



BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT



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U.S. Dept. of the Interior, Bureau of Ocean Energy Management (DOI BOEM)

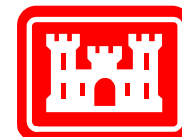
WEDA Eastern Chapter Annual Meeting | Industry/Corps Hopper Dredge Management Group
12 October 2017 | Providence, Rhode Island



ASTER

Analyzing Sea Turtle Entrainment Risk

A Decision Support Tool Developed in Partnership with Stakeholders



PURPOSE

Develop a geographically and temporally based decision support tool for BOEM's use to:

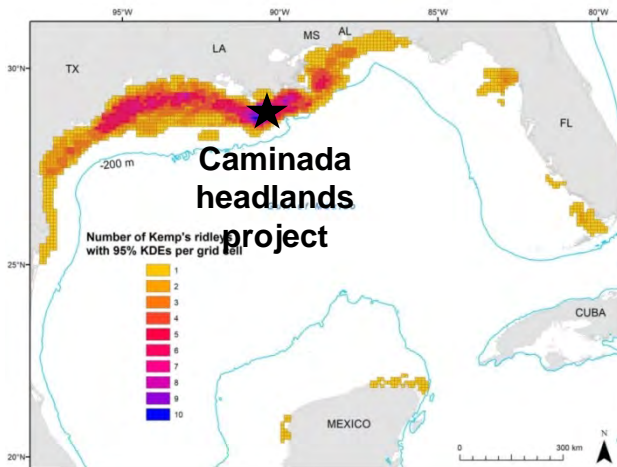
- Support risk based planning
- Standardized and consistent across a regional scale to assess project-specific dredging entrainment risk within a common framework



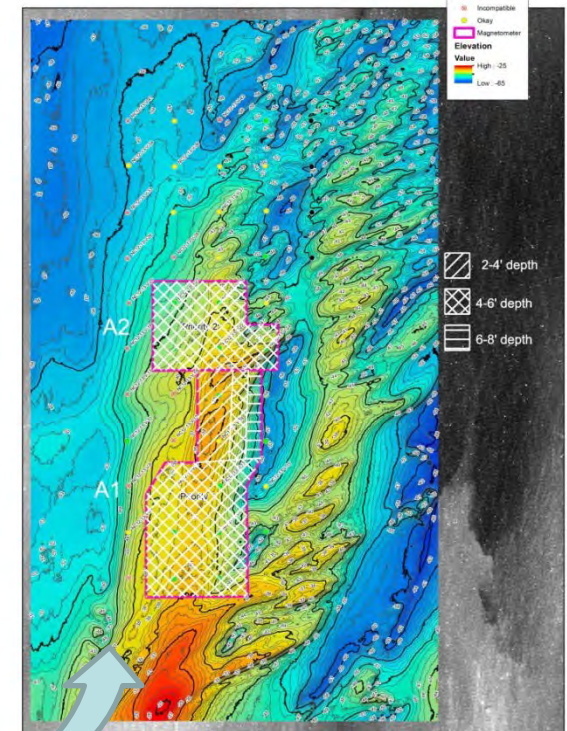
OBJECTIVES

Identify risk factors and authoritative data sources for tool development

- Temporal and spatial relationship of sea turtle behavior
- Borrow area design relative to efficacy of existing mitigations



Source: Shaver et. al. 2013



Source: USACE Wilmington District

COLLABORATION

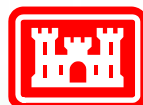
Partnering with Stakeholders

Sea Turtle Decision Support Tool

Bureau of Ocean Energy Management

Technical Expert Meetings

- **Dredging Industry (13 September 2016)**
 - Variables affecting dredging efficiency
- **Sea Turtle Scientists (12 October 2016)**
 - Variables affecting sea turtle distribution/behavior
- **Summary**
 - 21 variables with accessible data
 - Suite of mitigation options





ASTER DEMO

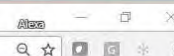
Analyzing Sea Turtle Entrainment Risk

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Analyzing Sea Turtle Ent... SeaTurtleDST-Wireframe...

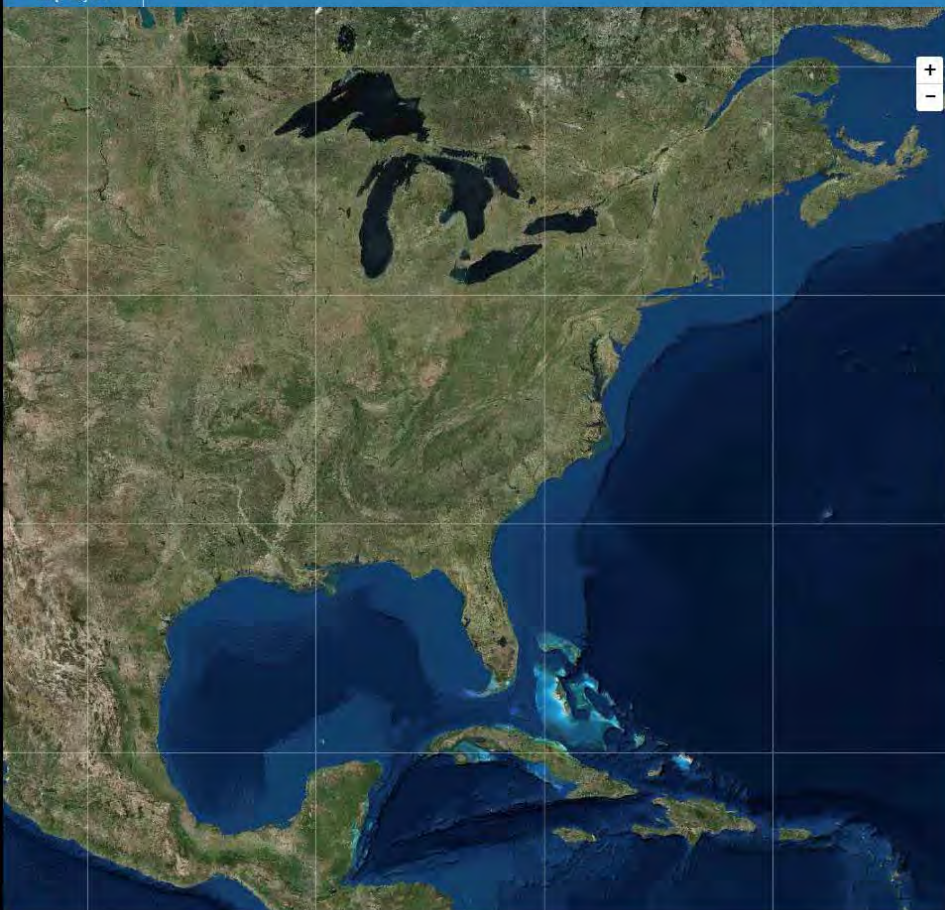
34.200.19.196/demo/#/intro



Analyzing Sea Turtle Entrainment Risk

New Report

Map Layers



Analyzing Sea Turtle Entrainment Risk

The Analyzing Sea Turtle Entrainment Risk Decision Support Tool integrates multiple data sources within a simple and standardized user interface to support risk based planning decisions. ASTER enables users to qualitatively analyze project specific sea turtle entrainment risk associated with Trailing Suction Hopper Dredges.

How to get started

- Pan and Zoom to your area of interest using the interactive map on the left side of the screen.
- Use the Map Layers button at the top left of the map window to interact with available data layers.
- Once the area of interest is defined, create a new analysis by clicking the button below.
- After creating a new analysis the user will be guided through a 4 step process to "ANALYZE" relevant data, "DEFINE" absolute risk thresholds, "MITIGATE" risk, and generate a final "REPORT."

The results of the analysis will be available for export as both a PDF and related data.

Links

[Analyzing Sea Turtle Entrainment Story Map](#)
[MarineCadastr.gov](#)
[Marine Minerals Information System](#)



New Report

Generate a new report

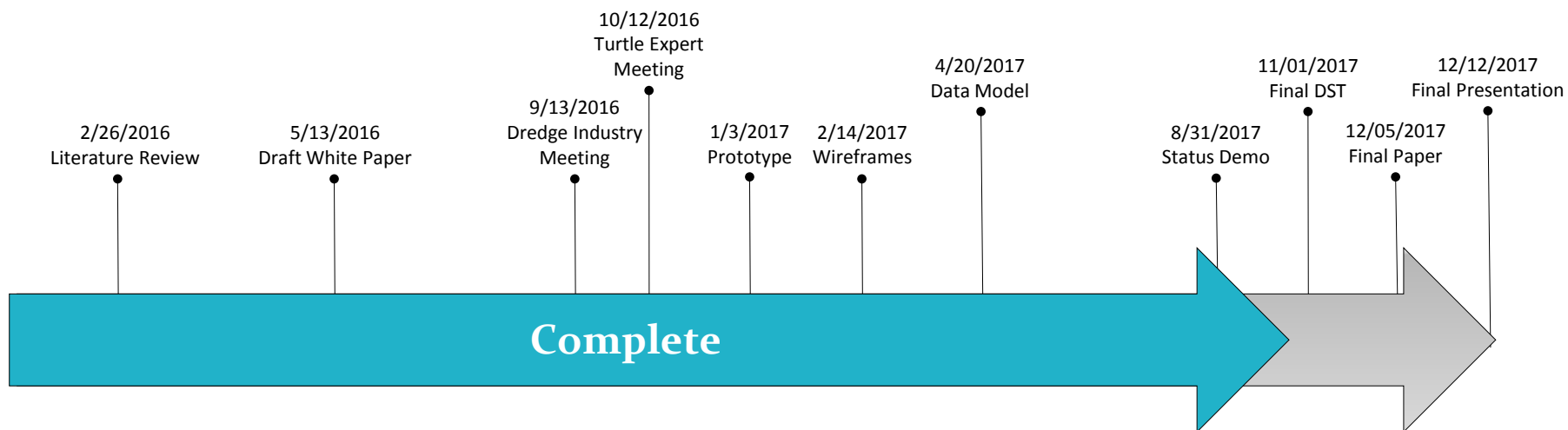


ASTER TIMELINE

Analyzing Sea Turtle Entrainment Risk

Sea Turtle Decision Support Tool

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ASTER TAKE AWAY

Analyzing Sea Turtle Entrainment Risk

Sea Turtle Decision Support Tool

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- Support tool NOT a decision tool
- Simple and standardized user interface and work flow
- User defined process
- Transparent, repeatable, and defensible
- Proactive regional and/or project specific planning
- Automated Summary output reports
- Infrastructure supports a “learning” environment
- Ex: Dare County, NC
 - 73 sea turtles relocated (61 loggerheads, 10 leatherbacks, 2 Kemps)
 - Seasonal/migratory trends
 - May 22nd -July16th – 65 turtles relocated (18-24°C)
 - October 6th – 2 turtles relocated (22°C - Fall migration?)
 - 2 lethal loggerhead takes to date and > 3MCY
 - Tagging animals to better understand behavior



Photo: Coastwise Consulting, Inc.



ASTER QUESTIONS?

Analyzing Sea Turtle Entrainment Risk

Sea Turtle Decision Support Tool

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"Using available science, data, and dredging operational knowledge to inform decisions"

*See "Story Map" for More Information: <http://arcg.is/298s5BO>

