CERF's Up!

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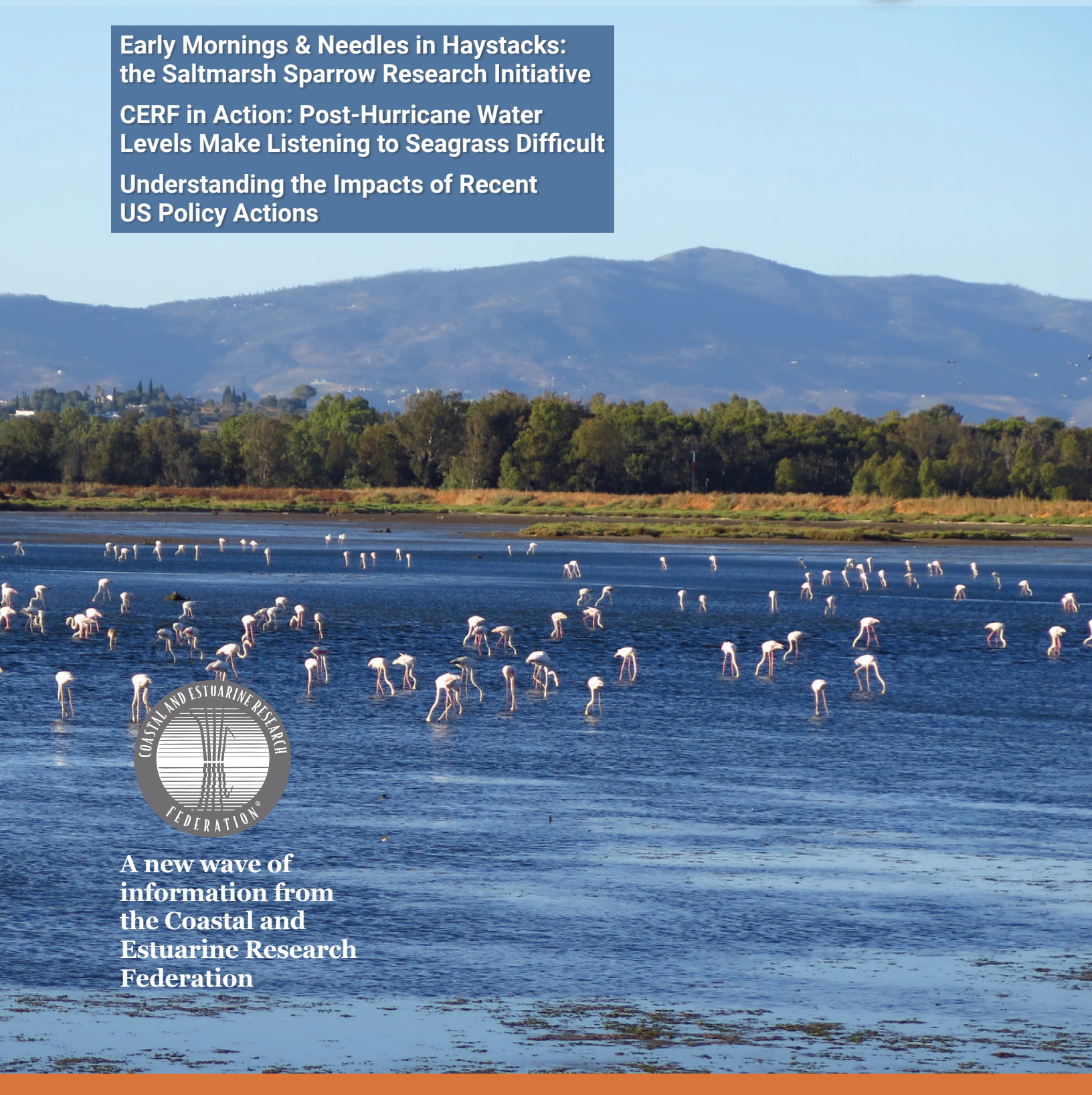
Early Mornings & Needles in Haystacks: the Saltmarsh Sparrow Research Initiative

CERF in Action: Post-Hurricane Water Levels Make Listening to Seagrass Difficult

Understanding the Impacts of Recent US Policy Actions



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

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Front Cover: **Flamingos in the Alvor lagoon, southern Portugal** Photo: João Pedro da Silva Encarnação

Back Cover: **A European eel, *Anguilla anguilla*, hiding in a seagrass meadow in the Alvor lagoon, southern Portugal** Photo: João Pedro da Silva Encarnação

Call for Cover Photos for *CERF's Up!*

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

President's Message

Linda Blum
CERF President

The CERF biennial conference in Richmond, Virginia, is only six months away and conference registration is open, so I thought it would be informative to provide some information about the challenges the Governing Board and conference co-chairs face in planning the biennial conference—deciding on a conference venue (see *In Search of the Goldilocks Conference Venue* on page 15 of *CERF's Up!* Volume 44 Issue 3[1]) and keeping expenses and, thus, registration costs down while providing a valuable conference experience for attendees.

Of all the benefits that CERF membership provides, the two that are mentioned most frequently in membership surveys are the biennial conference and *Estuaries and Coasts*, the federation's journal. These two benefits are also the primary sources of gross revenue for CERF, and they allow us to provide a host of other programs and activities that benefit CERF members; membership dues provide around 10% of the operating revenue.

In a previous issue of *CERF's Up!*, I wrote about the value of *Estuaries and Coasts* to authors, the scientific community, and CERF, and how members can add value to the journal by submitting articles for publication and by saying "Yes" when the journal's associate editors reach out with requests to review manuscripts. Royalties from *Estuaries and Coasts* provide over one quarter of the federation's operating budget. My goal for this message is to provide members with greater insight into how conference venues are chosen, how registration fees are set, and why exhibitors and sponsors are so critical to the conference.

The Governing Board budgets to earn a net revenue of approximately 10% on the conference. This gives us a little wiggle room should expenses be higher than we expect and also allows us to invest funds in services that support CERF members and its mission.

Conference revenue is generated primarily by registration and abstract fees that cover conference costs, with smaller amounts from exhibitors and sponsors. Registration fees for a conference are set on the Governing Board's best estimates of the number of attendees and expected conference expenses, allowing for discounts for members and heavily subsidizing registration fees for students and those from emerging and developing nations.

The conference venue and location have an outsized impact on conference costs, including venue rental, food and beverage (F&B), and audio/visual (AV) costs as well as hotel room rates. Approximately five years in advance, CERF puts out a request for proposals (RFP) to cities willing to host a CERF conference. The Governing Board considers a variety of factors, including the cost and attractiveness of the site, when sending out RFPs and considering bids. A major complication in finding a venue for our conferences is CERF's awkward size—it is too large for a hotel or small convention center and too small for large cities and convention centers. Therefore, there are many venues that may be attractive to members but are out of reach for CERF. The Governing Board considers its fiduciary responsibilities to its members when selecting the best possible site for CERF from the limited options available, trying hard to balance financial costs with a site that will be attractive and welcoming to attendees. It is challenging given that the decision must be made years in advance, not knowing what the future may hold in terms of inflation, changing vendors, changing owners, and other factors influencing costs.

Two categories of conference expenses—F&B and AV—are linked to conference location and have shown dramatic increases since 2015. For example, the cost for F&B doubled from CERF 2015 to CERF 2023, both held in Portland, Oregon. Richmond, Virginia, was selected for 2025 in part because of the lower F&B costs; we are budgeting for F&B to be 70% of what the 2023 costs were.

With respect to AV, it can be more cost effective to use an outside vendor; however, in some cases venues require the use of in-house vendors. To illustrate the magnitude of relatively recent changes in AV costs, I compared the cost of an outside vendor used in 2015 to that of a required, in-house vendor in 2023 for the Portland conferences and was astonished to learn there was more than a 324% increase in the cost of AV ($50,627 to $166,163; 2015 to 2023, respectively). In addition to increased labor costs and inflation, as we become more reliant on technology for successful conferences, the costs for the requisite high-quality AV have skyrocketed. And the anticipated price for AV services this year in Richmond is $200,000!

The Governing Board and conference planning committee are doing what they can to keep costs down, such as booking in lower-cost cities and reducing the F&B we offer, while still trying to maintain a quality experience. In spite of these steps to control costs, CERF registration rates for the upcoming meeting have increased modestly to $635 for Early-Bird Regular Members (12% increase over 2023,[2] see 2025 registration costs[3]). Even so, we are projecting only an 8.6% net profit, which is a very tight margin. Although the increased cost of registration

for CERF 2025 may seem high, you might not be aware the actual cost per attendee is estimated at $560, or $112 per day. The per-day rate is quite low for a conference on this scale. A recent review of registration rates for conferences hosted by Consortium of Aquatic Science Societies (CASS) members (n=8) reported Early-Bird Regular Member registrations for 2024 and 2025 that ranged from as low as $525 for a 4-day conference to $800 for a 6-day conference, and the average cost per day was $125 compared to $112 for CERF 2025. Also note that CERF's registration rates start at $295 for students and at $255 for those from emerging and developing nations, demonstrating CERF's commitment to keeping the conference as accessible as possible and prioritizing student participation.

Even with the budget constraints deemed necessary by the Governing Board to keep meeting attendees' cost reasonable, the conference planning committee is developing an exciting conference with some innovative sessions and lots of opportunities for interaction with long-time and yet-to-be-met colleagues and friends. Please read more about the conference in this issue of *CERF's Up!* I hope you will join me in Richmond, on the banks of the upper James River estuary, the week of 9–13 November for CERF 2025 "Estuaries: Tradition and Transition."

1. https://cerf.memberclicks.net/assets/bulletin/2010/CERFs_Up_Vol.44.3_09-2018.pdf
2. https://conference.cerf.science/2023-registration-information
3. https://conference.cerf.science/registration-information

BOOKS OF INTEREST

Exploring the Flow: *Freshwater Inflows to Texas Bays and Estuaries*

Paul A. Montagna and Audrey R. Douglas, Editors

On 1 January 2025, editors Paul A. Montagna and Audrey R. Douglas published the book *Freshwater Inflows to Texas Bays and Estuaries: A Regional-Scale Review, Synthesis, and Recommendations*. Montagna is the Endowed Chair of HydroEcology at the Harte Research Institute (HRI) at Texas A&M University-Corpus Christi, long-time CERF member, and coeditor in chief of the CERF journal *Estuaries and Coasts*. He authored or co-authored nine of the 17 chapters in the book. Audrey R. Douglas is Program Coordinator and Instructor at Texas A&M University-Corpus Christi affiliated with the Center for Water Supply Studies.

There is a climatic gradient along the northwestern Gulf of Mexico coast, and estuaries vary from hydrologically positive to neutral to negative. This makes the Texas coast the ideal place to study how ecological processes in estuaries vary with freshwater inflow. Montagna has spent more than half of his career studying the ecology of flowing water in Texas, and as that study continues to evolve, to explore and perfect new scientific techniques. In 2014, a student walked into his office and showed him the 1994 book *Freshwater Inflows to Texas Bays and Estuaries: Ecological Relationships and Methods for Determination of Needs* and told him it has been the "bible" for all graduate students studying the subject. However, the book was out of date because laws had changed, scientific methods to study the importance of freshwater flowing into bays had transformed, and there was new information being produced daily. Montagna decided to tackle the project of updating the book and, 10 years later, it is finally finished with the help of 33 other collaborators.

The book is available open access via Springer Nature Publications[1] where it can be downloaded for free or purchased in print. The book is 411 pages, but there is more than paper and ink. Along with the detailed maps, charts, and graphs, all 40 datasets collected for the book are available on GRIIDC.org (HRI's free access data repository for Gulf of Mexico scientific research), there are 46 supporting files and documents available in the Texas Digital Library,[2] and there are 10 oral histories from researchers, including Montagna, who have worked on the subject over the last 50 years, via The Gulf Podcast.[3] A story map website (Freshwater Inflows to Texas Bays and Estuaries)[4] provides an introduction to the topic of freshwater inflow and summarizes main points made in the book.

The book is part of the *Estuaries of the World* book series[5] published by Springer. Springer is the publisher of the journal *Estuaries and Coasts*, so this series is a good venue for others to publish books about their estuaries. Contact the Publishing Editor Eva Loerinczi (eva.loerinczi@springer.com) for information.

1. https://link.springer.com/book/10.1007/978-3-031-70882-4
2. https://www.tdl.org/
3. https://library.tamucc.edu/exhibits/s/thegulf/page/welcome
4. https://storymaps.arcgis.com/collections/88ebe5b53085412e8a2d385e34e98ab9
5. https://www.springer.com/series/11705

Early Mornings & Needles in Haystacks

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Courtney Schmidt (far right) with members of the Saltmarsh Sparrow Research Initiative team on a monitoring trip to look for saltmarsh sparrow nests Photo: Courtney Schmidt

As New England emerges from winter, I find myself thinking about the journey saltmarsh sparrows are on to reach their breeding grounds. I worry about their future because they are one of the few species that we know are becoming extinct due to climate change. These sparrows only live and breed in one habitat—saltmarshes—and have a very narrow range: breeding between Maine and Rhode Island, living year-round between Connecticut and Virginia, and wintering as far south as Florida. Their habitat is disappearing. Not only are saltmarshes sinking, but they have also been filled in and fragmented by development for over 200 years.

You're likely wondering how the saltmarsh sparrow breeds in saltmarshes that are flooded twice a day and are losing ground to sea level rise. They've mastered laying their eggs and fledging the nestlings within the 28-day tidal cycle. They lay 2–3 clutches of eggs per season with 3–5 eggs per nest. The first clutch usually fails because the sparrows aren't tuned to the tidal cycle of their nesting habitat yet. By the second clutch, they have the timing. This 28-day cycle is very short for nesting birds and is likely only possible due to the abundance of food in and around the saltmarshes.

Rhode Island is fortunate to be home to the Saltmarsh Sparrow Research Initiative (SSRI), a group of dedicated scientists and volunteers that identifies and monitors nests and bands both adult and nestlings to track their (hopeful) return to the marsh. They do this work in a small saltmarsh owned by the Warren Land Trust in Warren, Rhode Island. The Narragansett Bay Estuary Program (NBEP) supported two summer interns and SSRI wanted to show off their amazing work. And that is how I found myself on a saltmarsh before sunrise one July morning.

As if the saltmarsh itself wanted to show me its history, my journey included a trek across the state, a stare-down with a turkey, following a trail through the Audubon Society of Rhode Island's property, a jaunt down a paved rail-trail, and then finding a nearly hidden dirt path to access the marsh. Did I mention it was barely sunrise and I am so not a morning person?

These marsh-folks are morning people! I didn't need to find the path; I just listened for them chatting, laughing, and sharing notes. As I came to the clearing, I saw hats bobbing along the marsh and an occupied osprey nest, and felt the sun rising over my back. There was something so serene about the scene, reminding why I chose to go into a profession that would put me outdoors at odd times of the day or night and in all types of weather. If I had to choose, sunrise in July on the marsh is a great choice. The air temperature is mild, the humidity is sticky but not soupy, and the biting insects haven't woken up yet.

One of NBEP's interns, Cooper White (a native Rhode Islander at the University of New Hampshire), showed me around and taught me a lot that morning. I learned how to spot nests first. Talk about finding a needle in a haystack. The nests are well-hidden in the marsh grasses. Even the nests that were previously GPS tagged and flagged were impossible for me to find. It's a good thing the SSRI folks are much better at this. We counted eggs and nestlings in occupied nests to track them over the tidal cycle. These nestlings would be banded before they fully fledged. They are cute little things, with tufts of black fur on their heads.

As marshes are covered with more water, the probability of eggs hatching and chicks fledging decreases. But all is not lost. SSRI is developing Nest Arks, which are floating nest platforms. The platforms are sup-

Recently hatched saltmarsh sparrows in their nest
Photo: Courtney Schmidt

ported by a dowel in a PVC pipe which is placed in the marsh sediment. The flotation on the bottom allows the nest to rise with flooding waters and drop when the water recedes. SSRI has been perfecting the pipe placement to make sure that the nests don't float above the cover of the marsh grass to protect them from predators.

SSRI will test the nests for one more year (summer 2025) and then quantify and share the results.

Maybe when I return to the marsh next summer with NBEP's new set of interns, I might actually find a nest. My money is on SSRI striking the balance between flood prevention and keeping the nests well hidden. Doesn't matter though. I will still get up before sunrise, trek across the state, wander through the woods, and find myself on the edge of Narragansett Bay thrilled to play a small part in saving a really cute bird from extinction.

CERF IN ACTION

Post-Hurricane Water Levels Make Listening to Seagrass Difficult

Kyle Capistrant-Fossa
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Collaborators (Colby W. Cushing, Andrew McNeese, Kevin M. Lee, Applied Research Laboratories – University of Texas at Austin) and I recently recovered our acoustic monitoring system from the Upper Laguna Madre, Texas, USA (Fig. 1). This recovery was particularly tricky because water depth was deeper than usual from recent storms in the Gulf of Mexico, and that made it difficult to take seagrass biomass cores. The system was deployed for only three months but was covered by an entire biological community (Fig. 2). Our goal was to use active acoustics (i.e., broadcasted soundwaves) to measure seagrass biomass and photosynthesis. Results are coming soon!

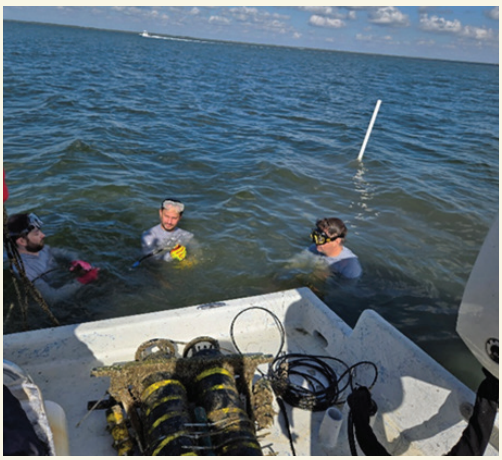


Fig. 1 Members of the Applied Research Lab taking a breath after hauling the acoustic observatory onto the boat
Photo: Kyle Capistrant-Fossa

Fig. 2 The acoustic observatory, AMAR, covered with a biological mosaic of barnacles, serpulid worms, crabs, fish, and more!
Photo: Kyle Capistrant-Fossa

Announcing New Article Type: CERF in Action!

Kyle Capistrant-Fossa
CERF's Up! *Coeditor*

The tale of an apple leading to Isaac Newton's theory of gravity is classic, but that likely wouldn't make it into a modern peer-reviewed article or report. So much of the scientific process isn't captured in these final products, yet it is essential to shape us as scientists. Share your research with other CERF members in the new article type "CERF in Action" as part of the *CERF's Up!* bulletin. Each mini article should consist of 1–2 pictures of yourself, lab group, and/or collaborators in the field and lab with a short writeup (<100 words) that communicates your best, "Aha!," laughable, and/or challenging moments with the community. These stories can help us connect as CERF members, foster collaborations, and help the next generation of scientists understand what goes into science. Feel free to reach out with any questions to: bulletin@cerf.science.

In Memoriam: Enrique Reyes

Bob Christian and Linda Blum, with a little help from his friends

Losing a friend, colleague, and member of the CERF community is a sad event. The shock and dismay of loss due to murder is far worse. We lost one of our own, Enrique Reyes, at 64, to such a senseless death on 10 January 2025. Enrique was shot at his home by a neighbor who then killed an elderly couple at their nearby home before being apprehended.

Enrique was a long-time and committed CERF member, having joined in 1989. His active participation in biennial conferences often included novel and entertaining presentations. Enrique served twice on the CERF Governing Board, first in 2013–2015 as secretary and then in 2019–2021 as president of the Southeastern Estuarine Research Society (SEERS). He also ran for president in 2021 and was active in both SEERS and the Atlantic Estuarine Research Society.

Enrique received his bachelor's from Universidad Autónoma Metropolitana, master's from Universidad Nacional Autónoma de México, and PhD from Louisiana State University (LSU). Enrique's advisor, John Day, helped him blend landscape and ecosystem modeling with field work in the Laguna de Términos. Enrique then became a research scientist at the University of Maryland's Chesapeake Biological Laboratory working with Bob Costanza in the budding field of ecological economics. After that there were academic positions at LSU, the University of New Orleans, and finally East Carolina University (ECU), where he recently retired as a full professor in the Biology Department.

Enrique's own words may be the best to summarize his career interests and path:

> I'm a coastal ecosystem scientist … and over the past 25 years I'd been intrigued on how coastal areas respond to diverse impacts, natural and man-made. My interests as an applied scientist are to explore opportunities that meet coastal needs for climate-related decision support, enhancing communication with coastal managers and policy makers for more extensive incorporation of human dimensions into existing regional ecosystem models and coastal simulations. The aim is to build groundwork for the development of an integrated socio-ecological model.
>
> My academic experience lies on large-scale approaches to ecosystem analysis. I have been active in several modeling efforts that span from plant productivity, fish migration, medium-sized experiments, to landscape simulation focused on understanding processes in wetlands and tropical watersheds. I have participated on several multidisciplinary teams in the development of ecosystem models to assess different approaches to coastal resource management.

We reached out to some of the numerous life-long friends and colleagues who collaborated with Enrique throughout his career and share a few of their memories below. Author David Brooks draws a distinction between resumé virtues and eulogy virtues.[1] The former are those skills that contribute to one's job success; the latter are those at one's core and contribute to being a good person. We first share the resumé virtues, followed by eulogy virtues.

John Callaway (University of San Francisco) said, "He was always innovative and inventive, coming up with new ways to address challenging problems, such as figuring out how to use models for large-scale, spatial management issues way before GIS was widely used." Carles Ibáñez Marti (Centre Tecnològic de Catalunya) wrote, "He was a great friend and an inspiring colleague. We remember very well his visits to Catalonia for work and for fun. In one of his visits Enrique gave us a short

course on Landscape Modelling that was excellent." John Rybcyzk (Western Washington University) noted:

> Above all, Dr. Reyes was a "big picture" ecologist. To begin with, his paper in the journal *Ecology*[2] stands as a seminal work in the field. At the time, it took an extraordinary amount of vision to coordinate the biologists, ecologists, hydrologists, and computer programmers involved with this research. His work represented the state-of-the-art as it applied to integrating and spatializing biological, ecological, and physical models and served as a template for the similar interdisciplinary research that followed. I think it safe to say that Dr. Reyes' work, along with a few others, ushered in the emerging field of computational ecogeomorphology.

Enrique's eulogy virtues helped him in science as well as beyond. He could be intense with a strong sense of justice. A visit to his office may have led to long discussions about what was right or wrong and his take on how to fix it. He brought his intensity into the classroom, trying to engage students to think both broadly and deeply about a subject. His rigor, candidness, and dry humor were not always appreciated by students, but those who did benefitted from the experience. Junior faculty members at ECU provide a good representation of how his actions were valued. Michael Brewer wrote:

> Beyond Enrique's outward façade, I will remember how caring he really was. He did his best to build our community in Biology, especially for new folks. He organized social events, hosted "orphan" holiday parties, and provided avenues for people to have frank discussions. He gave me very candid advice on what my career should mean to me and how to still have an enriched life beyond academia.

Rachel Gittman's experiences were similar:

> Enrique was always trying to find ways to help me as a junior faculty member … He was always honest and direct, and I knew I could go to him with any problem, concern, or question. He made me laugh every time I talked to him. He could be very sarcastic, and I didn't always know when he was joking or when he was serious, but that was why I always enjoyed our chats.

Ariane Peralta wrote:

> Enrique was the center of our faculty lunches. I fondly remember the times of long lunches and building community around food during the workday and happy hours after the workdays. The extended lunches … brought a sense of family for those of us who joined the department.

Lastly, Enrique was a renaissance man with many interests. To name a few, he was always the best dressed man at any event, won contests for his crème brulée, roasted turducken for Thanksgiving dinners with friends, rode a motorcycle, drove a Jaguar, hunted, and became a certified sommelier. Many knew his nickname: Suave (with a Spanish pronunciation). He contributed significantly to not only coastal science and management but also to the people whose lives he touched. He died too soon. And we miss him.

1. Brooks, D. 2016. *The Road to Character.* New York: Random House Trade Paperbacks.

2. Reyes E., M.L. White, J.F. Martin, et al. 2000. Landscape modeling of coastal habitat change in the Mississippi Delta. *Ecology* 81(8): 2331-2349.

Upcoming Events

California Estuarine Research Society (CAERS) Annual Meeting
10–11 April 2025
Costa Mesa, California, USA
https://caers.wildapricot.org/

New England Estuarine Research Society (NEERS) Spring 2025 Meeting
24–26 April 2025
Provincetown, Massachusetts, USA
https://newenglandestuarineresearchsociety.wildapricot.org/

Atlantic Canada Coastal & Estuarine Science Society (ACCESS) Annual Conference
28–30 May 2025
Wolfville, Nova Scotia, Canada
https://access.wildapricot.org/page-18209

2025 Association of Marine Laboratories of the Caribbean (AMLC) Meeting
2–6 June 2025
San Juan, Puerto Rico, USA
http://amlc-carib.org/2025-amlc-meeting/

12th INTECOL Wetlands Conference
29 June–4 July 2025
Tartu, Estonia
https://sisu.ut.ee/intecol-wetlands2025/

CERF 2025 Conference
9–13 November 2025
Richmond, Virginia, USA
https://conference.cerf.science/

CERF Rising TIDES Scholars Attend Restore America's Estuaries Summit

Leslie Townsell
C-COAST Science Writer, Lawrenceville, Georgia, USA

Rising TIDES scholars participate in a panel discussion after presenting five-minute "lightning talks" of their research

Photo: Alyssa Schukar

CERF is excited to announce that several scholars from its Rising TIDES (Toward an Inclusive, Diverse, and Enriched Society) program attended the 2024 Restore America's Estuaries (RAE) Coastal & Estuarine Summit. In its 12th year, this important gathering took place in Arlington, Virginia, and brought together scientists, practitioners, and policymakers to address critical issues in coastal and estuarine science and management. The summit is a valuable opportunity for CERF's Rising TIDES scholars to expand their networks, engage in skill-building workshops and field sessions, and represent CERF's commitment to a more inclusive and diverse scientific community.

The Rising TIDES program is CERF's commitment to broadening participation within the coastal and estuarine sciences. Through Rising TIDES, CERF aims to build a culture that includes and actively engages students from groups underrepresented in environmental science, ensuring that diverse voices help shape solutions for today's complex ecological challenges. Scholars in the program receive mentorship and networking support, preparing them to thrive as leaders in coastal and estuarine sciences. Their involvement in events like the RAE Summit strengthens their capacity to connect with colleagues across disciplines, deepens their understanding of pressing issues, and contributes new perspectives to discussions on restoration and resilience.

The RAE Summit offered a variety of interactive sessions and field trips, providing attendees with first-hand insight into regional restoration initiatives. Notable field sessions available to our scholars included: the Poplar Island Beneficial Use Project, the Great Falls of the Potomac Historic Tour, the Chesapeake Bay Foundation's Oyster Restoration Center, the Potomac River Environmental Education boat tour, and a canoe trip followed by a building tour of the Chesapeake Bay Foundation's LEED Platinum-certified headquarters.

Additionally, the summit featured workshops that explored themes like coastal resilience, community engagement, and nature-based solutions, all of which align with CERF's Rising TIDES mission to increase diversity and inclusivity within coastal and estuarine science and management. Workshop topics included: managing coastal inundation, designing nature-based solutions for flood resilience, and enhancing communication with policymakers.

The Rising TIDES scholars participated in a range of tailored programs at the event, including a workshop, a networking lunch, and a dedicated session featuring five-minute "lightning" talks.

The Rising TIDES workshop included a professional development panel with experts from state and federal agencies, non-profits, and private industry where scholars learned more about pursuing non-academic careers. Following the panel, scholars joined a networking lunch, where they connected with professionals based on their specific career interests, fostering meaningful discussions and mentorship opportunities.

The session titled "The Future of Coastal and Estuarine Science, Management, and Outreach" was moderated by Dr. Alfonso Macías-Tapia (NOAA Office of Education, 2019 Rising TIDES scholar, and 2023

Rising TIDES near-peer mentor) and highlighted impactful research and outreach from the following scholars:

1. **Natalia Schoenberg**, Virginia Institute of Marine Science – Recruitment of soft-shell clams (*Mya arenaria*) within predator-exclusion grow-out cages in the York River, Virginia
2. **Siyah Yongue**, Louisiana State University – Quantifying eastern oyster valve opening behavior under concomitant environmental stressors
3. **Alyah Bennett**, University of North Florida – Assessing uncrewed aircraft system methods for long-term monitoring of intertidal oyster reefs
4. **Yasmine M. Gatt**, National University of Singapore – Source or sink? Tidal flats and their greenhouse gas footprints
5. **Hannah Henry**, University of North Carolina at Chapel Hill – Adapting angling: Assessing the willingness of recreational anglers to modify hook and bait choices for sea turtle conservation
6. **Stephanie V. Tsui**, Northeastern University – Characterizing perceptions of human-nature relationships for the next generation of environmentalists
7. **Alex Zinck**, Nisqually River Education Project – Nisqually River Education Project: Teaching the wonders of the Nisqually watershed
8. **Zlatka Rebolledo Sánchez**, Old Dominion University – Making science accessible: An interactive approach using spatial variability in salt marshes

Following the presentations, scholars engaged in a panel discussion about their research interests, career aspirations, and recommendations for fostering a supportive environment for the next generation of diverse coastal and estuarine scientists and managers. These conversations underscored the importance of inclusivity and mentorship in shaping the future of the field.

Rising TIDES scholars found the summit transformative. Tsui noted that attending the RAE Summit as a Rising TIDES participant showed her how non-academic groups work in the same coastal spaces she centers her research on. She learned about large-scale restoration projects, new GIS tools, and the Coastal Resilience Evaluation and Siting Tool (CREST), which she'll apply to her habitat suitability analyses. Meeting professionals from the US Environmental Protection Agency, US Fish and Wildlife Service, and The Nature Conservancy broadened her career outlook, and she's now considering pivoting to a non-academic job after graduation. Macías-Tapia reflected that the meeting incorporates a mix of academia, policy, and industry. He learned how they benefit from each other but also about the gaps that exist among them. As a peer mentor, he approached the event with dual perspectives—focusing on his research while seeking opportunities for Rising TIDES scholars. He noted the event's size and design encouraged meaningful conversations.

Through the Rising TIDES program, CERF emphasizes that representation and inclusivity are essential for innovative and effective environmental solutions. The summit provided Rising TIDES scholars with a stage to engage with leaders across sectors, from federal agencies and non-profits to local restoration practitioners and community leaders. By facilitating the presence of Rising TIDES scholars at the summit, CERF underscored its commitment to fostering a vibrant, diverse community of coastal and estuarine science professionals.

With this experience, CERF's Rising TIDES scholars returned to their academic and professional communities enriched by the insights, skills, and networks they gained at the RAE Summit. Their participation was a step toward a more inclusive future for coastal and estuarine science, one where diverse perspectives are integral to addressing environmental challenges that impact us all.

For more information about CERF's Rising TIDES program, visit https://www.cerf.science/rising-tides-program and for more information on CERF's inclusive culture efforts, visit https://www.cerf.science/inclusive-culture.

Malibu Lagoon in southern California, USA, at high water levels

Photo: Christine Whitcraft

CERF Celebrates Conclusion of Inaugural Inclusive Leadership Program

Leslie Townsell
C-COAST Science Writer, Lawrenceville, Georgia, USA

2023-2024 CERF Inclusive Leadership Program participants and facilitators, along with Holly Parker, director of the Schiller Coastal Studies Center at Bowdoin College, during the September 2024 close-out retreat on the center's boat dock, Orr's Island, Maine, USA
Photo: Veronica del Bianco

In a pioneering move toward fostering inclusivity and equity in coastal and estuarine sciences, CERF proudly announces the completion of the first cohort of its Inclusive Leadership Program (ILP). This groundbreaking 14-month initiative, funded by the National Science Foundation (NSF), is part of CERF's broader efforts to cultivate current and future leaders to drive cultural transformation within their institutions and communities.

The ILP provides participants with comprehensive training in diversity, equity, inclusion, and belonging (DEIB) foundations, leadership development, and strategies for organizational change and systemic transformation. Designed to address the unique challenges of environmental sciences and management, the program combines workshops, self-reflection activities, leadership projects and plans, and one-on-one coaching. In addition to regular virtual meetings, participants attended three in-person retreats, including the program's inaugural gathering at Western Washington University's Shannon Point Marine Center in Anacortes, Washington, held in September 2023, a one-day workshop prior to CERF 2023 in Portland, Oregon, in November 2023, and a close-out retreat at the Bowdoin College Schiller Coastal Studies Center on Orr's Island, Maine, in September 2024.

CERF Executive Director Susan Park remarked on the program's transformative mission: "This program is not just about leadership development—it's about building the capacity of leaders at all career stages to create culture change that results in sustainable, inclusive environments where everyone can thrive." The ILP's inaugural cohort includes a diverse group of professionals spanning academia, government agencies, and nonprofit organizations. These individuals bring a wealth of expertise and unique perspectives, demonstrating CERF's commitment to fostering a vibrant and inclusive scientific and management community.

Meet the Cohort and Facilitators

The first ILP cohort includes:

- **Krista Kamer** – Director, California State University Council on Ocean Affairs, Science & Technology (CSU COAST)
- **Christopher Katalinas** – Learning Coordinator, NOAA Office for Coastal Management
- **Malachy McCaffrey** – PhD student, University of Rhode Island Graduate School of Oceanography
- **Pedro Morais** – Scientific Aide, California Department of Water Resources
- **Danielle Perry** – Marine Habitat Resource Specialist, NOAA Fisheries
- **Anna Pfeiffer-Herbert** – Associate Professor of Marine Science, Stockton University
- **Rae Quadara** – Artist/Consultant, Rae Rae The Science BAE LLC
- **Alfonsina Romo-Curiel** – Research Associate, University of Texas at Austin Marine Science Institute
- **Zola Roper** – Marine Debris Coordinator, US Virgin Islands Coastal Zone Management
- **Cecily Steppe** – Professor in the Department of Ocean and Atmospheric Sciences, United States Naval Academy

Guiding this journey were facilitators Shani Dellimore Barrax of Aurora Change Agency, a DEIB strategist with over 25 years of experience, and Dr. Jennifer Sandoval, an Associate Professor of Communication at the University of Central Florida specializing in equity and inclusion strategies. Programming was also developed by co-principal investigators and CERF leaders Leila Hamdan (CERF Past President, University of Southern Mississippi), Treda Grayson (CERF Governing Board Member at Large, US Environmental Protection Agency), and Kris Lewis (CERF 2025 Inclusive Culture Committee Chair, University of Rhode Island). CERF Executive Director Susan Park and Program Coordinator Amara Foster were also part of the ILP leadership team.

Building on CERF's Commitment to Diversity

The ILP is an integral part of CERF's C-COAST initiative (Changing the Culture of our Occupations to

Achieve Systemic Transformation). This initiative also includes the Rising TIDES program, which supports students from backgrounds underrepresented in coastal sciences and management. Together, these programs reflect CERF's commitment to creating a community that values equity, inclusivity, and collaboration.

As one participant noted, "The CERF ILP program was the most thoughtful and thorough learning opportunity I have experienced in my professional career. We worked with an incredible team of facilitators and cohort colleagues to examine inclusive and equitable practices, supporting our development as whole people and leaders in coastal sciences."

CERF's Inclusive Leadership Program represents a significant step forward in building a more diverse and equitable scientific community, equipping leaders with the skills to enact lasting change.

For information, visit https://www.cerf.science/inclusive-leadership-program-ilp-.

Riding the Wave CERF 2025

CERF 2025: Families Welcome!

A family attending a CERF conference

While CERF 2025 in Richmond, Virginia, is still many months away, we know you are starting to work on your abstracts and consider travel plans. Therefore, we want to remind you that families are welcome at the CERF biennial conference! CERF strives to provide a supportive atmosphere for parents and caregivers attending our conference. Each year we try to provide opportunities for the whole family.

Children are welcome at conference sessions and workshops, in the exhibit hall, at poster sessions, and at receptions provided they are always accompanied by registered adult attendees. Children can even get their own conference badges at the registration desk. Please keep in mind that alcohol will be served at evening events.

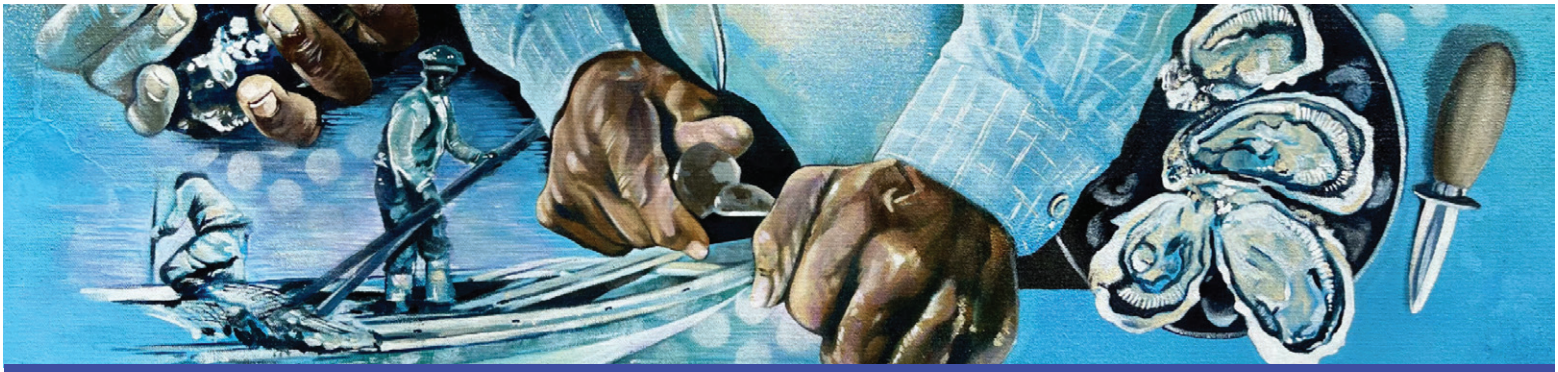
The Greater Richmond Convention Center has a private lactation lounge for nursing or pumping that includes comfortable seating, electrical outlets, a refrigerator, and tables. We will also provide a dedicated family room in the convention center for caregivers and children to gather. A quiet room will also be available for those with sensory sensitivities or who just need a peaceful place to take a break.

Richmond is full of family-friendly activities, many of which are close to the convention center, including the Children's Museum of Richmond,[1] Science Museum of Virginia,[2] Maymont Gardens[3] and Children's Farm (petting zoo), and the newest pygmy hippo baby sensation, Poppy,[4] who was recently born at the Metro Richmond Zoo.[5] Visit Richmond has a website[6] dedicated to family activities, family-friendly restaurants, and other resources.

We hope you'll consider bringing your children and families so you can enjoy the conference with your loved ones, and we can help inspire the next generation of coastal and estuarine scientists and managers!

1. https://www.childrensmuseumofrichmond.org/
2. https://smv.org/
3. https://maymont.org/
4 https://metrorichmondzoo.com/animals/poppy-the-pygmy-hippo/
5. https://metrorichmondzoo.com/
6. https://www.visitrichmondva.com/things-to-do/family-fun/

This year, in lieu of onsite childcare, we will be offering childcare grants to help minimize barriers to conference participation. These can be used to offset costs such as daycare expenses at the site of the meeting, extra daycare expenses at home incurred because the primary caregiver is attending the meeting, expenses incurred in bringing a babysitter (or other caregiver) to the meeting or to your home to care for the child/children, and expenses incurred in bringing a child/children to a babysitter/family member. We are working to gather contact information for local childcare providers.



CERF 2025

9–13 November 2025 / Richmond, Virginia

Estuaries: Tradition and Transition

IMPORTANT DATES

- **Coastal Design Competition Proposal Deadline:** 28 April 2025
- **Call for Abstracts Deadline**: 28 April 2025
- **Early Bird Registration Deadline**: 16 May 2025
- **Online Registration Deadline**: 3 November 2025

All dates are subject to change.

CALL FOR ABSTRACTS

The CERF 2025 Scientific Program Committee invites you to submit an abstract for an oral or poster presentation in one of the range of sessions that examines new findings across CERF's scientific, management, and educational areas of focus.

The theme "Estuaries: Tradition and Transition" encompasses the history of estuarine research while understanding emerging challenges and future opportunities.

More information can be found at **conference.cerf.science/cerf-call-for-abstracts**!

Learn more at: conference.cerf.science

Announcing Changes to the *Estuaries and Coasts* Publishing Model

Paul A. Montagna, Just Cebrian, Melisa Wong
Coeditors in Chief, Estuaries and Coasts

Estuaries and Coasts (ESCO), the CERF journal, announces that there will be several changes to publishing procedures starting in 2025.

The most noticeable change is that ESCO will begin continuous publishing. Upon acceptance, and once proofs are typeset and approved by the authors, the article will be published online and assigned to an issue. Thus, Online First, which has been renamed "Latest articles," is now the official publication date (which averages 15 days after acceptance). This is an advantage to authors for at least two reasons: faster publication and no longer having two publication dates (i.e., Online First and the printed issue). Papers are added to issues in chronological order of acceptance and approval. There will be six issues per year, with each issue containing the papers published within the previous two-month window. Issues will be made available both electronically and in print.

There will also be changes in "Special Issues" (sometimes referred to as Sections or Features), which will now be named "Collections." Collections will benefit from the continuous publishing model, because authors will no longer need to wait until all the manuscripts of a special issue are complete for their manuscript to be published. Articles will be added to the current open issue with a special banner identifying the collection. However, collections will no longer be published together in a single issue. Another advantage of these changes is that ESCO can now allow for open submissions for Collections. There is a "calls for papers" for all Collections on the ESCO website home page at https://link.springer.com/journal/12237. One example of an open collection is "Estuary and Coast Signatures," which is a collection of Brief Reports that describe estuaries and coasts that are currently under-studied or poorly characterized.

There is one more small change. ESCO has been using a unique legacy citation and reference list format. Starting in 2025, ESCO will use the standard APA format for citations and reference lists. APA was chosen because it is most similar to the legacy format, is one of the standard formats used by Springer, and will be easy to implement using bibliographic software.

Estuarian Septuagenarian

Bob Christian
East Carolina University (retired)

There was a young man who joined ERF.

He studied mole crabs in the surf.

But with the cycling of tides

and the passage of time,

he's now an old codger in CERF.

Estuaries and Coasts Outstanding Reviewers

Estuaries and Coasts would not be successful without the hard work of hundreds of volunteer peer-reviewers whose dedication and expertise play a crucial role in upholding the quality and integrity of the articles published in the journal. CERF recognizes the critical contributions of all our reviewers and thanks you for the generosity of your time. Reviewers are the lifeblood of the journal, and we feel it important to recognize those who go above and beyond in their service. The *Estuaries and Coasts* editorial board is proud to recognize the dedicated efforts of outstanding reviewers in each issue of *CERF's Up!* This recognition honors reviewers based on the quality and the number of reviews, and their promptness.

Between July and December 2024, we are happy to highlight Outstanding Reviewers for their significant contributions to the quality and success of *Estuaries and Coasts*. We thank the 40 people who completed at least two reviews and highlight four reviewers who each completed three reviews: Joel Anderson, Guoyu Yin, Jing Chen, and Matthew Bryan Ogburn. We are especially grateful to reviewers who complete reviews rapidly as this allows us to offer feedback to anxious authors and publish papers quickly. Here we recognize the six reviewers who completed their two reviews in less than a week: Melissa Baustian, Lucia Fanini, Holly Greening, Brian Mahardja, Michael Wetz, and Alan Whitfield.

Thank you for your invaluable contributions to CERF and *Estuaries and Coasts!*

The Latest *Coastal & Estuarine Sciences News* (CESN)

Merryl Alber, CESN Editor, University of Georgia
Janet Fang, CESN Science Writer/Managing Editor

The mission of CESN is to highlight the latest research in the journal *Estuaries and Coasts* that is relevant to environmental managers. CESN is a free electronic newsletter that is posted online and delivered to subscribers on a bimonthly basis (six issues per year). CESN is available in both English and Spanish. Please visit www.cerf.science/cesn to read the full summaries and sign up to have future issues delivered to your email inbox. And please encourage the environmental managers you work with to sign up as well.

La misión de CESN es destacar las últimas investigaciones en la revista *Estuaries and Coasts* que sean relevantes para los gestores ambientales. Es un boletín electrónico gratuito que se entrega a los suscriptores cada dos meses. Regístrate en www.cerf.science/cesn-spanish.

2024 CESN Issue 6

No Geese Allowed

Fences keep out the geese but allow non-native plants to invade

Source: Lane, S.L. et al. 2024. Passive Recovery Risks Non-native Vegetation Invasion Following Intensive Herbivory by Canada Geese in Two Salish Sea Estuaries. *Estuaries and Coasts*. DOI: 10.1007/s12237-024-01419-7
https://rdcu.be/dU7CF
https://www.cerf.science/cesn-2024-issue-6#Article1

A Decision Tool for Designing Living Shorelines

Considering future conditions induced by sea-level rise

Source: Parkinson, R.W. et al. 2024. Future Shorelines: A Living Shoreline Site Selection and Design Decision Support Tool that Incorporates Future Conditions Induced by Sea Level Rise. *Estuaries and Coasts.* DOI: 10.1007/s12237-024-01425-9
https://rdcu.be/dU7Dn
https://www.cerf.science/cesn-2024-issue-6#Article2

Effects of Living Shorelines on Nekton Can Take Years

Results from a before-after-control-impact paired series at multiple sites

Source: Smith, C.S. et al. 2024. Living Shorelines Equal or Outperform Natural Shorelines as Fish Habitat Over Time: Updated Results from a Long-Term BACI Study at Multiple Sites. *Estuaries and Coasts.* DOI: 10.1007/s12237-024-01429-5
https://rdcu.be/dVfUH
https://www.cerf.science/cesn-2024-issue-6#Article3

Does Dredging Cause Wetland Loss? Yes, But…

Over time, wetland loss is dominated by the indirect effects of dredging

Source: Turner, R.E. & E.I. Ohimain. 2024. Dredged Canals, Wetland Loss, and Legacy. *Estuaries and Coasts.* DOI: 10.1007/s12237-024-01427-7
https://rdcu.be/d3pVl
https://www.cerf.science/cesn-2024-issue-6#Article4

ANGELS & SUSTAINERS 2024

Angels

From 1 January to 31 December 2024, the following Federation members donated to the William E. Odum Fund, Donald W. Pritchard Fund, CERF Enhancement Fund, Scott W. Nixon Fund, and/or the Legacy Fund.

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Many thanks to the members who joined or renewed at the Sustaining Member level.* Your extra efforts on behalf of CERF will ensure the future of the Federation.

Mark Adams
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Richard Zimmerman

*Members listed were active as of 2 January 2025.

Understanding the Impacts of Recent US Policy Actions

CERF leadership understands that recent US executive orders, memos, proposed legislation, and similar actions have had ramifications to our members' work and lives. CERF is committed to supporting our members and we want to hear from you. Please take a few minutes to fill out this form[1] designed to collect information about the impacts of the orders and policies on our membership and the broader coastal and estuarine community.

We welcome all information, including impacts to your research or ability to manage coastal resources, threats to your job security, or impacts on your personal lives. By collecting and integrating evidence of these impacts, CERF can use them in our policy and advocacy work in support of the wise stewardship of estuarine and coastal ecosystems (e.g., sharing evidence collected in the survey during upcoming visits to Congressional delegations and staffers).

Your responses will remain anonymous unless you choose to share your identity and information.

If you have any questions, please contact Susan Park, Executive Director, at 302-344-5828 or spark@cerf.science.

1. https://bit.ly/CERFImpactSurvey

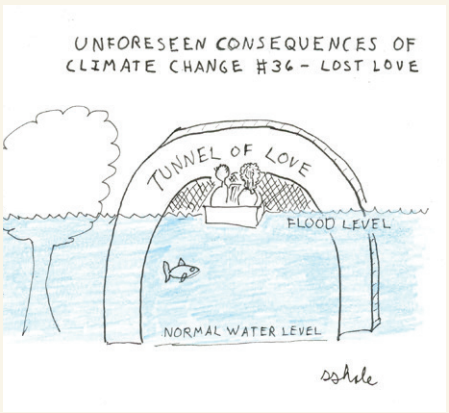
A Change in Sea Level

Stephen S. Hale
ORCID https://orcid.org/0000-0001-7858-3750
stephenshale@gmail.com

Facts and model projections from climate.gov.[1] Cartoons by author.

1. Global sea level rose 21–24 cm since 1880. Now the rate of rise is accelerating, more than doubling in recent years from what it was for much of the 20th century.

2. For many areas of the US coast, the rate of local sea level rise is greater than the global average. The western Gulf of Mexico and the mid-Atlantic coast have the fastest rates of rise.



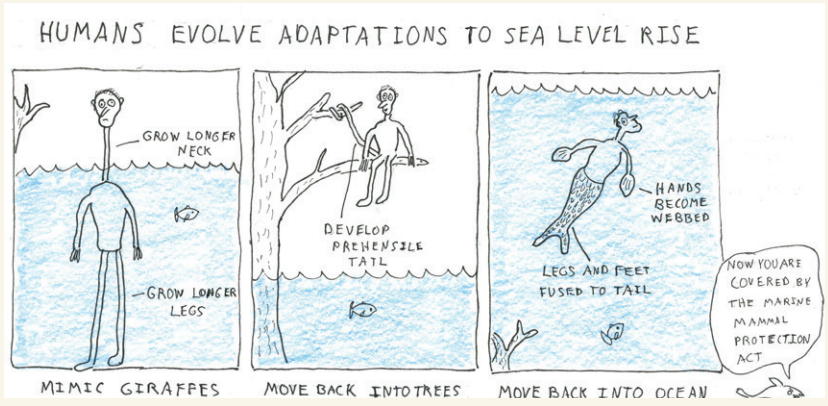
3. When CERF was founded in the early 1970s, high-tide flooding in the US was 300–900% less frequent than it is now.

4. If human society can manage to follow a low greenhouse-gas emissions path, average US sea level in 2100 is projected to be around 0.6m higher than in 2000. If not, it could be up to 2.2m higher.

5. The rise is mostly a result of melting glaciers and ice sheets, along with thermal expansion of warming waters. Global average ice loss from glaciers has increased five-fold since 1980. From the 1990s to the 2010s, ice loss increased seven-fold from the Greenland Ice Sheet and four-fold from the Antarctic.

Sea level rise is having and will have dramatic effects on coastal ecosystems and human infrastructure worldwide. Coastal habitats, along with the species dependent on them, are at risk. Recently, the Key Largo tree cactus became the first US species (that we know of) to go extinct as a result of sea level rise. Besides disrupting the lives of the 30% of Americans who live near the coast, gazillions of dollars will be needed to deal with affected coastal infrastructure.

1. https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level



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CERF's Up! Bulletin

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