



FELLOW NEWS

News for and about the NOAA Fellows

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WE WELCOME OUR NEWEST FELLOWS: CLASS OF 2020-2022 **OUR NEW FELLOWS WILL TACKLE CRITICAL COASTAL ISSUES.**

In April, NOAA’s Office for Coastal Management matched NOAA Coastal Management Fellowship candidates with coastal zone programs in six U.S. states and territories and with three Digital Coast Partnership organizations.



Association of State Floodplain Managers – Eleanor Rappolee, from Michigan State University and nominated by Michigan Sea Grant, was matched with the Association of State Floodplain Managers (in partnership with the Coastal States Organization) to support coastal communities in tackling one of the greatest challenges to reducing flood damages and costs in a changing climate—repeatedly flooded properties—through research, guidance development, and direct technical assistance.



California State Coastal Conservancy – Meghan Martinez, from Texas A&M University-Corpus Christi and nominated by Texas Sea Grant, was matched with the California State Coastal Conservancy to help implement, track, and evaluate a visionary regional plan to restore southern California’s wetlands, the Regional Strategy 2018, as well as support a community-based wetland restoration grant program in order to increase coastal wetland resilience that benefits all people in California.

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Delaware – Nicole Marks, from Villanova University and nominated by Pennsylvania Sea Grant, was matched with the Delaware Coastal Programs to develop a decision-tree process

for communities, homeowners, business owners, and land stewards to follow actions they can undertake to mitigate flooding impacts from sea level rise and coastal storms, and to provide outreach and education on the process.



Guam – Chelsey Willetts, from the University of Wisconsin-Madison and nominated by Wisconsin Sea Grant, was matched with the Guam Coastal Management Program to update the draft Seashore

Reserve Plan in conjunction with partner agencies in order to have the plan submitted through the Guam Territorial Planning Process for adoption.



Maryland – Kate Vogel, from the University of Michigan and nominated by Michigan Sea Grant, was matched with the Maryland Chesapeake and Coastal Service to identify and

implement new technical guidance and on-the-ground climate adaptation best practices for several Maryland Department of Natural Resources land unit sites in order to assist land managers in ensuring the long-term resilience of our ecosystems, infrastructure, recreational uses, and public access.



National Estuarine Research Reserve Association – Mary Schoell, from Yale University and nominated by Connecticut Sea Grant, was matched with the

National Estuarine Research Reserve Association to work at the Narragansett Bay Research Reserve to characterize the needs for coastal wetland migration pathway information, identify preferred tools and communication approaches, and develop best available wetland pathway data and tools.



Texas – Brian DeSanti, from Texas Tech University and nominated by Texas Sea Grant, was matched with the Texas Coastal Management Program to implement water quality management measures

along the Texas coast through stakeholder engagement, data analysis and communication, and strategic programmatic review.



The Nature Conservancy – Anna Jane Jones, from the University of North Carolina-Chapel Hill and nominated by North Carolina Sea Grant, was matched with the Nature Conservancy to plan and

implement nature-based solutions to reduce risk in two regions of the Southeast United States that have been recently impacted by hurricanes: the Florida Panhandle and the Carolinas Coastal Plain.



U.S. Virgin Islands – Kerrin Toner, from Louisiana State University and nominated by Louisiana Sea Grant, was matched with the U.S. Virgin Islands Coastal Zone Management

Program to produce an updated St. Thomas East End Reserves 5-year Management Plan through a transparent, inclusive, and fully informed process in order to provide managers and partners with a prioritized set of actions that protect the social and ecological communities of St Thomas. 

FOCUS ON FELLOWS

ELLEN BARTOW-GILLIES



Growing up in Dallas, Texas, fellow Ellen Bartow-Gillies's longstanding love for the coast started as she spent summers watching the moon rise over the Gulf of Mexico. When

it was time to head off to college, she chose one along the coast—Tulane University—and studied environmental science and economics in the context of coastal challenges facing southern Louisiana.

After college, Ellen had her first fieldwork experiences when she began pursuing her master's in geography at Texas A&M University. When she wasn't working on research cruises, diving in submersibles to study Pacific seamount ecosystems, or cranking out sample analyses in the lab, she was crawling through Texas caves in pursuit of stalagmite samples to use to reconstruct past rainfall records. These diverse fieldwork experiences were instrumental in preparing her for a career in coastal science and management.

Ellen learned about the fellowship program through the Texas Sea Grant office and was immediately intrigued. As Texas' first Coastal Management Fellow, she is grateful for the mentorship of Texas Sea Grant in helping her through the application process and placement.

Ellen's fellowship is with the Maine Coastal Program. She coordinates the activities of a regional partnership known as CoastWise, which is made up of scientists, restoration practitioners, resource planners, engineers, and local stakeholders interested

in climate-resilient tidal road crossings. She has engaged the CoastWise partnership through two years of workshops to develop cost-effective design principles for road crossings over tidal streams in the Gulf of Maine that support wetland restoration, improve community resilience to sea level rise, and restore habitat for important fish species.

The CoastWise partnership is publishing the first regional guidebook for communities, private road owners, engineers, and others interested in designing climate-resilient tidal road crossings. Through training and outreach of the Coastwise Approach, the group hopes to steadily reverse centuries of impacts to marshes and other tidal habitats by encouraging the design and implementation of safe, low maintenance crossings scaled to accommodate sea level rise and restore natural tidal flow.

Ellen has also identified at-risk estuarine habitats by locating, organizing, and compiling statewide data on vulnerable coastal infrastructure and physical, biological, and ecological variables to create the comprehensive Tidal Restriction Atlas in Maine. This online, user-friendly atlas will serve as a resource for coastal communities to identify hazardous culverts, bridges, and dams, as well as a resource for local conservation groups to prioritize tidal restoration projects statewide. Restoring natural tidal flow to upstream wetland ecosystems is one of the easiest and most effective methods of coastal wetland restoration in Maine.

Ellen contributed to the first two field seasons of data collection at 33 long-term salt marsh monitoring stations installed by the Maine Coastal Program and partners. At each station, the team collects annual measurements on elevation, plant community

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Ellen measures one year of marsh sediment accumulation to better understand marsh-building rates and processes in the Gulf of Maine.

information will help Maine understand how resilient its salt marshes are to current rates of sea level rise.

Ellen’s fellowship has provided her with the opportunity to explore a range of projects and responsibilities associated with coastal management. “I’ve spent weeks trudging through marsh mud to collect elevation and plant data, I’ve organized and led workshops on integrating sea level rise considerations into road infrastructure projects,

composition, and sediment accumulation rates. After several more years of data collection, this

and I’ve contributed spatial analysis data and maps on restricted salt marsh acreage to a Coastal Blue Carbon Strategy for policymakers with the Maine Climate Council,” says Ellen. “The flexibility of the fellowship has allowed me to try on the many different hats of coastal professionals.”

When she’s not sinking in marsh mud for pursuit of science, you can find her running Maine’s many trails, trying out yet another ice cream stand, or catching wintry waves at one of the state’s pristine beaches.

After the fellowship, Ellen would like to stay on the Atlantic coast to keep working on research and management of coastal challenges in the region. She hopes to pursue research and application of science-based best practices of coastal restoration, and to continue communicating the ecological and economic benefits of healthy salt marsh ecosystems as we work to create more resilient and productive coastal communities. 

FOCUS ON FELLOWS

CODY ESKEW



CLASS OF 2018-2020

*F*ellow Cody Eskew was born and raised in Chesterland, Ohio, a small town nestled between Cleveland’s eastern suburbs and Amish country. The long winters and his love of the outdoors inspired Cody to

head to a warmer climate when it came time to head off to college. Cody chose the University of Tampa, to study marine science and biology.

An internship with Tampa Bay Watch, a nonprofit dedicated to the protection and restoration of the

Tampa Bay Estuary, during his undergrad years was what really got him interested in all things coastal. He helped lead a summer camp program focusing on the local marine ecology. His typical day included kayaking through the mangroves, planting dune grass, and building living shorelines.

For graduate school, Cody jumped across the pond to the University of Glasgow to pursue a master’s degree in coastal system management. There, he studied historical shoreline change in the Outer Hebrides, a remote chain of islands off Scotland’s Northwest Coast.

Cody discovered the fellowship program in a more non-traditional fashion. Following graduate

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school, he moved to Chicago and worked with an educational science and technology nonprofit for two years. During that time, he also volunteered with the Illinois Coastal Management Program's community science shoreline monitoring program and kept an eye on the organization to see how he could get further involved. Eventually he saw a job posting for the coastal fellow position and knew he had to apply.

At his fellowship with the Illinois Coastal Management Program, Cody helps coordinate the Sand Management Working Group, an informal network of local, state, and federal leaders and land managers working to address shoreline change and management on public lands along Illinois' Lake Michigan coast. This group is looking at the beneficial use of dredge materials, including a pilot program with the Army Corps of Engineers looking at using dredged sand from Waukegan Harbor, Illinois, to nourish beaches in four Illinois coastal communities.

Cody has also been working to make shoreline permit applications a more clear and understandable process. Navigating regulations on local, state, and federal levels can be confusing, so the Sand Management Working Group identified the need for a comprehensive permitting guide. Cody searched the city code for each coastal municipality in Illinois and coordinated with state and federal permitting agencies to document all shoreline authorities that a permit applicant may encounter. He gathered contact information for each regulatory agency, and created a shoreline permitting guidance document that applicants can use to determine which permits may be needed for their projects.

Cody also recently coordinated the submission of regional sediment management proposal that, if approved this fall, would study beneficial use opportunities in Southwest Lake Michigan. The traditional approach in the region has been to nourish beaches with quarry sand, which is costly



Cody and colleagues on a tour of Illinois Beach State Park, the only remaining beach ridge shoreline left in the state.

since it needs to be transported over land via truck. Also, Waukegan Harbor cannot supply the entire region with sand, so this proposal would explore other cost-effective and sustainable options.

Cody has been exploring using Illinois River dredged sand stockpiles for beneficial use. Studies have shown that this sand has the physical characteristics that would be ideal for beach nourishment in the region, and this proposal would fund continued research on cost analysis, risk assessment, and regulatory review. It would also include a database of past nourishment activities in the region to allow for cost comparison between sand sources.

Cody says that, “engaging with such a diverse and motivated group of stakeholders who are all very aware of the challenges in our coastal region and eager to partner for solution,” has been the most gratifying aspect of his work.

When not working, Cody is enjoying the endless supply of amazing cultural food options Chicago has to offer and loves going out to see live music. Since COVID, Cody has spent more time on indoor activities such as honing his cooking skills and learning how to pickle various foods.

Cody has enjoyed working with the state coastal program and would like to continue in that direction in the future, either directly or working closely with a similar organization. Winters on the Great Lakes can be very long, so he wouldn't mind a warmer climate, but he has found a home for now in Chicago. 

FAREWELL TO OUR 2018-2020 FELLOWS

WE SAY FAREWELL TO OUR AMAZING 2018 COASTAL MANAGEMENT AND DIGITAL COAST FELLOWS.



Amber Anastacio-Roberts

worked with the California Coastal Commission to update and standardize the commission's California Coastal Armoring Database (CCAD) on ArcGIS, and took the lead on an agency-wide needs assessment to make sure that the database is accessible, usable, and useful. The primary intent of the CCAD Needs Assessment was to document the agency's armoring data needs, assess underlying challenges and data gaps, and provide recommendations as to how CCAD can best meet the analytical needs of staff. Amber's needs assessment process resulted in a report that includes detailed recommendations on how the agency can reshape its data management system to better serve the armoring needs of its staff.

While her fellowship project focused on CCAD, Amber also took a leadership role with the commission's environmental justice and racial equity teams. These teams focus on ensuring that equity and accessibility remain at the forefront of the commission's efforts when it comes to planning, regulating, and engaging with the public. In this role, Amber led and organized trainings and internal staff discussions on racial equity, created the agency's first ArcGIS story map on environmental justice, and wrote environmental justice analyses for proposed coastal developments.



Alexis Cunningham worked with the Coastal States Organization and the Association of State Floodplain Managers to promote and improve the Community Rating System—a voluntary program of the Federal

Emergency Management Agency that incentivizes communities through lower flood insurance rates to reduce flood risk by engaging in mitigation activities. Alexis worked to assess socioeconomic impacts in coastal counties and the barriers to participating in the Community Rating System. She assessed factors for the lack of adequate resources to mitigate flood risk, as well as the lack of federal support and interagency coordination across the U.S. regarding coastal resilience.

Alexis' fellowship research culminated in policy recommendations and a policy analysis report on the Community Rating System on behalf of her host organizations. The recommendations are intended for national agencies and organizations, as well as state and local governments and nongovernmental organizations. Ultimately, these recommendations provide insight into where these entities should focus on implementing resilience to improve the Community Rating System and general flood mitigation efforts for communities.



Kelsey McClellan worked with the Commonwealth of the Northern Marianas Islands (CNMI) Division of Coastal Resources Management to develop a framework for calculating

carrying capacity of tourist sites in the CNMI and provide implementation recommendations to guide the sustainable development of a growing tourism industry. She is helping the agency address tourism impacts on valuable natural resources through a multi-pronged approach of using behavioral observations, available environmental data, and spatial analysis.

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Kelsey worked to understand influential tourist behaviors, develop site-specific carrying plans, and provide resource managers with data-driven recommendations that enhance the tourism industry and protect the CNMI's natural resources. Her final product was a suite of materials for natural resource managers, including a final report that outlined the framework for conducting user carrying-capacity assessments, a literature review, and recommendations for industry best management practices.

Kelsey co-lead a collaborative effort to develop a Saipan Lagoon Users Education Plan (SLUEP), and worked with the Marianas Visitors Authority and the Northern Marianas College to provide recommendations for their proposed Marine Sports Operator Certification. Kelsey mentored two interns who worked to spatially identify areas of high management priority (highest density of operators, clients, and areas that generated the most revenue), and hopes to publish this study. To find out more about her project visit: dcrm.gov.mp/current-projects/sustainable-sites.



Sierra Davis worked with Delaware's Department of Natural Resources and Environmental Control, where her time was split between Delaware Coastal Programs and the Shoreline and

Waterway Management Section. Her project was to develop a new data-based methodology for prioritizing dredging projects in Delaware's Inland Bays. She created a detailed inventory of data that was already available, and coordinated the data collection needed to make evidence-based decisions regarding dredging.

Sierra created an online survey of stakeholders, which elicited over 1,000 responses and was

featured in local newspapers and on regional television. She organized [public workshops](#) to promote the online survey, educate the public about waterway management in Delaware, and solicit public feedback. Sierra completed a final report that outlined a foundation for a new data-based methodology for prioritizing dredging projects in these channels. It identifies strategies for prioritizing dredging projects through a data-based and stakeholder-driven approach. This method is designed to be repeatable so that dredging feasibility can be updated throughout time and through changing conditions or storm events. Sierra also co-wrote a [blog on waterway management in Delaware](#). [Click here](#) for more information about dredging priorities in Delaware and Sierra's project.



Cody Eskew worked with the Illinois Coastal Management Program to coordinate as well as meet the needs of the Sand Management Working Group (SMWG), an informal network

of local, state, and federal leaders and land managers working to address shoreline change and management on public lands along Illinois' Lake Michigan coast. Through engaging the SMWG, a need was identified to clarify the shoreline permitting process. This led Cody to develop a comprehensive permitting guide that applicants can use to determine which permits may be needed for their projects. Armed with shoreline permitting knowledge, he was able to assist in meeting the permit needs of an innovative offshore submerged shoreline protection pilot project.

Cody was also involved with the coastal program's beneficial use initiatives. Coordinating with state geological researchers and the Army Corps of Engineers, he led the development of a regional sediment management proposal that

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would examine the feasibility of beneficial use opportunities in Southwest Lake Michigan.

Ellen Bartow-Gillies worked with the Maine Coastal

Program to protect critical ecosystem services by designing and applying a method to prioritize habitats at risk and inform robust policies and strategies that will increase the resilience of important resource areas. Her work resulted in a comprehensive Tidal Restriction Atlas for the state of Maine. This online, user-friendly atlas serves as a resource for coastal communities to identify hazardous culverts, bridges, and dams, as well as a resource for local conservation groups to prioritize tidal restoration projects statewide.

Ellen also worked with the CoastWise partnership to publish the first regional guidebook for communities, private road owners, engineers, and others interested in designing climate-resilient tidal road crossings. Through training and outreach about the CoastWise approach, the group hopes to steadily reverse centuries of impacts to marshes and other tidal habitats by encouraging the design and implementation of safe, low maintenance crossings



scaled to accommodate sea level rise and restore natural tidal flow.

Shanna Williamson worked with the National Association of Counties to get a better

understanding of resilience efforts in the Gulf of Mexico region by assessing and raising awareness of county coastal management policies and disaster spending. For her project, Shanna had three main goals: (1) Determine what the counties do to address mitigation, mainly by pulling information from their county hazard mitigation and comprehensive plans; (2) Calculate an estimated return on

investment for a subset of those mitigation efforts to demonstrate the value of mitigation at the local level; and (3) Create a communication tool that counties may use at the local, state, or federal level to highlight their resilience efforts and the economic return on some of those efforts.

Shanna's final product includes a webinar and report outlining key results from her research that counties may use at the local, state, or federal level to highlight their resilience efforts.



Richard Buzard worked with the National States Geographic Information Council to help rural Alaska coastal communities

document flood impacts, and developed flood impact forecast guidance documents. For his project, he was working directly with the Alaska Division of Geological and Geophysical Surveys and collaborating with local, regional, state, federal, and national stakeholders. He worked to define flood risk categories for several remote coastal communities in Alaska that had no formal flood analysis. He gathered information on past flood events, estimated the height those floods reached using geospatial techniques, and determined the risk of coastal flooding that current infrastructure faces.

Rich produced a publication of the methods for estimating heights of coastal flooding in Alaska communities, and two communities, Golovin and Hooper Bay, now have storm histories. These are accompanied by maps that show flood risk zones, categorized as minor, moderate, or major flooding. Analysis continues for several more communities that will be completed over time by the division.

He is also developing an online tool to visualize flood risk and share photos of flooding. The goal is for residents of communities to use the maps and

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FAREWELL TO FELLOWS (CONTINUED)

online tool to visualize flood risks and communicate their flood experiences to others. Weather forecasters can use the language of the maps to more easily communicate flood risk, while planners and statewide hazard assessors can reference the methods paper for ways to improve their own risk analyses.



Sydney Fishman worked with the Washington Coastal Zone Management Program to provide coastal managers with information and tools to improve implementation of shoreline armoring regulations on Washington's Puget Sound. Sydney conducted interviews with local governments to understand

how the implementation of their shoreline armoring regulations is going, subsequently drafting a white paper with the results. She regularly provided written comments and other support to local and state coastal managers as they reviewed project proposals for consistency with shoreline armoring regulations.

Sydney also developed an *online web mapping application* and *photo album* to show examples of Puget Sound beaches where hard armoring was removed or a more natural shoreline treatment was used. Sydney went on to develop a *webinar series* to educate local planners as they implement their shoreline regulations. 

CREDITS AND INFORMATION

Fellow News is published by the National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management to relay information about the fellowship program and provide a forum for information exchange among fellows, mentors, Sea Grant, and the office.

Please send your questions and suggestions for future editions to ocm.fellowships@noaa.gov

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