



**11th Annual
Coastal Zone Management
Southern and Caribbean
Regional Meeting**

North Carolina Regional Sediment Management



**US Army Corps
of Engineers**
Wilmington District

**Gregory L. Williams, Ph.D., P.E.
Chief, Coastal, Hydrology & Hydraulics Section
Wilmington Regional Engineering Center**

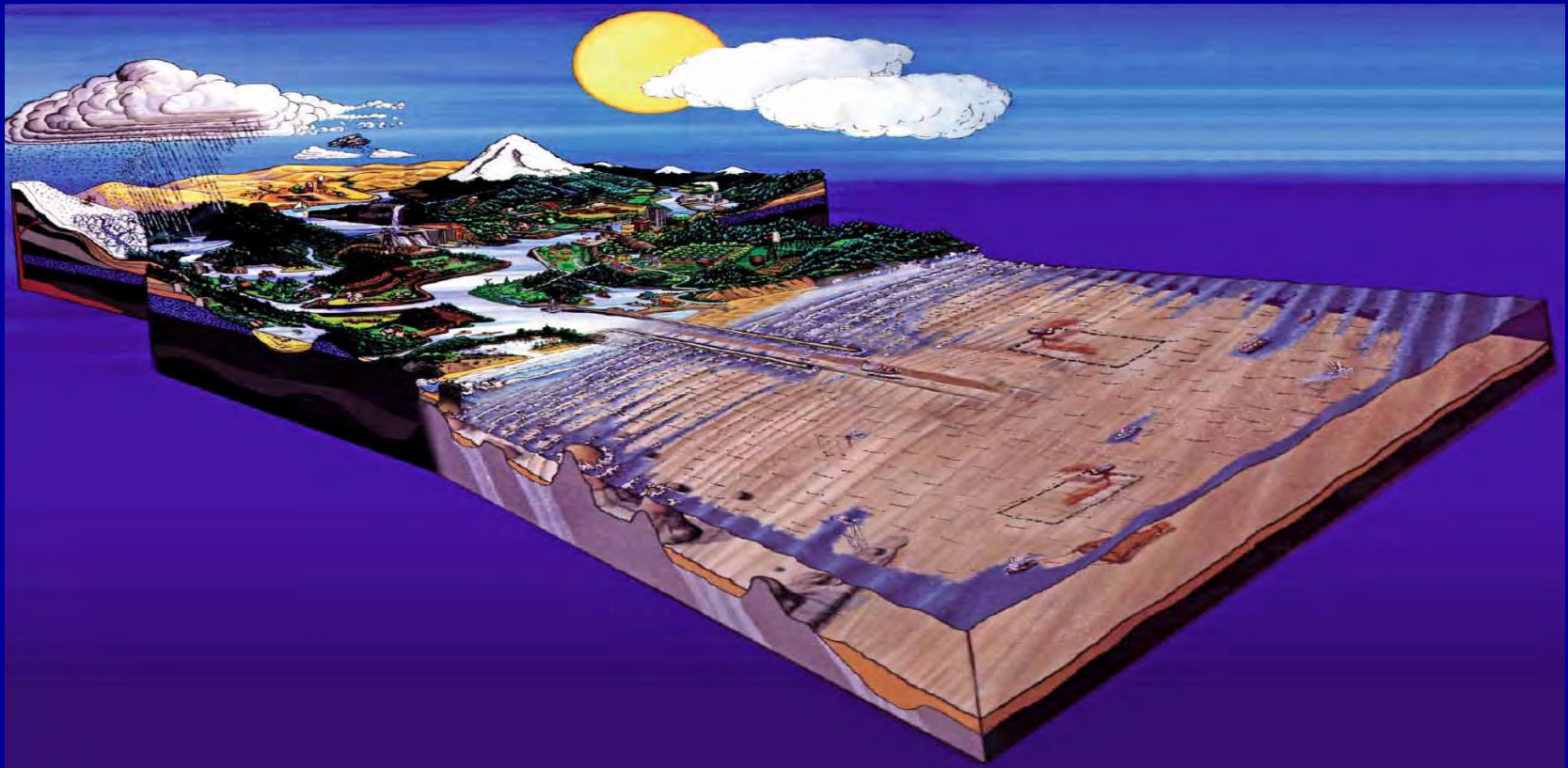


US Army Corps
of Engineers
Wilmington District

USACE RSM Program

Objective

To improve sediment management practices within the Corps by demonstrating how to implement a system-based approach and how such an approach provides opportunities to achieve greater effectiveness and efficiency.



RSM Vision in NC

- Sediment is a ~~resource~~ asset
- Understand the sediment system—NC/VA to NC/SC
- Institutionalize making right system decisions
- Before even this, start making right project decisions to move in that direction

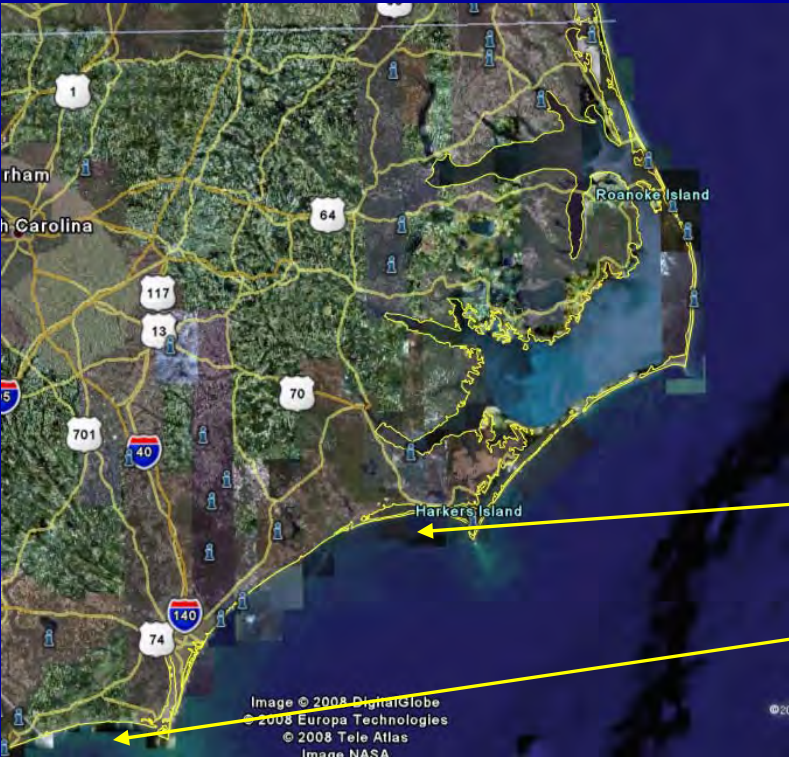




US Army Corps
of Engineers
Wilmington District

NC's FY08 RSM Program

- Data mining/eCoastal



- Bogue Banks/MHC
- Brunswick County

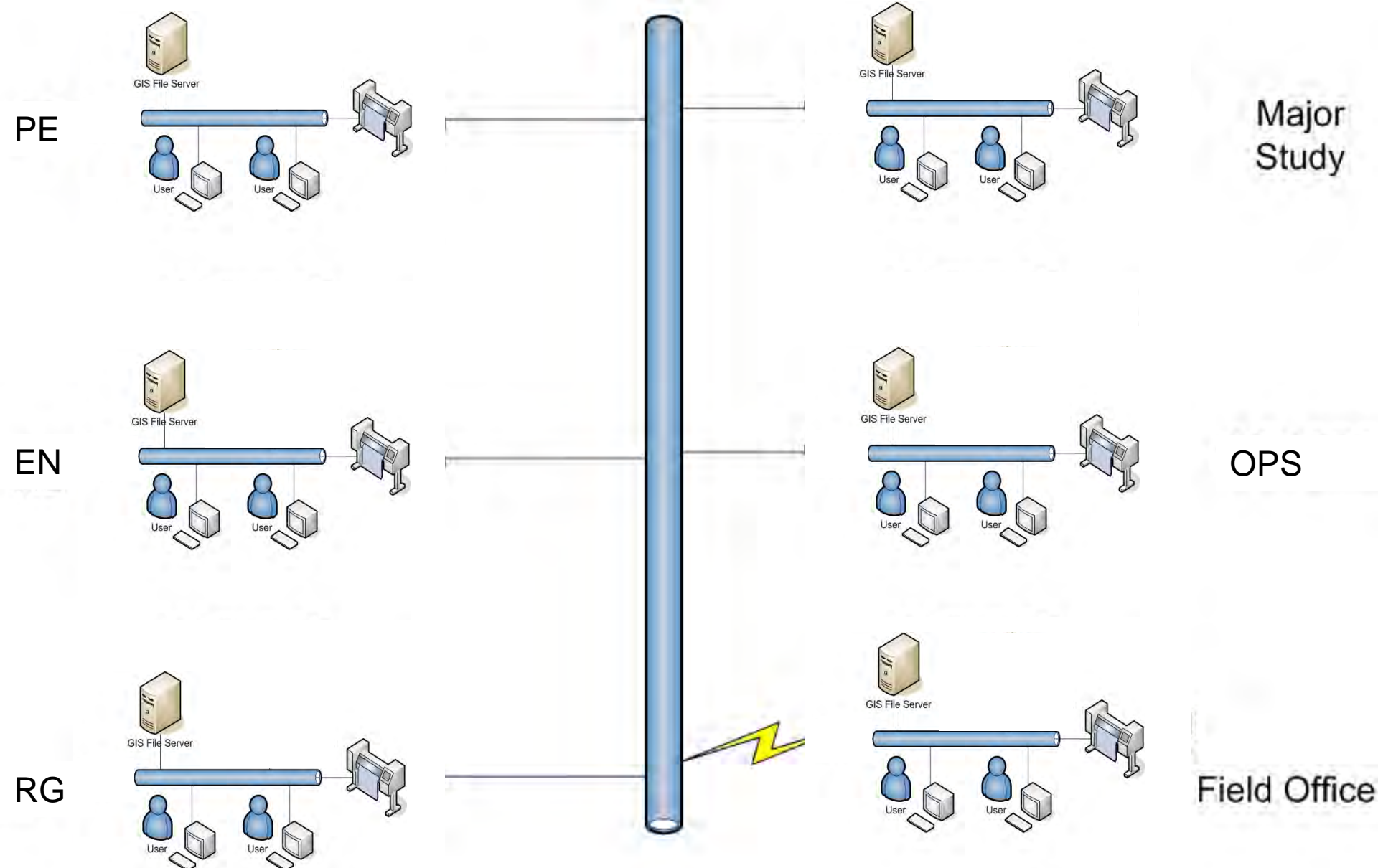
Image © 2008 DigitalGlobe
© 2008 Europa Technologies
© 2008 Tele Atlas
Image NASA



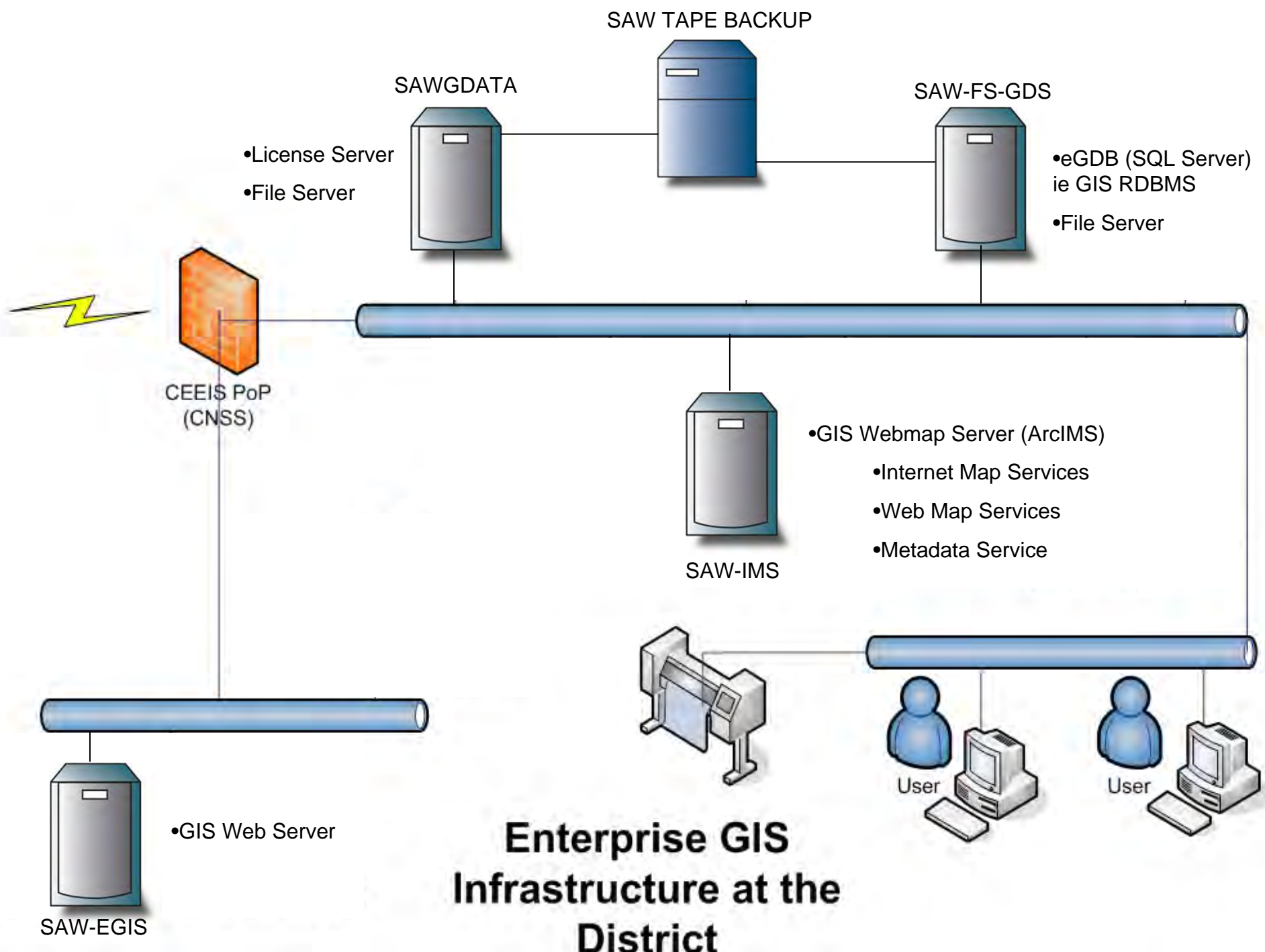
US Army Corps
of Engineers
Wilmington District

Data Mining

- eCoastal (Enterprise GIS)
- District survey data 2000 – Present
- District survey data circa 1995 – 2000
- Coastal tools implementation at District and State
- Heavily coordinated and prioritized with NC DCM/DWR
- Approximately 1/3 of total FY08 budget



Repeat as required...





Brunswick County



geodynamics

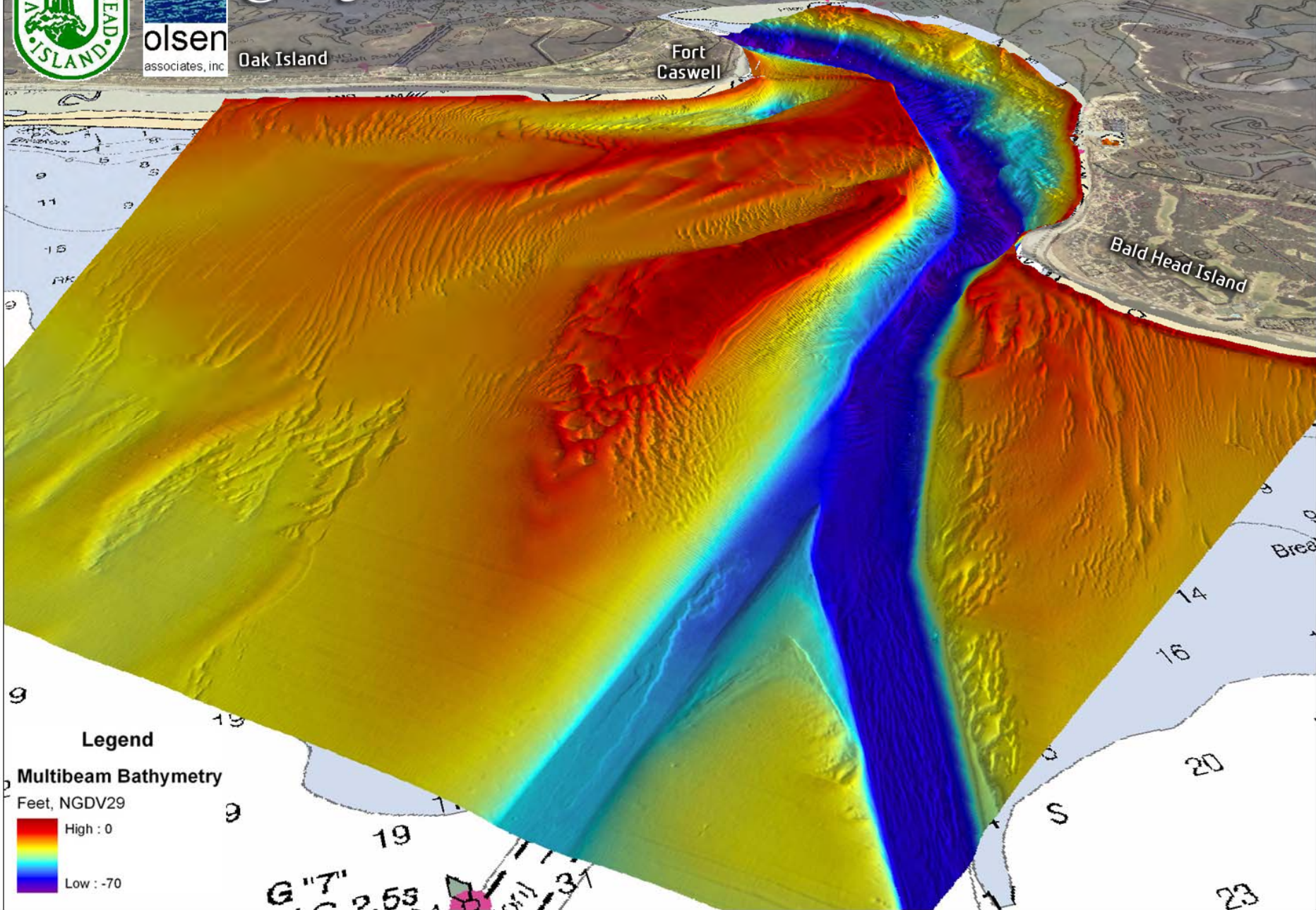
COMPLEX COASTAL CHANGE MADE CLEAR



Dak Island

Fort Caswell

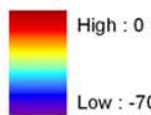
Bald Head Island

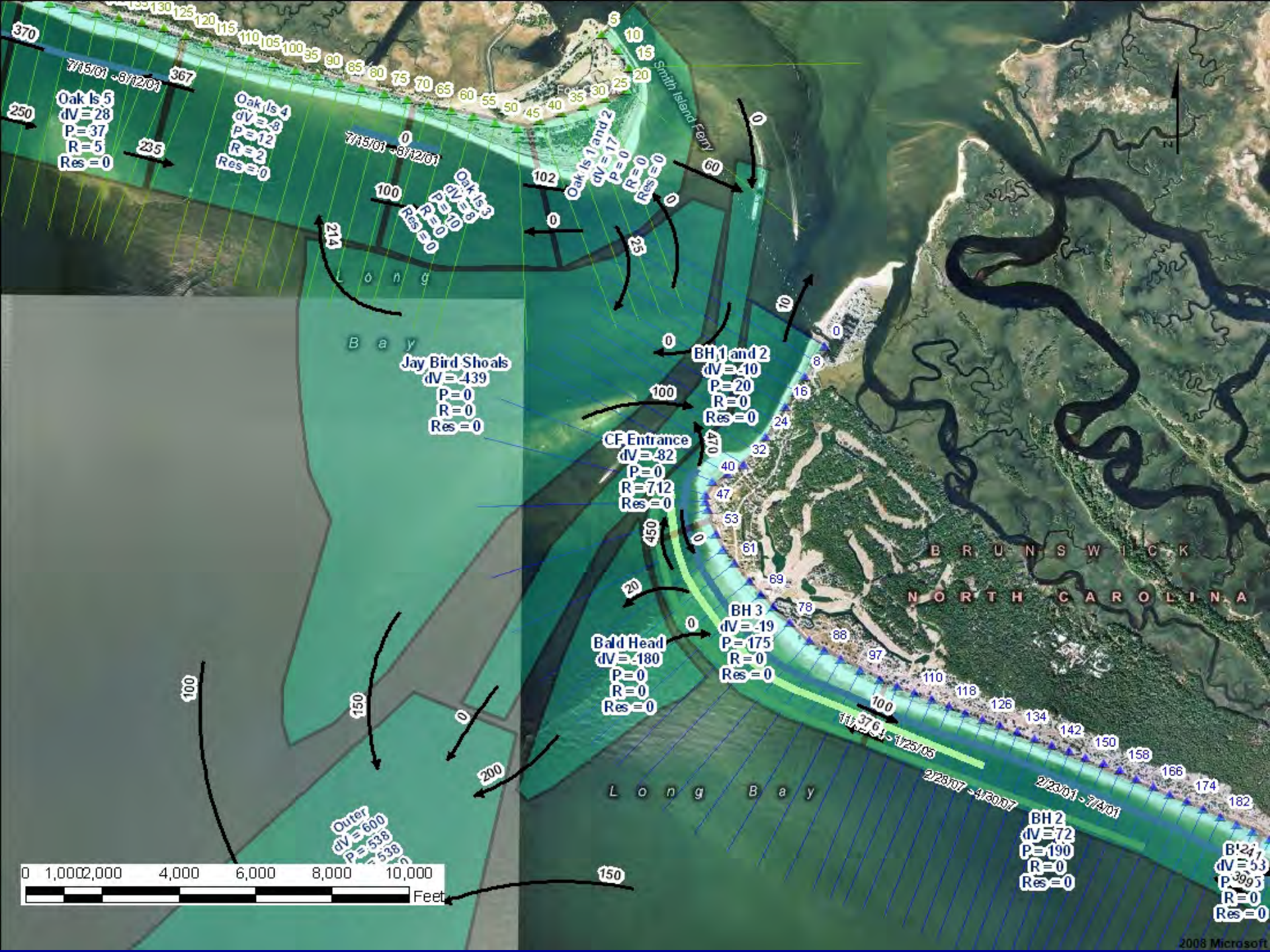


Legend

Multibeam Bathymetry

Feet, NGDV29





Oak Is 5
dV=28
P=37
R=5
Res=0

Oak Is 4
dV=9
P=12
R=2
Res=0

Oak Is 3
dV=10
P=20
R=0
Res=0

Oak Is 1 and 2
dV=17
P=0
R=0
Res=0

Jay Bird Shoals
dV=439
P=0
R=0
Res=0

CF Entrance
dV=82
P=0
R=712
Res=0

BH 1 and 2
dV=10
P=20
R=0
Res=0

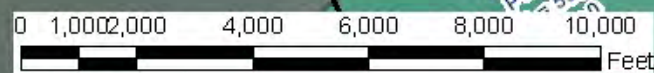
Bald Head
dV=180
P=0
R=0
Res=0

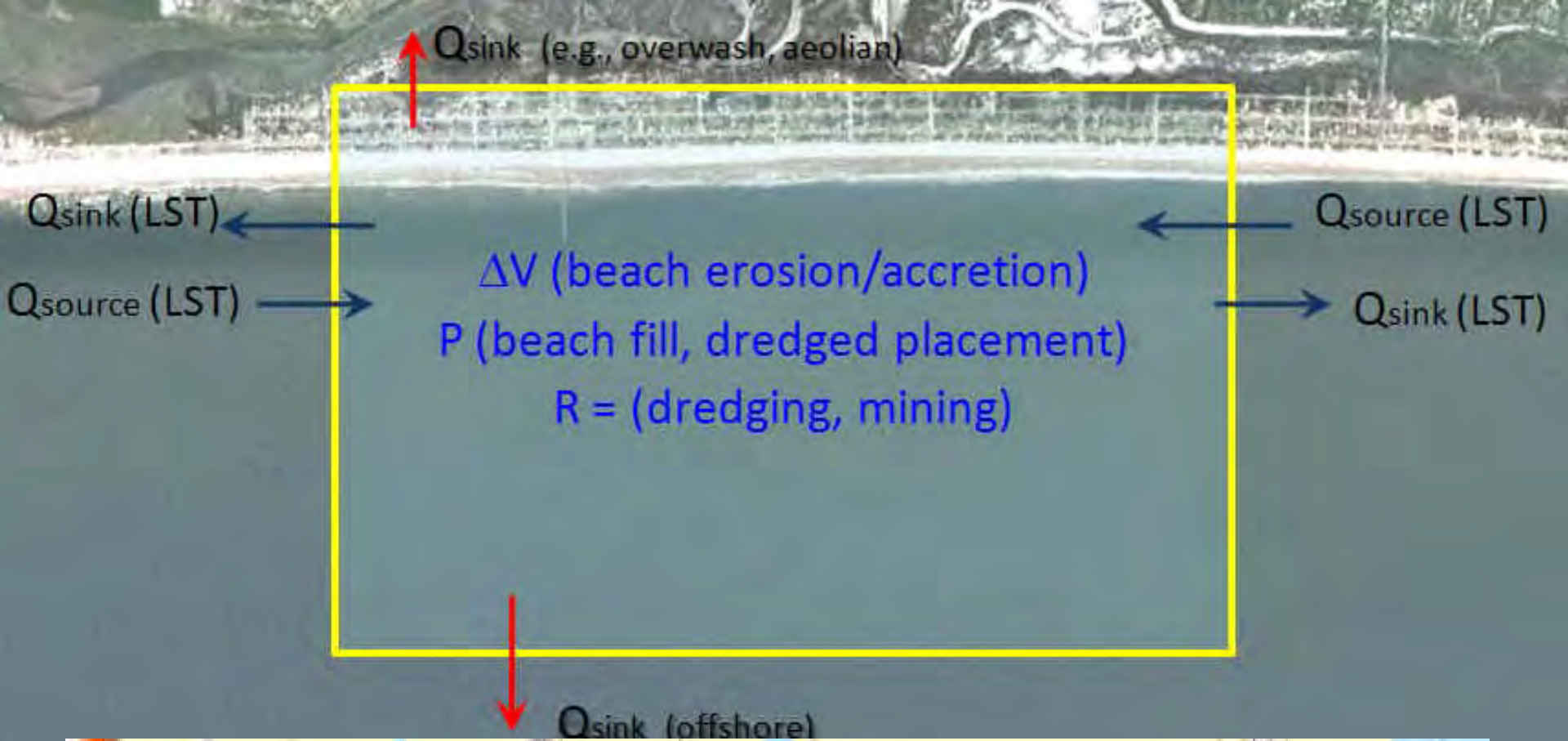
BH 3
dV=19
P=175
R=0
Res=0

Outer
dV=600
P=538
R=538
Res=0

BH 2
dV=72
P=190
R=0
Res=0

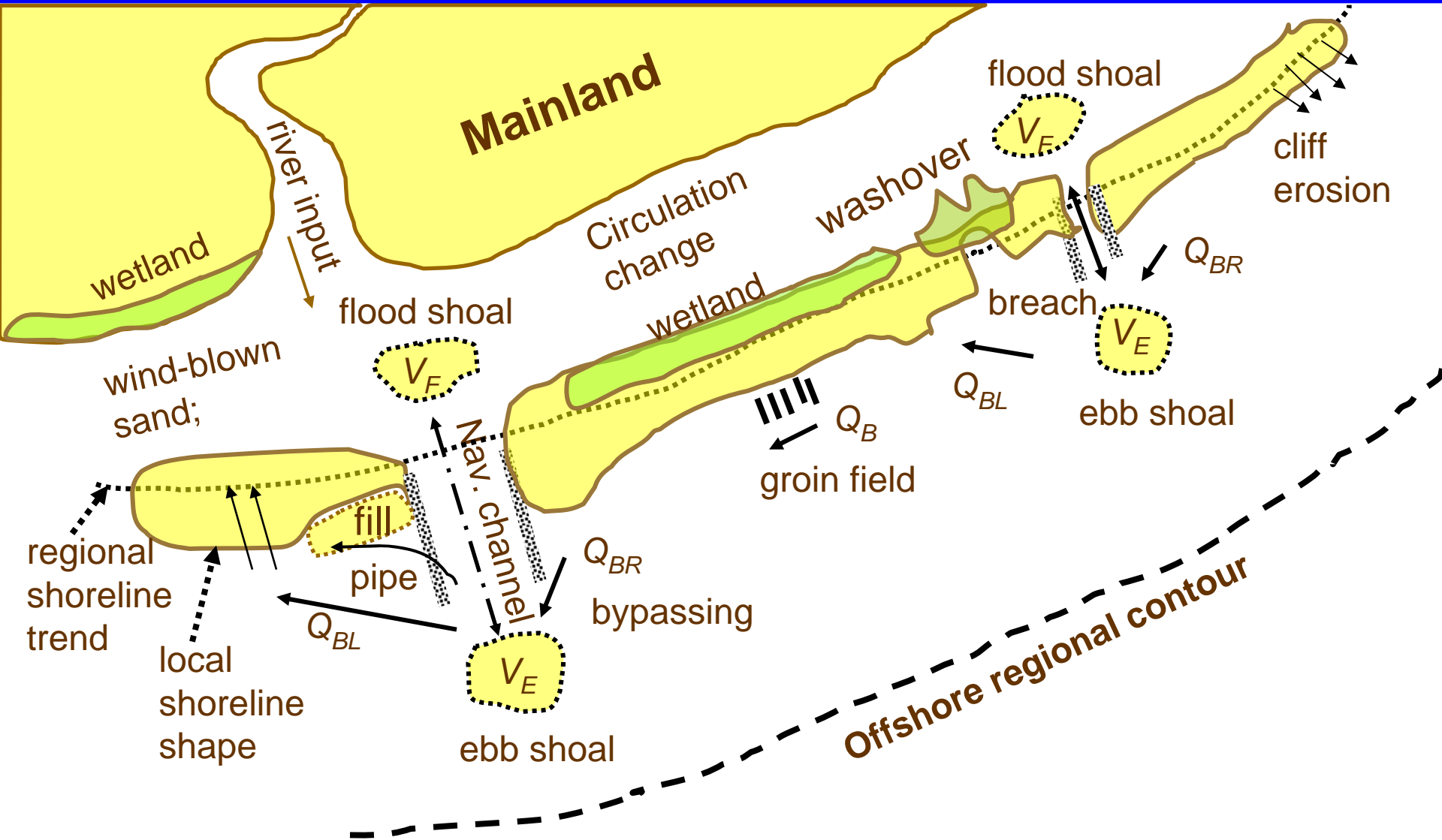
B'217
dV=53
P=395
R=0
Res=0

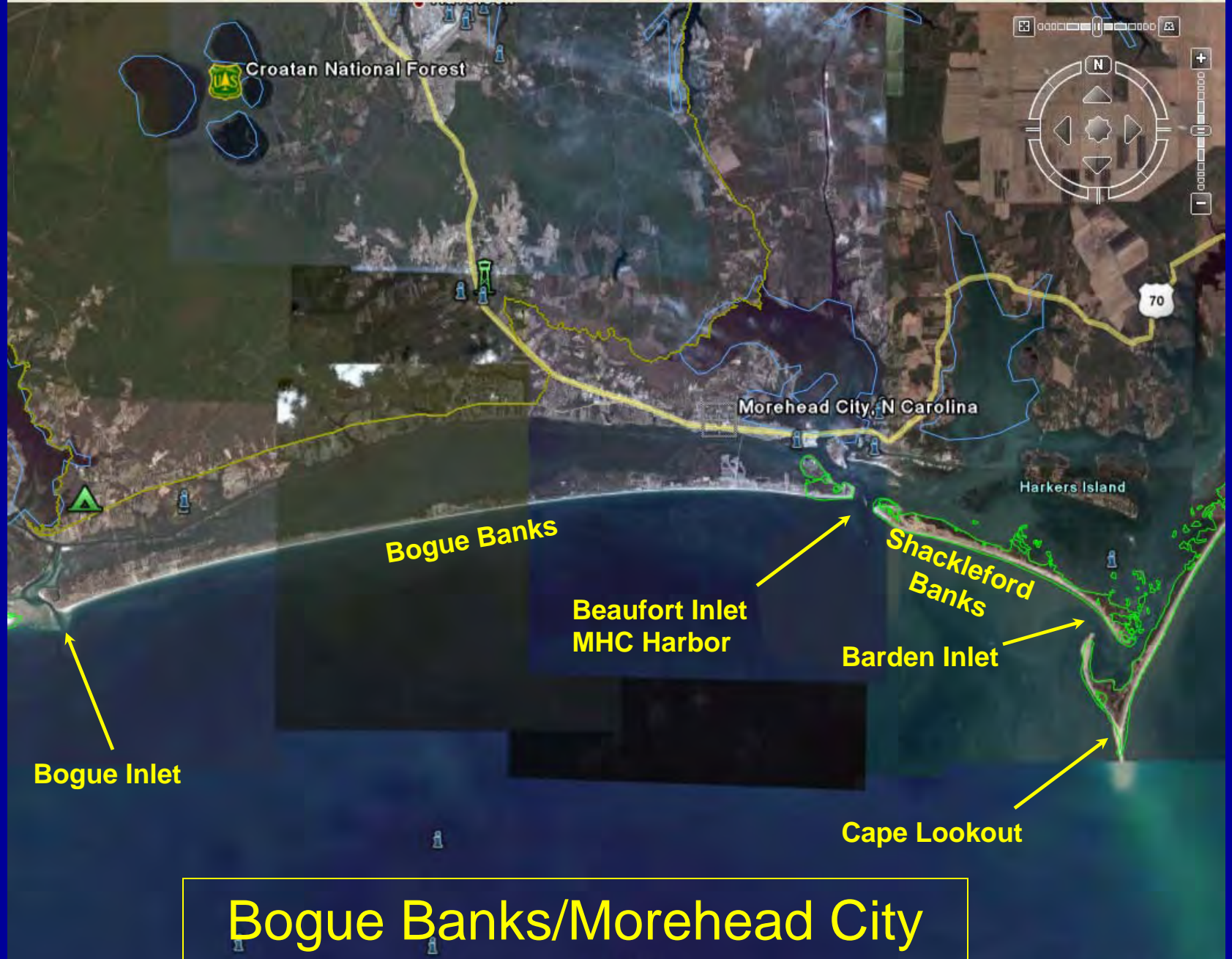






Cascade Conceptual Coverage





Bogue Banks/Morehead City

Image NASA
© 2008 Europa Technologies
© 2008 Tele Atlas
Image © 2008 DigitalGlobe
Streaming 100%

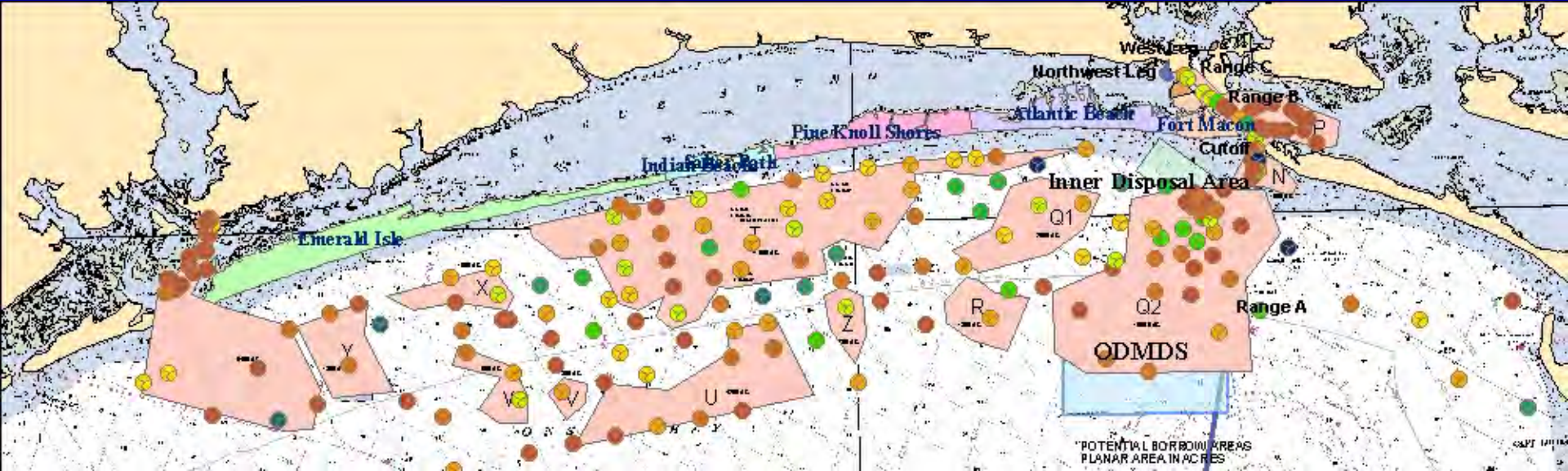
© 2007 Google™



US Army Corps
of Engineers
Wilmington District

MHC/Bogue Banks

- Existing data and analysis
- Leveraging with Bogue Banks shore protection, DMMP, MHC navigation project
- Sediment budget—transport pathways, volumes, losses, placement
- Cape Lookout/Barden Inlet to Bogue Inlet
- CASCADE model



Morehead City

Beaufort

Atlantic Beach

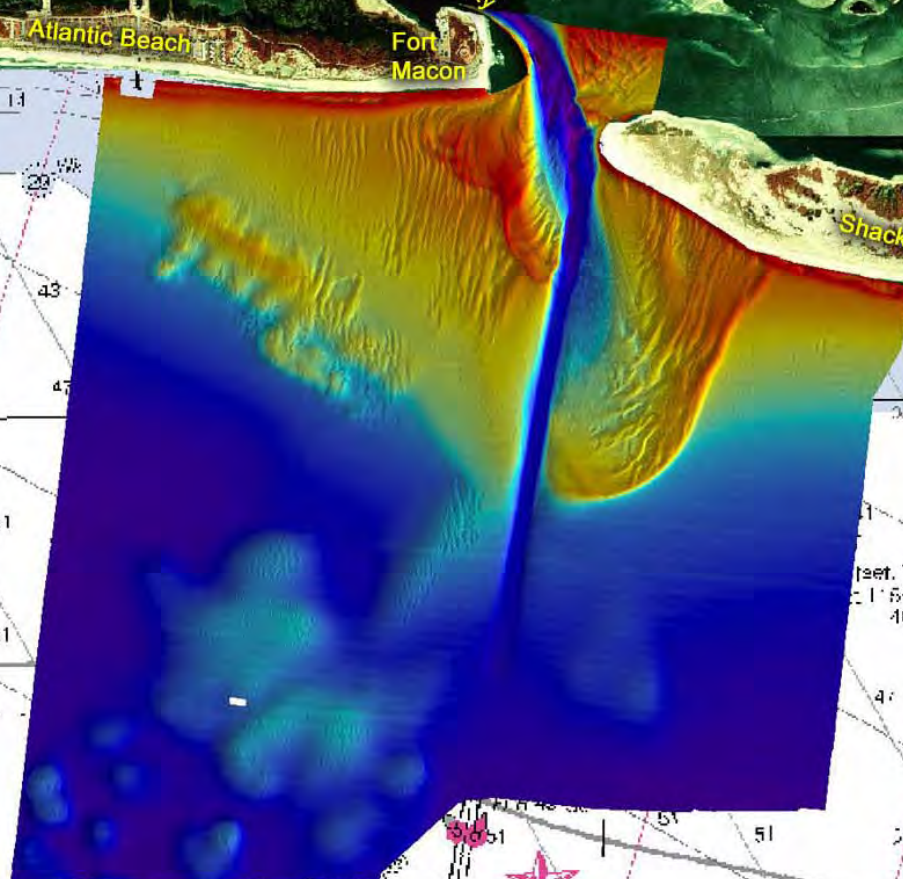
Morehead City Channel

Fort Macon

Shackleford Slough

Shackleford Banks

Barden Inlet

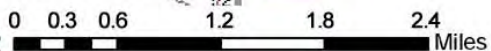


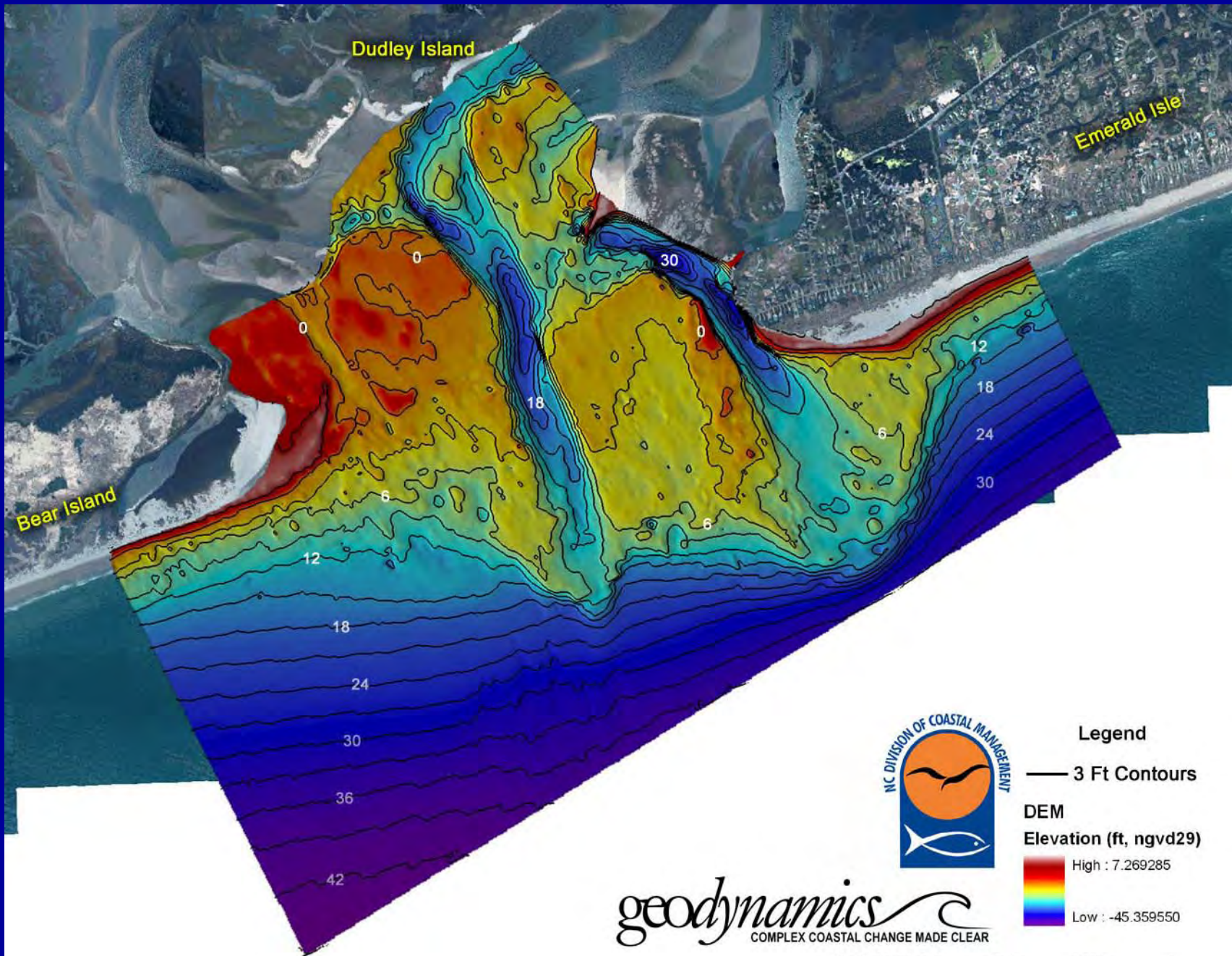
Legend

Multibeam Data
Elevation (ft, ngvd29)

High: -2.13
Low: -63.48

geodynamics
COMPLEX COASTAL CHANGE MADE CLEAR





Dudley Island

Emerald Isle

Bear Island

Legend

— 3 Ft Contours

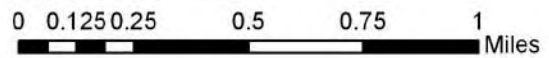
DEM
Elevation (ft, ngvd29)

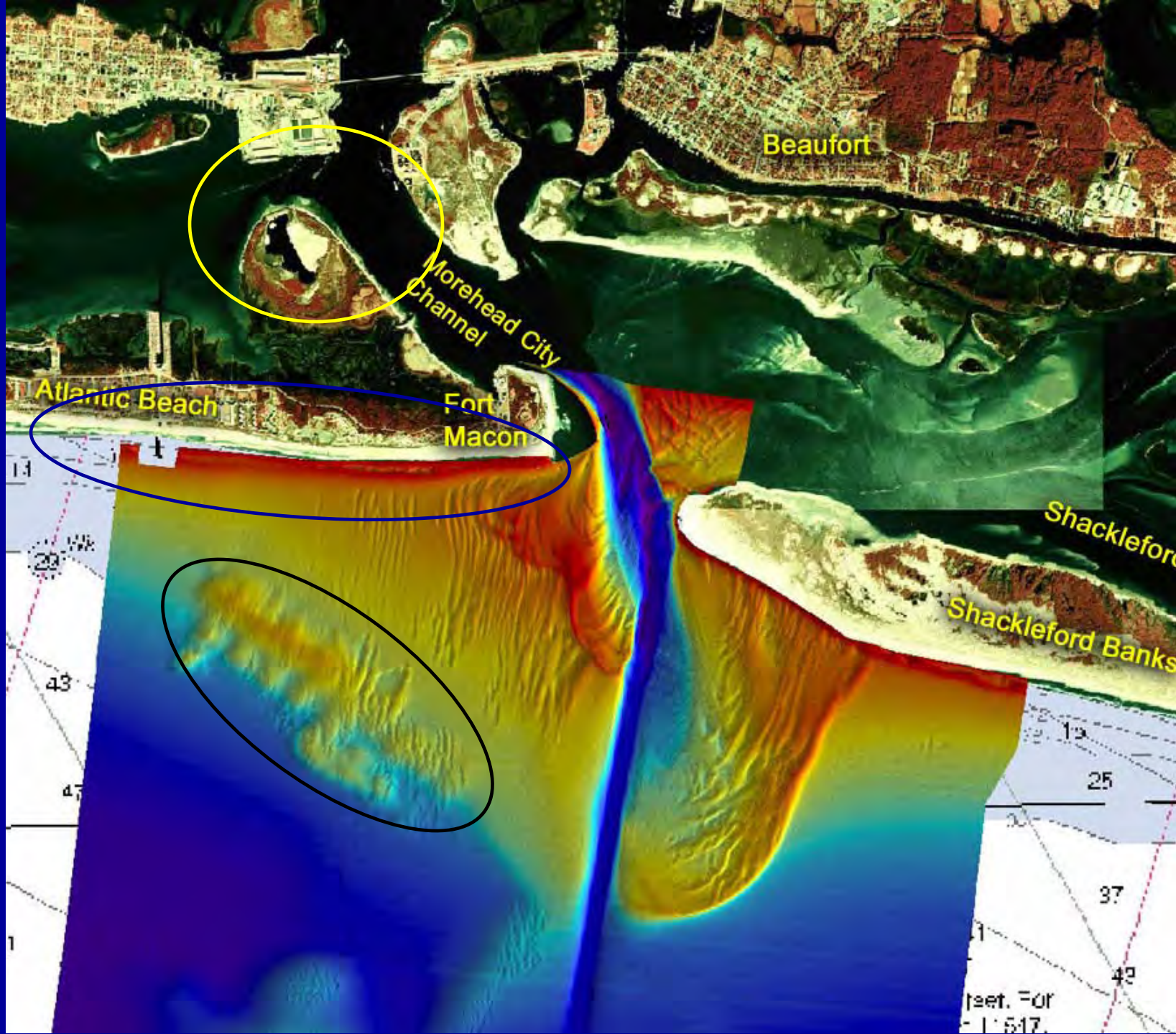
High : 7.269285

Low : -45.359550



geodynamics
COMPLEX COASTAL CHANGE MADE CLEAR







US Army Corps
of Engineers
Wilmington District

FY09 RSM Plans

- Continued BIMP coordination
- Continued support to eCoastal GIS
- Continue/complete MHC/Bogue Banks
- Identify data gaps
 - Topo/hydrography
 - Hydrodynamics
- Expand to other regions