Dr. Larry Atkinson

Dr. Larry P. Atkinson, Samuel and Fay Slover Professor of Oceanography
Department of Ocean, Earth and Atmospheric Sciences, Old Dominion University

Education
B.S. and M.S. in 1964 and 1967, University of Washington, Seattle;
Ph. D. Dalhousie University, Halifax, Canada in 1972.

Professional Highlights
Prior to joining the faculty at Old Dominion University Larry was at the Skidaway Institute of Oceanography in Savannah, Georgia. He is a member of the Oceanography Society, the American Meteorological Society, the Marine Technology Society and the American Association for the Advancement of Science (AAAS). He is a Fellow of the AAAS. He was editor of Oceanography (1993-1997) and Editor (1988 -1990) and Senior Editor of Journal of Geophysical Research - Oceans (1990-1992). He is the author or co-author of over 90 reviewed publications. He has served on and was chair of the Department of Interior Science Advisory Committee for Outer Continental Shelf oil and gas production. From 2001 to 2004 he was with the inter-agency Ocean.US office creating the integrated ocean observing system for the US. He is on the board of the Mid-Atlantic Regional Association Coastal Ocean Observing Systems. He is presently chair of the National Science Foundation Ocean Observing Science Committee. He is very active in the challenge of sea level rise and increased flooding risk in urban regions. He was on the National Research Council Committee on Effectiveness of oil spill dispersant. In 2001 to 2004 he worked in DC with the interagency group forming the Integrated Ocean Observing System. One of the early successes was the national HF Radar surface current mapping system. He gained a lot of experience with the challenges of interagency efforts.

Locally, he has been involved with coastal navigation issues with the local Virginia Maritime Association, the Virginia Port Authority and the National Ocean Service CO-OPS office in Chesapeake, VA. He was involved in the early offshore wind industry efforts off Virginia and other coastal states when he worked with Fugro on bathymetry and interactions of currents and waves with offshore wind structures and cables. Research projects have taken him to many locations around the world including Chile, Japan, Spain, Gulf of Mexico, Columbia River mouth, fjords in British Columbia, Gulf of Mexico, Caribbean Sea, Tropical Atlantic, Antarctic, US East coast and Santa Barbara Basin.

Dr. Lawson W. Brigham

Dr. Lawson Brigham, Distinguished Fellow, Center for Arctic Policy Studies, University of Alaska Fairbanks

Dr. Lawson Brigham is Distinguished Fellow at the Center for Arctic Policy Studies and Affiliate Faculty at the International Arctic Research Center, University of Alaska Fairbanks. He is also a Fellow at the Center for Arctic Study and Policy of the U.S. Coast Guard Academy. During 2004-2009 he was chair of the Arctic Council's Arctic Marine Shipping Assessment and Vice Chair of the Council's working group on Protection of the Arctic Marine Environment. Dr. Brigham was a career U.S. Coast Guard officer serving from 1970-95 and retiring with the rank of Captain. He served at sea in command of four Coast Guard cutters including a patrol boat, Great Lakes icebreaker, offshore law enforcement cutter, and the polar icebreaker *Polar Sea* sailing in Alaskan, Arctic & Antarctic waters; he also served as Chief of Strategic Planning in Washington, DC. Dr. Brigham has participated in more than 15 Arctic and Antarctic expeditions, including *Polar Sea's* crossing of the Arctic Ocean in summer 1994.

Dr. Brigham has been a research fellow at Woods Hole Oceanographic Institution, a faculty member of the U.S. Coast Guard Academy and the Naval Postgraduate School, and Deputy Director of the U.S. Arctic Research Commission. He is a graduate of the U.S. Coast Guard Academy (BS), a distinguished graduate of the U.S. Naval War College, and holds graduate degrees from Rensselaer Polytechnic Institute (MS) and the University of Cambridge (MPhil & PhD). His research interests for more than three decades have focused on the Soviet/Russian maritime Arctic, Arctic climate change, marine transportation, sea ice remote sensing, Arctic environmental protection, and polar geopolitics. Captain Brigham was a 2008 signer of the American Geographical Society's Flier's and Explorer's Globe, the Society's historic globe that has been signed by more than 75 explorers of the 20th century. This signing was in recognition of *Polar Sea*'s voyages in 1994 becoming the first ship in history to reach the extreme ends of the global ocean (at the North Pole and in the Ross Sea, Antarctica at the closest navigable position in 1994 to the South Pole).

Mr. Lindsay Gee

Mr. Lindsay Gee, Consultant

Mr. Lindsay Gee has experience working at a national hydrographic service, then consulting in the broader offshore industry, and most recently in leading a small innovative company

providing software and services to the international hydrographic industry. He has nearly four decades of experience working in the international hydrographic surveying and ocean mapping industry. This includes conducting and managing operational hydrographic surveys for nautical charting, client representation for geodetic and geo-hazard surveys in the oil and gas industry, through to most recently leading the development of software applications to support hydrographic surveying and ocean mapping. During the latter 15 years 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. This ensured that research was optimized in industry leading commercial software applications for hydrographic and ocean mapping operations. 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.

Ms. Kim Hall

Ms. Kim Hall, Director of Technical and Regulatory Affairs, Operational and Security at Cruise Lines International Association (CLIA)

Ms. Kim Hall is the Director of Technical and Regulatory Affairs, Operational and Security at Cruise Lines International Association (CLIA). CLIA represents over 62 cruise lines, including 40 ocean-going cruise lines, globally which accounts for nearly 95% of the worldwide cruising capacity. She gained extensive practical experience with the maritime industry, having worked directly with industry representatives during her time at both the Homeland Security Studies and Analysis Institute (HSSAI) and the Center of Naval Analyses (CNA). At CLIA she is a widely recognized and accepted maritime security and operations expert and leader within the cruise industry. For three and a half years, Hall was Senior Analyst with the Homeland Security Studies and Analysis Institute (HSSAI), supporting DHS S&T, USCG Headquarters, USCG Atlantic Area, and the National Strike Force Coordination Center. Hall specialized in maritime security. Prior to HSSAI, she was a research analyst in the Center for Naval Analyses' (CNA) Strategic Initiatives Group focusing on threats and issues pertaining to the global commons. While at CNA, she was the CNA field representative to the U.S. Naval Forces Central Command (NAVCENT), U.S. Fifth Fleet, and the Combined Maritime Forces in Manama, Bahrain, where she was the senior counter-piracy advisor. Hall's research experience includes coastal nation politics and foreign policy, maritime policy (national and international), and U.S. Navy /Coast Guard operations and international outreach. She received her BA in political science and communications, law,

economics, and government (CLEG) from the American University and an MPhil in international relations from the University of Cambridge (UK).

Mr. William (Bill) Hanson, HSRP Chair

Mr. Bill Hanson, Vice President, US Business Development, Great Lakes Dredge & Dock Company

Professional Experience:
Mr. Hanson's current position is the Vice President of US Business Development for the Great Lakes Dredge & Dock Company, working primarily with Army Corps of Engineers and dredging policy issues as well as developing business opportunities for GLDD in the private and non-Corps sector.

Education:
Mr. Hanson holds a BS in Ocean Engineering from Texas A&M University where he serves on the Board of Industry Advisors for the Ocean Engineering Program and was honored as Distinguished Alumni in 2013.

Affiliations:
Appointed Civilian Member, U.S. Army Corps of Engineers Coastal Engineering Research Board
Appointed Member, U.S. Department of Commerce, International Trade Advisory Committee
Appointed Member, U.S. Department of Commerce, Advisory Committee on Supply Chain Competitiveness
Executive Committee Member, American Shore & Beach Preservation Association
Board Member, National Waterways Council
Vice Chair, Coast Builders Coalition (Louisiana)
Board Member, Bay Planning Coalition (San Francisco)
Member, American Society of Civil Engineers, Ports and Harbor Committee

Mr. Edward (Ed) J. Kelly

Mr. Edward Kelly, Executive Director, Maritime Association of the Port of New York/New Jersey

Mr. Kelly is the Executive Director of the Maritime Association of the Port of New York/New Jersey. Founded in 1873, the Maritime Association has a proud history of serving as a Maritime Exchange, industry association, and general advocate of the Maritime-related activities of the

tri-state Port. In his current position, Ed is responsible for managing the diverse activities of the Association and helping to develop the enhanced safety, security, ecological sanctity, and economic viability of the many maritime –related industries in our Port. Prior to joining the Maritime Association, Ed had held a series of senior executive level positions in the Liner business. His prior positions include: President and CEO of Cho Yang (America), Inc.; Senior Vice President of Inchcape Shipping Services; President and CEO of Nippon Liner Systems (USA); and Executive Vice President of Y.S. Line (USA). He has also provided executive level consulting services to such notable firms as Maher Terminals, Inc.; The Port Authority of New York and New Jersey; Deutche Afrika Line; Paul F. Richardson Associates; the Maritime Association of the Port of New York; and Strachan Shipping Agency. Immediately prior to accepting his current position, Ed had managed the Transportation, Logistics, and Management Division of the Global Maritime and Transportation School of the U.S. Merchant Marine Academy at Kings Point, New York.

Ed has devoted many years as a Director of the New York Shipping Association, the Carriers Container Council, the USMX, and the Steamship Operators Intermodal Committee. He has served on many joint labor /management committees and trust funds. He is currently serving as the President of the Maritime Information Service of North America (MISNA), Vice President of the National Association of Maritime Organizations (NAMO), Vice Chairman of the Mid Atlantic Regional Association Coastal Ocean Observing System (MARACOOS), as a Director of the United Seaman's Service, and as a Director of the Urban Assembly School of Global Trade and Transport. He has been named as a member of New York City's Mayoral Maritime Advisory Board. A graduate of the U.S. Merchant Marine Academy, he sailed as a deck officer on several U.S. Flag ships. Ed completed his MBA studies at Pace University in New York City, and holds a certificate in Intermodal Transportation from the FDR Institute. He is proud to have received an award for Outstanding Professional Achievement from the Kings Point Alumni Association. In March, 2009, the Journal of Commerce named Ed to their Leadership Roll in the Global Logistics Industry. Ed lives in New Jersey with his wife Barbara. In his spare time, Ed can usually be found on a Civil War battlefield, where he is a living history reenactor, and battlefield preservationist.

Ms. Carol Lockhart

Ms. Carol Lockhart, President, Geomatics Data Solutions, LLC

Ms. Lockhart has been working in the survey industry since graduation from the University of Glasgow with a B.Sc. (Hons) in Topographic Science (Geomatics) in 1996. She has more than 18 years of experience in hydrographic

data processing and analysis, using hydrographic and topographic lidar, as well as multibeam sonars.

Ms. Lockhart started her career working in the field on vessels, performing various acoustic surveys using equipment such as multibeam, sidescan sonars and sub-bottom profilers for industries as diverse as oil & gas, telecommunications, local ports and harbors, and local, federal and international governments. She progressed from field-work to managing a data center with up to 20 people working on multiple projects.

In 2001 Ms. Lockhart became involved with bathymetric lidar and has been extensively involved since 2003. She is one of only a handful of people in the world that have worked with Chiroptera, Riegl, LADS, SHOALS and HawkEye II lidar data. In the past six years she has been running her own company, successfully providing hydrographic services using both multibeam and lidar technology. Ms. Lockhart first served as Lead Hydrographer for a NOAA contract in Alaska in 1999, and has provided QA/QC and troubleshooting support on NOAA hydrographic surveying contract projects every year since. She has been involved in every aspect of hydrographic projects, from business development, bidding, planning, acquisition and processing to product delivery and client liaison. In addition, Ms. Lockhart has a great deal of experience merging hydrographic and topographic datasets onto a single vertical datum (tidal, orthometric or ellipsoid) to provide a seamless dataset that can then be used for coastal modeling, shoreline development or nautical charting. In doing so she has gained a great deal of knowledge and understanding of water levels, using both traditional tides and newer GPS methods. Ms. Lockhart is member of the Hydrographic Society of America (THSOA). She is a recipient of the Lt. Cmdr. Peter Johnson Best Practices Award presented by the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX).

Dr. David Maune

Dr. David F. Maune, PhD, CP, CFM, PSM, PS, GS, SP
Senior remote sensing project manager, Dewberry Consultants

Dr. David Maune is an Associate Vice President and senior remote sensing project manager at Dewberry Consultants in Fairfax, VA, where he manages major geospatial products and services contracts with the US Geological Survey (USGS) and National Oceanographic and Atmospheric Administration (NOAA) – both the National Geodetic Survey (NGS) and the Office for Coastal Management (OCM). He earned his MS and PhD degrees in geodesy and photogrammetry from The Ohio State University. He is currently managing Dewberry's statewide mapping of Alaska with airborne interferometric

synthetic aperture radar (IFSAR) to satisfy urgent requirements for aviation safety and to help the state and federal agencies to manage the vast natural resources in America's Last Frontier. He has authored major positional accuracy standards, guidelines and specifications published by the Federal Emergency Management Agency (FEMA), the National Digital Elevation Program (NDEP), and the American Society for Photogrammetry and Remote Sensing (ASPRS), including the new *ASPRS Positional Accuracy Standards for Digital Geospatial Data*(2015). For nearly 50 years, he has specialized in topographic mapping and elevation data. He is the editor of the 1st and 2nd editions of "Digital Elevation Model Technologies and Applications: The DEM Users Manual," published by ASPRS; he is currently working on the 3rd edition. For NOAA, he authored the *National Height Modernization Study*, *Report to Congress*, on how to modernize the national height system in the US. For USGS, he authored the *National Enhanced Elevation Assessment* that served as the blueprint for the 3D Elevation Program (3DEP) which focuses on standardized lidar mapping nationwide. For the US Army Corps of Engineers (USACE), he authored EM 1110-1-1000, *Photogrammetric and Lidar Mapping* (2015). He authors a monthly column in LiDAR Magazine. He is a retired US Army Colonel, having last served as Director, U.S. Army Topographic Engineering Center (TEC). He is an ASPRS Fellow and charter member of the National Geospatial Advisory Committee (NGAC). Dr. Maune is an ASPRS Certified Photogrammetrist (CP) and an ASFPM Certified Floodplain Manager (CFM). He is the 2016 winner of the ASPRS Photogrammetric Award. He is licensed in South Carolina as a Geodetic Surveyor (GS) and Photogrammetric Surveyor (PS). He is licensed in Virginia as a Surveyor Photogrammetrist (SP) and in Florida as a Professional Surveyor and Mapper (PSM).

Captain Anne McIntyre

Captain Anne McIntyre, Pilot, Columbia River Pilots

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 MS in Transportation and Engineering Management, also from the California Maritime Academy where she is an active member of the CMA Alumni Association. In her spare time she enjoys sailing, reading, a variety of snow and water sports and viticulture.

Ms. Joyce E. Miller, M.S., C.H., HSRP Co-Chair

Ms. Joyce E. Miller, M.S., C.H., Director of Seafloor Data Services
Hawaii Mapping Research Group, University of Hawaii School of Ocean and Earth Science and Technology (retired)

Education:
B.S. and M.S., German/mathematics education, Indiana University, 1969
Master's research in Marine Geology, University of Hawaii, 1974-1980

Professional Affiliations:
Certified Hydrographer, American Congress of Surveying and Mapping (ACSM) No. 199
Member, The Hydrographic Society of America and American Geophysical Union

Qualification Highlights:
Forty years of experience conducting geophysical and oceanographic surveys, specializing in multibeam mapping for charting, benthic habitat mapping, and deep sea geologic research. Has developed and taught multibeam and hydrographic training courses for Naval Oceanographic Office (NAVOCEANO), Philippine Navy, and NOAA.

Total Years of Experience: 40
Over the past four decades, Ms. Miller has worked commercially as well as for government and academic institutions and therefore has a broad understanding of requirements for effective hydrographic surveying. In 2015 she retired from her position as Director of Seafloor Data Services, Hawaii Mapping Research Group, School of Ocean and Earth Science and Technology, Univ. of Hawaii. In this and previous positions, she has led numerous mapping projects for the University of Hawaii, the State of Hawaii, the Pacific Islands Benthic Habitat Mapping Center (PIBHMC), and for NOAA partners, including the Office of Coast Survey and the Coral Reef Conservation Program. During the past 15 years she has led or participated in the acquisition and processing of multibeam data for 10,000 sq. km. of shallow coral habitats (0-150 m) and over 120,000 sq. km. in deeper Pacific waters, developing techniques for application of multibeam data to coral reef ecosystem benthic habitat mapping. She also participated in nautical charting surveys of Honolulu, Saipan, Tinian, and Rota (CNMI) harbors and cable surveys around Oahu and Maui counties. From 2001 to 2011 Ms. Miller worked with NOAA's Coral Reef Ecosystem Division. From 1990 to 2000 she worked for Science Applications International Corporation (SAIC) and helped to develop applications for hydrographic charting surveys during the first commercial multibeam surveys in Long Island

Sound and Martha's Vineyard. While with SAIC she also helped to design, implement, and test the ISS-2000 survey system for NAVOCEANO and led numerous ISS-2000 system training courses aboard NAVOCEANO ships and launches. In 1997/1998 she served as lead trainer for new survey systems for 2 Philippine Navy Hydrographic vessels. In the 1980's she worked as a geophysicist, surveyor, data manager, and operations director for NOAA, NAVOCEANO, and the University of Rhode Island's multibeam mapping group. She has spent over 16 years at sea on government, commercial and academic vessels, including four years of cruising aboard her 50' sailboat in the Caribbean, Central America, the Galapagos, and Hawaii.

Mr. Scott R. Perkins

Mr. Scott Perkins, Director, Federal Programs, Surveying And Mapping (SAM), LLC

Education
Baker University, Overland Park, KS Business Management
Ferris State University, Big Rapids, MI Photogrammetric Mapping

Certifications
Certified Geographic Information Systems (GIS) Professional – GISP # 00016754
Issued 5/25/2004, renewed 5/25/2009, valid through 5/25/2014

U.S. Small Business Administration, Office of the National Ombudsman's Regulatory Fairness Board, Region VI I, 2008-2011

Affiliations
ASPRS, Director, Photogrammetric Applications Division 2016 – 2018
ASPRS, Regional Director, Past Region President, Treasurer. 2003 – present
MAPPS, Board of Directors 2004-present
MAPPS-NOAA Liaison Committee, chairmen – 2006 – present
MAPPS-DOD/NAVFAC Committee, chairmen – 2005
SAME – KC Post Board of Directors – 2015 – 2017

Qualifications
Scott R. Perkins has 30+ years of experience in private practice as a business owner engaged in the production of geospatial data, mapping products and providing primary acquisition services. Those service lines include aerial imagery acquisition using film and digital sensors, airborne LiDAR acquisition, mobile LiDAR, high definition laser scanning, land surveying, photogrammetric mapping, hydrographic surveying and GIS services. Mr. Perkins experience includes shoreline mapping using NTM and aerial imagery, hydrographic surveys on the Mississippi River and inland waterways, lakes and reservoirs, production of hydrographic charts

and navigation charts of the Missouri River, and mapping and charting of ports and harbors on the Great Lakes.
- Surveying And Mapping, LLC, Director Federal Programs, 2014 - present
- Quantum Spatial, Vice President, Federal Programs, 2012-2014
- T-Kartor USA, St. Louis, MO, President, 2012
- Wilson & Company, Inc., Engineers & Architects, Kansas City, MO
Associate VP, Business Development, Shareholder, Officer 2008 – 2012
- Western Air Maps, Inc. Overland Park, KS, VP Business Development, Shareholder, Officer 1983-2008

Captain Salvatore Rassello

Captain Salvatore Rassello, Director, Nautical Operations, Carnival Cruise Lines

Captain Rassello is a member of the shore-side marine operations division at Carnival Cruise Lines headquarters. He brings knowledge in maritime operations related to navigation and as a vessel operator. As the Director of Nautical Operations, he has understanding of port operations at the corporate level and port administration. As Fleet Captain for Corporate Maritime Quality Assurance, he has background in maritime safety culture and knowledge of corporate and industry standards. Captain Rassello represents the cruise industry as an active member of the Cruise Lines International Association's (CLIA) Navigation & Hydrographic Working Group and Operations Working Group. They are comprised of representatives from all of the major ocean-going cruise lines. He has geographic areas of expertise in the Caribbean Sea, Gulf of Mexico, north and central Atlantic Ocean, and east Pacific Ocean.

Highlights: Captain Rassello is an experienced Master with 40 years of at-sea experience, of which 17 years spent as Master on Cruise ships. In his present role, he is responsible for Safety of Navigation, Itinerary/ Voyage Passage Planning, Port Operations, Port Assessments for the entire fleet of 24 ships. He represents CCL at CSMART Governance committee and all other nautical related trainings at the Corporate Maritime Training Center (CSMART) of Almere in the Netherlands. Maritime (BRM/ECDIS), Bridge Resource Management/Electronic Navigation. Marine Incident Investigation Certified - Deputy Director for the Company SIRP (Ship Incident Response Plan).

Education and Qualifications:
Francesco Caracciolo Maritime Academy, Italy.

Licensed Ocean Going Master by the Italian Maritime Ministry of Transportation and IMO Certified.
Licensed Instructor for Firefighting, PSSR, and Personal Survival Techniques.
Certified Ship's Security Officer- Certified trainer for BRM/ECDIS.

Mr. Edward Saade

Mr. Edward J. Saade, President, Fugro (USA) Inc. & Regional Director Americas – Survey

Edward J. Saade has 40 years of Hydrographic, Coastal Zone Management, Geospatial Survey and Ocean Engineering experience. Since 2014, Mr. Saade has been serving as Americas Regional Director for the Fugro Survey Division and in June of 2015 was promoted to the President of Fugro (USA) Inc., serving Fugro in both capacities. His responsibilities include the management of the largest of Fugro's Regional Divisions, overseeing a staff of 1100, operating from eleven primary offices located from Alaska and Canada to Brazil, with multiple offices in the USA, Mexico, Colombia and Trinidad and Tobago; operating in virtually every country in the Region. He has overseen the expansion of Fugro's capabilities to become the world leader in hydrographic LiDAR, multi-beam and backscatter data acquisition and mapping techniques for charting, Coastal Zone and Essential Fish Habitat analysis. These techniques have been directly applied to the offshore oil and gas and construction industries and a wide variety of national hydrographic offices including NOAA, CHS (Canada), GCS (Kingdom of Saudi Arabia, RAN (Australia) and SHOM (France). He has been actively involved in high resolution geophysical survey data acquisition and interpretation programs, both domestically and overseas. He holds a bachelor's degree in geology from the University of California, Santa Barbara, and completed Ph.D. courses and research in marine geophysics at the Hawaii Institute of Geophysics. Mr. Saade is a California Professional Geophysicist, and has authored/coauthored over 70 reports and studies related to seafloor geology and sub-bottom conditions.

Ms. Susan Shingledecker

Ms. Shingledecker, Vice President and Director, Environmental Programs for the BoatU.S. Foundation for Boating Safety and Clean Water

Ms. Shingledecker is Vice President and Director of Environmental Programs for the BoatU.S. Foundation for Boating Safety and Clean Water. Susan works to educate recreational boaters

on safety and environmental issues and oversees all of the Foundation's environmental programs including: the marine debris and monofilament recycling programs, the Help Stop the Drops clean fueling program, boat pumpout and invasive species education as well as the clean water grants program. She currently sits on Advisory Boards for the Maryland Clean Marina programs, the Chesapeake Bay Observing System and the Pacific Oil Spill Prevention Education Task Force. Ms. Shingledecker has worked in the environmental field at the international, national and state level over ten years covering a broad range of issues including: coastal policy, sustainable tourism, climate change, sea level rise, wastewater treatment, renewable energy and energy efficiency. Prior to coming to BoatU.S., Susan developed outreach programs for renewable energy and energy efficiency, advised Governors' staffs on environmental policy and worked with coastal hotels and resorts to minimize their environmental impacts and reduce resource consumption. Ms. Shingledecker has been an avid recreational boater for over 25 years and started boating at the age of eight on Lakes Erie and Ontario. Susan holds a Master of Environmental Management degree from Duke University's Nicholas School of the Environment.

Mr. Gary Thompson

Mr. Gary Thompson, Chief, North Carolina Geodetic Survey

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 has been 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 three college advisory boards. During his career, he has participated in numerous state and national professional organizations and has managed/coordinated national and state conferences. He authored and co-authored numerous articles and issue papers on floodplain mapping and LiDAR technology. He currently serves on the National Geospatial Advisory Committee (NGAC) and continues to

conduct seminars throughout the state on a wide variety of topics important to the engineering and surveying professions.

2016 Biographies HSRP Non-Voting Members

Mr. Andy Armstrong

Mr. Andy Armstrong, Co-Director, Joint Hydrographic Center, University of New Hampshire

Andy Armstrong is the Co-Director of the JHC and a retired officer of NOAA, assigned to the Center as a civilian NOAA employee. Capt. Armstrong specialized in hydrographic surveying and served on several NOAA hydrographic ships, including the NOAA Ship *Whiting* where he was Commanding Officer and Chief Hydrographer. Before coming to the JHC, he was the Chief of NOAA's Hydrographic Surveys Division, directing the agency's hydrographic survey activities. He has a B.S. in Geology from Tulane University and an M.S. in Technical Management from Johns Hopkins University. Capt. Armstrong oversees the hydrographic and ocean mapping education and training program at UNH and coordinates the Center's cooperative research with NOAA.

Ms. Juliana P. Blackwell

Ms. Juliana P. Blackwell, Director, National Geodetic Survey, NOS

Ms. Juliana P. Blackwell is the Director of NOAA's National Geodetic Survey (NGS). As Director, she is responsible for the financial, administrative and programmatic performance of NGS, the lead federal agency for positioning activities in the Nation. She oversees the management and delivery of the National Spatial Reference System (NSRS), the nation's consistent coordinate system for latitude, longitude, height, shoreline, gravity measurements and shoreline information throughout the United States. The NSRS supports a wide range of important activities including mapping and charting, navigation, flood risk determination, transportation, land use and ecosystem management. Ms. Blackwell serves as Chair of the Federal Geodetic Control Subcommittee of the Federal Geographic Data Committee, exercising government-wide leadership in the development and improvement of geodetic surveying specifications, methods, instrumentation,

and data transfers. She is a member of NOAA's Hydrographic Services Review Panel, a federal advisory committee providing advice to the NOAA Administrator on matters related to hydrographic services. She represents NOAA on the interagency Alaska Mapping Executive Committee and the 3D Elevation Program Executive Forum. A graduate of Tufts University, Ms. Blackwell earned a Bachelor of Science degree in mathematics. She received a master's in business administration from the University of Maryland's Robert H. Smith School of Business.

Mr. Richard Edwing

Mr. Richard Edwing, Director, Center for Operational Oceanographic Products and Services, NOS

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 real-time data on ocean conditions along America's 95,000-mile coastline. Edwing's career with NOAA spans three 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, Edwing earned a Bachelor of Science degree in oceanography, and later 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, and National Current Observation Program—major national systems critical to keeping America's oceans, coasts, and Great Lakes safe, healthy and productive.

Dr. Larry Mayer

Dr. Larry Mayer, Director, Center for Coastal & Ocean Mapping, and Co-Director, Joint Hydrographic Center, University of New Hampshire

Larry Mayer is a Professor and the Director of the School of Marine Science and Ocean Engineering and The Center for Coastal and Ocean Mapping at the University of New Hampshire. He graduated magna cum laude with an Honors degree in Geology from the University of Rhode Island in 1973 and received a Ph.D. from the Scripps Institution of Oceanography in Marine Geophysics in 1979. At Scripps, he worked with the Marine Physical Laboratory's Deep-Tow Geophysical package, applying this sophisticated acoustic sensor to problems of deep-sea mapping and the history of climate. 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 1982, he became an Assistant Professor in the Dept. of Oceanography at Dalhousie University and in 1991 moved to the University of New Brunswick to take up the NSERC Industrial Research Chair in Ocean Mapping. In 2000 Larry became the founding director of the Center for Coastal and Ocean Mapping at the University of New Hampshire and the co-director of the NOAA/UNH Joint Hydrographic Center. Larry has participated in more than 90 cruises (over 70 months at sea!) during the last 35 years, and has been chief or co-chief scientist of numerous expeditions, including two legs of the Ocean Drilling Program and eight mapping expeditions in the ice covered regions of the high Arctic. He has served on, or chaired, far too many international panels and committees and has the requisite large number of publications on a variety of topics in marine geology and geophysics. 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, National Science Foundation’s Advisory Committee for the Geosciences, and chaired a National Academy of Science Committee on national needs for coastal mapping and charting as well as the recently completed National Academies report on 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, and 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, a member of the State Dept.’s Extended Continental Shelf Task Force and the Navy’s SCICEX Advisory Committee. In 2016 Larry was appointed by President Obama to the Arctic Research Commission. 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.

RDML (Select) Shep Smith

RDML (Select) Shep Smith, Designated Federal Officer, HSRP; and Director, Office of Coast Survey, NOS

President Barack Obama has approved the promotion of Shepard Smith, from captain to rear admiral (lower half), a prerequisite for Smith to become director of NOAA's Office of Coast Survey, after his selection by Department of Commerce Secretary Penny Pritzker. Smith's appointment to director will be effective on August 26, 2016. Rear Admiral (select) Smith has served with NOAA for 23 years, during which time he has been deeply involved in advancing the state-of-the-art in hydrography and nautical cartography. His 11 years as a field hydrographer continue to this day, as he currently serves as the commanding officer of NOAA Ship *Thomas Jefferson*. He previously served as the chief of Coast Survey's Marine Chart Division, managing the privatization of paper chart printing and distribution. In addition to his three tours on *Thomas Jefferson* (twice as commanding officer), Smith also served on NOAA Ship *Rainier*, surveying in Alaska, and as the officer-in-charge of Research Vessel *Bay Hydrographer*. He served on the interagency response teams for the search and recovery of TWA flight 800, EgyptAir flight 990, and the private plane piloted by John F. Kennedy, Jr. He commanded *Thomas Jefferson* during her six-week response to the Deepwater Horizon oil spill. For his shore assignments, Smith served as the chief of Coast Survey's Atlantic Hydrographic Branch, and as Coast Survey's deputy hydrographer, as well as chief of the Marine Chart Division. Smith also served as the deputy director of the Office of Response and Restoration, on the staff of the U.S. Coast Guard LANTAREA headquarters, and as a senior advisor to the Assistant Secretary of Environmental Observation and Prediction. He served on the U.S. delegation to the International Hydrographic Organization's (IHO) Hydrographic Services and Standards Committee and as the chair of the IHO Data Quality Working Group. *Thomas Jefferson*, under Smith's command, was awarded a Commerce Gold Medal for heroism, and he has individually been recognized with two Commerce Bronze Medals, four NOAA Corps Commendation Medals, five NOAA Corps Special Achievement Medals, the Society of American Military Engineers' Colbert Medal, the Association of Commissioned Officers' Engineering Award, three U.S. Coast Guard awards and one National Intelligence awards for interagency operations, six NOAA Unit Citations, and the NOAA Corps Outstanding Volunteer Service Medal. Smith is a native of Strong, Maine. He attended Deep Springs College and Cornell University, where he graduated with a Bachelor of Science in Mechanical Engineering in 1993. He earned a Master's of Science in Ocean Engineering from the University of New Hampshire in 2003, and completed the requirements for the IHO Category "A" program from the same institution.