality of life. Since native plants are poorly adapted to withstand multiple, frequent fires, many of Guam's forests have been transformed into nonnative grasslands or are stripped of vegetation entirely after a wildfire. These post-fire badlands increase the risk of erosion during heavy rains, which transport sediment into coastal areas, ultimately threatening coral reefs and fisheries. Given these far-reaching consequences, it has become increasingly important for local resource managers to strengthen post-wildfire monitoring and recovery strategies through innovative approaches.

This presentation highlights a collaborative monitoring initiative between remote pilots from the University of Guam and the Guam Department of Agriculture's Forestry and Soil Resources Division. The partnership utilized uncrewed aerial systems (UAS) to capture high-resolution imagery of burn areas within key reforestation sites around the island to assess the impacts of wildfires. The pilots collected UAV-RGB imagery at two burn sites: As-Gadao and a quinine plantation. This high-resolution imagery enabled the team to safely and efficiently survey affected areas, providing insights into fire direction, spread, and potential ignition points. While this workflow and management approach has proven valuable, it remains limited in addressing key recovery questions. Findings suggest that incorporated multispectral and lidar imagery should also be collected to analyze total burn ratio and temporal changes, which are vital for wildfire management. Future wildfire missions will include the collection of RGB, multispectral, and lidar data to build on these efforts. Ultimately, this project aims to advance discussions on collaborative fire management strategies and demonstrate how UAV technology can enhance Guam's capacity to monitor, recover from, and adapt to the complex challenges posed by wildfires on the island.

Technology and Data Lessons from Wildfires: From Lāhainā to Los Angeles

Eric Yamashita, *National Disaster Preparedness Training Center*; **Jaeho Choi**, *National Disaster Preparedness Training Center*; **Dingyi Liu**, *National Disaster Preparedness Training Center*

Wildfires devastated Lahaina, Maui, in 2023 and Altadena and Palisades in Los Angeles County in 2025. The rapid spread of the fire was fueled by a combination of factors, including dense building proximity, flammable construction materials, dry vegetation, and extreme weather conditions. Assessing the vulnerability of the built environment to such fires is crucial for identifying high-risk areas, guiding mitigation efforts, and enhancing emergency preparedness and response to protect lives, property, and the environment. This session brings together a panel including researchers and practitioners who are applying technologies; improving data to evaluate property-level fire risk and structural vulnerability; examining the applications and improvements of geospatial data and analysis, remotely sensed data, and artificial intelligence to better predict wildfire spread, risks, and vulnerabilities; and developing strategies to identify and reduce vulnerabilities.

11:15 a.m. to 12:15 p.m. | Panel

NSF Rising Voices, Changing Coasts Hub Bioregional Partners: What Is the Role of the Storyteller/Communicator in Regional Capacity Building?

Daniel Wildcat, *Haskell University, Rising Voices, Changing Coasts Hub*; **Robert Hicks**, *Haskell University*; **Maraya Ben-Joseph**, *Olohana Foundation*; **M. Kalani Souza**, *National Disaster Preparedness Training Center*

This panel aims to increase capacity, adaptation, operations, and infrastructure to address dynamic weather events and natural and human-made disasters by noting workable solutions and avoidable missteps and disseminating the information in a timely and impactful manner. Communication methodology needs to be improved, relational dynamics between regions needs to be strengthened, and information needs to be shared across regions to be scaled and modified to meet the bioregional needs of any particular place. Place spaced learning can assist if the information can be shared with a critical and optimistic lens modified by agents working in the field. Locational requirements, regional dynamics, and supply and demand all play a part in the physical restraints encountered by EMS and community service members. Steady and reliable communication between these regions is supported by the Haskell and Olohana Foundations and critical to create adaptation strategies for the future.

Our panelists will share insights from the NSF Rising Voices, Changing Coasts Hub, where communication methodologies and relational approaches between climate-vulnerable communities and research institutions intersect with bioregional practices, cultures, and technology to bolster community resilience. The communication technology will be shared during the session, and regions (Alaska, Louisiana, Kansas, and Puerto Rico) will connect to share experiential knowledge as well as demonstrate future-facing capacity. Mesh technology and the need for its distribution will be discussed. Community organization and response will also be subjects of discovery.

11:15 a.m. to 12:15 p.m. | Individual Presentations

Community Perspective Track

Multilevel Surveys of Hawai'i Residents and Policymakers

Ketty Loeb, *University of Hawai'i at Mānoa*; **Zena Grecni**, *Pacific Research on Island Solutions for Adaptation, Arizona State University*

Hawai'i residents express some of the highest levels of concern about sea level rise (SLR) in the nation, yet both the public and policymakers perceive the state as unprepared to meet accelerating risks. Our research team surveyed elected officials in the Hawai'i State Legislature and four County Councils in 2023, followed by a representative survey of Hawai'i residents in 2025. The surveys reveal strong alignment between residents and policymakers around the issue and about how to respond. One hundred percent of elected officials who responded and 89 percent of residents indicate they believe sea level rise is happening. One hundred percent of elected officials who responded and 91 percent of residents think the impacts of sea level rise will be serious or catastrophic in the next fifty years, and 94 percent of electees are concerned or very concerned about sea level rise while 79 percent of residents say they are “very” or “somewhat” concerned. When asked how well the state and counties are prepared for sea level rise, 97 percent of electees and 72 percent of residents think the state is underprepared, and both groups largely agree that the four counties are underprepared. In addition, a surprising number of respondents indicate they “don't know” how prepared the counties are, indicating a strong need for communication and coordination around the issue.

The high level of alignment around risk perceptions and policy interventions point to several windows of opportunity for advancing. For instance, both lawmakers and the public strongly support a broad array of policy interventions, such as restoring living shorelines, regulating coastal development, and providing adaptation education to residents. The state should invest in pilot projects and scoping studies for specific coastal adaptation interventions; it should build upon existing coastal development regulations and better enforce existing ones; and it should invest in providing adaptation training and education to residents. The survey of elected officials also points out areas where policymakers face challenges advancing SLR policy. Top challenges include lack of funding or staffing capacity for designing and implementing plans, weak coordination among agencies and with non-state stakeholders, and lack of knowledge about what policy options are available, or a need for more case studies of interventions that have worked. These findings underscore the need for policymakers to address resource and knowledge gaps in staffing related to sea level rise; the need to identify creative financing approaches; and the need to create new collaborative governance structures that better integrate state, county, NGO, and community actors.

Finally, this presentation highlights how the survey insights have shaped a series of cross-sector “Deep Dive” strategy sessions around practical policy innovations to accelerate the transition from awareness to action on coastal adaptation in Hawai'i.

The Valuation of Green Infrastructure for Wildfire Mitigation

Kiyomi Kawamoto, University of Hawai'i at Mānoa; Masafumi Morisugi, Meijo University; Eric Y. Yamashita, University of Hawai'i at Mānoa

This study examines residents' value of green infrastructure to mitigate and prevent wildfires while considering community-based management. The risk of wildfire has increased in Hawai'i because of climate change. The 2023 Maui wildfire in Hawai'i, a complex climate and infrastructure factors-affected event, reminded us of the importance of preparing for wildfires while considering the local environment. Green infrastructure measures, using local natural resources, are one of the nature-based solutions for climate mitigation. On the other hand, green infrastructure needs to be maintained more frequently because it needs to be managed within the local ecological system. To what extent will residents embrace green infrastructure and its management? This study conducted a web-based survey in December 2023 for Hawai'i residents, and 267 valid samples were collected. The Contingent Valuation Method was used to evaluate citizens' values on implementing green infrastructure to protect lives from future wildfires. People derive their Willingness to Pay for these services. The values and maintenance participation in green infrastructure development, such as shaded fuel breaks, greenbelts, and native fire-resistant grasses in open spaces, were analyzed. As a result, it was shown that residents rely on gray infrastructure, such as fire-resistant metal poles, but have a higher willingness to use green infrastructure. In addition, residents' social capital influenced the perceived value of green infrastructure and community-based management. Finally, the possibility of installing and maintaining green infrastructure was discussed.

Samoa Perspectives on Tackling Vulnerabilities in the Village Caused by Changing Environmental Conditions

Atuatasi Lelei Peau, NOAA Office of National Marine Sanctuaries

This presentation explores aspects of Samoan culture as approaches and initiatives to build community resilience against environmental changes and other challenges. It highlights how core principles of Fa'aSamoa can be integrated to strengthen resilience within communities and their environment. We will examine how Fa'aSamoa strategies and community-based initiatives can align with new nature-based solutions, such as a sanctuary watch tool within the National Marine Sanctuary of American Samoa.

The discussion will also address the role of cultural practitioners in science, research, education, and outreach, focusing on defining needs, setting priorities, and building capacity for resilience-based management and resource protection. A key part of the presentation will emphasize meaningful engagement, community-centered planning, and innovative tools and approaches.

Ultimately, this presentation aims to share lessons learned, identify common challenges, and explore opportunities for transformative adaptation to address the root causes of vulnerabilities caused by changing environmental conditions.

11:15 a.m. to 12:15 p.m. | Individual Presentations

Disaster Resilience Track

PREP-6: A Framework to Assess Evacuation Plans for Flood and Tsunami Risks in Puerto Rico

Sara Belligoni, John Jay College, City University of New York

This study examines the current state of evacuation planning for flood and tsunami risks in Puerto Rico. As a U.S. territory located in the Caribbean, Puerto Rico is highly vulnerable to extreme weather events, including hurricanes and potential tsunamis triggered by earthquakes. Despite these risks, the island lacks a clear, comprehensive approach to evacuation planning that considers its unique geography and challenges. To address this, we created the Puerto Rico Evacuation Planning – 6 Factors Framework (PREP-6), a tool designed to evaluate evacuation plans based on six key factors: (1) evacuation maps and zones, (2) early warning systems, (3) community drills and public education, (4) flood mitigation and infrastructure, (5) tsunami and flood shelter locations, and (6) post-emergency protocols. This framework was applied to all 78 municipalities in Puerto Rico, organizing them by the island's eight electoral districts. Each municipality was scored based on the presence of these factors. To test how well this framework works in real life, we examined two recent events: a tsunami alert in Aguadilla in February 2025 and severe flooding in several municipalities in April and May 2025. This led us to add a new sub-factor that looks at how effectively the six factors are actually put into practice. Our findings show that some municipalities, like Ponce and Carolina, have strong evacuation plans, while others, like Toa Alta and Juncos, have significant gaps in planning, community engagement, and infrastructure. Next, we will gather feedback from local leaders to fine-tune the framework and work together on solutions to improve evacuation planning in Puerto Rico and on other small islands.

Amerika Samoa Annual Disaster Resilience Summit

Lologa Olo, Office of Disaster Assistance and Petroleum Management, American Samoa; Sandi Tonumaipea, Office of Disaster Assistance and Petroleum Management, American Samoa

The annual Amerika Samoa Disaster Resilience Summit is a three-day event dedicated to enhancing the territory's disaster preparedness and response and empowering its community. It adopts a comprehensive approach, prioritizing effective governance, operational readiness, and robust community involvement. The summit brings together local, regional, and federal stakeholders for high-level leadership meetings and essential emergency management training. Furthermore, it incorporates community outreach initiatives, including workshops and demonstrations, specifically tailored to encourage youth participation in public safety and recovery efforts. The success of this event is largely dependent on the unwavering dedication and commitment of our local emergency support function agencies and the strong support of leadership and our broader community.

Sustaining a Community-Centric Approach to Disaster Risk Reduction: A Framework for Engaging with Recovering Communities in Research Collaborations

Francisco Vidal Franceschi, *University of Delaware*; **Heisel Rivera Vega**, *Rising Voices, Changing Coasts*; **Aidelyne Vélez Vega**, *Rising Voices, Changing Coasts*; **Alex Zhang Lam**, *Rising Voices, Changing Coasts*

Approaches to community engagement in disaster risk reduction and environmental issues vary widely, with growing interest among governments and emergency management organizations in integrating these efforts to promote resilience. Effective engagement can enhance measurement validity, reduce social vulnerability, and support the co-creation of meaningful mitigation and adaptation strategies through convergence science. Yet, achieving this requires a deeper understanding of community capacities, the obstacles faced, and the ways to build and sustain respectful, reciprocal partnerships.

This presentation explores the challenges that led to our collaboration in the Rising Voices, Changing Coasts: Earth and Indigenous Science Puerto Rico Hub. It highlights how convergence science—merging diverse ideas, methods, technologies, and knowledges—can foster innovation that is both locally grounded and inclusive of community, governmental, and private-sector perspectives from the outset and throughout the scientific process.

12:15 to 1:30 p.m. | Poster Session

Post-Fire Assessment of Vegetation Damage and Early Recovery in Maui Island Using Satellite-Based dNDVI and dNBR Analysis

Jiyoung Choi, *Seoul National University*; **Dongkun Lee**, *Department of Landscape Architecture and Rural Systems Engineering, Seoul National University*

In August 2023, severe wildfires occurred on the island of Maui, Hawai'i, primarily affecting the Lahaina and Upcountry Maui regions. These fires caused extensive damage to vegetation and ecosystems across coastal and upland areas. This study aims to quantitatively evaluate vegetation loss and post-fire recovery using remote sensing-based indices: the differenced Normalized Burn Ratio (dNBR) and the differenced Normalized Difference Vegetation Index (dNDVI).

Sentinel-2 satellite imagery before and after the wildfires was processed through the Google Earth Engine (GEE) platform to generate pre- and post-fire NDVI and NBR layers. The resulting dNDVI and dNBR maps were used to classify burn severity and recovery conditions based on the U.S. Geological Survey (USGS) thresholds. The Lahaina region exhibited a higher dNBR value (0.59), indicating severe vegetation loss, while Upcountry Maui showed a moderate level (0.32). In contrast, dNDVI analysis revealed a negative shift of -0.46 in Lahaina, compared to 0.19 in Upcountry Maui, confirming that Lahaina experienced more intense ecosystem degradation.

Furthermore, a temporal assessment of the Upcountry Maui area showed a gradual increase in dNDVI from -0.19 to -0.12 within 20 days, indicating early vegetation recovery, particularly in grassland and shrub areas. This result suggests that the island's natural resilience and rapid regrowth capacity play a critical role in post-disturbance ecosystem stability.

Future research will extend this methodology to assess the large-scale wildfire that occurred in Gangwon Province, South Korea, in 2023, applying the same satellite-based analytical framework used in the Maui study. The comparative analysis will include pre- and post-fire land cover ratio assessments and vegetation vitality evaluations to quantify regional differences in ecological recovery. By integrating these results, this research aims to elucidate the distinct fire impacts between Hawaii and Korea, providing a scientific basis for understanding forest resilience, evaluating climate-related vulnerability, and developing proactive disaster prevention strategies under a changing climate.

Deploying UAV Technology to Assess Intense Typhoon Impacts in Vulnerable Communities in Guam

Keanno Fausto, *University of Guam*; **Romina King**, *NASA Guam Space Grant*;
Leslie Aquino, *NASA Guam Established Program to Stimulate Competitive Research*

Guam is threatened annually by high-intensity storms and typhoons due to its location in the western Pacific Ocean. The island's infrastructure—buildings, roads, and utilities—bear the brunt of typhoon damage, which in turn affects public health, the economy, and natural resources. Traditionally, these impacts have been observed via satellite, radar, and official weather stations. Damages are assessed in the aftermath of the typhoon with a manual, on-the-ground approach led by the National Weather Service. This is often exhaustive and time-consuming for the assessment team. Observations from the ground can inadvertently create data gaps on damage assessments due to inaccessible areas caused by vegetative and construction debris and flooded roads and pathways, which may not capture many impacts eligible for local or federal assistance. To address these data gaps and augment damage assessments, the University of Guam (UOG) Drone Corps program aims to assist local and federal government agencies (e.g., utility companies, public health, emergency services, and natural resource management) by collecting high-resolution aerial imagery to help prioritize and allocate limited resources.

This poster highlights the results of this novel collaboration of the University of Guam, National Weather Service, Guam Homeland Security, and the Office of the Governor of Guam in the creation of the damage assessment of Typhoon Mawar, which ravaged Guam on May 24 and 25, 2023. Following the typhoon, the university worked with the National Weather Service to identify and capture imagery of vulnerable sites that were heavily impacted. This poster will also share how UOG Drone Corps' data was disseminated among other agencies as supplemental data for natural disaster recovery efforts. The poster will conclude with a summary of the UOG Drone Corps program model as a resource for developing resiliency strategies for vulnerable island communities using advanced and emerging technologies.

Starting the Conversation: Early-Stage Approaches for Building Community Engagement Frameworks with Communities in Southwest Louisiana and Acadiana

Briana DeGrate, *Texas A&M University*

This project is part of an ongoing effort to understand how researchers, agencies, and community partners can more respectfully and effectively engage with communities in Southwest Louisiana and across Acadiana. Much of the work so far has focused on the early steps—learning who the right contacts are, understanding governance structures, community

decision-making, and participating in regional planning efforts. Because many of these communities have different histories, levels of recognition, and relationships with local and state governments, no approach is one-size-fits-all.

Our goal is to build a flexible engagement framework that centers relationships first and supports long-term collaboration around climate resilience and hazard mitigation, which includes paying attention to Tribal sovereignty, data governance, and how to incorporate ecological knowledge in ways that are community-led and not extractive. We are also looking at different governance frameworks—formal, informal, and historical—to understand how those frameworks shape participation in resilience planning. This presentation will share what we have learned from the earliest phases of outreach, including what has worked, what still needs improvement, and what questions we are bringing back to community partners. The intention is not to present a “finished model” but rather to outline the beginnings of a process that is grounded in trust, respect, and actual community priorities. By focusing on listening, relationship-building, and co-creating next steps, this work aims to support stronger, more sustainable community partnerships.

Sustainable Wastewater Solutions for Island and Coastal Communities

Zhiyue Wang, University of Hawai'i at Mānoa

Hawai'i faces a major environmental and public health crisis due to its legacy of substandard wastewater infrastructure: cesspools. Over 83,000 cesspools statewide release more than 50 million gallons of untreated sewage daily, contaminating groundwater, drinking water sources, and coastal ecosystems. This challenge is prevalent not only in Hawai'i but also the broader Pacific Region and in coastal areas without access to centralized wastewater facilities. We are developing novel decentralized treatment technologies that follow the Resilient, Equitable, Safe, and Sustainable (RESS) framework for island and coastal communities. For small communities, we are developing microgrid solutions with anaerobic membrane bioreactors that recover energy, nutrients, and clean water. For individual households, we are exploring iron-based biofilters and algal photobioreactors for enhanced nutrient removal. These innovative solutions not only provide effective protection to human health and the environment but also consider current and future threats from climate variability and development. Consequently, through an integrated strategy at both community and individual household levels, decentralized treatment technologies offer propitious solutions to surmount the challenges currently faced by conventional wastewater systems, specifically concerning energy conservation, enhanced treatment efficacy, elimination of emerging contaminants, and operational and maintenance expenditures.

Decolonising International Development and Climate Resilience: Indigenous Water Governance and Climate Change Adaptation in the Pacific

Elizabeth McGowan, University of Leeds

This project investigates how climate change adaptation initiatives have been assimilated into international development frameworks and replicate elements of colonial power dynamics through the inclusion or exclusion of people and their knowledge in projects. How do inclusion principles and climate-resilient and sustainable practice filter from policy, through strategy, to project planning and development, and into implementation and action on the ground? It uses “waterscapes (a concept drawn from *political ecology* that acknowledges the geographic, political, social, economic, and cultural elements of bodies of water, including rivers, coasts, islands, reservoirs, etc.) in Fiji as a lens through which to explore the interaction of stakeholders

and their knowledge in climate resilience and adaptation strategies. This includes exploring the history of how scientific, cultural, political, and Indigenous knowledge interact and the apparent power dynamics present. Ultimately, the study investigates how climate change impacts, climate vulnerability, and climate resilience are understood by different stakeholders, how these are mitigated and adapted to different types of knowledge in “waterscapes,” and how this impacts water security and development priorities and initiatives. The hope is to better understand how the frameworks of development aid and climate financing can encourage ethical and effective participation of Indigenous knowledge and empower Indigenous knowledge holders in the co-creation of sustainable water governance solutions. In this short presentation, some initial findings and themes will be presented, as well as methods used and lessons learned, which reflect on the presenter’s journey as a PhD candidate as well as on the potential methodological contribution of the “waterscapes” lens and working with Indigenous methodologies and codesigned methods.

Cross-Island Connections: Engagement on Aquidneck Island, Rhode Island
Emma Polinsky, *Aquidneck Resilience*

This poster presents a map of resilience efforts and corresponding engagement approaches on Aquidneck Island in Rhode Island. Rooted in climate hope, engagement strategies range from standard workshops to interactive social media content to regional convening of climate resilience practitioners. This approach highlights a critical need for creativity that builds on preexisting shared values.

Innovation and Collaboration: How Advanced Technologies and Insights Are Building Collective Resilience
Kalei Miller, *Pacific Disaster Center*

Understanding and managing the complex risks we face in the Pacific requires collaborative, open, and transparent partnerships to serve our common good. The Pacific Disaster Center has been fortunate to work closely with friends—people, organizations, and our island partners—throughout the region for three decades. Together, we have created a truly resilient, risk-informed ‘ohana. Yet, we appreciate that challenges remain which demand our commitment to working together by sharing the best science, technology, and cultural wisdom.

The Pacific Disaster Center is a leading scientific innovator of global risk reduction science and technology. As a University of Hawai‘i applied science and research center, our work intersects with a variety of government, community, academic, and scientific organizations at home and around the world to build resilience to natural and human-made hazards, enhancing the capacity to quickly and accurately anticipate and prepare for new and emerging threats. Our innovations in multi-hazard early warning systems, predictive analytics, data science, and machine learning provide decision-makers with the powerful tools and insights needed to navigate today’s complex and interconnected risk landscape. Together, we make the ‘ohana stronger and more resilient.

Understanding Short-Term Changes in Beach Width: Spatial Trends in Seasonal and Interannual Shoreline Patterns on the North Shore of O‘ahu

Brian Gorberg, *University of Hawai‘i at Mānoa*; **Christopher Shuler**, *University of Hawai‘i at Mānoa*

Chronic coastal erosion increases a community’s vulnerability to wave-driven inundation and sea level rise flooding. Beach vegetation serves as a frontline defense against wave runoff, chronic erosion, and passive inundation. Vegetation traps wind- and wave-transported sediment, effectively widening beaches or slowing erosion rates. Maintaining beach width and vegetation is critical for management and coastal resilience.

Coastal flooding and erosion in Hawai‘i are primarily driven by wave processes. Wave energy is the dominant factor for shoreline change in the coming decades, with sea level rise becoming more influential later on. Erosion models predict that a majority of the erosion for this century will occur through the next couple decades, emphasizing the need for short-term shoreline change evaluations. Due to complex shoreline dynamics in Hawai‘i, resolving spatial and temporal variability is essential for site-specific management and resilience planning. As interest in nature-based solutions grows, aligning management strategies with shoreline dynamics may provide effective adaptation pathways.

This research evaluates seasonal and interannual shoreline patterns along the North Shore of O‘ahu using satellite-derived shoreline positions. Systematic methods are applied to identify spatial trends through mapping seasonal and interannual shoreline patterns. Wave climate and climate indexes are examined to better understand what is driving the changes. While this study focuses on the North Shore, the Python-based tools are transferable to other coastlines across O‘ahu and potentially other Hawaiian Islands as additional data becomes available. By simplifying sand movement patterns across spatial and temporal scales relevant to management goals, this work aims to inspire adaptation strategies for the coming decades.

Building Coalitions for Neighborhood-Scale Energy Resilience

Zachary Gibson, *CERENE*; **Sage Murakami**, *CERENE*

This poster shares outcomes from the Kaimukī Middle School Microgrid Project and the Community Engagement for Resilient Neighborhoods (CERENE) program at Kapi‘olani Community College, this initiative aimed to advance neighborhood-scale energy resilience in Honolulu. Funded through FEMA’s Building Resilient Infrastructure and Communities (BRIC) program, the project integrates photovoltaic energy and battery storage to provide emergency backup power at Kaimukī Middle School and explore models for localized community resilience that could then be scaled island-wide.

As part of this work, CERENE convened partners across city agencies, neighborhood boards, and education institutions to strengthen local capacity for resilience planning. Through training, civic engagement, and student leadership programs, the initiative helped shape how schools and community spaces can evolve from serving as temporary emergency shelters to becoming active resilience hubs that support preparedness, education, and resource coordination year-round.

The project also illuminated broader lessons about collaboration, adaptability, and the potential of resilience micro-networks in smaller, connected clusters of hubs that share knowledge and mutual support without depending on a single center. The session will explore how coalition-

building, education, and innovation was translated into resilience goals and actionable neighborhood solutions with a scalable island-wide model.

1:30 to 3 p.m. | Panel

Rebuilding Lahaina's Shoreline Out of Harm's Way—One Relationship at a Time: Respecting Property Rights as Well as Preserving Our Coastal and Cultural Environment from Future Coastal Erosion Through a Socially Derived, Shoreline-Rebuilding Strategic Framework

Collette Cardoza, *Maui County Planning Department*; **Sybil Lopez**, *Maui County Planning Department*; **Laury Sanger**, *Maui County Planning Department*; **Robin Lilies**, *Maui County Planning Department*; **Brailey Gonsalves**, *Maui County Planning Department*; **James Buika**, *Maui County Planning Department*; **Tara Owens**, *University of Hawai'i Sea Grant College Extension Program on Maui*; **Wesley Crile**, *University of Hawai'i Sea Grant College Extension Program on Maui*

The August 8, 2023 Lahaina Wildfire (FEMA-DR-4742-HI) on Maui, Hawai'i, exposed a second climate-caused hazard impact—coastal erosion—along a four-mile stretch of vulnerable shoreline. The coastal erosion is exacerbated by extreme episodic winter storms now compounded by a rising sea level. The wildfire impacted approximately 166 shoreline parcels along a four-mile coastal stretch, including the complete destruction of an 11-parcel waterfront historic-commercial district. New Shoreline Rules for the Maui Planning Commission were passed into law on August 25, 2024. With these shoreline rules in place, the Maui County Planning Department has implemented a progressive regional planning approach to site all new construction mauka (toward the mountains) of the Erosion Hazard Line accounting for 3.2 feet of sea level rise.

Our task to achieve resiliency asks, at a local level, how and where do we rebuild so that in seventy years, at the turn of the century, Lahaina town is a thriving, vibrant business and cultural center? We have an opportunity to create a resilient and thriving ecosystem while addressing the socioeconomic issues uncovered by this impactful and wide-ranging disaster. To provide education, outreach, and training to individual shoreline property owners prior to the rebuild, the Planning Department conducted one-on-one interviews and meetings with sixty individual and business shoreline property owners over a three-month period from October 1 to December 31, 2024.

This session will report on the development and progress of the Maui County Planning Department's progressive Shoreline-Rebuilding Strategic Framework. The framework aims to rebuild the Lahaina shoreline in a way that respects and protects property rights and preserves coastal and cultural resources impacted by the wildfire, to the extent practicable. This framework is based on (1) new regulatory shoreline rules to account for rebuilding regionally outside of an Erosion Hazard Line generated for 3.2 feet of sea level rise projected to the year 2100; (2) protection of people's property rights to avoid a takings, through granting rebuilding on a Minimum Buildable Area located on the mauka portion of vulnerable shoreline parcels; and (3) accounting for owners' rebuilding questions and unique rebuilding situations through individual interviews and one-on-one discussions to answer the questions of what, where, how, and when can we rebuild?

1:30 to 3 p.m. | Panel

Intergenerational Transfer of Knowledge: Important, Content-Critical, Information-Rich

Moderator: B. Kainoa Azama, Olohana Foundation, PRiMO IKE Hui; Karl Kim, National Disaster Preparedness Training Center, University of Hawai'i Department of Urban Regional Planning; M. Kalani Souza, University of Hawai'i Department of Urban Regional Planning, National Science Foundation Rising Voices, Changing Coasts Hub, PRiMO IKE Hui, Olohana Foundation; Carl Keller III, National Incident Trainer; Marty Streifler, Gonzaga University

When observing "small-c" culture, how does one create a mechanism for effective transfer of wisdom, experience, and technique to the next generation? At what point does experience and wisdom outpace information and training? How do we preserve information gleaned over decades of experience and transfer that knowledge to the next set of operators, fulfilling the mission of our agencies and institutions?

The panel will observe and comment on recent capacity developed in the Pacific region to record elders and transfer cultural and critical information generationally. When and how do we collect, preserve, and make available critical wisdom garnered by 20- to 30-year veterans in EMS, police, fire, and FEMA positions and create a transfer mechanism to distribute the learning to incoming personnel? Is there any difference between preserving cultural knowledge of a particular ethnic group and the experiential and hard-won wisdom experienced over a 20-year career?

1:30 to 3 p.m. | Panel

Watershed Planning as Hazard Mitigation and Resilience in the U.S. Virgin Islands: Five Years in Review

Hilary Lohmann, Division of Coastal Zone Management, Virgin Islands Department of Planning and Natural Resources; Greg Guannel, University of the Virgin Islands; Piotr Gajewski, Virgin Islands Department of Public Works; Graciela Rivera, Virgin Islands Territorial Emergency Management Authority; Dijani Laplace, Division of Coastal Zone Management, Virgin Islands Department of Planning and Natural Resources

The Department of Planning and Natural Resources, Department of Public Works, Virgin Islands Territorial Emergency Management Authority, University of the Virgin Islands, and the panel participants representing these agencies and institutions have collaborated since 2019 to ensure that watershed planning and stormwater management are major elements of hazard mitigation and resilience in the US Virgin Islands. The Department of Planning and Natural Resources and Department of Public Works collaborate with the Territorial Emergency Management Authority to advance watershed improvement projects through planning, design, and construction, under FEMA's Hazard Mitigation Grant Program and with other opportunities. The University of the Virgin Islands worked with all major GVI agencies and stakeholders to develop the nation's first Hazard Mitigation *and Resilience* Plan (traditionally Hazard Mitigation Plan). The panel will discuss how hazard damage, response, and mitigation can be complicated by poor watershed planning and how the U.S. Virgin Islands is partnering and investing in watershed planning for hazard and climate resilience.

1:30 to 3 p.m. | Working Session

Community Resilience Tools Café

Connor Lewis, NOAA Center for Operational Oceanographic Products and Services;
Corina Cerovski-Darriau, U.S. Geological Survey; **David Lee**, Ready.net

This tools café and working session focuses on community resilience and collaboration among agencies and organizations to share new data products, tools, and web resources in an interactive format with stakeholders from across the Pacific region. This session will demonstrate recent improvements in services focused around landslide mapping, sea level change, flooding, precipitation frequency, and broadband infrastructure resilience information that will support communities with planning and risk assessment for extreme hazards. The working session will be broken into segments and participants will rotate through up to four different tables over the 90 minutes. At each table, participants will see a demonstration of the updated resources from the table lead and interact to ask questions or provide feedback before switching to a new table.

Table topics include NOAA's Sea Level Calculator; NOAA's Monthly and Annual High Tide Flooding Outlooks; the University of Hawaii Sea Level Center's Sea Level Forecasts; NOAA Atlas 14 and 15 updates to the National Precipitation Frequency Standard; NOAA sea level trends, extremes, indicators and metrics, and "code library" for the Pacific region; NOAA's Coastal Ocean Reanalysis for the Pacific Islands, West Coast, and Alaska; Grfin Tools, a new USGS software for estimating where landslides will start and stop; and emerging AI applications and geospatial datasets for infrastructure resilience analysis and modeling vulnerabilities. This session will demonstrate the continued commitment to develop and deploy user needs–informed hazard, climate, flood, and geospatial services collaboratively across federal agencies and local community partners to better meet people where they are.

3:15 to 4:45 p.m. | Individual Presentations

Climate Resilience Track

Capacity Building: Moving Past Training to Foundational Change

Renee Collini, Community Resilience Center at The Water Institute; **Jason Troclair**, United Houma Nation; **Allison Haertling**, Community Resilience Center at The Water Institute; **Ernest Brunet**, United Houma Nation; **Kathryn Keating**, Community Resilience Center at The Water Institute; **Brandon Dion**, United Houma Nation

The term *capacity building* is used frequently in resilience and adaptation; however, there is a lack of common understanding of what someone providing capacity building will deliver. This talk will leverage an existing capacity-building partnership between the Community Resilience Center at The Water Institute (Center) and the United Houma Nation (UHN). The Center was founded to address systemic barriers to community-led resilience and bring additional capacity to Gulf communities. The United Houma Nation is the largest Indigenous nation in Louisiana has recently undertaken implementing their Hazard Mitigation and Resilience Plan through NOAA's CRRC-funded UHN Resilience, Independence, Sovereignty, Innovation, Nurture, Generational (UHN RISING) project. As part of this, the Center is providing capacity building through a "buddy system" whereby each staff person with the United Houma Nation has a technical support "buddy" from the Center along with overarching trainings and technical support. We will leverage this example to define capacity and share lessons learned and best

practices and engage in a larger discussion about meaningful and sustained capacity building. This will include navigating issues such as staff turnover in community-based organizations, technological capacity (e.g., software, typing skills), process capacity (e.g., generating and tracking invoices or expenses), and subject matter expertise capacity (e.g., resilience, hazards, housing, legal). The actual time, resources, skills, and relationships required to sustain capacity-building programs will be discussed, and we will share how others might consider this model in their own work. Speakers include representatives from the Center and the United Houma Nation.

Team Collaboration for Coastal Resilience Community-Listening Session Design

Katie Trozzo, *Virginia Tech*; **Julie Shortridge**, *Virginia Tech*; **Wendy Stout**, *Virginia Tech*; **Mikel Manchester**, *Virginia Tech*; **Liesel Ritchie**, *Virginia Tech*; **Jacqui Maciel**, *Virginia Tech*; **Delaney Owens**, *Virginia Tech*; **Cannon Cline**, *Virginia Tech*; **Jerri Husch**, *2Collaborate Consulting*

The Community Agricultural Resilience through Extension (CARE) Project is a multi-university and extension collaborative working across coastal Virginia, Maryland, and Delaware to strengthen the resilience of agricultural communities. This collaborative, funded through NOAA's Climate Resilience Regional Challenge (CRRC) program, aims to better prepare cooperative extension groups across the three states to be effective partners in resilience efforts in coastal agricultural communities. A key part of this project is conducting 18 listening sessions over the next two years with communities across the region in order to inform the ways extension can better support them. We will share the collaborative team approach used to develop the design of our listening sessions, which included an iterative participatory process informed by dynamic governance decision-making principles. Over the course of four months, we engaged 24 project team members across three states in the development of the listening session design. Team members include community partners, 1890 and 1960 land grant institutions, consultants, and NOAA. We will also provide an overview of our listening session facilitation design and share how we used the Community Capitals Framework and asset-based community development principles to ground the listening sessions in community strengths. Additionally, we will share our team data analysis process, preliminary themes and findings from the listening sessions conducted thus far, and plans for integrating this work with other project activities.

Land Acquisition for Conservation: Speedbumps, Tears, and Celebration

Kitty Edwards, *Division of Territorial Parks & Protected Areas, Virgin Islands Department of Planning and Natural Resources*; **Kenneth Douyon**, *Division of Territorial Parks & Protected Areas, Virgin Islands Department of Planning and Natural Resources*

Land acquisition in a government landscape is filled with speed bumps, moving targets, and lots of tears and occasionally something worth celebrating. Thanks to NOAA's Climate Resilience Regional Challenge, the USVI Division of Territorial Parks & Protected Areas has the opportunity to pursue properties that help with the creation of a brand-new endeavor for the territory, the USVI Territorial Parks System. Since being awarded this grant in 2024, we have begun a journey to acquire land with federal funds for a territorial government agency. This presentation will share the story of the first successful purchase, the acquisition of Maroon Sanctuary Park, 2,400 acres of environmentally and culturally historic land on the island of St. Croix, and examples of how everything can change from one project to the next by highlighting other projects still underway and how the team has maneuvered to keep the projects moving.

Caught in the Teeth of the Ongoing & Unnatural Disaster: Hunger, like a Hurricane

Joshua Trosclair, *Tulane University*

A presentation about the importance of forward preparation in underserved and underrepresented communities that have been left cold, alone, and hungry before disasters (natural and human-made) even strike. The presentation is both in support of and critical of the resilience hub concept in contrast to greater community planning and practice. Hurricanes and other large-scale disasters are becoming harder to predict with certainty in this ever-changing and challenging environment. Resilience hubs have been offered as a solution but cannot close the gap with the rate of systemic collapse that the poor and working class of the world, who will suffer the effects first, which historically has always been the case, can expect.

We must harken back to old and local traditions for food sovereignty: local, seasonal goods that can be canned and saved for when they are needed most and allotted out for the ongoing struggles of hunger, homelessness, and crumbling infrastructure leading to rolling blackouts. Reuniting people with processing their food from seed to steam to table cannot be overlooked as a beneficial practice in its own right. Community larders and gardens, which are in constant need, must be an integral part of any resilience planning and can be done at various levels throughout the year. These practices are also approachable to those of different abilities and lifestyles as important yet simple work with a direct material benefit. Resilience hubs need to also work as repositories of knowledge, particularly for communities that do not have a library or are likely to fail in the event of a natural disaster.

This discussion puts forward the voices of Indigenous workers, the poor, and the underprivileged, the latter a group we can all find ourselves joining, whether we like it or not.

How Do You Prepare for a Typhoon in Alaska?

Richard Buzard, *Alaska Native Tribal Health Consortium*

Alaska Native villages have been hit by two ex-typhoons in the past three years, Ex-Typhoon Merbok in September 2022 and Halong in October 2025. Although the region has historically experienced coastal flooding, typhoons crossing the North Pacific are not the traditional route. The timing, intensity, and trajectory challenge traditional knowledge as well as the forecasting and pre-disaster planning for these events. Ex-Typhoon Halong alone flooded the communities of Kipnuk and Kwigillingok 2–3 ft above any past flood ever documented, devastating these communities and others in the region. In the face of this, Alaskans are resilient. Improvements have been made to understand these storms, data have been collected to document them, and better models are used to forecast them—all due to the coordination of many partners with whatever capacity they can contribute. This presentation covers how pre-disaster coordination contributed to the disaster response of these events and outlines continued work needed not only to prepare for disasters but plan for the long-term impacts of climate change.

3:15 to 4:45 p.m. | Individual Presentations

Innovations and Technology Track

The University of Guam Drone Corps – Fostering a Network of Skilled Drone Pilots & a Repository of Geospatial Data for Micronesia

Keanno Fausto, *University of Guam*; **Romina King**, *NASA Guam Space Grant*; **Leslie Aquino**, *NASA Guam Established Program to Stimulate Competitive Research*

Pacific islands in Micronesia are increasingly vulnerable to a range of environmental threats, including natural disasters, coastal erosion, invasive species, and wildfires. Traditional data collection methods, such as satellite imagery and crewed aerial surveys, often fail to provide local resource managers with timely, high-resolution data needed to make decisions regarding these risks. Drones, in comparison, have emerged as a cost-effective, transformative solution to address these gaps by delivering efficient data that can address the unique needs of resource management in island communities.

In response, the University of Guam (UOG) Drone Corps has built a network of FAA Part 107b-licensed drone pilots who are trained in remote operations, local airspace regulations, and environmental considerations. Since its launch in 2021, the program has certified 55 drone pilots. This includes students from the university and Guam Community College. In 2025, the program expanded its membership to university staff, faculty, and partners at natural resource agencies. Together, these members represent a cadre of experienced pilots ready to mobilize for various surveying needs, including vegetation health assessments, coral reef monitoring, and post-disaster imagery.

This presentation will showcase the UOG Drone Corps model, highlighting its course structure, key mapping campaigns, and collaborative nature. Through partnerships with local agencies, remote pilots from the program participate in missions to gain training experience in acquiring geospatial data (e.g., RGB, NDVI, lidar, GHG emissions). The gathered datasets are processed, augmented with metadata, and published in an online repository, supplying resource managers with imagery that can guide long-term environmental monitoring. Upon program completion, students are granted career opportunities to intern with partners. This presentation will describe how the UOG Drone Corps fosters regional cooperation, sharing its expertise with colleges in Saipan, Palau, and Pohnpei to help them establish their own drone training programs. Finally, the presentation will conclude with an outlook on its future, including plans to increase capacity by introducing new technologies and broadening its collaborations with partners throughout Micronesia.

Mainstreaming Extinction Risk into Environmental-Economic Accounting: A SEEA Ecosystem Accounting Application for Forest Ecosystems in Hawai'i

Louis Chua, *University of Hawai'i at Mānoa*

In Hawai'i, biodiversity loss poses material risks to economies and societies, yet extinction risk remains weakly integrated into the environmental-economic statistics that guide public policy, budgeting, and investment. Globally, the System of Environmental-Economic Accounting Ecosystem Accounting (SEEA EA) provides a standardized framework for incorporating ecosystem change into national accounts, but practical policy and finance applications remain limited. This study demonstrates how extinction risk can be integrated into SEEA EA ecosystem extent and condition accounts using the Land-cover change Impacts on Future Extinctions

(LIFE) metric in Hawai'i. Between 2013 and 2019, we compiled the first SEEA EA pilot ecosystem accounts for the main Hawaiian Islands and applied them to assess changes in extinction risk for species dependent on two threatened forest ecosystem functional groups: tropical/subtropical lowland rainforests and tropical/subtropical dry forests and thickets. We show that ecosystem condition variables, such as rainfall, can drive rapid transitions between the two ecosystem functional groups, even where land cover appears stable, and lead to divergent extinction-risk trajectories across locations. Embedding LIFE-based extinction risk within the SEEA EA framework transforms biodiversity loss from a stand-alone ecological indicator to a standardized, aggregable, and decision-ready accounting signal compatible with policy prioritization, monitoring, and conservation finance mechanisms. We further discuss how SEEA ecosystem accounting in Hawai'i can support coordinated, evidence-based conservation and act as an enabling infrastructure for mobilizing private capital, where standardized extinction-risk and ecosystem condition indicators inform risk-adjusted investment and can aid in the development of public revenue-backed environmental bonds.

Pacific AI Resilience: Governing Intelligence for Island Preparedness

Tadia Rice, Blue Horizon Films & Press

Island and coastal communities face accelerating climate threats—stronger storms, rising seas, and increasingly complex evacuation and recovery challenges. While artificial intelligence is often framed as a technical solution, resilience in practice depends on governance, local capacity, and human judgment long before an emergency occurs. This session examines how AI can support island resilience when it is designed as *augmented intelligence*, systems that strengthen human decision-making rather than replace it. Drawing on Pacific-context examples, the presentation explores how predictive risk mapping, scenario simulation, early warning systems, and community data integration can help leaders move from forecasting hazards to stress-testing plans under real-world conditions.

Participants will explore how scenario simulation allows communities to test evacuation routes and response strategies against extreme-but-plausible futures, including nighttime events, power outages, blocked infrastructure, and delayed alerts. The session emphasizes that the scientific standard for resilience is not perfect prediction but robust planning across uncertainty. The presentation also addresses the governance foundations required for effective AI use: workforce training, data sovereignty, cultural knowledge protection, and regional coordination. Rather than focusing on technology adoption alone, the session highlights what leaders must decide in the next 6–18 months to pre-position readiness, protect vulnerable populations, and ensure that responsibility remains clearly human. Designed for public officials, planners, community leaders, and practitioners, this session offers a practical, values-driven framework for using AI as a tool for preparedness, one that respects local authority, strengthens trust, and builds resilience before the next crisis arrives.

Sustainable Wastewater Solutions for Island and Coastal Communities

Zhiyue Wang, University of Hawai'i at Mānoa

Hawai'i faces a major environmental and public health crisis due to its legacy of substandard wastewater infrastructure: cesspools. Over 83,000 cesspools statewide release more than 50 million gallons of untreated sewage daily, contaminating groundwater, drinking water sources, and coastal ecosystems. This challenge is prevalent not only in Hawai'i but also the broader Pacific Region and in coastal areas without access to centralized wastewater facilities. We are developing novel decentralized treatment technologies that follow the Resilient, Equitable, Safe,

and Sustainable (RESS) framework for island and coastal communities. For small communities, we are developing microgrid solutions with anaerobic membrane bioreactors that recover energy, nutrients, and clean water. For individual households, we are exploring iron-based biofilters and algal photobioreactors for enhanced nutrient removal. These innovative solutions not only provide effective protection to human health and the environment but also consider current and future threats from climate variability and development. Consequently, through an integrated strategy at both community and individual household levels, decentralized treatment technologies offer propitious solutions to surmount the challenges currently faced by conventional wastewater systems, specifically concerning energy conservation, enhanced treatment efficacy, elimination of emerging contaminants, and operational and maintenance expenditures.

Modeling Coastal Futures for Pu‘uhonua o Hōnaunau National Historical Park

Ashley Hi‘ilani Sanchez, *University of Hawai‘i Sea Grant College Program*; **Philip R. Thompson**, *University of Hawai‘i at Mānoa*

Damaging waves have previously impacted Pu‘uhonua o Hōnaunau National Historical Park, a Native Hawaiian site of immense cultural and historical significance. The ongoing threat of sea level rise has brought forth concerns among park staff and stakeholders regarding the longevity of the park and flood risks to specific areas of importance, especially during times of increased wave activity. This study investigates the combined impacts of sea level rise and extreme wave events at the park and provides return periods serving as timelines that enable hazard mitigation and climate adaptation planning. An extreme value analysis is performed on a hindcast dataset using the Peaks Over Threshold method wherein a number of extreme events are identified. Using a phase-resolving numerical wave model, SWASH, coupled with high-resolution topobathymetric data, coastal flooding is simulated under two sea level rise scenarios: 0.3 m and 1 m. Simulations are also run over three extreme wave return periods used by the extreme value analysis: 1 year, 10 years, and 50 years. The SWASH model analyses show that sea level rise amplifies the effects of wave-driven flooding, threatening low-lying cultural assets and natural features, such as Hale o Keawe and the Heleipālala anchialine ponds. Effective measures to mitigate the hazards of sea level rise and extreme waves on the park must be explored in a timely manner, and suggestions of potential planning adaptations are provided for stakeholders to consider. This collaborative effort serves as an example of integrating Indigenous priorities with scientific storytelling and government action, paving the way to overall increased community and cultural resilience.

3:15 to 4:45 p.m. | Individual Presentations

Conservation Track

Celebrating Kīpuka: Storying Community-Led Care Across Hawai‘i to Inform Natural Resource Management

Grace Cajski, *University of Hawai‘i at Mānoa*

The word *kīpuka* describes patches of forest that are untouched by a lava flow and is also used to refer to places where Native Hawaiian culture, worldviews, and places remain intact. Kīpuka include coral reefs, *loko i‘a*, streams, agricultural systems, and entire watersheds that are cared for by community, places of social and ecological resilience shown to foster broader abundance. Community care and governance—i.e., the ability of local and often Indigenous groups to

steward and make autonomous decisions in relationship with lands and waters—contributes to resilience in multiple ways. This research builds upon findings from past collaborative research to map kīpuka across Hawai‘i over time, using archival records, interviews, ecological data, and participatory methods codesigned with community partners. How can the recording and weaving of stories guide restoration? Stories illustrate where and how community groups are caring for lands and waters, highlighting impacts on resilience and weaving together *mo‘okū‘auhau* of ‘āina groups across Hawai‘i. Research and creation of stories through research revealed lessons for community engagement and coalition-building while facilitating connections among stakeholders and informing locally grounded management and policy decisions. Guided by the priorities and insights of community partners, this work strengthens the visibility of Indigenous stewardship, supports community participation in environmental governance, and fosters cultural resurgence. This project provides a model for collaborative research partnerships to better understand the impact of natural resource management that can be applied to other regions to enhance resilience and inform decision-making.

Decolonizing International Development and Climate Resilience: Indigenous Water Governance and Climate Change Adaptation in the Pacific

Elizabeth McGowan, *University of Leeds*

This project investigates how climate change adaptation initiatives have been assimilated into international development frameworks and replicate elements of colonial power dynamics through the inclusion or exclusion of people and their knowledge in projects. How do inclusion principles and climate-resilient and sustainable practice filter from policy, through strategy, to project planning and development, and into implementation and action on the ground? It uses “waterscapes (a concept drawn from *political ecology* that acknowledges the geographic, political, social, economic, and cultural elements of bodies of water, including rivers, coasts, islands, reservoirs, etc.) in Fiji as a lens through which to explore the interaction of stakeholders and their knowledge in climate resilience and adaptation strategies. This includes exploring the history of how scientific, cultural, political, and Indigenous knowledge interact and the apparent power dynamics present. Ultimately, the study investigates how climate change impacts, climate vulnerability, and climate resilience are understood by different stakeholders, how these are mitigated and adapted to different types of knowledge in “waterscapes,” and how this impacts water security and development priorities and initiatives. The hope is to better understand how the frameworks of development aid and climate financing can encourage ethical and effective participation of Indigenous knowledge and empower Indigenous knowledge holders in the co-creation of sustainable water governance solutions. In this short presentation, some initial findings and themes will be presented, as well as methods used and lessons learned, which reflect on the presenter’s journey as a PhD candidate as well as on the potential methodological contribution of the “waterscapes” lens and working with Indigenous methodologies and codesigned methods.

Forest Protection Decreases Flooding Risk in the Ala Wai

Yinphan Tsang, *University of Hawai‘i at Mānoa*

Flooding risk in the Ala Wai watershed is inextricably linked to the health of the upland forests in Mānoa and Pālolo valleys, which serve as natural sponges by absorbing stormwater and stabilizing soil in the watershed’s most vulnerable reaches. The rapid invasion of upland areas by *Falcataria moluccana* (albizia) and *Miconia calvescens* (miconia) threatens these ecosystem services, leading to increased peak streamflow, erosion, and sediment delivery to the high-density urban center of Waikīkī. In a collaboration between the Department of Land and Natural

Resources and the University of Hawai'i, researchers monitored streamflow and turbidity changes and utilized a calibrated SWAT+ (Soil and Water Assessment Tool) model to evaluate the impacts of invasive species management. By comparing scenarios of active removal against a 10-year projected invasive species spread, the study found that protecting native forests leads to substantial reductions in flooding risk and prevents significant sedimentation. These results demonstrate that the cost of invasive species control is relatively small compared to the potential economic losses from downstream flooding, making upland forest protection a highly cost-effective investment.

This presentation provides critical data on the role of forest health in hazard mitigation and explores opportunities to modify existing stormwater quality programs in Hawai'i to better address pollution from deforestation, offering vital insights for government agencies, private corporations, and individuals interested in modernizing flood risk and water quality management.

Nurturing Leaders: Place-Based Biocultural Practice as a Pathway to Community Resilience

Olivia Carbi, Office of Indigenous Knowledge and Innovation and Water Resources Research Center, University of Hawai'i at Mānoa

This presentation shares insights from the design and evaluation of the Partnerships for Pu'uloa Summer Internship Program, a pilot initiative codeveloped by the University of Hawai'i Office of Indigenous Knowledge and Innovation and various 'āina-based organizations in 'Ewa Moku. Focused on biocultural restoration in 'Ewa Moku, the internship supports students in developing research, storytelling, and data visualization skills while deepening their connection to place and community. At its core, the program is grounded in the understanding that as we do the work to heal the land, we heal ourselves. From this foundation, the curriculum draws on Kanaka Maoli and trauma-informed pedagogies and positions biocultural restoration as both a goal and a methodology. Students engage in *mālama 'āina* (care for land) and *mālama pono* (care for self), deepening their connection to place and purpose.

Evaluation methods included participant surveys and interviews, which revealed that the curriculum's holistic design supported intern well-being and engagement. By encouraging students to explore the "why" behind their work, the program created pathways for self-actualization and relational leadership—key ingredients for long-term resilience. This presentation will demonstrate how biocultural restoration can serve as a resilience framework, strengthening systems of care across ecological and social dimensions. It offers practical tools and reflections for educators, program designers, and community partners seeking to build wellness-centered learning environments that nurture emerging leaders and support community resilience from the ground up.

Community: Fundamental to Conservation in Amerika Samoa

Genevieve Brighthouse, National Marine Sanctuary of American Samoa

Effective conservation in American Samoa integrates traditional ecological knowledge with contemporary management strategies, emphasizing community engagement to navigate challenges like communal land ownership and climate change. Collaborative, multilevel efforts that build trust, recognize customary land tenure, and empower local residents are key to ensuring successful, sustainable outcomes for both ecosystems and communities. The National Marine Sanctuary of American Samoa (NMSAS) strives to connect collaborative engagement with practice and principles through place-based management, where creating conditions for

social learning, adaptive governance, and improvements are fine-tuned through a co-management arrangement with the American Samoa Government. The National Marine Sanctuary of American Samoa connects with communities to understand how it can work with others to provide a framework of stewardship and support one another in a meaningful process. Sanctuary communities understand that connecting to our mission provides a pathway to science, stewardship, and service through outreach, education, local knowledge inclusion, and honoring place and culture throughout. The NMSAS program and office are a social, living, and cultural laboratory of how to engage and collaborate with American Samoa communities for mutual conservation of resources that belong to all. An automatic first step for the marine sanctuary is to check in with the governor's office and especially with the Office of Samoan Affairs. Early consultation allows for support and commitment, and provides a beneficial foundation to an effective relationship. This is a prime example of the cultural word "fa'aaloalo," which is a foundation of practice to all things to ensure effective engagement in Samoan culture. The National Marine Sanctuary of American Samoa has demonstrated *fa'aaloalo* in several examples and principles of practice. This presentation provides examples and lessons learned, both past and current, and discusses what lies ahead in navigating the future of the program in American Samoa. Topics will also include partnerships, cultural integration, community empowerment, and resilience. While outcomes of examples vary, an engaged community is a central and foundational pillar for shared stewardship of resources.

3:15 to 4:45 p.m. | Panel

Transport Resilience Before, During, and After Disasters

Karl Kim, *University of Hawai'i at Mānoa*; **Daniele Spirandelli**, *Haley & Aldrich*; **Pradip Pant**, *Hawai'i State Dept. of Transportation*; **Qian He**, *Rowan University*; **Jaemin Song**, *Seoul National University*; **Ruben Pena**, *ENSCO, Inc.*

The panel brings together leading researchers and practitioners working on transportation resilience across different hazards and diverse communities with a focus on preparedness, early warning systems, evacuation, and transportation systems management. Development of new tools and applications will be described, and examples from recent disaster cases will be presented. In addition to the usual concerns regarding data quality and availability, the integration of local knowledge and community-based assets will also be discussed. Attention will be given to capacity building to support planning and effective decision-making, as well as to ways to promote and sustain coalition building and interdisciplinary collaboration. The panelists will include representatives from government, academia, industry, and community groups.

Wednesday, March 18, 2026

Conference Day 2

9 to 10:30 a.m. | Panel

Breaking Silos, Building Trust: Diverse Approaches to Regional Collaboration

Emily Franc, *California Marine Sanctuary Foundation*; **Dr. Jesse Traller Ojeda**, *California Marine Sanctuary Foundation*; **Charlene Eigen-Vasquez, J.D.**, *Four Directions Consulting, Founder and Co-Chair of the Confederation of Ohlone People*; **Dr. Wendy Stout**, *Virginia Tech*; **Ernie Brunet**, *United Houma Nation*; **Ally Jaime**, *UHN Rising*; **Glennie LeBaron**, *Aquidneck Resilience*; **Kristen “Kitty” Edwards**, *Division of Territorial Parks and Protected Areas*

Regional collaboration is widely recognized as essential for climate resilience, yet the actual formation of these networks is frequently hindered by organizational silos, engagement fatigue, and rigid funding timelines. This session synthesizes actionable strategies from five initiatives across the United States and its territories to demonstrate how social infrastructure drives successful resilience planning, all funded through NOAA’s Climate Resilience Regional Challenge. Attendees will leave this session with a better understanding of how to build regional collaboratives, including frameworks for adaptive governance, methods for culturally competent engagement, and creative communication strategies that foster genuine community ownership.

- Monterey Bay Climate Adaptation Action Network (MBCAAN) embraces peacekeeping circle methods to cultivate "right relations" among over thirty diverse partners. By prioritizing foundational trust and relationship building as prerequisites for collaboration, this model plants seeds for cultural transformation, moving regional resilience beyond transactional relationships toward permanent, equitable, and systemic change.
- The Community Agricultural Resilience through Extension (CARE) project, encompassing Delaware, Maryland, and Virginia, will address the need for flexible governance. Presenters will share how a "Collaborative Charter" and a pivot from broad surveys to qualitative interviews strengthened the capacity of Extension professionals supporting rural farming communities.
- The United Houma Nation RISING project in Louisiana illustrates a bottom-up, Indigenous-led approach to designing resilience hubs, utilizing mixed working groups to scale engagement from a single parish to a six-parish service area.
- Addressing the challenge of communicating complex science to diverse audiences, Aquidneck Resilience in Rhode Island will demonstrate how injecting levity can connect taking action to local values and combat engagement fatigue.
- Finally, the U.S. Virgin Islands’ Territorial Parks and Protected Areas project will highlight how learning exchanges, partnership building, and resilience hubs are core components of achieving resilience, particularly for a small island territory.

9 to 10:30 a.m. | Talk Story

Collaborative Pathways for Environmental Response and Resource Resilience in the Pacific

Mia Comeros, *Hawai'i Sea Grant*; **Eileen Nalley**, *Hawai'i Sea Grant*; **Beth Polidoro**, *Center for Environmental Science, University of Maryland*; **Lisa Webster**, *Office of Planning, Hawai'i Coastal Zone Management Program*; **Rosana Weldon**, *Red Hill Registry, Thompson School of Social Work & Public Health, University of Hawai'i*; **Catherine Pirkle**, *Thompson School of Social Work & Public Health, University of Hawai'i*; **Tara Sutton**, *Red Hill Registry*; **Eamonn Clarke**, *Water Resources Research Center, University of Hawai'i*; **Lauren Kaiser**, *Pacific Islands Ocean Observing System*; **Sean Swift**, *Daniel K. Inouye Center for Microbial Oceanography: Research and Education, Department of Oceanography, University of Hawai'i*; **Craig Nelson**, *Daniel K. Inouye Center for Microbial Oceanography: Research and Education, Department of Oceanography, University of Hawai'i*; **Emily Marron**, *Water Resources Research Center, University of Hawai'i*; **Aurora Kagawa-Viviani**, *Water Resources Research Center, Department of Geography and Environment, University of Hawai'i*; **Donn Viviani**, *Leeward Community College*; **Lauryl Hansen**, *Hawai'i Sea Grant*

Resilience in Pacific Island communities depends on collective capacity that links science, policy, and cultural knowledge to protect natural and cultural resources. Across the region, limited tools and uneven capacity to monitor and respond to pollution, exposure, and ecosystem decline highlight the need for stronger coalitions, shared data, and coproduced solutions.

This talk story session highlights four interlinked initiatives across Hawai'i that demonstrate how decision-support tools and coproduced frameworks can enhance the resilience of both natural and cultural resources. The Center for Ocean and Coastal Health addresses issues from marine debris and ciguatera to contaminants and fisheries, linking ecosystem health with food security. The Red Hill Registry connects individuals who experienced the 2021 fuel leak at Kapūkakī (Red Hill) to critical services while informing research on long-term health and environmental impacts. The Red Hill Information Hub serves as a centralized, system-wide University of Hawai'i platform that compiles and shares data, educational materials, and resources related to aquifer contamination, defueling, and community recovery. In parallel, the Maui Fires Response Hub, established after the 2023 wildfires, advances environmental response through geospatial mapping, data transparency, and cross-sector coordination tools that inform decision-making and recovery.

Together, these initiatives provide replicable models for integrating scientific rigor, cultural grounding, and policy relevance to build resilience across Hawai'i and the U.S.-Affiliated Pacific Islands. Participants will gain (1) insight into decision-support tools that link data with community priorities, (2) frameworks for coproduction and stakeholder engagement, and (3) adaptable approaches for environmental monitoring and education. Session outcomes include shared resources, hub access links, and discussion of how such models can inform environmental response and management across the Pacific region.

9 to 10:30 a.m. | Talk Story

Peace and Harmony as Foundations of Island Resilience in Pacific Island and Hawaiian Communities

Edward Young, *NOAA Weather Service (retired)*; **Bill Thomas**, *NOAA Office for Coastal Management (retired) and Olohana Foundation*; **Papalii Dr Failautusi ‘Tusi’ Avegalio**, *University of Hawai‘i (retired)*; **Kalani Souza**, *Olohana Foundation*

In Pacific Island and Hawaiian communities, the resilience of the village (kaiaulu) is grounded in social harmony, cultural continuity, and the spiritual relationships connecting people to land (‘āina) and ocean (kai). Peace and harmony are lived expressions of this interconnectedness and remain central to community strength.

Traditional governance across the Pacific embeds these values through consensus, respect, and humility. In Hawai‘i, *ho‘oponopono* restores balance within families and communities by emphasizing listening, forgiveness, and relational realignment. Comparable practices—such as Samoan *fono*, Fijian *bose*, and Palauan *klobak*—demonstrate Indigenous democratic traditions where peace and relational balance legitimize collective decision-making. Contemporary efforts, such as creation of the He‘eia National Estuarine Research Reserve, show how aligning traditional governance with modern conservation strengthens resilience and community trust. Peace and harmony also sustain cultural, psychological, and environmental well-being (ola pono). Ceremonies, chant, hula, and communal gatherings reaffirm shared identity and support intergenerational knowledge transfer, including navigation, fishing practices (lawai‘a pono), and lo‘i kalo cultivation. Research and local accounts of climate-impacted communities demonstrate that cultural connectedness reduces trauma, promotes mental health, and fosters adaptive hope.

This session will combine presentations and facilitated discussion to explore key frameworks—such as the *ahupua‘a* social-ecological model, resilience hub networks, and community-based adaptation approaches—across household (‘ohana), village (kaiaulu), and island (lāhui) scales. Using case examples and insights from practitioners, it will illustrate how peace and harmony within families underpin culturally grounded governance, build trusted community spaces and partnerships, and strengthen preparedness, rapid response, and long-term recovery. Guidance will be offered for practitioners and policymakers seeking to apply these approaches in other contexts.

9 to 10:30 a.m. | Panel

Holistic Adaptation Approaches to Extreme Weather and Environmental Changes: Experiences from Tribes and Partners in Southeast Louisiana

Tribal Leader Ani Fernandez, *Grand Bayou Atakapa-Ishak-Chawasha Tribe*; **Chief Devon Parfait**, *Grand Caillou/Dulac Band of Biloxi-Chitimacha-Choctaw*; **Elder Katie DeHart**, *Jean Charles Choctaw Nation*; **Elder Jimmy Billiot**, *Bayou LaFourche Band of Biloxi Chitimacha*; **Kristina Peterson**, *Saami, Lowland Center*

Over the last 20-plus years, Tribal leaders, organizers, and long-standing trusted partners in southeast Louisiana have collaborated for a holistic adaptation approach in the face of extreme environmental and climate-related weather changes and disasters. Weaving together Indigenous and local knowledge and traditional technologies and techniques with a diversity of earth sciences and modern methods, work is done to protect and steward air, water, and land

for our human and more-than-human relatives. Such efforts include food and plant conservation, fortified housing, marshland restoration, living shorelines, intergenerational learning events, solar energy, and water stewardship through cisterns and more. As these efforts have emerged over time, so have new collaborations and partnerships with others who are dedicated to the health and well-being of the region. This panel will bring together Tribal leaders and collaborators to share knowledge and lessons learned about unique work being done within specific Tribal areas, as well as mutual work across areas in southeast coastal Louisiana. The stories shared will highlight how the work promotes self-sufficiency and self-sustainability in a delta region, which is critical for adaptation to the pressures of industrialization, shifting weather patterns associated with climate change, and gentrification.

10:45 a.m. to 12:15 p.m. | Panel

Bridging Ways of Knowing: Integrating Indigenous and Western Science and Management for Climate Resilience

Vallen Cook, *Grand Portage Band of Lake Superior Chippewa*; **Julia Stinson Ebert**, *Shorelands and Environmental Assistance (SEA) Program, Washington State Department of Ecology*; **Edward "Luna" Kekoa**, *Division of Aquatic Resources, Hawai'i Department of Land and Natural Resources*; **Moana "Ulu" Ching**, *Hawai'i Conservation Alliance Foundation*; **Willow Jackson**, *Adaptation International/Bristol Bay Native Association*; **Jenna Travers**, *Alaska Conservation Foundation/Bristol Bay Native Association*; **Randi Madison**, *Bristol Bay Native Association*

Climate resilience requires moving beyond standard consultation toward comanagement models that center Tribal sovereignty and deeply integrate Indigenous knowledge systems. This session highlights lessons and barriers from four distinct projects from NOAA's Climate Resilience Regional Challenge grant program related to Tribal and Indigenous engagement and relationship-building, as well as comanagement and co-development initiatives. Together, these initiatives provide a roadmap for system reform, the integration of Traditional Ecological Knowledge, and the establishment of the deep trust necessary for effective, long-term comanagement.

- The Northland Climate Resilience Collaborative in Minnesota will discuss how centering Tribal sovereignty through direct funding and facilitating experiential learning on treaty territories has deepened state and county partners' understanding of Tribal priorities and strengthened planning efforts within the region.
- The Washington State Coastal Climate Resilience Partnership will explore how the Department of Ecology and partner organizations, such as the Climate Impacts Group, are adapting grant agreements to reduce administrative burdens and strengthen partnerships with Tribes. This presentation also highlights examples of successes and challenges in co-development and co-management projects in Washington, as well as lessons learned.
- The Pili Nā Moku project aims to support the development of innovative comanagement approaches across the main Hawaiian Islands. Project partners will discuss efforts to reduce current barriers to formalizing comanagement agreements and effective collaboration among community stewardship organizations, elected officials, and government resource managers. Critical to these efforts are community-based monitoring programs that broaden the range of knowledge and data considered in management decisions to include Indigenous and local knowledge.

- Finally, the Bristol Bay Resilience Collaborative in Alaska will present a systems approach to addressing severe weather events that threaten coastal communities and food security. The collaborative engages with interdisciplinary local organizations, including Tribal health, education, and government; Tribal environmental workers; and community members such as hunters and traditional medicine gatherers.

10:45 a.m. to 12:15 p.m. | Panel

Data-Driven Climate Adaptation Resilience for Pacific Small Island Developing States

Katsuya Tokuda, *United Nations Industrial Development Organization*; **Jumpei Takami**, *United Nations Office for Outer Space Affairs*; **Filomena Nelson**, *Secretariat of the Pacific Regional Environment Programme*; **Nenenteiti Teariki Ruatu**, *Ministry of Environment, Lands and Agricultural Development (Kiribati)*

This panel shares a practical blueprint, drawn from the United Nations Industrial Development Organization's Climate Technology and Innovation (CTI) developing Pacific SIDS (small island developing states) initiative, for cocreating data-driven adaptation systems in atoll and outer-island contexts.

We link three workstreams:

- (1) Data platform: A decentralized adaptation hub that fuses Earth observation, low-cost weather stations, and administrative data into a shared platform and provides minimum data layers, open standards, and governance rules to support last-mile early warnings for cyclones, coastal flooding, and water stress.
- (2) Business resilience (supply chains, food systems): Platform data powers MSME (micro, small, and medium enterprise) solutions that reduce losses and keep services running (e.g., solar cold storage and quality monitoring for fisheries and horticulture, smart irrigation and modular purification and desalination, route and inventory optimization for island logistics, and parametric triggers for risk financing).
- (3) Government EBPM (evidence-based policymaking; based on the platform): The same platform underpins evidence-based policy and budgeting including district dashboards, digital-twin scenario planning for critical assets, DRR indicator sets aligned with national frameworks, and O&M models that keep capabilities local.

Vignettes will reference collaboration with counterparts in Tonga on scenario planning for cyclones and flooding based on digital-twin, DRR indicator sets for early warnings, and EBPM toolkits that translate climate intelligence into policy and budgeting.

Expected takeaways include a modular "adaptation hub" blueprint (minimum data layers, governance templates), MSME operator roles and needs, a light-touch EBPM tool kit, and a scale-up pathway for Pacific Small Island Developing States.

10:45 a.m. to 12:15 p.m. | Panel

Landslides and Communities: Preparing for This Cascading Natural Hazard

Corina Cerovski-Darriau, *U.S. Geological Survey*; **Jenny Riker**, *U.S. Geological Survey*

Landslides are a well-known and common natural hazard across the Pacific. Many of us have community stories about preparing, planning, and responding to landslides—whether as residents personally impacted or as groups working to build resilience. On steep, high islands across the region, earthquakes, wildfires, and heavy rainfall can cause landslides that block roads, destroy homes, damage infrastructure, or even cause tsunamis. Yet, landslides are often not top of mind. While landslides usually happen as part of a larger disaster, they can cause significant impacts and costly damage on their own. During this session, the U.S. Geological Survey (USGS) Landslide Hazard Program will share how we provide actionable science needed to support preparedness, response, and resilience. Besides highlighting some of the domestic and international landslide hazard work done by the U.S. Geological Survey, we want to discuss some of the challenges with landslide hazard science and disaster planning, listen to how landslides have impacted your work and lives, and ask what sorts of maps, education, or outreach you find most useful in helping your communities become more resilient to landslides.

10:45 a.m. to 12:15 p.m. | Working Session

Beyond the Hub: An Ecosystem of Community Resilience in Hawai'i and the Pacific

Sarah Harris, *Climate Change Sustainability and Resilience Office*; **Atalina Pasi**, *Lahui Foundation and the Hub Learning Community*; **Janice Ikeda**, *Vibrant Hawai'i*; **John Vierra**, *Hawai'i Emergency Management Agency*

Community resilience in Hawai'i and the Pacific extends far beyond the efforts of individual organizations or single facilities; it is the collective work of a diverse and interconnected ecosystem of resilience. From government agencies and nonprofits to utilities and educational institutions, these "spokes" form the support network that sustains and strengthens the critical work of individual resilience hubs serving their communities. Together, hubs and spokes address chronic stressors, such as housing crises and cultural preservation, prepare for acute challenges, like natural disasters and climate change impacts and provide year-round support for resilience.

This session explores definitions of resilience hubs and beyond, to examine how resilience hubs serve as localized anchors of preparedness and adaptation, while their supporting ecosystem enables broad, sustainable impact. Panelists will highlight evolving roles, and diverse configurations of hubs and related models—such as food hubs, micro-networks and regional networks—and discuss how partnerships enhance their effectiveness. Drawing on culturally informed strategies and place-based planning, this conversation will demonstrate how collaboration ensures robust, adaptable, and community-driven solutions across Hawai'i and the Pacific. Attendees will not only leave with greater clarity on the definition of hubs but will also gain insight into the vital connections between hubs and their broader networks, discovering how this emerging ecosystem fosters resilience, empowers local leadership, and drives long-term community well-being.