COASTAL SOLUTIONS WORKSHOP

Modeling, Prediction, and Sensor Networks for Coastal Flooding in the US East Coast

July 23 and 27, 2020, 9AM-12PM

https://www.oceanvisions.org/coastal-solutions-2020

Program

"Developing an integrated coastal research community focused on transforming knowledge into solution actions for climate adaptation and resilience"

Co-Sponsored and Organized by

NOAA

IOOS Integrated Ocean Observing System

OCEAN VISIONS

SESSION 1

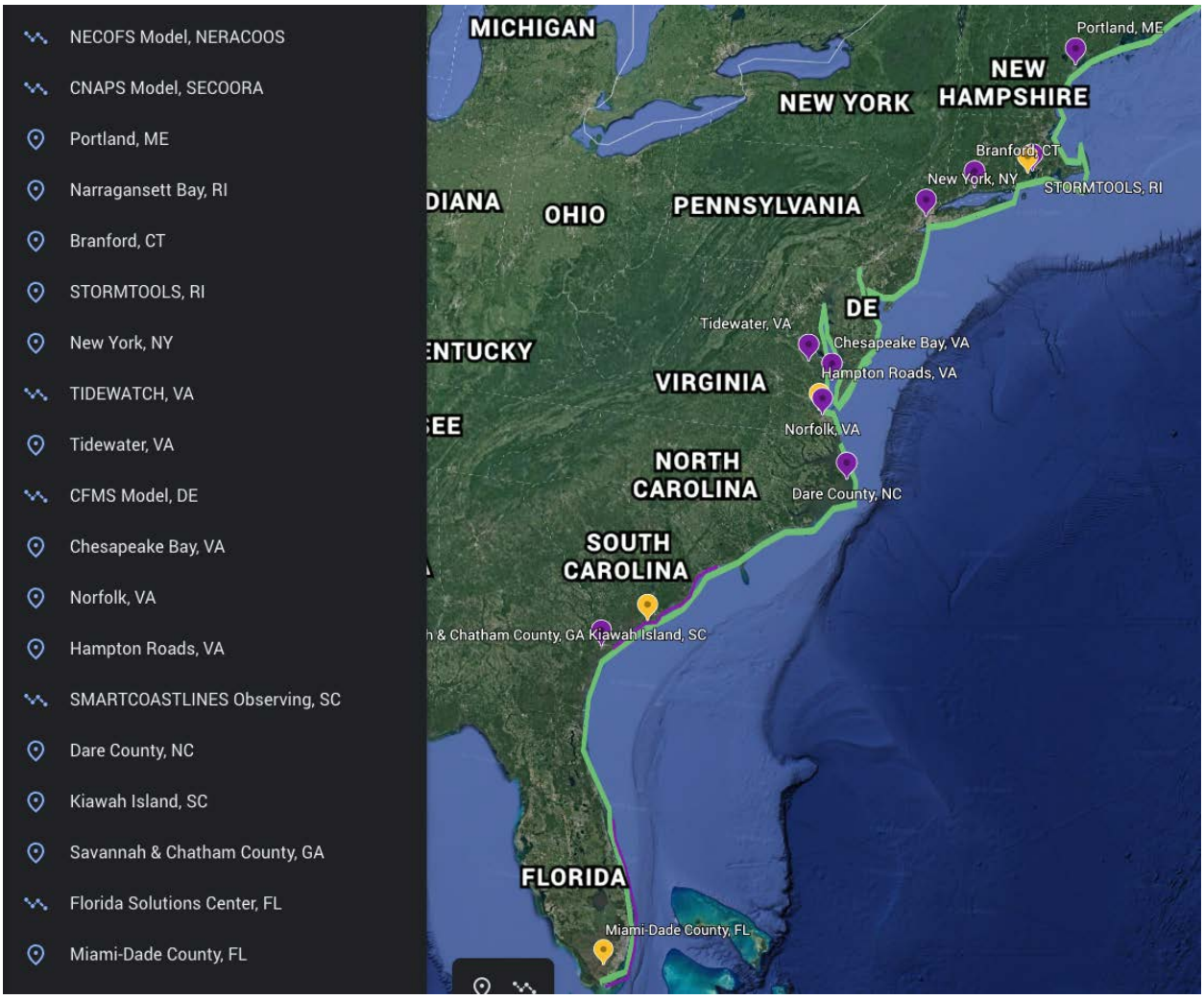
Landscape of Efforts in Coastal Flooding Monitoring & Prediction

SESSION #1: Thursday, July 23, 2020, 9:00AM - 12:00 PM ET

Landscape of Efforts in Coastal Flooding Monitoring & Prediction

We have collected 35 case studies of ongoing efforts and projects that actively engage stakeholders at the city, county, and/or state level in co-designing and deploying observing and modeling frameworks for coastal flooding along the US east coast (see map below).

All case studies survey data and web portal with videos are available here.



Green are modeling efforts covering multi-states (5 total)
Purple are state/city/county scale projects are selected for TALKS
Yellow are submissions that we will be featured on follow-up WEBINARS

8:50 AM - 9:05 AM

Link is open for virtual check-in and connection testing

To join SESSION #1 virtually through BlueJeans, select from the following options:

Web Browser (fully integrated audio/video)

https://primetime.bluejeans.com/a2m/live-event/gsewgptu

Enter event ID : gsewgptu

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9:05 AM - 9:10 AM

Welcoming Remarks from Ocean Visions, Workshop Overview & Logistics

Emanuele Di Lorenzo, Georgia Tech

9:10 AM - 9: 20 AM

Opening Remarks from NOAA

Rear Admiral Tim Gallaudet, Ph.D., USN Ret.

Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy NOAA Administrator

All abstracts and videos are available on the website

https://www.oceanvisions.org/coastal-solutions-2020

9:20 AM - 10:40 AM

First block of Talks

Scale	Location	Speaker	Project Title
State	Smartcoastline, South Carolina	**Nicole Elko**	South Carolina Coastal Communities Water Level Observation System
State	South Florida Region, Florida	**Jayantha Obeysekera**	Climate Science Support to Stakeholders
City/County	Savannah and Chatham County, Georgia	**Kim M. Cobb**	Smart Sea Level Sensors in Chatham County, Georgia
City/County	Branford, Conneticut	**James O'Donnell**	The Nonlinear Increase in Flood Risk with Mean Sea Level Rise and the Zone of Shared Risk Concept
City/County	Dare County, North Carolina	**Rachel Housego**	iFlood: A citizen-science approach to understanding groundwater contributions to flooding on barrier islands
City/County	Tidewater, Virginia	**Jon Derek Loftis**	Building-Level Damage Estimation for the Combined Impacts of Storm Surge, Rain, and Tides including projections of Sea Level Rise and Land Subsidence Using SCHISM

10:40 AM - 10:55 AM

Coffee Break

10:55 AM - 12:30 AM

Second block of Talks

Scale	Location	Speaker	Project Title
City/County	New York, New York	**Yuki Miura**	Protecting Coastal Infrastructure in a Changing Climate by Integrating Optimization Modeling and Stakeholder Observations
City/County	Miami Dade County, FL	**Thomas Wahl**	Compounding effects of Storm Surge, Sea Level Rise, extreme Rainfall and Water Table on Urban Flooding in Southeast Coast of Florida
City/County	Narragansett Bay and Southern Shores, Rhode Island	**John W. King**	Real-Time Monitoring Network for the South Coast of Rhode Island and Narragansett Bay
City/County	Norfolk, Virginia	**Tom Allen**	Envisioning Future Tidal Flooding: The Blue Line Project, Norfolk, Virginia
Multi-State	Southeast U.S. Model, SECOORA Model (NC, SC, GA, FL)	**Ruoying He**	Developing an Integrated Coastal Water Predictive Capability to Promote Resilience to Water Risks
Multi-State	Northeast U.S. Model, NERACOOS (ME, NH, MA, RI, CT)	**Tom Shyka**	NECOFS-Coastal Inundation Forecast System: Predictions of Coastal Flooding for Past and Future Extratropical Nor'easter Storms

WEBINAR Talks (date to be decided)

Scale	Location	Speaker	Project Title
State	Smartools, Rhode Island	**Malcolm L. Spaulding**	STORMTOOLS: An integrated suite of planning tools to assess risk and damage from coastal flooding, including the effects of sea level rise.
State	Tidewatch, Virginia	**Molly Mitchell**	Tidewatch Maps tidal water level predictor for flood resiliency
State	CFMS Model, Delaware	**John Callahan**	A Coastal Storm Hazard Early Warning and Monitoring System for Delaware
City/County	Hampton Roads, Virginia	**Navid Tahvildari**	Evolution of Storm Surge Inundation under Relative Sea Level Rise and its Impact on Transportation Infrastructure
City/County	Kiawah Island, South Carolina	**Jon Lucas Hernandez**	Flood Mitigation
City/County	North Carolina	**Ryan Mieras**	Distributed rapid-deploy sensor network for real-timemeasurement of waves and water levels during hurricane impact
Entire Coast	Global Sea Level Observing System (GLOSS)	**Matthew Widlansky**	Visualizing the climatology and extremes of coastal water levels
Entire Coast	Nation-wide, example for Hurricane	**Vidya Samadi**	Flood Analytics Information System (FAIS): A Smart Application to Identify At Risk Locations/ Communities to Flooding
Entire Coast	U.S. East Coast	**Patrick Barnard**	Assessing Future Coastal Hazards for the Southeast United States
Entire Coast	Nation-wide, example for Virginia	**Susan Bates**	Coastal Resilience on Virginia's Eastern Shore
Entire Coast	U.S. East Coast	**Alfredo L. Aretxabaleta**	USGS Forecast of Total Water Level and Coastal Change Hazards along the U.S. East Coast

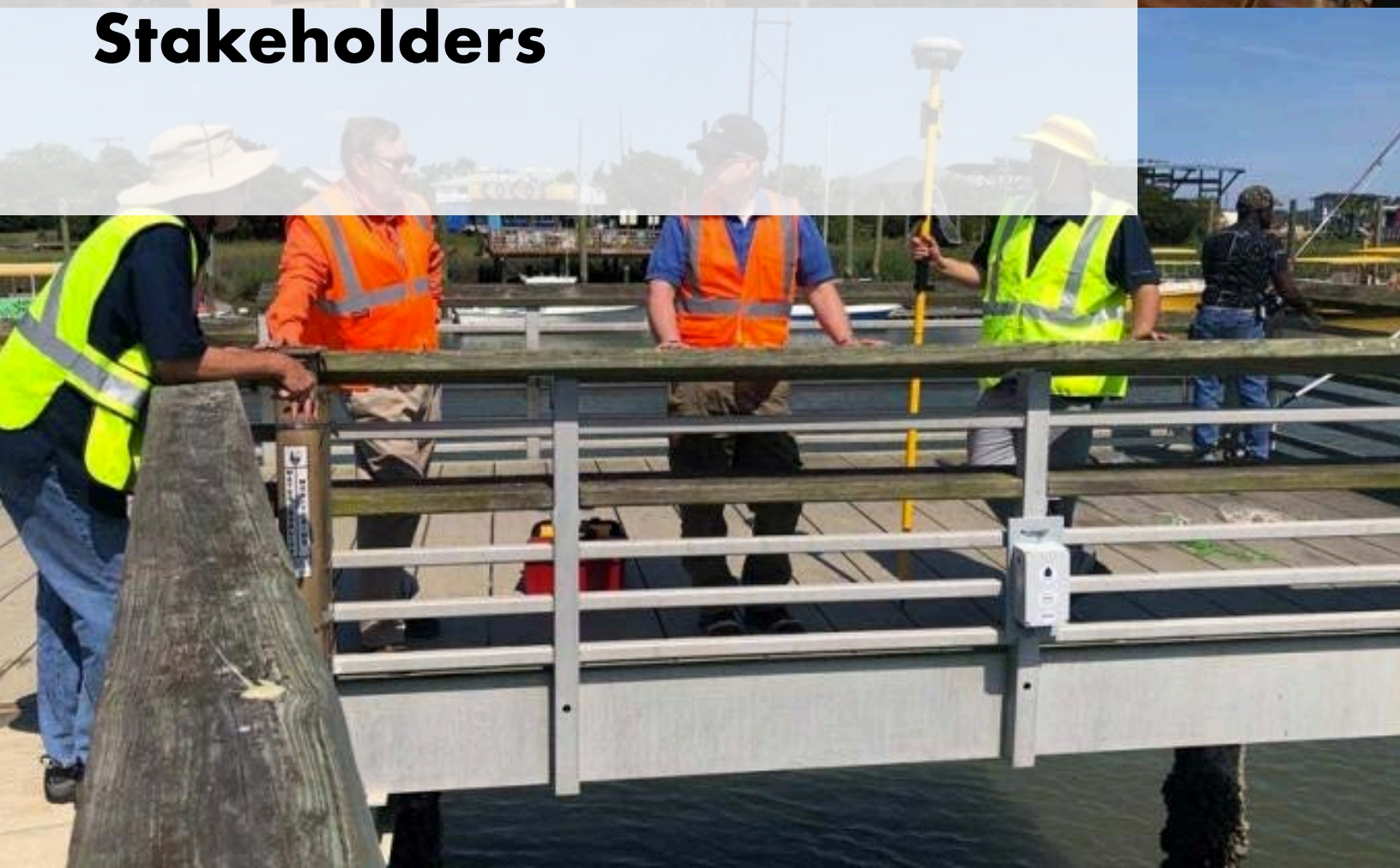
OTHER Submissions

These are submissions that cover other regions or focus primarily on research developments for modeling and observing network. We will feature these on the coastal solutions web portal.

Location	Author (Bold Confirmed)	Project Title
Mid-Atlantic Bight and New York City	Harry V. Wang	Multi-scale numerical modeling of storm surge, tide, and inundation in mid-Atlantic Bight and New York City during Hurricane Sandy, 2012
Mid-Atlantic Bight and New York City	Alexandra Ramos-Valle	Sensitivity of Coastal Storm Surge to Atmospheric Forcing
Dauphin Island, AL	Stephanie M. Smallegan	Dauphin Island Adaptation Pathway: Navigating sea-level rise uncertainty on barrier islands
Italy	Jacopo Alessandri	GolFEM: A high resolution baroclinic storm surge forecasting system for early warnings in the Goro lagoon (Northern Adriatic Sea, Italy)
Emilia-Romagna, Italy	Silvia Unguendoli	Towards a probabilistic coastal EWS for storm surge forecasting in Emilia-Romagna Region, Italy
Relocatable modeling framework	Ivan Federico	Unstructured-grid modelling for coastal ocean predictions in support of disaster risk reduction
Coastal Mississippi, Alabama, and Northwest Florida	Renee Collini	Engaging Stakeholders and Exploring the Effects of Sea-Level Rise in the Northern Gulf of Mexico
Texas (relocatable)	Chuan-Yuan Hsu	TxTrack: a trajectory modeling web-framework on Lagrangian ocean analysis

SESSION 2

Core Services and Solution Needs for Coastal Stakeholders



SESSION #2: Monday, July 27, 2020, 9:00AM - 12:00 PM ET

Core Services and Solution Needs for Stakeholders

Panel discussion and breakout group discussions to identify priority core services and solutions platforms required to address stakeholders' needs that are shared across regions.

8:50 AM - 9:05 AM

Link is open for virtual check-in and connection testing

To join SESSION #2 virtually through BlueJeans, select from the following options:

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9:05 AM - 10:30 AM

Panel Discussion and Q&A (5 minutes remarks from each panelist)

Name	Affiliation	Opening Remarks	URL
Susan Bates	TNC	The Nature Conservancy Coastal Resilience program	https://coastalresilience.org/
Alfredo Aretxabaleta	USGS	USGS Forecast of Total Water Level and Coastal Change Hazards along the U.S. East Coast	https://marine.usgs.gov/coastalchangehazardsportal
Tom Shyka	NERACOOS	Northeast Regional Association Coastal Ocean Observing System	http://www.neracoos.org/
Gerhard Kuska	MARACOOS	Mid-Atlantic Regional Association Coastal Ocean Observing System	https://maracoos.org/
Debra Hernandez	SECOORA	Southeast Coastal Ocean Observing System	https://secoora.org/
Alan Blumberg	Jupiter Intel	There's no vaccine for sea level rise	https://jupiterintel.com/
Jill Gambill	Sea Grant	Working with Coastal Stakeholders	https://seagrant.noaa.gov/Our-Work/RCE
Cayla Dean	NOAA	The coastal coupling community of practice	https://www.weather.gov/watercommunity/

Panel questions in the area of **coastal solutions efforts for flooding & sea level rise**:

- What are key initiatives that you are involved for coastal flooding with stakeholders?
- What are products and services that you see are most critical?
- What is your overall plan for the future development of core services and solution platforms?
- What type of integration across ongoing efforts would be most useful?

10:30 AM - 10:40 AM

Coastlines and People (CoPe) NSF Program & Solicitation

Scott Freundschuh, CoPe Program Manager

Amanda Adams, CoPe Program Manager

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505772

10:40 AM - 10:55 AM

Coffee Break

10:55 AM - 12:00 PM

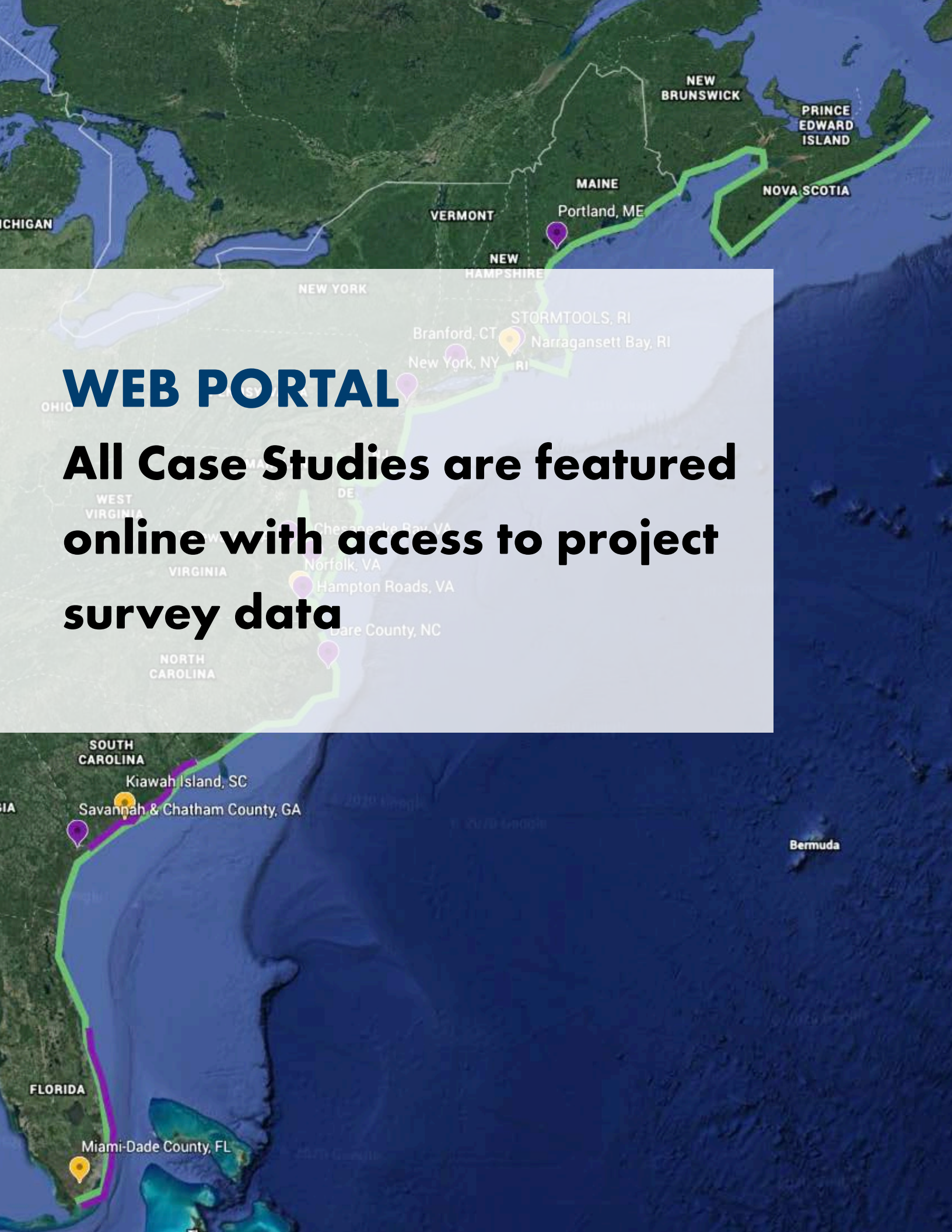
Breakout Group Discussion

Instruction will be provided after the panel discussion.

SESSION #3: Date will be set after US West Coast sister workshop

Coastal Solutions Task Force for Climate Adaptation & Resilience

Group discussion on how to organize a multi-sector group that can help accomplish better coordination and integration of efforts between researchers, practitioners, managers, and decision-makers towards delivering a set of solutions platforms and core services for coastal adaptation. This session will be held after the sister workshop for the US West Coast to include results from each coast.

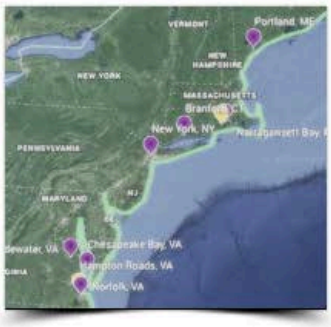


WEB PORTAL

All Case Studies are featured online with access to project survey data

Access online project archive: https://www.oceanvisions.org/coastal-solutions-2020

Download project survey data: https://bit.ly/32Gt4op

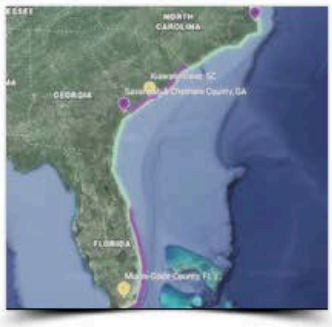


July 19, 2020, 12:00:00 AM

NECOFS-Coastal Inundation Forecast System: Predictions of Coastal Flooding for Past and Future Extratropical Nor'easter Storms

Northeast U.S. Model, NERACOOS (ME, NH, MA, RI, CT)

Tom Shyka
tom@neracoos.org



July 19, 2020, 12:00:00 AM

Developing an Integrated Coastal Water Predictive Capability to Promote Resilience to Water Risks

Southeast U.S. Model, SECOORA Model (NC, SC, GA, FL)

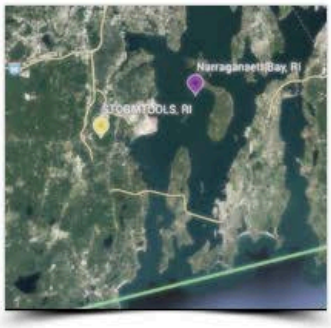
Ruoying He
rhe@ncsu.edu

July 19, 2020, 12:00:00 AM

Real-Time Monitoring Network for the South Coast of Rhode Island and Narragansett Bay

Narragansett Bay and Southern Shores, Rhode Island

John W. King
jwking@uri.edu



July 19, 2020, 12:00:00 AM

STORMTOOLS: An integrated suite of planning tools to assess risk and damage from coastal flooding, including the effects of sea level rise.

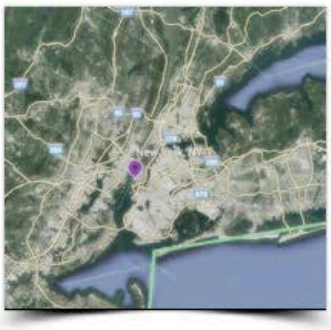
Rhode Island

July 19, 2020, 12:00:00 AM

The Nonlinear Increase in Flood Risk with Mean Sea Level Rise and the Zone of Shared Risk Concept

Branford, Conneticut

James O'Donnell
odonnell@uconn.edu



June 17, 2020, 12:00:00 AM

Protecting Coastal Infrastructure in a Changing Climate by Integrating Optimization Modeling and Stakeholder Observations

New York, New York

Yuki Miura
ym2540@columbia.edu

ORGANIZING COMMITTEE (For any questions email edl@gatech.edu)

Emanuele Di Lorenzo, Kim Cobb, Russell Clark (Georgia), Georgia Institute of Technology

Jill Gambill (Georgia), University of Georgia

Riccardo Domingues (Florida), NOAA

A.R. Siders (Delaware), University of Delaware

Enrique Curchitser (New Jersey, New York), Rutgers University

Natalie Burls, James L. Kinter, Jagadish Shukla, Celso Ferreira (Virginia),

George Mason University

Tal Ezer (Virginia), Old Dominion University

Christopher Piecuch (Massachusetts), Woods Hole Oceanographic Institution

Ruoying He (North and South Carolina), North Carolina State University

Nadia Pinardi, University of Bologna, Italy

Antonio Navarra, representing CMCC Foundation, Italy

Michelle Harris, representing NOAA and IOOS

Susan Bates, Virginia Coast Reserve (VCR), representing Nature Conservancy

Mark Merrifield, Scripps Institution of Oceanography, coordinator with US West Coast effort

Cayla Dean, NOAA, representing Coastal Coupling Community of Practice