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

BOEM
Bureau of Ocean Energy Management

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

ASTER

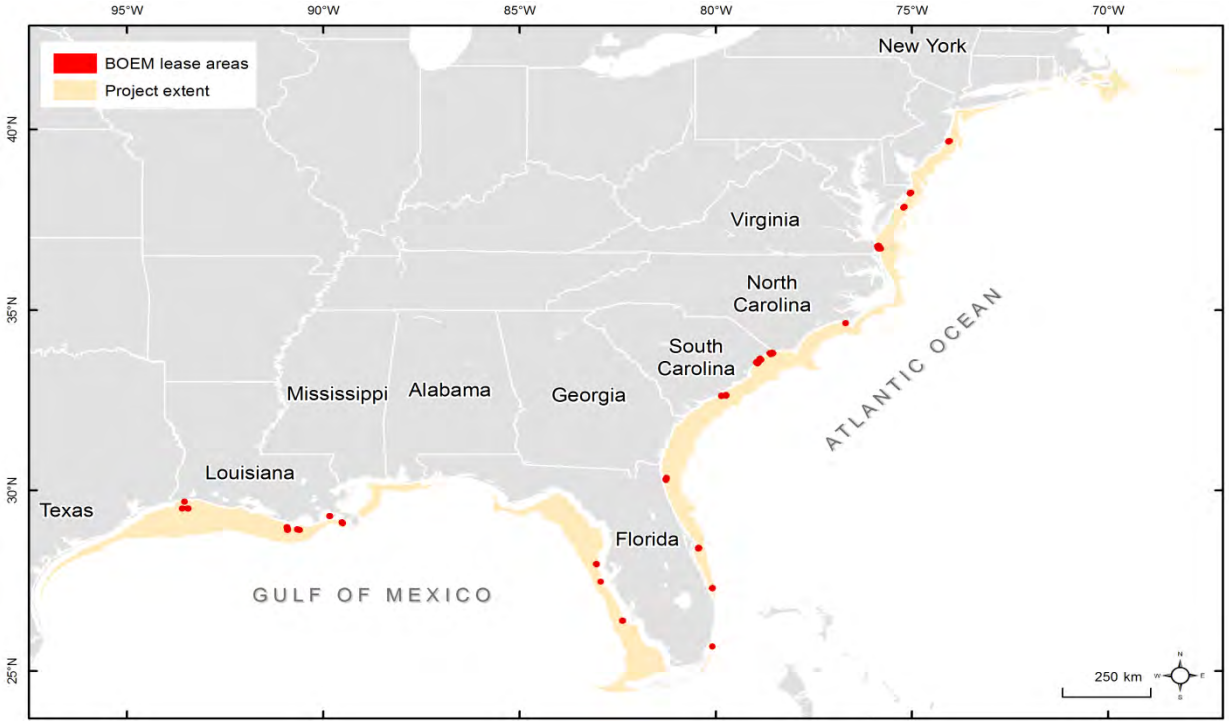
Analyzing Sea Turtle Entrainment Risk

A Decision Support Tool Developed in Partnership with Stakeholders

PURPOSE

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

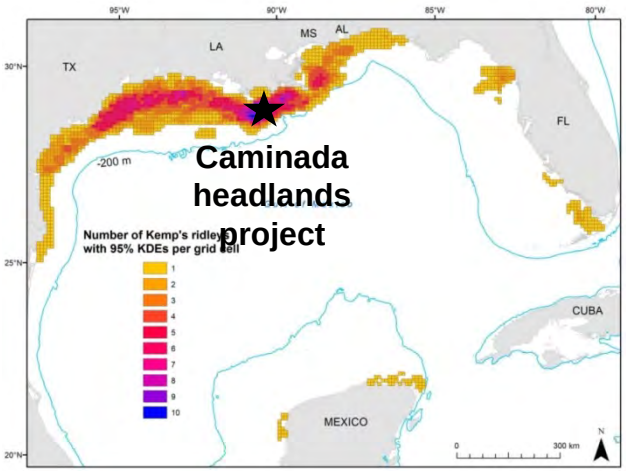
- Support risk based planning
- Standardized and consistent across a regional scale to assess project-specific dredging entrainment risk within a common framework



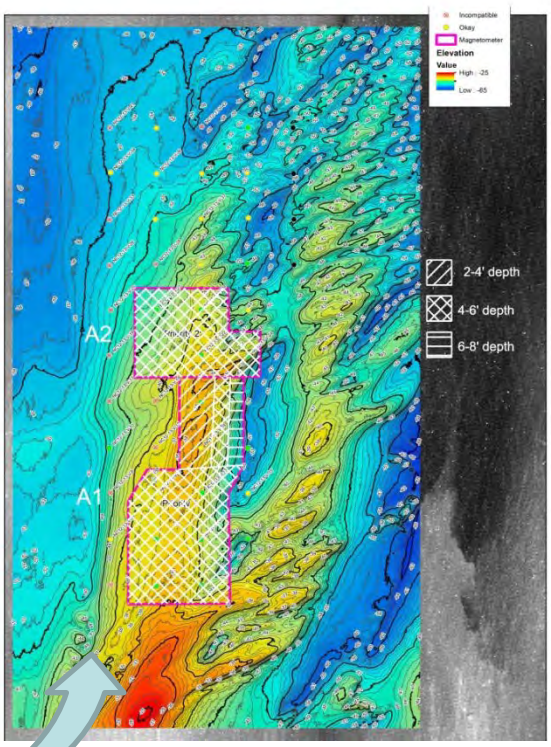
OBJECTIVES

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

Technical Expert Meetings

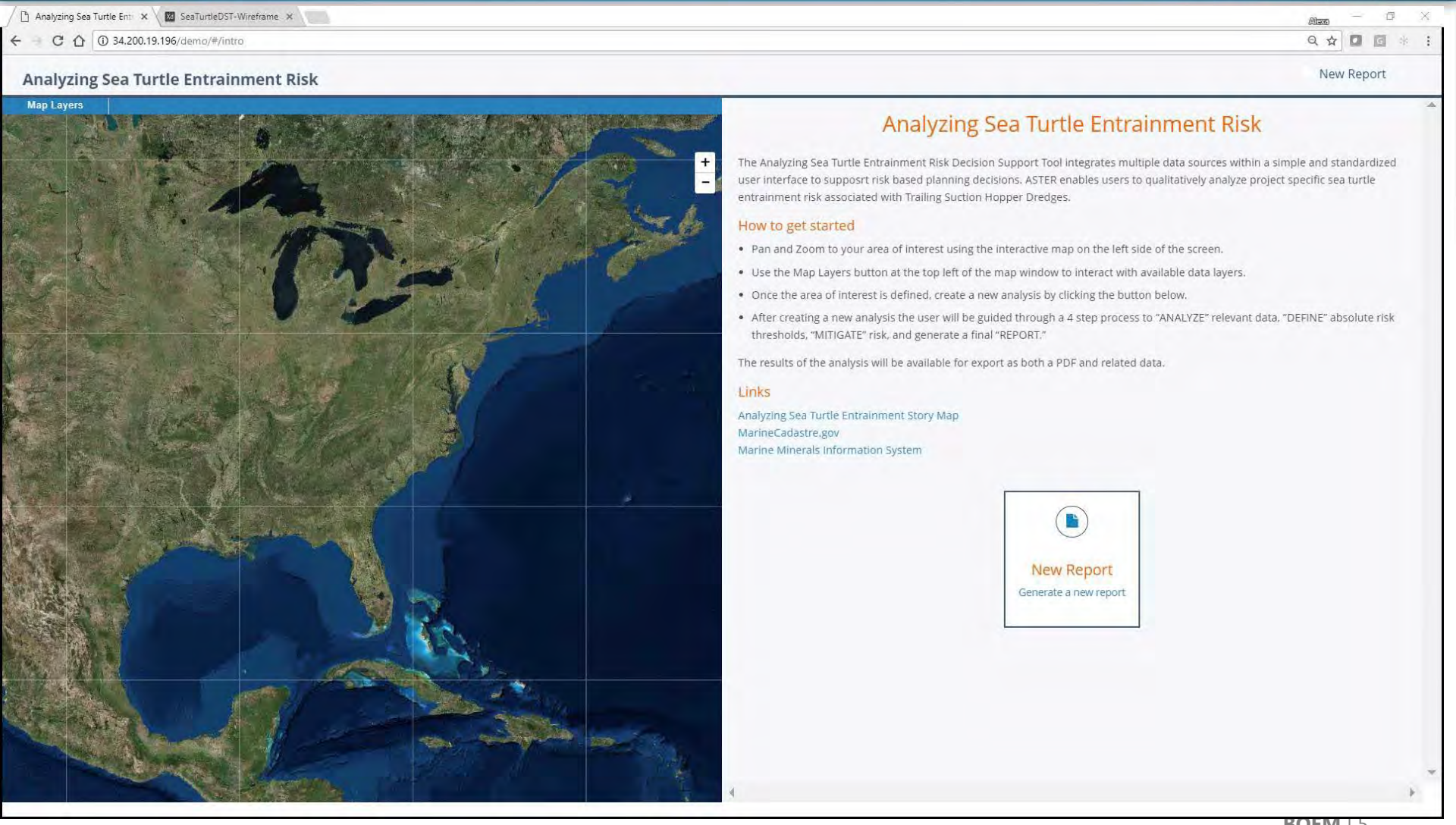
- **Dredging Industry (13 September 2016)**
  - Variables affecting dredging efficiency
- **Sea Turtle Scientists (12 October 2016)**
  - Variables affecting sea turtle distribution/behavior
- **Summary**
  - 21 variables with accessible data
  - Suite of mitigation options

ASTER DEMO

Analyzing Sea Turtle Entrainment Risk

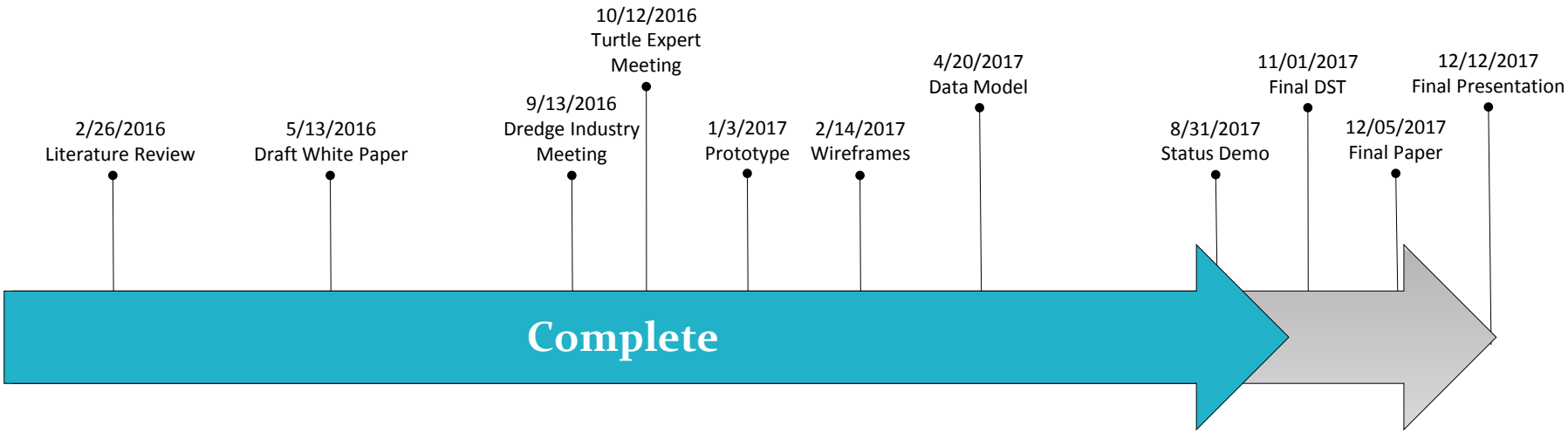
Sea Turtle Decision Support Tool

Bureau of Ocean Energy Management



ASTER TIMELINE

Analyzing Sea Turtle Entrainment Risk



ASTER TAKE AWAY

Analyzing Sea Turtle Entrainment Risk

- 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 | Bureau of Ocean Energy Management

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

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