

BOEM

Bureau of Ocean Energy
Management

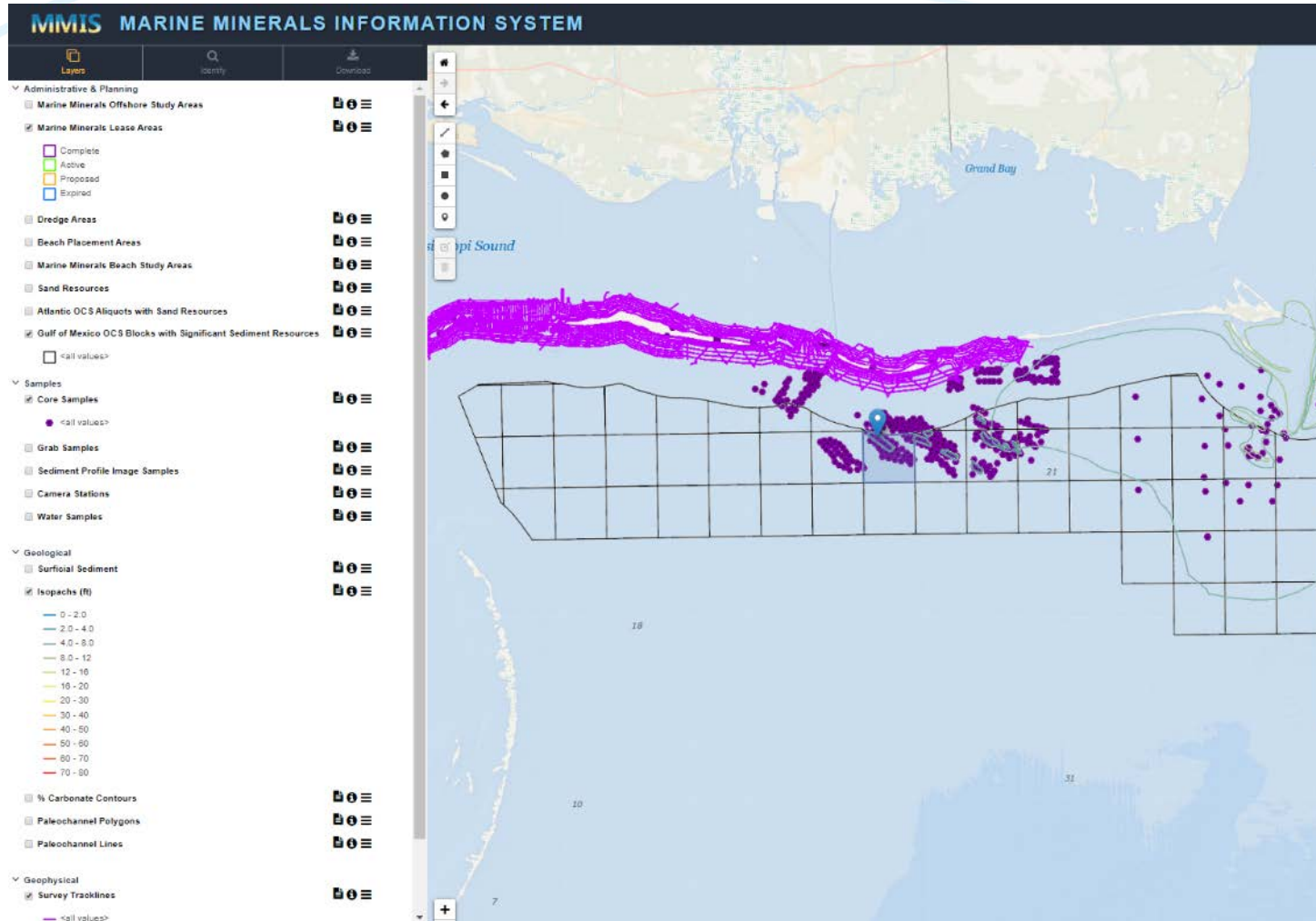
Marine Minerals Information System

June 12, 2019

Lora Turner | Gulf of Mexico Alliance – All Hands Habitat Team

Restoring and Protecting Our Nation's Coasts through Stewardship of OCS Sediment





Layers	Identify	Download
State	MS	
Lease Number	OCS-G-35929	
Project ID	MsCIP 2017	
Project Count	1	
Total Sand Allocated	19800000	
Fiscal Year	2017	
Lease Initiation Date	12/1/2016	
Lease Expiration Date	12/1/2021	
Original Volume Allocated	19800000	
Borrow Area ID	PBP West 1, 3-5, PBP East 1-5	
Amendment Date	Null	
Amendment Number	Null	
Additional Sand Allocated	Null	
Lease Status	Active	

Open Related Data

Core Samples	
Study Title	Mississippi Coastal Improvement Program (MsCIP); Mississippi Sound And The Gulf Of Mexico Benthic Macroinfauna Community Assessment
Core ID	BI-PBS-04-12
State	MS
OCS Study Area ID	CoastalMS_MsCIP
Agency ID	US Army Corps of Engineers, State of Mississippi
Contact ID	American VibraCore Systems, Inc.
Contact Name	Mike FitzHarris, Geologist
Sample Date	11/26/2012

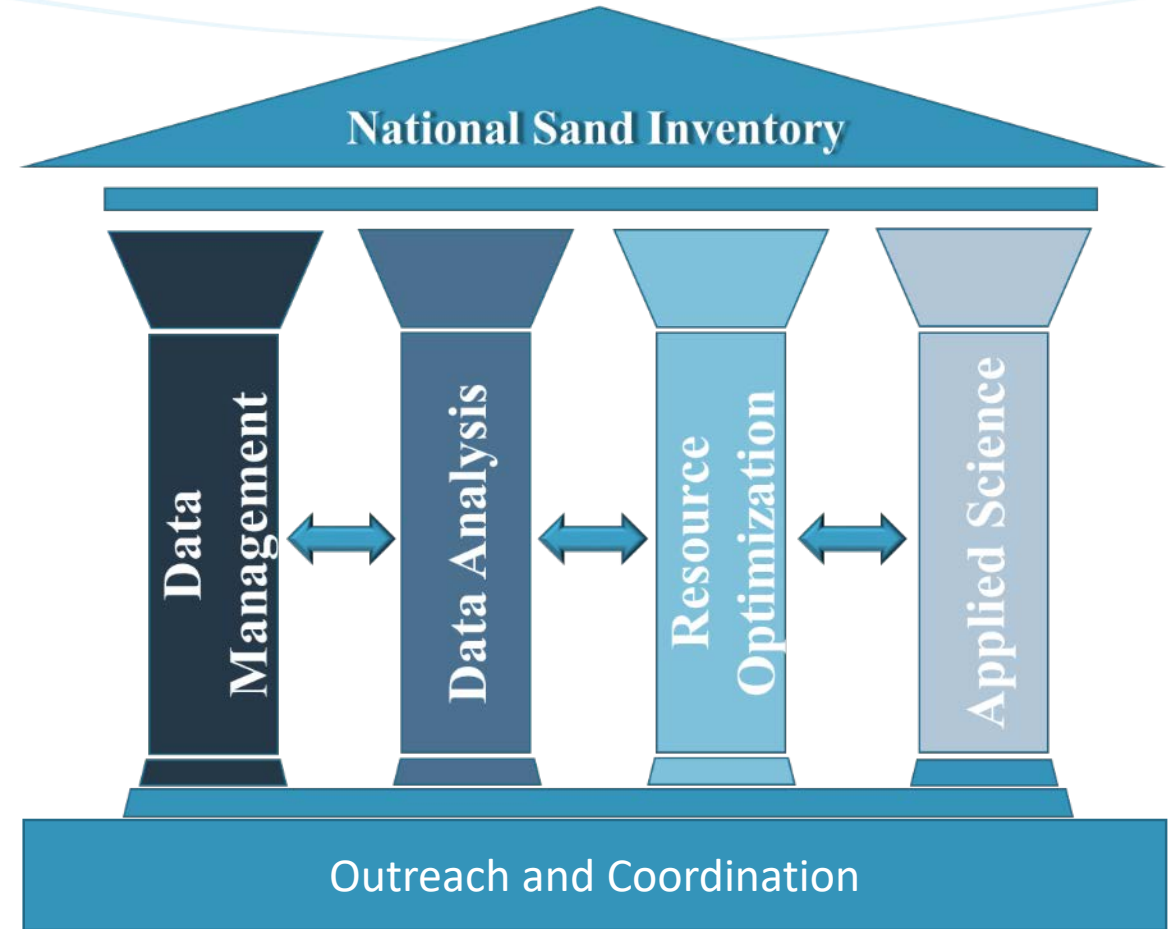
- Sand Unit Thickness
- Volume
- Grain Size
- Munsell Color
- Percent Sand

managing physical sediment resources across xx million acres of offshore



MMIS - Agenda

- What is MMIS?
- MMIS
 - Viewer
 - Data
 - Sediment Resource Evaluation
 - Managing Multiple Uses of the OCS
 - Decision Support Tools
- Outreach and Coordination
- Opportunities
- Summary



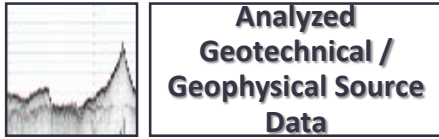
need to know what we have to manage the resource successfully

What is MMIS?

Bathymetry & Backscatter

Data Development

Collaboration with our Partners



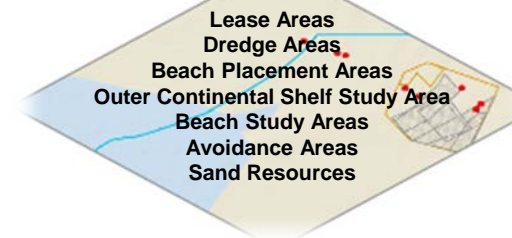
Enterprise Relational Database

MMIS

Environmental Data

Bottom Characteristics

Leasing / Planning/Construction



Discover

Analysis

Id Gaps



Viewer Layers

Viewer Downloads

The screenshot shows the 'Viewer Layers' panel on the left side of the MMIS interface. The panel is titled 'MMIS MARINE MINERALS INFORMATION SYSTEM' and contains a list of layers organized into several categories. Each layer has a checkbox and a 'Show/Hide' icon. The categories and their layers are:

- Administrative & Planning**
 - Marine Minerals Offshore Study Areas
 - Marine Minerals Lease Areas
 - Dredge Areas
 - Beach Placement Areas
 - Marine Minerals Beach Study Areas
 - Sand Resources
 - Atlantic OCS Alliquots with Sand Resources
 - Gulf of Mexico OCS Blocks with Significant Sediment Resources
- Samples**
 - Core Samples
 - Grab Samples
 - Sediment Profile Image Samples
 - Camera Stations
 - Water Samples
- Geological**
 - Surficial Sediment
 - Isopachs (ft)
 - % Carbonate Contours
 - Paleochannel Polygons
 - Paleochannel Lines
- Geophysical**
 - Survey Tracklines
- Backscatter/Sidescan Sonar**
 - Bathymetry
 - Bathymetric Contours (ft)
 - Study Area Survey Data - Bathymetry
 - Dredge Area Survey Data
 - NOAA Coastal Relief Model
- Maritime Industries: Energy, Transport, Infrastructure**
 - Boundaries
 - Submerged Lands Act Boundary

The screenshot shows the 'Viewer Downloads' panel on the left side of the MMIS interface. The panel is titled 'MMIS MARINE MINERALS INFORMATION SYSTEM' and contains a 'Download' section. The 'Download' section has a 'Select Area to Download' button and a 'Submit' button. Below these buttons, there are two columns of file format options:

- Select a file format:**
 - File Geodatabase
 - Shapefile
 - CSV
- Select a raster format - COMING SOON:**
 - TIFF
 - IMG
 - KMZ

Below the format options, there are three buttons for additional resources: 'Metadata Template', 'MMIS Data Dictionary', and 'MMIS Schema Template'. The background of the panel shows a map of the Gulf of Mexico with a grid overlay.




MMIS MARINE MINERALS INFORMATION SYSTEM

Layers	Identify	Download
PA	2.51D 19.0Z	
Y	3741328.4	
Coordinate System	NAD 1983 UTM 18 NAVD88	
Vertical Datum	Null	
Method of Core Sample	Vibracore	
Sampler Device	271b Alpine Pneumatic Vibracore	
Elevation (ft)	-42.1	
Penetration Depth (ft)	20	
Recovered Length (ft)	19.4	
Percent Recovered	Null	
Core Diameter (in)	3	
Depth Rock (ft)	Null	
Number of Core Boxes	Null	
Depth of Sand (ft)	Null	
Longitude (DD)	-77.898199	
Latitude (DD)	33.7781	
Comments	Null	

International GeoSample Number Link <http://app.geosamples.org/sample/igsn/DSR000F8D>

IGSN (international geosample number) SESAR sample profile and links



IGSN: DSR000F8V
Sample Name: BOEM-2015-NC-37VC
Other Name(s): NC-BOEM-2015-VC37
Sample Type: Core
Parent IGSN: Not Provided

Description

Material: Sediment
 Classification: Not Provided
 Field Name: Not Provided
 Description: Not Provided
 Age (min): Not Provided
 Age (max): Not Provided
 Collection Method: Coring>VibratingCorer
 Collection Method Description: Not Provided
 Size: 4.57 cm
 Geological Age: Not Provided
 Geological Unit: Not Provided
 Comment: identify sand resources on Atlantic Outer Continental Shelf for use in future coastal restoration
 Purpose:

Geolocation

Latitude (WGS84): 36.4347
 Longitude (WGS84): -75.703
 Northing (m) (UTM NAD83): 4032398
 Easting (m) (UTM NAD83): 4265985
 Zone: 18N
 Vertical Datum: NAVD88
 Elevation: -18.71 meters
 Nav Type: Not Provided
 Physiographic Feature: Not Provided
 Name Of Physiographic Feature: Not Provided
 Location Description: Not Provided
 Locality: Not Provided
 Locality Description: Not Provided
 Country: Not Provided
 State/Province: Not Provided
 County: Not Provided
 City: Not Provided

Collection

Field Program/Cruise: BOEM-2015
 Platform Type: Ship
 Platform Name: MV Thunderforce
 Platform Description: Not Provided
 Launch Type: Not Provided
 Launch Platform Name: Not Provided
 Launch ID: Not Provided
 Collector/Chief Scientist: Not Provided
 Collector/Chief Scientist Detail: Not Provided
 Collection Start Date: 2015-09-08
 Collection End Date: Not Provided

Curation

Current Archives: Lamont-Doherty Core Repository at Columbia University (LDCA)
 Current Archive Contact Details: Nichole Anest
 Original Archive: Not Provided
 Original Archive Contact Details: Not Provided

Relation To Parent


Depth in Hole (min): Not Provided
 Depth in Hole (max): Not Provided

Related Samples


Parents: No Parents
 Siblings: No Siblings
 Children: No Children


Relevant Documents:

- NC_Reconnaissance_Geotechnical_Sample_Analysis_Results.pdf
- NC_Photos.pdf




INVENTORY OF POTENTIAL SAND RESOURCES ON THE ATLANTIC OCS
NC-BOEM-2015-VC37
0.0' - 2.0'

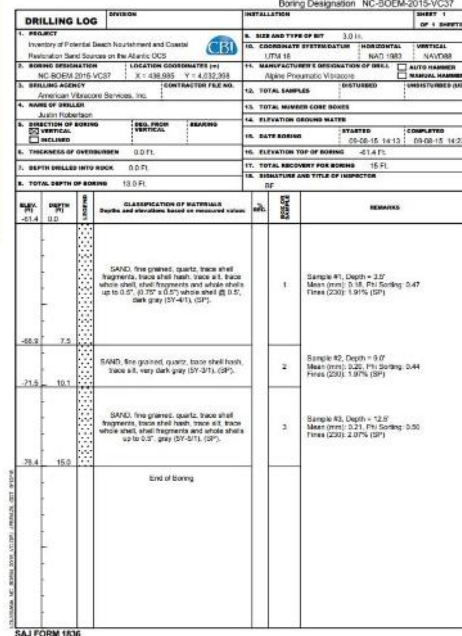




INVENTORY OF POTENTIAL SAND RESOURCES ON THE ATLANTIC OCS
NC-BOEM-2015-VC37
2.0' - 4.0'



View photos, logs, grain-size stats, etc. via link in SESAR profile or Sample Attachments table



Access SESAR sample profile via IGSN link in *Identify* tool window

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE



<http://www.geosamples.org/>



The screenshot displays a GIS interface with a map of the Gulf of Mexico. The map shows several purple tracklines representing seismic survey paths. A yellow rectangular area highlights a specific section of the tracklines. A black arrow points from this area to a detailed seismic profile window. The profile window shows a seismic trace with a vertical scale from 0 to 30ms and a horizontal scale from 0 to 100. The profile is labeled "Ship_Shoal Waterfall: ln78.1.a.0.et.subb.SEG".

Identify
Identify from: <Top-most layer>

- Tracklines
 - LA
 - LA
 - LA
 - LA
 - LA
 - LA
 - LA
 - LA
 - LA
 - LA

StudyAreaTracklines

Location: -90.904141 28.892776 Decimal Degrees

Field	Value
OBJECTID	1227
State	LA
Cruise ID	<null>
Line ID	SS_078_0
Collection Date	8/7/2003
Time	<null>
Data collected during Survey	seismic data, sidescan sonar data, bathymetric data
Seismic profile pdf/jpg	http://sonris-www.dnr.state.la.us/gis/offshoresand/LASARD/Metadata/Geoph...
Sidescan Sonar pdf/jpg	<null>
Video link	<null>
Length (nm)	2.759502
Global Link ID	{34B23C9A-D20A-4C1F-9A70-46D61BC77D2B}
Global Equipment ID	{8CB1A05A-BF90-487A-92B7-9F29AAA400A2}
Additional Equip	Ship_Shoal Waterfall
RuleID	
GlobalID	
Raw Data Avail	
SHAPE	
SHAPE.STLength	

Ship_Shoal Waterfall: ln78.1.a.0.et.subb.SEG

10ms
20ms
30ms

0 100

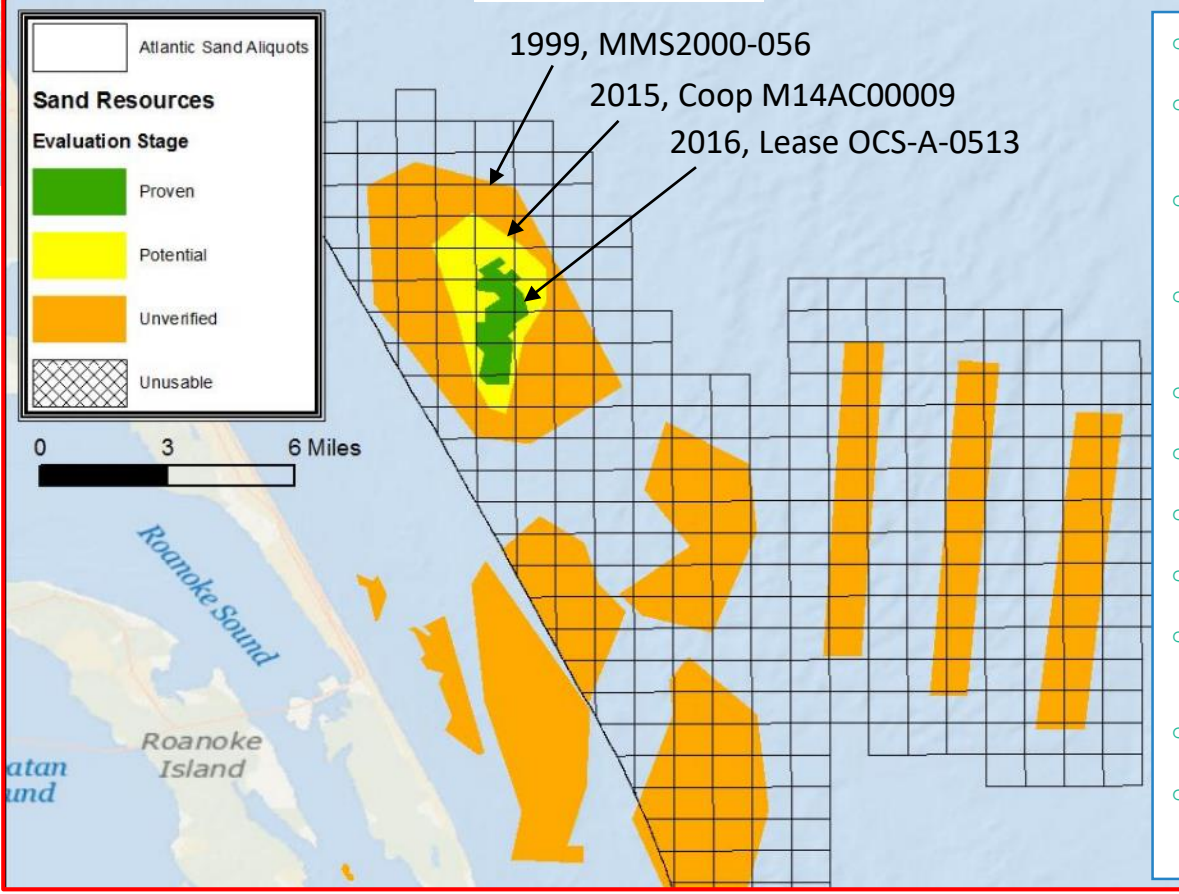
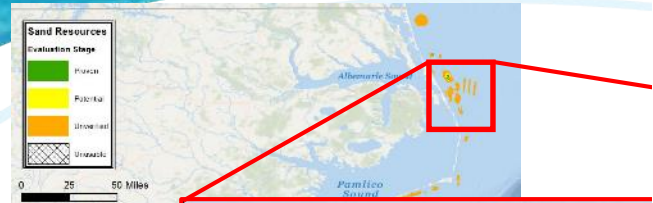
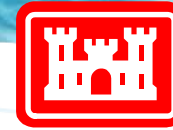
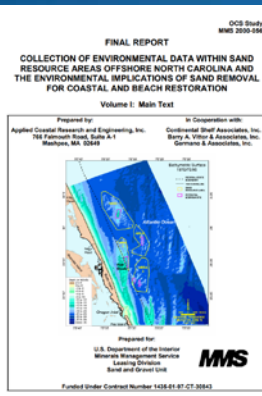
Louisiana State University

sonris-www.dnr.state.la.us/gis/agsweb/IE/JSViewer/index.html?Templ

Oklahoma

SONRIS^{NG} Interactive Maps - Oil/Gas
Louisiana Department of Natural Resources

Zoom In

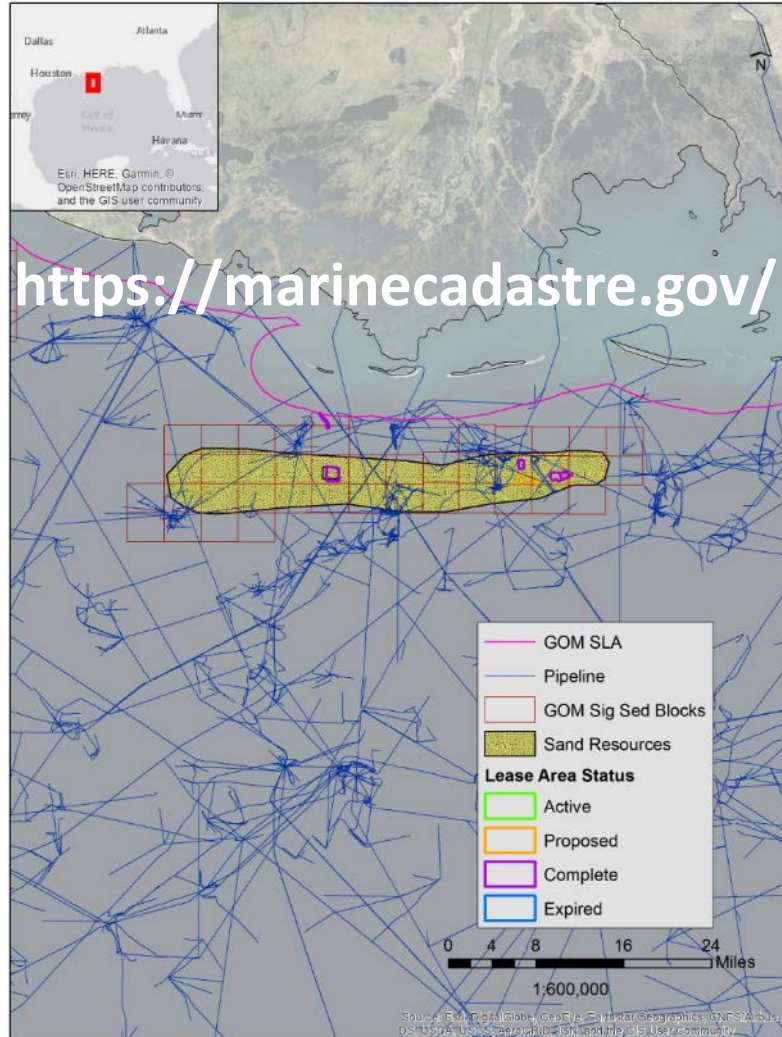


- State
- Year (of delineation)
- Mean grain size (phi)
- % sand, gravel, and fines
- % carbonate
- Resource Area ID
- Study ID
- Evaluation stage
- Sand body thickness
- Area
- Volume

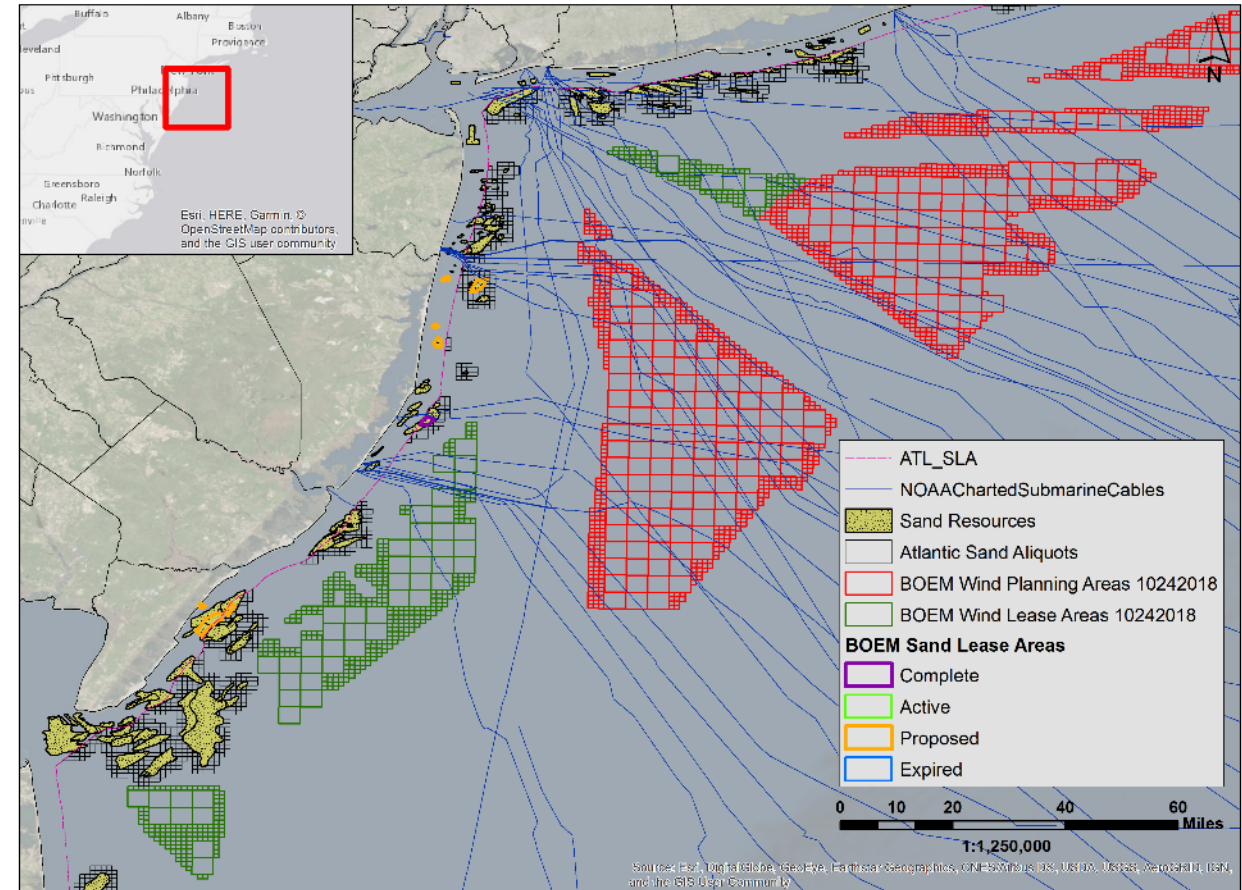
Evaluation Stage	Description
Proven	Resource areas whose thickness and lateral extent have been fully determined through design-level geotechnical and seismic coverage. Generally reserved for (but not limited to) areas that have already been authorized as part of a lease.
Potential	Resource areas whose existence has been verified through sufficient geotechnical and geophysical data. Thickness and/or lateral extent has not been fully determined. All areas have some combination of geotechnical and geophysical datasets (vibracore, bathymetry, sidescan, and seismic).
Unverified	Resource areas hypothesized to exist on the basis of indirect evidence (seismic profiles, bathymetry, or sidescan sonar). Inferred sediment types, unit thicknesses and lateral extents have not been confirmed through direct sampling methods.
Unusable	Resource areas that as a result of additional surveys, prior dredging activity, or infrastructure development are not (or no longer) suitable for future dredging; this designation should not be considered terminal and is subject to change.



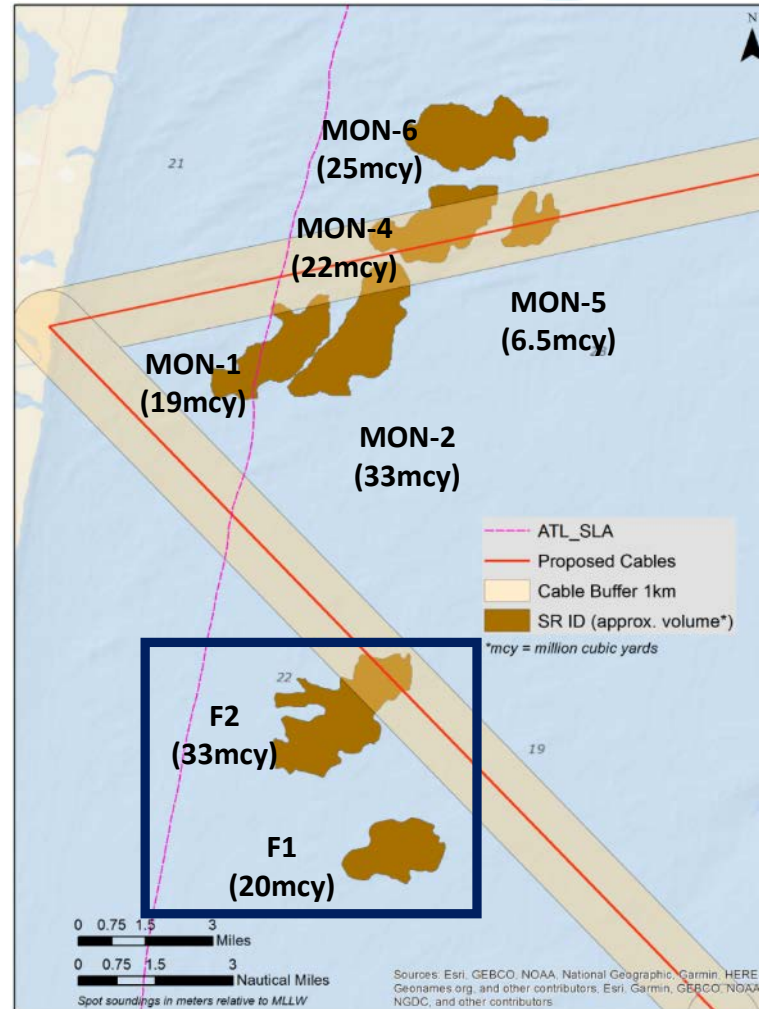
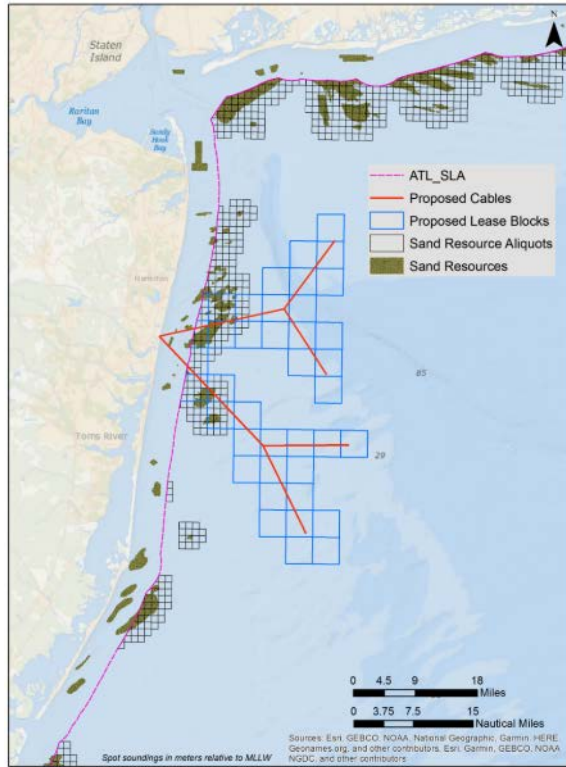
Oil & Gas Infrastructure - Gulf of Mexico



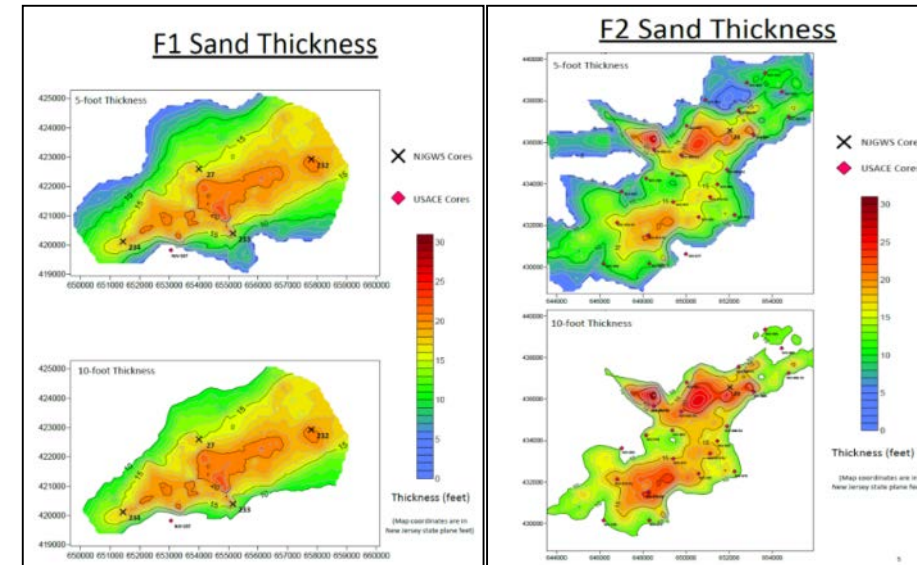
Submarine Cables – North Atlantic



Hypothetical cable route for illustration purposes only



evaluate impacts
to quantify potential losses



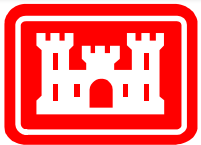
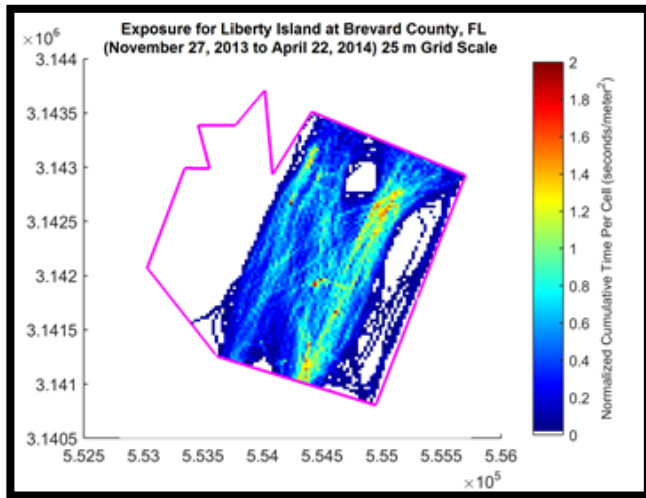
Source: New Jersey Department of Environmental Protection (NJDEP) / New Jersey Geological Survey (NJGS)

make recommendations for
proposed alternatives

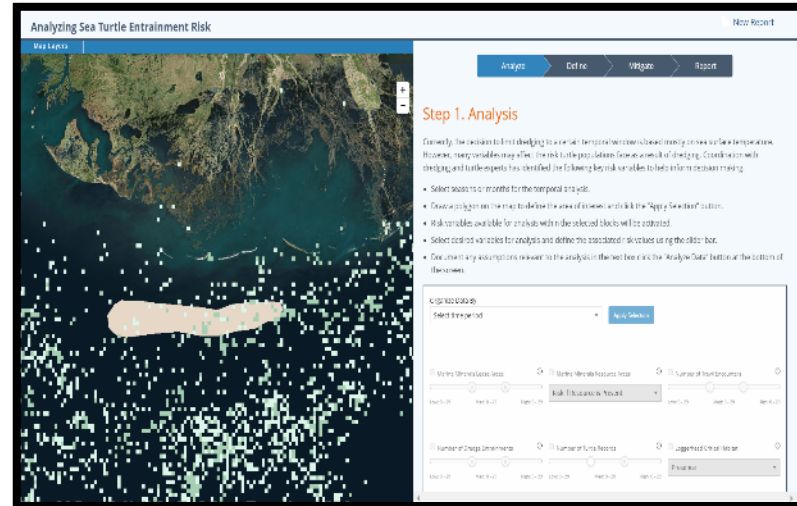
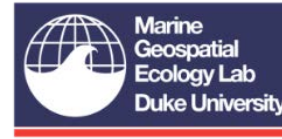


MMIS MARINE MINERALS INFORMATION SYSTEM

Dredge Intensity Products into MMIS



MMIS Datasets into Decision Support Tools



EFH Tool



Outreach and Coordination

Federal Agencies

- BOEM
- DOI OCIO
- USGS
- BSEE
- USACE
- NOAA

State Entities

- New Jersey Department of Environmental Protection
- New York State Department of State
- Virginia Department of Mines, Minerals and Energy
- Maryland Department of Natural Resources
- Florida Department of Environmental Protection
- South Carolina Department of Natural Resources
- Maine Geological Survey
- Louisiana Geological Survey
- Geological Survey of Alabama

Educational Institutions

- University of Delaware - Delaware Geological Survey
- University of Rhode Island
- University of New Hampshire
- University of Massachusetts Amherst - Massachusetts Geological Survey
- Dept of Geological Sciences, East Carolina University & UNC Coastal Studies Institute
- Skidway Institute of Oceanography, University of Georgia
- Louisiana State University
- The University of Texas
- Texas A&M University

Industry

- Coastal Engineering Consulting Firms
- Geospatial Services Services

Community Associations

- ASBPA
- FSBPA
- NCBIWA
- Gulf of Mexico Alliance



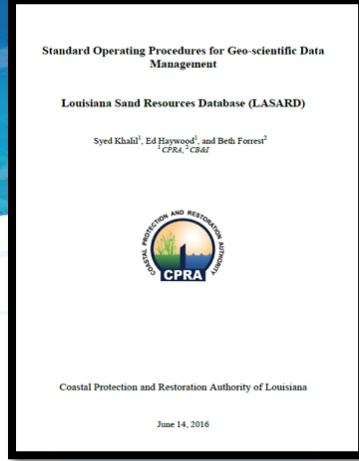
USGS (St Petersburg, Woods Hole, Santa Cruz)

USACE Districts (New York, Charleston, Philadelphia, Norfolk, Wilmington, Jacksonville, Mobile, New Orleans, Galveston)

NOAA (NCEI, Office of Coastal Management, National Centers for Coastal Ocean Sciences)

Opportunities

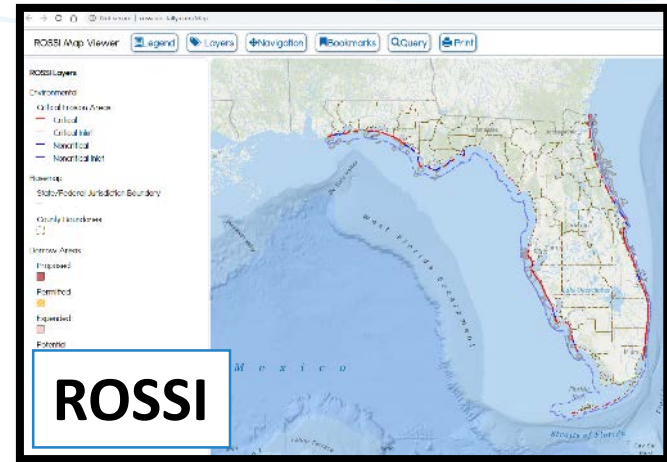
SONRIS



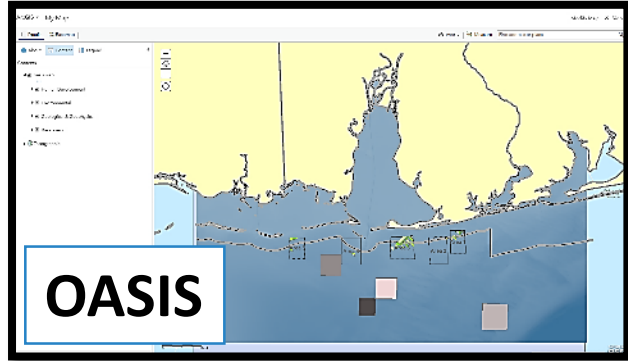
LASARD

System Interoperability Opportunities

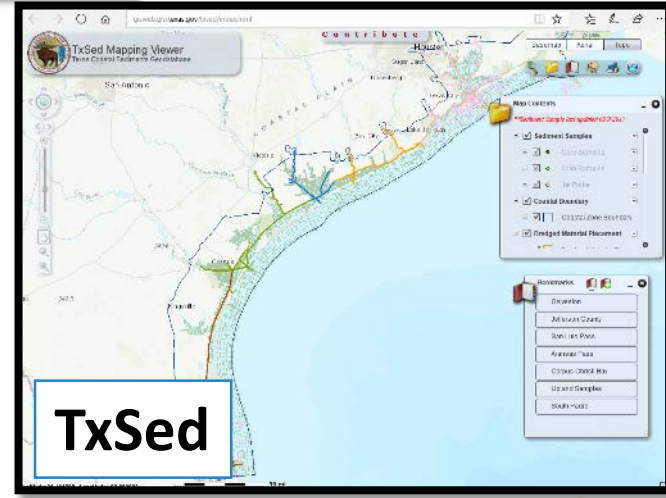
- Louisiana Department of Natural Resources
 - Strategic Online Natural Resources System (SONRIS)
- Coastal Protection and Restoration Authority
 - Louisiana Sand Resource Database (LASARD)
- Florida Department of Environmental Protection
 - Regional Offshore Sand Inventory (ROSSI)
- Texas General Land Office / U.S. Fish and Wildlife Service
 - TxSed Mapping Viewer
- Geological Survey of Alabama
 - Offshore Alabama Sand Information System (OASIS)
- USACE
 - Sediment Analysis & Geo-App (SAGA)



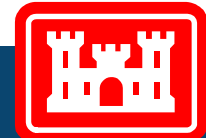
ROSSI



OASIS



TxSed



MMIS - Summary

- **MMIS is a capability to help BOEM and our partners in offshore mineral resource management (National Sand Inventory)**
- **MMIS facilitates proactive planning**
- **MMIS Next Steps**
 - Continue to advance and maintain a repository of applicable offshore marine mineral data of BOEM's investments of historic and current project data
 - Continue to work with our partners to improve meaningful data to support planning and operational needs, data discovery and accessibility, and partner usability

Thank you!



BOEM.gov



Lora Turner | marineminerals@boem.gov | <https://mmis.doi.gov/boemmmis/>