



FIU

SALIENT SOLUTIONS: BUILDING RESILIENT COASTAL COMMUNITIES

OBJECTIVE

In April 2021, **Florida International University’s platform in Washington, D.C.** hosted a national conversation to identify priorities and solutions that Congress and the federal government should consider when developing environmental priorities for preserving water quality and enhancing resilient infrastructure.

We have packaged a summary of the discussion for you to consider.

CHALLENGES AND SOLUTIONS

The conversation addressed the question- what is the number one priority and solution policy leaders should consider when it comes to environmental resilience and building stronger communities? Responses focused on four key factors for future improvement:

COMMUNITIES	DATA	INFRASTRUCTURE	RESOURCE ALLOCATION
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Below are the key takeaways for each factor for improvement:

COMMUNITIES

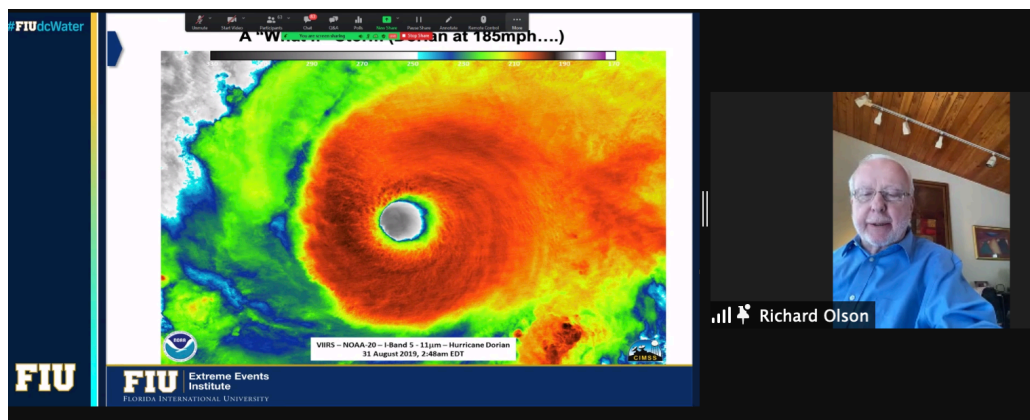
Public engagement should aim to enhance the knowledge of all community members, so that they become more aware of climate risks they face, and ultimately proponents of enhancing resilient infrastructure. Some suggestions:

- Educate and exchange information to help communities understand their own ability to mitigate impacts. Give the people the agency to learn from the experts and work on solutions within their communities.
- Provide an early warning system that will help communities identify risk from threats/stressors. This requires sustained monitoring data to identify known, anticipated and unknown threats.
- Develop and deploy a more complete education plan and tap into the diverse knowledge of community members.

- Use approaches that engage the grassroots and “grass tops” in communities in finding solutions that meet local needs.
- Reframe the challenges as community opportunities.

Environmental Justice Solutions:

- Communities need decision environments that bring all stakeholders to the table. Expressly do outreach to frontline and otherwise under-represented communities to ensure their participation.
- The most vulnerable communities do not have access to environmentally sustainable energy alternatives.
- Greater investment in entrepreneurship projects in diverse communities to generate new and innovative ideas is needed.



DATA

Data should be climate informed and come from all levels of government. When a community is left to deal with climate disaster, they need science-based data to help inform the uncertainty and define the universe for solutions. There is also a need to:

- Fund and develop a national framework for data collection and situational awareness.
- Understand how restoration and resilience projects will “pay-off” in the long-term.
- Synchronize national flood maps with better local data.
- Invest in a smart data collection, holistic and integrated modeling.
- Understand the cross-sector and cascading impacts of climate threats across a variety of stakeholders (federal, state, local, private, NGO, etc.).
- Know how systems function and respond to extreme events and changing climates using new and existing technologies.
- Give power to communities and the people to make informed decisions by collecting and providing accurate and timely data.

Environmental restoration needs more federal support to ensure local and state implementation. How and why do we produce better infrastructure? We need to hybridize all hard infrastructure features with ecological infrastructure as well as model future scenarios with improved adaption designs and:

- Adapt our current infrastructure to be more resilient, saving more money in the long run, and creating millions of new jobs while addressing the climate crisis.
- Improve centralized and decentralized wastewater infrastructure through investment in local and state governments.
- Address degrading coastal ecosystems by adopting the Green infrastructure approach and restoration of coastal ecosystems including coral reefs, dunes, wetlands to attenuate storm wave action.
- Support FEMA policies that promote rebuilding in a sustainable fashion.

RESOURCE ALLOCATION

We need to provide funding for strategic projects that will produce successes – which, in turn, will result in policy makers having more political support for even more resilient infrastructure projects.

Suggestions on how and where to allocate resources include:

- Increasing appropriations for proactive, nature-based and socially equitable grant programs like FEMA's Building Resilient Infrastructure and Communities (BRIC) program.
- How do we incentivize communities to build resilient environmental infrastructure? We need to find the intersection of societal productivity, ecosystem services, and economic benefit.
- Move towards a systems financing approach – how does the system itself function and how can policy help support investment in integration of resilience into the system?
- Synchronize funding to connect parallel federal initiatives.
- Spend more money upfront on communities in the face of climate risks rather than mitigating the situation after the fact.
- Lower the discount rate so that the future benefits of climate adaptation can be captured.
- Increased FEMA and HUD appropriations explicitly tied to repetitive flood loss property buyouts.
- Corporations are generally not held accountable for the pollution they generate. An "eco-tax" might be created to charge for the plastic/waste they generate from their products.

CONCLUSION

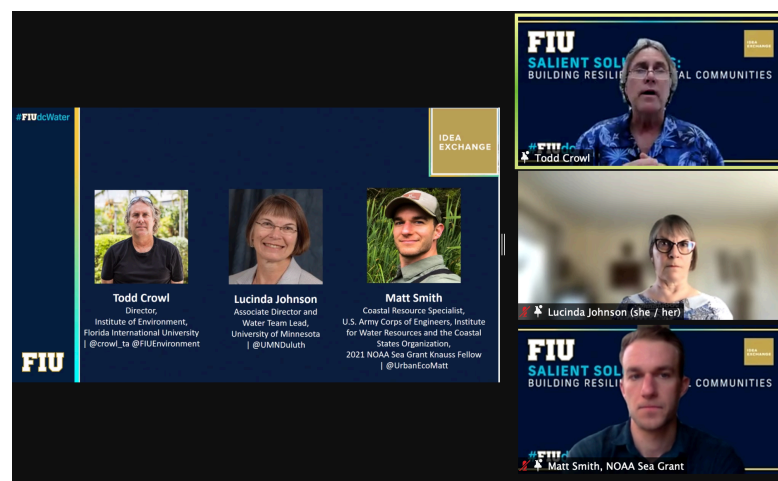
Our panelists, speakers and attendees provided valuable insight to the challenges and solutions when it comes to environmental priorities for water quality and resilient infrastructure. It needs to be ensured that policy makers at all levels of government have the political security to support policies that build resiliency. Nature is an evolving hazard, and it is a race to act now. Some of the key takeaways include:

- Involve local NGOs, federal agencies and the community to improve management practices when it comes to evaluating environmental infrastructure.
- Public education needs to be focused on rebuilding and creating public trust – not only in science but the entire system that is carrying out these resilience projects.
- Maintain better data on how systems function and respond to extreme events and changing climates. Use new and existing technologies to create warning systems to communities when environmental failure is going to occur.
- Create a non-partisan, expert resilience evaluation commission that can provide political protection around policymakers/leaders who back infrastructure but fear political backlash.

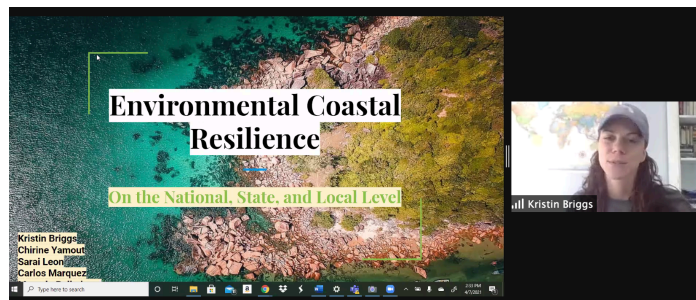
PARTICIPANTS

Representatives from the following organizations joined the conversation:

- BuildStrong
- Congressional Offices
- Duke University
- Environmental Defense Fund
- FEMA
- FIU Faculty and Students
- Miami Dade County
- MITRE
- NOAA
- National Academies of Sciences, Engineering, Medicine
- National Parks Association
- National Science Foundation
- Ocean Conservancy
- RENEW PR
- University of Georgia
- University of Minnesota
- University of Miami
- U.S. Army Corps
- U.S. Department of Interior



- [Salient Solutions Dialogue](#): Watch the entire event and conversation / [Recap Video](#)
- [Poll Questions Transcript](#): Dialogue that attendees submitted during the program
- [Capps Lab, University of Georgia Ecology Resources](#): Panelist, Dr. Krista Capps, Principal Investigator, Capps Lab, University of Georgia packaged resources regarding wastewater infrastructure
- [MITRE Slides](#): Dr. Alex Schlichting, Energy & Environmental Sciences Group Lead, MITRE presentation on system-of-systems approaches to resilience
- [River Network](#): Tools for Equitable Climate Resilience: Introduction to Community-Led Research and the NEW Community-Led Research Toolkit
- [Student Policy Hack Presentations](#): 20 Florida International University students joined the conversation as part of a three-day virtual Fly-In seminar titled *The Future of Environmental Resilience for Economic Growth and National Security*. On the last day, students participated in a Policy Hack where they given just two hours to develop policy proposal that were presented to the offices of U.S. Representatives Maria Elvira Salazar and Kathy Castor.



ABOUT FIU

Florida International University (FIU) is Miami's public research university. The federal government partners with the university to monitor the health of the Everglades and Biscayne Bay. Our researchers at [The Institute of Environment](#), [Extreme Events Institute](#) and the [Institute for Resilient and Sustainable Coastal Infrastructure](#) help ensure that America's coastal communities are resilient and safe from disasters.

According to [U.S. News and World Report](#), FIU has 26 top-50 rankings in the nation among public universities. Washington Monthly Magazine ranks FIU among the top 20 public universities contributing to the public good and No. 12 for social mobility. FIU is a top U.S. research university (R1) and ranks 15th in the nation among public universities for patent production, which drives innovation.

Thank you for your consideration. For additional information, **please reach out to:**

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