Built Environment Design for Climate Resilient Coastal Communities Roundtable

May 10, 2023 • College Park, MD

Sea Grant
MARYLAND

Front cover design: Jenna Clark, Maryland Sea Grant

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Workshop Background and Purpose

Maryland's coastal residents are vulnerable to coastal hazards (e.g., local flooding, sea level rise, extreme precipitation events, and storm surges) due to climate change. For more than a decade, Maryland Sea Grant (MDSG) has supported research, education, communication, and outreach to help coastal residents and communities become more resilient to the effects of climate change. With partners, we seek to expand programs and outreach efforts to address the effects of climate change on the built environment (e.g., architecture, landscape architecture, environmental engineering, civil engineering, and land-use planning) and to help underserved communities become more resilient through adaptation and mitigation efforts at the water-land interface. We recognize that the most effective way to tackle these complex climate change issues is through multidisciplinary efforts and partnerships that consider expertise from a variety of backgrounds and knowledge types.

With this roundtable, MDSG and partners aim to understand how we can help Maryland stakeholders become more resilient to climate change in the built environment. We view this roundtable as "phase one," with specific goals and objectives listed below. The results from this roundtable will inform future phases of program development.

Workshop Goal

To collaborate on building a Maryland-based design program to address climate resilience and adaptation for coastal communities. Through multidisciplinary[1] partnerships, the program will use members' expertise to create outreach, education, and solutions[2] focused on climate change resilience and adaptation within the built environment.

Workshop Objectives

1. Lay the foundation for innovative, multidisciplinary partnerships and projects for the built environment (e.g., architecture, landscape architecture, environmental engineering, civil engineering, and land-use planning) that consider environmental justice and equitable outreach strategies in order to help Maryland's coastal communities become more resilient to climate change.

2. Identify priority areas, geographical and topical, at the intersection of climate change and design and implementation, where we can be most effective in helping coastal communities deal with the changes caused by climate change and sea level rise.

3. Learn from and potentially collaborate with other regional and national programs.

4. Generate possible proposal ideas and teams to apply for grant funding on topics identified as priorities during the roundtable.

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1   i.e., architecture, landscape architecture, environmental engineering, civil engineering, environmental science, and land-use planning

2   e.g., working group, internship, training, outreach effort, professional development, etc.

Agenda

9:00 a.m.	Check-in
	University of Maryland Golf Course Clubhouse 3800 Golf Course Road, College Park, MD 20742 *Light refreshments served*
9:30 a.m.	**Welcome and Background**
	Fredrika Moser, *Maryland Sea Grant*
9:40 a.m.	**Keynote Presentation**
	Cultural Identity and Architecture as a Tool to Design Resilient Communities
	Omar Degan, *DO Architecture Group*
10:05 a.m.	**Coastal Flooding and Sea Level Rise in Maryland**
	Kate McClure, *Maryland Sea Grant Extension*
10:20 a.m.	**Networking and Perspective: Exercise I**

Session I: Climate Science-Informed Multidisciplinary Education and Training

10:40 a.m.	**Program Brainstorming Primer: Climate Science-Informed Multidisciplinary Education and Training**
	Thinking… Making… Doing: Delaware Sea Grant's Coastal Resilience Design Studio
	Ed Lewandowski, *Delaware Sea Grant*
	Interdisciplinary Approaches—Applying the Science Behind Stormwater Management and Climate Change to Design Thinking and Education
	Jack Leonard, *JGL Design Associates / Morgan State University*
	Adapting Assateague: Design for Resilient Buildings and Landscapes at Assateague State Park
	Jana Vandergoot, *University of Maryland, College Park*
11:30 a.m.	Break
11:40 a.m.	**Breakout Session I: Climate Science-Informed Multidisciplinary Education and Training Program Brainstorming**

12:30 p.m.	Networking Lunch
1:30 p.m.	**Networking and Perspective: Exercise II**

Session II: Collaborative Multidisciplinary Community-Based Project Ideas

1:50 p.m.   **Project Brainstorming Primer: Collaborative Multidisciplinary Community-Based Project Examples**

> Resiliency and Environmental Justice at Baltimore's Middle Branch
>> Brad Rogers, *South Baltimore Gateway Partnership*

> Exploring Natural Infrastructure Options for Coastal Resilience in Crisfield, Maryland
>> Roxolana Kashuba and Emily Eisenhauer, *EPA Office of Research and Development*

2:40 p.m.   Break

2:55 p.m.   **Breakout Session II: Collaborative Multidisciplinary Community-Based Project Ideas**

3:55 p.m.   **Closing Remarks**

> Jenna Clark, *Maryland Sea Grant*

4:00 p.m.   Workshop Concludes

Workshop Overview

Networking and Perspective: Exercise I

20 minutes

Participants will give a 30-second elevator pitch of their expertise and experience. Then, they will choose one of the pictures on the table and briefly explain why it relates to a memorable education-related experience.

Session I: Climate Science-Informed Multidisciplinary Education and Training

Program Brainstorming Primer

50 minutes

Speakers will present different types of internship and college training models as inspiration for the following discussion. Additional model examples can be found in Appendix A. When listening to these brief talks, participants should keep in mind any components that may work for a program in Maryland. Please save questions until all the speakers have presented.

Breakout Session I: Climate Science-Informed Multidisciplinary Education and Training Program Brainstorming

50 minutes

In this two-part breakout session, participants will 1) brainstorm project ideas and 2) develop the ideas and identify resources. See below for specific details. Participants will brainstorm potential programs for climate science-informed multidisciplinary education and training programs (architecture, environmental science, environmental engineering, civil engineering, landscape architecture, and land-use planning). Ideas should focus on resilience to climate change and sea level rise for Maryland's coastal communities. Programs can focus on K-12, undergraduate, post-baccalaureate, graduate, or post-graduate education levels and include internships, externships, industry experiences, fellowships, etc.

Please note that groups will be changing tables during this section.

Part 1: Brainstorming Ideas

20 minutes

Groups should brainstorm two to four ideas for a climate science-informed multidisciplinary education and training program in Maryland. Keep in mind the different types of programs that were presented, the examples listed in Appendix A, and the memorable experiences shared during the networking exercise. When brainstorming program ideas, please consider the following:

- Does the program incorporate a variety of disciplines as an approach to tackling the complexities of climate resilience?
- Does the program connect with coastal communities, especially those that are underserved and under-resourced?
- Does the program increase diversity in the built environment (e.g., architecture, landscape architecture, environmental engineering, civil engineering, and land-use planning) and environmental science fields?

After 20 minutes, please shift to the next highest table (i.e., table 1 goes to table 2, etc.).

Part 2: Developing Ideas and Identifying Resources
30 minutes
Look at the ideas created by the previous group, and using sticky notes, document what resources are needed to further develop program ideas. Consider both short- and long-term needs to keep the program sustainable, as well as potential barriers in program development. Next, groups should consider how they can tackle some of the resources and barriers identified. Are there additional thoughts that could help bring the program to fruition? Are there specific partners that would be valuable for this program? Start with one idea, and then continue to others if time allows.

Flipcharts from this session will be placed around the room for participants to look at during the networking lunch. **Participants will find their new table assignments for the afternoon session on their nametags.**

Networking and Perspective: Exercise II
20 minutes
Again, participants will each give a 30-second elevator pitch of their expertise and experience. Then, they will choose one of the pictures on the table and briefly describe how it relates to their interest in sea level rise and climate change.

Session II: Collaborative Multidisciplinary Community-Based Project Ideas

Project Brainstorming Primer
50 minutes
Presenters will share lessons learned from collaborative community-based projects. Please save questions until all the speakers have presented.

Breakout Session II: Collaborative Multidisciplinary Community-Based Project Ideas
60 minutes
Similar to the first session, participants will 1) brainstorm project ideas and 2) develop the ideas and identify resources. See below for specific details. Projects should focus on innovative design and implementation (i.e., architecture, landscape architecture, environmental engineering, civil engineering, and land-use planning). They should consider environmental justice and equitable outreach strategies to help Maryland's coastal communities become more resilient to climate change.

Several professional societies and governmental organizations prioritize resilient communities, with focuses on green building and design[1], green infrastructure[2], nature-based solutions[3], healthy built environments and communities[4], carbon reduction[5], and addressing carbon neutral goals[6].

Please note that groups will be changing tables during this section.

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1   American Institutes of Architects Climate Action Plan (aia.org/resources/6307290-climate-action-plan)

2   American Society of Civil Engineers (asce.org/topics/sustainability-resilience)

3   White House Opportunities to Accelerate Nature-based Solutions: A Roadmap for Climate Progress, Thriving Nature, Equity, & Prosperity (whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf)

4   American Planning Association Climate Change Policy Guide (planning.org/publications/document/9210766/)

5   American Geophysical Union Position Statement on Climate Change (agu.org/Share-and-Advocate/Share/Policymakers/Position-Statements/Position_Climate)

6   American Society of Landscape Architects Smart Policies for a Changing Climate (asla.org/climatemitigation.aspx)

Part 1: Brainstorming Ideas
25 minutes
Groups will brainstorm several project ideas. Projects could address goals, objectives, and research interests heard in the icebreaker sessions; known coastal community projects or interests; coastal community priorities; and methods of continued collaboration (e.g., workshops, working group sessions, professional trainings). When generating ideas, groups should consider the following priorities:
- Benefit to underserved and under-resourced coastal communities
- Creating resilient coastal communities for future effects of sea level rise and other climate change-generated challenges
- Multidisciplinary collaboration (i.e., a diverse team where all parties are included in project design and implementation)

After 25 minutes, groups will move to the next highest table (i.e., table 1 goes to table 2, etc.).

Part 2: Developing Ideas and Identifying Resources
30 minutes
Participants will review the previous group's ideas and choose up to two projects to develop further. During this development, consider research components, partner collaborations, and funding resources that are necessary to conduct the project. Specifically, groups should answer:
- Who are the necessary partners? What role does the coastal community play?
- What resources are needed for the project?
- Are the priorities of the coastal community included?
- What mechanisms can provide updates and confirmation on a project's progress toward meeting priorities?
- What are potential funding resources for this project?
- How can relationships built from this project continue after the project or funding has concluded? How can the project be designed to be sustainable?

Next Steps

After the roundtable, Maryland Sea Grant (MDSG) will summarize the project ideas generated and distribute them to participants as soon as possible. If you are interested in moving forward with a project or program, please contact Jenna Clark at clark@mdsg.umd.edu so MDSG can connect interested parties. MDSG will also produce a roundtable report that will be available at mdsg.umd.edu.

Acknowledgements

Workshop Guidelines

Maryland Sea Grant (MDSG) is committed to providing safe and welcoming environments for all who participate in MDSG events. MDSG prohibits and will not tolerate any form of harassment, bullying, or discrimination. Together, with the following guidelines, we can ensure that this workshop supports the free expression and exchange of ideas in environments that are positive and productive for all.

Face masks are not required for this event, but we ask participants to be considerate to those who are taking extra precautions.

Treat all participants with respect, dignity, and consideration, in the spirit of valuing a diversity of views and opinions. We value all perspectives and encourage everyone to share. We are here to listen and understand. If you prefer not to answer, you can say "pass" or "pass for now."

Discuss differences and constructive criticism in a non-confrontational manner with due regard for the viewpoints of others. Please note that disagreement is welcome for the purpose of understanding but not for convincing. Critique ideas, not individuals. Please actively listen to everyone. We ask that you avoid interrupting others when they are speaking. Please try to minimize distractions when possible.

Be considerate, respectful, and collaborative in your communication and actions. During this workshop we will be developing a shared language. It is always OK to ask what a word or phrase means or to ask for further clarification, as we will be asking the same of you. If you know that you need to leave the meeting early, please let the project team, facilitator, or notetaker know ahead of time so that we can allot your time first during breakout sessions.

Demeaning, discriminatory, or harassing behavior and speech will not be tolerated. If you believe you are being subjected to inappropriate conduct, believe someone else is being subjected to inappropriate conduct, or have any other concerns, please do not hesitate to contact MDSG event staff who can work with MDSG leadership to resolve the situation. If the project team determines that any behavior is inappropriate or violates the above guidelines, participants will be reminded of these ethics and/or asked to leave the meeting.

Speaker Biographies

Omar Degan is a professor of architecture and the principal of Do Architecture Group, an architecture firm based between Somalia, Italy, and the United States specializing in emergency architecture, post-conflict reconstruction and fragile contexts. His firm's principle lies in designing culturally, historically, and climatically relevant solutions to social problems worldwide, with a particular focus on the most fragile contexts and communities. Degan obtained his master in architecture for sustainability and built environment from the Chinese University of Hong Kong (CUHK) and the Polytechnic University of Turin (Italy) where he also earned his postgraduate degree in emergency contexts and developing countries. In 2022, he became an Obama Leader and in 2023 co-founded the FragilityLab, a research and nonprofit organization that aims to support the process of peace and development through architecture in the most distressed areas of the world.

Emily Eisenhauer, PhD, is a social scientist in the U.S. Environmental Protection Agency's Office of Research and Development, in the Integrated Climate Sciences Division of the Center for Public Health and Environmental Assessment. Her research background is in applied social science and community-based research collaborations on social and environmental justice. Her current research focuses on equitable resilience and community capacity, emphasizing translational and community-engaged research methods.

Roxolana Kashuba, PhD, is an environmental modeler who translates data analysis and information synthesis into regulatory and management environmental decision-making. She helps stakeholders answer questions about environmental risk related to multiple, cumulative stressors, including chemicals, nutrients, land-use change, and climate change. She is the project navigator for the U.S. Environmental Protection Agency's Office of Research and Development's natural infrastructure solutions-driven research efforts in the Chesapeake.

Jack Leonard, PLA, ASLA, LEED AP BD+C, is a practicing design professional and principal of JGL Design Associates. He is also an assistant professor of landscape architecture and director of the sustainable urban communities program at Morgan State University's School of Architecture and Planning. Leonard is a registered landscape architect and LEED-accredited professional. He has degrees in civil engineering (BE, Stevens Institute of Technology), business (MBA, Loyola College), and landscape architecture (MLA, Morgan State University). Leonard's practice, research, and teaching have focused on the interdisciplinary nature of designing the built environment. He has particular interest in the sustainability of urban communities and the integration and application of the science and engineering disciplines with the principles and practice of landscape and site design and community planning. Leonard developed and is the director of the interdisciplinary Sustainable Urban Communities Program at Morgan State University, which offers a post-baccalaureate certificate. The program provides opportunities for students, professionals, and community leaders to learn in an interdisciplinary environment while focusing on areas of interest. Leonard's design interests focus on green infrastructure as a catalyst for the revitalization of underserved urban communities with emphasis on the issues of urban stormwater and heat island effect.

Ed Lewandowski is a coastal communities development specialist with the Delaware Sea Grant Program and Marine Advisory Service at the University of Delaware. He also coordinates the university's Sustainable Coastal Communities Initiative. Lewandowski is responsible for providing oversight and management for a variety of initiatives, including community-level land-use planning, working waterfronts preservation and enhancement, economic development, open-space protection, and marine recreation and tourism projects as well as government and public relations. Prior to joining the university, Lewandowski spent 13 years with the nonprofit Delaware Inland Bays National Estuary Program (Center for the Inland Bays), serving his final seven years with the organization as its executive director. He holds a master's degree in organizational leadership and obtained his undergraduate degree in marine biology. Lewandowski has been appointed to a number of public commissions and councils, including the Delaware Nutrient Management

Commission, the Delaware Natural Areas Advisory Council, the Delaware Association of Professional Engineers, the Town of Bridgeville Planning Commission, the board of directors of Sussex Habitat for Humanity, and most recently, a reappointment to the Delaware Parks and Recreation Council. He is also an award-winning landscape artist working in oils.

Kate McClure, PhD, is the coastal climate specialist for the Maryland Sea Grant Extension Program. She is based at the Wye Research and Education Center in Queenstown, Maryland, and serves coastal communities throughout the state. McClure works to assist residents and decision-makers with understanding and preparing for the effects of climate change, with a focus on flooding due to sea level rise, precipitation, and storm events. Her background also includes experience in informal science education, science policy, and marine ecology research. McClure holds a PhD in evolution, ecology, and marine biology from Northeastern University and a BS from the College of William & Mary.

Brad Rogers possesses 30 years of experience with urban economic development, environmental policy, complex urban real estate projects, and leading mission-driven organizations. His areas of expertise include urban design and planning, parks and public space, strategic plans for communities and organizations, budgeting and fundraising, organizational management, and social enterprise. Rogers is the founding director of the South Baltimore Gateway Partnership (SBGP), where he oversees a community grants program that distributes $1 million per year to nonprofit and public sector partners; an enhanced services program that provides $2 million per year in enhancements to parks and public spaces; and a transformational projects program that spearheads large, highly catalytic projects–one such project currently underway is Baltimore's Reimagine Middle Branch. Prior to SBGP, Rogers ran Advanced Placemaking, an economic development consulting practice specializing in complex urban real estate and economic development strategy for struggling urban and rural communities. He also redeveloped a complex of abandoned historic buildings into the Eastern Shore Conservation Center, an award-winning sustainable mixed-use campus providing offices and apartments for nonprofits. He holds a JD from Duke University School of Law, a master of environmental management from Duke University, and a bachelor of arts in the growth and structure of cities from Haverford College.

Jana VanderGoot, AFAAR, RA is an associate professor of architecture at the University of Maryland School of Architecture, Planning, and Preservation and an affiliate associate professor in the Landscape Architecture Department in the College of Agriculture and Natural Resources. She is also a licensed architect and founding partner at VanderGoot Ezban Studio. VanderGoot is interested in the intersection of architecture and landscape. Her book, *Architecture and the Forest Aesthetic: A New Look at Design and Resilient Urbanism*, and her research explore the ways that buildings act as extensions of large-scale urban ecological networks. VanderGoot was a visiting professor at Yale University's School of the Environment and has worked at Yale University's Carbon Containment Lab since 2020. Her work has received awards at the national and international level and funding from the National Science Foundation. She is the recipient of the Rieger Graham Prize, an ICAA affiliated fellowship at the American Academy in Rome. She holds a master of landscape architecture degree from Harvard University Graduate School of Design, a master of architecture from University of Virginia, and a bachelor of architecture from University of Notre Dame.

Appendix A: Example Programs

The Coastal Resilience Design Studio (CRDS) is a partnership between the Delaware Sea Grant College Program, the University of Delaware Sustainable Coastal Communities Initiative, and the University of Delaware Landscape Architecture Program. Delaware Sea Grant provides core funding for CRDS, is instrumental in identifying potential projects, and provides technical oversight on various aspects of the design process. CRDS provides undergraduate and graduate students from academic institutions across Delaware with a hands-on, community-engaged learning experience that creates real-world solutions to many of the pressing challenges facing Delaware's coastal communities. They bring together students, educators, community members, scientists, engineers, designers, and artists.

The Coastal Dynamics Design Lab (CDDL) at North Carolina State University organizes and leads trans-disciplinary research. CDDL also designs teams to address critical ecological and community development challenges in vulnerable coastal regions and shoreline communities, with a concentrated focus on Eastern North Carolina and the Mid-Atlantic coastal plain. CDDL engages with communities, publishes research, leverages the studio structure to teach students, and employs graduate research assistants.

The Coastal Sustainability Studio (CSS) at Louisiana State University brings scientists, engineers, and designers together to intensively study and respond to issues of settlement, coastal restoration, flood protection, and the economy. CSS was conceived to develop new strategies that reduce risk to social, economic, and natural resources. The results of this design experimentation provide a sound basis for major policy decisions for adaptation through more sustainable land-use planning, protection, and education. The studio space fosters openness and collaboration. CSS conducts research, employs graduate research assistants, and hosts an annual interdisciplinary summer internship for graduate students and college seniors.

Virginia Sea Grant (VASG), in past years, partnered with architecture and engineering firms to recruit for paid summer internships aimed at supporting Virginia students who are working on coastal resiliency-focused projects. VASG also co-funded a one-year Virginia postgraduate fellowship focused on coastal resiliency for post-graduates interested in becoming leaders in innovative, predisaster resiliency design strategies. The selected fellow would receive on-the-job training related to resilient design and coastal flooding adaptation strategies focused on Hampton Roads. They would be actively involved in ongoing projects while also working on their own dedicated project to spur collaboration and integration across multiple departments within the firm and with VASG extension members.

Louisiana Universities Resilient Architecture Collaborative (LURAC) is a research project under CSS to develop techniques, processes, policy recommendations, and outreach through "design research." A range of case study examinations, physical mapping, community engagement, studio-based design, and synthesis practices support the development of processes and best practices to build a body of research from the scale of building materials and home design to water management strategies and resilient neighborhood planning in Louisiana. Louisiana Sea Grant is a partner and sponsor.

The Program for Local Adaptation to Climate Effects: Sea Level Rise (PLACE:SLR) is a partnership between Mississippi State University Extension, Mississippi-Alabama Sea Grant, and Florida Sea Grant focused on sea level rise-resilience research, extension, and outreach activities. PLACE:SLR fosters a multi-state network of stakeholders, researchers, non-governmental organizations, and state and federal agencies building tools, programs, and projects to address gaps in sea level rise observation, research, and decision-making in the northern Gulf of Mexico.

Coastal Green and Resilient Infrastructure Project (GRIP) was a University of Rhode Island learn-by-doing engagement effort to identify opportunities and obstacles to using green infrastructure as a tool for coastal resilience

in Newport, North Kingstown, and Warwick. GRIP partnered with the landscape architecture program to inform students' coastal resiliency designs. Additional outcomes included developing conceptual plans, compiling a booklet of lessons learned, identifying best practices for designing with maintenance in mind, and creating a charrette lesson plan for hands-on experience.

The Coastal and Estuarine Research Federation's (CERF) Student Design Competition is a biennial design competition for teams of undergraduate students. "Teams must consist of at least three disciplines and must have one design discipline (architecture, landscape architecture, urban design, etc.) as well as one coastal and estuarine science discipline (ecology, environmental science, hydrology, geomorphology, etc.) represented on the team."[1] Teams are led by faculty members, but work must be conducted solely by students. For each competition, CERF chooses a site of interest and expects teams to develop a resilient design project to address community vulnerabilities over a 30-year timescale. Teams produce a design report, give a presentation with oral and visual components, and have a poster displayed at the CERF conference. Projects are evaluated on three components: research and analysis of natural and human systems impacting the site area, innovative design proposals, and clarity of presentation and convincing argumentation in the presentation. The competition topic is announced in the fall a year before the conference. Teams can begin work in January with a deadline of fall when the conference takes place. Morgan State University hosted a team in the 2021 Design Competition.

The Summer [In]stitute in Environmental Design at University of California, Berkeley's College of Environmental Design is a summer intensive program for post-baccalaureate students considering a graduate degree program in an environmental design discipline. Participants select one of four disciplines to learn: architecture, landscape architecture, city planning, or design (a mix of architecture, landscape architecture, and urbanism hosted online). The program includes a lecture series, design or planning studio, graphic media workshops, and site visits. Participants learn methods and theories of environmental design, are exposed to the studio experience, develop a design portfolio for their graduate school application, network, and earn college-level credit from University of California, Berkeley. It costs $4,885 and $7,665 for domestic and international applicants, respectively. There are additional costs and fees associated. Applications open mid-December and close in May, and the program runs from July through mid-August.

The Institute for Coastal Adaptation & Resilience builds on over eight years of investment and commitment by Old Dominion University (ODU). With a foundation in the ODU Resilience Collaborative (ODURC), plus a prime location in a natural test bed, ODU faculty members share in vital work that revolves around coastal adaptation and resilience. They engage in interdisciplinary research, employ strengths in science and practice, and enjoy a strong relationship with the community.

The Resilience Adaptation Feasibility Tool (The RAFT) is an innovative "collective impact" collaborative approach to climate resilience that leverages the expertise and resources of multidisciplinary partners and diverse stakeholders to assist coastal localities striving to increase their resilience. The RAFT offers a year-long process in which localities are:

1. provided an independent assessment of their resilience, using The RAFT Scorecard;

2. engaged in a community leadership workshop where participants discuss the locality's strengths and opportunities, and develop a Resilience Action Checklist of actions that will make a difference in community resilience and that can be completed or initiated within one year; and

3. supported through one year of implementation by The RAFT university collaborative.

The RAFT three-part process is supported through a mix of federal, state, and private foundation grants and donated services, and is provided at no cost to localities. It is a project of the Institute for Engagement & Negotiation at the University of Virginia, The Virginia Coastal Policy Center at William & Mary Law School, and Old Dominion University/Virginia Sea Grant Climate Adaptation and Resilience Program.

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1   Coastal & Estuarine Research Federation Design Competition (conference.cerf.science/design-competition)

Adaptive Design Studio Process at the University of Florida was a 16-week design studio course focused on the Cedar Key-Rosewood area that identified community-based strategies to adapt to sea level rise and other coastal changes. The class followed a seven-step analysis, public input, and design process. The students presented the results of this process to the community where feedback was collected. This feedback will continue to inform the larger project, Planning for Coastal Change in Levy County.

The Florida Institute for Built Environment Resilience (FIBER) at the University of Florida is committed to the design, planning, construction, and management of resilient built environments, with a strong interest in the well-being of individuals and communities who inhabit them. FIBER is positioned to respond to the complex threats—ecological, economic, and social—that Florida and many regions around the world experience. The Institute is home to scholarship spanning built environment disciplines and beyond, generating new knowledge and responding to these complex challenges through evidence-based research and practice. FIBER brings together faculty, research centers, and students at the University of Florida around the theme of resilience.

Coastal Community Resilience Studio at the University of Louisiana offered a for-credit, trans-disciplinary, special projects course in the Fall 2012 and Spring 2013 semesters to address the complexities of restoration and preservation along the Louisiana coast. The studio aimed to develop student-driven collaborative research projects involving at least three of the following fields of study: coastal science, environmental science, landscape architecture, architecture, civil engineering, systems engineering, environmental engineering, sociology, anthropology, political science, economics, and geographic information science. It also runs a professional office that supports two graduate assistants, one undergraduate assistant, three faculty-researchers, the associate director, and the director.