

Coastal Nature-based solutions

Workshop at ZMT on Monday, June 16, 2025

The German-American Nature-Based Solutions Exchange (GANBASE) offers stakeholders in the field of nature conservation and environmental protection the opportunity to exchange ideas on nature-based solutions (NbS) across the Atlantic.

GANBASE aims to exchange approaches and experiences; to present excellent research and lighthouse projects from Germany; to demonstrate the integration of NbS into local, regional and national policy in Germany, as well as ideas on how these can be anchored in the USA; and to draw attention to the economic and socio-political aspects of NbS.

This takes place in the form of semi-annual visit programs, one program per year in the USA and one in Germany, with people invited from each country as part of the core group, traveling together and additional researchers and practitioners joining the workshops.

This first GANBASE workshop focuses on nature-based solutions in coastal environments. It is co-hosted by Leibniz Centre for Tropical Marine Research (ZMT) and POCACITO and takes place at ZMT in Bremen: Fahrenheitstr. 6, 28359 Bremen.

The workshop starts at 9:00 and finishes at 5:00 with a get-together. Participants may join a dinner afterwards.

The workshop is free to attend and open to all researchers, practitioners and decision makers. The purpose is to compare research and practice from the United States and Germany and beyond.

Please send let us know if you would like to present at the workshop and contact POCACITO with any questions regarding the workshop and to RSVP: max@pocacito.org

The project is supported by the Transatlantic Program of the Federal Republic of Germany, funded by the European Recovery Program (ERP) of the Federal Ministry for Economic Affairs and Climate Action (BMWK).

More about POCACITO and GANBASE can be found at: <https://www.pocacito.org/> and <https://www.pocacito.org/german-american-nature-based-solutions-exchange-ganbase/>

Please RSVP here by Friday, June 13, 2025: <https://forms.gle/anLyCgcKsJe5hMnJA>

8:30	Networking coffee			
9:00	Opening	Max Gruenig	Introduction to GANBASE	POCACITO
9:20	Welcome keynote 1	Prof. Dr. Martin Zimmer	Ecosystem Co-Design towards resilient coastal socio-ecological systems	ZMT
9:40	Welcome keynote 2	Jan-Stefan Fritz, Ph.D.	NbS and their social, political and economic context	KDM German Marine Research Consortium
10:00	Q&A			
10:30	Coffee break			
11:00	NbS for coastal resilience - coastal protection against erosion, sea-level rise and storm events	Luisa Rieth	Nature-based solutions to protect the Halligen Islands from rising sea levels	LKN.SH
		Andrew Ferris	Recycled oyster shell and marsh grass living shoreline	Coalition to Restore Coastal Louisiana
		John Supino	Constraining salt marsh carbon cycling at the Seven Mile Island Innovation Laboratory	Boston College
12:00	Q&A			
12:30	Lunch	optional visit of	ZMT labs	
1:30	NbS for biodiversity protection - creating space for species, countering invasive species and adapting to climate change	Dr. Véronique Helfer	Resilience and biodiversity across organizational levels: implications for effective Nature-based Solutions - a "mangrove ecology" perspective	ZMT
		Gerrit Meiners	From Image to Insight: Unlocking the Potential of Marine Imagery with AI and Photogrammetry	INES-Solutions/Se nckenberg
		Hui Liu	Research fostering nature-based solutions for oyster restoration	Texas A&M University
2:15	Q&A			
2:45	Coffee break			

3:15	Socio-economic aspects in NbS	Ryan Bare	Envisioning the Future: Exploring Innovations of a Living Lab	Houston Advanced Research Center (HARC)
		Wendy Chávez-Páez	Socio-Ecological Conflicts and the Challenges of Climate Change Case Study: Cerrito Los Morreños, Gulf of Guayaquil	University of Bonn
		Alicia Wach	Nature based solutions in the Baltic Sea as a topic of public interest	Kiel University
4:15	Q&A			
4:45	Closing remarks			
5:00	Get-together			
6:00	Dinner			

Speakers

Ryan Bare, Sr. Research Scientist, Program Director, Houston Advanced Research Center (HARC)



Dr. Ryan Bare is the Program Director of Water and Nature-Based Solutions at HARC. Dr. Bare applies his expertise in hydrology, ecology, and natural and water resource management to conduct applied research on social and environmental challenges across coastal and inland watersheds. Dr. Bare leads multi-disciplinary projects, bringing effective research, actionable outreach, and equitable approaches for the design, planning, and implementation of nature-based practices to the forefront. Dr. Bare earned a Doctorate in Water Management and Hydrological Science from Texas A&M University's. He obtained a Master of Science in Marine Resource Management from Texas A&M University at Galveston, and a Bachelor of Science in Environmental Science with a concentration in Marine and Coastal Resources from Texas A&M University – Corpus Christi.

topic:

Envisioning the Future: Exploring Innovations of a Living Lab

Wendy Chávez-Páez, University of Bonn



Wendy Chávez-Páez is an economist (Polytechnic School of Guayaquil, Ecuador) and holds a master's degree in public administration (New York, USA) and a master's degree in human settlements (KU Leuven, Belgium). She is a junior researcher and PhD student in Cultural and Political Change at the Center for Development Research of the University of Bonn. She has worked in the Ecuadorian academia, government sector, and civil society organizations. She is a founder member of the Observatory of Public Policy of Guayaquil. She also performs voluntarily as the Academic Coordinator of the local organization Fundación Cerro

Verde, which works actively with ancestral communities of the Gulf of Guayaquil to conserve the mangrove ecosystem.

topic:

Socio-Ecological Conflicts and the Challenges of Climate Change
Case Study: Cerrito Los Morreños, Gulf of Guayaquil

Andrew Ferris, Native Plants Program Coordinator, Coalition to Restore Coastal Louisiana



Andrew Ferris lives in New Orleans, Louisiana where he works as the Native Plants Program Coordinator at the Coalition to Restore Coastal Louisiana.

topic:

I will present on a recycled oyster shell and marsh grass living shoreline that CRCL and volunteers installed in Leeville, LA in February 2025. We built a reef using 59 tons of bagged oyster shells and planted 2000 plugs of spartina alterniflora in the degraded marsh behind the reef.

Jan-Stefan Fritz, Ph.D., Managing Director KDM German Marine
Research Consortium



Jan-Stefan Fritz is Managing Director of KDM, The German Marine Research Consortium. During his career he has focused on environmental and ocean governance as well as scientific advice to international environmental processes. Stefan has represented various science organizations to the EU and in international fora, including G7, OECD, and UN. A particular area of interest of his is to explore new media and formats for science-policy interactions. Stefan has a Ph.D. from the London School of Economics and Political Science.

topic:

NbS and their social, political and economic context

Dr. Véronique Helfer, Senior Scientist - Mangrove Ecology, PA4Leibniz
Centre for Tropical Marine Research (ZMT)



Dr Véronique Helfer is a mangrove ecologist working as Senior scientist of the Mangrove Ecology Working Group, in the Research Program Area "Ecosystem Co-Design", at the Leibniz Centre for Tropical Marine Research (ZMT), Bremen, Germany, since 2014. Her research focuses on the understanding of how biodiversity (faunal, floral and microbial communities) supports ecosystem processes and services, in order to provide knowledge-based recommendations for the protection, (re-)establishment and sustainable use of mangrove and other coastal vegetated ecosystems (CVE), considering current conditions and future scenarios. Convinced that efficient management strategies strongly rely on sound scientific knowledge, she wants to

actively contribute to the translation of fundamental science findings into practical management measures for enhanced coastal resilience.

topic:

I will discuss the concepts of resilience and biodiversity, which are at the heart of NbS, across organizational levels (from individuals to ecosystems), through the lens of mangrove ecology. The questions to be addressed are: "What are we talking about?", "How can we enhance resilience and biodiversity through NbS, and how can we measure progress?" Finally, "how are resilience and biodiversity interlinked?"

Hui Liu, Associate Professor, Texas A&M University



Dr. Hui Liu is an Associate Professor in the Department of Marine Biology, College of Marine Sciences and Maritime Studies of Texas A&M University. He also serves as an Associate Editor for Canadian Journal of Fisheries and Aquatic Sciences and a U.S. representative on working groups of North Pacific Marine Science Organization (PICES). Dr. Liu holds a Ph.D. in Oceanography and a MS in Statistics granted by the University of Alaska Fairbanks. His research is focused on quantitative marine ecosystem studies aiming to gain a predictive understanding of mechanisms and processes underlying interactions and dynamics of marine

organisms through integrating modeling and observation to answer fundamental questions for better management and conservation of marine ecosystems in estuaries and coastal waters. Dr. Liu has published 50+ peer-reviewed articles in high-profile journals regarding zooplankton, jellyfish, oysters, and fishes over seven large marine ecosystems in the Northern Hemisphere including the Gulf of Mexico, Georges Bank, California Current, the Gulf of Alaska, the Yellow Sea, the South China Sea, and the Arabian Gulf.

Gerrit Meiners, INES-Solutions/Senckenberg



Gerrit is a deep-sea biologist with the INDEX project, using image-based methods to study hydrothermal-vent ecosystems along the Central Indian Ridge. His work assesses the diversity, distribution, and ecology of benthic megafauna to inform management of polymetallic sulfide resources. He develops photogrammetry workflows that convert video transects into georeferenced habitat maps and explores machine-learning tools to accelerate image classification. Passionate about improving cost-effective monitoring across marine systems, he aims to enhance global marine conservation through accessible imaging and AI tools.

topic:

From Image to Insight: Unlocking the Potential of Marine Imagery with AI and Photogrammetry

With its non-invasive nature, affordability, and broad coverage, marine imaging has become indispensable for monitoring ecosystems over large areas and long durations. Yet the sheer volume and complexity of the imagery make manual data extraction impractical. Introducing photogrammetry for detailed benthic community mapping, paired with AI-driven detection and classification, will accelerate insights and enhance our capabilities to understand our developing oceans.

Luisa Rieth, LKN.SH



I'm the full-time project manager of the pilot project ECOHAL, which is part of the Interreg project MANABAS COAST. Since October 2023, I work as a project engineer at the Schleswig-Holstein State Agency for Coastal Defence, National Park and Marine Conservation (LKN.SH) and am responsible for the conceptual planning of possible nature-based solutions for the Halligen, as well as morphological and hydrological data analysis. I hold a Master of Science in Hydrology and have additional experience in conflict- and working groups mediation and moderation in citizen participation processes.

topic:

Title: Nature-based solutions to protect the Halligen Islands from rising sea levels

The North Frisian Halligen are small marsh islands and remnants of a formerly extensive marsh landscape that was once connected to the mainland. Intense storm surges during the medieval period reshaped the coastline, forming what is now the North Frisian Wadden Sea. Today, approximately 300 people inhabit the ten Halligen, of which five are occupied year-round. These unique islands are regularly flooded during so-called "land-under" events, during which only the Warften—artificial dwelling mounds on which houses and farms are built—protrude from the sea. Unlike other islands, the Halligen rely on these regular inundations, as they deposit sediment crucial for natural surface growth.

However, since the 1970s, sedimentation has failed to keep pace with accelerating local sea-level rise. Concurrently, shoreline and shelf erosion of the Halligen has increased. In response, the EU pilot project ECOHAL, led by the Schleswig-Holstein State Agency for Coastal Defence, National Park and Marine Conservation (LKN.SH), is investigating long-term, sustainable, nature-based solutions to counteract erosion and promote surface growth. Building on the success of previous small-scale measures in a former project, ECOHAL aims to scale up and examine innovative coastal protection strategies.

The project follows a multi-stakeholder approach, integrating citizens, authorities, nature conservation organisations, and other relevant actors from the outset. This inclusive process ensures that scientific knowledge is complemented by local experience and observations and fosters broad acceptance for the implementation of alternative and new measures in coastal protection. Nature-based solutions offer a promising path to preserve both the unique cultural heritage and the valuable ecosystems of the Halligen against the impacts of climate change."

John Supino, PhD Candidate, Boston College



I am a chemical oceanographer and wetland scientist interested in fundamental ecosystem processes and land-ocean-atmosphere dynamics at the coastal interface. My doctoral research uses marine carbon and oxygen biogeochemical cycling in tidal wetlands as a way to assess ecosystem metabolisms. I use autonomous biogeochemical sensors to measure a variety of parameters to assess how anthropogenic disturbance and climate change have altered tidal marshes, how they might change in the future, and how effective current climate mitigation and restoration techniques are in keeping blue carbon in place.

topic: Constraining salt marsh carbon cycling at the Seven Mile Island Innovation Laboratory

Alicia Wach, Kiel University



Having a background in environmental sciences my focus shifted from natural sciences towards questions of responsibility and justice in my two masters programs on Environmental Ethics and Sustainability Science. Having studied in Lima, Lisbon and Kiel, I am passionate about coastal regions and inter- as well as transdisciplinary knowledge transfer.

During my time at Potsdam Institute for Climate Impact Research, I was able to broaden my view connecting climate issues with migration, agriculture and biodiversity with partner countries from three continents.

topic: Nature based solutions in the Baltic Sea as a topic of public interest

I will present a project conducted in Kiel that offered interdisciplinary scientific voices from GEOMAR, Kiel University and IfW Kiel on nature based solutions to the public. We created an audio library and used the Tiny Townhall as a unique means to connect people to the changes and decisions made in their environment.

"Simple questions - competent answers!"

Prof. Dr. Martin Zimmer, Department Head and Work Group Leader, Professor for Mangrove Ecology (University of Bremen), Leibniz Centre for Tropical Research ZMT



Having been trained in soil ecology (Dipl. Biol. 1994 & Dr. rer. nat. 1998 @ Cologne University) and evolutionary ecology (postdoc 1998-1999 @ Düsseldorf University), Martin Zimmer shifted his research interest onto coastal and intertidal ecology (postdoc/Assistant Professor 2000-2009 @ Kiel University), focusing on biotic interactions, how they are driven by environmental conditions and how this translates into ecosystem processes (mostly decomposition). After an interlude as Group Leader of Terrestrial Ecology in a montane and alpine environment (2010-2014 @ Salzburg University), he currently leads the group of Mangrove Ecology at the Leibniz-Centre for Tropical Marine Research (Professor @ Bremen University) and works on the links between community structure, ecosystem processes and services, and sustainable use and management of tropical

coastal systems (mostly mangroves).

Recent research activities revolve around the potential of these ecosystems for climate change mitigation and adaptation, including studies on how to increase their global area through re-establishment of degraded ecosystems and their establishment in suitable areas. In this context, he developed the concept of ecosystem co-design as an alternative to conventional ecosystem restoration.

For more information, visit:

<https://www.leibniz-zmt.de/en/marine-tropics-research/who-we-are/martin-zimmer-en.html>

Martin Zimmer is also a co-founder of fairGROVE, a not-for-profit company aiming at supporting (re-)establishment of coastal vegetated ecosystems.

topic:

Ecosystem Co-Design towards resilient coastal socio-ecological systems

Participants

Erika Boerr, Senior Project Manager, City of New Orleans, Stormwater and Green Infrastructure



Erika Boerr is currently employed as a Senior Project Manager in the Stormwater and Green Infrastructure Department of the City of New Orleans and for the past 6 years has been focused on Stormwater Management projects. She has recently launched the construction of the largest hazard mitigation project, geographically and financially, in New Orleans.

Erika started her interest in Disaster Recovery work at Dillard University, where she worked as FEMA/Capital Funding Analyst managing their Hurricane Katrina Recovery Programs. Her focus, in addition to administering the many private and federal funding sources, was the restoration of three historic residence halls, successfully finished in 2013.

Then, she turned her focus to a Hazard Mitigation project to improve drainage campus wide. She worked within a team of professionals such as Trapolin-Peer Architects, Sizeler Architects, Vanir Construction Management, Aims Group, and Chester Engineers to name a few.

This latest project opened the doors to the City of New Orleans, where she is now dedicated to resilience projects and able to make the large-scale difference she has been so eagerly looking to do for her dear City of New Orleans, she now calls home.

Erika is originally from Buenos Aires, Argentina, and has become a part of the New Orleans community since 2002, when she arrived to instruct Spanish at Dillard University. She has since graduated with honors from both her bachelor's in business management from Dillard University and her MBA with a concentration in Information Systems from the University of New Orleans and obtained her PMP certification in January 2013. She has over fifteen years of experience in program and project management and has been a PMI and PMI GNO Chapter member since July 2012.

Erika's passion is to advocate Project Management in all business disciplines. She strives to continue to work on Green Infrastructure, Nature-based Solutions, Resilient projects for Climate Action worldwide.

Matthias Goerres, Team Lead Ecosystems, Biodiversity Policy Officer, BUND



Identifying as a geographer and environmental manager, my current endeavor is the coordination of the ecosystems team at Friends of the Earth, a major environmental NGO in Germany.

I have acquired work experience across five different continents in civil society, public and private sector. My thematic expertise covers biodiversity and protected areas, climate change, ecosystem restoration, marine conservation, water resource management, sustainable development, international cooperation and policy advocacy. I am a creative story-teller, experienced communicator and event coordinator.

Sira Groscurth, Marum

Sophie Henningsen, Christian Albrecht University of Kiel



I am a master's student in Sustainability, Society, and the Environment at Kiel University, with a background in environmental engineering. My experience includes bioengineering research on water pollution from the Ayurvedic industry in India, co-founding Zecura in Africa to advance zero-emission urban planning, and conducting research in Brazil on ESG, circular economy, and sustainability integration. In Portugal, I contributed to a coastal resilience project addressing erosion and invasive species. Through this interdisciplinary work and a peer-reviewed article on aligning ESG and CE with the SDGs, I bring a systems-based perspective to Gangbase's mission on nature-based solutions.

Sierra Hildebrandt, Old Dominion University



Sierra Hildebrandt is a Ph.D. candidate in the Ecological Sciences Program at Old Dominion University. As a member of Dr. Taylor Sloey's Wetland Plant and Restoration Lab, her research focuses on evaluating the efficacy of living shorelines as a shoreline management technique and restoration strategy. Her research combines field- and remote-sensing data to understanding how living shoreline designs can reduce erosion and sustain intertidal habitat. Before starting her Ph.D., Sierra received her M.S. in Biology with a concentration in Marine and Environmental Sciences from Hampton University in 2021. Her M.S.

research focused on evaluating the efficacy of an alternative oyster production method for restoration and aquaculture. Sierra received her B.S. in Biology with a concentration in Marine Science from Old Dominion University in 2018. Sierra is a recipient of the prestigious Virginia Sea Grant Graduate Research Fellowship (2022-2024) and a former Marine Scientist with NOAA's National Centers for Coastal Ocean Sciences (2024-2025).

Dwane Jones, Administrator University of the District of Columbia



Dwane is a professor and administrator in the University of the District of Columbia's College of Agriculture, Urban Sustainability, and Environmental Sciences. He has degrees in City Planning, Environmental Planning, and Urban Design.

Franka List, Kiel University

PhD student at Kiel University, Department of Geography, Earth Observation and Modelling. Research focus: Remote sensing methods for monitoring carbon storage of salt marshes. Research project: sea4soCiety II.

Rina Lopez, Senior Environmental Policy Analyst, San Francisco Environment Department



I'm a Senior Environmental Policy Analyst at the San Francisco Environment Department, where I lead climate and energy initiatives focused on achieving carbon neutrality, advancing environmental justice, and building long-term community resilience. My work bridges technical policy analysis with public engagement to shape innovative strategies that reduce greenhouse gas emissions while centering equity.

With over a decade of experience in environmental policy, I specialize in developing programs that accelerate building electrification, phase out high-impact refrigerants, and expand access to clean energy solutions. I've worked closely with city agencies, community-based organizations, utilities, and state partners to design policies that are not only effective, but also inclusive and responsive to the needs of frontline communities.

I'm passionate about systems-level change, and I approach my work with a commitment to collaboration, data-driven decision-making, and climate justice. Whether developing incentive structures, evaluating emissions impacts, or crafting new legislative pathways, I believe thoughtful policy can be a powerful tool for environmental transformation.

Nina Merz, University of Oldenburg

Corey Miller, Community Engagement Director, Pontchartrain Conservancy



Corey Miller is the Community Engagement Director for Pontchartrain Conservancy (PC). A third generation New Orleanian, he received his MA in Sociology at the University of New Orleans through an assistantship with their Center for Hazards Assessment, Response and Technology. He joins PC with more than a dozen years of experience working to improve coastal community resilience in the face of land loss, climate change, hurricanes, flooding, and a constantly changing environment. Throughout, he has focused on increased awareness through community

outreach and improving ways that local knowledge and public input can be garnered and incorporated into plans for coastal restoration, flood protection, and community adaptation.

Blaise Pezold, Coastal Program Director, The Meraux Foundation



Blaise Pezold is the Coastal and Environmental Program Director for the Arlene and Joseph Meraux Charitable Foundation. To advance the Foundation's mission to improve the quality of life in St. Bernard Parish, Blaise helps plan and execute the nonprofit's work to preserve, protect, and restore the area's natural environment, especially its vulnerable coast. His work includes field projects, strategic partnerships, community engagement, and public awareness. He liaises on coastal matters between nonprofit, government, and strategic partners. Blaise is a St. Bernard Coastal Zone Board member and the Crescent Soil Water Conservation District Vice Chairman. Notably, he designed

the \$29 million Bayou La Loutre Ridge and Marsh restoration, assisted in the design of the \$46 million Reggio Marsh Creation and Hydrological restoration, and designed the \$35 million Woodlake Marsh Creation and Terraces CWPPRA projects. Blaise was also instrumental in founding and partnering the Central Wetlands Reforestation collective, which will plant 30,00 trees and 33,000 plugs of marsh grass to restore wetland ecosystems in his community. He was the recipient of the Louisiana Association of Conservation District's Guy Caire award in 2022 and the Coalition to Restore Coastal Louisiana's Coastal Stewardship Award in 2024. Learn more at www.merauxfoundation.org.

María Schoenbeck, ZMT

Jasmin Spöckl, Leuphana University Lüneburg



I am a student at Leuphana University Lüneburg, where I am doing my bachelor's in sustainability science. Previously I worked at the Wadden Sea for a voluntary year, as an ecosystem educator and caretaker on Föhr.

Elizabeth Stoehr, Deputy Director, Jamaica Bay-Rockaway Parks Conservancy

Elizabeth Stoehr is the Deputy Director of the Jamaica Bay-Rockaway Parks Conservancy in New York City, where she leads initiatives at the intersection of ecological restoration, climate resilience, and community engagement. Her work focuses on advancing nature-based solutions through hands-on implementation, long-term stewardship, and adaptive management of coastal systems. Elizabeth also supports the development and deployment of emerging nature technologies, working with researchers, startups, and innovation partners to pilot scalable, tech-enabled approaches to urban resilience.

Caroline Trabhardt, University of Kiel

Shri Verrill, Owner, Principal, Sunrise Ecologic

Victoria, Wegner, ZMT, KDM, University of Bremen