Predicting and Preparing for a Changing Arctic
Welcome to the
Consortium for Ocean Leadership’s
Arctic Science Forum

I am pleased to welcome you to my inaugural Public Policy Forum as President of Ocean Leadership, Predicting and Preparing for a Changing Arctic. The U.S. is an Arctic nation, and has an exciting leadership opportunity this year as it becomes Chair of the Arctic Council. As such, we have organized this Forum to encourage robust discussions and facilitate opportunities for all of us to work together across academia, government, commercial, and non-profit sectors.

Using military parlance, we can observe that the changing Arctic is a “threat multiplier” for our national security, our economic security, and the health and well-being of all Americans. The Arctic is a harsh, yet fragile, environment that is undergoing rapid change. These changes are already having, and will continue to have significant influence on regional and global climate and weather patterns; will impact species distribution and migration, abundance, and sustainability; and will open up a wide array of commercial opportunities. Today, we are bringing together key scientists to discuss major physical changes occurring in the Arctic, and how we can make progress to better understand and predict these changes. Furthermore, I hope we will find new opportunities to ensure that commercial activities are pursued in a safe and sustainable manner, based on sound-science decision making and bounded by a ready nation. Finally, changes in the Arctic environment aren’t only a concern for those living there; I look forward to learning how they will impact those of us residing in lower latitudes.

As in years past, we will post Forum presentations, video, and summary on our website: www.oceanleadership.org. Please be in touch if you have questions or just to introduce yourself. I’m looking forward to working with you all in the future, on this and other issues, where the ocean science community can serve as a critical link connecting science to policy – providing the information, expertise, and predictive capability to protect and support our nation.

Sincerely,

Sherri Goodman
President & CEO
Consortium for Ocean Leadership
8:15a Registration and Breakfast

9:00a Welcome Remarks
Dr. Rob Dunbar, Chair of Ocean Leadership Board of Trustees;
Sherri Goodman, President of Ocean Leadership

9:30a Keynote Speaker
Hon. Fran Ulmer, Chair U.S. Arctic Research Commission

10:00a Forecasting a Changing Arctic
Dr. Larry Mayer (moderator), University of New Hampshire
Dr. Cecilia Bitz, University of Washington
Dr. Fiamma Straneo, Woods Hole Oceanographic Institution
Dr. Jackie Grebmeier, University of Maryland Center for Environmental Science
Dr. Kevin Schaefer, National Snow and Ice Data Center
Kolo Rathburn, Senate Appropriations Committee

11:35a Dr. France Córdova,
National Science Foundation

11:50a Lunch
12:40p  Science Needs for Arctic Operations
Randall Luthi (moderator), National Ocean Industry Association
Gary C. Rasicot, U.S. Coast Guard
RADM Jonathan White, U.S. Navy
RADM (ret.) Craig Bone, American Bureau of Shipping
Dave Benton, Consultant for the Alaska Seafood Industry

2:15p  Senator Lisa Murkowski, AK
2:30p  Senator Angus King, ME
2:45p  Stakeholder Panel Q&A
3:00p  Break
3:30p  Director John Holdren,
Office of Science and Technology Policy

3:45p  Why the Arctic Matters to the Lower 48
Dr. Mark Abbott (moderator), Oregon State University
Dr. Jim Overland, NOAA Pacific Marine Environmental Laboratory
Dustin Whalen, Canadian Geological Survey
Dr. Greg O’Corry-Crowe, Harbor Branch Oceanographic Institute, Florida Atlantic University
Steve Feldgus, House Natural Resources Committee

5:15p  Jack Omelak,
Alaska Nanuuq Commission

5:30p  Closing Remarks
Dr. Rob Dunbar, Chair of Ocean Leadership Board of Trustees;
Sherri Goodman, President of Ocean Leadership

6:00p  Reception
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Hon. Fran Ulmer  
United States Arctic Research Commission

Fran Ulmer is chair of the U.S. Arctic Research Commission, where she has served since being appointed by President Obama in March 2011. In June 2010, President Obama appointed her to the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. From 2007 to 2011, Ms. Ulmer was chancellor of Alaska’s largest public university, the University of Alaska Anchorage (UAA). Before that, she was a Distinguished Visiting Professor of Public Policy and Director of the Institute of Social and Economic Research at UAA. She is a member of the Global Board of the Nature Conservancy and on the Board of the National Parks Conservation Association.

Ms. Ulmer served as an elected official for 18 years as the mayor of Juneau, a state representative, and as Lieutenant Governor of Alaska. She previously worked as legal counsel to the Alaska Legislature, legislative assistant to Governor Jay Hammond, and Director of Policy Development for the state. In addition, she was the first Chair of the Alaska Coastal Policy Council and served for more than 10 years on the North Pacific Anadromous Fish Commission. She has served on numerous local, state, and federal advisory committees and boards. Ms. Ulmer earned a J.D. cum laude from the University of Wisconsin Law School, and has been a Fellow at the Institute of Politics at the Kennedy School of Government.
Dr. France Córdova  
*National Science Foundation*

Nominated by President Barack Obama to head the $7.2-billion independent federal agency, France A. Córdova, was sworn in as the 14th director of the National Science Foundation (NSF) on March 31, 2014. Córdova leads the only government science agency charged with advancing all fields of scientific discovery, technological innovation, and science, technology, engineering and mathematics (STEM) education. NSF’s programs and initiatives keep the U.S. at the forefront of science and engineering, empower future generations of scientists and engineers, and foster U.S. prosperity and global leadership. Federal interagency research planning is coordinated through the Interagency Arctic Research Policy Committee (IARPC), which is chaired by NSF. The Arctic Sciences Section in the Division of Polar Programs (POLAR) supports scientific research in the Arctic, related research, and operational support. Science programs include disciplinary, multidisciplinary, and broad, interdisciplinary investigations directed toward both the Arctic as a region of special scientific interest and a region important to global systems. NSF sponsors approximately $40 million each year in Arctic research support and logistics. NSF supports more than $100 million annually in Arctic Science.

Dr. Córdova is president emerita of Purdue University, where she served as president from 2007 to 2012. Córdova’s scientific contributions have been in the areas of observational and experimental astrophysics, multispectral research on x-ray and gamma ray sources and space-borne instrumentation. She has published more than 150 scientific papers. In 1997, she was awarded an honorary doctorate by Loyola Marymount University, Los Angeles. She is a recipient of NASA’s highest honor, the Distinguished Service Medal, and was recognized as a Kilby Laureate in 2000. Dr. Córdova was elected to the American Academy of Arts and Sciences and is a National Associate of the National Academies. She is also a fellow of the American Association for the Advancement of Science (AAAS) and the Association for Women In Science (AWIS).

Dr. Córdova is married to Christian J. Foster, a science educator, and they have two adult children.
Senator Lisa Murkowski (R-AK)

Senator Lisa Murkowski is the first Alaskan-born Senator and only the sixth U.S. Senator to serve the state. The state’s senior Senator, Lisa Murkowski is a third-generation Alaskan, born in Ketchikan and raised in towns across the state. Senator Murkowski serves as the Chairman of both the Senate Energy and Natural Resources Committee and the Senate Appropriations Subcommittee on the Interior and Environment.

Senator Murkowski is considered the leading expert among her Congressional colleagues on Arctic issues – and has worked passionately on Capitol Hill to raise awareness that Alaska is the reason that America is an Arctic Nation. During the 112th Congress, Senator Murkowski was named Co-Chair of the bipartisan Senate Oceans Caucus, which educates and informs the Senate on the importance of the oceans bordering the United States and issues the Arctic Ocean faces, as well as the opportunities it holds. Murkowski has represented the nation at international events like the Conference of Arctic Parliamentarians and Arctic Council. With the U.S. assuming position as Chair of the Arctic Council this April, Senator Murkowski wants to make sure that the United States is maximizing its presence in the north.

Prior to her appointment to the United States Senate, Senator Murkowski practiced commercial law in Anchorage and served three terms in the Alaska State House of Representatives. She was elected to a full six-year U.S. Senate term in 2004, and was re-elected in 2010 in an historic write-in campaign.
Senator Angus King (I-ME)

On January 3, 2013, Angus S. King, Jr. was sworn in as Maine’s first Independent United States Senator. He is a steadfast believer in the need for greater bipartisan dialogue and relationship building among legislators. In 2014, Senator King participated in a congressional delegation excursion with Navy officials in the Arctic. In addition to observing Navy operations, King said the trip underscored the need to develop a plan for the Arctic. A member of the Armed Services and Energy and Natural Resources Committees, Senator King has called for consideration of appointing a U.S. Ambassador to the Arctic, acceding to the United Nations Convention on the Law of the Sea, examining the need for long-lead investments in infrastructure, investigating opportunities to cooperate with Russia, and understanding the impact of changes on Arctic people.

Senator King began his career as a staff attorney for Pine Tree Legal Assistance in Skowhegan. In 1972, he served as chief counsel to U.S. Senate Subcommittee on Alcoholism and Narcotics in the office of former Maine Senator William Hathaway. In 1975, he returned to Maine to practice with Smith, Loyd and King in Brunswick. In 1983, he was appointed Vice President of Swift River/Hafslund Company, an alternative energy development company working on hydro and biomass projects in Maine and New England. Six years later, he founded Northeast Energy Management, Inc., a developer of large-scale energy conservation initiatives at commercial and industrial facilities in Maine. In 1994, Senator King was elected Maine’s 72nd Governor. During his two terms in the Blaine House, he focused on economic development and job creation, and also achieved significant reforms in education, mental health services, land conservation, environmental protection, and the delivery of state services. He was re-elected in 1998 by one of the largest margins in Maine’s history.

Senator King was born in Alexandria, VA in 1944. He graduated from Dartmouth College in 1966 and from University of Virginia Law School in 1969. Senator King is married to Mary Herman and has four sons, Angus III, Duncan, James, and Ben, one daughter, Molly, and six grandchildren. He lives in Brunswick.
Dr. John P. Holdren is Assistant to the President for Science and Technology, Director of the White House Office of Science and Technology Policy, and Co-Chair of the President’s Council of Advisors on Science and Technology (PCAST). Prior to joining the Obama administration, Dr. Holdren was the Teresa and John Heinz Professor of Environmental Policy and Director of the Program on Science, Technology, and Public Policy at Harvard University’s Kennedy School of Government. He also served as professor in Harvard’s Department of Earth and Planetary Sciences and Director of the independent, nonprofit Woods Hole Research Center. Previously he was on the faculty of the University of California, Berkeley, where he co-founded in 1973 and co-led until 1996 the interdisciplinary graduate-degree program in energy and resources.

Dr. Holdren holds advanced degrees in aerospace engineering and theoretical plasma physics from MIT and Stanford. He is a member of the National Academy of Sciences, the National Academy of Engineering, and the American Academy of Arts and Sciences, as well as a foreign member of the Royal Society of London and former president of the American Association for the Advancement of Science. He served as a member of the MacArthur Foundation’s Board of Trustees from 1991 to 2005, as Chair of the National Academy of Sciences Committee on International Security and Arms Control from 1994 to 2005, and as Co-Chair of the independent, bipartisan National Commission on Energy Policy from 2002 to 2009. His awards include a MacArthur Foundation Prize Fellowship, the John Heinz Prize in Public Policy, the Tyler Prize for Environmental Achievement, and the Volvo Environment Prize.
Jack Omelak was born and raised in Alaska, and has backgrounds in natural science, federal Indian law, anthropology, rural development, and arctic policy development. Currently, he is the Executive Director of The Alaska Nanuuq Commission which, along with the USFWS, is charged with managing the two U.S. populations of polar bears. He also serves as the U.S. Co-Chair of the U.S. and Russia Bi-Lateral Treaty for the Conservation of Chukchi Polar Bears. Jack has been the lead author in drafting the first international management plan for the U.S. for polar bears, and is also part of the team writing the U.S. conservation and recovery plan for polar bears under the Endangered Species Act.

He is also a founding member of the Arctic Marine Mammal Coalition which is composed of five Arctic marine mammal co-management groups. This body is pro-active in shaping Arctic policy in regards to emerging Arctic shipping and the protection and safety of marine mammal users. He is also an executive steering committee member in the formation of Alaska’s first waterway safety committee.
**FORECASTING A CHANGING ARCTIC**

There are major physical changes occurring in the Arctic, some of which we only are beginning to understand and predict. The panel will discuss current capabilities, and the research gaps and opportunities to improve our ability to forecast these events (e.g. glacial melt, sea-ice, permafrost melt, methane release, freshwater influx, and carbon/nutrient cycling/availability).

**SCIENCE NEEDS FOR ARCTIC OPERATIONS**

Commercial activities in the Arctic have already begun in earnest, including shipping and resource extraction (oil and gas, minerals, fishing, etc.). The panel will discuss the state of knowledge of the predictive tools needed to operate safely in such a changing and unforgiving environment, as well as the nation’s capacity to respond to emergencies and disasters in the Arctic.

**WHY THE ARCTIC MATTERS TO THE LOWER 48**

Changes in the Arctic will have impacts well beyond high latitudes of its own boundaries. The panel will discuss how the physical changes in the environment will impact mid-latitudes through extreme events, coastal zone impacts, and species migration.
Dr. 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. After being selected as an astronaut candidate finalist for NASA's first class of mission specialists, Dr. Mayer went on to a Post-Doc at the School of Oceanography at the University of Rhode Island, an Assistant Professorship at Dalhousie University, and the NSERC Industrial Research Chair in Ocean Mapping at the University of New Brunswick. In 2000, Dr. Mayer 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.

Dr. Mayer has participated in more than 90 cruises 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 five 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, 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 is currently Vice-Chair of the Consortium for Ocean Leadership’s Board of Trustees, a member of the U.S. State Department’s Extended Continental Shelf Task Force, and the Navy’s SCICEX Advisory Committee. Dr. Mayer’s present 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.
Dr. Cecilia Bitz is a professor in the Atmospheric Sciences Department at the University of Washington, and she is part of the UW Program on Climate Change. Dr. Bitz’s research focus is on climate and climate change in the high latitudes, especially involving the cryosphere. She is currently working on Arctic sea ice predictability, the hydroclimate of Antarctica, and climate control of snow depths on sea ice. Dr. Bitz is an active volunteer and science advisor to Polar Bears International. She won the 2013 Rosenstiel award for Oceanography and Meteorology and the 2013 Ascent award for the Atmospheric Science section of the American Geophysical Union. In 2015, she became a fellow of the American Meteorological Society.
Dr. Fiamma Straneo is a Senior Scientist in the Physical Oceanography Department at the Woods Hole Oceanographic Institution. She studies the subpolar North Atlantic and Arctic oceans and their role in climate and climate variability on interannual to centennial timescales. Specific areas of interest are the interaction of the Greenland Ice Sheet with the ocean, freshwater export from the Arctic and from Greenland into the North Atlantic and the overturning circulation in the subpolar North Atlantic. She is chair of GRISO (an international science network focused on Greenland Ice Sheet-Ocean Interactions, formerly a US CLIVAR Working Group), chair of the Land-ice Team of SEARCH, a member of the Atlantic Meridional Overturning Circulation Science Team, and on the Science Steering Group of ASOF (Arctic SubArctic Ocean Fluxes). She has led over a dozen field expeditions to the Arctic and Greenland that have employed icebreakers, local vessels, helicopters, and snowmobiles. Her work has been featured in the New York Times, the Guardian, NPR amongst other media outlets.
Dr. Jackie Grebmeier

*University of Maryland Center for Environmental Science*

Dr. Jacqueline Grebmeier is Research Professor and a biological oceanographer at the University of Maryland Center for Environmental Science. Dr. Grebmeier earned a Bachelor of Arts in Zoology from the University of California, Davis in 1977 and went on to receive Masters Degrees in Biology from Stanford University in 1979, and in Marine Affairs from the University of Washington in 1983, specializing in applications of Arctic science to Arctic policy. Dr. Grebmeier earned a Ph.D. in Biological Oceanography from the University of Alaska Fairbanks in 1987. She has played a leadership role in coordinating and promoting national and international arctic research. She recently completed her service as the U.S. delegate to, and a vice-president of the International Arctic Science Committee, and as a member of the U.S. Polar Research Board of the National Academies, and she also served formerly as a Commissioner of the U.S. Arctic Research Commission following appointment by President Clinton. She has contributed to other coordinated international and national science planning efforts including service on the steering committee for U.S. efforts during the International Polar Year. Over the last thirty years she has participated in over 45 oceanographic expeditions on both U.S. and foreign vessels, many as Chief Scientist, and she was the overall project lead scientist for the U.S. Western Arctic Shelf-Basin Interactions project, which was one of the largest U.S. funded global change studies undertaken in the Arctic. Her research includes studies of pelagic-benthic coupling in marine systems, benthic carbon cycling, benthic faunal population structure, and polar ecosystem health, and she has published approximately 100 peer-reviewed scientific papers and she has also served as editor of several books and journal special issues. Her research is focused on understanding how arctic marine ecosystems respond to environmental change, particularly efforts to illuminate the importance of benthic biological systems.
Dr. Kevin Schaefer
National Snow and Ice Data Center

Dr. Kevin Schaefer currently works at the National Snow and Ice data center at the University of Colorado in Boulder. After graduating from the University of Illinois in 1984, Dr. Schaefer worked for NASA as an aerospace engineer on Space Shuttle operations and ending up as a manager of science capabilities for the Space Station. In 1994, Dr. Schaefer became the manager of NASA data centers supporting the Earth observation program. Dr. Schaefer participated in several multi-agency working groups focused on climate change and supported the White House Council on Environmental Quality in the selection of sustainable development indicators. In 1997, he returned to school and in 2004 obtained a PhD in atmospheric science from Colorado State University. Dr. Schaefer spent two years as a national research council postdoctoral fellow at NOAA in Boulder using carbon dioxide concentrations from the global flask network to improve models and began studying permafrost dynamics at the National Snow and Ice Data Center in 2006. Dr. Schaefer published one of the first estimates of carbon emissions from thawing permafrost in 2011, served as lead author on a 2012 United Nations on the topic, and has published several articles on the effects of permafrost emissions on global climate.
Charles “Kolo” Rathburn
*Senate Appropriations Committee*

Charles “Kolo” Rathburn is currently a professional staff member on the U.S. Senate Committee on Appropriations, Subcommittee on Commerce, Justice, Science, and Related Agencies. His role on the Committee involves overseeing budgets at the Department of Commerce and National Science Foundation and advising the Chairman of the CJS Subcommittee, Senator Richard Shelby of Alabama, on funding and policy issues. Before coming to the Appropriations Committee, Kolo served as a NOAA Sea Grant Legislative Fellow and then Legislative Assistant to U.S. Senator Roger Wicker of Mississippi. During that time, Kolo worked extensively on issues related to the 2010 Deepwater Horizon oil spill in the Gulf. He received a Master of Science degree from the Graduate Program in Marine Biology at the College of Charleston in 2009 and holds a Bachelor of Science degree in Biology from Chaminade University of Honolulu.
Randall Luthi became President of the National Ocean Industries Association (NOIA) on March 1, 2010. An attorney and rancher from Freedom, Wyoming, Luthi has had an exciting and varied career, including serving as a legislative assistant in the U.S. Senate and career service as an attorney at the Department of the Interior, and the National Oceanic and Atmospheric Administration, where he worked on natural resource damages following the Exxon Valdez accident.

Luthi most recently served as the Director of the Minerals Management Service (MMS) at the Department of the Interior (DOI) from July 2007 through January 2009. In addition to overseeing offshore lease sales and collection and distribution to the States and Federal government of mineral revenues and royalties, Luthi oversaw the expansion of a renewable energy office at MMS. Luthi also served as the Deputy Director of the Department’s Fish and Wildlife Service (FWS), and started the law firm of Luthi & Voyles, LLC, in Thayne, Wyoming. Luthi’s career in the Wyoming House of Representatives began in 1995 with his name being drawn from a cowboy hat by Governor Mike Sullivan to declare him the victor in a tie vote. As Majority Leader and Speaker of the Wyoming House, Luthi was instrumental in formulation of state budgets. Currently, Luthi also serves as Chairman of the Wyoming Stockgrowers Agricultural Land Trust Board.

Luthi is now in his fourth tour of duty in Washington, DC. He has previously served as a legislative assistant for then Senator Alan K. Simpson, was an attorney/advisor in the Solicitor’s Office at DOI, and Senior Counselor for Environmental Regulations at the National Oceanic Atmospheric Administration in the Department of Commerce.

Luthi graduated from the University of Wyoming in 1979 with a Bachelor of Science Degree in administration of justice, and earned a law degree from the University of Wyoming in 1982. Too short to be effective on a basketball court, he is more inclined to chase a racquetball around the court on occasion. He also enjoys hunting, fishing, and, of course, cheering for the University of Wyoming Cowboys and Cowgirls.
Gary Rasicot is Director, Marine Transportation Systems for the United States Coast Guard and responsible for overseeing the Arctic Implementation Plan. His directorate is responsible for a wide variety of navigation safety and security functions, including Waterways Management, Aids to Navigation, Domestic and Polar Ice Operations, Coastal and Marine Spatial Planning, and permitting for Bridges that span navigable waters.

In his previous Senior Executive Service position, Mr. Rasicot served as the Director of Global Maritime Operational Threat Response (MOTR) Coordination Center. As the nation’s primary coordinator of the MOTR process, he was responsible for facilitating the development of interagency approved U.S. Government courses of action in response to threats against the United States and its interests in the maritime domain.

A majority of Rasicot’s military career as a senior officer involved the development and implementation of National and Coast Guard Policy on National Security. He led policy development a coordination efforts of 22 federal agencies that resulted in National Security Presidential Directive 41/Homeland Security Presidential Directive 13, creating the first strategically-focused maritime security policy for the United States. Additionally, Mr. Rasicot assisted in the interagency development and implementation of the Nation’s Maritime Operational Threat Response Plan. The plan made an immediate impact in developing interagency cooperation and coordination for U. S. maritime security response efforts for “real world” events. He co-authored the MOTR Forces Plan, which was signed by the President and provides the interagency structure to ensure maritime combating terrorism resource needs are met.

Rasicot is a 1984 graduate of the United States Coast Guard Academy in New London, CT, where he received a Bachelor of Science degree. He holds a Master’s Degree in Strategic Studies from the U.S. Army War College and a Master’s Degree in Public Administration from the University of Maryland.
RADM Jonathan White
*United States Navy*

Rear Admiral Jonathan White was born in Panama City, Florida. His father was a World War II Army Air Corps veteran and Purple Heart recipient; his mother supported the war through her work in Oak Ridge, Tennessee. His passion for the Navy and oceanography began at age seven, thanks to the influence of a Navy diver who lived next door.

White earned a Bachelor of Science degree in Oceanographic Technology from the Florida Institute of Technology in 1981 and holds a master’s degree in Meteorology and Oceanography from the U.S. Naval Postgraduate School.

After working at sea as a civilian oceanographer on board a seismic survey vessel, he was commissioned through Navy Officer Candidate School in 1983, and assigned as a surface warfare officer to USS John L. Hall (FFG 32) in Mayport, Florida. White joined the oceanography community in 1987. Since then, he has had operational shore assignments at Jacksonville, Florida; Guam; Monterey, California; and Stuttgart, Germany, where his joint duty included Special Operations Command Europe, and strike plans officer for U.S. European Command during Operation Allied Force in Kosovo and Serbia. White commanded Naval Training Meteorology and Oceanography Facility, Pensacola, Florida, and was the 50th superintendent of the United States Naval Observatory.

White’s sea tours as a naval oceanographer include commander, Cruiser Destroyer Group 12 where he completed deployments on board USS Saratoga (CV 60) and USS Wasp (LHD 1). White was selected as a flag officer and honorary chief petty officer in 2009 and served as commander, Naval Meteorology and Oceanography Command. He was promoted to the rank of rear admiral (upper half) in August 2012 as he assumed his duties as director, Task Force Climate Change, and Navy deputy to National Oceanic and Atmospheric Administration. White wears numerous personal and unit awards, which are all a tribute to the Sailors, Marines, Airmen, Soldiers, Coast Guardsmen, and civilians he has served alongside throughout his career.
Upon retirement from the U.S. Coast Guard after more than 31 years of service, Rear Admiral Craig E. Bone joined the corporate management of ABS, the leading international classification society, in the newly created position of Vice President, Corporate Programs. In February 2010, he assumed the position of Vice President of Government Operations. RADM Bone leads all government service delivery and governmental affairs from the society’s Washington, DC office located in Alexandria, Virginia.

In his many years with the Coast Guard RADM Bone has held a series of very senior positions, most recently as Commander of the Eleventh CG District on the Pacific coast. He is the former Assistant Commandant for Marine Safety, Security and Environmental Protection, directing the agency’s policy and programs for port, vessel and facility maritime safety and security management. He has led the U.S. delegation to the IMO and spearheaded implementation of the Marine Transportation Security Act and the development of international commercial vessel safety and security standards. He has served as Captain of the Port and Officer in Charge of Marine Inspection for the ports of New York/New Jersey and Savannah, Georgia as well as a breadth of ship construction and repair experience as a marine inspector serving in U.S. ports and overseas shipyards.

RADM Bone holds Master’s degrees in Information Systems Technology from the George Washington University and in National Resource Strategy from the Industrial College of the Armed Forces in addition to a Bachelor’s of Science degree in Marine Science from the U.S. Coast Guard Academy.
Dave Benton
Consultant, Alaska Seafood Industry

Dave Benton has over 35 years of experience in national and international oceans governance. He was appointed to the United States Arctic Research Commission by President Barak Obama in June of 2012. His past experience includes representing the State of Alaska in international negotiations including negotiations with China, Russia, Japan, Korea, Poland, Canada, and at the United Nations. He also represented the State of Alaska before Congress and in numerous national oceans policy fora. Benton was appointed by President Clinton as Alaska’s Commissioner on the U.S. Canada Pacific Salmon Commission, serving as part of the U.S. team that negotiated a 10 year resolution to the salmon management conflict between the U.S. and Canada. He helped establish the Northern Boundary Fund, a $75 million bi-national endowment that funds fishery science and restoration projects in northern British Columbia and Alaska. He served nine years on the North Pacific Fishery Management Council, three years as Chair. Benton helped establish the North Pacific Research Board, which funds marine research in the North Pacific, Bering Sea, and Arctic Ocean, He served as the first Chair of the NPRB at its inception in 2001-2003 and again as the special fisheries representative 2004-2006. From 2004 to 2010, Benton was the Executive Director of the Marine Conservation Alliance, a coalition of harvesters, processors, and coastal communities involved in Alaska’s groundfish and crab fisheries. He currently sits on the Board representing the USARC and works as a consultant to the seafood industry and environmental organizations on a range of oceans management and conservation matters. Mr. Benton spends his spare time as President of the Alaska Lighthouse Association, and is deeply involved in restoring Point Retreat Lighthouse on Admiralty Island.
Dr. Mark Abbott is Dean and Professor at the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University. He received his B.S. in Conservation of Natural Resources from the University of California, Berkeley, in 1974 and his Ph.D. in Ecology from the University of California, Davis, in 1978. He has been at OSU since 1988 and has been Dean of the College since 2001. He served on the National Science Board from 2006 until 2013. Dr. Abbott’s research focuses on the interaction of biological and physical processes in the upper ocean and relies on both remote sensing and field observations. Dr. Abbott is a pioneer in the use of satellite ocean color data to study coupled physical/biological processes. He has also advised the Office of Naval Research and the National Science Foundation on ocean information infrastructure. He is currently president of The Oceanography Society and chairs the Committee on Earth Science and Applications from Space for the NRC.
Dr. James E. Overland is a Research Oceanographer at the NOAA Pacific Marine Environmental Laboratory in Seattle and Affiliate Professor, Department of Atmospheric Sciences, University of Washington. Dr. Overland’s interests are communicating climate change information about the Arctic and subarctic. He was a lead author for the International 5th IPCC Report and contributed to the U.S. government response to Endangered Species Act listings for polar bears and ice seals, and drilling in the Chukchi Sea. Dr. Overland has received the American Geophysical Union Ambassador’s Award, the Department of Commerce Bronze Medal and the NOAA Administrator’s Award for scientific excellence in support of national and international policy on climate change in the Arctic. His current research is on all aspects of Arctic change, including rapid loss of summer sea ice, potential linkages of Arctic change with mid-latitude weather, and ecosystem impacts in the Pacific Arctic. Overland is a past editor of Journal of Geophysical Research-Oceans and has contributed over 180 peer reviewed articles on climate and ecosystems.
Dustin Whalen has been working in the Arctic Ocean on coastal and nearshore processes for the last 10 years. With over 30 field excursions to the area in Winter, Spring, and Summer, he has considerable hands-on knowledge of Arctic coastal erosion, coastal flooding, and nearshore sediment transport. As Physical Scientist with Natural Resources Canada since 2004, he has and continues to be involved with the Government of Canada’s priority to work with all stakeholders to enhance the base level of coastal knowledge to better position and adapt to the changing coastline and climate. He is interested in how the ice-rich coastlines of the Arctic Ocean (in particular the Beaufort Sea) have changed in the past and will change in the future, how this will impact the communities and stakeholders in the Arctic and beyond. As an active proponent of the importance of science communication at the ground level, over the last seven years Dustin has maintained and distributed a daily community based Spring ice break-up newsletter as a means to inform all stakeholders on a real-time basis of this annual event that has the potential for huge coastal impacts. Growing up on the coast of Nova Scotia, Canada, Dustin is no stranger to the severe impacts of coastal erosion and coastal flooding; it is this mindset and passion that he brings to the Arctic coastal science world today and for many years to come. Dustin resides in Nova Scotia Canada with his wife and two young kids.
Dr. Greg O’Corry-Crowe
*Harbor Branch Oceanographic Institute, Florida Atlantic University*

Dr. Greg O’Corry-Crowe’s research focuses on combining molecular genetics with field ecology to study the molecular and behavioral ecology of marine apex predators. He is particularly interested in investigating the effects of ecosystem and climate change on upper tropic levels with an emphasis on polar and temperate marine mammals. Dr. O’Corry-Crowe completed his studies (B.Sc., Ph.D.) at University College Dublin, Ireland where he focused on terrestrial mammals (ungulates and carnivores), before embarking on a career in marine science. His research interests extend beyond the marine realm to: the evolution of social behavior and mating systems in mammals, the role of individual fitness in population viability and adaptation, and the application of ancient DNA (aDNA) technology to ecosystem and evolutionary questions. He is formerly a research scientist at NOAA and adjunct Professor at San Diego State University, and is currently Associate Research Professor at Florida Atlantic University.
Steve Feldgus

House Natural Resources Committee

Dr. Steve Feldgus is the Senior Energy Policy Advisor for the House Natural Resources Committee Democrats. Previously, he served as Senior Advisor to the Directors of the Bureau of Safety and Environmental Enforcement and the Bureau of Land Management, both at the Department of the Interior. Prior to working at DOI, Dr. Feldgus worked for Chairman Nick J. Rahall as legislative staff on the House Natural Resources Energy and Mineral Resources Subcommittee, and as the energy and environment legislative assistant for Sen. Robert Menendez in both the House and Senate. He received his Ph.D. in Physical Chemistry from the University of Wisconsin-Madison, his B.S. in Chemistry from the University of Massachusetts at Amherst, and started working in Congress on an American Association for the Advancement of Science / American Chemical Society Congressional Fellowship in the office of then-Senator Jon S. Corzine.
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