

COMPASS

2025–2026 COMPASS mCDR Communication Leaders Cohort Members



Chelsey Baker

National Oceanography Centre, UK

Dr. Chelsey Baker is a senior research scientist at the National Oceanography Centre in the UK. Chelsey has a background in marine biogeochemistry (observations and modeling) and her research aims to improve understanding of ocean carbon sequestration, including the efficacy, feasibility, environmental and socio-economic impacts of marine carbon dioxide removal approaches by using an interdisciplinary approach. Chelsey co-

leads a climate mitigation strategies research theme within the UK Atlantis project which includes holistic assessments of marine carbon dioxide removal approaches to support the advancement of independent scientific evidence available to decision makers.



Kohen W. Bauer

Ocean Networks Canada, University of Victoria

Dr. Kohen W. Bauer is a biogeochemist with broad interests in marine biogeochemical cycling, geochemistry, Earth system modeling, and climate change dynamics. Kohen's research aims to create robust qualitative and quantitative models of Earth system processes in past, present, and future scenarios. Presently, Kohen serves as Director of Science at Ocean Networks Canada (ONC). ONC is a world-leading ocean observing facility that delivers ocean data from its cabled, mobile and community-based observing networks that

represent an essential component of Canada's ocean observing science capacity. In this role, Kohen works to advance the generation and use of ocean intelligence for researchers, governments, organizations, and citizens in Canada and internationally.



Giulia Belotti

Institute for Responsible Carbon Removal at American University and Institute for Resources, Environment, and Sustainability at The University of British Columbia

Giulia Belotti's research examines the ethics, justice, and governance of climate mitigation technologies, with a particular focus on

emerging carbon dioxide removal approaches. She has extensive experience in public engagement and community-based participatory research, particularly in collaboration with communities that have been historically underrepresented or excluded from decision-making. In recent years, she has worked closely with local groups in the Pacific Northwest to build capacity for participation in decisions around marine carbon removal, aiming to strengthen community agency in the development of climate mitigation and removal strategies. Her current work explores collective and alternative models of ownership and governance for climate mitigation infrastructure, with the goal of placing equity and justice at the center of these technologies. Beyond academia, Giulia is active in grassroots and activist movements for collective liberation, bringing a strong commitment to social and environmental justice to both her scholarly and community work.



Amanda Borth

Consortium for Science, Policy & Outcomes at Arizona State University

Dr. Amanda Borth is an Associate Research Professional at Arizona State University's Consortium for Science, Policy & Outcomes (CSPO), based in Washington, D.C. At CSPO, she focuses on participatory technology assessment of climate intervention technologies. She is also a Research Fellow at American University's Institute for Responsible Carbon Removal (IRCR). In 2023, Amanda earned her PhD in Communication from George Mason University

(GMU), where she specialized in science and climate change communication. Her previous experiences include working as a Graduate Research Assistant for GMU's Center for Climate Change Communication, Project Coordinator for IRCR, museum educator at the Smithsonian National Air and Space Museum, and intern for the US House Committee on Science, Space, and Technology. Amanda holds a BA in International Studies from American University, Washington, D.C.



Carolyn Buchwald

Department of Oceanography, Dalhousie University

Dr. Carolyn Buchwald is an Associate Professor in the Department of Oceanography at Dalhousie University. Her research interests focus around measuring the isotope systematics of relevant microbial nitrogen transformation processes and using these values to interpret natural abundance isotopes in a wide range of environments including wastewater, lakes, estuaries, rivers and the ocean. The goal of her research is to use these tools to evaluate and predict the effects of anthropogenic nitrogen from the global scale to small pervasive effects on individual ecosystems.



Cecilia Chapa Balcorta

Instituto de Recursos, Universidad del Mar. Puerto Ángel, Oaxaca, México

Dr. Cecilia Chapa-Balcorta is Professor-Researcher at the Oceanology Department in Universidad del Mar (UMAR) in Puerto Angel, Oaxaca, México). She holds a degree in Oceanology (Universidad Autónoma de Baja California, UABC), a Master of Science Degree in Environmental and Marine Science (University of Auckland, New Zealand) and a PhD in Coastal Oceanography (Hons.) (UABC). Her research focuses on the marine CO₂ system, the ocean's role in the

carbon cycle, and ocean acidification. She is particularly interested in the coupling of physical and chemical processes in the sea, especially on the environmental drivers that control the spatiotemporal variability of carbon in the ocean. She couples in situ data with satellite oceanography to identify these drivers. Cecilia has led national and international research projects. Her research has led to the first publications related to the CO₂ system in the Gulf of Tehuantepec and its surrounding areas. She has also contributed to defining smaller-scale upwelling regions new to science in the same region. She has been a member of the Mexican National Researchers System since 2016. Cecilia serves as leader of academic group “Marine ecosystem dynamics and land-ocean interactions”, at UMAR and founder of the Carbon Biogeochemistry Lab. She is a member of the Global Ocean Acidification Observation Network Executive Council and has served in the scientific committee of the Mexican Carbon Program since 2019, and as co-chair of the Latin American Ocean Acidification Network (LAOCA).



Jessica N. Cross

Pacific Northwest National Laboratory

Dr. Jessica N. Cross is a chemical oceanographer whose research focuses ocean carbon chemistry, including marine carbon dioxide removal (mCDR). She frequently partners with local communities, private companies, and other federal agencies to implement effective CDR projects. Jessica joined PNNL from the NOAA's Pacific Marine Environmental Laboratory, where she oversaw the Alaska regional carbon monitoring program and founded NOAA's Carbon Dioxide Removal Task Team. Her research has earned multiple honors and

awards, including three Bronze Medals for federal service. She is a sought-after lecturer, giving regular keynotes at conferences and symposia on ocean-based carbon removal topics. Jessica holds a PhD in Chemical Oceanography from the University of Alaska, Fairbanks and a BS in Chemistry from Rhodes College. In her spare time, Jessica reads voraciously, hikes occasionally, and tends a small, bee-friendly garden from her home in Seattle.



Darcy Dugan

Alaska Ocean Observing System/Alaska Ocean Acidification Network

Darcy Dugan led the development and launch of the Alaska Ocean Acidification Network in 2016, and is now the network's director. She has worked for the Alaska Ocean Observing System since 2009, collaborating with scientists and to fill gaps in ocean monitoring and make ocean data and information available to address immediate and long term needs. When not talking about oceans, she enjoys exploring the wilds of Alaska with her husband and two sons.



Sophie Gill

Isometric

Dr. Sophie Gill is Head of Marine Science at Isometric, the world's leading carbon removal registry. Sophie holds a PhD from the University of Oxford on the response of calcifying plankton to Ocean Alkalinity Enhancement. She worked as an expert reviewer and consultant for Frontier, Stripe, XPRIZE, and various other organizations working on carbon removal due diligence prior to joining Isometric, including developing the first iteration of the Verification Confidence Levels (VCLs) framework for marine CDR approaches with CarbonPlan.



Kalina Grabb

Dalhousie University and Ocean Frontier Institute

Dr. Kalina Grabb is a chemical oceanographer who is passionate about aligning her science with policy, community, and societal priorities. Kalina is currently a Post-doctoral researcher at Dalhousie University and the marine carbon dioxide removal (mCDR) Research Lead of Ocean Frontier Institute's (OFI) CONVERGE CDR program. As Research Lead, she co-developed the research agenda across science, data, policy, engagement, and economics with CONVERGE partners, community members, mCDR practitioners, and principal investigators. As one of the Science/Data post-docs within CONVERGE, her research focuses on improving nitrogen cycling within an existing model to understand secondary impacts during mCDR deployment scenarios focused on ocean alkalinity enhancement (OAE) that are co-designed with Indigenous communities and decision-makers. Kalina earned her PhD in Chemical Oceanography from the MIT-Woods Hole Oceanographic Institution (WHOI) Joint Program. She has since focused on bridging the science-policy interface within mCDR research through work at NOAA Ocean Acidification Program, WHOI Marine Policy Center, and NOAA Northeast Fisheries Science Center. Across these positions, she disseminated scientific findings, coordinated international workshops, and co-produced papers to inform research initiatives, community

needs, and decision-making across international communities and UN meetings. Kalina grew up in the land-locked state of Colorado and in her free time, Kalina enjoys studying oceanographic phenomena through sailing, diving, kite surfing, and long swims on the beach.



Abby Lunstrum

Clean Energy Conversions Lab, University of Pennsylvania

Dr. Abby Lunstrum is a research associate in the Clean Energy Conversions Lab at the University of Pennsylvania. Her work focuses on assessing the technical feasibility, efficiency, and cost of carbon dioxide removal technologies. She has over a decade of experience analyzing and implementing solutions to global environmental problems, ranging from sustainable aquaculture to geologic carbon sequestration and renewable energy development. In addition to academic research, she has worked as a wind energy analyst at Det Norske Veritas, and as a marine policy fellow at the National Oceanographic and Atmospheric Administration's Office of International Affairs. Her academic training is in aquatic geochemistry and biogeochemistry, with a focus on ocean carbon cycling and mineral weathering, in both natural and engineered systems. She holds a PhD in earth sciences from the University of Southern California.



Aaron Martinez

University of California, Santa Barbara

A geobiologist by training, and oceanographer by practice, Dr. Aaron Martinez is working to better understand Marine Anoxic Carbon Storage (MACS) as a carbon dioxide removal (CDR) technique. Aaron focuses on the biogeochemistry and geomicrobiology of deep, hypersaline anoxic brines to help meet climate goals in a beneficial way.



Alexandra Phillips

Bren School of Environmental Science and Management, University of California, Santa Barbara

Dr. Alexandra Phillips is an Assistant Teaching Professor at the Bren School of Environmental Science & Management at the University of California, Santa Barbara. Alex is a chemical oceanographer by training, with a PhD in organic geochemistry from Caltech.



Jennie Rheuban

Woods Hole Oceanographic Institution

Jennie Rheuban is a Research Specialist in the Department of Marine Chemistry and Geochemistry at the Woods Hole Oceanographic Institution. Her research focuses coastal biogeochemistry, specifically investigating how human activities influence coastal chemistry, water quality, and natural resources. Much of her career has been spent studying ocean acidification and its impact on key northeast fisheries and aquaculture species. Jennie began studying marine CDR and ocean alkalinity enhancement several years ago as

one of the co-leads of the LOC-NESS project (Locking Ocean Carbon in the Northeast Shelf and Slope) project, a research program designed to test the real-world safety and efficacy of OAE.



Mallory Ringham

Ebb Carbon, Inc.

Dr. Mallory Ringham is an observational chemical oceanographer with a background in developing tools for monitoring ocean carbon. She serves as Lead Oceanographer and Head of MRV (Measurement, Reporting, and Verification) of carbon removal at Ebb Carbon, which is working to pioneer and electrochemical ocean alkalinity enhancement approach to marine carbon dioxide removal. Mallory's work spans industry and academic collaborations in laboratory and field testing of mCDR approaches. She holds a PhD from the MIT-

Woods Hole Oceanographic Institution Joint Program in Chemical Oceanography, an MS in Earth Sciences from Syracuse University, and a BS in physics and chemical engineering.



Emily Seelen

University of Alaska Fairbanks

Dr. Emily Seelen is an Assistant Professor of Oceanography at the University of Alaska Fairbanks. Her research explores how microorganisms interact with their chemical environment under three major themes: 1) Mercury dynamics in Arctic ecosystems including pathways to human exposure; 2) Microbial community structure and function relative to (micro)nutrient availability; 3) Harnessing the power of marine microbes to sequester atmospheric carbon dioxide. She is currently a science lead for Growing Oceans, a project

exploring iron as a means to enhance nitrogen fixation, and therefore primary production, in warm South Pacific waters.



Korey Silverman-Roati

Sabin Center for Climate Change Law at Columbia Law School

Korey Silverman-Roati, J.D. is a senior fellow in carbon management and negative emissions at the Sabin Center for Climate Change Law. He focuses his research on the legal framework for carbon dioxide removal, atmospheric methane removal, climate litigation, and other legal tools to fight climate change. While at the Sabin Center, Korey has written extensively on the international and U.S. legal framework applicable to marine carbon dioxide removal, including co-editing and

co-authoring the book *Ocean Carbon Dioxide Removal for Climate Mitigation: the Legal Framework*.



Sara R. Smith

Moss Landing Marine Laboratories, San José State University

Dr. Sarah R. Smith is an assistant professor and biological oceanographer at Moss Landing Marine Laboratories (San José State University). Her research focuses on the ecology, evolution, and physiology of marine phytoplankton - especially diatoms - and how these organisms influence marine biogeochemical cycles of carbon, iron, nitrogen, and silica. She combines field and laboratory studies with multi-omics, systems biology, genetic engineering, and synthetic

biology to explore how phytoplankton function and how they might be utilized for applications like biofuels, industrial biomass, and sustainable marine systems. Sarah serves on the Steering Committee of Exploring Ocean Iron Solutions, contributing to the governance and strategic direction of this initiative to evaluate ocean iron approaches in marine carbon dioxide removal (mCDR). Her leadership includes working across disciplines to help ensure responsible, equitable, and scientifically robust assessments of mCDR technologies. As part of the COMPASS mCDR Communication Leaders cohort, she is committed to bridging scientific knowledge with public understanding and policy, helping clarify both the potential and trade-offs of emerging marine CDR methods.



Katy Soapi

The Pacific Community Centre for Ocean Science, The Pacific Community

Dr. Katy Soapi is currently employed as the Coordinator for partnership and engagement at the Pacific Community Centre for Ocean Science (PCCOS) at the Pacific Community (SPC). She is engaged in a wide range of activities related to ocean science and governance, aiming to enhance science capacity development,

integrated programming, and partnerships among SPC member countries for effective and science-based ocean governance.



Michael Sswat

Helmholtz Centre for Ocean Research GEOMAR Kiel

Dr. Michael Sswat is a marine biologist at GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany. After completing his PhD on the impact of ocean acidification on fish larvae, he focused his postdoctoral work on marine carbon dioxide removal (mCDR) methods such as alkalinity enhancement and artificial upwelling, studying their potential and risks for plankton communities using mesocosms. In recent years, he has worked in the knowledge transfer team, where he communicates scientific findings on mCDR

to policymakers, stakeholders, and the public through the CDRmare and Ocean-CDR projects. He is also a trained scientific diver and passionate photographer, sharing his experiences beneath the surface to bring the ocean closer to society.



Mariam Maku Swaleh

Ocean Climate Innovation Hub Kenya / Technical University of Mombasa

Dr. Mariam Swaleh is an environmental chemist with a PhD in Chemistry, specializing in marine sciences. Her work focuses on marine carbon dioxide removal (mCDR), microalgae, marine pollution, and wastewater treatment, with a strong commitment to advancing ocean-climate solutions in Africa. She is also active in science communication and community engagement, promoting responsible

dialogue around ocean-climate solutions.



Hongjie Wang

Graduate School of Oceanography, University of Rhode Island

Dr. Hongjie Wang is an Assistant Professor at the University of Rhode Island's Graduate School of Oceanography (URI-GSO). Her research focuses on coastal eutrophication, hypoxia, marine carbonate chemistry, and marine-based Carbon Dioxide Removal (mCDR) strategies, with a particular emphasis on Ocean Alkalinity Enhancement (OAE), and shell-based alkalinity regeneration. She

leads the Wang Ocean Carbon Lab at URI-GSO, where her team integrates field observations, high-frequency monitoring, laboratory experiments, and biogeochemical modeling to understand

how coastal and open-ocean systems respond to natural and human-driven changes. Dr. Wang is also deeply engaged in mentoring students at all levels, developing an innovative course on marine Carbon Dioxide Removal at URI, and advancing outreach that connects cutting-edge ocean science to coastal communities and aquaculture industries.



Abigale Wyatt

[C]Worthy

Dr. Abigale Wyatt is a biogeochemical ocean modeler at [C]Worthy, a nonprofit organization developing software to support ocean modeling and data integration aimed at quantifying the efficacy and impacts of marine carbon dioxide removal (mCDR). She earned her Ph.D. in geosciences from Princeton University and holds a bachelor's degree in mathematics from Columbia University. Her research integrates ocean models with in-situ observations to investigate carbon dynamics in marine systems. As a U.S. Navy veteran with diverse work experience, she brings a unique interdisciplinary perspective to her work and is committed to making complex ocean science accessible to diverse audiences.