

CERF's Up!

Volume 47 • Number 3 • September 2021



**A new wave
of information
from the Coastal
and Estuarine
Research
Federation**

**CERF 2021 Conference:
Celebrating Our Past, Charting Our Future
CERF Presidents Across Space and Time
Talking Benthic Ecology
StoryCorps Stories**



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Would you like to see your favorite estuary displayed on the cover of *CERF's Up!*? If so, send high-resolution shots showing the natural beauty of the place, along with a short caption and photo credit, to bulletin@cerf.science.

Front cover: Near the mouth of College Creek where it joins the oligohaline part of the James River estuary downstream from Richmond, Virginia, site of the CERF 2021 conference Photo: Robert Isdell

Back cover: James River, Virginia Photo: Chris Johnson

President's Message



Jim Fourqurean

CERF 2021 is just around the corner! Since 1983, the fall CERF meeting has been a centerpiece of my professional life and I am so looking forward to the 2021 meeting. It will be a great event with lots of science that will add to our understanding of the ways the coastal part of our planet works. I will get to catch up with old friends and colleagues, many of whom I only see every 2 years in the fall. Moreover, it will also be a return to the normal and regular events that I enjoyed and benefitted from before the pandemic seemed to put everything in our lives on hold. I hope to see you all there!

The theme for CERF 2021 is "Celebrating our Past, Charting our Future." When the conference team decided on this theme in 2019, it was informed by the fact that 2021 would bring the 50th anniversary of CERF and a chance to reflect on the advances made in our profession during our first half-century. I am sure that the team was not thinking about the oversized role they would play in helping CERF move into a future made so different by the pandemic!

Even while signaling a return to normal, the CERF 2021 meeting will be breaking so much new ground for us. Instead of converging on Richmond for an intense week of in-person events, we will be using the new tools we have all had to master over the

last couple years to converge on a virtual platform over two weeks. My hat is off to the whole CERF 2021 organizing committee, who worked through the uncertainty we all felt throughout 2020. In essence, in that critical mid-planning period for the meeting, the members of the committee were actually doing double work by planning for two possible venues, both virtual and in person. Everyone on the CERF 2021 team is a volunteer that joined up because of how much they value their CERF meeting experiences and they somehow managed that double CERF workload, along with altered work and family obligations, with aplomb! When the CERF Governing Board made the decision in late 2020 to commit to a virtual meeting, the team had spent the better part of a year brainstorming ways to take advantage of the new modality to make CERF2021 the rich experience we have all come to expect from our biennial fall event, and they were off and running.

CERF members have responded positively to the innovative program the CERF 2021 team has put together. Almost a thousand abstracts were submitted, matching the number submitted for the in-person 2019 meeting. These contributions have been sorted into 10–11 concurrent sessions that will play out over the two weeks of the conference. The virtual

venue allows for activities around the clock, facilitating the participation by scientists from all time zones around the world. The virtual space is providing new ways to interact and network, and it is making CERF 2021 the most accessible and equitable meeting yet.

CERF is continuing our groundbreaking efforts to increase diversity, equity, and inclusion in our Federation and profession at CERF 2021. Thanks to the funding help from NSF, NOAA, and Maryland Sea Grant, our Rising TIDES Conference Program will bring 25 students from diverse backgrounds to the meeting, where they will be paired with mentors, including alumni from past Rising TIDES cohorts. These students will also be supported to attend an Affiliate Society meeting. We hope that our efforts will help bring the next generation of members and leaders into the federation.

True to its prescient theme, CERF 2021 will be a great meeting not only looking back at our accomplishments but also looking towards the new realities of professional societies and meetings of the future. I look forward to the chance to revel in our science, strike up professional ties with new CERF members, and catch up with old friends and colleagues at CERF 2021. I trust that I will get a chance to meet you there!

CERF Presidents Across Space and Time

Leila Hamdan, University of Southern Mississippi, Ocean Springs, Mississippi, USA
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If you told me in 1999, when I joined CERF as a first-year graduate student, that I would become CERF President during the Federation's 50th year, I would have snorted—derisively. I was unsure of myself and my future, I lacked any awareness of society leadership, and was frankly unable to imagine the person writing this note simply because I did not have a map from there to here.

While I generally try to live by a philosophy of not looking back at what is done, I strive to learn from what I did. I study microbial biogeography, thus the way contemporary conditions and historic contingencies shape the present and the future is never far from my mind. For microbes, the present is energy, food, and habitat; the past is origin, distance, and change along the way. When distilled down to basic elements, I am not so different from what I study: I am what I eat, and I am what I have learned.

In preparation for CERF's golden anniversary, I find myself asking what good I can do during the two years I will lead the federation, and what harm I must avoid. As it turns out, this is a ritual for CERF Presidents. At that 1999 New Orleans conference, organized by Robert Twilley (President 2015–2017) and Denise Reed, I stumbled into the CERF business meeting. There I watched Nancy Rabalais (President 1997–1999)—a name I knew from journal articles—lead, with a devilish grin, the past Presidents in an incantation that was directed at incoming President Anne Giblin (1999–2001). "Don't Screw it Up!" they cheered; Giblin smiled with good humor, but her eyes were a bit wide. This ritual was a mix of entertainment and well-intentioned warning. Joy Bartholomew (CERF Executive Director 1992–2011) uses "tribe" as a term of endearment for

the CERF community, and it was on full display at that meeting. The rite of passage was strange then, but it lands at home with me today. Several people in that business meeting went on to become CERF Presidents. They continued to evolve, shape, and grow our community in new ways. They made CERF welcoming and continue to do so by recognizing the places where it must be more so. Without knowing it, Past Presidents

spanning 1999–2021 (Rabalais, Giblin, Allen, Schaffner, Christian, Howarth, Williams, Boynton, Heck, Twilley, Neckles, Fourqurean) laid out a map to help me cross unimaginable territory. I am filled with gratitude for that, especially in this last year, when I have had to call on so much of the knowledge and wisdom I have gained from all of them.

My learning from the leaders of CERF began even before my first confer-

Presidents of ERF and CERF

2019–2021	James W. Fourqurean
2017–2019	Hilary A. Neckles
2015–2017	Robert R. Twilley
2013–2015	Kenneth L. Heck Jr.
2011–2013	Walter R. Boynton
2009–2011	Susan L. Williams
2007–2009	Robert W. Howarth
2005–2007	Robert R. Christian
2003–2005	Linda C. Schaffner
2001–2003	Dennis M. Allen
1999–2001	Anne E. Giblin
1997–1999	Nancy N. Rabalais
1995–1997	Candace A. Oviatt
1993–1995	Frederic H. Nichols
1991–1993	Christopher F. D'Elia
1989–1991	Robert J. Orth
1987–1989	Donald F. Boesch
1985–1987	Jerry R. Schubel
1983–1985	Austin Beatty Williams
1981–1983	Barbara L. Welsh
1979–1981	Robert J. Reimold
1977–1979	Michael Castagna
1975–1977	F. John Vernberg
1973–1975	H. Perry Jeffries
1971–1973	L. Eugene Cronin

ence. In November 1998, less than a year after starting graduate school, I met L. Eugene Cronin, CERF's first president, at the "Dialogue Across the Generations" event hosted by the Alliance for the Chesapeake Bay. The event was both nostalgic and prophetic, and a chance for two generations of scientists to "reflect, relate, and speculate." It was a singular opportunity for many students in attendance to meet Cronin, as he passed away one month later. He shared with us how his peers informed and inspired his passage along his career road. He described how they desired an intellectual place on the map to gather, and how they set out to build it together. As inspiring as that was, the way he navigated

the federation was not something I learned that day. If I had known I would follow his footsteps in CERF leadership, I wonder if I would have asked him or any of the panelists even one single question—at the beginning of my career road, my voice was guarded and unsure, and so I sat quiet. Instead of looking back at an opportunity that is done, I have tried to learn from what I did.

Through working with the CERF leaders I have met since that day, I have discovered my historical tendency to observe before engaging was not a weakness, but a skill shared by others, and one that could be honed to do good for CERF. Listening and learning creates space for other voices, and I will try to use that skill to

nourish the scientific journey of new CERF members and the Federation's future.

The past is gone, behind me—quite literally, as a framed CERF 1999 poster behind my desk (Twilley has one to match). It is a signpost of where I am from, the marker of the distance traveled, and a daily reminder to be grateful to all 25 past CERF presidents who helped CERF change along the way. On 4 November, at CERF 2021, some of those past presidents will attend the business meeting, and direct a "Don't Screw it Up!" at me. I can make no promises on the future, but what I can do is work very hard to extend the map they created through unknown territory to a future CERF president.

Talking Benthic Ecology: The Old and the New, the Non-Changed and the Changed

Cassandra Glaspie and Nancy N. Rabalais

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This is a conversation between Cassandra (CG), an early-career Assistant Professor, and Nancy (NR), a more senior Professor.

CG: What piqued your interest in benthic ecology?

NR: I am a 45-year veteran of benthic ecology. I spent my college years wandering around the estuaries and coastal waters on the south Texas coast of the Gulf of Mexico and learning about the flora and fauna. My first experience within the realm of benthic ecology was taking Smith-McIntyre grab samples from the *RV Longhorn* across the south Texas continental shelf for infaunal community analyses. I had the privilege of taking a class from the Allister McIntyre at the University of Texas, Port Aransas Marine Science Institute, in the

late 1970s. My first publication was a species description of a thalassinid shrimp taken from a mud grab.¹ Guidance in the description and writing was provided, in part, by Austin Williams, National Marine Fisheries Service, National Museum of Natural History; Austin was a co-founder and President of the Estuarine Research Federation (1983–1985).

NR: Same question, Cassie. What led you down the path of where you are today?

CG: I have always had a passion for the ocean and invertebrates, so even though I grew up in Michigan, it still makes sense that I ended up in this career. When I was thinking about graduate school, I was considering larval ecology and benthic ecology. I chose benthic ecology because Rochelle Seitz's marine community



Nancy Rabalais sieving benthic samples

ecology lab at the Virginia Institute of Marine Science gave me the chance to study benthic predator-prey interactions, which is as fun as it sounds. My professors, especially Linda Schaffner and Bob Diaz, showed me



Cassandra Glaspie in the field

how benthos could be an excellent indicator of ecosystem health. After learning about the impacts of climate change as an undergraduate, I really wanted to learn a branch of ecology that would help me understand how global change and environmental degradation impact coastal ecosystems, and benthic ecology made that possible for me.

CG: What did you do in your first position as a benthic ecologist?

NR: I was fortunate to be hired at the University of Texas (UT) Marine Science Institute in Port Aransas as a research assistant in 1976. I worked identifying epifauna from trawls and infauna from benthic sediment samples from offshore waters of south Texas. This is where I learned (or taught myself) identification of polychaetes, the dominant fauna of the soft-bottom offshore sediments. Our research team divided ourselves into taxonomic groupings to avoid duplication of effort. My basic understanding at this point was that the infauna, because they were not mobile from their habitats, reflected the environmental conditions of the ambient waters. This remains the basic tenant of benthic ecology, but the variability among replicates is high, and often obscures patterns. If taxonomists can be consistent in application of names, that helps reduce the variability. I met

Donald E. Harper, Jr., in my early days of polychaete work at the UT marine lab. We became the best of friends and taxonomy collaborators. He continued as a colleague in studies of benthic communities in low-oxygen areas on the Louisiana shelf of the Gulf of Mexico, after I moved to the Louisiana Universities Marine Consortium in 1983.

CG: What more was there to benthic ecology that kept your interest, in addition to the intriguing and difficult taxonomy?

NR: I must say that keeping up with the taxonomic literature and name changes among species and genera can give me a headache. If organisms were not identified according to taxonomic convention, then the data used in community analyses would not be comparable. The World Registry of Marine Species (WoRMS, <https://www.marinespecies.org/>) is a “go-to” web site for the latest taxonomic agreement on identification and nomenclature. However, my experience is that the WoRMS web site is recommending changes to genera and specific names that are not those used commonly in the literature. My current philosophy is that I know the common species and know their habitats, and the specific name is not always so important.

NR: How about you? What has kept your interest in the field?

CG: I think it is interesting what things really have not changed in the history of benthic ecology. The field started out as an offshoot of fisheries science, to figure out how much fish food was available. It is still highly relevant to understand how ecosystem degradation and agents of global change are going to affect food webs that include fisheries species. Nancy,

you began your career developing taxonomic methods so benthos could be used to study environmental conditions. My students are working on adapting eDNA methods to accomplish the same goals.

CG: What are your thoughts on more recent benthic study advances?

NR: I am intrigued by in situ manipulative experiments that test predator-prey interactions, feeding experiments, recruitment experiments, multiple species interactions, benthic-pelagic coupling, the influence of invasive species on native infaunal community composition, and the many biogeochemical processes affecting the benthic community and vice versa. The high-tech instrumentation of current photographic techniques and human-occupied underwater vessels and remotely operated vehicles have expanded our knowledge of benthos in less accessible habitats.

NR: Which benthic ecology advances excite you?

CG: Well, I certainly agree with you—in situ manipulative predator-prey experiments are my passion and these types of experiments, when designed and executed carefully, can tell us so much about biodiversity and ecosystem function. I am also very interested in seabed mining, which of course will be a major disturbance to the benthos but will be an interesting opportunity to learn a lot more about deep sea diversity and the ways species interact in communities.

And, along the way, it is very exciting to learn from, and work with, *the* Nancy Rabalais!

References:

1. Rabalais, N.N. 1979. A new species of *Ctenocheles* (Crustacea: Decapoda: Thalassinidea) from the northwestern Gulf of Mexico. *Proceedings of the Biological Society of Washington* 92:294–306.

A Trip to the People's Republic of China with the Estuarine Research Federation (ERF) 1983, Part 2

Judith S. Weis¹, Roger Rulifson², Kenneth Beal³, Charles Simenstad⁴, and Quinton White⁵

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Group portrait from 1983 ERF trip to the People's Republic of China Photo: Charles Simenstad

Following are recollections of Charles Simenstad, University of Washington, and Quinton White, Jacksonville University, of the ERF trip in 1983, which was described by Judith Weis in the last issue—Ed.

Charles (Si) Simenstad. The People-to-People trip to the People's Republic of China in 1983 was both personally intriguing and professionally stimulating, if not just plain captivating. A country so radically emerging to Western visitors displayed a mesmerizing contrast between 2,000–3,000 years of culture and an impulsion toward modern science. The culture was overwhelming: Beijing alone presented the captivating Tiananmen Square, the Forbidden City, The Great Wall, and the Ming Tombs as well as, for those of us motivated to roam independently late into the nights and very early morn-

ings, the *hutung* back alleys and the aged *tai chi* practitioners along the shores of Yuyan Lake. That was compounded by our continued exposure to the combination of Chinese ethos and science in Dalian, Hangzhou, and Guangzhou, highlighted by our exposure to the country's diverse array of technical institutions (e.g., Dalian Institute of Technology, Second and South Sea Institutes of Oceanography, etc.) in each location.

Interaction with Chinese scientists was formally organized by senior scientists but some of the most fruitful exposure was through junior scientists and graduate students, primarily due to the younger/junior scientists' grasp of the English language. As a result, some of the best exchanges from our perspective were on the fringes of the structured professional meetings, on the field trips, and at less formal dinners.

Our Chinese hosts displayed exceedingly earnest devotion to the delegation's comfort and exposure to the emergence of their estuarine science. It was obvious that they wanted to make sure we didn't encounter any particularly uncomfortable occasions. Even our breakfasts were organized to provide Western-style cuisine for many/most of the delegation, but also classic Chinese cuisine (steamed buns, steamed glutinous rice, wontons, tofu pudding, congee, deep-fried dough sticks, tea) for the more adventurous amongst us. The People-to-People participants displayed a very wide range of appreciation and interest, some staying fairly restricted within the program and others taking advantage of a few (Mandarin) Chinese-fluent speakers to wander far and wide outside the program's constraints.

It was very evident that the Chinese were extremely eager for their science to catch up with the Western science of estuarine ecology. It seemed their strengths were in understanding and working with estuarine processes for economic development, with just emerging attention to protection or restoration of natural communities and processes.

Quinton White. I was a young scientist who was honored to be asked to join the group. What an exciting opportunity, but also a financial challenge. I was young and poor but found creative ways to obtain the funds necessary to make it happen. I learned on the trip that others had shared my challenge.

The group arrived in Beijing at night, so our first real look at China was that first morning when we were able to look out of our hotel window to see the city. The view was anything but beautiful, as a thick blanket of dark smog hung over the city. The Chinese burned soft coal to heat their homes and to cook, so the smoke from the fires filled the air. We soon learned that the air would clear, and the sun would shine, as the day progressed. However, my first impression was dirty air and pollution.

Nevertheless, I have so many fond memories of China. The great food; the beautiful ceramic trash cans fashioned to look like lions, pandas, and dragons; the curious children; and the striking scenery. So much to see and so little time to take it all in.

The Chinese were wonderful people, many who spoke English, and they were anxious to practice with Americans. My roommate on the trip was Charles Simenstad. We had ventured out one morning for a walk outside the hotel joined by Janet Ebaugh. Both were from Washington and Janet spoke some Chinese. We were walking along a roadway that was filled with countless bicycles, when a young man rode up and hopped off his bike and quickly said "Hello, are you from America?" He knew the United States' geography far better than I knew China's. We walked and talked for several minutes until we had to return to the hotel.

And then there was the science. We had meetings with a variety of fellow scientists who were interested in many of the same topics we were. Each of us had at least one prepared talk to give if we had the opportunity. I admit I was not prepared to give a talk that had to be translated. We

shared the same technology in that we had slides to be projected much like in the US. However, after every sentence, you had to pause to give the translator time to convey what you just said to the group. And thus, it went, back and forth; consequently talks took quite a long time. I found myself looking for simple ways to say the same thing. To add to the confusion, often the Chinese would launch into animated sidebar discussions about your slide, leaving you to wonder what they were really saying. The translator would later tell you what was being said.

It was amazing to discover how similar we were in interests and attitude. Their lives were much more controlled by the government than ours, yet they found a way to carry out meaningful science. They were having the same struggles we experience to find funds, get equipment, and do research.

The trip to China was a once-in-a-lifetime opportunity for me. I am grateful to Jerry Williams and ERF for the chance to share in their adventures. It has also been fun to go back, look at the pictures, and remember the trip and all the wonderful people I met along the way.

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A Story About the StoryCorps Stories: AERS and NEERS Collaborate on a StoryCorps Initiative for the 50th Anniversary of CERF/ERF

Joseph Luczkovich and Sara Grady

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As you may be aware, in 1971 the Atlantic Estuarine Research Society (AERS) and the New England Estuarine Research Society (NEERS) met in Plainview, Long Island, to found the organization known as the Estuarine Research Federation (ERF). This fall, the organization, now known as the Coastal and Estuarine Research Federation (CERF), commemorates the 50th anniversary of that event.

To record the memories and oral history of the two societies and their confederation during the past half-century, members of AERS and NEERS conducted StoryCorps interviews. StoryCorps is an effort to record the oral history of the United States, from individuals and organizations. It is an audio-only recording initiative (you may have heard stories from people interviewed on your local National Public Radio station). You can visit their website to learn more: <http://StoryCorps.org>

The idea of using StoryCorps to document CERF's oral history was initially floated by NEERS President Susan Adamowicz at CERF 2019, and AERS President Ben Fertig agreed to participate. These interviews began to be recorded during a workshop held at the AERS/NEERS Spring 2021 meeting and are continuing to be recorded. The CERF StoryCorps community has six interviews thus far, some of which can also be found in the StoryCorps communities of the respective affiliates.

Here are some key takeaways from the AERS/NEERS workshop, which can be heard in its entirety as a WebEx MP4 recording here: https://youtu.be/k2_3l3FYjhU

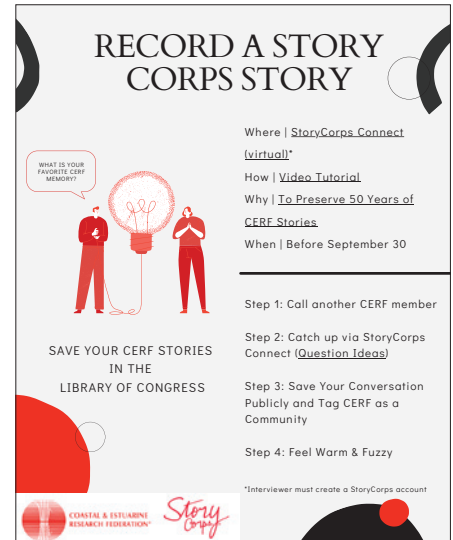
- We used StoryCorps Connect (a virtual interface, allowing for social distancing) to record audio in the

interview. You can also use the StoryCorps phone app or any audio recorder to get an in-person interview.

- We walked workshop attendees through the StoryCorps Connect app using an example interview.
- We showed participants how to upload this recording to the AERS or NEERS StoryCorps Community Archives.
- We noted that all these interviews will be archived in the Library of Congress Folklife Center with AERS and NEERS searchable text tags.

We are encouraging all CERF and Affiliate Society members to conduct their own StoryCorps interviews before the Fall 2021 CERF meeting and upload them to the archive. Any two CERF or Affiliate members can participate. We suggest that a senior society mentor and junior mentee be approached, or a major advisor and student, but it can be any two people who are members. You simply need to each create an account on StoryCorps, then email one another and log into the StoryCorps Connect in your web browser <https://storycorps.org/participate/storycorps-connect/> at the same time to record the interview. There is a video link so you can see one another live and get a screenshot of the two people for the archive file, but only the audio of the interview will be stored. Some suggested questions were used to get the interviews going:

- How did we meet?
- What's a memorable (CERF, ERF, AERS, NEERS, or another Affiliate) event for you?
- How has your mentor's advice helped you?
- What did your mentee bring to your life or teach you?



- When did you first attend a (CERF, ERF, AERS, NEERS, or another Affiliate) meeting, and what do you remember of it?
- What has changed in (CERF, ERF, AERS, NEERS, or another Affiliate) culture, meetings, or science?
- What do you recommend to newer CERF members to make the most of their experience?
- Name three (AERS, NEERS, CERF or another Affiliate) scientists that you would like to be interviewed for StoryCorps.

We need your CERF stories! Help us make the oral history of CERF, ERF, AERS, NEERS, SEERS, GERS, PERS, CAERS, and ACCESS a part of the Library of Congress! Join the members who have already recorded an interview and listen to them here:

<https://archive.storycorps.org/communities/coastal-and-estuarine-research-federation/>

<https://archive.storycorps.org/communities/atlantic-estuarine-research-society/>

<https://archive.storycorps.org/communities/neers/>

Meet CERF's 2021–2023 Governing Board

We are pleased to present the CERF 2021–2023 Governing Board! Please join us in congratulating CERF's new President-elect, Secretary, Members-at-Large, and Student Member-at-Large. Thank you also to our continuing Board members, and our new Affiliate Society representatives.

2021–2023 GOVERNING BOARD



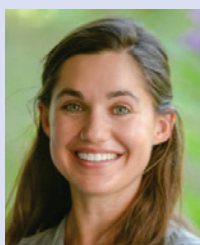
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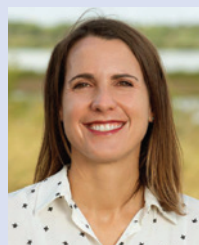
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Harte Research Institute
Texas A&M University-Corpus
Christi



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Member-at-Large (2021-2025)
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**Student Member-at-Large
(2021-2023)**
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Courtney Schmidt
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AERS

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PERS

Liz Perotti
Oregon Department of Fish
& Wildlife



GERS

Kelly Darnell
University of Southern Mississippi



SEERS

Jessica Reichmuth
Augusta University

CAERS

TBD

James River estuary and Chesapeake Bay

Image: Alan Holmes, NASA

Q&A with the CERF 2021 Conference Co-Chairs



Q: What are you looking forward to this year at the conference?

Lora Harris: CERF meetings always feel like family gatherings to me. I'm eager to see how our creative team has managed to extend that culture to a virtual realm, and to make progress towards ensuring that sense of belonging is felt by more in our community in our journey to becoming a more inclusive federation.

Mark Brush: I am most excited to celebrate the past 50 years of CERF's history and that of coastal science and management, and look forward to the next 50. It is truly an honor to be charged with organizing the 50th anniversary conference. But beyond that, I am so excited to see how the novel format and programming of this conference work, in two key ways:

Our team has been doing truly amazing work to expand and innovate our programming. There are too many fantastic elements to mention here, but participants will experience numerous novel elements throughout the meeting, and will also see the history theme and elements of justice, equity, diversity, and inclusion carefully woven throughout.

Second, I am excited to see how the virtual meeting works. We were all

disappointed not to get to meet in person in Richmond, but our team has engaged in such "out-of-the-box" thinking to create a novel virtual meeting experience that I think it will truly raise the bar for virtual meetings.

Q: What has been your favorite part of the planning process this year?

LH: Having an amazing team to work with! I am amazed at how our committees leaned into uncertainty, contingency planning, innovation, and execution of the work despite extremely trying circumstances.

MB: Working with the people, no question. First, it is an absolute delight to get to co-chair with my fellow Scott Nixon lab alum Lora. We have been friends and colleagues since our days in graduate school together, and it has been such an honor and pleasure to get to co-chair this conference with her.

Second, the conference team is composed of around 70 of the most creative, hard-working, passionate, and innovative people I have had the chance to work with. It has truly been inspiring to watch how we assembled as a team, had to quickly adapt to the new realities of the COVID pandemic (and plan for multiple possible futures), and then immediately charge forward once the decision was made to be all-virtual to develop a novel virtual conference. The creativity and the passion for CERF have been constantly evident and inspiring.

Finally, we have been so wonderfully supported by our outstanding Executive Director, Susan Park, the headquarters team at SBI, and the CERF Executive Committee and Governing Board. Planning a meeting during COVID has been trying, but the support provided by these folks has sustained us, and they have always had our backs.

Q: What advice would you offer first-time attendees?

LH: I want to speak directly to our early career attendees to say that we acknowledge that the virtual meeting will not offer the same networking experiences that an in-person meeting would have created. Our team also thought very hard and intentionally about this—we know what can be on the line for you. Please do engage in the networking activities, speak up in the special sessions, and reach out to connect with attendees. And for senior-career folks, let's all invest time in reaching out and remind ourselves that the best talks at any of our CERF meetings are typically given by our students!

MB: Take advantage of as much as you can! CERF conferences are the ultimate experience for CERFers. Ask any member what led them to join CERF and what their favorite aspect of being a member is, and they will almost certainly say something about the amazing conferences, and the inspiration they provide, the diverse programming, the welcoming atmosphere, and the ability to network and catch up with colleagues and friends. Our conferences provide such a wealth of experiences spanning the scientific to the social for you to take advantage of, with mentoring opportunities for first-time attendees and ambassadors to help get you involved. It takes some advance planning with the program to decide what to take advantage of and to plan your schedule, so take a look and jump in!

Q: What opportunities and advantages do you see in a virtual conference?

LH: We invested a lot of thought and research into thinking about how to create virtual special sessions that

would engage as wide an audience as possible. This is where our anchor plus summary talks format came from—consulting with other conference organizers and best practices around virtual attention spans. We are all testing new approaches in this virtual space, but I'm hopeful that the opportunity to create what are essentially mini-panels and time for group discussion will enrich what we all take away from presentations by our colleagues. I am also excited to see how participants engage in non-verbal communication during the conference. I know that the chat function, and the capabilities of the virtual platform offer opportunities for connection that diversify our avenues for communication.

MB: While we all like to meet in person, virtual conferences provide some novel opportunities with potential benefits for CERF, its members, and the conference experience—both for this conference and moving forward. Virtual conferences provide the opportunity to expand our reach, because participants are no longer limited by their ability to travel to a meeting site. This not only saves

costs and reduces carbon footprints, but it allows for a much greater number of conference attendees spread more widely across the globe and from a more diverse population. This greater inclusivity will generate a greater diversity of ideas for our field and has the potential to translate into greater membership for CERF. The virtual format also allows us to provide recorded talks and other events online that can be viewed outside of the regular session time slots or even well after the conference, allowing attendees to see all talks and events rather than having to pick and choose. Finally, the virtual format also brings a much lower registration fee for our members.

Q: Why, in your opinion, is this conference so important for the scientific community?

LH: On a personal level, pulling together a talk or poster is always a motivator for me to integrate my research and form a narrative around my science. When I have a chance to bounce that narrative around with trusted and valued colleagues, the science improves. The conference

also offers me a chance to hear new work and see new faces. I also am just thrilled about our keynote and plenary speakers. All of these events offer us an opportunity to think “big picture” about our work in coastal and estuarine systems. These aspects together make CERF conferences a place to take a pause, think about my own work, the people who do this work together in the federation, and how we fit into large-scale challenges and opportunities.

MB: CERF conferences are the “go-to” place for the coastal and estuarine science, management, and education communities. They are the ultimate venue for presenting the latest scientific results, exploring how these results can be translated into management/policy and education/outreach, and for networking with your colleagues and friends in the field. Our unique size, welcoming atmosphere, and focus on students, early career professionals, and underrepresented groups makes us the springboard for the next generation of coastal scientists and professionals.

Social Event

The 26th CERF Biennial Conference's Virtual Gallery Opening and Social is this year's must-attend event on 3 November 2021, 6:00–8:00 PM EDT. Join us for a family-friendly gathering that includes a special presentation from the conference artist and opportunities to connect with your friends in themed breakout rooms to paint, chat, and drink the night away.

Who: Everyone (including family members)! All skill levels are welcome.

What: An inspirational presentation from CERF conference artist Alice McEnerney-Cook, <https://www.mcenorneycook.com/>, followed by socializing with some of the talented artists within the CERF community.

Where: Anywhere you want! Connect via the conference meeting platform.

How much does it cost? It's up to you:

I'm here to socialize: free!

Let's paint: pre-order a paint-by-number kit for \$30 (must sign up six weeks prior to event)

The next van Gogh: free (provide your own art supplies)

Want a more immersive experience? Look for our regional wine and beer recommendations from some of the CERF Affiliate Societies.

More information on how to sign up for CERF's first-ever Virtual Gallery Opening and Social coming soon!

Career Networking Event

9 November 2021, 6:00–8:00 PM EST

Join us for this popular networking event!

Are you a student, recent graduate, or just looking to explore different careers? Have you established yourself in the field and want to share your story with other CERF attendees? Do you have a job opportunity you would like share?

If the answer is “Yes!”, or even a tentative “Maybe???”, please join the Career Networking Event on **9 November 2021, 6:00 PM EST**. We are looking for featured speakers (folks willing to share their careers with an audience) and guests (students or professionals looking to learn about different careers).

We have reinvented this popular event to be fully virtual. Each featured speaker will be stationed in a small breakout-style room. Guests will have the opportunity to chat with featured speakers from various coastal and estuarine science and management positions. Then, after a set amount of time, guests will switch rooms to interact with a new featured speaker. This will allow for conversations with several people from varied career paths, as well as

interactions with your peers!

Guests (students and those looking to change careers): Keep your calendar clear for this event (no registration is necessary). Prepare some questions! Stay tuned for a list of featured speakers.

Featured speakers (established-career individuals): Please consider signing up to be a featured speaker (email cerf.cne@gmail.com). Share your knowledge of careers, agencies, and institutions with tomorrow’s leaders of the coastal and estuarine science and management community. Whether it is just for an evening function or for the duration of the conference, we encourage you to adopt the CERF tradition of volunteerism and commitment to education. Who knows, you may end up meeting a future collaborator in the process!

Email us at cerf.cne@gmail.com to share your career with us (those who would like to learn about careers, no need to register).



Social Media “Social CERFing” Policy

Please Read Before You Tweet (or Facebook, Blog, Instagram, Pinterest, LinkedIn, etc.)

To balance the needs and expectations of conference presenters with the benefits of open sharing and discussion, we have prepared a “best practices” guideline for recording presentations and using social media during the conference.

We encourage all conference attendees to openly discuss our conference on social media. You can live Tweet, post to Facebook, or even blog about the presentations. Please use the

meeting hashtag #CERF2021 to increase engagement. We also encourage our attendees to follow and tag us on Twitter, Facebook, and Instagram (@CERFScience).

Photography, video, and audio recording of scientific content from oral and poster sessions, plenaries, and keynotes are allowed unless the author/presenter specifically prohibits it. Some authors/presenters wish to withhold audio/visual material

from being recorded and/or posted on social media.

Please follow our overall meeting code of conduct and be considerate and respectful of all meeting attendees. Online harassment, intimidation, or discrimination in any form will not be tolerated.

CERF 2021 Code of Conduct: <https://conference.cerf.science/2021-conference-code-of-conduct>

Ambassadors Program

The CERF Ambassadors Program aims to provide a group of highly visible volunteers (“Ambassadors”) who are committed to ensuring that all attendees have a safe, welcoming, and enriched conference experience. The CERF Ambassadors Program volunteers act as liaisons between attendees and organizers. The CERF Ambassadors Program is here to ensure that every attendee feels important and heard and has the best conference experience possible.

What is a CERF Ambassador? A CERF Ambassador is a CERF attendee committed to making CERF a safe, professional, and inclusive event and helps ensure that all participants feel welcomed, and respected. CERF Ambassadors can answer any questions you have about CERF-ing. Ambassadors also support conference staff by serving as a point of contact, offering confidential support, resources, and advice to attendees. Throughout the conference, Ambassadors will be

available to chat informally, provide guidance, suggestions, and help make sure all attendees have a great meeting conference experience.

The duties of a CERF Ambassador are vital but straightforward. They involve being available to other attendees and ensuring CERF is a respectful, inclusive, and supportive scientific meeting.

Learn more about the CERF Ambassadors Program here.¹

1. <https://conference.cerf.science/cerf-2021-ambassadors-program>

Silent Auction and Affiliate Swag

The CERF 2021 Silent Auction is virtual this year and will raise funds for the CERF Odum/Nixon Fund to support CERF student participation as well as professional development activities. A variety of items will be on virtual display through our BiddingOwl Auction site.¹ Items available for bidding will include original artwork, books, scientific instrumentation, pottery, crafts, home decor, and CERF memorabilia donated by members. Join us for a good cause, and great deals on highly prized items!

How can I donate an item for the silent auction?

If you will be donating an item for the silent auction, you may indicate so on your conference registration form. If you would like to donate an item after you have completed your online reg-

istration, you may contact the CERF office for assistance in adding your item for donation.

You may also download and complete the CERF 2021 Silent Auction Donation Form and return to Cassandra Armstrong² or Jessica Reichmuth.³ Completed forms⁴ are due by 20 October 2021. <https://forms.gle/yVf8GVsUfEZKHZpc8>

Other important donation information:

- shipping prices should be included in the suggested bid amount since the donator will be shipping the item to the winning bidder
- please provide up to three pictures of the donated item as well as a brief description of the item so we can post this on our auction site (there is a place for this on the form)

When will the auction take place?

The auction will open at 9:00 AM on 25 October 2021 and close at 11:30 PM on 24 November 2021. All bids must be placed prior to the close of the auction. Bids will take place using a third-party site. More info about our specific link will be forthcoming!

How do I collect my winning bid?

All payments will be collected through our BiddingOwl.com Silent Auction website.² Winners will be notified by email and/or text by BiddingOwl at the end of the auction. All payments must be received by 5:00 PM on 26 November 2021. If payment is not received at that time, items will automatically be awarded to the next highest bidder, who will be immediately contacted.

1. <https://www.biddingowl.com/CERF> 2. pastpresident@seers.org 3. presidentelect@seers.org 4. <https://forms.gle/yVf8GVsUfEZKHZpc8>

Are you a SEERS member? Belong to CAERS? How about AERS? Purchase Affiliate gear this year at CERF and represent your group at the next face-to-face meeting.

CERF 2021 Conference Art

Elizabeth Lacey

Stockton University, Galloway, New Jersey, USA



*"Upshurs Creek" 24"x
32" oil on linen 2002.
The Nature Conservancy,
Brownsville, Virginia.
Painted by CERF 2021
Conference Artist Alice
McEnerney Cook.¹*

The CERF 2021 *Celebrating our Past, Charting Our Future* virtual meeting will feature work by Conference Artist Alice McEnerney Cook. In each bulletin leading up to the virtual conference, estuaries from Alice's collection are being featured and perspectives shared from CERF members as they reflect on the estuaries' past and their chart towards the future.

Upshurs Creek is located on the Eastern Shore of Virginia, along a deep-water creek with a connection to the ocean, which made it historically attractive to merchants who transported corn. The fields adjacent to the creek were farmed by the Upshurs from 1652 until 2002, when the land was taken out of production and planted with native grasses. The region is now protected by The Nature Conservancy (TNC) as part of the Brownsville Preserve

and the former Upshur farmhouse serves as the headquarters for the Volgenau Virginia Coast Reserve. Research at Upshurs Creek is conducted by descendants of the Upshurs and is part of the Wildlife Enhancement Program managed by TNC, Virginia Department of Game & Inland Fisheries, and US Fish and Wildlife Service. Given this protection, the easements built into the site, and the less populated nature of the area, eutrophication is not as much of an issue for these marshes as they are not exposed to the agricultural run-off that is typical in the region. CERF members Linda Blum and Bob Christian are intimately familiar with the area, spending a combined 65 years studying the long-term changes in water quality of the creek and conditions of the surrounding marshes. Both confirmed the robust-

ness of the marsh, even though it has experienced sea level rise and upland migration typical of so many marshes globally. Over their years of monitoring, both noted new tidal creeks and marsh ponds but little change to tidal channel edges. When considering the marsh future, Linda states, "Because of the elevation capital (the marshes are high in the tide frame) and the shallow slope of the uplands, these marshes are likely to continue to migrate inland." If you aren't able to get to Virginia to see the marsh yourself, Conference Artist Alice McEnerney Cook has captured its beauty in this painting. Visit the Virtual Art Gallery during CERF in November and see if you can find a marsh near you! The conference art committee will also be sending out tweets with fun facts about marshes and prompts to contribute your own marsh story.

1. <http://mcenerneycook.com/>

Oral Session Format

The expansive scientific program for the virtual CERF 2021 is complete! This year's virtual format spurred us to re-design the nature of oral presentations to balance our time between scientific content and group discussion. Scientific sessions will include two types of presentations, called "Summary Talks" and "Anchor Talks." Summary Talks encourage short, engaging presentations that focus on the key points of the research. There is no pre-defined format to these talks, and presenters are encouraged to be creative in designing the content they wish to highlight. Each Summary Talk, which will be pre-recorded and delivered

synchronously during CERF 2021, can have a companion 15-minute version for viewing during and after the conference. "Anchor Talks" are longer presentations (either 15 or 30 minutes) and are designed to establish the focus for an individual session through a broader summary or synthesis of the session topic. Each 90-minute session block will include 30 minutes of facilitated group discussion, which is designed to balance pre-recorded research presentations with live conversations among attendees. For more information visit the CERF website: <https://conference.cerf.science/>.

1 Nov. | Monday

7:00-10:00 AM EDT	Workshops
10:00-noon EDT	Awards and Keynote
Noon-1:00 PM EDT	Break and Mentoring Booth
1:00-2:30 PM EDT	Oral Sessions
2:30-6:00 PM EDT	Workshops

2 Nov. | Tuesday

10:00-11:30 AM EDT	Oral Sessions
11:30 AM-1:00 PM EDT	Break, Story Corps, and Mentoring Booth
1:00-2:30 PM EDT	Oral Sessions
2:30-4:30 PM EDT	Posters
4:30-6:00 PM EDT	Virtual Exhibit Hall
6:00-8:00 PM EDT	Student Social

3 Nov. | Wednesday

7:00-10:00 AM EDT	Workshops
10:00-11:30 AM EDT	Oral Sessions
11:30 AM-1:00 PM EDT	CERF Inclusion Event
1:00-2:30 PM EDT	Plenary 1
2:30-6:00 PM EDT	Workshops
6:00-8:00 PM EDT	CERF Virtual Gallery Opening and Social

4 Nov. | Thursday

10:00-11:30 AM EDT	Oral Sessions
11:30 AM-1:00 PM EDT	Break and Virtual Exhibit Hall
1:00-2:30 PM EDT	Oral Sessions
2:30-4:30 PM EDT	Posters and Film Festival (Concurrently)
4:30-5:30 PM EDT	CERF Business Meeting

8 Nov. | Monday

8:00-10:00 AM EST	Workshops
10:00-11:30 PM EST	Plenary 2
11:30 AM-1:00 PM EST	Break and Mentoring Booth
1:00-2:30 PM EST	Oral Sessions
2:30-6:00 PM EST	Design Competition and Workshops (Concurrently)

9 Nov. | Tuesday

8:00-10:00 AM EST	Workshops
10:00-11:30 AM EST	Oral Sessions
11:30 AM-1:00 PM EST	Break and Virtual Exhibit Hall
1:00-2:30 PM EST	Oral Sessions
2:30-6:00 PM EST	Workshops
6:00-8:00 PM EST	Student Networking Event

10 Nov. | Wednesday

10:00-11:30 AM EST	Oral Sessions
11:30 AM-1:00 PM EST	Break and Family & Career Panel
1:00-2:30 PM EST	Plenary 3
2:30-4:30 PM EST	Posters
4:30-6:00 PM EST	Affiliate Society Meetings
6:00-8:00 PM EST	Family Friendliness Social (Bring your family!)

11 Nov. | Thursday

10:00-11:30 AM EST	Oral Sessions
11:30 AM-1:00 PM EST	Break
1:00-2:30 PM EST	Oral Sessions
2:30-4:30 PM EST	Close Out

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Research Reserve

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Oral Sessions

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John Callaway, University of San Francisco
Matt Kirwan, Virginia Institute of Marine Science

Plenary Sessions

Don Boesch, University of Maryland Center for Environ-
mental Science
Jan Newton, University of Washington

Poster Sessions

Pedro Morais, University of Algarve
Carolyn Weaver, Millersville University

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Zack Darnell, University of Southern Mississippi
Kelly Darnell, University of Southern Mississippi

Workshops

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Ashley Smyth, University of Florida and Florida Sea Grant

Conference Art

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Emily Boone, University of Richmond
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Inclusion Event

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Nick Coleman, University of Maryland Center for Environmental Science
Danielle Kreeger, Partnership for the Delaware Estuary
Cindy Palinkas, University of Maryland Center for Environmental Science
Johnny Quispe, Rutgers University
Isabel Sanchez, University of Maryland Center for Environmental Science
Meng Xia, University of Maryland Eastern Shore

Local GK-12 Student Engagement

Lauren Huey, Green Fin Studio
Stephanie Salisbury, Henrico County Public Schools

Mentoring Program

Mike Allen, Maryland Sea Grant College
Christina Bonsell, University of Texas Marine Science Institute

Silent Auction

Cassandra Armstrong, South Florida Water Management District
Jessica Reichmuth, Augusta University

Social Event

Amber Hardison, Virginia Institute of Marine Science
Jessie Jarvis, University of North Carolina Wilmington
Sam Lake, Virginia Sea Grant

Social Media

Cora Johnston, University of Virginia
Ezra J. Kottler, George Washington University
Emory Wellman, East Carolina University
Mollie Yacano, University of North Carolina Institute of Marine Science

Student Career Networking Event

Dave Gillett, Southern California Coastal Water Research Project
Courtney Schmidt, Narragansett Bay Estuary Program

Student Social Night

Serina Wittingham, Virginia Institute of Marine Science
Mollie Yacano, University of North Carolina Institute of Marine Science

Student and Early Career Participation

Chellby Kilheffer, United States Fish and Wildlife Service
Emily Rivest, Virginia Institute of Marine Science

Wellness Group

Courtney Harris, Virginia Institute of Marine Science
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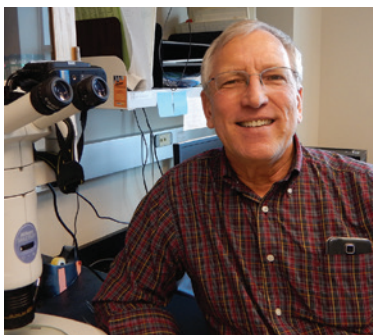
Odum Award for Lifetime Achievement

The Odum Award is named for the three outstanding ecological scientists in the Odum family: Dr. Howard T. Odum; Dr. Eugene P. Odum; and Dr. William E. Odum, III. It honors an individual whose record of sustained accomplishments has made important contributions to our understanding of estuaries and coastal ecosystems.

Co-Awardees

Robert Orth, Professor, Virginia Institute of Marine Science and College of William & Mary

Kenneth L. Heck, Jr., Senior Marine Scientist III, Dauphin Island Sea Lab Professor, University of South Alabama



Far Left: Robert Orth

Left: Kenneth Heck

The 2021 Odum Award Committee has selected Drs. Robert (JJ) Orth and Ken Heck as this year's recipients of the Odum Award for Lifetime Achievement in Estuarine Sciences. The committee based this selection on the individual and joint achievements of this team of researchers in estuarine-coastal science. Our selection is also based on sustained accomplishments throughout their long and distinguished careers, contribution of seminal papers that have shaped estuarine-coastal science, and sustained engagement with and contributions to CERF. Their research has addressed basic questions that have advanced the fields of coastal and estuarine science in numerous ways, while also being highly relevant to coastal management and society. This was captured eloquently in the nomination letter, "both candidates have shaped our understanding of seagrasses and marine ecology—through a series of foundational papers, edited volumes, and synthetic reviews. Moreover, their science has had a lasting societal impact through

their long and successful track record of integration with management and policy."

Together, they have authored nearly 500 publications, including 56 as co-authors, and published in high-impact journals such as *Science*, *Proceedings of the National Academy of Sciences*, *BioScience*, and *Global Change Biology*. They have each edited two books, numerous special issues, and contributed scores of conference proceedings and technical reports. Their work has been widely cited and is held in high regard in the academic community, particularly in the areas of marine science, ecology, and seagrass biology. Together, they have over 52,000 citations on Google Scholar, indicating lasting and sustained contributions over the years. In addition to their joint contributions, Drs. Heck and Orth have each established independent lines of research that have been equally impactful, and their work has been translated to management, conservation, and other applications.

Their reviews and synthesis work have brought attention to the vulnerabilities of this ecologically important habitat to human stressors and climate change, have documented global declines in seagrasses, and have raised awareness of the need for restoration efforts for seagrasses in the conservation world.

In addition to their many research contributions, Drs. Orth and Heck have been generous in their many contributions to CERF and have been long-standing, highly engaged members. Dr. Orth has served CERF in numerous leadership positions including President-Elect, President, Past President, and Treasurer. Dr. Heck has also contributed generously to CERF as President-Elect, President, and Past-President, and has provided service to CERF publications as Associate Editor for *Estuaries* (1995–1998) and Reviews Editor for *Estuaries and Coasts* (2018–present).

In summary, the careers of Drs. Orth and Heck have been exemplary of the contributions that the Odum family made to estuarine sciences. This includes advancing the fields of estuarine and coastal science through research and scholarship as well as their strong records of mentoring students and postdocs. Together, their contributions have left an indelible mark on the field and they are eminently qualified and highly deserving of the 2021 Odum Award for Lifetime Achievements in Estuarine Sciences.

Cronin Award – Early Achievement

This award recognizes the significant accomplishments of an estuarine scientist who is in the early stages of their career development. The recipient will have shown great promise with work carried out during the first six years past the PhD.

Hamed Moftakhari, Assistant Professor, The University of Alabama



Dr. Hamed Moftakhari is an assistant professor at the University of Alabama in the Department of Civil, Construction, and Environmental

Engineering. A Gulf Research Program Early Career Research Fellow with the National Academies of Science, Engineering, and Medicine, Dr. Moftakhari is a highly productive and impactful researcher, making significant contributions to a range of topics, including nuisance and compound flooding, multi-hazard assessment, and from cumulative hazards, and coastal wetland responses to sea level rise. Dr. Moftakhari's trail-blazing research related to the cumulative effects of coastal and fluvial sources

of flooding has highlighted that the compound effects of such interactive forces can pose levels of threat that far exceed those produced by each flooding source in isolation. Similarly, his research on the increasing prevalence of nuisance flooding related to sea level rise and the implications of such events on coastal communities and infrastructure is providing evidence urgently needed to shape management decisions regarding climate change in communities across the East and Gulf coasts of the US.

As his career has advanced, Dr. Moftakhari has continued to not only expand the intellectual breadth of his research (e.g., with recent focus on drought and wetland resilience) but also increasingly translated his work to real-world applications. As an example, Dr. Moftakhari has served

on the American Society of Civil Engineers sub-committee on Hydroclimatology and Engineering Adaptation and is actively involved in drafting a Manual for Practice on Compound Flooding in this role. He is also rapidly becoming a leader in the coastal resilience arena, as demonstrated by his convening of a special session on Natural Hazards and Coastal Hydrology at AGU meetings and leadership of a number of successful multi-disciplinary proposals.

When viewed in sum, Dr. Moftakhari's still young career is one that is already achieving significant intellectual and methodical contributions that are deepening our understanding of coastal processes and their transformations in response to climate and coastal change.

Donald W. Pritchard Award – Physical Oceanography Paper

This award was established to honor Dr. Donald W. Pritchard, whose insightful research on the physical dynamics of coastal systems set the stage for much of the research in physical oceanography that is being conducted today. The Pritchard Award recognizes the author(s) of the best physical oceanography paper published in Estuaries and Coasts within the two-year interval between CERF conferences.

Authors: **Margaret A. McKeon**, Pacific Northwest National Laboratory; **Alexander R. Horner-Devine**, University of Washington; **Sarah N. Giddings**, Scripps Institution of Oceanography, UCSD

Paper: Seasonal changes in structure and dynamics in an urbanized salt wedge estuary, *Estuaries and Coasts* 44(3):589–607

McKeon et al. assess the response of a salt wedge in a highly engineered channel to variations in river flow and tidal forcing. The authors adjust two-layer hydraulic theory to account for a short estuary with a large bed slope and use the theory to describe seasonal changes in stratification, salt-wedge length, and tidal variability in interfacial height. The theory predicts the observed flood/ebb asymmetry in the salt wedge's structure and its modulation by river discharge. During



flood tide, both theory and observation show that the interface height is independent of river discharge, while on ebb the interface height decreases with river discharge. The flood/ebb asymmetry in salt-wedge structure and circulation is modulated by the seasonally varying river discharge, which they hypothesize leads to a seasonally modulated residual circulation. Moreover, these results show that changes to channel geometry, and in particular

bed slope, influences the estuarine circulation and salt-wedge dynamics. The authors demonstrate that as bed slope steepens, the salt-intrusion length becomes less sensitive to river discharge. Salt wedges, or gravity currents, are ubiquitous phenomena in geophysical flows and the theory McKeon et al. developed will have broad applicability beyond estuaries. Moreover, the application of this theory to estuarine flows will have broad implications not only to estuarine physics but also to other important estuarine processes that determine, for example, sediment transport, contaminant transport, and water quality.

William A. Niering Outstanding Educator Award

To recognize the central role that education plays in achieving the objectives of our society, the Federation's Governing Board established an award named for a leader in estuarine education, Dr. William A. Niering. The award is for an individual who has played a particularly important role in education at any level—from primary school to the graduate level, inside or out of the classroom, or in the education of the general public through outreach activities.

Katharyn Boyer, Professor, Estuary & Ocean Science Center, San Francisco State University



Dr. Katharyn Boyer, Professor of Biology at the Estuary & Ocean Science Center, San Francisco State University, has been

a leader in student education in wetland and restoration ecology since 2004. Professional peers and students have commented on her exemplary mentoring of young scientists who have taken her courses, and a commitment to fostering the development of historically excluded students. Letters of support from past and current students repeated an overarching theme of Dr. Boyer's support and dedication to her students. They describe her as "approachable," "empathetic," and "inclusive," and applaud her ability to "humanize science." Students characterizing her kindness and ability to increase student confi-

dence in their work aptly described it as "Kathy glow." An example of Dr. Boyer's major impact on students is her co-creation and directing of the Diving into Ecology and Evolution Program (DEEP)—a semester-long field immersion class first held in 2019 at the Hawaii Institute of Marine Biology and He'eia National Estuarine Research Reserve—providing undergraduate students at her institution with hands-on experience and independent research in coastal habitats. Such programs, although demanding for the instructor, and in this case involving major fundraising by Dr. Boyer for scholarships to promote inclusivity, can be transformative for students. It is also clear that Dr. Boyer has provided a welcoming and supportive environment for developing researchers. As a graduate student mentor, Dr. Boyer has an impressive record of graduating 22 master's degree students, with seven more in

progress; a majority of these students (24 of 29) are female. Mentoring of these students has resulted in many publishing their work and obtaining successful employment in coastal management or going on to PhD programs. Dr. Boyer has also contributed to the graduate committees of more than 35 other students.

Beyond the classroom, peer nominators noted that Dr. Boyer is an excellent communicator who can translate scientific research on estuarine ecology into valuable information for coastal resource users. Over the last two years alone, she has delivered 10 talks to clubs, private organizations, and governmental organizations, including a talk for TEDxMarin. Overall, Dr. Boyer has an impressive record of achievement in both formal and informal education in estuarine and coastal science and is a highly deserving recipient of the William A. Niering Outstanding Educator Award.

Diversity, Equity, Inclusion, and Justice Award

This award recognizes the significant contributions of an individual who has worked for greater diversity, equity, inclusion, and justice in estuarine and coastal science, management, education, and/or stewardship. It honors a person who demonstrates exceptional long-term or emerging leadership and commitment to positive change.

Ashanti Johnson, Professor, East Central University; Executive Director, STEM Human Resource Development

The inaugural Diversity, Equity, Inclusion, and Justice award recipient is Dr. Ashanti Johnson. Dr. Johnson's long record of achievements speaks volumes about what dedication, determination, and drive can accomplish in creating and supporting diversity, equity, justice, and inclusion over the course of a career. From her time as a research scientist and professor, to her current role as a motivational speaker and CEO of STEM



Human Resource Development, Inc., Dr. Johnson has touched the lives of many as a mentor, professor, and colleague. Dr. Johnson has demonstrated outstanding leadership and support in the areas of justice, equity, diversity, and inclusion as well as active involvement in many groups that

foster and promote diversity while advancing the STEM fields in which she remains active. In addition to her formidable productivity in science, she has an extensive body of publications and grants focused on issues around diversity and inclusion, has developed numerous programs that have served to increase diversity in STEM (e.g., Ocean sCientist Educator pArtnerships eNhancing Science, Florida-Georgia LSAMP Bridge to

continued on page 23

Margaret A. Davidson Award for Stewardship

This award was established to honor Margaret A. Davidson's distinguished career in coastal resource management and her support of the application of science to the wise stewardship of estuaries and coasts. The Davidson Award recognizes an individual who demonstrates extraordinary leadership, service, innovation, and commitment to the management of estuarine and coastal systems. Other CERF awards focus on research and education excellence; this award recognizes those who have worked in the estuarine and coastal arena and excelled in management and policy.

Christine Baumann Feurt, Coastal Training Program Director, Wells National Estuarine Research Reserve



Dr. Chris Feurt is a visionary social scientist who has helped to integrate human dimensions into coastal management. She developed the Coastal Train-

ing Program at the Wells National Estuarine Research Reserve (NERR) in 2002 and demonstrates a strong commitment to bringing scientists, practitioners, and community members together to protect the qualities of coasts and estuaries that they value. Dr. Feurt brings expertise in stakeholder engagement, training design, collaborative learning, and environmental communication, and is a national leader in the NERR

network. Working with her Coastal Training Program colleagues, she developed the Resilience Dialogues Curriculum of best practices for stakeholder engagement in collaborative science. In addition to countless trainings, she has also developed the Collaborative Learning Guide for Ecosystem Management, focused on engaging diverse audiences to address stewardship concerns. Dr. Feurt has put this guidance into action, leading multiple projects directed at community engagement in watershed protection: she facilitated the formation of the Salmon Falls Watershed Collaborative, which received the US Water Prize in 2012 from the US Water Alliance; and she was a co-PI on an NSF project in the Saco River estuary that has since

expanded into a watershed-wide initiative. For 20 years, Dr. Feurt also served as a part-time faculty member in the Department of Environmental Studies at the University of New England, where she worked as the director of the Center for Sustainable Communities. She is currently a Research Associate with UNE's School of Marine and Environmental Programs. What comes through in her letters is that Dr. Feurt leads by example, and that she excels at bringing people together. As stated in her nomination letter, "Everyone (and I do mean everyone!) she has worked with over the years has had huge respect for Dr. Feurt's knowledge, manner, and approach to her work." For these reasons, we award Christine Feurt the Margaret A. Davidson Award.



Salt marsh in Long Island Sound

Photo: Courtesy of Long Island Sound Study

Diversity, Equity, Inclusion, and Justice Award... *continued*

the Doctorate Project, and the MS PHD'S in Earth System Science Professional Development Program), and has received the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. Her mentorship has created a safe space and dynamic partnership for many early career scientists as well as inspiring career mentors. Dr. Johnson has worked with CERF through the Rising TIDES program since its inception in 2017 and was a valued part of the inaugural group.

Coastal Stewardship Award (Organization)

CERF established the Coastal Stewardship Award to honor notable achievements in promoting the wise management of estuarine and coastal systems. This award recognizes specific projects, programs, and organizations for their exemplary stewardship activities, including success in management, policy, restoration, and conservation efforts. CERF appreciates the multiple scales at which impacts may be achieved; accordingly, the Coastal Stewardship Awards are occasional awards and may represent a hierarchy of recognition at CERF biennial conferences. If given, one or more awards of recognition may be presented biennially in association with the CERF conferences.

Buzzards Bay Coalition

The Buzzards Bay Coalition is the principal advocate for the environmental protection of the 227 square mile Buzzards Bay and its more than 50 bays, harbors, and salt ponds, 350 miles of coastline, and 430-square-mile coastal watershed. The Coalition's territory spans all or parts of seven municipalities from the tip of the Elizabeth Islands up the western moraine of Cape Cod to the Rhode Island border. In existence for 34 years, the Coalition's programs span estuarine and coastal science, land protection, ecological restoration, and education and recreation.

Estuarine and Coastal Science: In 1992, the Coalition launched the Baywatchers volunteer-based water quality monitoring program, with Baywatchers sampling more than 250 stations across 50 bays, rivers, and coastal ponds each summer three decades later. The Coalition's

"innovative alternative" denitrifying septic systems program provides homeowners with incentives to upgrade their standard septic systems and monitors actual nitrogen removal by the installed systems. The Coalition also has current projects to improve watershed model estimates of nitrogen contributions from cranberry farms, prioritize farms with high nitrogen outputs for restoration to wetlands, and quantify water and nitrogen fluxes at the mouths of rivers with the highest acreage of cranberry farmland.

Land Protection: The Coalition started purchasing land two decades ago, and now owns about 1,235 acres. It holds conservation restrictions for or was a major partner in efforts that protect another 9,000 acres.

Ecological Restoration: The Coalition bought an industrial brownfield site that was a former sawmill and

restored the property by lowering the former dam, improving fish passage, restoring habitat, and creating accessible trails.

Education and Recreation: The Coalition developed a new "Discover Buzzards Bay" website that highlights preserves and open spaces; hired a staff to lead walks and other activities; and created two signature events, a 100-mile Buzzards Bay Bicycle Ride and a 1.5-mile Buzzards Swim, that draw hundreds of participants and raise tens of thousands of dollars each year. These are just some of the examples of the level of priority given to education and recreation by the Coalition.

This breadth and depth of its programs and progress makes the Buzzards Bay Coalition an exemplary steward of coastal resources and very effective organization.

Dam removal completed by Buzzards Bay Coalition

Photo: Courtesy of Buzzards Bay Coalition



Distinguished Service Award

The Distinguished Service Award recipient is selected by the CERF President for their exceptional volunteer service to the Federation.

Hilary Neckles, Research Ecologist, U.S. Geological Survey



Dr. Hilary Neckles is the recipient of the 2021 CERF Distinguished Service Award. Beginning as a graduate student, Dr. Neckles has been active in

her affiliate societies, ERF, and now CERF.

Dr. Neckles' career has led her to reside in different coastal regions, and in each place she was active in the regional affiliate estuarine research society. She is a leader in her current affiliate society, NEERS. She was the program chair from 2004 to 2014 and was given honorary member status in the fall of 2014 for her outstanding service. She is also the recipient of the NEERS Stickleback Award, given to the meeting attendee who distinguishes themselves by dancing until the end of the music on Friday night, attending the first presentation the next morning, and providing exemplary service to NEERS!

Seven years ago, when she was asked to run for the presidency and take on the serious responsibility of guiding CERF, she was more than willing because of the great sense of community she felt for the Federation. Over the last six years, she has had a remarkable and impactful run

as CERF President-Elect, President, and now Past President. Over this period, she has played a major role in planning, implementing, and assessing just about every aspect of CERF's activities, and her inclusive and communicative leadership style has recruited many new faces to CERF leadership and made all feel their viewpoints and voices counted.

As President-Elect, Dr. Neckles helped lead the development of CERF's current 2017–2022 strategic plan, Visions IV. In that process, she was instrumental in establishing the diversity, equity, and inclusion focus of the plan. From that work emerged CERF's Rising TIDES (Toward an Inclusive, Diverse, and Enriched Society) comprehensive program. She also focused on performance measures that could be used to assess progress towards the goals in the strategic plan.

As President, she focused the effort of the CERF Governing Board to bring greater value to CERF members and to implement the Visions IV plan. She was one of the leaders of the team that brought the NSF grant to establish our very successful Rising TIDES Conference Program. She created the Broadening Participation Council of the Governing Board and tasked the Council with examining all CERF operations through that lens. She

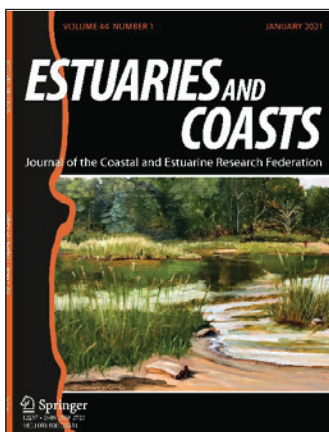
also led development of new policies and programs to raise awareness, define expectations, and establish accountability surrounding sexual harassment. CERF's Event Code of Conduct, Safe and Welcoming Plan, and updated Code of Ethics now work together to promote environments that are free from harassment and discrimination and are intentionally inclusive to LGBTQ+ people. Of course, during this time, she also served as the leader of the Governing Board, and her style built a sense of agency and inclusion for all board members.

When she became Past President, she did not noticeably decrease her commitment to CERF. She continued working on issues relating to ethics, diversity, justice, and inclusion. She also pushed for the creation of CERF's first Community of Practice in SAV monitoring and mapping as a way to add new activities to CERF that would serve the interests of our members.

CERF is better because of Dr. Neckles' distinguished service. And there is no reason to think that her service is done! While she is stepping down after a six-year run of the presidency, there is no doubt of the affection she has for CERF will likely keep her involved in helping CERF fulfill its mission for quite some time to come.

Notice of Annual Business Meeting

CERF will hold its Annual Membership & Business Meeting on Thursday 4 November 2021, 4:30-5:30 PM EDT. The meeting will be virtual; a link will be shared to all members shortly before the meeting. All members are invited and encouraged to attend.



Estuaries and Coasts Recognition

Estuaries and Coasts Acknowledgements of Outstanding Associate Editors and Reviewers for CERF 2021

Paul Montagna, Co-Editor-In-Chief

Charles "Si" Simenstad, Co-Editor-In-Chief

Taylor Bowen, Managing Editor

Paul.Montagna@tamucc.edu

With each biennial conference, the editors of *Estuaries and Coasts* acknowledge outstanding contributions by Associate Editors (AEs) and peer reviewers. The success of the journal is based upon the volunteer work performed by AEs and reviewers. The diligent contributions of AEs and peer reviewers contributed to significant improvement of journal performance (with a time to first decision of just 44 days) and an increased impact factor (from 2.32 in 2019 to 2.98 in 2020). Many AEs and reviewers perform well above expectations, but a few are simply outstanding, and are recognized for work performed between 1 July 2019 and 30 June 2021.

Estuaries and Coasts had 49 AEs during the biennial period. Outstanding performance is based on three characteristics: the number of papers handled, the number of days to first reviewers being assigned, and the number of days to make a decision. The top five AEs are:

James Lovvorn, Southern Illinois University, USA

Mark Peterson, University of Southern Mississippi, USA

James Pinckney, University of South Carolina, USA

David K. Ralston, Woods Hole Oceanographic Institution, USA

Wen-Xiong Wang, Hong Kong University of Science & Technology, China

In the two-year period between 2019 and 2021, *Estuaries and Coasts* received 1,373 new and revised submissions and sent 3,318 review requests. Only 45% of review requests were completed. Of the 958 people providing reviews, only 2% provided four or more reviews. Outstanding performance was based on the number of reviews completed, the speed to perform the review, and the quality of the review as judged by the editors. The top 2% of reviewers are:

Kenneth W. Able, Rutgers University, USA

Paul A. Bukaveckas, Virginia Commonwealth University, USA

Tatenda Dalu, Rhodes University, South Africa

Galen Egan, Stanford University, USA
Glen Guntenspergen, United States Geological Survey, USA

James Hagy, Environmental Protection Agency, USA

Kimberly Huguenard, University of Maine, USA

Dongyan Liu, East China Normal University, China

James A. Nelson, University of Louisiana at Lafayette, USA

Marguerite Pelletier, Environmental Protection Agency, USA

Ryan Rezek, Florida International University, USA

Paul Rudershausen, North Carolina State University, USA

D. Lee Smee, University of South Alabama, USA

Kristina Sundback, University of Gothenburg, Sweden

Peter A. Thompson, CSIRO Marine and Atmospheric Research, Australia

Elise Van Meerssche, Millennium Institute of Oceanography, Chile

Clifton B. Woodson, University of Georgia, USA

Guoyu Yin, East China Normal University, China

Xiaoli Zhang, Center for Ocean Mega-Science, China

Estuaries and Coasts Editor's Choice Papers

June 2021

Cahoon, D.R., K.L. McKee, and J.T. Morris. 2021. How Plants Influence Resilience of Salt Marsh and Mangrove Wetlands to Sea-Level Rise. *Estuaries and Coasts* 44 (4): 883–898.

<https://rdcu.be/cn4tx>

July 2021

Ralston, D.K., B. Yellen, and J.D. Woodruff. 2021. Watershed Suspended Sediment Supply and Potential Impacts of Dam Removals for an Estuary. *Estuaries and Coasts* 44 (5): 1195–1215.

<https://rdcu.be/cn4tC>

The Latest Coastal & Estuarine Sciences News (CESN)

Merryl Alber, Managing Editor

Janet Fang, Science Writer/Coordinating Editor

CESN is an electronic newsletter that is put out on a bimonthly basis (6 issues per year) and serves as a companion to the journal *Estuaries and Coasts*. Each issue of CESN provides a summary of four articles from the journal, written for an audience of coastal managers and other interested stakeholders and emphasizing the management applications of scientific findings. Issues are posted online and emailed to subscribers. Go to the CESN website at www.cerf.science/cesn to read the full summaries and sign up to have future issues delivered to your email inbox.

May 2021

What Does Restoration Success Look Like?

Comparing a dozen projects on the Upper Texas Coast

Source: Armitage, A.R. 2021. *Perspectives on Maximizing Coastal Wetland Restoration Outcomes in Anthropogenically Altered Ecosystems*. *Estuaries and Coasts*. DOI: 10.1007/s12237-021-00907-4
<https://cerf.memberclicks.net/cesn-may-2021#Article1>

Lessons From Two Decades of Native Oyster Restoration

A decision tree for effective oyster restoration

Source: Ridlon, A.D. et al. 2021. *Conservation of Marine Foundation Species: Learning from Native Oyster Restoration from California to British Columbia*. *Estuaries and Coasts*. DOI: 10.1007/s12237-021-00920-7
<https://cerf.memberclicks.net/cesn-may-2021#Article2>

Fishing in the City

The unique ecology of urban estuarine fisheries

Source: Taylor, M.D. & I.M. Suthers. 2021. *The Socio-Ecological System of Urban Fisheries in Estuaries*. *Estuaries and Coasts*. DOI: 10.1007/s12237-021-00916-3
<https://cerf.memberclicks.net/cesn-may-2021#Article3>

Getting More Bang for the Buck in Marsh Restoration

A mobile tide gate pays for itself

Source: Weinstein, M.P. et al. 2021. *Protecting People and Property While Restoring Coastal Wetland Habitats*. *Estuaries and Coasts*. DOI: 10.1007/s12237-021-00900-x
<https://cerf.memberclicks.net/cesn-may-2021#Article4>



Save The Date!

JASM 2022
Grand Rapids, Michigan, May 16–20

Rapid Changes ~ Collaborative Solutions

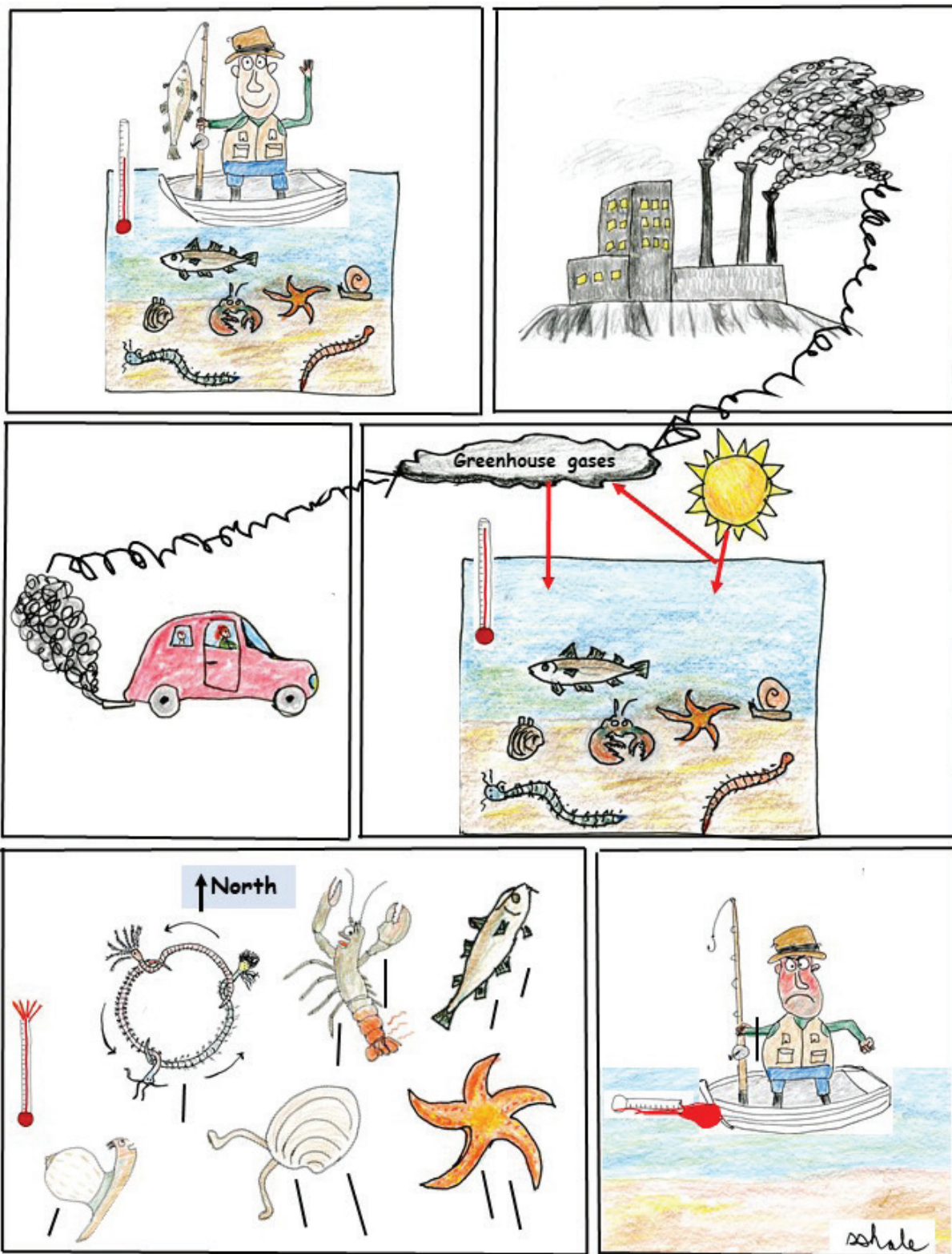
Mark your calendar! This must-attend event of nine aquatic science societies will be a celebration of scientific solutions, creative collaboration, and innovative conservation. This unique assembly of aquatic scientists, students, managers, and technicians will be a once in a decade occasion to participate in the full spectrum of aquatic sciences in one meeting.

jasm2022.aquaticsocieties.org

Afterthoughts: Northward!

Stephen S. Hale

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Hale, S.S., Buffum, H.W., Kiddon, J.A., et. al. 2017. Subtidal benthic invertebrates shifting northward along the US Atlantic coast. *Estuaries and Coasts* 40:1744–1756. <https://doi.org/10.1007/s12237-017-0236-z>

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