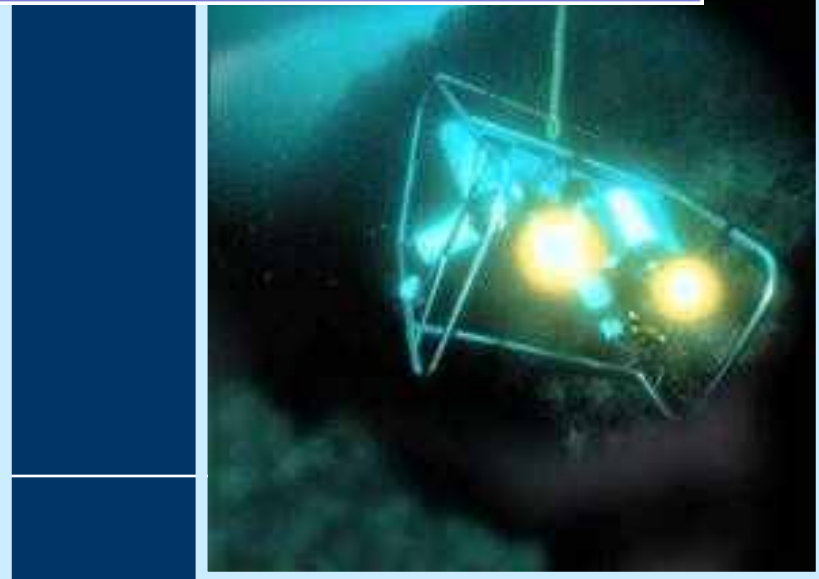
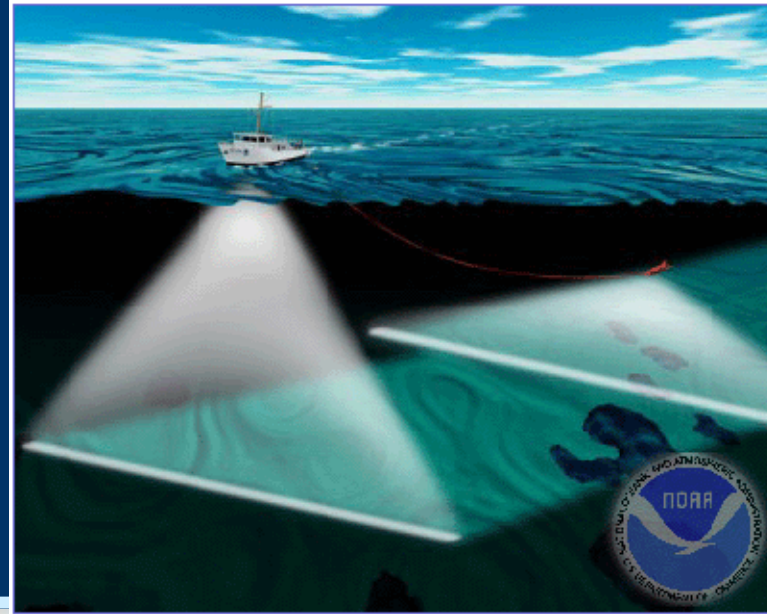
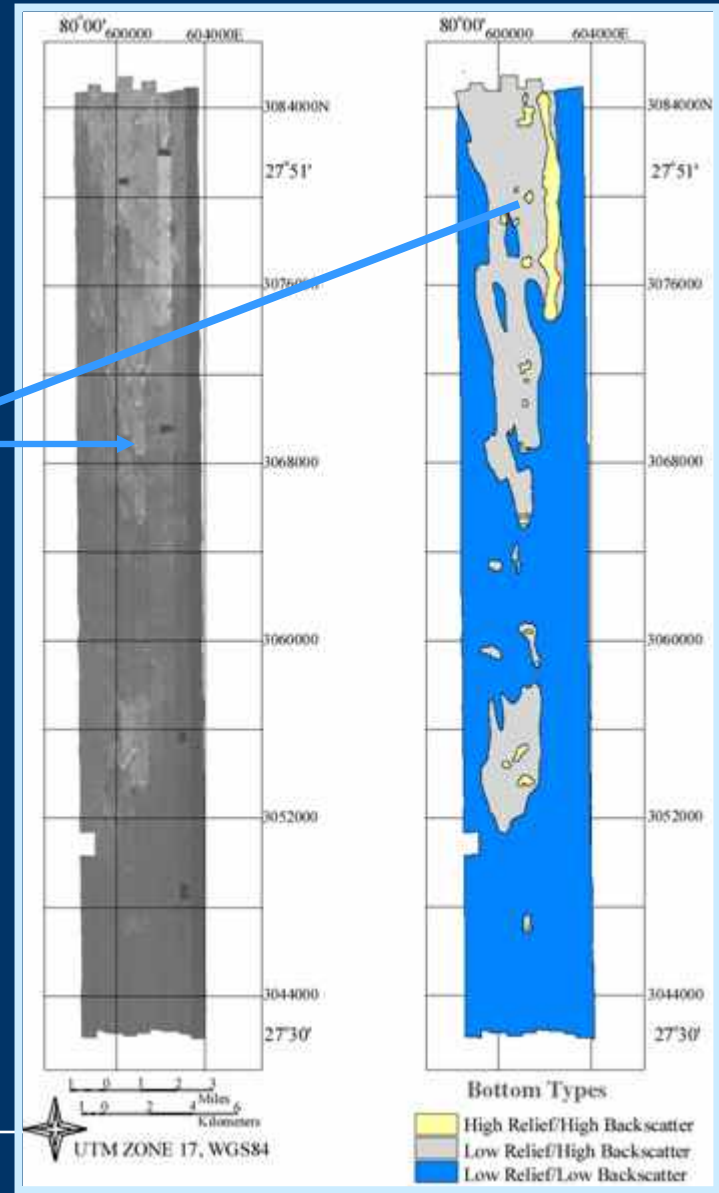
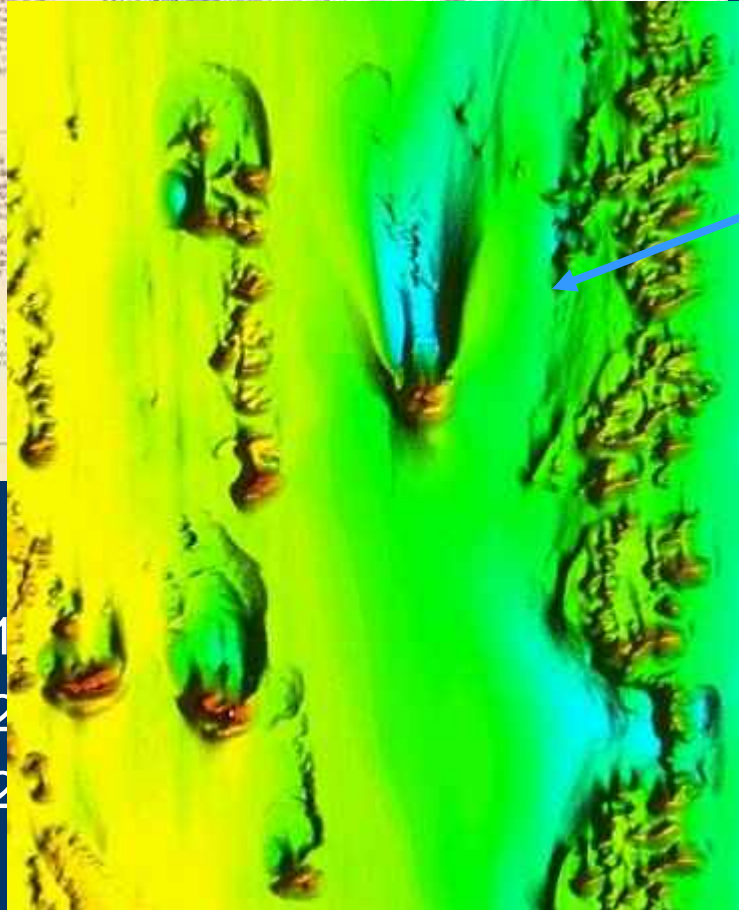


# Habitat Characterization & Mapping

- Topography- sonar
- Substrate type- sonar, visual
- Biota- visual
- Oceanography



# Mapping Results



- 1
- 2
- 2



# 2005 Survey

Ma

□ F

C

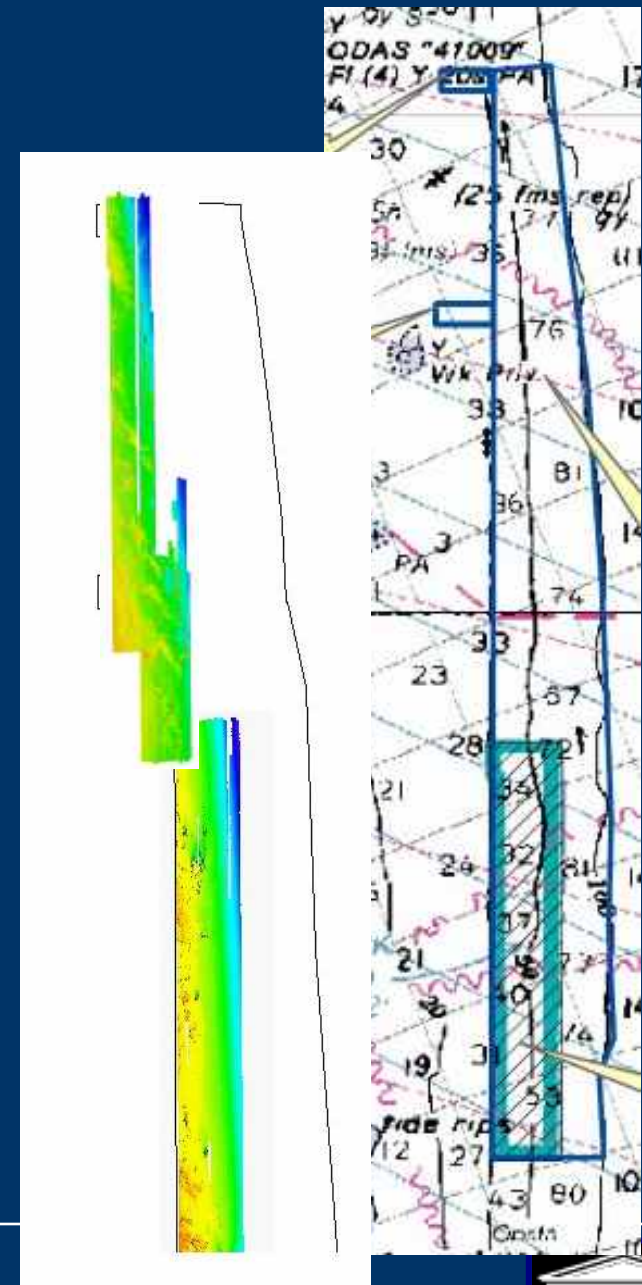
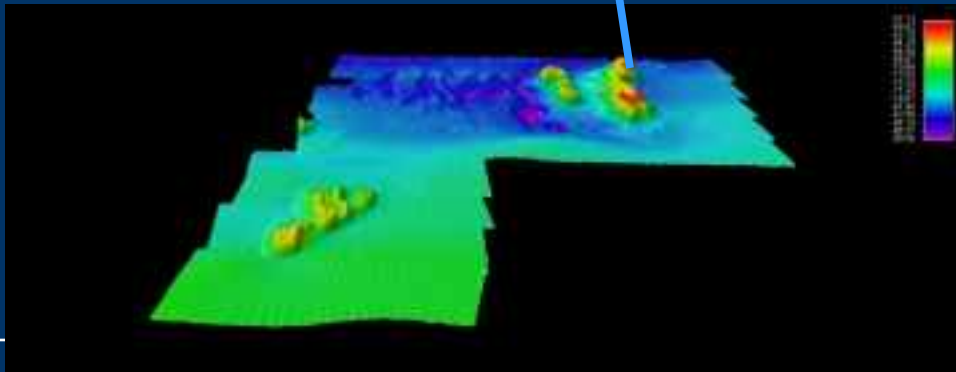
□ C

□ R

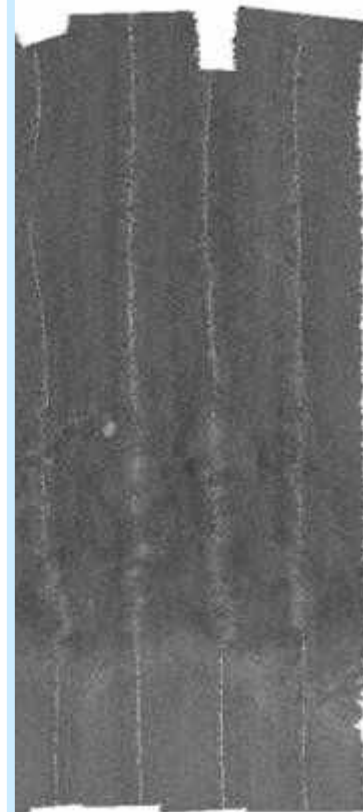
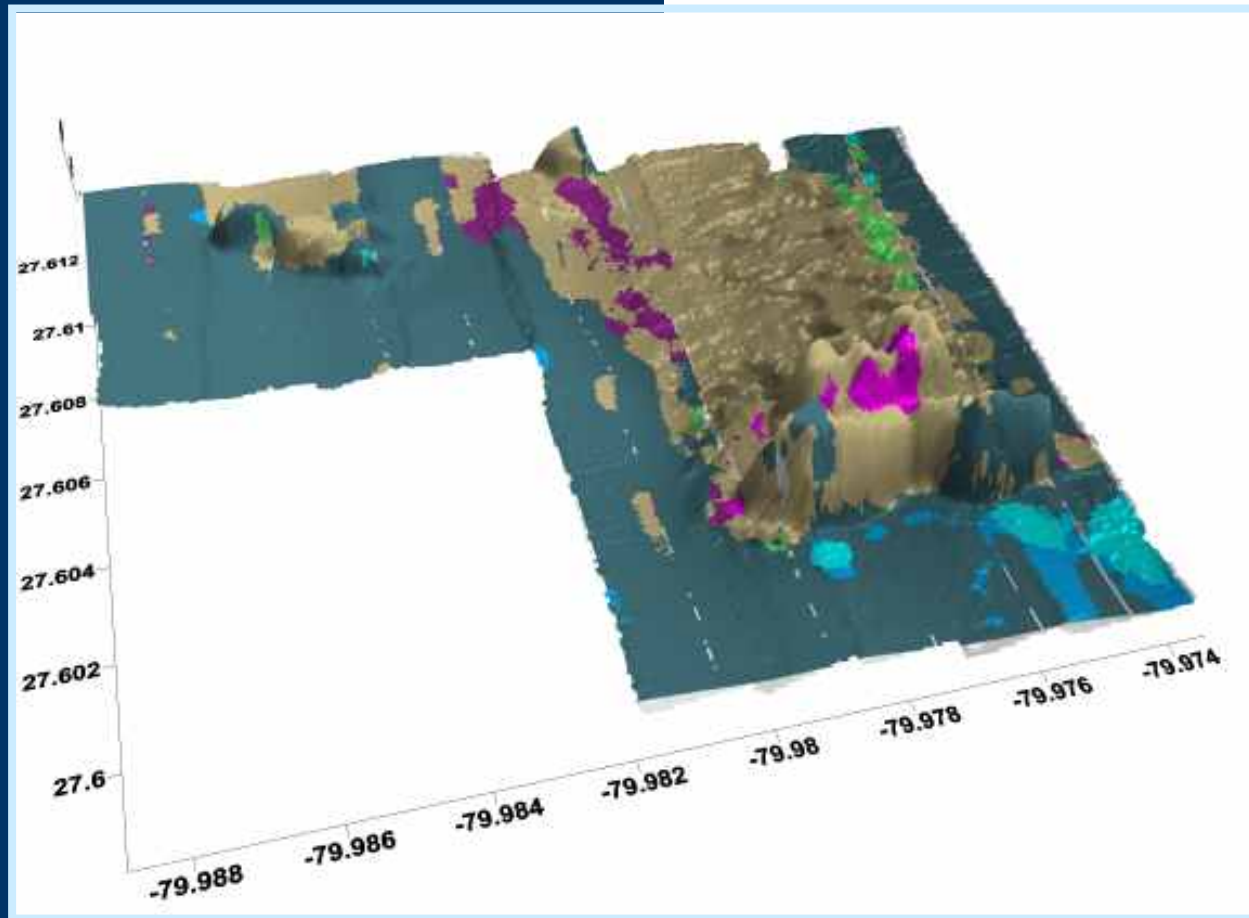
g



W

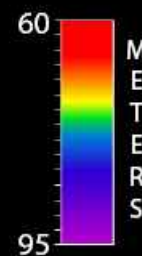


# Backscatter and Depth

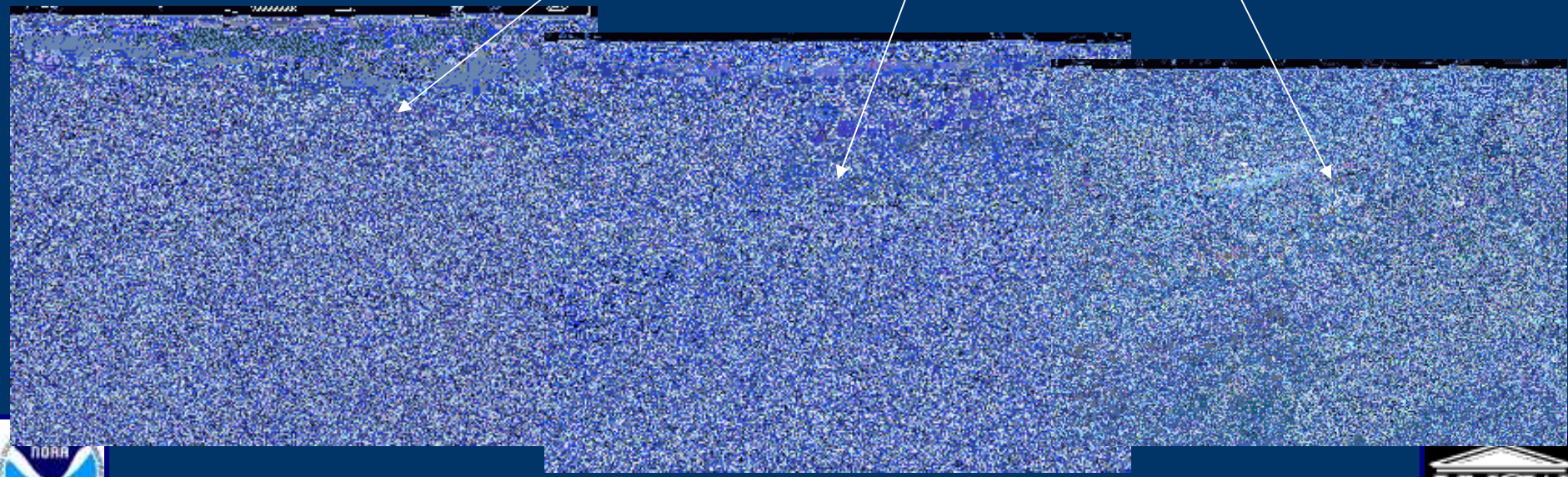


# Canaveral End of OHAPC

28-30

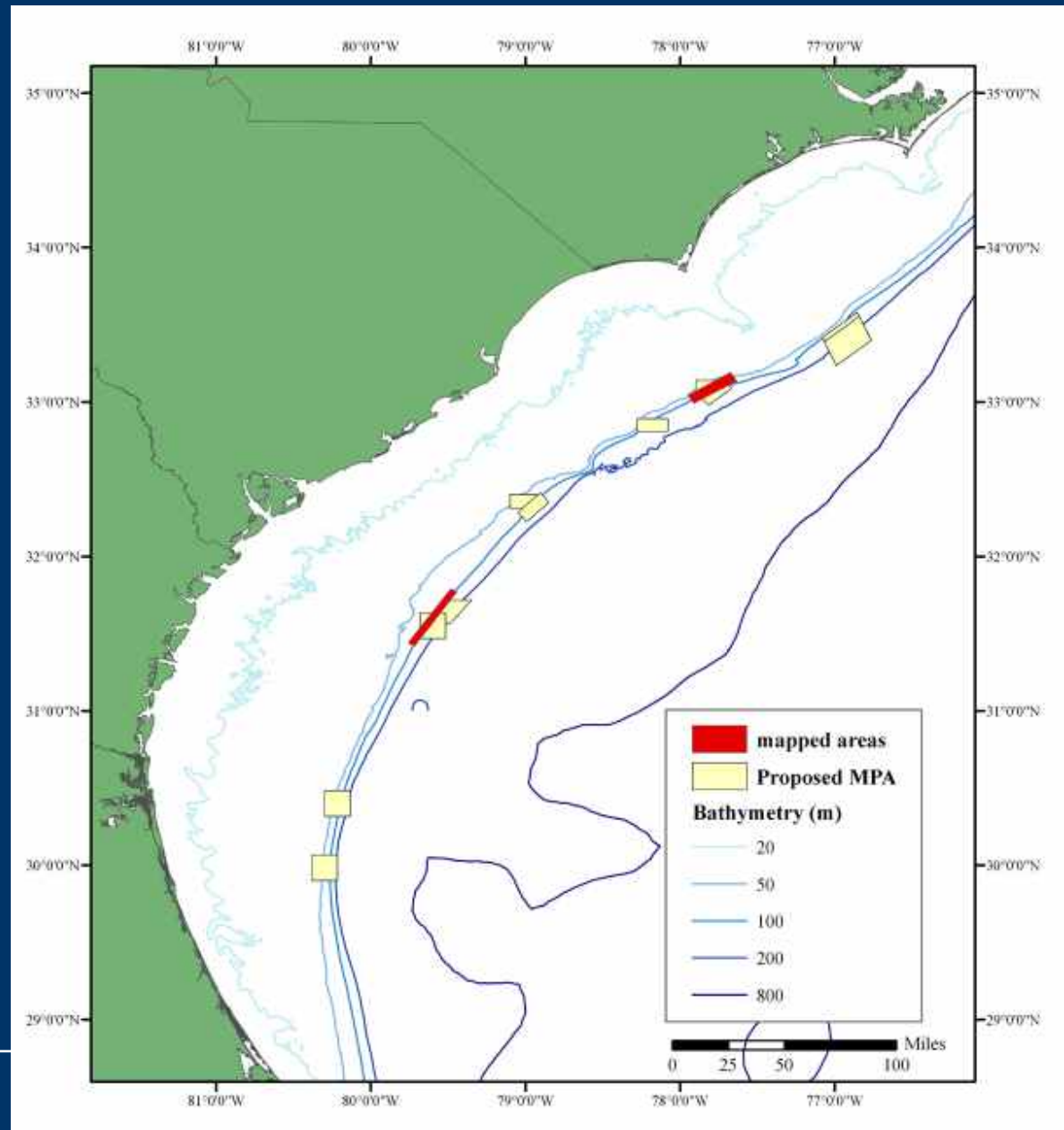


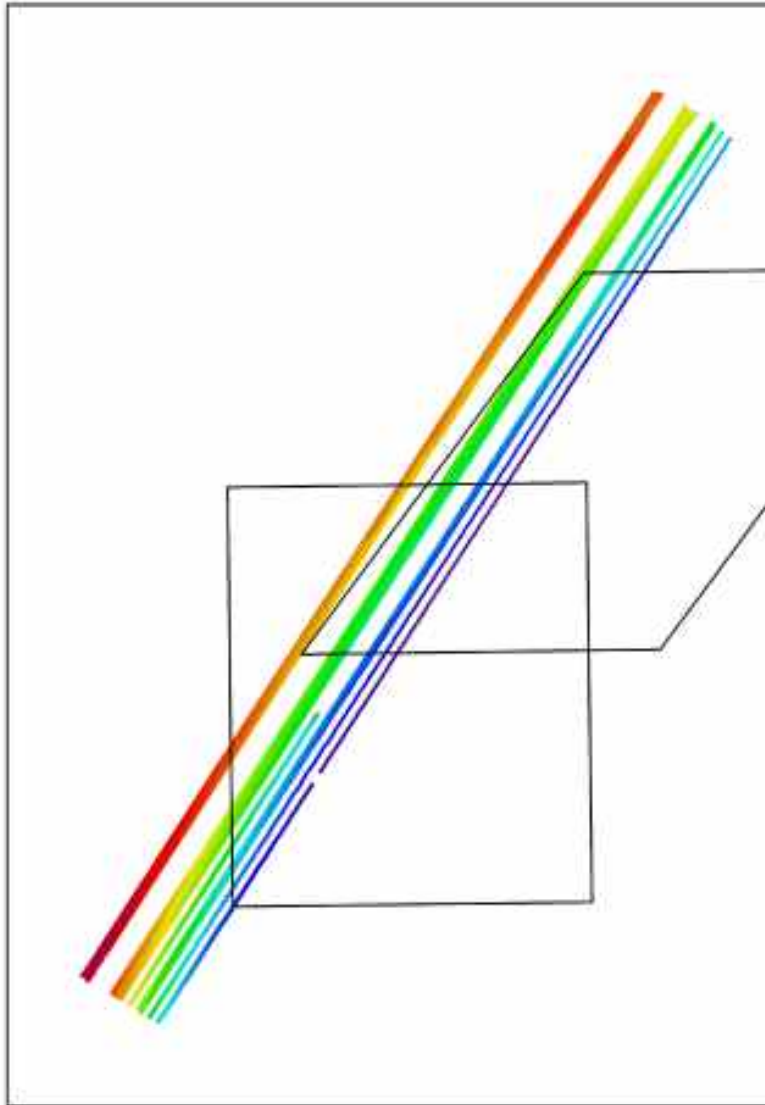
N



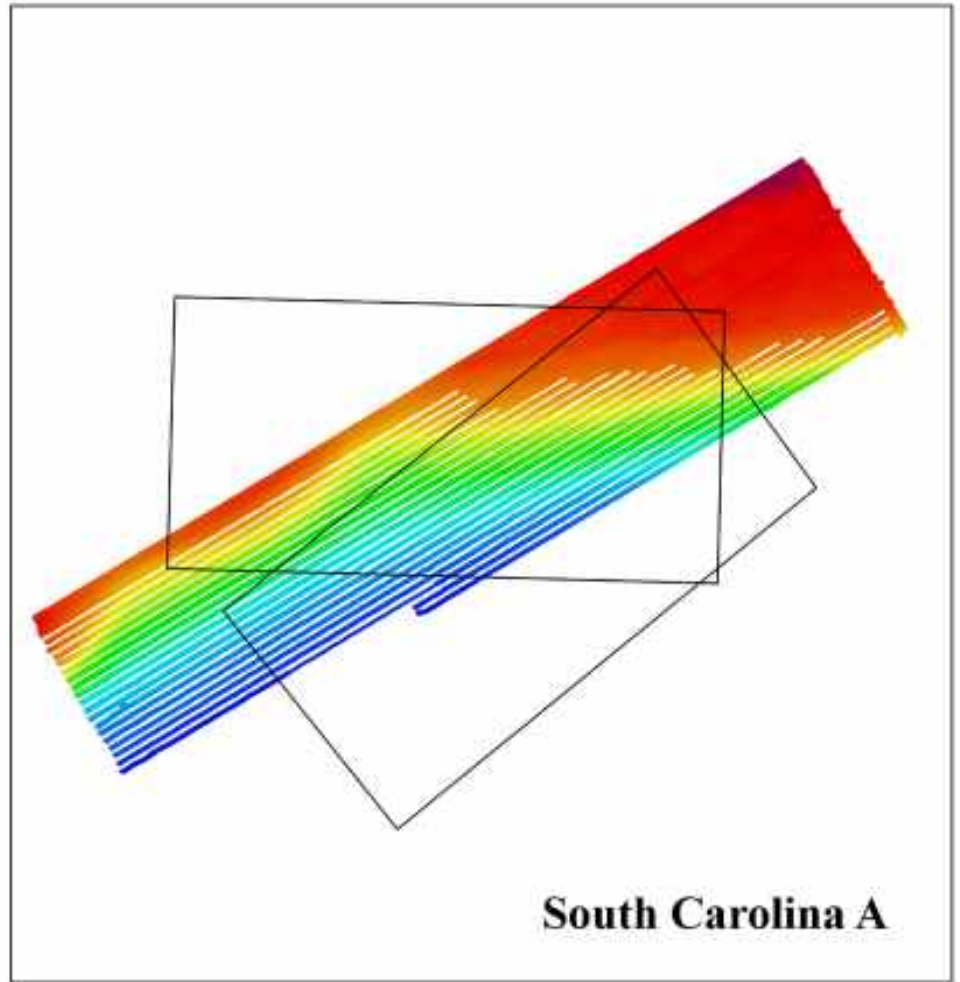
# CRCP Mapping Sub-group: A. David, Mapping of SAB MPAs

- 8 days, 2 sites
- Survey 2 more sites in Feb. 2006?





**Georgia**



**South Carolina A**

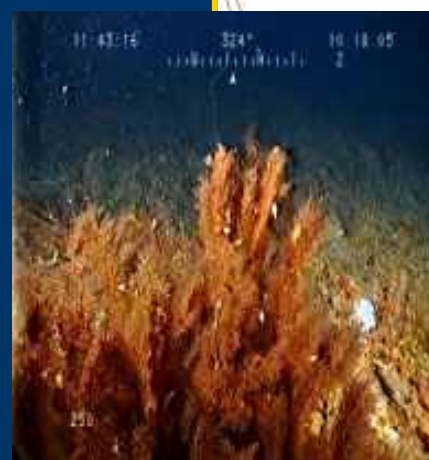
# 2005 OHAPC Assessment, Research, & Monitoring

- Ground-truth 2005 survey
  - Fish and coral census
  - Coral population genetics
  - Ocu-Obs observatory-grouper spawning
- <http://www.at-sea.org/>



# Results

- ROV dives: 19, 35.4 hours of BT, 54-102 meters depth, 2000 digital still pictures, 36 videotapes; 5 CTD “casts” (Seabird CTD deployed on ROV)
- Grab samples: 20, 70-80 m depth; 2 test sites
- Acoustic Surveys: 3 night-time acoustic surveys
- Analyses TBD:
  - Fish transects by area and habitat type
  - % cover and megafauna
  - Correlation with QTC habitat map



# % Cover and Megafauna

Just to count = 4 mins. per slide x 2000 slides => 3 weeks

POINT	ID	NOTES
A	200V	OH
B	200V	OH
C	15H	
D	15H	
E	200V	OH
F	150V	OH
G	200V	OH
H	150V	OH
I	15H	
J	15H	
K	15H	
L	200V	OH
M	35A	
N	200V	OH
O	15H	
P	35A	
Q	200V	OH
R	35A	

# OUTREACH & EDUCATION ACTIVITIES

- ❑ **Web Logs:** daily journal, images, data log (e.g., time of day, temperature, depth, geographic position) for partner classrooms.
- ❑ **At-sea Visits:** Florida's enforcement vessel *CT Randall* will conduct a cruise out to the ship, allowing students, personnel, VIP's, and researchers to gain experience research on the water.
- ❑ **Teacher Development:** professional workshop for educators; mentors and materials on deep sea research.
- ❑ **TV:** Videographer/producer on board cruise, marketing for Florida.
- ❑ **Port Day:** October 12, 2011 at cruise terminal, NASA *Randall*, meet the scientists and participate in activities (e.g., drive R/V).

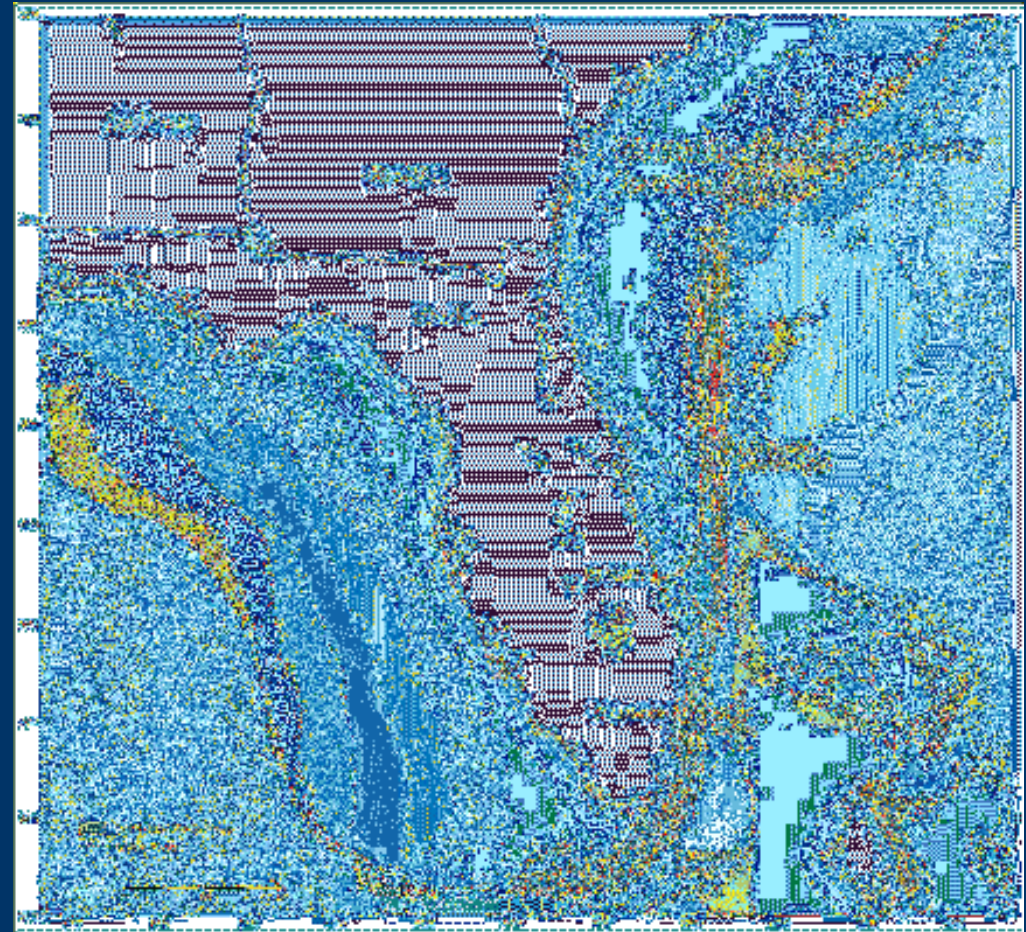
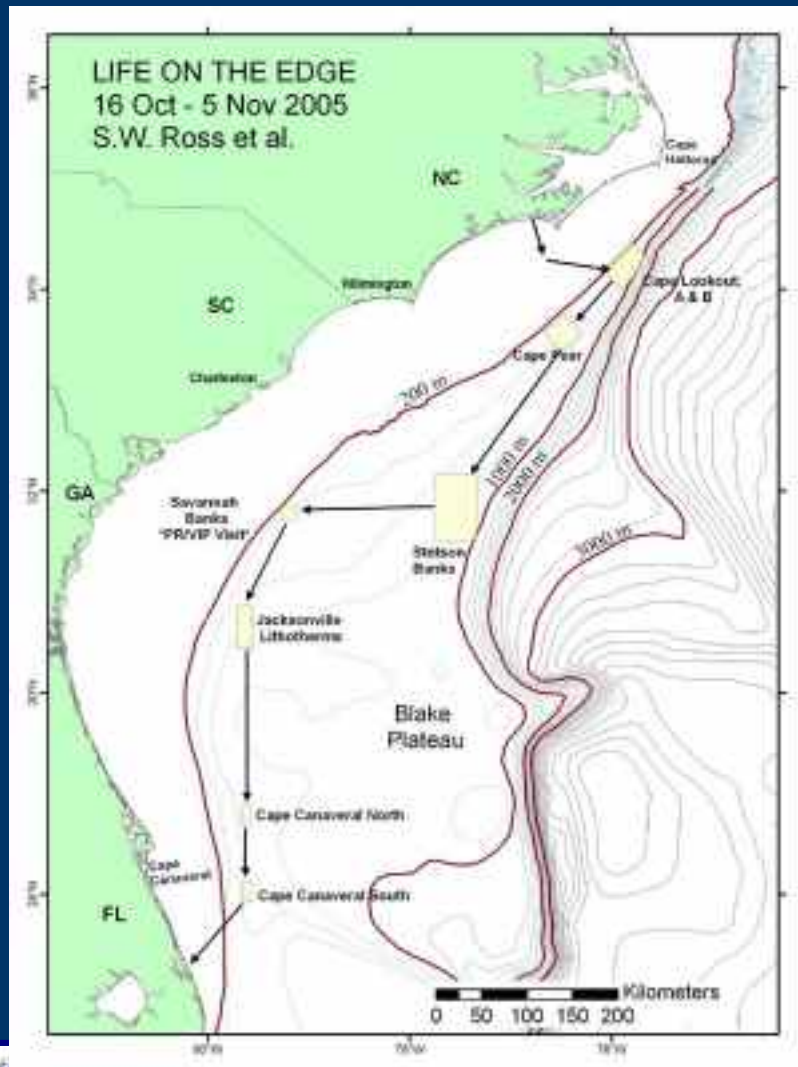


Brevard County students visit Port Canaveral before the expedition begins

**Partners:** NOAA Fisheries (Miami), SAFMC, FWC/CT Randall, NURC, HBOI, Smithsonian, ECOS Inc., United Space Alliance, FL Port Authority, Dixie Crossroads Seafood



# Ocean Exploration



- 2005 Expeditions
- SEADESC Partnership-  
Ross, OE, NURC, SAFMC

# Southeast Deep Sea Coral Initiative (SEADESC)



# 2005 NURP Explorer AUV

NURC's Autonomous Underwater Vehicles - Microsoft Internet Explorer

Address: http://www.uncw.edu/nurc/auv/

NURC's Autonomous Underwater Vehicles at the University of North Carolina Wilmington

TEAM AUV UNCW NORC

AUV Home Explorer-class AUV Stocum-class glider Our Partners

**NURC's AUVs**

Autonomous underwater vehicles (AUVs) are an evolving class of subsea robotics presently being effectively applied to oceanographic research. As platforms for scientific sensors, these vehicles operate at depths, over distances, and with endurance that cannot be achieved with the same economies using human-guided devices.

The UNCW NURP center recognizes the growing importance of AUVs in research applications and is committed to the operation of two state-of-the-art vehicles: a large-frame, deepwater Explorer-class vehicle from International Submarine Engineering and a high-endurance Stocum-class underwater glider from Webb Research. The ISE vehicle will be delivered in early 2006 and will be operational by mid-year.

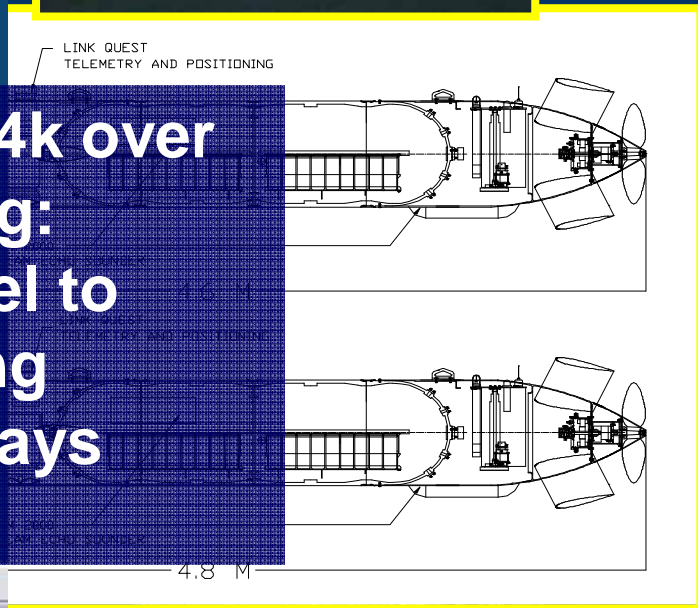
[The Webb glider is already in operation.](#)

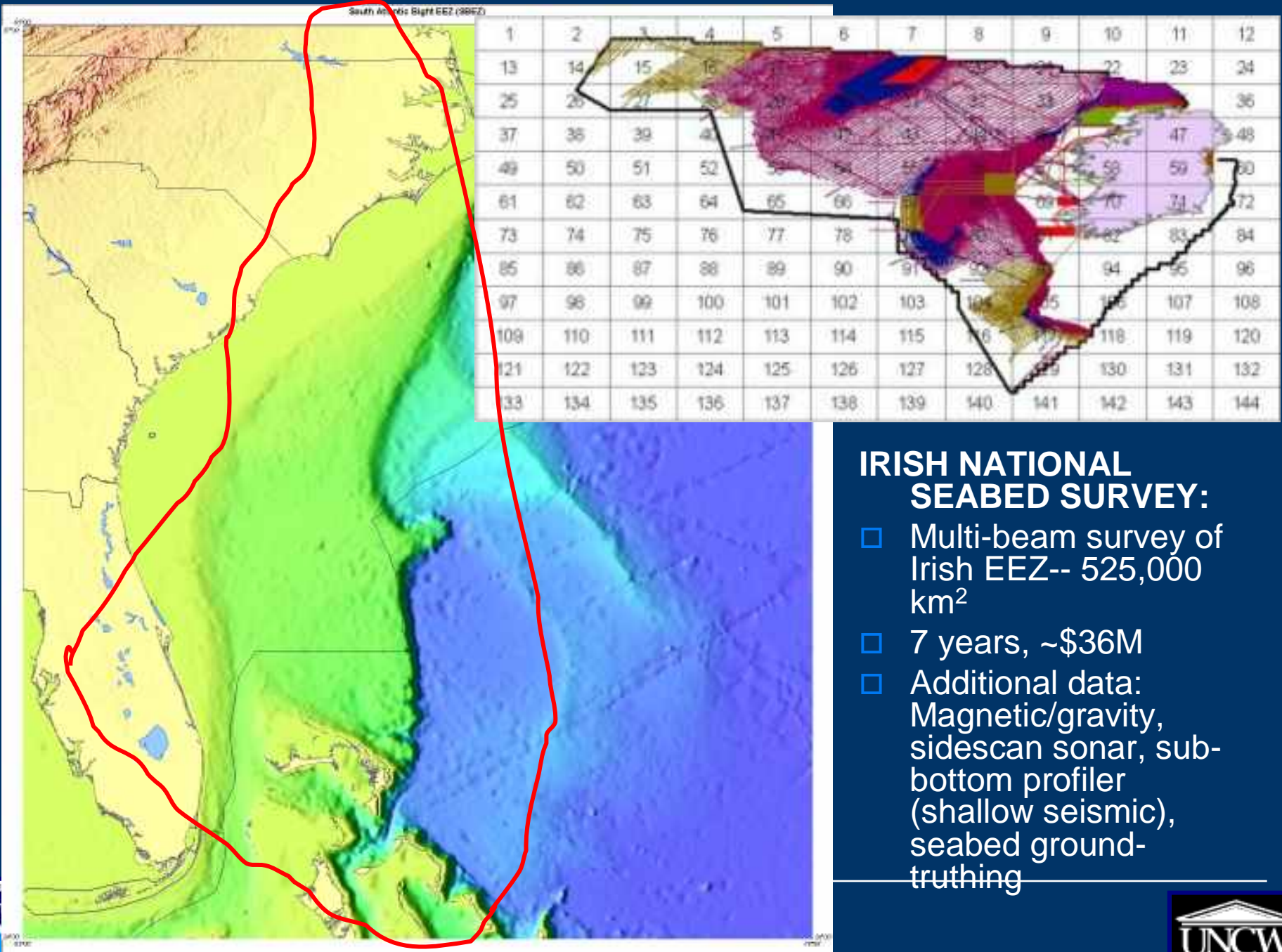
ISE Explorer-class AUV during test flight by Jean-Marc Leframboise, ISE Project Manager

LINK QUEST TELEMETRY AND POSITIONING

**SAFMC grant (\$124k over 2 years) supporting:  
Staff training, travel to vendor, field testing (vessel time); 12 days survey time ++?**

start NOAA safmc press-hab: NURC's Auto...





## IRISH NATIONAL SEABED SURVEY:

- Multi-beam survey of Irish EEZ-- 525,000 km<sup>2</sup>
- 7 years, ~\$36M
- Additional data: Magnetic/gravity, sidescan sonar, sub-bottom profiler (shallow seismic), seabed ground-truthing