

WOOLPERT
Greg "RUDI" Rudolph

Bogue Inlet
(Nov 2024)



NV5

THE 2005 BOGUE INLET RELOCATION PROJECT - A 20-YEAR RETROSPECTIVE



N.C. Fun Facts

~320 Miles Oceanfront

~50/50
Developed/Undeveloped

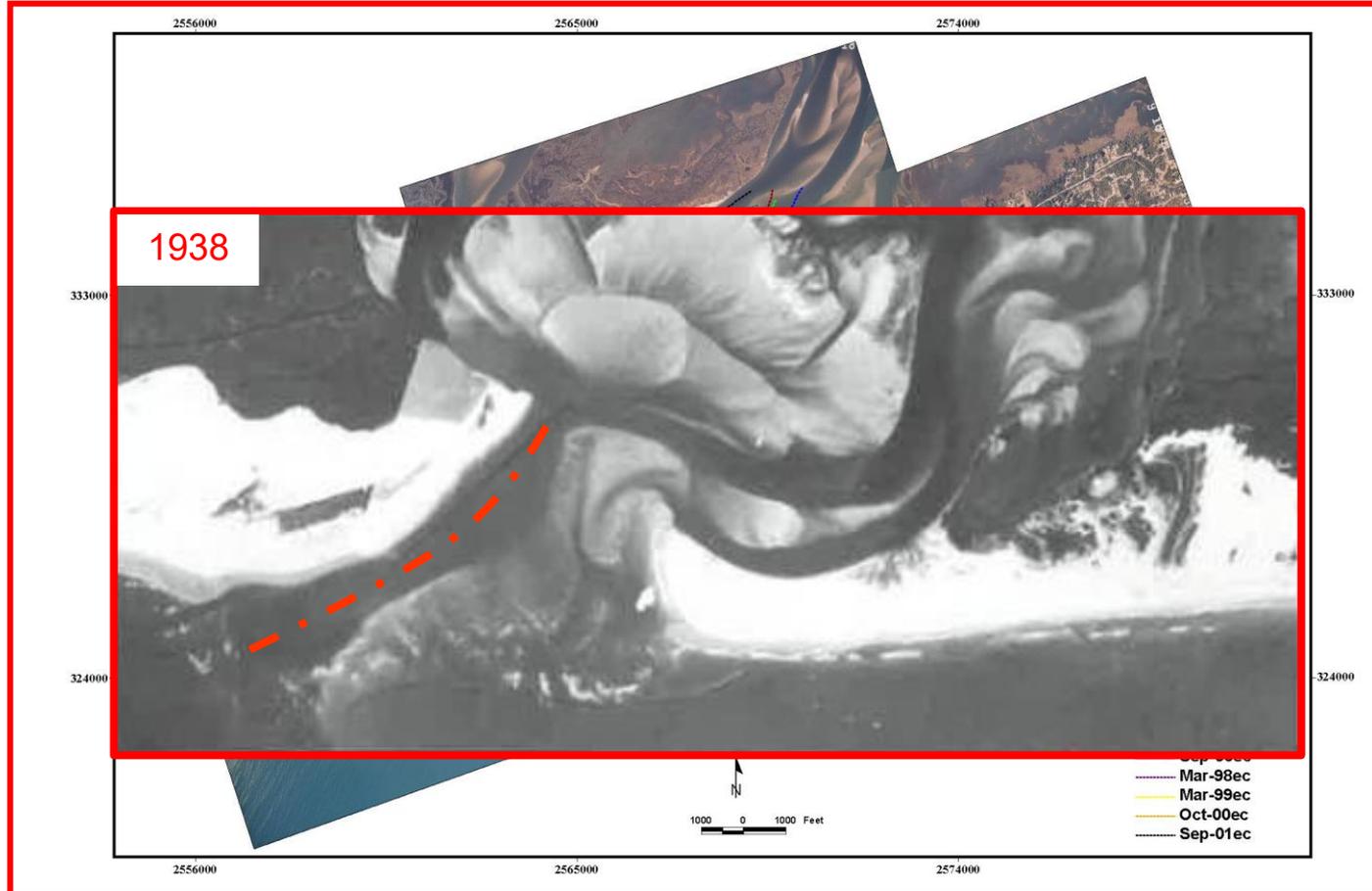
3 Capes

19 Inlets
(on a good day)

Only 3 Inlets have
appeared on every map
since the 1500s



BOGUE INLET



“The Point”



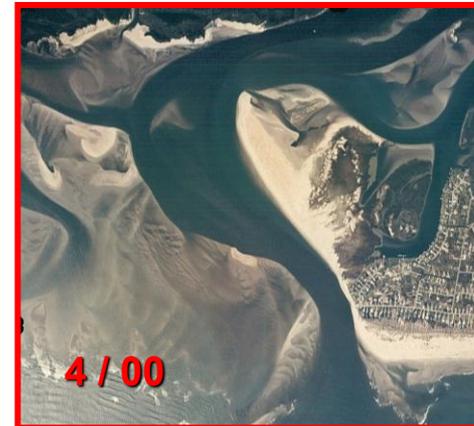
SANDBAGS - 2005

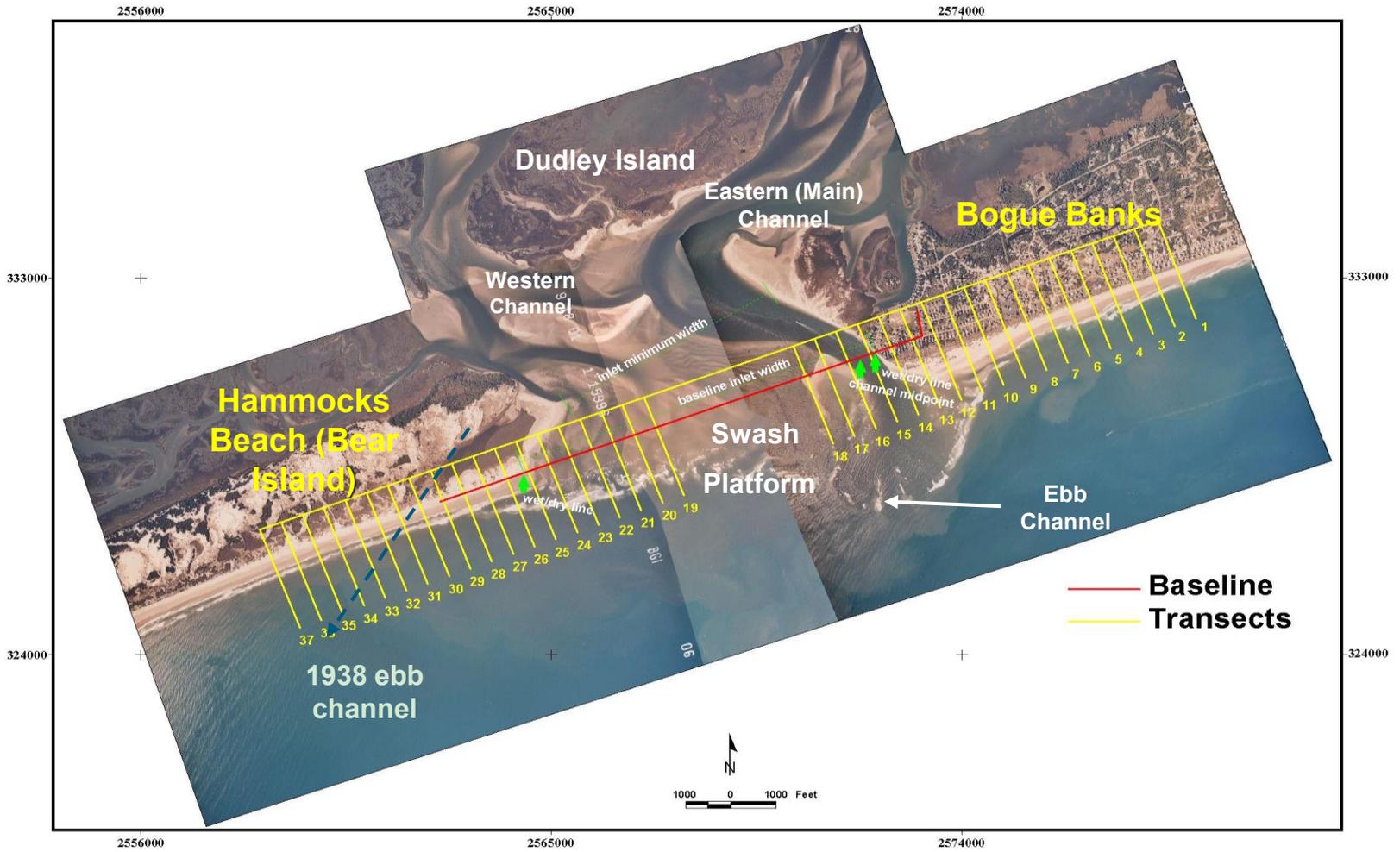
(750+ since the late 1990s, \$250/bag – 2005 = 1,000 @ \$300/bag)

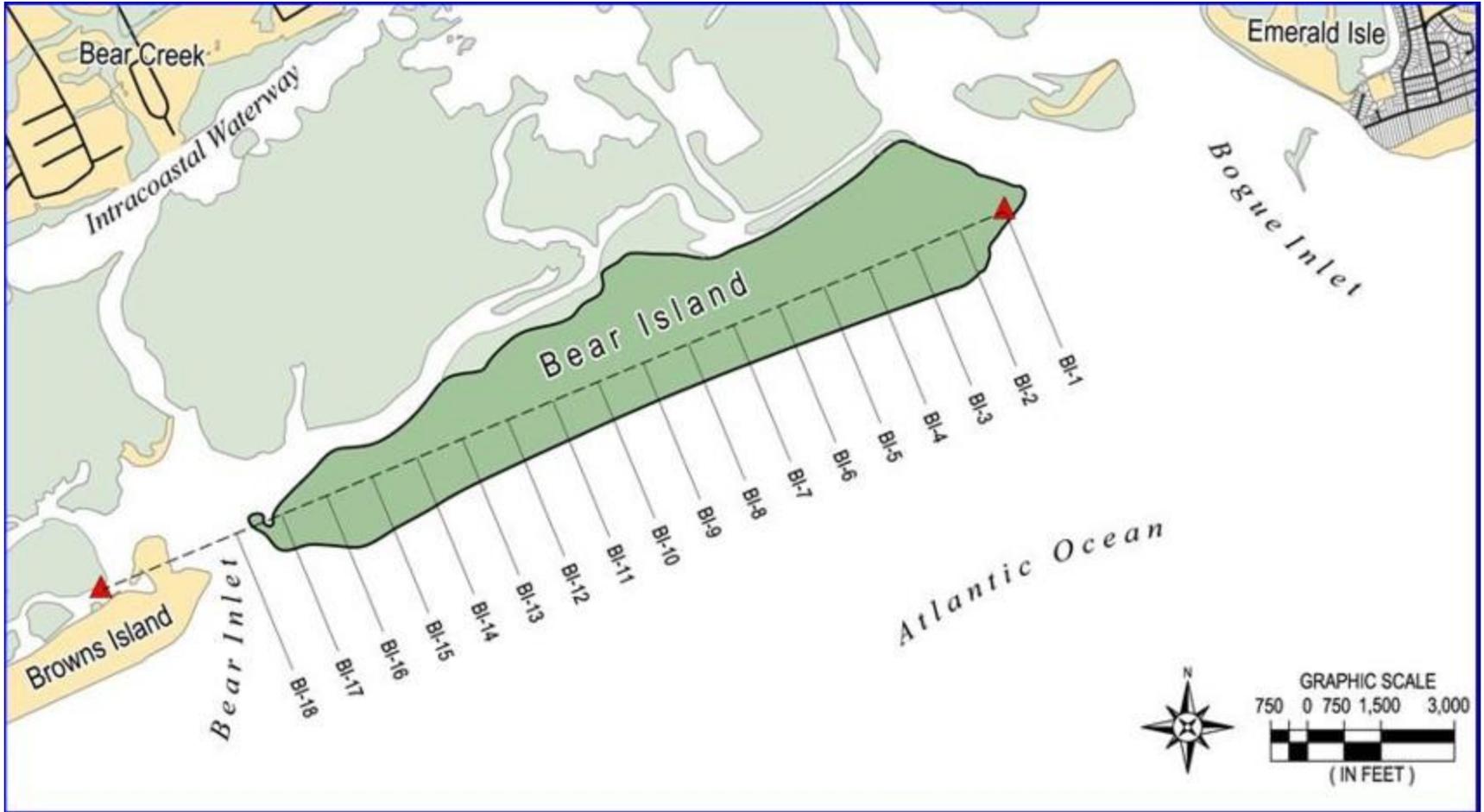


HOW - DESIGN

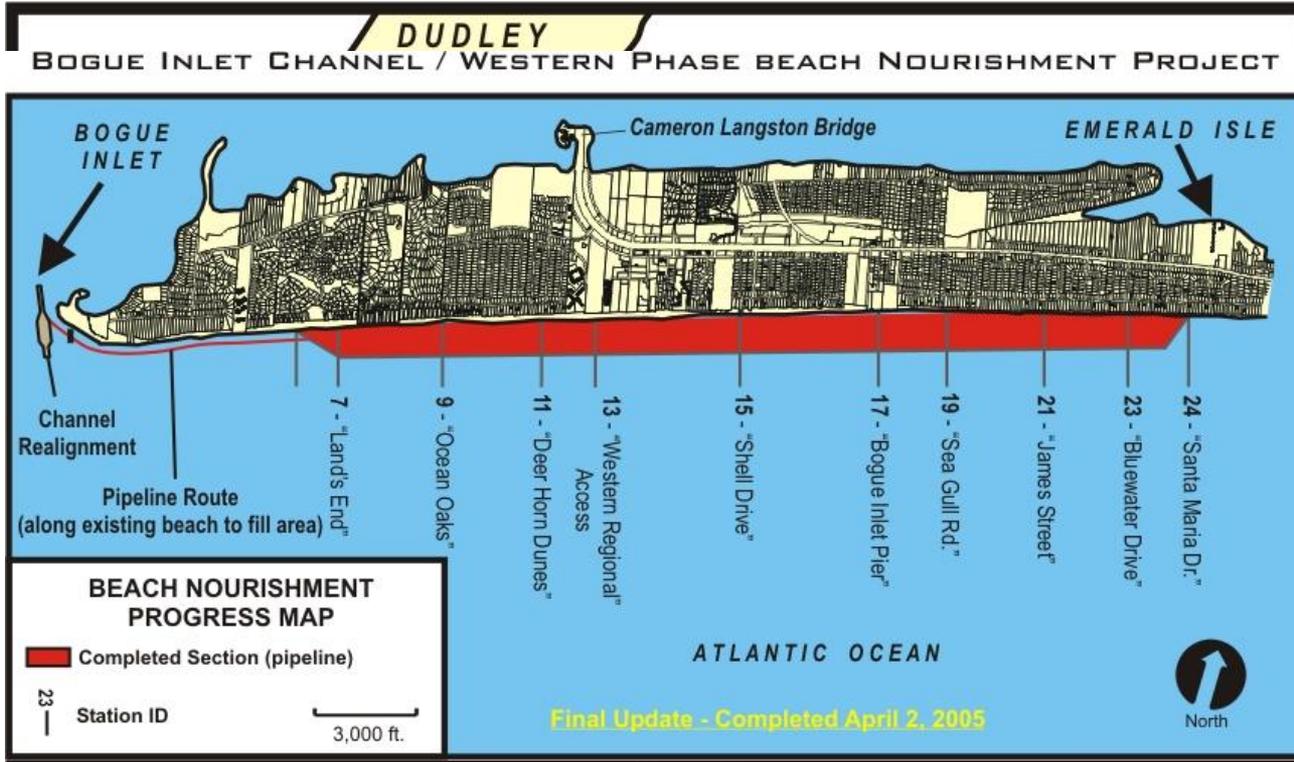
- 1 **Geomorphic Analysis** ←
- 2 **Geotechnical Investigations**
- 3 **Channel Design**
 - a **Cross-Section**
 - b **Modeling**
 - c **Closure of Existing Channel**
 - d **Shoaling Analysis**
- 4 **Compatibility Analysis**
- 5 **Without Project Alternatives**
- 6 **Environmental Monitoring Plans**
- 7 **Other Concerns**



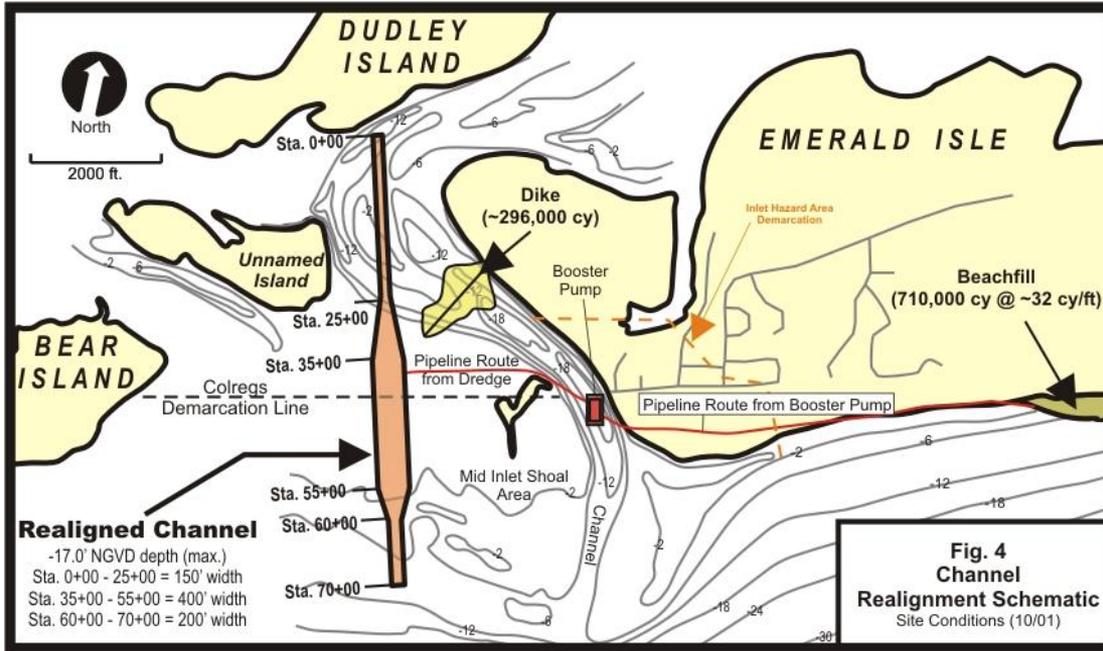




BOGUE INLET



BOGUE INLET





Booster Pump



"Borinquen"
Weeks Marine

ge Point
05

ch Fill

ump

d Pipe

scharge Pipe

rinquen

C
O
N
S
T
R
U
C
T
I
O
N

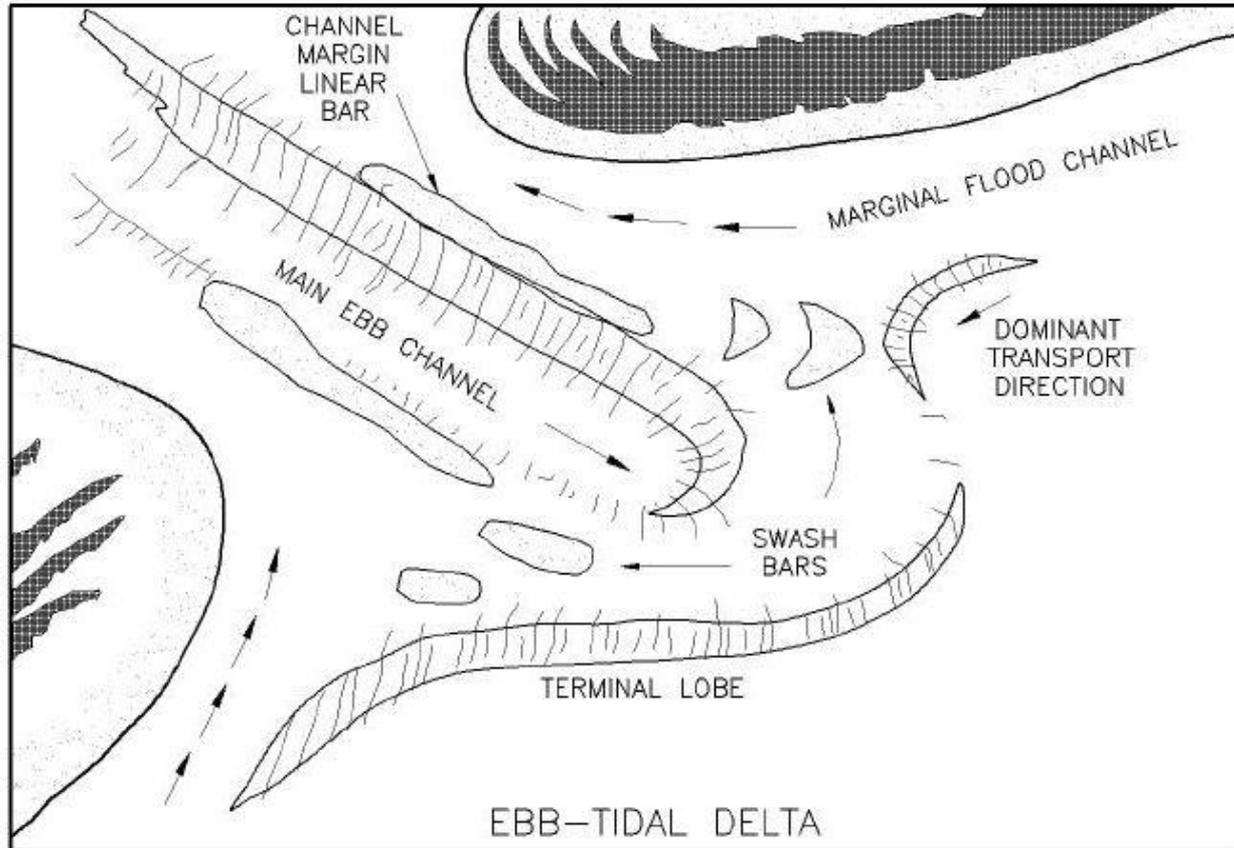


CONSTRUCTION

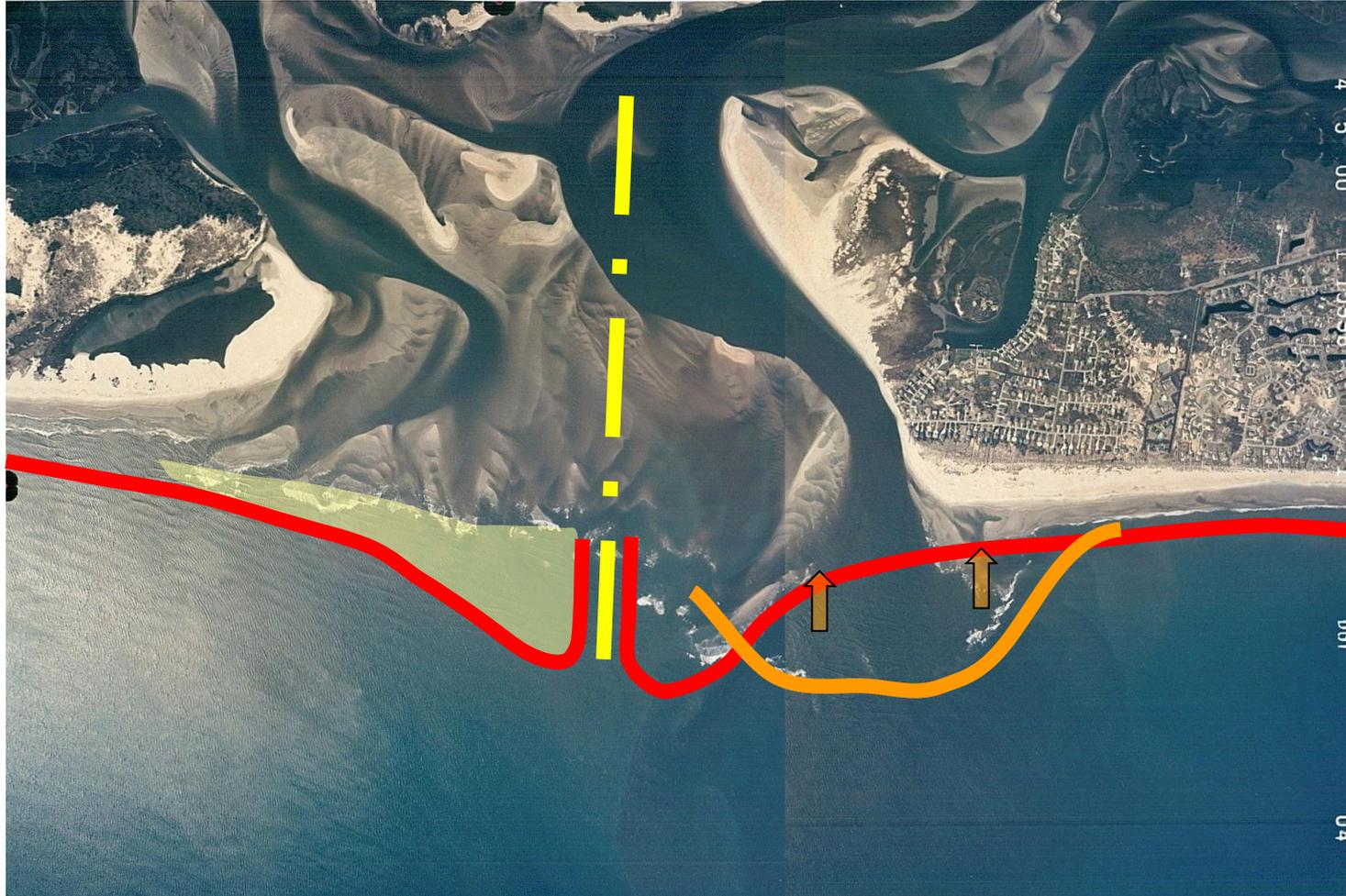


Typical ebb-tidal delta morphology

(Hayes, 1980)

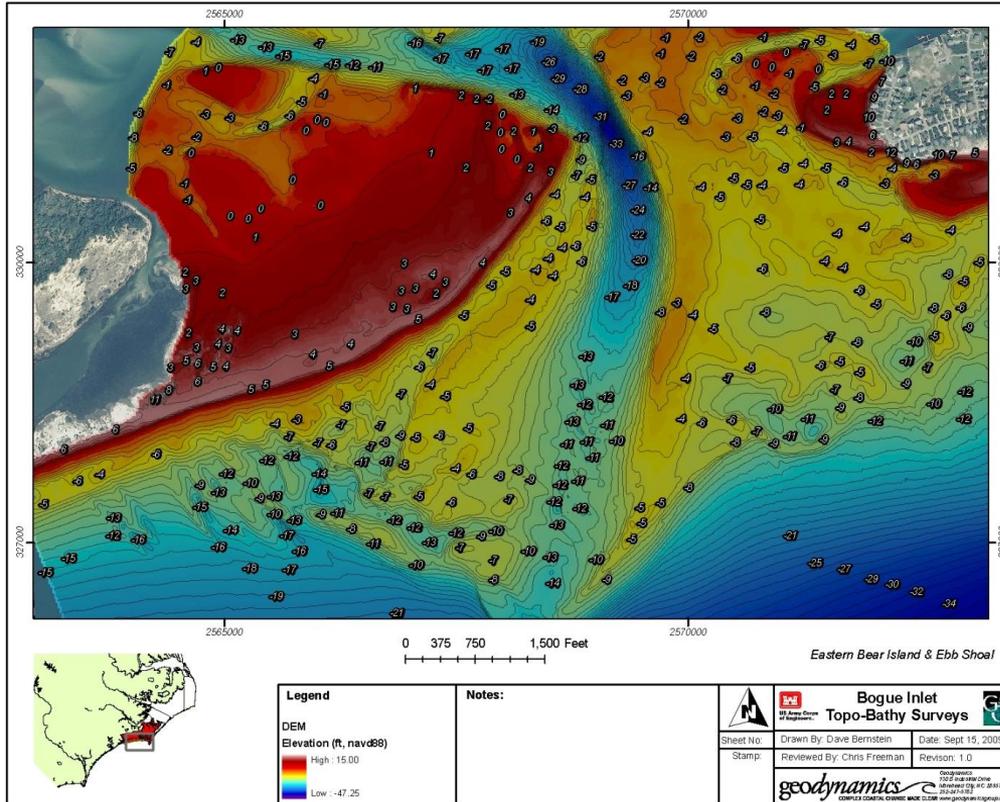


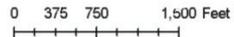
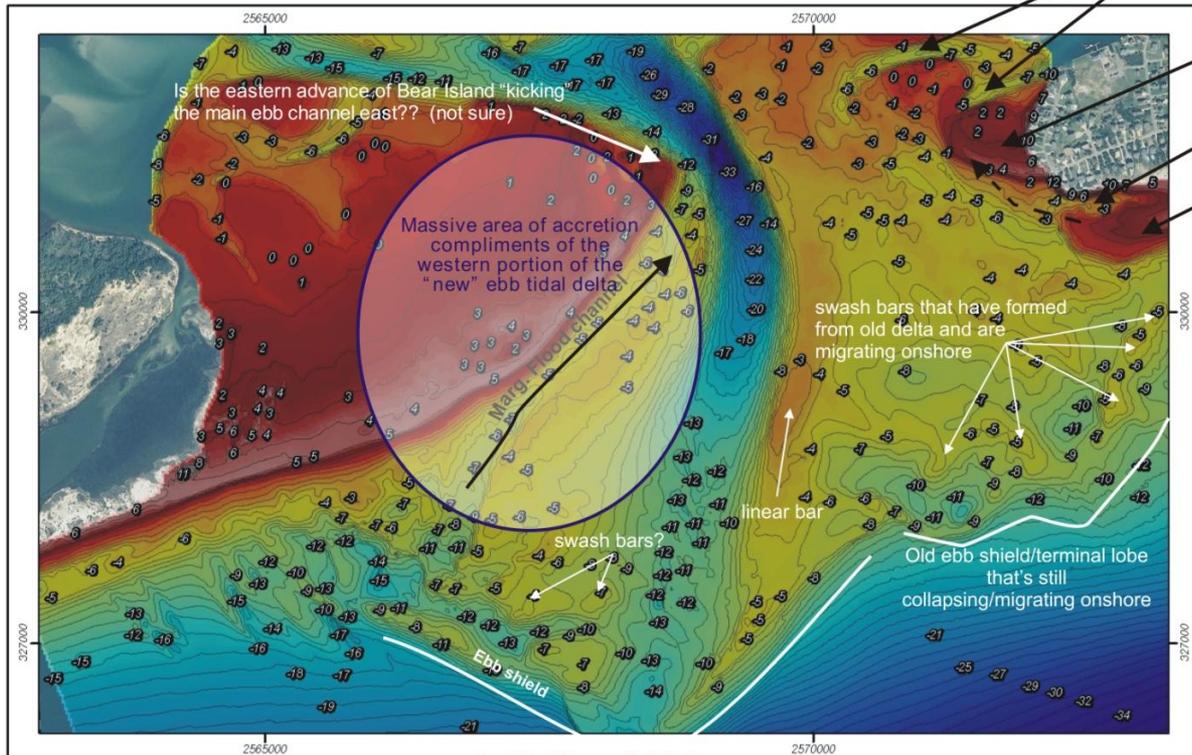
Shoreline & Bar Adjustments



INLET MONITORING

(Bogue Inlet - 2009)





Eastern Bear Island & Ebb Shoal

Legend	Notes:	Bogue Inlet Topo-Bathy Surveys	
DEM Elevation (ft, navd88) High : 15.00 Low : -47.25		Sheet No.:	Drawn By: Dave Bernstein
		Date:	Sept 15, 2009
		Stamp:	Reviewed By: Chris Freeman
		Revision:	1.0
		 <small>132 E. 5th Street Drive Annapolis, MD 21403 410-291-1122 www.geodynamicsgroup.com</small>	



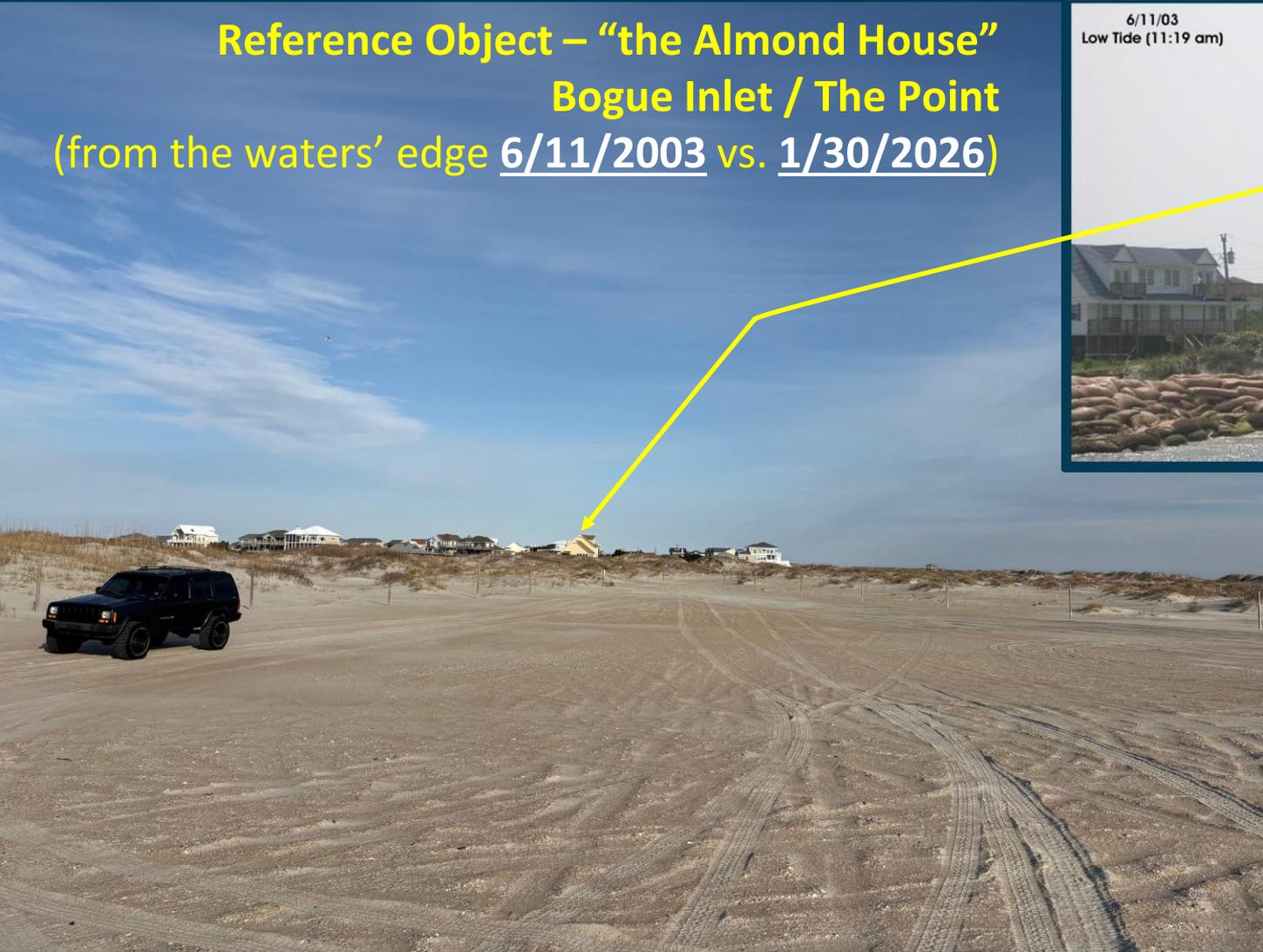
Reference Object – “the round house”
Bogue Inlet / The Point
(from the waters’ edge 6/11/2003 vs. 1/30/2026)



6/11/03
Low Tide (11:19 am)



**Reference Object – “the Almond House”
Bogue Inlet / The Point
(from the waters’ edge 6/11/2003 vs. 1/30/2026)**



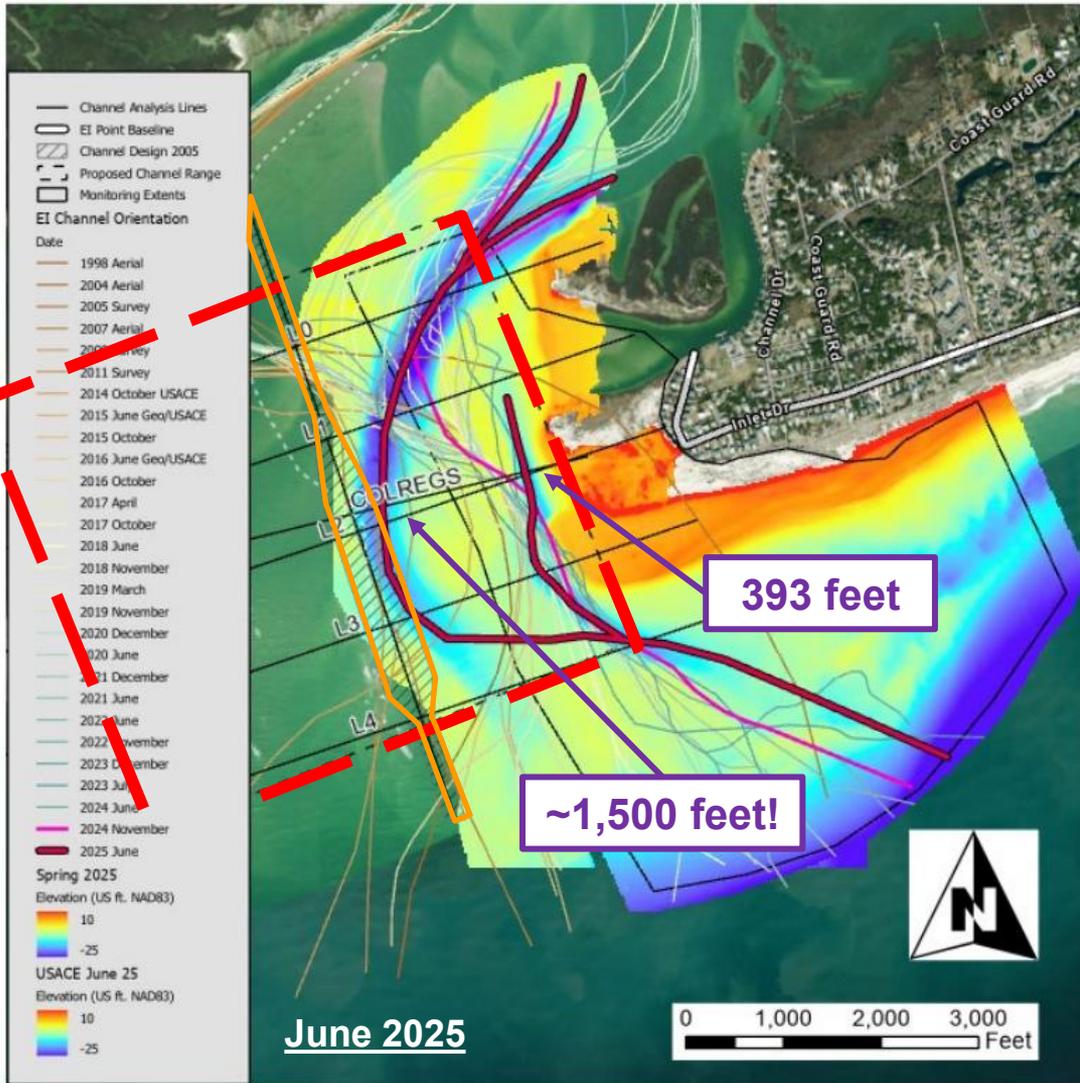
20 YEARS LATER

(Safe Box)

“L2”

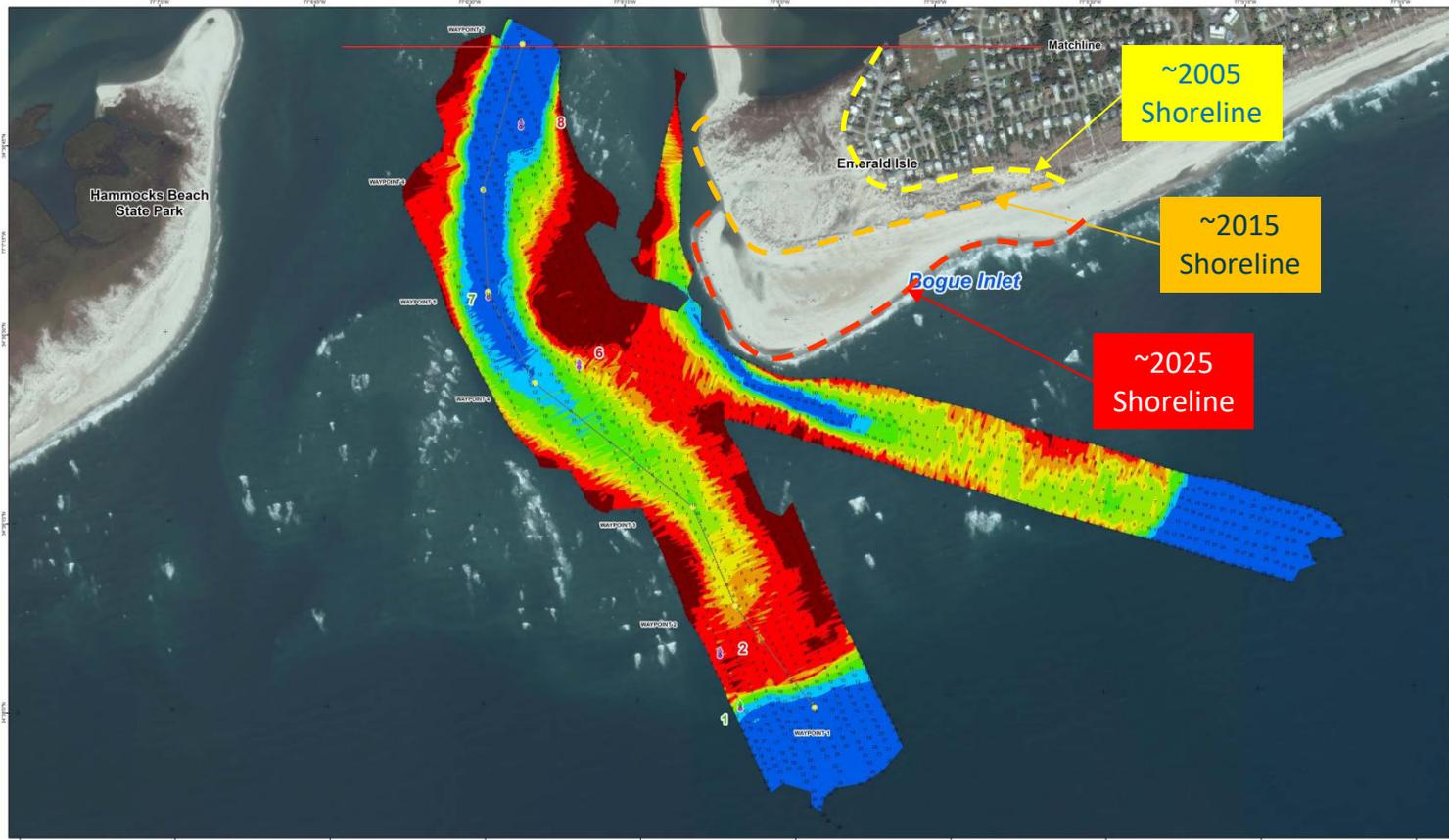
Distance to Safe Box

Decade (most likely more!)

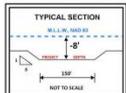


20+ YEARS LATER

(Bogue Inlet Survey)
11/2025, USACE-SAW



HYDROGRAPHIC SURVEY
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WILMINGTON, NORTH CAROLINA
Shallow Draft Inlets
Bogue Inlet



SURVEY INFO
Survey Date: 13 November 2025
Map Date: 14 November 2025
Scale: 1:4,000
Imagery Date: 09 November 2025
© 2025 Maxar Technologies
For the most up to date information please
check our website at: www.usace.army.mil



- LEGEND**
- Aids to Navigation**
 - Can
 - Nan
 - Danger Sign
 - Green Daybeacon
 - Red Daybeacon
 - Green Light Buoy
 - Red Light Buoy
 - Green Light
 - Red Light
 - Waypoint
 - Waypoint Lines
 - Matchline

The information reported on this survey map represents the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time. These conditions are subject to natural changes and no warranty or assurance of accuracy should not rely exclusively on the information presented here. Reporting ID: 25R-2025-002

Date	Project	EDM_X	EDM_Y
2025-11-13	Bogue Inlet - Waypoint 03	037P 6300 W	34P 37380 N
2025-11-13	Bogue Inlet - Waypoint 03	037P 6300 W	34P 38127 N
2025-11-13	Bogue Inlet - Waypoint 03	037P 6330 W	34P 38203 N
2025-11-13	Bogue Inlet - Waypoint 04	037P 6407 W	34P 38422 N
2025-11-13	Bogue Inlet - Waypoint 05	037P 6440 W	34P 38560 N
2025-11-13	Bogue Inlet - Waypoint 06	037P 6450 W	34P 38578 N
2025-11-13	Bogue Inlet - Waypoint 07	037P 6430 W	34P 38527 N

WAYPOINTS



Tom Jarrett

(1942 – 2025)

- 34 years USACE
- Jarrett, J.T., 1976. Tidal prism - inlet area relationships. GITI report no. 3. Coastal Engineering Research Center, US Army Corps of Engineers, Fort Belvoir, VA, USA = ***Rosetta Stone of Inlets***
- 20 years CPE
- Too many awards and committees to list here
- ASBPA - 2019 Morrrough P. O'Brien Award Recipient
- Founding Member of the of the North Carolina Shore and Beach Preservation Association (Now NC Beaches Inlets and Waterways Association - NCBIWA)
- North Carolina Coastal Hazards Science Panel

