

LARRY ATKINSON: Scientist, Leader and Mentor

By John Klinck

This newsletter is dedicated to the memory of Larry Atkinson, who was the founding director of the Center for Coastal Physical Oceanography (CCPO) at ODU. While this is an important accomplishment, his influence spread across a wide swath of the ocean community. He was an editor of two different journals (*Journal of Geophysical Research: Oceans* and *Oceanography*); helped develop the Global Ocean Observing System, along with the regional observing association focused on the Middle Atlantic Bight; and led the local focus on rising sea level in southeastern Virginia.



Larry Atkinson

His major contribution, which is clear from the various testimonials in this newsletter, was his ability to bring groups together to focus on important problems and to provide guidance for these groups as they developed solutions. Larry always seemed to be able to find the right group to work on a problem and to be able to gently nudge them toward useful conclusions. His social skills, in addition to his clear understanding of ocean science, were critical to his ability to lead groups.

The contents of this newsletter celebrate the life and accomplishments of Larry Atkinson. His quiet leadership serves as an example of how to lead groups toward useful goals; an example that we all should try to follow.

Larry joined the faculty at Old Dominion University in 1985 after spending 14 years at Skidaway Institute of Oceanography in Georgia. His scientific expertise was physical and chemical processes in the coastal ocean. His focus was always on observing the ocean, whether from ships, moored instruments, or remote sensing. This dedication to observations led to his participation in many regional and national committees.



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LARRY P. ATKINSON ENDOWED SCHOLARSHIP

We are pleased to announce the establishment of the **Larry P. Atkinson Endowed Scholarship** in the Department of Ocean and Earth Sciences at Old Dominion University (ODU). If you are interested in contributing to the scholarship, you may make a donation online by:

- Go to the secure giving website: <https://secure.acceptiva.com/?cst=1c0e01>
- Enter dollar amount and frequency that you'd like to give, select that you'd like your gift to support scholarships, type in "Larry Atkinson Scholarship" under scholarship name.
- Follow the prompts and provide your card and address information and press submit!

Larry Atkinson and his years as Chair of the OOIFB

By Annette DiSilva (OOIFB Executive Secretary), Kendra Daly (OOIFB Chair), and OOIFB committee members

In 2010, installation of the National Science Foundation's Ocean Observatories Initiative (OOI) facility was well underway and the Global, Regional, and Coastal Arrays were getting ready to be deployed. The NSF recognized the benefit of having science community input as OOI plans were being implemented and they requested that a UNOLS committee be formed to provide advice and guidance on the OOI from the science user perspective. The Committee was named the Ocean Observatories Science Committee (OOSC) and **Larry Atkinson** was called on to be its Chair. He served in that position from 2010 until 2017, overseeing the Committee through OOI's installation and commissioning. He worked hard during these years to identify and engage a new observatory community who would be the potential users of OOI data. A number of workshops were held to introduce the science community to OOI and to encourage collaborations.

By 2017, OOI was fully deployed as a large facility and NSF decided that it was time to transition the OOSC to an OOI Facility Board (OOIFB) that would provide input and guidance regarding the management and operation of the OOI. The NSF asked Larry Atkinson to continue his leadership role and serve as the OOIFB inaugural Chair. In true Larry fashion, he accepted the position without hesitation. He served as the OOIFB Chair from 2017 to 2019, before transitioning to Past-Chair. In total, Larry helped to guide OOI activities for ten years.

Larry's tenure as the OOIFB Chair coincided with OOI's early years as a fully operational major NSF facility. Larry encouraged the Facility Board to approach each task with the broader community in mind and a vision for the future. Under Larry's leadership, the OOIFB offered valuable advice and constructive input to the OOI program as it developed.

From the start, Larry had a goal to grow and engage the OOI science user community. He always promoted inclusiveness and advocated for all scientists, particularly early career scientists. Larry had an amazing gift for bringing people together to collaborate and advance ocean sciences. Larry initiated OOIFB-hosted Town Halls at the AGU Fall and Ocean Sciences Meetings and he introduced lightning talks to our town halls, so that we could hear about the exciting science and new ways that researchers were making use of OOI data.

In May 2020, the OOIFB established the **Larry P. Atkinson Travel Fellowship for Students and Early Career Scientists** in recognition of his dedicated service and outstanding leadership as the inaugural Chair of the OOIFB. The Fellowship helps early career scientists and graduate students who are actively involved in research and/or education programs using OOI data by supporting travel expenses to attend major science conferences.

We greatly miss Larry, but there is comfort in knowing that his wisdom, contributions, and generosity will continue to benefit the ocean science community for years to come.

A LEGACY OF LEADERSHIP

Larry and I started our journey together in 1997, when he visited the Norfolk Navy base to discuss with me and others how to coordinate early hurricane warnings. It started a whole new level of coordination between the Navy, ODU, and the city of Norfolk. It was precedent setting that helped set the framework for the whole of government approach to sea level rise in the decades to follow.

In 2005, following my career in the Navy, Larry and I started up the first ever Marine Technology Society (MTS) Hampton Roads section, bringing together ocean scientists and engineers from the Navy, NOAA, business, and faculty and students to address the maritime challenges in Hampton Roads. Eventually this led to the first ever OCEANS conference sponsored by MTS and IEEE in late October 2012 at the Virginia Beach Conference Center. It was at this conference, preceding by days the arrival of Hurricane Sandy, that climate change and sea level rise became the topic of regional interest it is today. Larry brought forward many of the ODU initiatives he had been working on, such as the Climate Change and Sea Level Rise Initiative (CCSLRI).

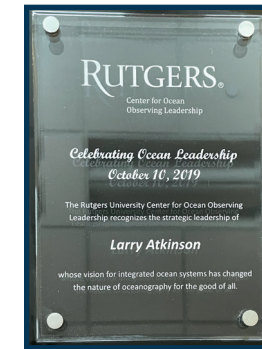
Larry's leadership in sea level rise leveraged directly from his years of national and international leadership in integrated ocean observing that he helped pioneer with President Bush's Ocean Commission in 2002. Two programs grew from his effort that directly support sea level rise – the National Science Foundation's Oceans Observatories Initiative (OOI) and the NOAA-led Integrated Ocean Observing System (IOOS). Through the years, Larry served on many boards that supported both programs, including the Middle Atlantic Regional Association Coastal Ocean Observing System (MARACOOS), one of 11 such regional associations around the country today.

In 2014, President Obama's administration took note of Larry's work and asked Old Dominion to lead a two-year regional pilot to address sea level rise. The pilot involved a whole of government/community approach to both mitigate short term and adapt long term to the inevitable rise in our tides and coastal flooding as the oceans warm. Many successes sprang from this effort that have led to many measures and research today, one being the Commonwealth Center for Recurrent Flooding and Resilience.

Larry Atkinson's legacy in the ocean sciences will remain firmly intact for many generations to come.

—Ray Toll,
OCEANS 2022 Hampton Roads

Celebrating Ocean Leadership



The plaque on the wall commemorates *“the strategic leadership of Larry Atkinson, whose vision for integrated ocean systems has changed the nature of oceanography for the good of all.”* The plaque is located in the operations center of one of the world's academic-based ocean observatories. There it inspires an increasingly diverse

range of students to join in the transformation that Larry had championed since the 1990s.

The future that Larry and our ocean leaders envisioned included a global-scale, collaborative and multi-purpose observing network (the Global Ocean Observing System) that served scientific as well as societal goals. This new approach for sustained observations expands how we observe the ocean, and as a result, opens opportunities for a broader spectrum of people to become oceanographers and marine ecologists. With Larry as the NSF liaison, our community leaders established Ocean.US in the year 2000 to further articulate and structure our national plan. The initial implementation of the NOAA-led U.S. Integrated Ocean Observing System, as the U.S. contribution to GOOS, soon followed. By mid-decade, the work of building out its 11 Regional Associations had begun. Again Larry led as one of the founders of the Mid-Atlantic's Regional Association and its associated Coastal Ocean Observing System. In the 2010s, NSF completed construction of their major facilities investment in ocean science, the Ocean Observatories Initiative. NSF turned to Larry as the inaugural chair of their Facilities Board to guide its operation and expand its scientific and public impact. Here Larry's commitment to supporting emerging scientists led the Facilities Board to establish a student and early career travel fund in his honor.

For 30 years the ocean observing community has been guided by Larry Atkinson's vision, his ability to bring people together in productive partnerships, and his dedication to empowering the next generation of marine scientists. The community's growth and impact are Larry's legacy. We will miss Larry both as a person and a scientist, but we know his memory will inspire future generations of oceanographers to continue his work ... *for the good of all.*

—Scott Glenn, Rutgers University

The inaugural members of the OOIFB and NSF representatives visit an OOI facility. Larry Atkinson is fifth from the right. Photo by Annette DeSilva (URI).



Details about the Fellowship and how to donate are available at: <https://ooifb.org/meetings/larryatkinson-travel-fellowship/>.

TRIBUTES

I learned countless lessons from observing my deeply revered mentor, Larry Atkinson. Three remain in my mind and in my heart. On our first trip together, I learned about his generosity. We visited colleagues in Chile on a week-long journey in 1994. On the last night, we had to share a small apartment in downtown Santiago. Larry took one of the mattresses available and laid it on the floor in the adjacent entrance hallway. My first thought was that Larry was arranging my sleeping situation. I was perplexed when he said, "I'll sleep here (pointing to the floor) because my snoring won't let you rest."

On another trip to Chile, this time in 1998 to collect data, I learned about his empathy. Toward the end of a day in which we worked on a fishing boat and in which Larry stayed on land arranging the logistics for the following days, those of us on the boat were caught by a violent storm. Returning to port was very tricky, but I didn't realize the great danger we were in until I saw Larry, who didn't know if, how, or when we would return. He greeted me with a kind embrace and a sigh of relief.

A third lesson has guided me throughout the years and I repeat it to whoever wants to listen to it: "You never really did that study until you publish it." Larry has played and always will play a pivotal influence in my life. Thank you, dear Larry!

—Arnoldo Valle-Levinson

I'm pretty sure I first met Larry on a sailboat owned by a mutual friend in Miami sometime in the 1980s. When I moved to Virginia Beach, Larry welcomed me like a long-lost friend. We soon found plenty of common interests in sea level, currents, and high-frequency radar surface current measurements. Larry once suggested we get together for breakfast to discuss something, and breakfasts with Larry became a very enjoyable regular meeting for a few years. I always came away with a helpful new point of contact, news of an emerging project, or perhaps a solution to some puzzle I faced. In 2005, Larry roped several of us into forming the Hampton Roads section of the Marine Technology Society. His introductions led to so many rewarding activities—offshore wind energy, continuous GPS data processing, low-cost tide gauges—the list goes on and on. Like so many others, I count myself fortunate to have known Larry. He was a mentor, role model, and good friend to a lot of members of the oceanographic community. To be a beneficiary of Larry's expansive networking provided opportunities to quite a lot of us.

—Mark Bushnell

I consider my time learning from and with Larry to be one of a handful of true gifts bestowed upon me. I treasure each interaction and continue to reflect on his wisdom about getting the coasts ready for climate change and keeping family at the center of your life, always.

Larry embraced ocean observing in general, and the Ocean Observatories Initiative in particular, with a passion and a tenacity that was truly unique. He knew what the long game was and what the steps needed to be for progress. He was patient with NSF as we went through our predictable evolution and it is not an exaggeration to say that he was the both the muse and the parent of the OOI Facility Board.

—Lisa Clough

Larry was a really good scientist and had profound impacts on so many people. I greatly admired him. He could bring reason to a difficult science crowd and get everyone moving forward. Once as a grad student in the 1980s, I gave a modeling talk on the circulation of the South Atlantic Bight. My now good friend,

Len Pietrafesa, began interrupting me saying how it is impossible to model the ocean, especially with a 3D model. It was Larry who stood up and gave a calm explanation that my approach and models could someday make a contribution.

I will miss Larry.

—Alan Blumberg

As a graduate student at North Carolina State University, Larry was the first scientist outside the university I worked with, i.e., the Global Atlantic Tropical Ocean Experiment (GATE) in 1974. Later, during the 1980s, as a scientist at NASA Goddard Space Flight Center working on satellite ocean color imagery, we reconnected. Our collaborations included studies of the South Atlantic Bight and the rias of northwest Spain. Larry was instrumental in securing the first funding I ever received (from DOE, not NASA!). By the late 1980s, our careers diverged, but we kept in touch, usually as a result of my collaborations with Eileen Hofmann. Larry was a friend and mentor. His loyalty and generosity were inspirational, and I tried to follow his example by helping other young scientists.

—Chuck McClain

Larry picked me up at the Savannah, Georgia bus station late one night when I arrived to spend the summer at Skidaway Institute of Oceanography to start my Ph.D. dissertation research. Little did I realize that Larry would become my colleague, friend, and most importantly my mentor for the next 45 years. Larry provided the guidance and help I needed as a graduate student and later as I navigated the morass of academia. Larry's gift was that he listened and then provided calm, insightful, and non-judgmental advice. Without Larry, my career would have been so much less.

—Eileen Hofmann

Four memories stand out. First, when I was at Virginia Tech and doing what I could to ease the last years of my mom's life, Larry offered advice from his own experience: "You can't make a mistake; just doing anything at all is great." Second, when I first joined CCPO, Larry would put quarters in the metered space where I had parked whenever he saw that I had forgotten to do so. Third, when Larry would come by my office to say hello and then see all the orchids blooming—in direct sunlight, which they are not supposed to like,—he would shake his head and say, "That's just not right." Fourth, I often walked with Larry on Sunday afternoons, strolling around his neighborhood. I would brief him on the latest offshore wind happenings, and he was so attentive and engaged that I always emerged from those walks refreshed. Thank you, Larry.

—George Hagerman

One late afternoon at Crittenton [Hall], we were talking about the excitement and fun of starting CCPO. He gave me a great piece of advice, which I wish I had had a lot earlier in my career. Here is his quote: "My two requirements for hiring are [for them] to be the best in their area, AND to be easy to work with."

—A.D. Kirwan, Jr.



It was my good fortune to have had Larry Atkinson as a friend for almost 60 years. With his passing, the oceanographic community lost a steadfast and highly respected colleague who because of his intelligence and trustworthiness could cause great things to happen with a few quiet words.

—Lou Codispoti

After retiring from GFDL/NOAA at Princeton University, I planned to move to Tidewater. Larry was kind enough to offer office space and allow me to integrate into the CCPO family as an adjunct professor and self-supporting research scientist. Larry had a calm, friendly welcoming manner about him. We enjoyed discussing science, as well as our families, sports, and fishing interests. Larry and his colleagues provided an academic environment where I participated in local seminars and workshops while continuing my work in developing the HWRP & GFDL Hurricane Forecasts systems and reporting scientific findings on the impact of global warming on hurricanes. I will be forever grateful to Larry for facilitating the extension of my career.

—Robert Tuleya

In 2007, Larry offered me a job operating coastal radar systems and it proved to be a life-changing event as I am still working with those systems today! Larry was not only a boss, but a friend. He always encouraged me to learn and develop new skills. We also connected over a love of travel. Larry was the kind of person to take an interest in others; he provided practical guidance to students and offered courses to take them to places where they could see oceanography in action and talk with people who had careers in oceanography. His support of students will continue with the scholarship fund that bears his name. I will always be grateful for the opportunities he gave to me and for his friendship.

—Teresa Updyke

Larry Atkinson was a physical oceanographer who understood the importance and need for ocean data and data products to address both current and emerging science questions and management needs. Larry was an altruistic collaborator and cared more for the advancement of ocean science discovery than he did for his own professional acclaim. He served his profession in numerous ways, as exemplified by his participation on the UNOLS Fleet Improvement Committee, the Chesapeake Bay Consortium, SURA's Coastal and Environmental Committee, and the Board of Governors of the Consortium for Ocean Research and Education. He often was a founding member of ocean-focused organizations, working groups, and committees, demonstrating his gift for bringing people together and moving them toward an end goal. Larry will definitely be missed as his many efforts enriched the field of ocean science.

—Carolyn Thoroughgood

It was my distinct honor and privilege to work with Dr. Larry Atkinson for over two decades. He superbly applied his exceptional scientific knowledge with his extensive at-sea experience to craft cogent arguments for the positions he would take on specific issues, and then would very effectively present his case using his typical calm, deliberate, and personable demeanor. The results were always impressive. This was no more clearly evident than in his multiple University-National Oceanographic Laboratory System (UNOLS) leadership roles. One of the most significant was Larry's critical contribution to the successful development and implementation of the U.S. Academic Research Fleet "Right-sizing and Modernization Plan", which will have important impacts for decades to come on the ability of the community to safely and efficiently conduct cutting-edge scientific

research at-sea. Larry was always the consummate professional and a true friend who will certainly be missed but whose legacy and contributions will live on and never be forgotten.

—Bob Houtman

On behalf of the NOAA Hydrographic Services Review Panel (Federal Advisory Committee) members, Larry was respected and appreciated for his intellect, cunning wit and injections of levity. His thoughtful participation and wisdom made immediate impacts and the HSRP members appreciated his focus on the big picture and technological advances. In his five years of service, he infused resilience to sea level rise and coastal flooding topics and helped define the collective focus by spearheading sessions with visionary speakers, producing an issue paper and making recommendation to the NOAA Administrator. Larry's contribution to the HSRP and NOAA was recently recognized by Rear Admiral (select) Rick Brennan at the most recent HSRP public meeting (March 2021). Larry Atkinson was a beloved member and we shall miss his voice and direction.

—NOAA Hydrographic Services Review Panel,
Federal Advisory Committee

Larry was one of the original stalwarts of The Oceanography Society (TOS), which offered a new vision for the ocean community that incorporated education, service and outreach, as well as a research orientation. After Dave Brooks set the template for *Oceanography* magazine, Larry stepped up and served as editor from 1993 to 1998.

On a personal basis, I first got to know Larry much earlier when we were involved in the OPUS program off southern California in 1983. I was always impressed with his professionalism and with his ability to do things extremely well and seemingly effortlessly. But beyond that, what I really remember is his sense of humor and perspective, so that he always seemed to make the best of things. What a wonderful talent that was! We shall sorely miss Larry.

—Ken Brink

Larry was one of the very first leaders to work at Ocean.US, the organization responsible for the build-out of IOOS [NOAA's Integrated Ocean Observing System]. It was his experience, knowledge and wonderful insights that help set the course for our nation's preeminent operational ocean observing system. We will be forever grateful for his wonderful contributions.

—Rick Spinrad

I was fortunate to work with Larry on a variety of committees, which often dealt with the formation of fledgling observing systems. But it was a week-long retreat on Block Island that I remember best. With the aim of reviewing the nitrogen in the North Atlantic, Larry was part of a small subgroup led by Scott Nixon and tasked with examining nitrogen in estuaries. It is appropriate that the chemistry of this group was greatly aided by Larry's good will, camaraderie, and wise counsel. We were pleased with the outcome, which was in no small part due to Larry's presence. This spirit will be missed.

—Bill Boicourt



JUST THE FACTS

Appointments

Ezer, T., appointed by Springer-Nature to Editor-in-Chief of the international journal, *Ocean Dynamics*.

Graduation

Kumar, P., Ph.D., "Understanding the Effect of Internal Climate Variability on 20th Century Indian Ocean Sea Level: Results from Newly Reconstructed Sea Level Data", May 2021, Advisors: **T. Ezer** and B. Hamlington.

Media Coverage

Dangendorf, S., Article with several quotes by Carbonbrief in the UK in May 2021 <https://www.carbonbrief.org/hurricane-sandy-caused-an-extra-8bn-damage-due-to-human-caused-sea-level-rise>.

Dangendorf, S., Main actor in the ZDF/ARTE Plan B sea-level documentary "Kampf gegen die Flut — Kuestenschutz gegen Klimawandel" by Christina Gantner. https://www.arte.tv/de/videos/090637-090-A/re-wenn-die-fluten-steigen/?fbclid=IwAR3zEDZ_zOUTudl-VW9II75xvvs.

Publications

Buzzanga, B., E. Heijkoop, B. Hamlington, R. Nerem, and A.S. Gardner. 2021. An assessment of regional ICESat-2 sea-level trends, *Geophysical Research Letters*, <https://doi.org/10.1029/2020GL092327>.

Castelao, R.M., **M.S. Dinniman**, C.M. Amos, **J.M. Klinck**, and P.M. Medeiros. 2021. Eddy-driven transport of particulate organic carbon-rich coastal water off the West Antarctic Peninsula, *Journal of Geophysical Research*, 126, e2020JC016791, [doi:10.1029/2020JC016791](https://doi.org/10.1029/2020JC016791).

Specialized Training

Graduate student **Shelby Henderson** flew with the International Ice Patrol (IIP) to conduct reconnaissance patrols of icebergs. **Rema McManus**, offshore wind program specialist, was the first Virginia graduate of the Global Wind Organization-certified basic safety training courses for wind turbine technicians. Both of these stories will be featured in the next issue of *CCPO Circulation*.

Dangendorf, S., T. Frederikse, L. Chafik, **J. Klinck**, **T. Ezer**, and B. Hamlington. 2021. Data-driven reconstruction reveals large-scale ocean circulation control on coastal sea level, *Nature Climate Change*, <https://doi.org/10.1038/s41558-021-01046-1>.

Ezer, T. and **S. Dangendorf**. 2021. Variability and upward trend in the kinetic energy of Western Boundary Currents over the last century: impacts from barostatic and dynamic sea level change, *Climate Dynamics*, <https://doi.org/10.1007/s00382-021-05808-7>.

Ezer, T., X. Fanghua, Z. Liu, E. Stanev, S. Wang, and J. Wei (Editors). 2021. The 11th International Workshop on Modeling the Ocean (IWMO 2019) in Wuxi, China, June 17-20, 2019, *Ocean Dynamics*, 71(4), 471-474, [doi:10.1007/s10236-021-01448-x](https://doi.org/10.1007/s10236-021-01448-x).

Frederikse, T., S. Adhikari, **S. Dangendorf**, R. Gehrels, F. Landerer, M. Marcos, A. Slangen, and G. Wöppelmann. 2021. Constraining 20th century sea-level rise in the South Atlantic Ocean, *Journal of Geophysical Research*, 126, e2020JC016970.

Jänicke, L., A. Ebener, **S. Dangendorf**, A. Arns, M. Schindelegger, S. Niehüser, I.D. Haigh, P.L. Woodworth, and J. Jensen. 2021. Assessment of tidal range changes in the North Sea from 1958 to 2014, *Journal of Geophysical Research*, 126, e2020JC016456.

Von der Pol, T., J. Hinkel, J. Merckens, L. MacPherson, A. Vafiedis, A. Arns, and **S. Dangendorf**. 2021. Regional economic analysis of flood defence heights at the German Baltic Sea coast: A multi-method cost-benefit approach for flood prevention, *Climate Risk Management*, 32, 100289, <https://doi.org/10.1016/j.crm.2021.100289>.

Virtual Presentations

Buzzanga, B., Measuring Subsidence in Hampton Roads from Space, Department of Atmospheric and Planetary Sciences, Hampton University, February 2021.

Dinniman, M., Impact of ice shelves on micronutrient supply to the surface waters around Antarctica and sensitivity of this to atmospheric changes, invited seminar, Antarctic Sea Ice and Southern Ocean Seminar Series, University of Texas at San Antonio, April 14, 2021.

Dinniman, M., K. Hudson, **J. Klinck**, J. Kohut, C. Moffat, M. Oliver, M. Passacantando, H. Statscwich, J. Veatch, and X. Wang. From the Mountains to the Penguins in the Deep Blue Sea: Importance of Atmospheric Forcing Resolution to the Simulation of the Ocean for a Biological Hotspot off the Antarctic Peninsula, AMS 16th Conference on Polar Meteorology and Oceanography, June 2021.

Dinniman, M., K. Hudson, **J. Klinck**, J. Kohut, C. Moffat, M. Oliver, M. Passacantando, H. Statscwich, J. Veatch, and X. Wang. From the Mountains to the Penguins in the Deep Blue Sea: Importance of Atmospheric Forcing Resolution to the Simulation of the Ocean for a Biological Hotspot off the Antarctic Peninsula, 16th Workshop on Antarctic Meteorology and Climate, June 2021.

Ezer, T., Sea level rise, hurricanes, and the Gulf Stream: impacts on the Elizabeth River and the Hampton Roads region, Sea Level Rise and Climate Resilience Meeting, The Elizabeth River Project, April 20, 2021.

González Díaz, M., **E.E. Hofmann**, **J.M. Klinck**, D.M. Munroe, E.N. Powell, and A.M. Scheld, Spatial and Temporal Variations of Atlantic Surfclam (*Spisula solidissima*) Population Demographic Characteristics Along the Middle Atlantic Bight, National Shellfisheries Association Annual Meeting, March 23, 2021.

Hofmann, E.E., Southern Ocean ecosystem modeling, oral presentation, ICED virtual workshop on "Using models to improve our understanding of Antarctic krill and their ecological role in the Southern Ocean", May 17-20, 2021.

Hofmann, E.E., Understanding marine ecosystems – A view to the future, invited virtual oral presentation, Japanese Geoscience Union Meeting, June 5, 2021.

Hofmann, E.E., C.S. Friedman, E.N. Powell, **J.M. Klinck**, M. Neuman, J. Moore, I. Taniguchi, D. Kushner, C.M. Miner, K. Hemeon, L. Poussard, and L. Solinger, virtual oral presentation, Environmental controls on withering syndrome in abalone: A modeling study, oral presentation, National Shellfisheries Association Virtual Annual Meeting, March 23, 2021.

Munroe, D.M., E.N. Powell, **E. Hofmann**, **J. Klinck**, and A. Scheld, Interactions and impacts of offshore wind development on east coast shellfish fisheries, oral presentation, National Shellfisheries Association Virtual Annual Meeting, March 23, 2021.

Tuleya, R., Meteorology: The science of weather and climate, Montessori School of Northern Virginia, February 2021.

Tuleya, R., Global Warming and Sea Level Rise, Tidewater Chapter of the National Association of Retired Federal Employees, March 2021.

Tuleya, R., Meteorology: The science of weather and climate, 8th grade class of York Catholic High School, April 2021.

Tuleya, R., Global Warming, Hurricanes and Sea Level Rise, Environmental Science class of York Catholic High School, April 2021.



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Send address updates or comments to newsletter@ccpo.odu.edu, as well as preference for electronic distribution.

Center For Coastal Physical Oceanography (CCPO) and Institute for Coastal Adaptation & Resilience (ICAR) Virtual Seminar Series

FALL 2021 SCHEDULE

13 September	David Lagomasino , <i>East Carolina University</i>
20 September	Harvey Seim , <i>University of North Carolina at Chapel Hill</i>
27 September	Janice McDonnell , <i>Rutgers University</i>
4 October	Erik Yando , <i>Old Dominion University</i>
18 October	Louis Bowers , <i>Avangrid Renewables</i>
25 October	Johna Rudzin , <i>Mississippi State University</i>
1 November	Manoochehr Shirzaei , <i>Virginia Tech</i>
8 November	Sian Henley , <i>University of Edinburgh</i>
15 November	Scott Curtis , <i>The Citadel</i>
22 November	Sutara Suanda , <i>University of North Carolina Wilmington</i>

MONDAYS
at 3:30 PM EST

Streaming at:
[www.ccpo.odu.edu/
seminar.html](http://www.ccpo.odu.edu/seminar.html)