



Florida Department of Environmental Protection

ROSSI

The New and Improved Coastal Sediment Tool

July 22, 2015





Background

- ROSS – Reconnaissance Offshore Sand Search
- OSSI – Offshore Sand Source Inventory
- ArcIMS in early 2000s
- Upgraded to ArcGIS Server 9 in 2008
- Upgraded to ArcGIS Server 10 in 2013

Reconnaissance Offshore Sand Search Home Page

[Mapping](#)

[Database](#)

[Reports](#)



[Downloads](#)

[Bibliography](#)



Background

- 2014 BOEM cooperative agreement award
 - Populate remaining Atlantic counties
 - Webpage update
 - Add feature datasets
 - Provided for two years of hosting
- ROSS/OSSI renamed ROSSI
 - Regional Offshore Sand Source Inventory



Technology Stack

- Oracle relational database management system
- ESRI ArcSDE for managing geospatial data
- ESRI ArcGIS Server for serving geospatial data via the web
- Custom map viewer based on ESRI JavaScript API for ArcGIS Server





Advantages

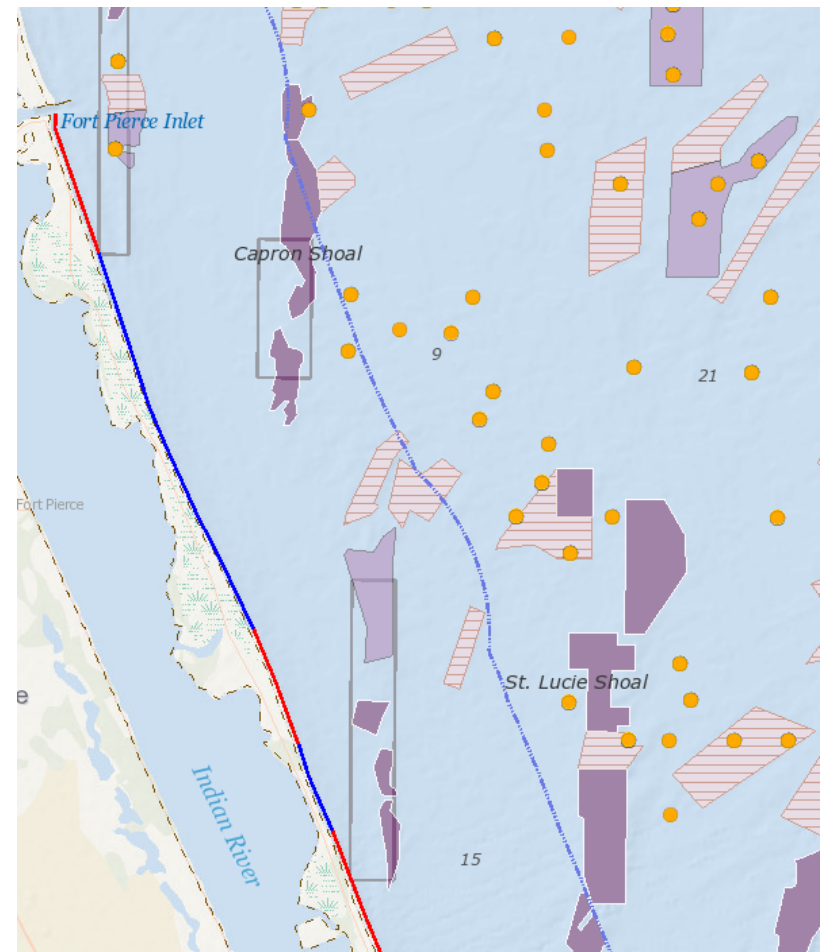
- Single master repository of all data, in one uniform, consistent format
- Enforces consistency of data structures across projects, both historic and future
- Publicly accessible via Web browser (rossi.urs-tally.com)





What's in it?

- 300+ Projects
- 5,600+ Cores
- 18,000+ Samples
- 500+ Borrow Areas
- 2,600+ Track Lines
- 137,000+ Track Points





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Modernization





History

- Website created in 2001
- No significant updates had been made since
- Webpage and mapping utility outdated
 - Mapping utility extensively customized by AECOM (formerly URS)
 - Based on a sample map viewer written by ESRI, which is no longer supported





Ongoing Tasks

- Population of Gulf and Panhandle counties
- Link Directly to JCPs
- Project File Delivery System
 - Direct Data Upload Interface
 - FDEP gINT® correspondence (export) format no longer supported by Bentley
 - Create program to directly upload gINT® data using the FDEP library file





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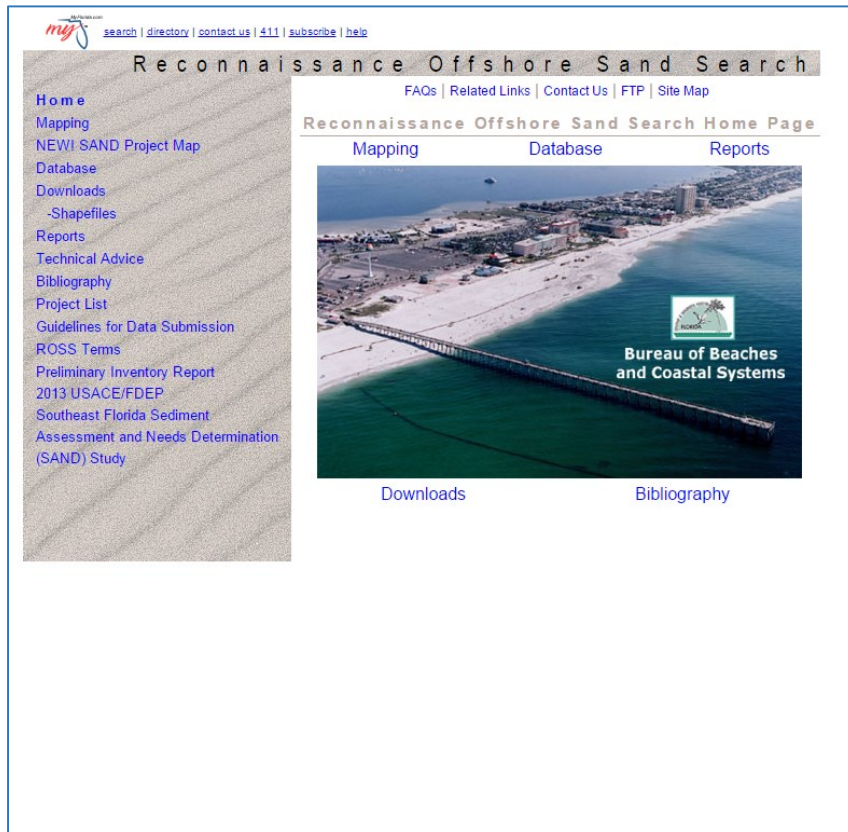
Before and After



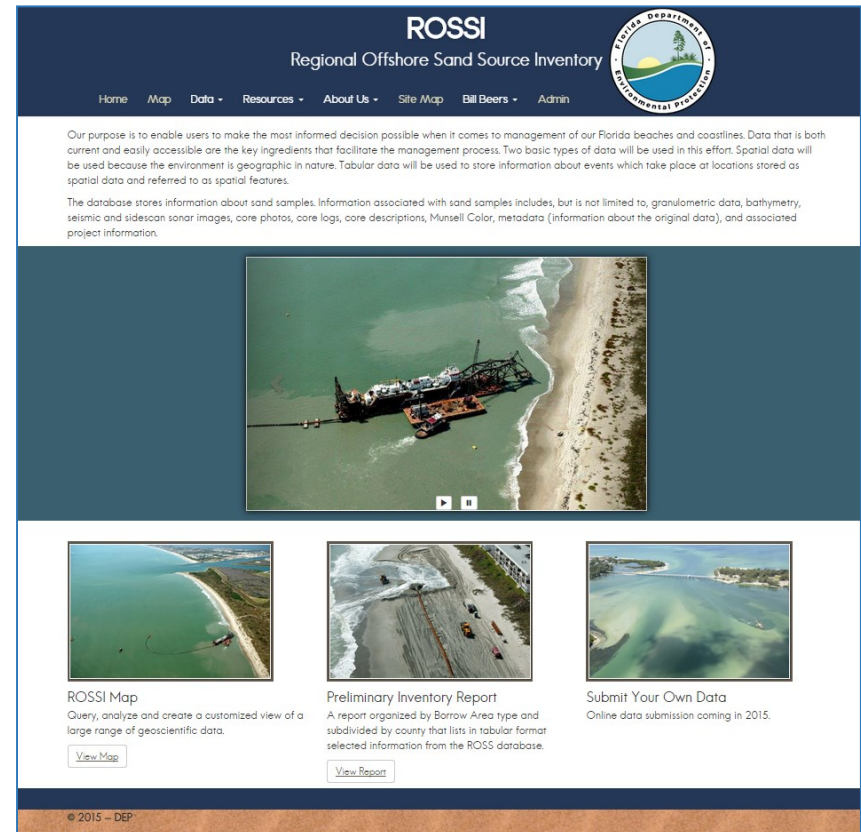


Website

- ROSS/OSSI (2001)



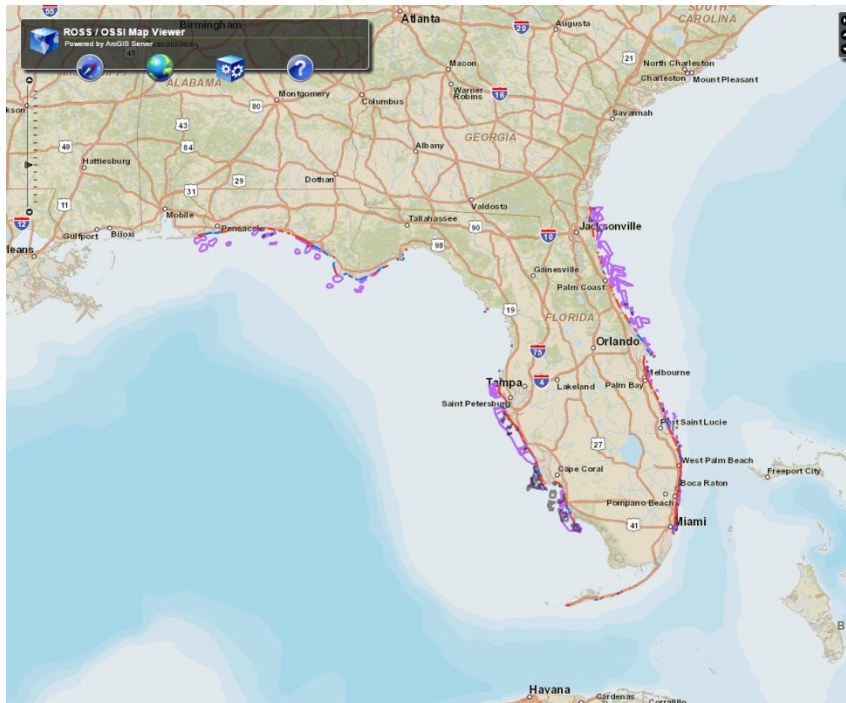
- ROSSI (2015)



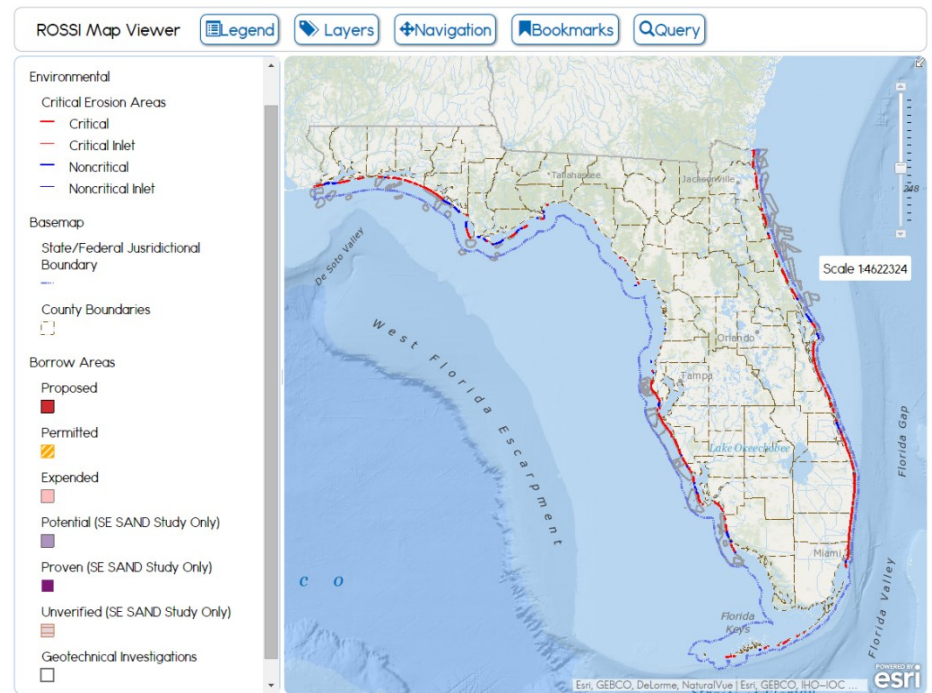


Map

- ROSS/OSSI (2001)



- ROSSI (2015)



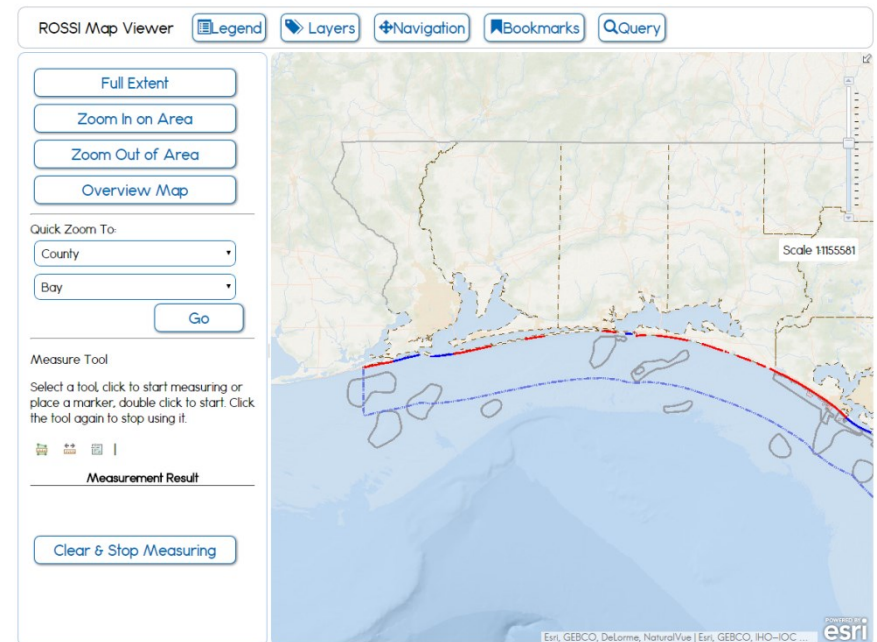


Navigation

- ROSS/OSSI (2001)



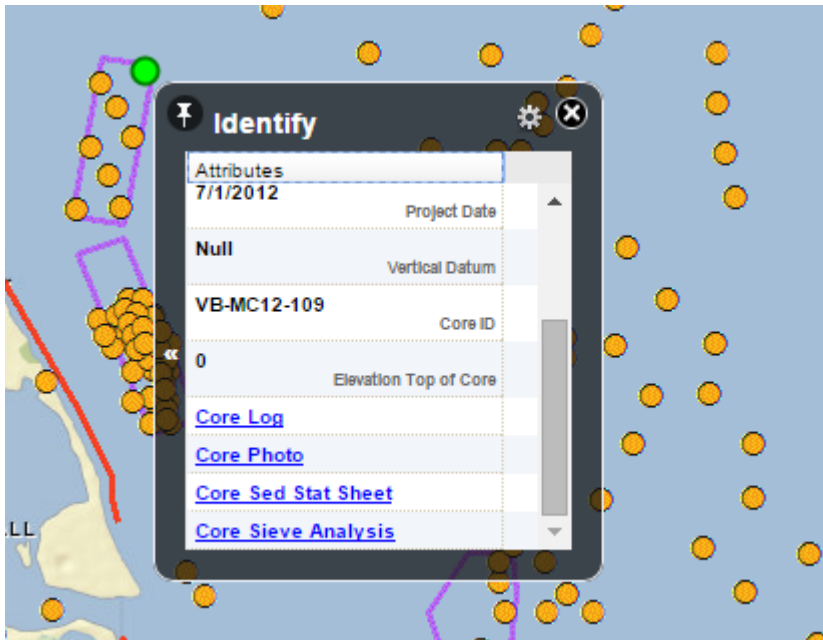
- ROSSI (2015)



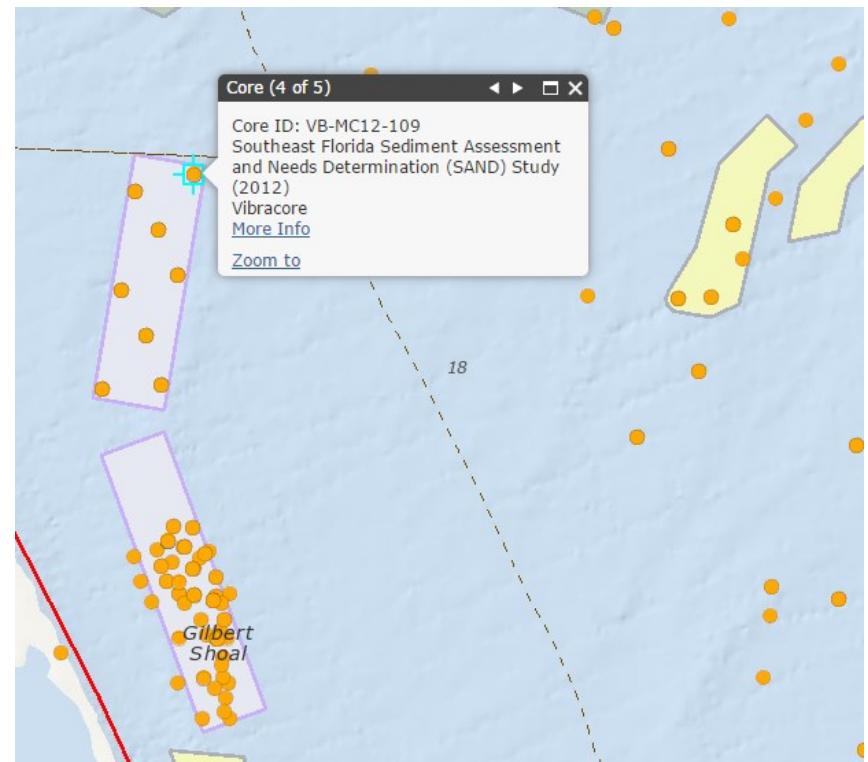


Results

- ROSS/OSSI (2001)



- ROSSI (2015)





Results

Core VB-MC12-109

Project Southeast Florida Sediment Assessment and Needs Determination (SAND) Study (2012)

Driller
Collection Method Vibracore

Collection Date

Top Elevation 0.00

Length

Diameter

Penetration Depth

Recovered Length

Direction

Over

Dept

Grou

Perc

Start

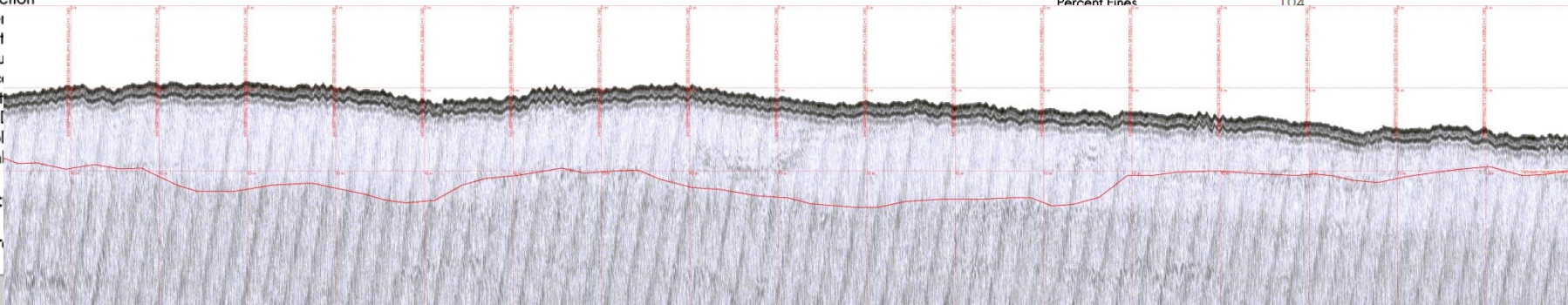
End

Geol

Num

Doc

Con



Sample VB-MC12-41 #1

Project Southeast Florida SAND Study
Sample Date 4/6/2012
Munsell (Dry) N 5/0
Munsell (Wet) N 3/0
Munsell (Washed) N 6/0
Analysis Date 8/17/2012
Top Of Sample Interval 2.80
Bottom Of Sample Interval 3.00
Original Mean 1.78
Original Median 1.97
Original Median Standard Deviation 1.00
Original Skewness -1.55
Original Kurtosis 6.47
Percent Fines 10.4

Boring Designation VB-MC12-109			
DRILLING LOG		INSTALLATION Jacksonville District	
DIVISION South Atlantic		SHEET 1 OF 2 SHEETS	
1. PROJECT Southeast Florida SAND Study		2. SIZE AND TYPE OF BIT See Remarks	
St. Lucie, Martin and Palm Beach Counties		3. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL	
2. BORING DESIGNATION VB-MC12-109		State Plane, FLE (U.S. FL) NAD83 NAVD88	
LOCATION COORDINATES X = 531,588 Y = 1,064,250		11. MANUFACTURER'S DESIGNATION OF DRILL ICE Model 2 Hydraulic Vibracore	
3. DRILLING AGENCY Corps of Engineers - CESAJ		CONTRACTOR FILE NO.	
4. NAME OF DRILLER Joe Feith		12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD)	
5. DIRECTION OF BORING DES. FROM VERTICAL BEARING		13. TOTAL NUMBER CORE BOXES 1	
6. THICKNESS OF OVERBURDEN N/A		14. ELEVATION GROUND WATER	
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING STARTED COMPLETED	
8. TOTAL DEPTH OF BORING 19.5 FL		16. ELEVATION TOP OF BORING -48.3 FL	
		17. TOTAL RECOVERY FOR BORING 87 %	
		18. SIGNATURE AND TITLE OF INSPECTOR J. Ousley, Geologist	
ELEV.	DEPTH	CLASSIFICATION OF MATERIALS	REMARKS

Grain Size Breakdown-Krumbein Phi (φ) Scale

-4.25 φ	0.00
-4 φ	0.00
-3.5 φ	0.00
-3 φ	0.00
-2.5 φ	0.44
-2.25 φ	0.30
-2 φ	0.15
-1.5 φ	0.41
-1 φ	0.92
-0.5 φ	1.90
0 φ	2.12
0.5 φ	3.35
1 φ	5.74
1.5 φ	10.41
2 φ	25.62
2.5 φ	27.38
3 φ	16.91



Results

Core VB-MC12-109

ROSSI Map Viewer

Legend

Layers

Navigation

Bookmarks

Query

Sediment Samples

All Sand Samples



Environmental

Critical Erosion Areas

Critical

Critical Inlet

Noncritical

Noncritical Inlet

Basemap

State/Federal Jurisdictional Boundary

County Boundaries

Borrow Areas

Proposed



Permitted



Expended



Potential (SE SAND Study Only)



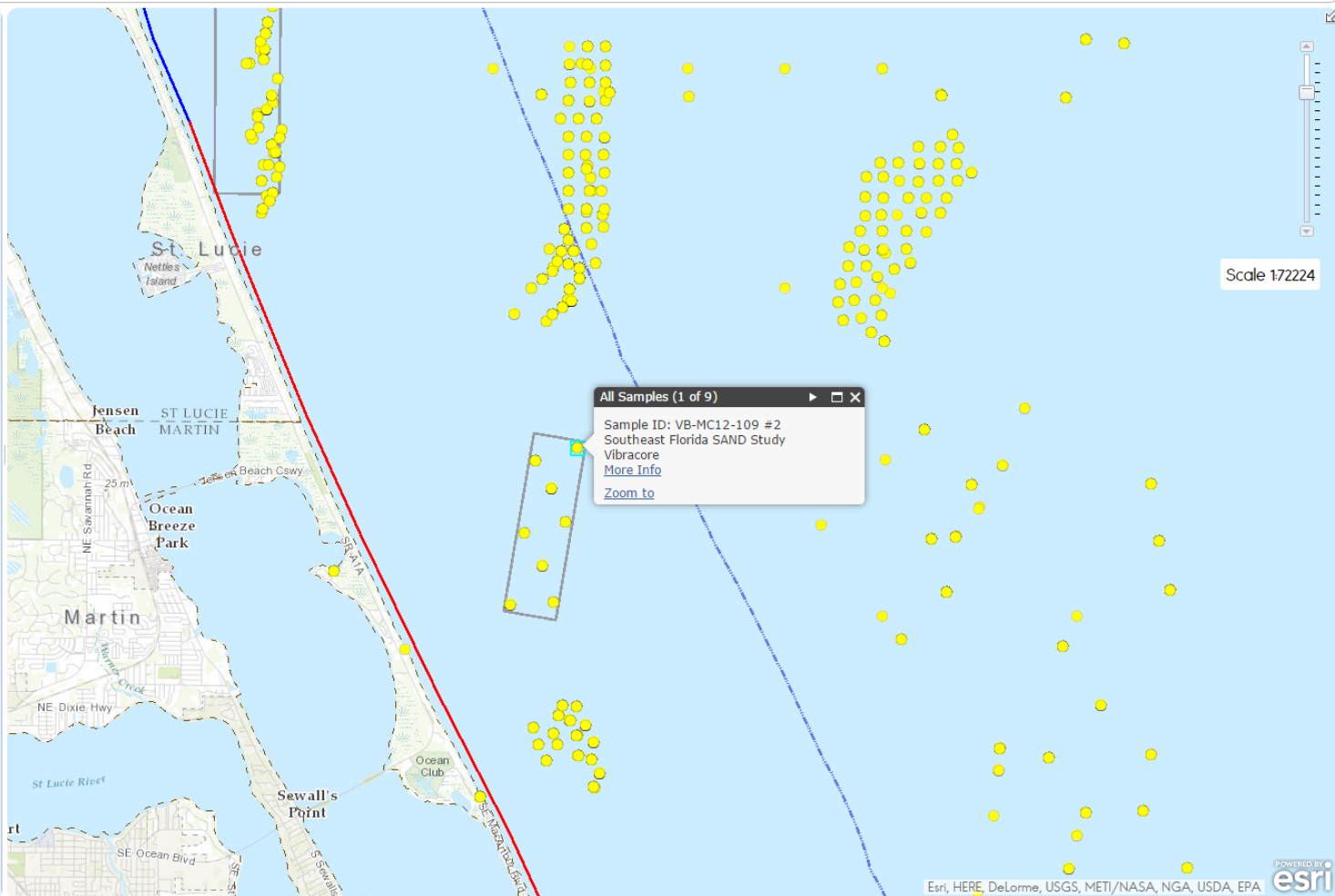
Proven (SE SAND Study Only)



Unverified (SE SAND Study Only)



Geotechnical Investigations



Scale 172224

Esri, HERE, DeLorme, USGS, METI/NASA, NGA, USDA, EPA

POWERED BY
esri



Project File Delivery System

- Previous process for file delivery
 - Application submitted to FDEP
 - EHG retains, reviews, submits to AECOM
 - AECOM reviews
 - Pre-processing
 - FTP to Morrisville
 - Update links on website





Project File Delivery System

- Updated system
 - EHG creates a project when application received
 - Submit files link sent to applicant
 - Includes a tracking system
 - Data providers get a consistent interface for upload
 - Upload to staging area, email received by administrators
 - Status tracker (unverified, rejected by EHG, rejected by AECOM, approved for integration, integration completed without errors)
 - Applicants may login and see status and will receive email notifications



Acknowledgements

- FDEP
- BOEM
- USACE
- FGS
- AECOM (formerly URS)
- Local Sponsors
- Local Governments
- Consulting Firms