National Practice Forum on Nature-Based Solutions

Speaker biographies

Day 1 Welcome and Plenary

Dr. Cynthia Larive is chancellor of the University of California, Santa Cruz, a public research institution known worldwide for its high-impact research and commitment to sustainability and environmental justice, and for seeking interdisciplinary solutions to the world's greatest challenges. Previously she was provost and executive vice chancellor at UC Riverside. As a first-generation college graduate, a common thread throughout Dr. Larive's career has been her commitment to student success and access to hands-on learning opportunities. At UC Santa Cruz she has championed solutions-oriented work on issues ranging from social justice to climate resilience. She is a fellow of the American Association for the Advancement of Science, the American Chemical Society, and the International Union of Pure and Applied Chemistry, and has received campus and national awards for her teaching, research and leadership. She earned a bachelor's degree from South Dakota State, a master's from Purdue, and a Ph.D. in analytical chemistry from UC Riverside and has authored more than 160 publications.

Meghan Hertel joined the California Natural Resources Agency in February 2024 as Deputy Secretary of Biodiversity and Habitat. In this role, Meghan leads the Agency's efforts to conserve biodiversity and improve habitat across the state through the implementation of California's 30x30 strategy and associated efforts including the Cutting Green Tape initiative and supporting the implementation of large-scale habitat projects. Before joining the Agency, Meghan served as North American Director for Land Life, a technology-driven, nature

restoration company, and spent over a decade with Audubon California holding several positions including Director of Land and Water Conservation, where she led statewide conservation programs focused on inland water and working lands strategies. In her free time, you can find Meghan and her husband enjoying California's incredible outdoors—backpacking, biking and paddleboarding—or trying to keep up with their foster dogs. Meghan holds a Master of Arts in Environmental Science and Policy from Clark University and a Bachelor of Arts in Political Science from the University of Florida.

Dr. Michael Beck is the director of the Center for Coastal Climate Resilience and AXA chair in Coastal Resilience at UC Santa Cruz and co-lead of the NSF CoPe Strong Coasts project. Mike aims to reduce risks to people, property, and nature in his work across science, policy, and practice. He served for 20 years as lead marine scientist at The Nature Conservancy. He has advised government agencies in the U.S., Germany, UK, EU, Philippines, Jamaica, and Grenada, among others. He has collaborated with many global agencies and companies, including AXA, Munich Re, Swiss Re, Lloyd's of London, Risk Management Solutions, and the World Bank. He has authored more than 100 peer-reviewed scientific papers and numerous op-eds in major papers, including the LA Times, NY Times, The Hill, and the Miami Herald. He has been a Fulbright Fellow and a Pew Marine Fellow.

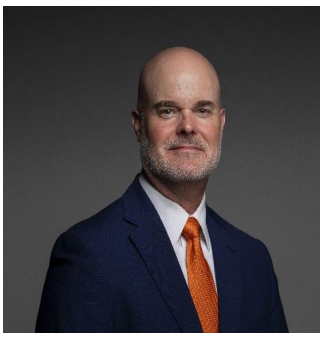
Coastside Chat: Leadership Perspective on NBS

Violet Sage Walker is the Tribal Chair of the Northern Chumash Tribal Council and the Nominator of the Chumash Heritage National Marine Sanctuary. With 35 years of experience in cultural resource management and over a decade working on the marine sanctuary campaign, her leadership guides NCTC's multifaceted work in California and beyond. She has traveled the world sharing her expertise on collaborative management, environmental protections, social justice and equity. Her leadership is backed by an understanding of what it means to take care of our place, be good stewards, and foster community. Violet is also a self-employed artisan

beekeeper, soap and candle maker, and herbalist with her own local business. She has spent years riding her horses over the mountains of her traditional homeland, following in the footsteps of her Chumash Vaquero ancestors. Violet's dedication to the SLO County community and beyond is exemplified through her diverse array of passions, both personal and professional. Throughout her many roles is the ever-present connection to her family's long-standing legacy of protecting the natural resources, culture, and ancestors of this beautiful space we share. She continues to carry on this legacy left by her late Father, tribal Chief Fred Collins, as a local leader and community member. Chair Walker's connection to the ocean remains at the heart of all she does – her compass is set to the sea.

Cindy Messer was appointed as Lead Deputy Director of the California Department of Water Resources in February 2017. Prior to her appointment, Messer served as a subject matter expert and policy advisor to the director and former chief deputy director on a broad range of issues impacting statewide water management. She briefly served as acting director in the summer of 2017 after Mark Cowin retired and prior to Grant Davis' appointment. Messer was the deputy director of the Planning, Performance, and Technology Division at the Delta Stewardship Council from 2012 until her appointment with DWR. As deputy director, she coordinated the preparation and implementation of the Delta Plan. Prior to this position, Messer served as the assistant executive officer for the Sacramento-San Joaquin Delta Conservancy where she provided oversight for development of the Delta Conservancy's Interim Strategic Plan. Messer also worked for more than 10 years in various technical and managerial roles in DWR's Division of Environmental Services. Messer is a graduate of the University of California, Davis, where she earned her Bachelor of Arts degree in environmental policy analysis and planning. She also earned a Master of Science degree in conservation biology from California State University, Sacramento.

Chrissy Thom is the Executive Vice President and Global Environmental Market Director for Jacobs. She brings experience grounded in all facets of our business – operations, sales, project delivery and solutions & technology. With a technical background in biology, Chrissy spent her formative years researching how restored ecosystems can build resilience in our coastal communities. As a leader, Chrissy has leveraged her scientific training to help teams build an integrated approach like working on the complex interactions and patterns of an ecosystem. She focuses on connecting with people with different areas of expertise and how we can ignite solutions that inspire. Key focus areas include: technical career development and leadership, inclusion and diversity, leveraging global connectivity, innovation, growth and sales, and delighting clients with excellent delivery experiences. With a variety of roles throughout her career, her passion is project delivery, and nothing is more important than building the best talent and solutions to earn client trust. Chrissy collaborates with Jacobs' team of diverse subject matter experts across all markets to proactively bring end to end solutions to projects in communities around the world.



Dr. Todd Bridges is a Professor of Practice in Resilient and Sustainable Systems in the College of Engineering at the University of Georgia. Prior to joining UGA in 2023, Dr. Bridges was a research scientist for 30 years with U.S. Army Corps of Engineers (USACE), where for 17 years he served as the Army's Senior Research Scientist (ST) for Environmental Science. Over his career, Bridges has led >$250 million in research projects and programs in environmental science and engineering and sustainable infrastructure. In 2010, Todd founded and then led the Corps' Engineering With Nature® program, which includes a broad range of research, field-scale applications, multi-sector collaborations, and communication efforts to advance the delivery of Nature-based Solutions. Among his 100 publications, Todd led a 5-year collaboration across the public and private sectors to develop and publish International Guidelines on Natural and Nature-Based Features for Flood Risk Management. In 2024, he was selected to serve as

chapter lead on the topic of nature and risk, resilience, and security for the country's first National Nature Assessment. Dr. Bridges received a Distinguished Presidential Rank Award from President Biden in 2021 for exceptional leadership, accomplishments, and service.

Panel 1: Nature Based Solutions and Adaptation: From the Roots to the Margins

Dr. Beth Rose Middleton Manning is a Professor of Native American Studies at UC Davis and the author of Trust in the Land: New Directions in Tribal Conservation (2011, UA Press) and Upstream: Trust Lands and Power on the Feather River (2018, UA Press). A collaborative social scientist, Beth Rose is inspired by partnerships with Tribes and non-profit organizations on environmental health, sustainable rural economic development, the historical and political context of river restoration, the reintroduction of low-intensity fire for landscape stewardship, and Indigenous led stewardship and adaptation. Beth Rose received her BA in Nature and Culture from UC Davis, and her Ph.D. in Environmental Science, Policy, and Management from UC Berkeley. She has published on Native economic development in Economic Development Quarterly, on political ecology and healing in the Journal of Political Ecology, on mapping allotment lands in Ethnohistory, on the application of market-based conservation tools to Garifuna site protection in Caribbean Quarterly, on Indigenous leadership in the carbon market in the Stanford Environmental Law Journal, and on Indigenous political ecologies in the International Handbook of Political Ecology. Beth Rose is currently mentoring graduate students and postdocs in Native American Studies, Ecology, Public Health Sciences, Geography, and Community Development.

Maria Elena de la Garza is the Chief Executive Officer of the Community Action Board of Santa Cruz County. With nearly 35 years of nonprofit leadership, she has worked to expand services, increase community engagement, and foster cultural and fiscal growth in her community. A passionate advocate for marginalized communities, she uses her platform to amplify the voices of immigrants, Latinx families, and those affected by poverty. Her advocacy extends beyond the local level, with a strong presence in state and national conversations. Guided by the wisdom of her mother and the philosophy of "Cada quien pone su granito de arena" (every person contributes their little grain of sand), Maria Elena believes in the power of collective action and collaboration to create lasting change. One of her recent impactful efforts was in response to the 2023 floods in the Pajaro Valley, where, under her leadership, CAB successfully distributed over 10 million dollars in economic relief to those affected by the storms. Her academic and leadership credentials include dual BAs in psychology and Chicano studies from Scripps College, and leadership training in prestigious programs from Stanford, Cornell, and Bank of America. Recently, Maria Elena had the honor of being selected as a speaker for TEDX Santa Cruz.

Dr. Marccus Hendricks is an Associate Professor of Environmental Planning and the Director of the Stormwater Infrastructure Resilience and Justice (SIRJ) Lab at the University of Maryland (UMD). In 2023, Dr. Hendricks served in the Biden-Harris Administration as a Senior Advisor in the Office of Environmental Justice at the White House Council on Environmental Quality (CEQ) in the Executive Office of the President. Dr. Hendricks' environmental justice portfolio spans working on the ground with communities from Texas, through the Carolinas, and into Washington, D.C., Maryland, Delaware, and Pennsylvania. His work has been covered by or quoted in the *Associated Press*, *CNN*, *NPR*, *USA Today*, *Scientific American*, *Huffington Post*, *Baltimore Sun*, and *AccuWeather*, among others. Hendricks has a TEDx talk titled "Citizen Participation in Rising Waters;" was selected as one of 50 emerging leaders or "Fixers" in the 2021 Grist 50; served on the U.S. EPA's Science Advisory Board (SAB); and is an author on the *Social Systems and Justice* chapter of the U.S. Fifth National Climate Assessment. He has a

Ph.D. in Urban and Regional Science and a Master of Public Health, both from Texas A&M University.

Panel 2: Mainstreaming Nature in Decision-Making: Using and Advancing Standards and Implementation Guidelines

Tom Smith is Executive Director of the American Society of Civil Engineers (ASCE). Tom Smith leads a staff of over 200 and an active volunteer workforce of over 10,000, facilitating ASCE's tradition of providing high-quality products and services to more than 160,000 members in 177 countries, in all civil engineering disciplines and at all points of their career paths. Before joining ASCE, Smith practiced law in Northern Virginia with a focus on commercial, construction and land use litigation in federal and state courts, and land use applications for commercial, industrial and residential development. Outside of ASCE, Smith serves on the board of United Engineering Foundation and Renewable Natural Resources Foundation and is a member of Department of Commerce Industry Trade Advisory Committee for Services Industries and vice-chair of National Institute of Building Sciences Consultative Council. Smith also participates in the American Society of Association Executives (ASAE), Council of Engineering and Scientific Society Executives (CESSE), U.S. Chamber of Commerce Committee of 100, Fairfax County Board of Zoning Appeals and Order of the Engineer. He is also a member of the National Academy of Construction and the Chi Epsilon Civil Engineering Honor Society. Smith has published articles on engineering ethics and legal issues and is a frequent speaker on association and civil engineering subjects. In addition to bachelor’s and master's degrees in civil engineering, Smith is admitted to the bar in Virginia and the District of Columbia and is certified as an Envision Sustainability Professional (ENV SP) and a Certified Association Executive (CAE). Smith is an ASCE Fellow and past recipient of the ASCE William H. Wisely American Civil Engineer Award, and the University of Virginia Engineering Distinguished Alumni Award.

Chris Clavin serves as the Senior Advisor for Resilience of the Engineering Laboratory at the National Institute of Standards and Technology (NIST). In this role, he leads and advises senior leadership in NIST's Engineering Laboratory on initiatives to advance the resilience of the built environment to natural hazards and climate impacts. NIST's Engineering Laboratory advances the resilience of the built environment through the development of guidance and tools to inform design practices for buildings and infrastructure systems to a range of natural hazards, and provides the basis to improve the standards and codes and community resilience and disaster recovery planning. Prior to this role, Mr. Clavin served as Senior Policy Advisor for Climate Adaptation and Infrastructure Resilience at the White House Office of Management and Budget. At OMB, he was responsible for leading and designing the whole-of-government response to the President's climate and resilience directives, establishing and implementing Climate-Smart Infrastructure Federal financial assistance policies, and leading the Federal government's response to the Climate-Related Financial Risk Executive Order.

Dr. Marta Vicarelli is Assistant Professor of Economics at the University of Massachusetts, Amherst. Her research focuses on the risks and the socio-economic impacts of climate variability and climate change; the economics of Nature-based Solutions for disaster risk reduction and climate change adaptation; climate resilience and green-recovery strategies; and renewable energy policy. She was a contributing author to the Intergovernmental Panel for Climate Change (IPCC) Fourth Assessment Report, Working Group II, on impacts, adaptation and vulnerability. Past appointments include research fellowships at the National Aeronautics and Space Administration (NASA) Goddard Institute for Space Studies (2004-2010), the Harvard University's Center for International Development (2009-2011) and Yale University Climate and Energy Institute (201-2013). She is currently a research associate at the Euro-

Mediterranean Centre on Climate Change and University Ca' Foscari, Venice, Italy. Vicarelli holds a PhD in Sustainable Development from Columbia.

Moderator: Dr. Kristin Ludwig is the Science Advisor for Risk Reduction at the U.S. Geological Survey and has over a decade of experience leading efforts in disaster risk reduction and community resilience. Dr. Ludwig served as the Assistant Director for Resilience Science and Technology at the White House Office of Science and Technology Policy (OSTP) from 2023-2025. At OSTP, she provided government-wide science and technology leadership on natural hazards and climate change resilience. Dr. Ludwig co-led initiatives to advance national flood resilience and the coordination of wildfire science and technology. She also contributed to the development of a hazards account plan to track the value of natural assets to disaster risk reduction and the impact of natural hazards on the loss of natural assets as part of the *National Strategy to Develop Statistics for Economic-Environmental Decisions*. Dr. Ludwig holds a Ph.D. in oceanography from the University of Washington and a B.S. in earth systems from Stanford University.

Day 2 Welcome

Dr. S. Jack Hu is the senior vice president for academic affairs and provost at the University of Georgia. He also serves as a UGA Foundation Distinguished Professor in the College of Engineering. As UGA's chief academic officer, Hu works to advance the university's excellence in teaching, research, and public service and outreach. Shortly after joining UGA in July 2019, Hu launched the Provost's Task Force on Academic Excellence. Prior to his appointment at UGA, Hu was vice president for research at the University of Michigan, where he oversaw a research enterprise that generates annual expenditures exceeding $1.5 billion. His research in assembly and materials joining and manufacturing systems has been supported by more than

$46 million in external funding from agencies such as the U.S. Department of Energy and the National Science Foundation, as well as corporations including General Motors. Hu is a member of the National Academy of Engineering and served as a member of the Executive Committee of the National Academies' Transportation Research Board. He is an elected Fellow of the American Society of Mechanical Engineers, the Society of Manufacturing Engineers, the International Academy for Production Engineering, and the National Academy of Inventors.

Panel 3: The Growth of NBS: State of Practice and Lessons Learned

Dr. Curt Storlazzi is a senior research geologist in the U.S. Geological Survey's Coastal and Marine Hazards and Resources Program that specializes in coastal hydrodynamics and sediment dynamics on tropical coastlines. He presently leads a team examining the geologic and oceanographic processes that affect the growth and vitality of coral reefs, the hazard risk reduction they provide adjacent coastlines, and how climate change and sea-level rise will increase flooding hazards to and reduce the resiliency of coral reef-lined coasts and their associated communities. In 2022, Curt was awarded only the fourth scientific achievement award by the US Coral Reef Task Force in its multi-decade history for his, *"...unwavering dedication to science, willingness to collaborate and consult with local managers, and exceptional communication of research in a way that makes [his] findings actionable."* In 2024, he was granted the highest honor of the US Department of the Interior, the Distinguished Service Award, in *"…recognition of outstanding contributions in the development and delivery of a cutting-edge applied science to assess the role of the Nation's coral reefs in coastal hazard risk reduction."* Curt received his BSc in geology from the University of Delaware in 1996 and his PhD in coastal geology from the University of California, Santa Cruz, in 2000. National Academy of Science, National Research Council, Observations of Sea-Level Rise and Storminess in California, 2013.

Dr. Ellen Herbert is a Senior Scientist focused on Sustainability and Nature Based Solutions at Ducks Unlimited (DU), a nonprofit organization committed to habitat conservation across North America. Dr. Herbert's research focus is how wetland, floodplain, grassland, forest and agricultural system management and restoration can be designed to address social, environmental and economic challenges. She works as a member of DU's National and International Science Team to evaluate the outcomes of Ducks Unlimited's conservation work across the continent through a combination of field experimentation, numerical modeling, and data synthesis with a special emphasis on flow regulation, resilience and water quality improvement. Dr. Herbert leads several national research and planning efforts and DU's Natural Infrastructure Training Fellowship program with the University of Georgia's Institute for Resilient Infrastructure Systems. She serves on the Environmental Advisory Board for the US Army Corps of Engineers and the Steering Committee for the Network for Engineering With Nature. Dr. Herbert received her B.A from Kenyon College and her Ph.D. from the School of Public and Environmental Affairs at Indiana University. Dr. Herbert completed her post-doctoral research in the Department of Physical Sciences at the Virginia Institute of Marine Science.

Jesse Ross serves as the Department of Navy's co-coordinator for the Southwest Innovation Landscapes Network (SWILN). Since 2021, Jesse has led nature-based resilience initiatives supporting the Assistant Secretary of the Navy for Energy, Installations, and Environment. Jesse leverages his background in environmental engineering, experience in environmental policy, and passion for problem-solving to advance partnerships, projects, and solutions for a range of benefits.

Moderator: Dr. Luce Bassetti is the Americas Coastal Resilience Director for Jacobs. Luce manages and studies maritime and coastal projects. Her expertise includes port and coastal specialization, feasibility and environmental impact assessments, met-ocean characterization, and various coastal modeling and climate hazards studies. She focuses on coastal resilience, climate change, and sustainable development, aiming to understand the social and economic impacts of projects. In 2022, she was elected as the Climate Change Champion for PIANC EnviCOM, and, in 2024, was elected as a board member of ASBPA. Her project experience spans the US, Canada, the Middle East, Europe, Asia, and the Caribbean, where she integrates technical skillsets with a deep understanding of social and economic impacts to address global challenges through sustainable development.

Panel 4: Using Nature-Based Solutions to Reduce Social Vulnerability

Kaiea Medeiros is a kanaka ʻōiwi that was born and raised on the sacred island of Ihikapalaumaewa (Maui). A few of his greatest accomplishments have been taking on the kuleana, deep responsibility, of being a servant to our kai, ocean, ʻāina, land, wai, waters, and ʻōiwi, aboriginal people of Hawaiʻi. Moreover, seeking and navigating collective mauli ola, healing, pono, balance, and ea, sovereignty, for our most vulnerable and dispossessed community continues to be the life journey he is on. Kaiea is a mahiʻāina that also serves as the County of Maui, Office of Recovery Co-Lead for the Natural and Cultural resources branch for Lahaina and Kula, as well as, the Department of Agriculture's, Agriculture Advocate. He graduated from Kamehameha Schools Maui, founded by our Mōʻī Wahine, Queen, Pauahi to educate our most destitute native children. Kaiea then continued his education at the University of La Verne, where he earned his Bachelor's degree in Organizational Management and

Master's in Leadership and Management. He draws inspiration from his kupuna, ancestors, to never give up the fight until the last aloha ʻāina.

Dr. Shalini Vajjhala is the Executive Director of PRE Collective and a nationally recognized infrastructure and climate resilience expert with more than 15 years of experience designing, funding, and financing community-centered resilient infrastructure solutions. Over the last decade, she founded and led the design firm re:focus partners and co-founded The Atlas, an online platform for local government collaboration and innovation. Previously, Shalini held multiple positions at the US EPA and the White House Council on Environmental Quality. She is currently a Board Member of Smart Growth America and a nonresident senior fellow with the Brookings Institution Metro Program. Shalini holds a B.Arch in Architecture and Ph.D. in Engineering and Public Policy from Carnegie Mellon University.

Emily Nobel Maxwell launched Nobel Cause Consulting in 2024 to help organizations and leaders meaningfully advance social and environmental justice for a greener, more just world. With 25 years of on-the-ground and thought leadership experience, Emily has designed and led numerous successful environmental initiatives that harmonize social justice and urban sustainability, from campaigns to organizations. From her start as the founder of a grassroots advocacy organization to launching successful programs at national and global environmental organizations, her leadership has resulted in the protection of community gardens, equitable incentives for green roofs, effective broad-based coalitions, novel urban forest policy, lasting organizational change, and greener cities. In addition to her consulting practice, Emily also serves as Senior Advisor at City Parks Foundation, where she is a content and strategy expert for NYC's first citywide urban forest plan. Emily is a lead author of The State of the Urban Forest in NYC, the NYC Urban Forest Agenda, and Urban Coastal Resilience: Valuing Nature's Role. Emily has a B.A. in Urban Studies from The New School and M.S. in Natural Resource Policy and Behavior with a specialization in Environmental Justice from University of Michigan.

Moderator: Dr. Megan Kelso is a conservation scientist at the University of California, Santa Cruz. Her background is in coastal wetland ecology and human well-being impacts of conservation and development projects. Megan enjoys working collaboratively across the environment, health, and development sectors to produce research that informs effective conservation and improves the wellbeing of local communities. At UC Santa Cruz, she co-leads a workforce training effort on coastal resilience and adaptation and collaborations with the insurance industry to envision ways to better integrate nature into risk models, insurance coverages, and financial tools. Before coming to UC Santa Cruz, Megan was a NatureNet Science Fellow at UCLA and The Nature Conservancy, studying the effectiveness of integrated conservation and development approaches. Megan did her PhD at University of California, Davis, where she studied tradeoffs and synergies between wetland management goals such as carbon storage, invasive plant eradication, and mitigation of nutrient pollution mitigation in California salt marshes. Before graduate school, she led community-based wetland restoration projects for four years in San Francisco Bay and Point Reyes National Seashore.

Panel 5: Challenges and Opportunities in Advancing NBS in Disaster Recovery

Dr. Melissa Forbes is the Deputy Executive Director of the Gulf Research Program (GRP) at the National Academy of Sciences, where she helps direct a $500 million endowment from the Deepwater Horizon oil spill settlement to develop, translate, and apply science to enhance the safety of offshore energy, the environment, and the wellbeing of the people of the Gulf Coast region. Prior to coming to the Academies, Dr. Forbes served as the Assistant Administrator of Recovery at the Federal Emergency Management Agency (FEMA). In this role, was responsible for FEMA's largest disaster grants, delivering $31 billion to states and localities and $3.3 billion in direct financial assistance to individual households. Dr. Forbes also served as the Deputy

Assistant Administrator of Recovery where she helped lead FEMA's delivery of over $60 billion in disaster assistance for COVID-19. She held a variety of other positions at FEMA, including the Acting Deputy Chief Information Officer and Acting Deputy Associate Administrator for Policy and Program Analysis, where she provided leadership on agency policy, strategy, resource planning, and enterprise analytics. She began her federal career as a Presidential Management Fellow at the Department of Homeland Security working on risk management and climate adaptation. Dr. Forbes has a PhD in Public Policy and Sociology from the University of Michigan and lives in Washington D.C. with her husband and daughter.

Dr. Steven Jensen is a lecturer in emergency services administration at California State University Long Beach and a senior advisor to the Red Cross. He brings to this work forty-five years experience in humanitarian assistance, emergency management and the fire service. Dr. Jensen's recent work has focused on wildland urban interface fire, arctic security, and the development of core competencies for the emergency services sector.

Dr. Guillermo Franco leads Guy Carpenter's parametric advisory offerings and supports GC Securities in the design and analysis of parametric cat bonds. He also coordinates research initiatives in the fields of catastrophe risk, parametric risk transfer and nature. Since 2012, Guillermo has supported GC's operations from Boston, London, Dublin, and New York, leading GC's research strategy and fostering a better understanding of catastrophe risk models through Guy Carpenter's Model Suitability Analysis (MSA)® initiative. He is a frequent research collaborator at UC Santa Cruz and the Polytechnic University of Valencia. Previously, Guillermo was Manager and Principal Engineer at AIR Worldwide (now Verisk), where he headed the Decision Analytics practice on portfolio optimization and parametric risk transfer. Before that, he was a Research Fellow at Columbia University's Earth Institute in New York where he studied the socioeconomic impacts of natural disasters. He has conducted field research in Turkey, Bolivia, Chile, Italy, the US, Nepal, Ecuador, Jamaica, and Sri Lanka. Guillermo holds a master's degree and a doctorate in civil engineering and engineering mechanics from Columbia University in New York and a bachelor's from the Polytechnic University of Catalonia in

Barcelona, Spain. He is a member of the Earthquake Engineering Research Institute in California (EERI) and a frequent collaborator of the Earthquake Engineering Field Investigation Team (EEFIT) in the UK. He has over 50 publications in academic journals and conference proceedings.

Moderator: Dr. Devyani Kar is the Principal Resilience Scientist at Jacobs. Prior to coming to Jacobs, Devyani worked with Stantec, where she was a Senior Climate Resilience Scientist. Devyani has over 20 years of experience working on climate-change mitigation and adaptation to build resilience for coastal communities nationwide. She has led numerous multi-million-dollar coastal restoration and risk reduction projects that incorporate natural and nature-based features to mitigate risks and provide multiple co-benefits. She is a member of the Gulf Environmental Protection and Stewardship Board (GEPS), under the Gulf Research Program at the National Academies of Sciences. Devyani has a Doctorate in Oceanography from Louisiana State University and a Master of Environmental Management (MEM) with a coastal focus from Duke University. She is a Certified Floodplain Manager (CFM) and a Project Management Professional (PMP).

Panel 6: Implementing Nature-Based Solutions at Scale: What does it take?

Jamil Ibrahim is a Senior Principal with Stantec Consulting Services Inc., based in Sacramento, California. He collaborates with community engagement specialists, economists, engineers, and scientists across North America to identify and recommend innovative adaptation solutions that maximize benefits to communities. Jamil has over 27 years of experience in water resources planning and management on diverse projects for local, regional, state, and federal clients. Project experiences include complex, multi-objective studies for ecosystem restoration, flood risk management, navigation improvement, and/or water supply reliability. Jamil specializes in planning and natural resources management evaluations for

projects requiring technical and political understanding of federal, state, and local water resources management systems and their interconnectedness to ecosystems, along with engagement of interested parties for inputs during the planning process. Over the course of his career, Jamil has worked on some of the largest and most complex ecosystem restoration projects and programs implemented in California, and has been involved in development of novel, nature-based solutions for the beneficial use of dredge material in San Francisco Bay. Jamil has an MS in Hydrologic Sciences and BS in Environmental Studies and is certified as a Professional Hydrologist (PH), Envision Sustainability Professional (ENV SP), and Project Management Professional (PMP).

Dr. Kyle McKay is a research civil engineer with the U.S. Army Corps of Engineers' Environmental Laboratory, who is stationed in New York City. He leads a research team that focuses broadly on examining ecological effects of water resources infrastructure with applications related to urban ecosystem restoration, ecological models, dam operations and decommissioning, nature-based solutions, and flood risk management. Dr. McKay holds a BS in environmental engineering from Colorado State, an MS in civil engineering from University of Illinois, and a PhD in ecology from the University of Georgia. Dr. McKay is a licensed civil engineer in the State of Georgia and adjunct faculty at the University of Georgia and Brooklyn College.

Dr. Piper Wallingford is the Climate Resilience Scientist in The Nature Conservancy of California's Climate Program, where her work focuses on community resilience to climate change, adaptation, habitat connectivity, and biodiversity. Piper has more than 15 years of experience as a climate change scientist working at non-profits, environmental consulting firms, and in academia. She received her PhD from the University of California, Irvine in ecology and evolutionary behavior, where she studied how climate change alters species distributions across

spatial scales and the impacts of climate-driven range shifts on existing communities. Prior to joining The Nature Conservancy, Piper was a post-doctoral researcher at the University of California, Los Angeles studying how multiple climate change stressors interact to drive spatial and temporal shifts in community composition. At TNC, she is currently working on how land use planning and reducing sprawl can increase community resilience to wildfires, flooding, and coastal sea level rise.

Moderator: Dr. Francis Wiese is a marine ecologist and Senior Scholar at the National Academies of Sciences. He is an applied system thinker interested in affecting global change. He has spent the last 30 years using robust science, innovation, partnership building, strategy, and visioning to advise, design, implement, and manage inter-disciplinary, multi-institutional science programs that address important and complex socio-ecological issues related to climate change, the ocean, and its uses. Francis has been active in increasing ocean sustainability and climate change awareness and providing solutions working for and with academia, government, communities, non-profits, and industry. He has extensively focused on climate change and other anthropogenic stressors on the environment, resilience, system science, environmental policy, adaptive management, governance, theory of change, and change management. Francis lives in Alaska, is a technical reviewer for over 20 international journals and serves on a variety of national and international science panels, boards, committees, and working groups. He is a strong advocate for teamwork, co-production, equity, and the power to create and implement vision for change. Dr. Wiese holds a Bachelor of Science from the University of Victoria, and a PhD in Marine Conservation from Memorial University of Newfoundland.