


Roadmap for Strengthening Coastal Communities: A National Offshore Sand Inventory



Renee Orr

Chief, Office of Strategic Resources
North Carolina Beach Inlet & Waterway Association
Wrightsville Beach, NC
November 13, 2017



- 
- 80% of the Nation's population lives in coastal states
 - 43% of U.S. GDP is in shore-adjacent counties
 - 17% of the Nation's landmass is in shore-adjacent counties (including Alaska)

Overview

2 projects 5.9 Million Cubic Yards ~16 miles of beach restored

- **Bogue Banks – 2012**

- **1 Million Cubic Yards of OCS Sand**
- **7+ miles of beach restored**

- **Dare County – 2016 & 2017**

- **Duck, Kitty Hawk, Kill Devil Hills**
- **Southern Shores**
- **4.9 Million Cubic Yards of OCS Sand**
- **8 miles of beach restored**



Top photo Bogue Banks, **Bottom photo:** Dare County

- Cooperative Agreement report from ECU, UNC, and NC Division of Coastal Management
- Resource Evaluations from 1998 to the present

NC - BOEM Cooperative Agreement

BOEM
Bureau of Ocean Energy Management

Announcement M13AS00014: Hurricane Sandy Coastal Recovery and Resiliency - Resource Identification, Delineation and Management Practices

Agreement: M14AC00009 North Carolina Cooperative Agreement: North Carolina Offshore Sand Resource Investigation

Lead Agency:
East Carolina University / UNC Coastal Studies Institute

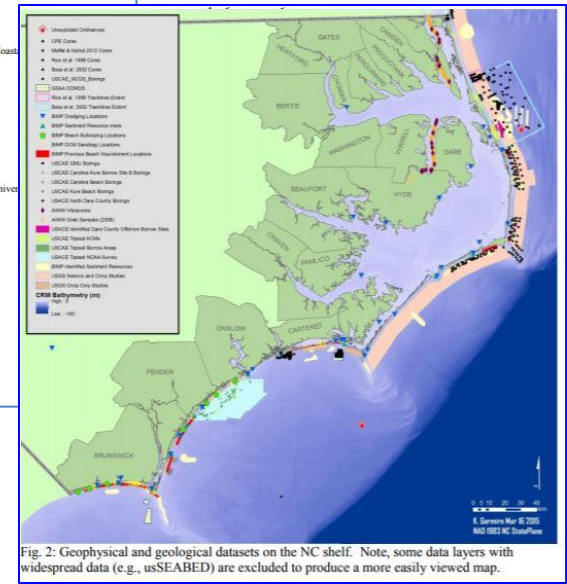
Recipient point of contact information:
Principal Investigators:
John P. Walsh, Ph.D.
Dept. of Geological Sciences, East Carolina University & UNC Coastal Studies Institute
Greenville, NC 27858
252-328-5431; Fax 252-328-4391
wjwalsh@ecu.edu

David Mallinson, Ph.D.
Dept. of Geological Sciences, East Carolina University
Greenville, NC 27858
252-328-1344; Fax 252-328-4391
mallinsond@ecu.edu

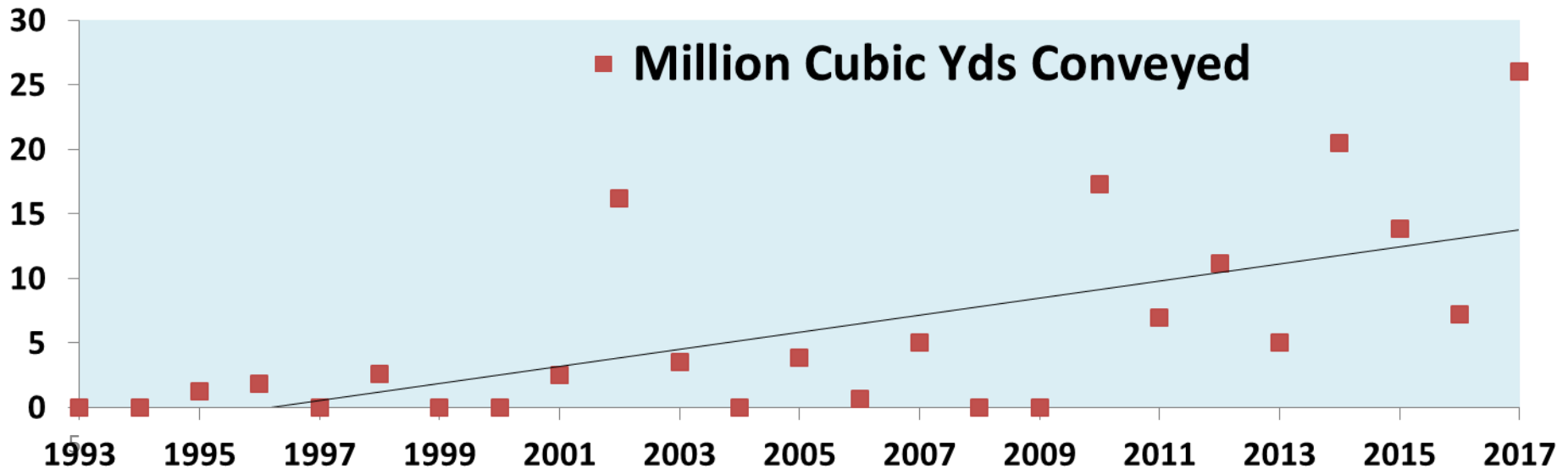
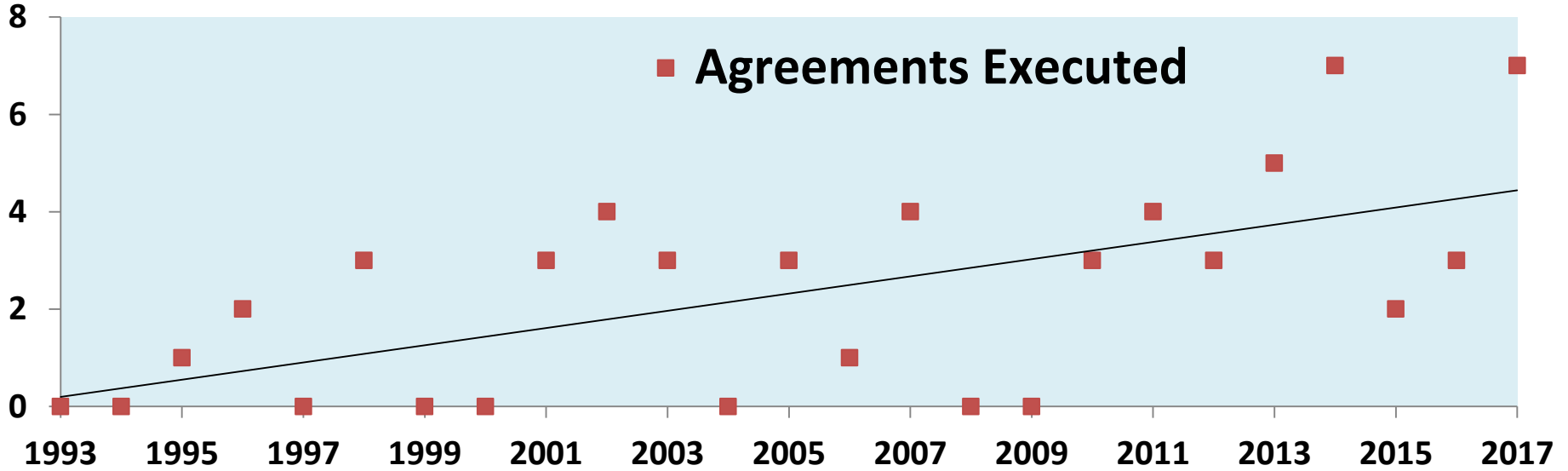
Tom Allen, Ph.D.
Dept. of Geography, Planning and Environment, East Carolina University
Greenville, NC 27858
252-328-6624
allenh@ecu.edu

Chris Freeman
GeoDynamics, LLC
Newport, NC 28570
252-247-5785; Fax 252-558-0666
cfreeman@geodynamics.com

In partnership with the NC Division of Coastal Management:
Ken Richardson
Shoreline Management Specialist
NC Division of Coastal Management
400 Commerce Ave., Morehead City, NC 28557
(252) 908-2808 Extension 233
ken_richardson@ncdcm.gov



Increasing Demand for OCS Sand



- **Increased Storm Activity and Intensity**
- **Diminishing Resources in State Waters**
- **Environmental Concerns w/ Dredging in State Waters**
- **Larger & Higher Quality Resources in Federal Waters**
- **More States Interested in OCS Sand (8 total)**
 - Recent: NJ (2014) and MS (2016)
 - Future: DE, NY, and possibly others



“Bad news...we’ve run out of unlimited resources”

Physical Samples



BOEM Historical Paper Reports, Paper Maps, CDs, PDFs and Web



State Co-op Reports & Data

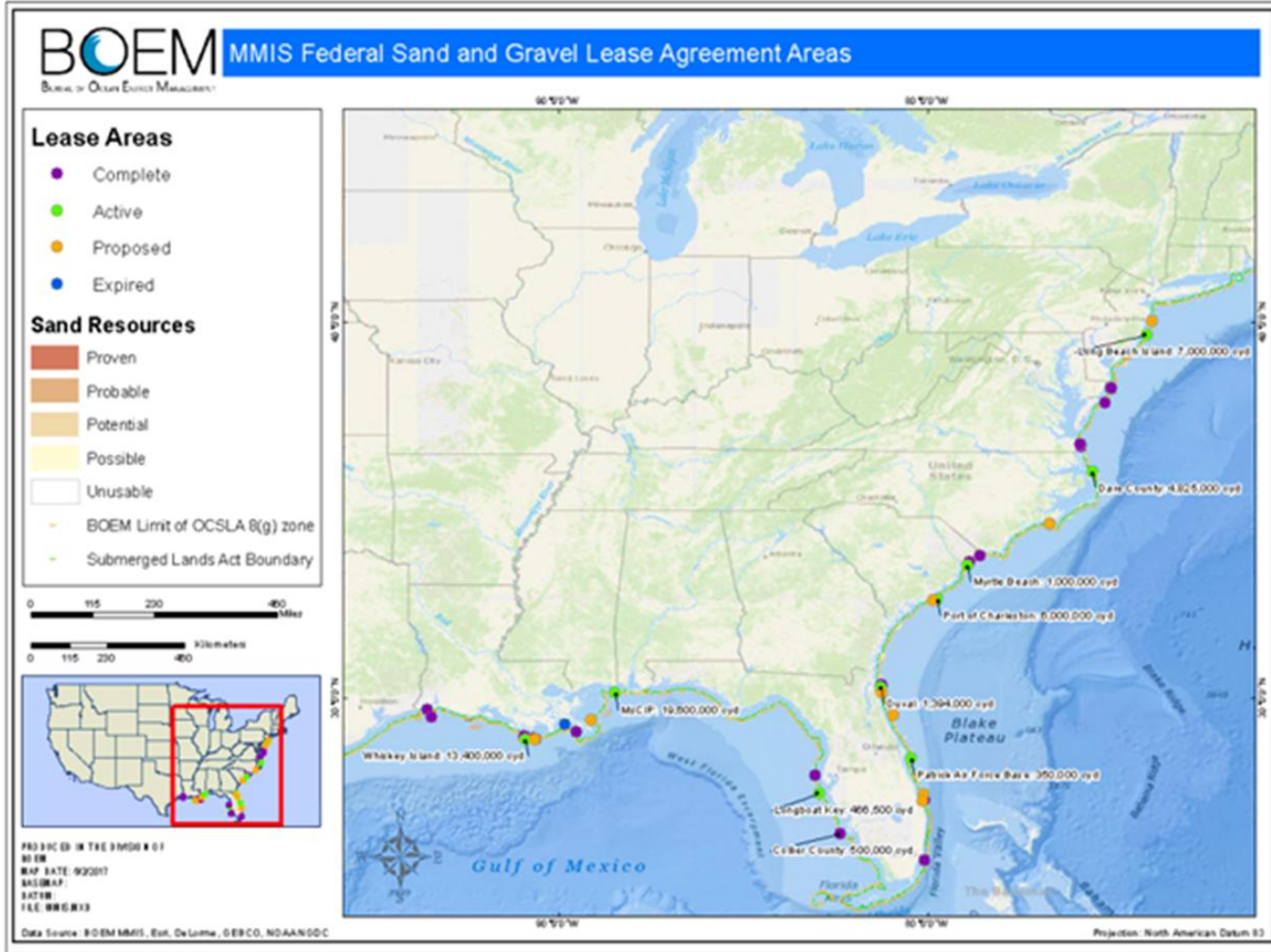
Data Portals



- Leasing data
- Environmental Studies Data
- ID Data Gaps



Fig. 4. Map of prioritized seismic and core collection in NC for 2015 CB&I data collection based on existing data availability.





Marine Minerals Lease Areas

- Complete
- Active
- Proposed
- Expired

Dredge Areas

- Dredge Areas

Beach Placement Areas

Marine Minerals Beach Study Areas

Sand Resources

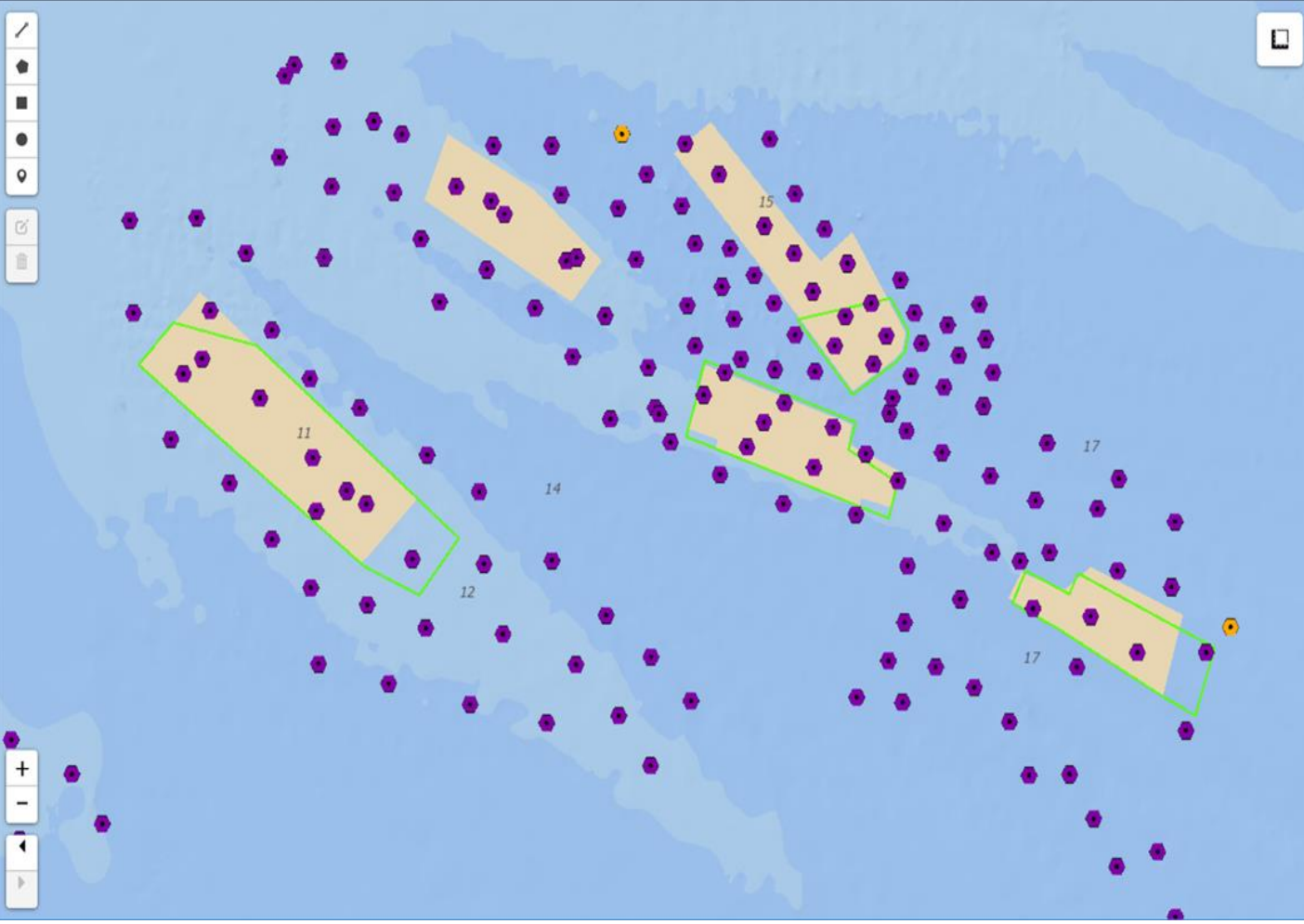
- Proven
- Probable
- Potential
- Possible
- Unusable

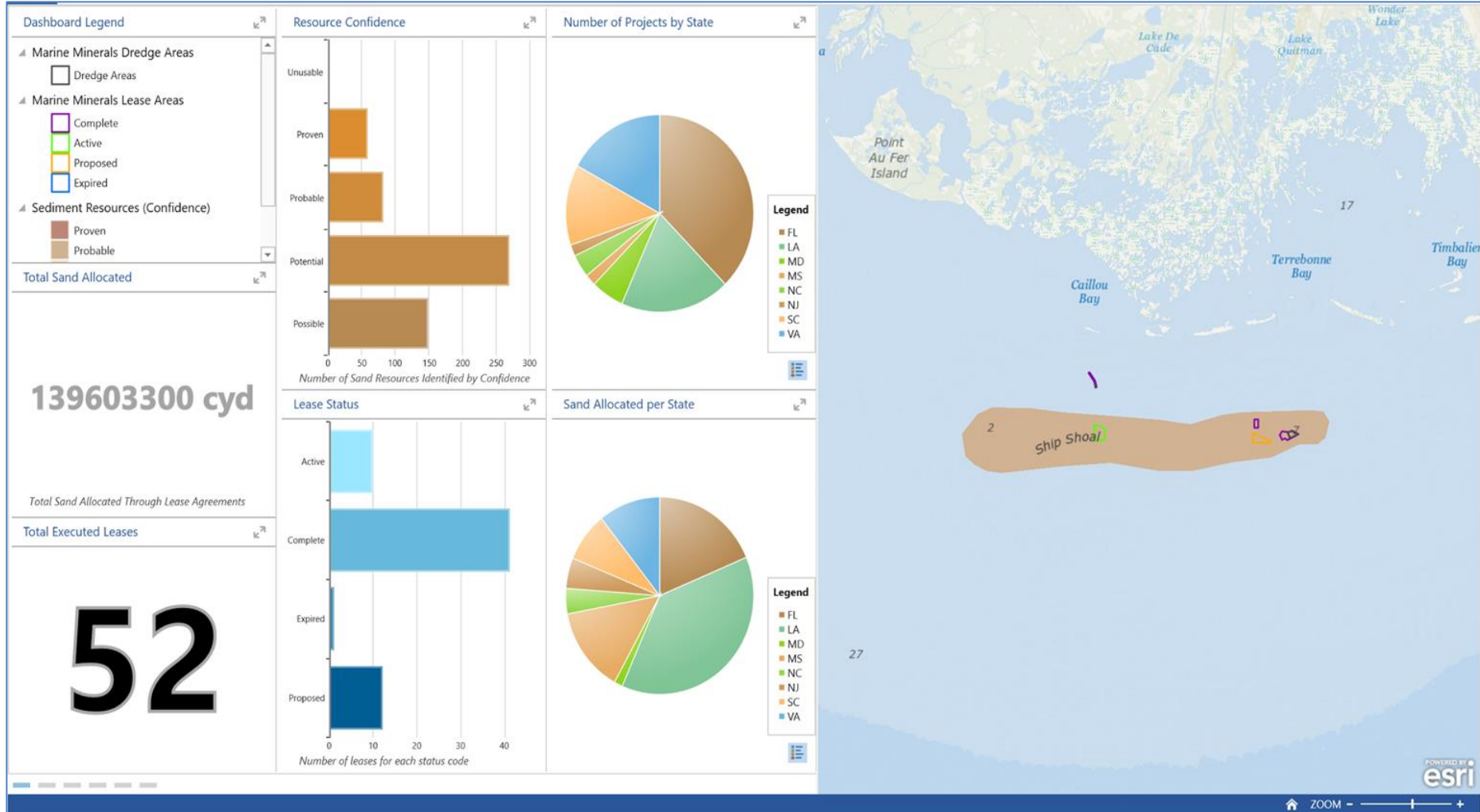
Core Samples

- Core Samples

Grab Samples

- Grab Samples



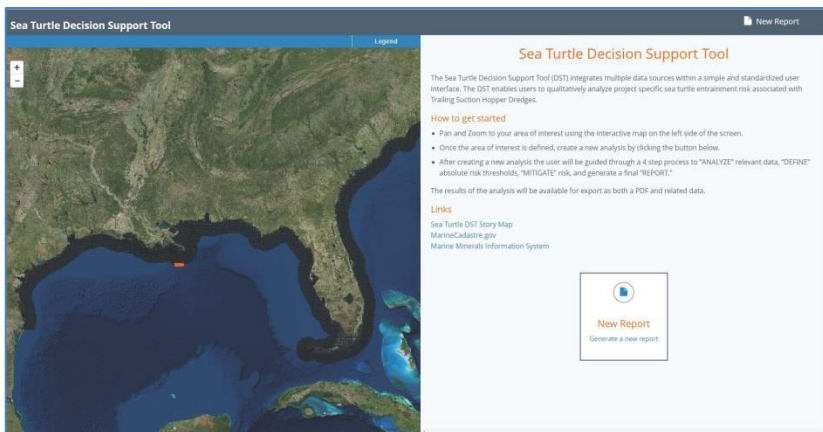


Generate maps with environmental data such as the location of:

- **Sea turtles**
- **Benthic and Fish habitat**
- **Fishing areas**
- **Munitions**
- **Shipwrecks**
- **Submarine cables**
- **Reduce multiple use conflicts**



Dare County Loggerhead



- **Where** are the OCS sand / sediment resources to **inform** management and environmental decisions within **ocean planning** and **lease use**?
- What is the **extent of compatible** sand / sediment **resources** in the OCS to support restoration?
- Where is the **authoritative source data** for sand resources?
- What vital marine mineral **products** and data on national, regional, and local scales do managers, planners, and scientists need?
- How do we **improve sharing** marine mineral datasets with our partners?

- 1. Continue resource evaluation, data analysis, forecasting needs**
- 2. Continue environmental studies**
- 3. Continue integrating new data into the MMIS**
- 4. Maintain the system**
- 5. Remind the public of the value of the program to the Nation**

Thank You

Contact us:

MarineMinerals@boem.gov

For more Information

<https://www.boem.gov/Marine-Minerals-Program/>

