Speaker Biographies

NOAA HSRP Public Meeting, September 20-22, 2022

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Captain (NOAA, ret.) Andrew A. Armstrong III

Co-Director, NOAA-University of New Hampshire Joint Hydrographic Center

Captain (NOAA, ret.) Andrew Armstrong is Co-Director of the NOAA/University of New Hampshire Joint Hydrographic Center where he leads NOAA's role in the research, mapping and educational programs of the Center. He is the Bathymetric Data Acquisition team leader for the U.S. Interagency Extended Continental Shelf Task Project where he has been responsible for mapping nearly 875,000 square nautical miles of the seafloor in the Arctic Ocean, the U.S. Pacific Islands, and along the U.S. Atlantic and Pacific margins. Andy joined the NOAA Commissioned Officer Corps in 1974, following 4 years of commissioned service in the U.S. Navy. He retired from the NOAA Corps in 2001, continuing with NOAA as Co-Director of the Joint Hydrographic Center in a civil service capacity. Throughout his NOAA career, he has specialized in hydrographic surveying and seafloor mapping. He has served on several NOAA hydrographic ships and field parties, conducting hydrographic and bathymetric surveys in Alaska and Hawai'i, along the Pacific, Atlantic, Gulf of Mexico coasts, and in the Great Lakes. He served as commanding officer of *NOAA Ship Peirce* and *NOAA Ship Whiting*, and as chief of NOAA's Hydrographic Surveys Division. He has a B.S. in geology from Tulane University and an M.S. in technical management from The Johns Hopkins University.

Mr. Mike Aslaksen

Chief, Remote Sensing Division, National Geodetic Survey, NOS, NOAA

As the Chief of NOAA's National Geodetic Survey's Remote Sensing Division, Mike has been with NOAA more than 25 years and has served in a variety of operational, technical, and policy positions ranging from performing field surveys supporting Nautical and Aeronautical Charting to serving as the Chief of Staff for NOAA's Ocean Service. Mike's education includes a Bachelor of Science from Old Dominion University and a Master of Science from The Johns Hopkins University.

Mr. Ed Carlson

Regional Geodetic Advisor, NGS, NOS, NOAA

Edward Carlson is NOAA's, National Geodetic Survey, Pacific Region Geodetic Advisor for the last 20 years based in Honolulu. Mr. Carlson, is a liaison between NGS and the Pacific which provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the United States.

He serves as a subject matter expert in geodesy and regional geodetic issues, collaborating across federal, state, county, city, and local users to ensure that all geospatial activities are properly referenced to the NSRS. He also serves as a primary contact for relating user needs to NGS and NOAA plus transferring new technical developments to local users.

U.S. Representative Ed Case

U.S. Representative

U.S. Representative Ed Case proudly represents Hawai‘i's First Congressional District (O'ahu from Makapu'u through Central Honolulu and Leeward to Mililani, Waipahu, Ewa, Kapolei and Ko Olina). Congressman Case previously represented Hawai‘i's Second Congressional District (Windward O'ahu, North Shore, Central O'ahu, Wai'anae, Neighbor Islands, Northwestern Hawai‘ian Islands) from 2002 to 2007. He served as Hawai'i State Representative from 1994 to 2002 including as the Majority Leader. He was born and raised in Hilo and his great grandparents on his father's side emigrated to Hawai'i in 1896 from Kansas and his family has lived on O'ahu, Maui, Kaua'i and Hawai'i Island. Ed attended Waiakea-Kai and Keaukaha Elementary Schools in Hilo, graduated from Hawai'i Preparatory Academy, went to Williams College. He worked on Capitol Hill for three years as legislative assistant to U.S. Representative/Senator Spark Matsunaga of Hawai'i. Following this first of three DC tours, Congressman Case graduated from University of California/Hastings College of Law in San Francisco before returning to Hawai'i to serve as a law clerk to Hawai'i Supreme Court Chief Justice William Richardson. He joined the Honolulu-based law firm of Carlsmith Ball, Hawai‘i's oldest, and practiced litigation, property, transactional, business and government law and rose from associate to partner and managing partner over two decades. Following his initial service as U.S. Representative, Case practiced law for seven years with the Honolulu firm of Bays Lung Rose & Holma, and served as managing attorney. He served for five years as Senior Vice President and Chief Legal Officer of Outrigger Enterprises Group, one of Hawai‘i's oldest hotel resort companies with properties throughout Hawai'i and the Pacific-Asia-Indian Ocean region.

Ms. Malia Chow

Supervisory Branch Chief, NMFS Pacific Islands Regional Office, NOAA

Dr. Malia Chow works as a Supervisory Branch Chief and her focus is the protection and conservation of marine habitats across the Pacific and oversee the and the NMFS Pacific Marine National Monuments Program. She received a Bachelor's of Science from the University of Washington and her Ph.D. from the University of Pennsylvania. She is happy to be back in the islands after and is based in Honolulu, Hawai‘i.

Mr. Ethan Creps

Director, Vessel Operations and Engineering - Pacific, Matson Navigation

Raised on the island of Oahu and growing up immersed in the maritime environment, represented Hawai‘i in various national and international youth sailing, paddling, and kayaking competitions. A graduate of the California Maritime Academy earning a degree in Marine Transportation with a 3/M Unlimited Licenses, and a minor in Engineering with QMED endorsements. Went on to work aboard towing vessels along the West Coast and within the Hawai‘ian Islands. Having worked on a variety of Unlimited vessels in the Pacific and Atlantic Oceans, last Sailed as C/M with Matson before coming ashore as a Vessel Manager. Concurrently served in the USCGR performing roles as a Marine Inspector, Vessel Boarding Officer, Command Duty officer, Search and Rescue Coordinator, and Staff Officer with various District 11 and District 14 units in addition to an assignment with US Indo-Pacific Command. Currently serves as Company Security Officer and Designated Employer Representative for Matson Navigation. Current Vice-Chair of the Sector Honolulu Area Maritime Security Committee, and Vice-President of the Hawai‘i Ocean Safety Team.

Rear Admiral Michael H. Day

Commander, Fourteenth Coast Guard District, US Coast Guard

As Commander since June 2022, he directs operations throughout Oceania, including Hawai’i, Guam, the Commonwealth of Northern Mariana Islands, American Samoa, Singapore and Japan. The Coast Guard conducts activities as part of the Department of Homeland Security (DHS) team protecting the U.S. and as one of the five armed services and the joint force of defense. The Coast Guard works closely with allies to advance maritime governance as part of the rules-based international order essential to a free and open Indo-Pacific. Prior to reporting to District 14, he was the Military Advisor to the Secretary of Homeland Security in June 2021 with responsibility to provide counsel to the Secretary and Deputy Secretary regarding policies, plans, and affairs between the DHS and the Department of Defense. Rear Admiral Day previously served as the Executive Assistant to the Commandant and Vice Commandant of the Coast Guard providing senior executive decision support, advice, and recommendations to shape, communicate, and carry out strategic direction, policy, and communications. He was commissioned in 1991 at Coast Guard Officer Candidate School and had a diverse career of operational and staff assignments in the Response Ashore field. Previous assignments included the Strategy and Policy Directorate (J5) for the Chairman of the Joint Chiefs of Staff and Commanding Officer of the Pacific Strike Team where he

participated in a variety of emergency responses ranging from the Arctic to Taiwan and the United States. As Commander of Sector New York from 2015- 2018, he served as Captain of the Port, Officer in Charge of Marine Inspection, Federal Maritime Security Coordinator, Search and Rescue Mission Coordinator, and Federal On-Scene Coordinator for Sector New York's 6,000 square miles area. In response to the terrorist attacks of September 11, 2001, as a Lieutenant and the Chief of Waterways Oversight in the Port of New York and New Jersey, he was designated the Coast Guard onscene commander for the evacuation of lower Manhattan coordinating the response of over 100 civilian vessels evacuating over 500,000 people in the largest maritime evacuation in history. He earned Masters degrees in National Security and Strategic Studies from the Naval War College, Newport, Rhode Island and in Public Administration from Bridgewater State University. He completed a one year fellowship at Harvard University Kennedy School of Government as a National Security Fellow and a one-year Industry Training program with the Port Authority of New York and New Jersey. He received numerous military and civic awards.

Mr. Sean M. Duffy, Sr.

Executive Director, Big River Coalition

Mr. Duffy directs the Big River Coalition which is committed to protecting maritime commerce across the Mississippi River and Tributaries (MRT). He leads the Coalition which focuses on maximizing transportation efficiencies on the deep-draft ship channel from Baton Rouge to the Gulf of Mexico with a dedicated focus on channel maintenance. The Big River Coalition is at the forefront of efforts to deepen the Mississippi River Ship Channel to 50 feet. He spearheads the visions of the future of the MRT to ensure that systematic approaches protect maritime trade by maintaining fully authorized channel dimensions while also updating and maintaining navigation infrastructure, specifically the locks and dams along the MRT. The Big River Coalition missions are focused on securing increased funding from the Harbor Maintenance Tax and the Inland Users Fuel Tax, efforts to deepen the Lower Mississippi River to 50 feet and to increase the beneficial use of dredge material or "sediment recycling." Mr. Duffy serves as an Executive Vice President / Maritime Advocate for the parent company the New Orleans Steamship Association dSouth A.b.a. Louisiana Maritime Association. Mr. Duffy is a proponent for local industry specializing in advocating on Capitol Hill to secure supplemental funds for maintenance dredging and waterway maintenance. Previous employment experiences include various management positions, Boarding Agent, Deckhand, Stevedore General Superintendent and Marine Surveyor. Mr. Duffy is familiar with obstacles faced by the maritime industry, both nationally and those specific to Louisiana, and has been recognized for his efforts on coastal restoration through maintenance dredging. He became the HSRP co-chair in March 2021.

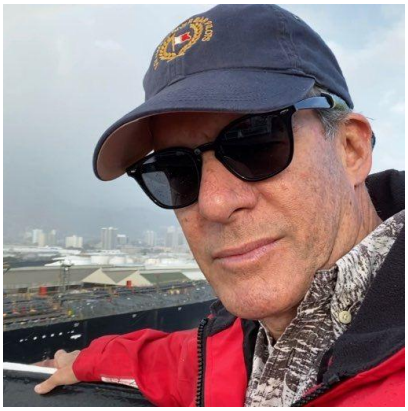
Mr. Richard Edwing

Director, Center for Operational Oceanographic Products and Services, NOS, NOAA

Richard Edwing is the director of **NOAA's Center for Operational Oceanographic Products and Services** (CO-OPS), the nation's authoritative source for accurate, reliable and timely water-level and current measurements. In his role, he oversees and continues to improve this 24-hour a day operation to provide mariners, coastal managers, and many other users with historic, real-time, and forecast data on ocean conditions along America's 95,000-mile coastline. Mr. Edwing's career with NOAA spans over four decades with much of that time spent advancing NOAA's navigation services mission to provide the nation with up-to-date ocean, weather, mapping and positioning data and tools for safe transits to and from U.S. ports. He started with NOAA in 1976 in the Marine Boundary Program, a partnership between NOAA and coastal states to establish tidal data such as base elevations in sensitive wetland areas vulnerable to urban growth. He later advanced through various positions in the field and at NOAA headquarters, including several years as division chief of the National Ocean Service's policy, planning and analysis division, where he shaped NOAA's priorities for ocean issues, as well as identified budget needs to advance and modernize ocean science for the twenty-first century. Graduating in 1976 from George Washington University, Mr. Edwing earned a B.S. in oceanography, and completed graduate level work in civil engineering at the University of Maryland. For two hundred years, CO-OPS and its predecessor agencies have provided the critical oceanographic data needed to protect life, property, and the marine environment. Today, the Center manages NOAA's Physical Oceanographic Real-Time System, the National Water Level Program, the National Current Observation Program, and Operational Forecast System models - major national systems critical to keeping America's oceans, coasts, and Great Lakes safe, healthy and productive.

Capt. Ed Enos

Hawai'i Pilots Association



Captain Enos was born and raised in Honolulu, Hawai'i, and has been a part of the local maritime industry since high school. He's worked aboard commercial fishing vessels, charter sailboats, and even sailed aboard the NOAA ship OCEANOGRAPHER R-101 as a Junior Survey Technician in 1980-81. He graduated from the California Maritime Academy in 1987 and then sailed all over the world for seven years aboard tankers, bulk cargo ships, container vessels, passenger ships, and break-bulk cargo vessels. In 1994 he started his dream job, working as a Ship's Pilot licensed by the U.S. Coast Guard and the State of Hawai'i. He is licensed by the USCG as a Master with unlimited tonnage, upon any ocean, and a First Class Pilot for all the commercial deep water ports in the State of Hawai'i.

RDML Benjamin Evans

Director, Designated Federal Officer, HSRP; and Director, Office of Coast Survey, NOS, NOAA

RDML Evans leads NOAA's ocean mapping and nautical charting program, continuing the transformation of the agency's navigation services to meet the needs of twenty first century mariners and apply Coast Survey's technical expertise to meet a broad range of requirements for authoritative ocean mapping data. As the Director of the Office of Coast Survey, he represents NOAA and the United States as the "National Hydrographer" on interagency and international engagements. He is an experienced hydrographer with over twenty-one years of service in the NOAA Commissioned Corps, most of which has been in the NOAA mapping and charting community afloat and ashore. He has served in a wide range of leadership, technical, and policy roles, including command of NOAA Ships *Ferdinand R. Hassler* and *Rainier*, management positions in Coast Survey and the Office of Marine and Aviation Operations, and on the staff of the NOAA Administrator and the NOS Assistant Administrator. Capt. Evans holds degrees in Physics from Williams College, and Ocean Engineering from the MIT/WHOI Joint Program where his research focused on uncrewed systems.

Ms. Malia Evans

Oʻahu Education and Outreach Coordinator, NOAA Papahānaumokuākea Marine National Monument

Malia Kapuaonālani Evans was born in Hilo, Hawaiʻi and raised both in Hilo and Kailua, Oʻahu. For over 2 decades, she has advocated for the protection and preservation of tangible and intangible heritage in Hawaiʻi. Malia applies Hawaiʻian knowledge systems and values in conjunction with western methodologies to enhance regenerative and balanced relationships and strategies in caring for the environment and place based histories. Malia has a M.A. in Applied Archaeology and Historic Preservation with a research focus on ethnography and works as the Oʻahu Education and Outreach Coordinator on behalf of Papahānaumokuākea Marine National Monument.

Sarah Falzarano

GISP, Chief, Technical Integration Branch, U.S. Army Corps of Engineers

Ms. Sarah Falzarano is the Chief of the Technical Integration Branch of the U.S. Army Corps of Engineers (USACE), Honolulu District. She is a member of the Hawaii Geographic Information Coordinating Council (HIGICC). She has a Bachelor of Science in Ecology, Behavior, and Evolution (biology) from the University of California at San Diego, and a Master of Arts in Geography from Northern Arizona University. She combined these two passions in her work for the U.S. Geological Survey, mapping the ecosystems and preserved lands of the state of Arizona and then Grand Canyon National Park where she mapped and analyzed noise from air tours and their effect on recreationists and animals in the park. She moved back home to Hawaii where she worked for the U.S. Army Corps of Engineers on mapping in support of the civil works and military missions around the Pacific. From 2017 to 2021, she lived in Germany working on geospatial support and master planning for Army bases throughout Europe. She moved back to Hawaii in 2021 as the chief of the geospatial branch which includes technical tools such as GIS, CAD, Building Information Modeling (BIM), Small Unmanned Aerial Systems (sUAS), Light Detection and Ranging (LiDAR), and surveying.

Dr. Charles “Chip” Fletcher

Associate Dean for Academic Affairs, Professor, Department of Earth Sciences, School of Ocean and Earth Science and Technology, University of Hawai’i

Chip Fletcher, is the interim Dean of the School of Ocean and Earth Science and Technology, at the University of Hawai‘i at Mānoa. He is Professor and past Chair of the Department of Earth Sciences and past Chair of the Honolulu Climate Change Commission. His research focuses on modeling the impacts of sea level rise in Hawai‘i. He teaches Earth Science, and Climate Change, and is the author of three textbooks on: 1) Hawai‘ian shorelines, 2) Climate change, and 3) Earth Systems. Chip is a frequent public speaker, and contributor to local and national media. He has been principal advisor in funding and awarding over 30 graduate research degrees in Earth and Planetary Sciences.

Dr. Ashton Flinders

Research Geophysicist, Hawaiian Volcano Observatory, U.S. Geological Survey

Dr. Ashton Flinders research work focuses on the determining the structure and material properties of crustal magma reservoirs in a range of tectonic settings at the Hawaiian Volcano Observatory in Hilo, Hawai‘i. His multi-disciplinary approach integrates marine and terrestrial geophysics (gravity, magnetics, seismology) with thermodynamic modeling of phase equilibria. He was a Presidential Management Fellow and USGS Mendenhall post-doctoral fellow. He

holds masters degrees in Geology and Geophysics from the University of Hawai'i at Manoa, Ocean Engineering with a focus on Ocean Mapping from the University of New Hampshire's Center for Coastal and Ocean Mapping, and a Ph.D. from the University of Rhode Island's Graduate School of Oceanography focused on applications of high-performance computing and 3D-full waveform seismic tomography at volcanic settings. He spent over one-year with at-sea experiences on more than 16 research cruises, ranging from exploration, academic research, sonar quality assurance testing, and mineral exploration.

Mr. Lindsay Gee

Hydrographic and Strategic Development Consultant and HSRP member

Mr. Lindsay Gee has over four decades of broad experience working in the international hydrographic surveying and ocean mapping industry. This experience ranged from working at a national hydrographic service, then consulting in the broader offshore industry, and leading a small innovative company providing software and services to the international hydrographic industry, and recently managing the mapping and science operations for the E/V Nautilus. His roles included conducting and managing operational hydrographic surveys for nautical charting and ocean exploration, client representation for geodetic and geo-hazard surveys in the oil and gas industry, through to leading a team in development of software applications to support hydrographic surveying and ocean mapping. He built a deep understanding and expertise in guiding the transfer of technology from research at partner ocean mapping research institutions, and leading the development of an agile company to successfully interpret industry requirements and trends. His consulting is focused on both ocean mapping operations and the technology used in the industry, and the strategic planning and business development required to identify and transition innovative technology to products, services and solutions for general operational use. Mr. Gee is affiliated with the Hydrographic Society of America, Surveying and Spatial Sciences Institute, Australasian Hydrographic Society, Marine Technology Society and American Geophysical Union.

Mr. Matthew Gonser

AICP, CFM, Chief Resilience Officer, Executive Director, Office of Climate Change, Sustainability and Resiliency, City and County of Honolulu

Since January 2021 Matthew Gonser serves as the City and County of Honolulu Chief Resilience Officer and Executive Director of the City's Office of Climate Change, Sustainability and Resiliency. He joined the City and the Resilience Office in October 2017 and previously served as Coastal and Water Program Manager. Prior to joining the City, Matthew served as the Community Planning and Design Extension Agent with the University of Hawai'i Sea Grant College Program, part of the one NOAA 'ohana.

CDR Briana Welton Hillstrom

Chief, Hydrographic Services Division, OCS, NOS, NOAA

CDR Briana Welton Hillstrom has been a NOAA Commissioned Corps Officer for 17 years, with nearly nine years in sea assignments on all four of NOAA's hydrographic ships – *Rainier, Fairweather, Ferdinand R. Hassler,* and *Thomas Jefferson* – mapping on both coasts of the United States, Gulf of Mexico, Caribbean, and Arctic. She is the new Chief, Hydrographic Surveys Division in OCS and served throughout the Office of Coast Survey (OCS), from the mobile units of *Bay Hydrographer* and Navigation Response Team 7; Mid-Atlantic Navigation Manager; and Chief of the Atlantic Hydrographic Branch. She was the former Commanding Officer of NOAA Ship *Thomas Jefferson,* NOAA's 2020 Ship of the Year, homeported in Norfolk, Virginia, where she leads a crew of 36 professional mariners mapping the seafloor for nautical chart update and hurricane response. CDR Hillstrom has a bachelor's degree in mathematics from Smith College in Northampton, Massachusetts, and a Master's of Science in Ocean Engineering Ocean Mapping from the University of New Hampshire. She received a Commerce Gold Medal for taking a new Navigation Response Team to Vieques Island, Puerto Rico, to survey unexploded ordinance for the U.S. Navy; a NOAA Corps Commendation Medal for leading *Fairweather* in its most productive field season just after receiving and integrating four new survey launches and the ship's first Arctic project; and the Association of Commissioned Officers Science and Engineering Award for work on in situ field acoustic calibration methods of hydrographic multibeam sonars. She is a member of The Hydrographic Society of America (THSOA); and is a CAT A hydrographer.

Governor David Y. Ige

Governor, State of Hawai‘i

Governor Ige is focused on improving the lives of Hawai‘i's people and making the islands a place future generations choose to call home. He is increasing affordable housing, reducing homelessness, moving toward the state's 100% renewable energy goal, and remodeling public education to prepare students for the innovation economy of the 21st century. Under his leadership, the state has aggressively moved to ensure financial sustainability and enable future growth. He believes that we can achieve our shared goals because we have always been better together than alone. Governor Ige was born and raised in Pearl City and is the fifth of six sons of Tokio and Tsurue Ige. He is the first governor in the United States of America of Okinawan descent. He attended public schools in Pearl City and earned a Bachelor of Science degree in Electrical Engineering at the University of Hawai‘i at Mānoa, where he met his wife. After college, while working for GTE Hawaiian Tel, a career that spanned 18 years, Governor Ige earned a master's of Business Administration degree in Decisions Sciences at UH Mānoa and Hawai‘i Business magazine named him one of the university's Top 10 MBA

students. He was a successful electrical engineer and project manager with a 34-year career devoted to information technology, telecommunications, networks, and responsible public policy. Governor Ige began his political career in 1985 after being appointed by then Governor George Ariyoshi to fill a vacant seat in the Hawai‘i House of Representatives. In 1994, he was elected to the Hawai‘i Senate where he represented his home district of ‘Aiea / Pearl City until 2014.

Ms. Melissa Iwamoto

Director, Pacific Island Ocean Observing System (PACIOOS)

PacIOOS is one of the eleven regional associations in the U.S. Integrated Ocean Observing System (IOOS) and is based in the School of Ocean and Earth Science and Technology at the University of Hawai‘i at Mānoa. As a social scientist with a passion for ocean communities and all they encompass, Melissa strives to collaborate with organizations and island communities to empower them to achieve their goals related to environment, economics, culture, and public safety. Melissa has over 20 years of experience working with interested parties in the Pacific Islands to help address their needs related to coastal and ocean resources, whether through coastal management, policy development and implementation, community engagement, or increased access to coastal and ocean data and information. Melissa was a Peace Corps volunteer in Yap State of the Federated States of Micronesia, and went on to obtain her Masters in Geography with an emphasis on tropical coastal resource management from the University of Hawai‘i at Mānoa. Prior to joining the PacIOOS team in 2011, Melissa was a Planner with the Hawai‘i Coastal Zone Management Program where she supported community-based resource management and facilitated early efforts of climate change adaptation through state policy. Melissa worked closely with small-boat recreational fishermen to document the cultural and economic value and flow of fish in the islands.

Mr. Kilo Kaʻawa-Gonzales

Sea Grant Fellow, NOAA Papahānaumokuākea Marine National Monument

Born and raised on Molokai, Kilo Kaʻawa-Gonzales is a E. Gordon Grau Fellow, and Contractor with University of Hawaii Sea Grant in support of NOAA National Ocean Service’s Office of National Marine Sanctuaries, Papahānaumokuākea Marine National Monument. He is a Native Hawaiian scientist specializing in integrating 'ike kūpuna (traditional ecological knowledge) into effective conservation management and climate resilience planning in the Pacific Islands Region. His core passion is providing clear and useful scientific communication and education to local and indigenous communities to encourage community-centered stewardship and sustainability while fostering indigenous capacity in policy, research, management, and on-the-ground conservation implementation.

Dr. Haunani Kane

Assistant Professor, School of Geographical Sciences and Urban Planning, Arizona State University

Dr. Haunani Hiʻilani Kane is a scientist, surfer, and voyager from Kailua, Oʻahu. Currently an assistant Professor with Arizona State University, Haunani's life is guided by the values and storied history of her kūpuna (*ancestors*). Haunani's research combines coastal geomorphology, paleo environmental reconstructions, spatial analysis, and the perspectives of a native islander to investigate how islands, reefs, and island people are impacted by changes in climate. Haunani has been mentored since her youth in traditional Hawaiian wayfinding and navigation with the Polynesian Voyaging Society. Haunani has spent nearly 200 days at sea aboard both sailing and modern research vessels. As a voyager, and a climate scientist Haunani's research and teaching relies upon reestablishing ancestral relationships to place. She hopes that through this process she may provide a more inclusive understanding of the impacts of environmental stressors and ensure that the best available climate science data is reflective of all stories of place and their people. She was a NSF Postdoctoral Fellow at the University of Hawaiʻi at Hilo, where she used the ocean as her classroom, the sky as her blackboard, and islands as models for sustainable living, where she found a unique way to blend observation and traditional knowledge to form a world view that focuses upon the similarities rather than the differences among western and indigenous science. Her research is focused on better understanding how islands within Papahānaumokuākea will respond to sea level rise and storms and includes "Rethinking Reef Island Stability in Relation to Anthropogenic Sea Level Rise". In addition to her work with PVS, Kane is also a member of ʻOhana Waʻa and Nā Kama Kai, a youth organization that teaches ocean awareness, safety and conservation. Kane received her PhD. in Earth and Planetary Sciences from the University of Hawaiʻi at Mānoa.

Ms. Analise Keeney

Coastal Hazards Oceanographer, Center for Operational Oceanographic Products and Services (CO-OPS), NOS, NOAA

Analise Keeney is a coastal hazards oceanographer with NOAA's Center for Operational Oceanographic Products & Services. Her work centers around creating geospatial tools and products to mitigate the impacts of coastal flooding due to sea level rise and climate change. She brings a passion for developing operational products that make ocean science understandable, easier to interact with and in support of an informed, resilient, climate-ready Nation.

Mr. Tony Lavoi

Chief Data Officer, NOAA

Tony LaVoi serves as the National Oceanic and Atmospheric Administration (NOAA) Chief Data Officer (CDO). As the NOAA CDO, he is responsible for NOAA's new Data Strategy and all aspects of its implementation across the organization. Tony serves as NOAA's Open Government Senior Lead and the U.S. Department of Commerce's Senior Agency Official for Geospatial Information. He and the CDO Team are also responsible for a suite of NOAA enterprise government information services, including Freedom of Information Act (FOIA), Paperwork Reduction Act (PRA), Information Quality Act (IQA), and Privacy compliance and reporting. Prior roles in NOAA include serving as the NOAA Geospatial Information Officer (GIO), as well as a National Ocean Service Information Services Director. Tony is a member of the Federal Geographic Data Committee (FGDC), National Geospatial Advisory Committee (NGAC), Interagency Council for Advancing Meteorological Services (ICAMS), Federal CDO Council, Cooperative Institute for Satellite Earth System Studies (CISESS) Executive Council, and the United Nations Global Geospatial Information Management Working Group. Tony holds a BS in Civil and Environmental Engineering from the University of Wisconsin.

Mr. Eduardo (Ed) Manglallan

Deputy Director, Harbors Division, Department Of Transportation, State of Hawai'i

Ed Manglallan is responsible for the upkeep, maintenance and repair of 10 the commercial harbors statewide and serves as the Board of Directors Chair of the Aloha Tower Development Corporation. He was recently a Legislative Aide and Special Projects Coordinator with the City Council Chair, City & County of Honolulu. Ed also served in former Mayor Caldwell's cabinet for eight years as the Deputy Director of the Department of Facility Maintenance. Prior to entering city government, he worked as a Construction Manager for Actus Lend Lease, which built 10,000 military housing units for the Army, Air Force and Coast Guard on Oahu. Ed enlisted with the U.S. Navy in 1972 serving on various naval vessels beginning as a Machinist Mate. He was selected to the Navy's Enlisted Commissioning Program in 1982 and received his Commission as an Unrestricted Line Naval Officer in 1985. He served in several positions with the Navy and upon receiving his Naval Surface Warfare designation, he laterally transferred to the Navy Civil Engineer Corps Officers where he served as Public Works Officer, Staff Civil Engineer, Resident Officer in Charge of Construction and was Warranted Level II Contracting Officer for the United States of America. Ed retired as a Lieutenant Commander in 2000 after 28 years of service. Ed received his Bachelor's degree in Civil Engineering from Florida State University in 1985 and a Master's degree in Civil & Environmental Engineering from the University of Hawai'i at Manoa in 1994.

Mr. Joseph D. Martin

Director, Department of Defense Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM)

Mr. Martin is the Director of the Department of Defense Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) on Ford Island, Pearl Harbor, Hawai'i. Mr. Martin directs training, education, applied research, regional civil-military coordination, and crisis support during disasters in support of U.S. Indo-Pacific Command, with worldwide responsibilities. He was appointed to the Senior Executive Service in October 2016 upon resuming duties as the Center's Director; he previously served as the Director of CFE-DM from May 2014 to June 2016 while on active duty as a U.S. Air Force colonel. Mr. Martin was commissioned through ROTC as a distinguished graduate in the U.S. Air Force in 1989 after having completed a bachelor's degree in mathematics from the University of California, Riverside. In his nearly 27-year Air Force career, he served as logistics planner, supply/fuels officer, and logistics readiness officer. He commanded twice at the flight level (including Operation Southern Watch), three times at the squadron level (including Operation Iraqi Freedom), and from 2012-2013 was an Expeditionary Mission Support Group Commander during Operation Enduring Freedom. Additionally, he served on the Logistics Staff at Pacific Air Forces and the Air Staff, and completed joint positions with the Defense Logistics Agency, U.S. Forces Korea, and U.S. Indo-Pacific Command. Prior to being the Director at CFE-DM, he was the Director of Pacific Outreach (J9) at U.S. Indo-Pacific Command from 2013-2014. Mr. Martin holds graduate degrees from Troy State University, the Air Force Institute of Technology, Air University, and National Defense University. During his uniformed service he was awarded the Defense Superior Service Medal (2), Defense Meritorious Service Medal, Air Force Meritorious Service Medal (7), Joint and Air Force Commendation Medals, the Air Force Achievement Medal, and numerous campaign and unit awards.

Dr. Larry Mayer

Director, Center for Coastal and Ocean Mapping, and Co-Director, Joint Hydrographic Center, University of New Hampshire

Larry Mayer is a Professor and Director of The Center for Coastal and Ocean Mapping at the University of New Hampshire. He received a Ph.D. from the Scripps Institution of Oceanography in Marine Geophysics (1979). After being selected as an astronaut candidate finalist for NASA's first class of mission specialists, Larry went on to a Post-Doc at the School of Oceanography at the University of Rhode Island where he worked on the early development of the Chirp Sonar and problems of deep-sea sediment transport and paleoceanography. In 2000 Larry became the founding director of the Center for Coastal and Ocean Mapping at the University of New Hampshire. Larry has participated in more than 95 cruises (over 75 months at sea!) during the last 38 years including 13 mapping expeditions in the ice-covered regions of the high Arctic. He is the recipient of the Keen Medal for Marine Geology and an Honorary Doctorate from the University of Stockholm. He was a member of the President's Panel on Ocean Exploration and chaired National Academy of Science studies

on national needs for coastal mapping and charting and the impact of the Deepwater Horizon Spill on ecosystem services in the Gulf of Mexico. He was the co-chair of the NOAA's Ocean Exploration Advisory Working Group, the Vice-Chair of the Consortium of Ocean Leadership's Board of Trustees, and is currently the Chair of the National Academies of Science's Oceans Studies Board and the U.S. Committee for the Decade of Ocean Science, a member of the State Dept.'s Extended Continental Shelf Task Force, the Navy's SCICEX Advisory Committee, and Vice Chair of the Board of the Ocean Exploration Trust. In 2016 Larry was appointed by President Obama to the Arctic Research Commission, in 2017 he was elected to the Hydrographic Society of America Hall of Fame. In 2018 he was elected to the National Academy of Engineering and in 2019 he was elected as a foreign member of the Royal Swedish Academy of Sciences. In 2020 Larry became the first recipient of the Walter Munk Medal from The Oceanography Society and was elected a Fellow of the American Geophysical Union. Larry's current research deals with sonar imaging and remote characterization of the seafloor as well as advanced applications of 3-D visualization to ocean mapping problems and applications of mapping to Law of the Sea issues, particularly in the Arctic.

Captain Anne McIntyre

Business Manager, San Francisco Bar Pilots, and HSRP Member

Capt. Anne L. McIntyre is a 1988 deck officer graduate of the California Maritime Academy. Upon graduation she was hired by Chevron Shipping Co. and served 8 years in both sea-going and shore-based positions. In 1996, she was selected by the Oregon Board of Maritime Pilots to become the first woman Columbia River Pilot. During her tenure as a Pilot, she has served in a number of management positions including Administrative Pilot, Commissioner, Oregon Board of Maritime Pilots and Vice Chair of the Lower Columbia River Harbor Safety Committee. In 2013, she earned a M.S. in Transportation and Engineering Management, also from the California Maritime Academy where she is an active member of the CMA Alumni Association. In 2020, she retired as a Columbia River Pilot and charted a new course as Business Director for the San Francisco Bar Pilots. In her spare time she enjoys sailing, reading, as well as a variety of snow and water sports and viticulture.

Ms. Joyce Miller

University of Hawai‘i (retired)

Ms. Miller served as a member and then chair of the NOAA Hydrographic Services Review Panel (HSRP) Federal Advisory Committee from 2011 to 2018 and as the Director of Seafloor Data Services for the Hawai‘i Mapping Research Group at the School of Ocean and Earth Science and Technology, University of Hawai‘i (UH) from 2011-2015. She still participates in and leads mapping cruises for UH and other institutions. From 2001 to 2011 she worked with NOAA's

Coral Reef Conservation Program at the Pacific Islands Benthic Habitat Mapping Center, leading the NOAA multibeam mapping effort in the U.S.-affiliated Pacific islands. She previously worked for Science Applications International Corp. where she was part of a team that performed the first contract multibeam shallow-water nautical charting surveys in 1996.

Ms. Kanoe Morishige

Native Hawaiian Program Specialist, NOAA Affiliate for Papahānaumokuākea Marine National Monument

Born and raised in Kapahulu on Oʻahu, Kanoe Morishige is the Native Hawaiian Program Specialist for and NOAA Affiliate for Papahānaumokuākea Marine National Monument supporting Native Hawaiian advocacy and engagement that are foundational to guiding the co-management of PMNM. Her background is in perpetuating Native Hawaiian knowledge systems, engaging with Native Hawaiian communities, intertidal research, and supporting biocultural initiatives in resource management.

Ms. Tara M. Owens

Coastal Processes and Hazards Specialist, University of Hawai‘i Sea Grant Program; Science and Technical Advisor, Maui County

Tara Owens is Extension Faculty with the University of Hawai‘i Sea Grant College Program, specializing in coastal processes and coastal hazards. Partnered with the County of Maui Planning Department, Tara’s role is to “bridge the gap” between science and policy and planning for improved community resilience. Tara also interfaces with other government agencies and the community on collaborative projects pertaining to coastal management, coastal erosion, and sea-level rise impacts. Tara earned a Bachelor of Science degree in marine science from Coastal Carolina University, and a Master of Science degree in coastal geology from the University of Hawai‘i.

Ms. Jessica Podoski

PE, Coastal Engineer, U.S. Army Corps of Engineers, Honolulu District

Jessica received a Bachelor of Science degree from the University of Florida in Civil Engineering. She received a Master of Engineering degree from the University of Florida in Coastal Engineering, researching crenulate bay formation and prediction. Employed by the US Army Corps of Engineers since 2001, she has worked in both the Portland District (2.5 years) and the Honolulu District (19 years) as a coastal engineer. She is

Coastal Engineering and Climate Preparedness and Resilience Subject Matter Expert and O&M Technical Manager for the Honolulu District.

Ms. Julia Powell

Chief, Navigation Services Division, OCS, NOS, NOAA

Julia Powell is the Chief of the Office of Coast Survey Navigation Services Division. NSD provides a focal point for customer requests on charting issues, short-term (fast response) hydrographic surveys, and Nautical Publications, such as Coast Pilot. The division coordinates and represents OCS at constituent events such as harbor safety meetings, waterways management meetings, cooperative workshops, conferences, and trade shows, as well as standing up NOAA's Precision Marine Navigation Program. Julia graduated with a degree in Geological Sciences from Cornell University and has a Masters in Information Systems from the University of Maryland. She is chair of the IHO's S-100 working group that is working on the framework standard that underpins the next generation navigation products, such as underkeel clearance management, high-resolution bathymetry and other integrated products.

Mr. Mikkel Roer

Port Captain, Manager, Marine Compliance, Foss & Young Brothers, Hawai'i

Mikkel 'Mik' Roer is the Port Captain for Young Brothers, Ltd., the exclusive common carrier for intra-state water-borne freight in Hawai'i. He works closely with his mariners as well as the varied stakeholders and regulatory agencies that comprise the maritime industry in Hawai'i to provide this essential lifeline service to the residents of the neighbor islands. He has held operational roles in the tug & barge industry in Hawai'i for over 10 years and has been in the marine transportation field since 2005. He holds a US Coast Guard unlimited tonnage license and received a master's degree in International Transportation Management from SUNY Maritime College.

Dr. Jennifer Samson

Archipelagic Research Program Lead, Ecosystems Sciences Division, NOAA/Pacific Islands Fisheries Science Center, National Marine Fisheries Service

Dr. Jennifer Samson is Lead for the Archipelagic Research Program in the Ecosystem Sciences Division at the Pacific Islands Fisheries Science Center, which focuses on marine habitats from the nearshore to EEZ including coral

reef ecosystem assessment and long-term monitoring, benthic habitat mapping, oceanographic and water-quality studies, and applied research in the U.S. states and territories of the Western Pacific. She is driven by a deep-seated passion for utilizing an ecosystem-based approach towards sustainability of marine fisheries and habitats. Professionally, she takes a collaborative approach to leadership, management and operations as she works to achieve these sustainability goals. Her personal vision statement is “Be in creates Buy in” as she is a strong believer in being inclusive and building from the bottom up.

Mr. Jose E. Sánchez

P.E., SES, Director of Regional Business, Pacific Ocean Division, U.S. Army Corps of Engineers

As a member of the Senior Executive Service in 2022 he became the Director of Regional Business for the Pacific Ocean Division. He leads and provides direction and management for the Division’s four Districts in Hawai‘i, Alaska, Japan, and Korea for a workforce of approximately 1,700 active duty military, U.S. civilians and foreign nationals. He leads the engineering, construction, resource management, strategic planning, and regional business operations in support of a $2.0 billion annual program across the Indo-Pacific region and is a member of Corps of Engineers enterprise governance boards. From December 2017 through May 2022, Mr. Sanchez served as the Deputy Director of Research and Development and Deputy Chief Scientist for the U.S. Army Corps of Engineers where he assisted in developing policy, setting direction and providing oversight for research and development supporting the Department of Defense and other agencies in military and civilian projects and Chair of the agency’s Diversity, Equity, and Inclusion Council. He began his career in 1995 as a Research Hydraulic Engineer in the Hydraulics Laboratory at the U.S. Army Engineer Waterways Experiment Station. From 2008 to 2010 he served as the Corps’ Chief of Asset Management responsible for developing and executing an integrated national plan and investment strategy for infrastructure assets. He served from 2013 to 2017 as the Director of the Coastal and Hydraulics Laboratory and led a team of more than 250 researchers, staff and contractors responsible for planning, directing, and coordinating a multi-million-dollar specialized research program. He was the acting Regional Business Director of the Great Lakes and Ohio River Division, interim Chief of the Installation Support Division and acting Director of Contingency Operations and Homeland Security. Mr. Sánchez holds bachelor’s and master’s of science degrees in Civil Engineering from the University of Puerto Rico (UPR) at Mayaguez, doctorate-level courses from Mississippi State University, is a graduate of the Federal Executive Institute and a registered Professional Engineer. He has written numerous technical publications on navigation locks, hydropower dams, surface and groundwater hydrology, computational fluid dynamics, coastal engineering, and infrastructure asset management and served as a technical advisor in international research efforts.

Senator Brian Schatz

U.S. Senator, Hawai‘i

He has focused his work on helping workers, veterans, and families and has led key legislation on health care, climate change, and technology. Senator Schatz chairs the Indian Affairs Committee, and serves on the Appropriations Committee; the Commerce, Science, and Transportation Committee; the Foreign Relations Committee; and the Select Committee on Ethics. He also serves on the Senate Democratic Caucus's leadership team as Chief Deputy Whip. Prior to his service in Congress, Senator Schatz was Hawai'i's Lieutenant Governor and served for eight years in the Hawai'i State House of Representatives. Senator Schatz grew up in Honolulu, and received his bachelor's degree from Pomona College.

Mr. Paul M. Scholz

Deputy Assistant Administrator, National Ocean Service, NOAA

Mr. Scholz oversees the financial, administrative, and performance activities across NOS to address the evolving economic, environmental, and social pressures on our ocean, coasts, and coastal communities. His portfolio focuses on NOS's conservation and stewardship mission, with emphasis on coastal resilience, coastal zone management, coastal ocean science, marine sanctuaries, estuarine research reserves, response and restoration, and related activities. Mr. Scholz has over 25 years of experience at NOAA. He previously served as the Chief Financial Officer/Chief Administrative Officer, where he provided executive direction, oversight, and guidance for operations and for financial, human resources, and administrative activities to support and manage a staff of over 2,200 federal and contract employees and over $620 million in federal financial resources. He served as the deputy director in NOS's Office for Coastal Management, providing leadership and support for new office integration efforts since the office's inception in 2014. Mr. Scholz served for 17 years in the NOAA Coastal Services Center, including seven years as the Management and Budget Division director and 11 years as director of the Coastal Management Services Division. His detail assignments included serving as director for the National Weather Service's Climate Services Division, where he led the implementation of their Climate Services Program, Deputy for NOS's Office of Response and Restoration, in the Office of Oceanic and Atmospheric Research's Climate Program Office, and at the Federal Emergency Management Agency, where he conducted an executive evaluation of the Flood Map Modernization program. He holds a master's degree in marine science from the University of South Carolina and a bachelor's degree in wildlife management from Southern Illinois University. Prior to joining NOAA, Mr. Scholz was a Knauss Fellow in Marine Policy, director of International Coastal Programs for the University of South Carolina, and began his public service career as a Peace Corps aquaculture volunteer in Ecuador.

Dr. John R. Smith

Oceanographer, University Hawai'i at Mānoa (ret.)

Dr. John R. Smith was formerly with the University Hawai'i at Mānoa in the School of Ocean and Earth Science & Technology where he

carried out research and a variety of specialized activities. He used various acoustical and *in situ* methods to study the seafloor and sub-seafloor in many of the world's oceans, specializing in multibeam bathymetry and backscatter data collection, processing, and interpretation. His research projects focused on the mapping of seamounts and the unstable flanks of oceanic islands that can fail, producing landslides and tsunamis. Dr. Smith became involved in deep and shallow-water benthic habitat mapping in support of fisheries assessment and management, along with other applied research projects such as environmental studies prior to seafloor mining, and engineering surveys preceding the installation of underwater power cables and seawater pipelines for future alternative energy ventures. As more areas of the high seas have been set aside as marine protected areas, he has taken on projects in these regions to provide critical baseline and other data to accelerate discovery, delineate features for more targeted study, and assist with resource management. John received his Bachelor of Science degree in Geological Oceanography from Florida Tech, worked in the commercial offshore petroleum exploration industry in the Gulf of Mexico and Caribbean, and attended graduate school at the University of Hawai'i at Mānoa for his Masters and Doctoral degrees, both in Geological Oceanography. He served as the Marine Geophysical Specialist with the Hawai'i Undersea Research Laboratory managing sea floor mapping operations and was the Science Program Director. In recent years, he gained telepresence experience during cruises aboard NOAA Ship *Okeanos Explorer*, R/V *Falkor*, and E/V *Nautilus*. Since 2021, he's been working with the University Hawai'i and the Ocean Exploration Trust in program support, seabed mapping, and database synthesizing roles.

Mr. Ray Tanabe

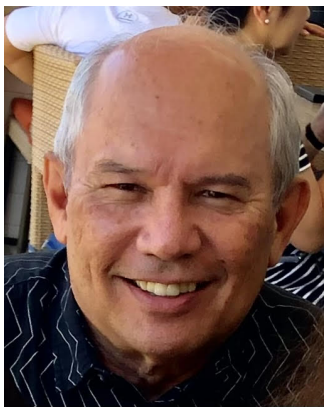
Director, Pacific Region, National Weather Service

Mr. Tanabe has served as the Director position since July 2013 and oversees the largest of 6 regions, spanning 11 time zones from Puerto Rico to the Republic of Palau. Ray oversees offices in Hawai'i, the Territories of Guam and Marshall Islands. The unique geography of the region includes the only NWS offices in the eastern and southern hemispheres and covers over 14 million square miles. The Pacific Region includes the only NWS office in the eastern hemisphere (WFO Guam), the only NWS office in the southern hemisphere (WSO Pago Pago), the only NWS offices in foreign countries (WSOs Palau, Yap, Chuuk, Pohnei, and Majuro), and an office in Puerto Rico (Caribbean Office of the International Tsunami Information Center, formerly known as the Caribbean Tsunami Warning Program). Together these offices issue a vast array of forecasts and warnings covering everything from day to day weather to hurricanes and tsunamis. Previously, Ray served as the Meteorologist in Charge of the Weather Forecast Office (WFO) and Director of the Central Pacific Hurricane Center from May 2011 through July 2013. He was responsible for the largest WFO in the nation. After completing his Master's Degree in Meteorology from the University of Hawai'i, Ray began his full time NWS career as a meteorologist intern WFO Los Angeles Oxnard in February 2000. After returning to Hawai'i in 2003 as a general forecaster, he was promoted to senior forecaster in June 2006, warning coordination meteorologist in April 2007, Director of Operations in August 2010, and

Meteorologist in Charge in May 2011. He received his Bachelors and Masters Degree in meteorology from the University of Hawai'i, School of Ocean and Earth Sciences and Technology. Ray was born, raised, and still resides in Waialua on the north shore of Oahu.

Mr. Bill Thomas

Senior Advisor for Islands, Indigenous and International Issues, Office of Coastal Management, NOS, NOAA



Bill is a 30 year veteran of NOAA in addition to 12 years of working at the University of Hawai'i (UH), Bill has a breadth of leadership experiences spanning academia and the federal government. From 1980-1990, he directed research projects and programs for the National Marine Sanctuary Program and National Estuarine Research Reserve System in addition to developing protected areas across the US, including its territories. As the special assistant to the Vice Presidents for Academic Affairs and University Relations (1990-2002) at the University of Hawai'i (UH), he worked with faculty, staff, the University president, state legislature and Hawai'i's governors to developing academic and research programs and resources to support the UH. Beginning in 2002 and he led the development and establishment of NOAA's first regional office for its Ocean Services, formed Pacific Risk Management Ohana (2003 - a multi-agency, cross-sectoral, international group of risk management providers dedicated to collaborative disaster risk-reduction), served as the U.S. Representative to the Intergovernmental Oceanographic Commission's Sub-Commission for the Western Pacific (2003-2004), organized the President's Ocean Policy Task Force's Pacific regional stakeholder engagement for the development of the U.S. National Ocean Policy (2005), helped the US Federal Emergency Management Agency to establish the National Disaster Preparedness Training Center (NDPTC) at the University of Hawai`i (2009-2012), leads NOAA's engagement with US Tribal Colleges and Universities as well as other tribal and indigenous communities throughout the US and the Pacific and serves as the NOAA OCM's lead on issues dealing with climate and national security. With undergraduate and graduate degrees in biology, ecology and population genetics, he has conducted research in Hawa'ii, American Samoa, California, Washington state, Massachusetts, Florida and New Hampshire focused on the impacts of invasive species and population genetics of endemic marine and estuarine plants and invertebrates.

Ms. Julie Thomas

Senior Advisor, Southern California Coastal Observing System (SCCOOS) and Coastal Data Information Program (CDIP), Scripps Institution of Oceanography (retired)

Since 1976, Julie Thomas worked at the Scripps Institution of Oceanography, and during the last several years, served as the Program Manager and Principal Investigator for the Coastal Data Information Program (CDIP). She served as the Executive Director for the Southern California Coastal Ocean Observing System

(SCCOOS) from 2009 to 2018. She is now serving in an Advisory capacity for both of the above mentioned programs. She worked with a breadth of projects. She has been an advocate for sustained funding for real-time monitoring and model validation, working closely with many federal agencies, in particular the U.S. Army Corps of Engineers (USACE) and NOAA. She has worked closely with many of the coastal USACE whose projects are dependent upon high quality, long-term wave data, realizing that this long term history is critical in infrastructure design and repair. Through the State of California, she has obtained sustained project funding, working closely with the recreational and commercial maritime community, including the Coast Guard and state Oil Spill Prevention and Response agencies. At the local and regional level, she is engaged with coastal issues, particularly those that are affected by energetic wave action, providing data for infrastructure design, shoreline change and sea level rise. Ms. Thomas has extensive outreach experience. She has focused on listening to comments from the maritime users/operators, spent many hours walking the fishing docks with nautical chart in hand, discussing the best location for a buoy deployment, and attending the maritime industry meetings to help resolve their concerns. Her priority is to maintain standards for collecting and disseminating high quality data, assure the data are curated and archived at the NOAA National Centers for Environmental Information (NCEI), and advocate for the integration and communication of information that helps ensure safety, economic and environmental resilience, and the sustainable use of coastal oceans. She is the outgoing co-chair of HSRP and became the chair on March 5, 2021.

Mr. Gary Thompson

Deputy Hazard Mitigation Chief, and Chief, North Carolina Geodetic Survey, NC Department of Public Safety and HSRP member

Mr. Thompson has worked for the North Carolina Geodetic Survey (NCGS), which is the agency responsible for developing and maintaining North Carolina's official survey base, since 1977. As Section Chief since 1994, he is continually modernizing the agency to keep up with advances and spatial data needs in the engineering, surveying, mapping, and scientific fields. He put the agency's modernized technologies, expertise, and quality control to the test while on the research team that conducted Light Detection and Ranging (LiDAR) aerial mapping research projects with NASA. He incorporated the results of those projects in to practice while on the program management team that completed the engineering and surveying project that produced a statewide set of Digital Flood Insurance Rate Maps (DRIRMs) for North Carolina. Mr. Thompson promulgates outreach and technological transfer by conducting workshops with engineers and surveyors and by serving on two college advisory boards. He participated in numerous state and national professional organizations and managed/coordinated national and state conferences. He authored and co-authored numerous articles and issue papers on floodplain mapping and LiDAR technology. He is a member of the Accreditation Board for Engineering and Technology (ABET) Engineering Technology Accreditation Commission and serves on the National Geospatial Advisory Committee (NGAC), National Space-Based Positioning, Navigation, and Timing Advisory Board, and continues to conduct seminars throughout the state on a wide variety of topics

important to the engineering and surveying professions.

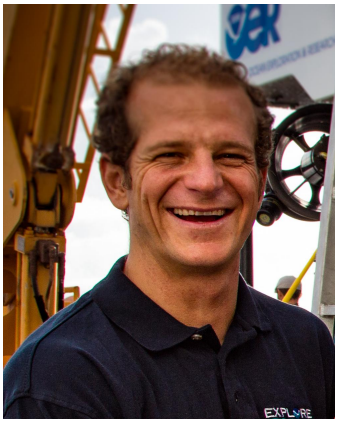
Mr. Paul Turner

Acting Director, Integrated Ocean and Coastal Mapping (IOCM), OCS, NOS, NOAA

Paul Turner serves as the acting director and the Technical Advisor with NOAA's Integrated Ocean and Coastal Mapping Program. He's worked with NOAA's Office of Coast Survey and IOCM Program since 2003 embracing the IOCM framework to work collaboratively with various ocean mapping programs on integrated ocean and seafloor mapping efforts. Throughout his NOAA career, he's supported the Office of Coast Survey as a cartographer, hydrographer, strategic planning and budget formulation program analyst, and in his current role as physical scientist. He earned a B.S. degree in Geography and Geographic Information Systems from Appalachian State University in 2002 and an M.S. degree from the George Washington University, School of Business in 2015.

Dr. Daniel Wagner

Chief Scientist, Ocean Exploration Trust



As the Chief Scientist for the Ocean Exploration Trust, Daniel has conducted fieldwork on marine ecosystems since 2006, and has since participated in 27 multi-disciplinary research expeditions that explored some of the most remote ocean habitats throughout the Indo-Pacific, Atlantic, and Southern Oceans. Prior to joining the Ocean Exploration Trust, Daniel worked for the NOAA's Papahānaumokuākea Marine National Monument in 2011-2016, where he coordinated scientific studies in support of resource management, information from which was used to underpin the expansion of the Monument and make it the largest marine protected area on Earth at the time. In 2016-2019, coordinated NOAA-led efforts aimed at collecting scientific information to support the management of deep-sea ecosystems in the U.S. Atlantic, which included work for the NOAA Office Of Ocean Exploration and Research, and the NOAA National Centers for Coastal Ocean Science. In 2019-2022, Daniel served as the Ocean Science Advisor for Conservation International, where he led multi-partner research initiatives aimed at advancing large-scale marine conservation with a focus on areas beyond national jurisdiction.

Mr. Stephen White

Staff Cartographer, Remote Sensing Division, National Geodetic Survey, NOS NOAA

As a Staff Cartographer within NOAA's National Geodetic Survey's Remote Sensing Division, he serves as the Program Manager for VDatum, leading the Quad-Office efforts to develop the Vertical Datum Transformation Tool (VDatum). As a program manager, he coordinates the project, oversees

the apportionment of VDatum funds, and ensures the Quad-Office teams are working towards common goals to deliver the VDatum tool most effectively. In addition, he works on projects that involve evaluating new remote sensing technologies/systems for integration into NOAA programs, such as the Coastal Mapping Program. As Lidar Program lead a primary focus, has been utilizing topobathy lidar, with the assistance of a vertical datum transformation tool, for extracting consistent, non-interpreted shoreline vectors and shallow water bathymetry. Other efforts have included technical management of the divisions coastal mapping contracting efforts, assisting with emergency response incidents and the development of workflows for derivative products from acquired program data that can benefit a variety of users, assisting several projects, programs, and agencies through an integrated ocean and coastal mapping approach.

Mr. Darren Wright

National Marine Services Program Manager, Marine, Tropical and Tsunami Services Branch, National Weather Service, NOAA

Darren Wright is the National Marine Services Program Manager of NOAA's National Weather Service (NWS). Darren has been with NOAA since 1984 and worked in operational oceanography for over 33 years before moving to the NWS. He is responsible for improving coastal, offshore and high seas forecast products and services. He engages routinely with both the National Ocean Service (NOS) and external marine communities. Prior to NWS, Darren worked for NOS' Center for Operational Oceanographic Products and Services (CO-OPS) as their Maritime Services Program Manager where he oversaw the Physical Oceanographic Real-Time System (PORTS®), current survey, hydrodynamic modeling and meteorological programs. Under Darren's leadership the PORTS® program more than doubled. The number of PORTS® now in operation nationwide is 33, serving approximately 82 U.S. Seaports.