2025-2035 Decadal Survey of Ocean Sciences for the National Science Foundation

Committee

H. Tuba Ozkan-Haller

Co-Chair

H. Tuba Özkan-Haller (Co-Chair) is dean and professor at Oregon State University, College of Earth, Ocean, and Atmospheric Sciences. She has spent most of her career at the intersection of physical oceanography, marine geology, and coastal and ocean engineering. Özkan-Haller's research focuses on the use of numerical, field, laboratory, and analytical approaches to arrive at a predictive understanding of ocean waves, circulation, and coastal change. Özkan-Haller is the recipient of the Office of Naval Research Young Investigator Award, the Outstanding Faculty Member Award at the University of Michigan, and the Pattullo Award for Excellence in Teaching at Oregon State University. She currently serves on two federal advisory committees, namely the Board on Coastal Engineering Research and the Hydrographic Survey Review Panel. Özkan-Haller has been engaged extensively with NASEM, having served two terms on NASEM's Ocean Studies Board, served as a member of the Marine and Hydrokinetic Energy Assessment Committee, and as chair of the Committee on Long-Term Coastal Zone Dynamics. In April 2021, she published the article "It's Time to Invest in Curiosity" in the Fair Observer. Özkan-Haller received a B.S. in civil engineering from Bogaziçi University, Turkey, and an M.C.E. and Ph.D. in civil engineering from the University of Delaware.?

James A. Yoder

Co-Chair

James (Jim) A. Yoder is Dean Emeritus at the Woods Hole Oceanographic Institution (WHOI) and Professor Emeritus at the University of Rhode Island (URI). His first academic position was as a researcher at the Skidaway Institute of Oceanography participating in an interdisciplinary study of the southeastern U.S. continental shelf. He joined the URI faculty in 1989 where he studied regional to global distributions of phytoplankton biomass and productivity using satellite and aircraft measurements. In 2005, Yoder moved to WHOI where he served as Vice President for Academic Programs and Dean. During his academic career he held temporary assignments as Program Officer at NASA Headquarters and as Director of the National Science Foundation's Division of Ocean Sciences. He was selected Fellow of The Oceanography Society in 2012 and Fellow of the American Association for the Advancement of Science in 2019. Yoder received a B.A. from DePauw University and an M.S. and Ph.D. in oceanography from the University of Rhode Island. Yoder serves on the Corporation of the Woods Hole Oceanographic Institution. He previously served on the Ocean Studies Board and as a member of the 2013-2015 Committee on the Decadal Survey for Ocean Sciences and as chair of the Committee on Catalyzing Opportunities for Research in the Earth Sciences (CORES): A Decadal Survey for NSF's Division of Earth Sciences.

Lihini Aluwihare

Member

Lihini Aluwihare is a Professor in Marine Chemistry and Geochemistry at the University of California, San Diego's Scripps Institution of Oceanography. She is a chemical oceanographer who studies the cycling of carbon and nitrogen in the oceans using light isotope tools and organic matter chemical characterization. Her work is focused around developing new analytical tools and research frameworks to read the messages encoded in molecules that maintain microbial life, facilitate ecosystem interactions, and contribute to long-term carbon and nutrient storage. She is also interested in the distribution and cycling of anthropogenic compounds in coastal environments. Her career in academia has been guided by a need to build a community of scholars that adequately represents the interests and experiences of the broader population. Aluwihare received a B.S. in chemistry and philosophy from Mount Holyoke College and a Ph.D. from the Massachusetts Institute of Technology-Woods Hole Oceanographic Institution Joint Program in Oceanography.

Mona Behl

Member

Mona Behl is associate director of Georgia Sea Grant at the University of Georgia, where she also holds public service and academic appointments. She is also a nonresidential policy fellow with the American Meteorological Society (AMS). Her research interests include assisting coastal communities to manage the impacts of extreme weather and climate change, increasing access and opportunity in Earth and environmental sciences, and preparing people for the future of work. Behl co-chairs the Mentoring Physical Oceanography Women to Increase Retention (MPOWIR) program. She also directs a NSF-funded research coordination network that is focused on studying the impact of climate induced human mobility. She co-founded the AMS Early Career Leadership Academy and Sea Grant's Community Engaged Internship program. She is the vice-chair for UCAR's Community Programs (UCP) external advisory committee, president-elect of the Earth Science Women's Network (ESWN), and chair-elect of AMS's culture and inclusion cabinet. From 2022-2025, she served on the councils of The Oceanography Society and the AMS. Behl is a recipient of Sea Grant's President Award and an Ocean Decade Champion. She received a B.Sc. and M.Sc. in physics (honors) from Panjab University (India), and a Ph.D. in physical oceanography from Florida State University.

Mark D. Behn

Member

Mark D. Behn is a professor in the Morrissey College of Arts and Sciences at Boston College. His research investigates the dynamics of earth deformation in glacial, marine, and terrestrial environments through a wide range of geophysical techniques. These techniques include the development of geodynamic models that relate laboratory-based rheologic and petrologic models to the large-scale behavior of the earth, which are then applied to a spectrum of problems from basic science to societally relevant issues. Behn's research interests include dynamics of faulting, magmatism, and surface processes at midocean ridges and continental rifts; seismic anisotropy and imaging of sub-asthenospheric mantle flow; evolution of the continental crust; and ice sheet dynamics. He is an editor of the Journal of Geophysical Research -- Solid Earth, co-chair for the SZ4D Modeling Collaboratory for Subduction, and former fellow of the Woods Hole Oceanographic Institution Deep Ocean Exploration Institute. Behn received a B.S. in geology from Bates College and a Ph.D. in marine geophysics from the Massachusetts Institute of Technology–Woods Hole Oceanographic Institution Joint Program.

Brad deYoung

Member

Brad deYoung is the Executive Director of the Pacific node of the Canadian Integrated Ocean Observing System (CIOOS) and a Professor Emeritus and the Robert A. Bartlett Professor of Oceanography at Memorial University. In addition to participation in different national and international observing programs, such as OSNAP, he has also been engaged in developing links to public policy and exploring opportunities to connect science, society, and economy. He served for a decade on the Canadian Fisheries Resource Conservation Council, advising the Minister of Fisheries and Oceans on fisheries policy and management. He is working with ocean gliders to make year-round measurements in the Northwest Atlantic and is helping to develop the CIOOS observing network to support data access and the provision of new information services. DeYoung received a Ph.D. in physical oceanography from the University of British Columbia.

Carlos Garcia-Quijano

Member

Carlos Garcia-Quijano holds a joint appointment as professor in the Department of Sociology and Anthropology and the Department of Marine Affairs at the University of Rhode Island. He has special interest in how human cognition, culture, and society influence the interaction between people and the non-human environment, as well as who bears the impacts and the responsibility for environmental problems. His research interest is focused on comparative study of cultural aspects of coastal use and dependence to reach more comprehensive understanding of human well-being and adaptations as they relate to the use of coastal environments and resources, including local knowledge, resource management, and adaptations to species translocations. Garcia-Quijano received a B.S. in biology and an M.S. in geology and reef paleoecology from the University of Puerto Rico and a Ph.D. in ecological and environmental anthropology from the University of Georgia.

Peter Girguis

Member

Peter Girguis is a Professor of Organismic and Evolutionary Biology and Co-Director of the Microbial Sciences Initiative at Harvard University. He is also an adjunct professor in the Woods Hole Oceanographic Institution's Applied Ocean Physics and Engineering group. Girguis is a microbiologist, biogeochemist, and technologist who studies how animals and microbes in the deep sea influence biogeochemical cycles. He is also known for developing novel "open-design" instruments such as underwater mass spectrometers and microbial samplers, and strives to make these tools available to the broadest research community with the goal of democratizing science around the world. He was a National Science Foundation RIDGE-2000 distinguished lecturer, a Merck Co. Innovative Research Awardee, a recipient of the 2007 and 2011 Lindbergh Foundation Award for Science & Sustainability, the 2018 Lowell Thomas Award for groundbreaking advances in Marine Science and Technology, and the 2020 Petra Shattuck Award for Distinguished Teaching. He was recently named a Gordon and Betty Moore Foundation Investigator. Girguis received a B.S. from the University of California, Los Angeles, a Ph.D. from the University of California, Santa Barbara, and completed postdoctoral research at the Monterey Bay Aquarium Research Institute. He is a member of the National Oceanic and Atmospheric Administration's Ocean Exploration Advisory board. He was previously a member of the National Academies of Sciences, Engineering, and Medicine's First Indian-American Frontiers of Science Symposium.

Leila Hamdan

Member

Leila J. Hamdan serves as Associate Vice President for Research, Coastal Operations and Director and Professor in the School of Ocean Science and Engineering at the University of Southern Mississippi. Hamdan's research centers on marine microbial biogeography and exploring natural and human made features on the seabed that shape coastal to deep-sea ecosystems. She is the lead on the National Science Foundation award for the operation of the future Regional Class Research Vessel Gilbert R. Mason and has been chief scientist on 25 oceanographic research expeditions. She is currently President of the Coastal and Estuarine Research Federation. She received the National Oceanographic Partnership Program Excellence in Partnering Award in 2017 for leadership of a team of scientists studying impacts of the Deepwater Horizon Spill. Hamdan received a B.S. in biology from Rowan University of New Jersey and an M.S. and Ph.D. from George Mason University and completed postdoctoral training at the Naval Research Laboratory.

Marcia Isakson

Member

Marcia J. Isakson is the Director of the Signal and Information Sciences Laboratory (SISL) at Applied Research Laboratories, The University of Texas at Austin (ARL:UT). SISL is involved in a broad spectrum of research including anti-submarine warfare, systems engineering, geospatial remote sensing, quantum information sciences, content understanding, nuclear surety, aero-acoustics, hypersonics, modeling, and simulation with a diverse sponsor base that includes the DoD, the national intelligence community, NASA, DOE and NSF. Her personal research interests include the effects of the underwater environment on ocean acoustic propagation. Dr. Isakson received her B.S. in engineering physics and mathematics from the United States Military Academy at West Point in 1992. Upon graduation, she was awarded a Hertz Foundation Fellowship and completed a master's degree in physics from the University of Texas at Austin in 1994. She earned a Ph.D. in physics from the University of Texas at Austin in 2002. Dr. Isakson is a fellow and former president of the Acoustical Society of America (ASA). She taught graduate underwater acoustics at the University of Texas at Austin from 2009-2018. She is currently a member of the Ocean Studies Board at the National Academies for Science, Engineering and Medicine, a member of the US Committee for the UN Ocean Decade of Ocean Science and a member of the Decadal Survey on Ocean Sciences for the National Science Foundation

Jason S. Link

Member

Jason Link is the Senior Scientist for Ecosystems with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, leading efforts to support development of ecosystem-based management plans and activities throughout the agency. He has held many past adjunct positions and currently holds an adjunct faculty position at the School for Marine Science and Technology at the University of Massachusetts. His research interests include marine resource-ecosystem modeling methodologies, marine food web topology, globally consistent patterns in ecosystem cumulative biomass distributions, and delineation of ecosystem overfishing thresholds. Link is a fellow of the American Institute of Fishery Research Biologists, was a Frohlich Fellow, holds executive leadership certificates from the Harvard Kennedy School and the Key Program at American University, and has received the Fisheries Society of the British Isles Medal for significant advances in fisheries science and a Department of Commerce Bronze medal. Link received his B.S. in biology from Central Michigan University and a Ph.D. in biological sciences from Michigan Technological University.

Allison Miller

Member

Allison Miller is research portfolio senior manager at Schmidt Ocean Institute. She is responsible for managing and overseeing all research projects undertaken by Schmidt Ocean Institute, including grants and contracts, tracking cruise metrics, permitting, and ensuring scientists share the data they collect. Previously, Miller facilitated federal partnerships by managing the National Oceanographic Partnership Program at the Consortium for Ocean Leadership. She serves as secretary of The Oceanography Society Council and on the external advisory committee of the University Corporation for Atmospheric Research Community Programs. Miller received a B.S. in marine science from Coastal Carolina University and an M.S. in oceanography from Florida State University.

S. Bradley Moran

Member

S. Bradley Moran is Dean of the College of Fisheries and Ocean Sciences at the University of Alaska Fairbanks. Prior to his appointment as Dean, he served as Acting Director of the Obama Administration’s National Ocean Council, Assistant Director for Ocean Sciences in the White House Office of Science and Technology Policy, Program Director in the Chemical Oceanography Program at the National Science Foundation, and Professor of Oceanography in the Graduate School of Oceanography at the University of Rhode Island. His principal research interests focus on the application of uranium-series and artificial radionuclides as tracers of marine geochemical processes and fostering economic development partnerships in energy and environmental research, technology, policy, and education. He currently serves on the Board of Directors of the Alaska Ocean Observing System, the Alaska Sea Life Center, and the North Pacific Research Board, and previously served as Vice President on the international Scientific Committee on Oceanic Research, and Board Chair and Trustee of the Consortium for Ocean Leadership. Moran received a B.Sc. in chemistry from Concordia University and a Ph.D. in oceanography from Dalhousie University. He previously served on the Ocean Studies Board and is currently an ex-officio member Ocean Studies Board as a representative to the Scientific Committee on Oceanic Research, and a member of the U.S. National Committee for the Decade of Ocean Science for Sustainable Development.

Richard Murray

Member

Richard W. (Rick) Murray is senior scientist (emeritus) in marine chemistry and geochemistry at Woods Hole Oceanographic Institution (WHOI) after serving at WHOI for five years as deputy director and vice president for science and engineering. Prior to this role, Murray was professor of Earth and environment at Boston University from 1992 to 2019, and he served as director for the Division of Ocean Sciences at the National Science Foundation from 2015 to 2018. Murray also served as co-chair for the Subcommittee on Ocean Science and Technology as part of the Office of Science and Technology Policy in the Executive Office of the President, during both the Obama and first Trump administrations. He has testified before the U.S. Congress and the Massachusetts State Legislature on issues relating to climate change and ocean observations. Murray's research interests are in marine geochemistry with an emphasis on sedimentary chemical records of climate change, volcanism, and tropical oceanographic processes, and in the chemistry of the subseafloor biosphere. He was involved in the advisory structure for scientific ocean drilling programs throughout his career and sailed on six different scientific drilling expeditions (127, 165, 175, 185, 329, and 346), including as co-chief scientist on Expedition 346. Murray is a former councilor of The Oceanography Society and a former member of the board of directors of the American Geophysical Union. He received a B.A. in geology from Hamilton College and a Ph.D. in geology and geophysics from the University of California, Berkeley. Murray also graduated from the Sea Education Association's program in Woods Hole, Massachusetts, and completed postdoctoral training at the University of Rhode Island's Graduate School of Oceanography.
Murray has testified before the U.S. Congress and the Massachusetts State Legislature on issues relating to climate change and ocean observations.

Stephen R. Palumbi

Member

Stephen R. Palumbi is the Jane and Marshall Steel Professor in Marine Sciences and Senior Fellow with the Woods Institute for the Environment at Stanford University. He is the former director for Hopkins Marine Station at Stanford. His research interests include the use of molecular genetics techniques to study evolution and change within marine populations. He has contributed to enhancing understanding of speciation patterns in open ocean systems, providing insights for marine reserve design and refuges for thermally sensitive corals. Palumbi has been awarded the Peter Benchley Award for Excellence in Science and elected a member of the National Academy of Sciences, Fellow of the California Academy of Sciences, and Pew Fellow in Marine Conservation. He has published three books focusing on science for the general public, co-founded the microdocumentary series Short Attention Span Science Theater, and appeared in numerous ocean documentaries. Palumbi received a B.A. in biology from John's Hopkins University and a Ph.D. in zoology with a concentration in marine ecology from the University of Washington.

Ella (Josie) Quintrell

Member

Ella (Josie) Quintrell recently retired as the founding Executive Director of the Integrated Ocean Observing System (IOOS) Association and now serves as Senior Advisor to the organization. The IOOS Association works with the IOOS Regional Associations to design and operation coastal observing systems to collect, integrate and produce information for users. Her research interests focus on operational observing issues related to harmful algal blooms and cloud computing, coastal management. She previously served on the Board of the Consortium for Ocean Leadership, the National Estuarine Research Reserve System Science Advisory Committee, and the National Marine Association of Marine Laboratories. Quintrell received a B.A. in biology from Colby College and an M.R.P. in environmental planning from Cornell University.

Yoshimi M. Rii

Member

Yoshimi (Shimi) Rii is an Assistant Specialist at Hawai?i Institute of Marine Biology and also serves as the Research Coordinator for the He?eia National Estuarine Research Reserve within the National Oceanic and Atmospheric Administration’s Office for Coastal Management. Her expertise is in marine ecology, with phytoplankton and nutrient dynamics in coastal and open ocean environments. She utilizes multiple tools spanning geochemical tracers, biomarkers, and genomic approaches to examine metabolic activities and biodiversity of microbial eukaryotes. Her work encompasses research at the watershed to coastal ocean scale, examining the continuum and diversity of ecologically important species and processes in a diverse environmental setting. She is passionate about increasing diversity and equity, and promoting the inclusion of multiple ways of knowing, including Indigenous knowledge, within conventional science within the academy. Rii received a B.S. in marine biology and English form the University of California, Los Angeles and an M.S. and Ph.D. in biological oceanography from the University of Hawai‘i at Manoa.

Kristen St. John

Member

Kristen St. John is professor of geology at James Madison University. Her research focuses on marine sediment records of past climate change and on teaching and learning in the geosciences. As an active researcher in the International Ocean Discovery Program (IODP) and legacy programs, St. John participated as a marine sedimentologist for several expeditions; served as co-chief scientist for Expedition 403 in summer 2024 on the JOIDES Resolution; and is a co-proponent on an active IODP proposal for scientific drilling in the Arctic Ocean for consideration by the European Consortium for Ocean Research Drilling. She is the past-president of the American Geophysical Union Education Section and fellow of the Geological Society of America. St. John was editor-in-chief of the Journal of Geoscience Education from 2012 to 2017. She previously chaired the Workshop on Tipping Points, Cascading Impacts, and Interacting Risks in the Earth System and was a member of the Committee on Advancing a Systems Approach to Studying the Earth: A Strategy for the National Science Foundation. St. John served on the workshop steering committee and co-author of the report for the NEXT: Scientific Ocean Drilling Beyond 2023. Currently, she serves on the Polar Research Board. St. John received an M.S. and Ph.D. in geoscience from The Ohio State University.

Samuel K. Sturdivant

Member

S. Kersey Sturdivant is a Principal Scientist at INSPIRE Environmental, an Adjunct Assistant Professor at Duke University, and co-founder of Oceanography for Everyone, an open-source effort to develop low-cost oceanographic hardware. His research interests broadly center around the effects of human disturbance on the seafloor and development of marine technology to enhance human understanding of the ocean. Sturdivant has given a TED talk on Visualizing the Seafloor and published a comprehensive step-by-step guide on how to get into graduate school in the sciences with Cambridge University Press. Sturdivant received a B.S. in environmental science from the University of Maryland Eastern Shore and a Ph.D. in marine science from the College of William & Mary’s Virginia Institute of Marine Science.

Ajit Subramaniam

Member

Ajit Subramaniam is a Research Professor at the Lamont Doherty Earth Observatory (LDEO) of Columbia University. He has served as the Program Director for the Marine Microbiology Initiative at the Gordon and Betty Moore Foundation and as a program director in the Biological Oceanography Program at the National Science Foundation while on leave from LDEO. Subramaniam is a microbial oceanographer with expertise in biogeochemical cycles, remote sensing, bio-optics, and phytoplankton physiology. His research interests focus on advancing the ability to observe the ocean and expand understanding on how the marine ecosystem works and can be managed. He was awarded a Mercator Fellowship by the University of Rostock and the Baltic Sea Research Institute, Germany in 2017 and the Climate and Life Fellowship at Lamont Doherty Earth Observatory in 2021. Subramaniam received a B.S. in physics from The American College in India and an M.S. in marine environmental science and a Ph.D. in coastal oceanography from the State University of New York at Stony Brook.

Maya Tolstoy

Member

Maya Tolstoy is Maggie Walker dean of the University of Washington College of the Environment. Prior to this role, Tolstoy was professor at Columbia University’s Department of Earth and Environmental Sciences at Lamont-Doherty Earth Observatory, and she previously served as interim executive vice president and dean of the faculty of Arts and Sciences at Columbia. She is a marine geophysicist specializing in seafloor earthquakes and volcanoes. Over her more than 30-year career as a researcher, professor, and administrator, Tolstoy has dedicated herself to furthering understanding of the fundamental processes of the planet and broadening participation in academia. She was awarded the WINGS WorldQuest Sea Award honoring women in exploration and was a finalist for the National Aeronautics and Space Administration’s 2009 astronaut selection. Tolstoy previously served on the National Academies of Sciences, Engineering, and Medicine’s Board of Earth Sciences and Resources’ Committee on Solid Earth Geophysics. She received a B.S. in geophysics from the University of Edinburgh and a Ph.D. from Scripps Institution of Oceanography at the University of California, San Diego.

Shannon Valley

Member

Shannon Valley was most recently a climate advisor with Vistant, contracted to the United States Agency for International Development’s Center for Climate Positive Development. Prior to this role, Valley served as a legislative liaison at NASA Headquarters, as a policy assistant in the White House Domestic Policy Council and was appointed to the 2020 Presidential Transition NASA Agency Review team. Her past research focused on Atlantic Meridional Overturning Circulation variability and its relation to abrupt and long-term climate change. She is a recipient of the NASA Individual Special Act Award, the NASA Exceptional Achievement Medal, and the National Science Foundation Graduate Research Fellowship. Valley received a B.A. in political science and international studies from Northwestern University and an M.S. and Ph.D. in Earth and atmospheric science from the Georgia Institute of Technology. She completed postdoctoral research in paleoceanography and coastal geochemistry, working with marsh sediment cores at Woods Hole Oceanographic Institution.

James C. Zachos

Member

James Zachos is a Distinguished Professor of Earth and Planetary Sciences and the Ida Benson Lynn Chair of Ocean Health at the University of California, Santa Cruz. His research focuses on resolving aspects of the ocean, climate, and carbon cycle dynamics of the last 65 million years, addressing issues ranging from the causes of extreme greenhouse warming and ocean acidification to the onset of Antarctic glaciation. His past research included participation in the scientific ocean drilling program. He is a member of both the American Academy of Arts and Sciences and the National Academy of Sciences and is a fellow of the American Geophysical Union (AGU), the Geological Society of America, and the American Association for the Advancement of Science. He is also a recipient of the AGU Emiliani Award, the European Geophysical Union Milutin Milankovic Medal, and is a recipient of the BBVA Frontiers of Knowledge award. Zachos received a B.S. in geology/economics from the State University of New York at Oneonta, an M.S. in geology from the University of South Carolina, and a Ph.D. from the Graduate School of Oceanography at the University of Rhode Island. He completed a postdoctoral fellowship at the University of Michigan.