



# Southeast Sand Resources: Understanding Gaps and Encouraging Collaboration

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*The Nature Conservancy*



# Sand Facts

- Globally, the volume amount of sand humans use is second only to water.
  - Consuming 50 billion metric tons of sand and gravel every year (18 kilograms per person per day)
- Billions of cubic yards of natural river-borne sediment are trapped behind the world's 57,000 large dams and countless small ones.
- In the U.S., coastal erosion is responsible for roughly \$500 million per year in coastal property loss.
- The federal government spends an average of \$150 million every year on beach nourishment and other shoreline erosion control measures (NOAA, 2013).

United Nations Report on Sand and Sustainability:

<https://www.unenvironment.org/news-and-stories/press-release/rising-demand-sand-calls-resource-governance>

2019

Sand and Sustainability:  
Finding new solutions for  
environmental governance  
of global sand resources

UN   
environment  
United Nations  
Environment Programme





# Southeast Sand

## Quick Facts

Between 2008-2018, South Atlantic states...

- Completed 208 beach nourishment projects
- Using over 105 million cubic yards of sand

	#	Volume (yds <sup>3</sup> )	Cost	2018 Cost
NC	259	131,000,180	\$690,292,856	\$909,440,590
SC	83	58,864,694	\$394,116,157	\$543,396,648
GA	11	11,321,818	\$47,475,000	\$80,511,352
FL	495	273,356,209	\$1,492,118,445	\$2,553,872,549
<b>TOTAL</b>	<b>848</b>	<b>474,542,901</b>	<b>\$2,624,002,458</b>	<b>\$4,087,221,139</b>

Conservancy marine interns at Folly Beach (TNC)

# Social and Ecological Values



# Management Roles

Sand management involves an array of constituents:

- Bureau of Ocean Energy Management
- U.S. Army Corps of Engineers
- National Oceanic and Atmospheric Administration
- State Coastal Zone Management Agencies
- State Natural Resource Agencies
- Municipalities
- Consultants and Engineering Firms
- Universities



# Regional Ocean Data Sharing Project: *Resources in the Southeast*

## *Sand*



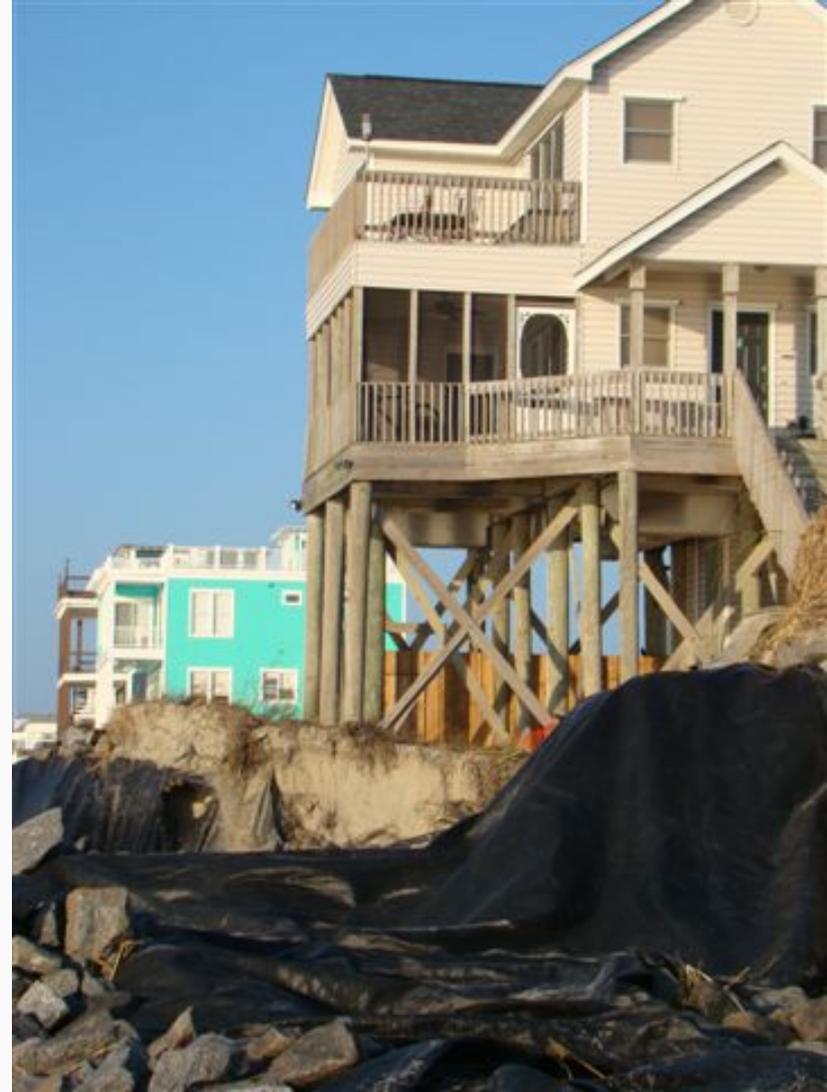
Photo from USACE

Long-term Vision: A user friendly collaboration mechanism that engages state, federal and local stakeholders in the long-term sustainable management of sand in the southeast.

Project Description: The project is designed to enhance collaboration across the varied sand/seafloor related projects underway across the southeast and to better understand decision-maker needs in order to prioritize data collection and inform future tool development around sand management in the southeast.

# Project Objectives

1. **Foster collaboration** amongst organizations mapping sand resources and seafloor habitat across the southeast (BOEM, US ACE, NOAA, state agencies and universities)
2. **Connect technical leads with coastal managers and communities** to share existing data/tools and discuss their relevance
3. Better **understand the critical gaps** for long-term sand management across the region.
4. Develop **communication materials** that can be used by diverse partners to share the importance of and needs related to sand in the southeast



# Partner Engagement

## Steering Committee

- Jill Andrews (GA)
- Robert Brantly (FL)
- Heather Coates (NC)
- Mary Conley (TNC)
- Bob Crimian (TNC)
- Debra Hernandez (SECOORA)
- John McCombs (NOAA)
- Clay McCoy (USACE)
- Barbara Neale (SC)
- David Stein (NOAA)
- Megan Trembl (NOAA/SECOORA)
- Lora Turner (BOEM)

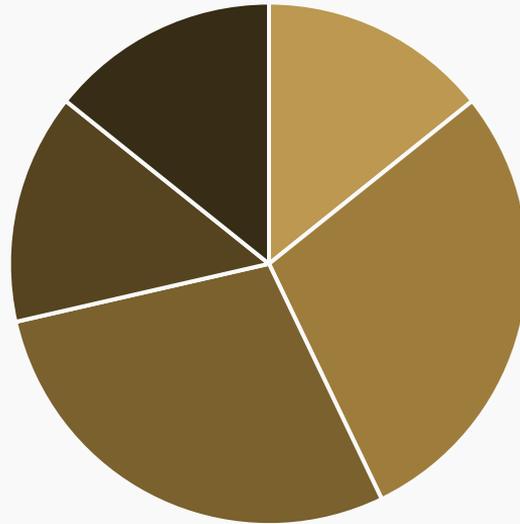
## Sand Constituent Outreach

- Contacted 50+ sand constituents about the project
- Held 1:1 interviews with 15 constituents
- Invited initial contacts to webinar to share draft results
- Will provide access to website and deliverables when complete (April 2021)



# Sand Constituent Interviews

Interviewed Sand Constituents



■ State Government   ■ Local Government   ■ Engineer/Consultant   ■ University   ■ Non-Profit

# Common Themes



## Data Gaps and Sources

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State and Shallow Waters

Potential Borrow Site Surveys

Engineering Surveys

Biological Information



## Data Access and Tools

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Dispersed sources can be challenging to find

Federal Data and Tools (MMIS, USGS)

Topographic Maps

Research Studies



## Permits and Regulations

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Post Storm Timing

Restrictions on how funds can be used

Beach sand requirements

Uncertainty with new methodologies



## Collaboration and Funding

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Decrease in regional communication

Connect public and private constituents

Future funding challenges

State and local mechanisms

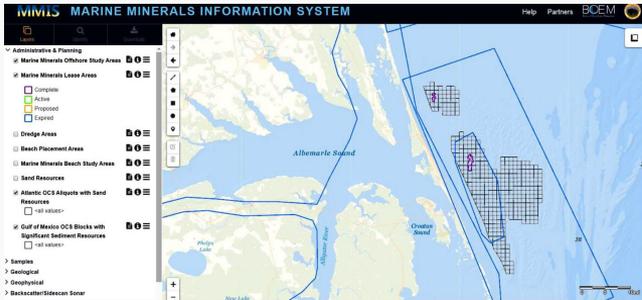


Are there additional considerations for regional sand data sharing?

# Existing Sand Data Resources

Sand Resource Data	Data Attributes					
Federal Resources:	Online Portal	Downloadable	Interactive	Provide Feedback	Raw Data	Synthesized Data
<b>Bureau Ocean Energy Management (BOEM)</b>						
Ocean Reports			Yes			Yes
Marine Cadastre (w/NOAA)	Yes	Yes		Yes		Yes
Marine Mineral Information System (MMIS)	Yes	Yes		Yes		Yes
<b>US Army Corps of Engineers (USACE)</b>						
South Atlantic Coastal Study (SACS)		Yes				Yes
Sand Availability and Needs Determination (SAND)	Yes	Yes	Yes			Yes
<b>NOAA</b> - National Centers for Environmental Information	Yes		Yes		Yes	
<b>USGS</b> - usSEABED	Yes		Yes	Yes	Yes	
State Resources:						
Florida - FL DEP ROSSI	Yes	Yes	Yes			Yes
Georgia	Yes	Yes	Yes		Yes	
South Carolina		Yes			Yes	
North Carolina		Yes			Yes	

# Federal Resources



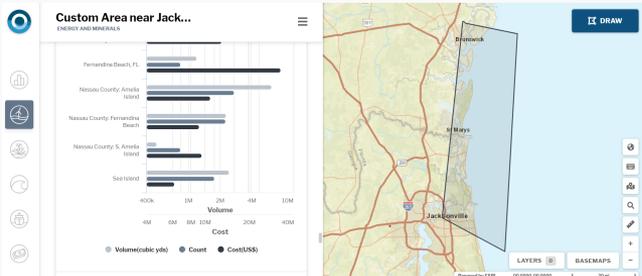
**Bureau of Ocean Energy Management (BOEM) – Marine Minerals Information System:** Online tool providing information on offshore sand resources in federal waters.

<https://www.boem.gov/marine-minerals/building-national-offshore-sand-inventory>



**U.S. Army Corps of Engineers – South Atlantic Division: The South Atlantic Coastal Study (SACS)** includes a regional Sand Availability and Needs Determination (SAND)

<https://www.sad.usace.army.mil/SACS/>



**NOAA and BOEM – Marine Cadastre:** The Ocean Report tool allows users to map an area and identify ocean resources.

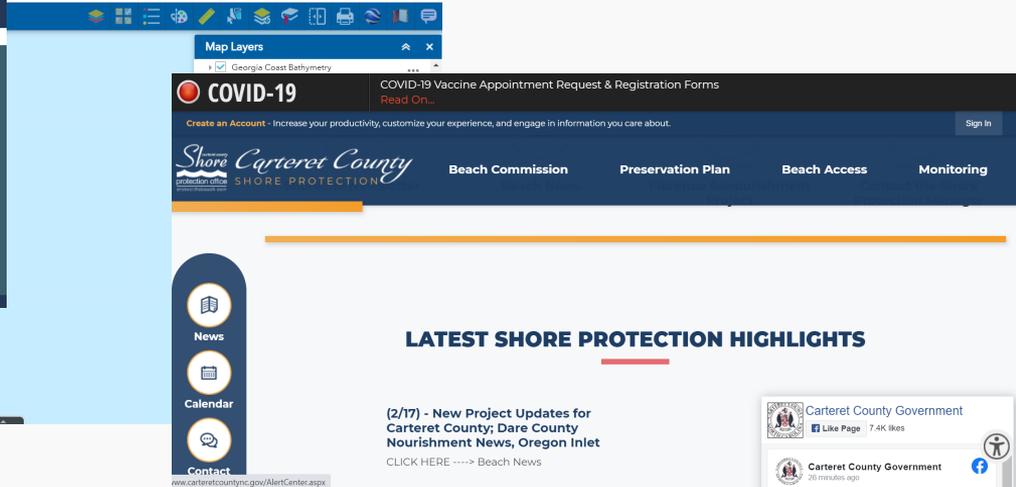
<https://marinecadastre.gov/>

# State and Local Resources

**Bureau of Ocean Energy Management (BOEM)** – *Atlantic Sand Assessment Project*: Between 2015-2016, states from Massachusetts to Florida received funding to conduct sand resource surveys. <https://www.boem.gov/marine-minerals/atlantic-sand-assessment-project-asap>

**State Sand Inventories and Data Portals** – There is significant variation across southeast states what sand data is available and how it is distributed in addition to regulatory variation.

**Local Government Shore Protection** – Local governments and municipalities dedicate varying funding and capacity to sand management. There is value in sharing some of the best practices, including support mechanisms



An aerial photograph of a coastal region. A long, narrow bridge or causeway extends from the left side of the frame across a body of blue water towards a central island. The water is a deep blue, and there are several smaller islands and peninsulas scattered throughout the scene. In the bottom left corner, a sandy beach is visible with gentle waves washing onto it. The overall scene is bright and clear, suggesting a sunny day.

Are there other key resources that we  
should incorporate?

# Accessing Deliverables

Project deliverables will be made available through the SECOORA Website...

- [About](#)
- [Data](#)
- [Focus Areas](#)
- [News and Resources](#)
- [Education](#)
- [Affiliated Programs](#)

## MISSION

Observe, understand, and increase awareness of our coastal ocean - promoting knowledge, economic and environmental health through strong regional partnerships.

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feedback

# Future Opportunities

- Enhance collaboration between federal, state and local partners
- Share best practices across data sharing and access between state and local governments
- Provide support for data collection and/or analysis
- Build capacity to help fill data gaps in a manner that meets management requirements
- Enhance understanding of ecological value of different sand structures and track changes at borrow sites
- Identify new sources of funding to support research and management





Questions?