

MARSH SILLS

NORTH CAROLINA

Spencer Rogers

North Carolina Sea Grant

UNC-Wilmington Center for Marine Science

NCSU Dept. of Civil Engineering



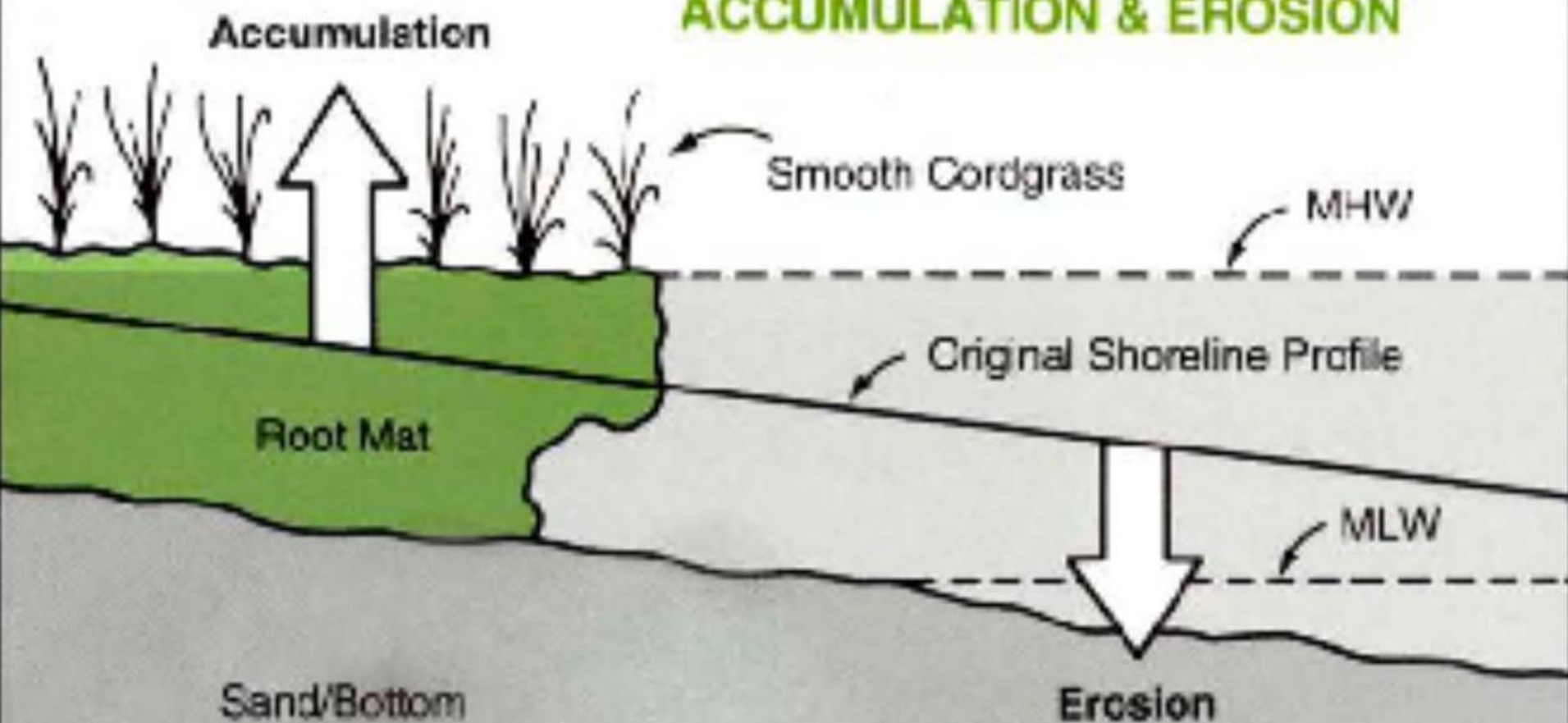
CLASSES OF EROSION MANAGEMENT OPTIONS

- 1. Avoid the problem**
- 2. Plant it**
- 3. Harden the shoreline**
- 4. Trap sand**
- 5. Add sand**





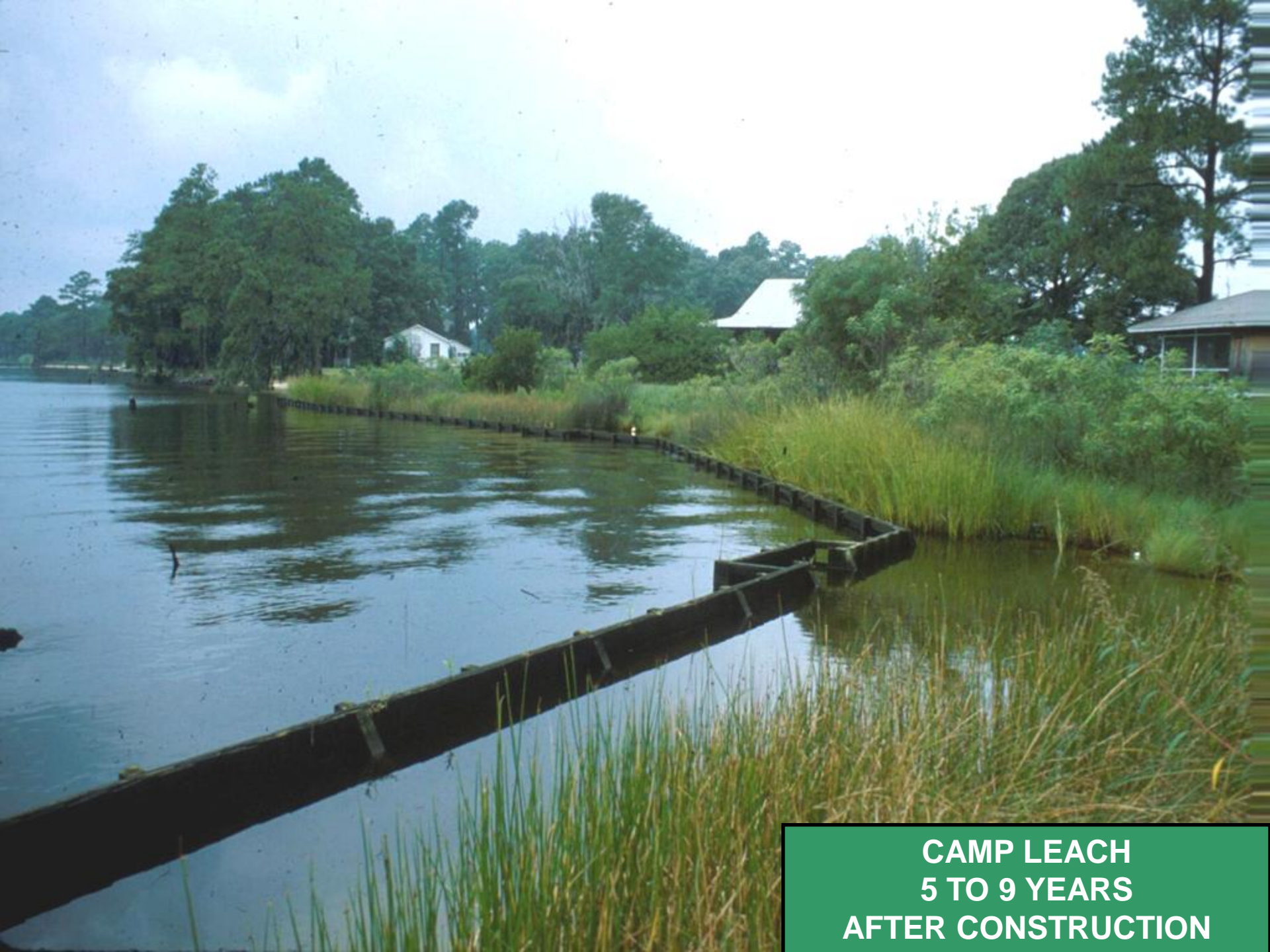
PEAT ROOT MAT ACCUMULATION & EROSION







**CAMP LEACH
2 YEARS
AFTER CONSTRUCTION**



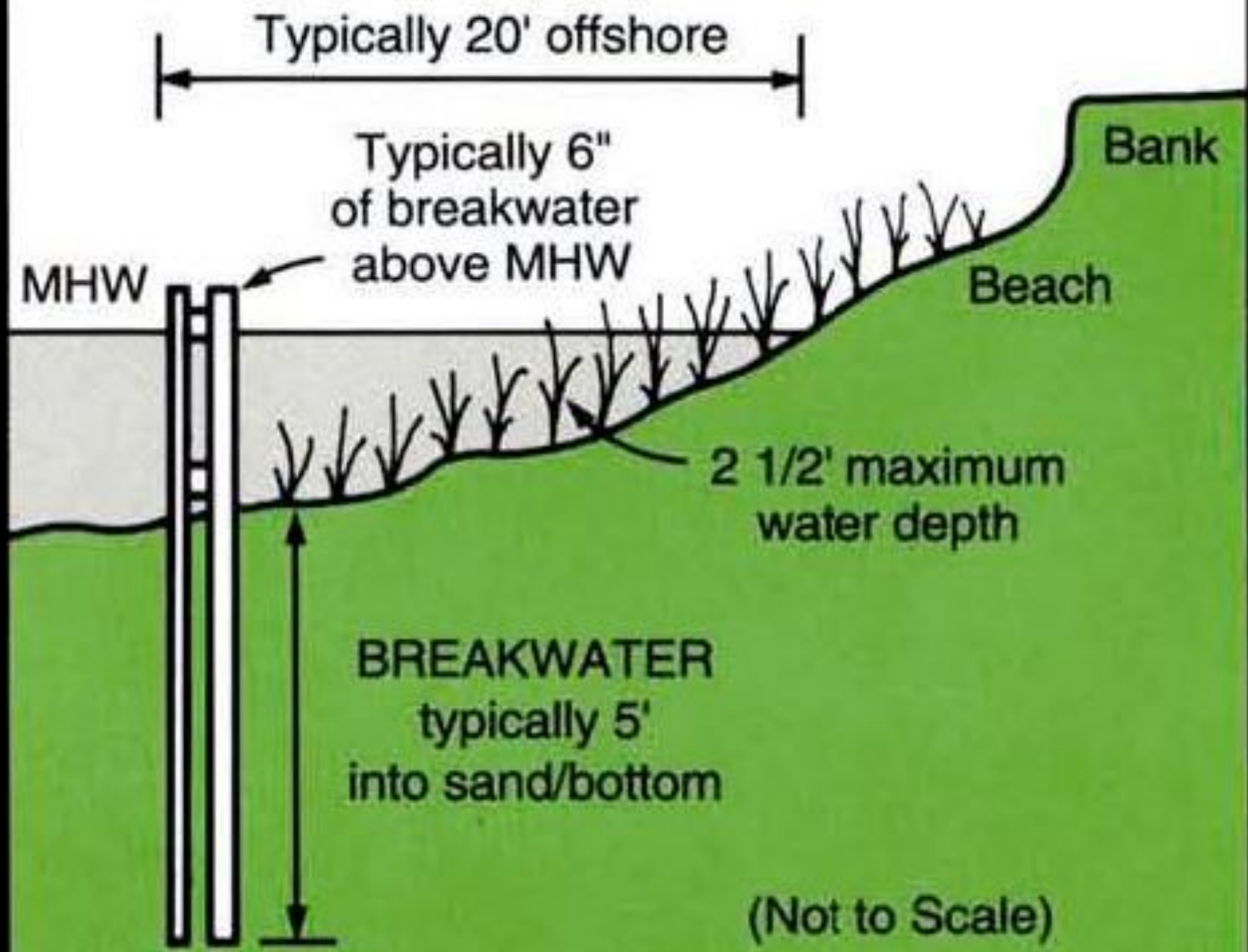
**CAMP LEACH
5 TO 9 YEARS
AFTER CONSTRUCTION**



**CAMP LEACH
9 YEARS INSTALLED
9 MONTHS AFTER REMOVAL**



**CAMP LEACH
9 YEARS INSTALLED
2 YEARS AFTER REMOVAL**





























BIOLOGICAL EVALUATION

The North Carolina Estuarine Biological and
Physical Processes Work Group



Recommendations for Appropriate Shoreline
Stabilization Methods for the Different
North Carolina Estuarine Shoreline Types



North Carolina Division of Coastal Management

August 2006

“My critter is best.”

EROSION MANAGEMENT CHOICES

- **Always** trades habitats



210

July 2006



1 Miles

MARSH

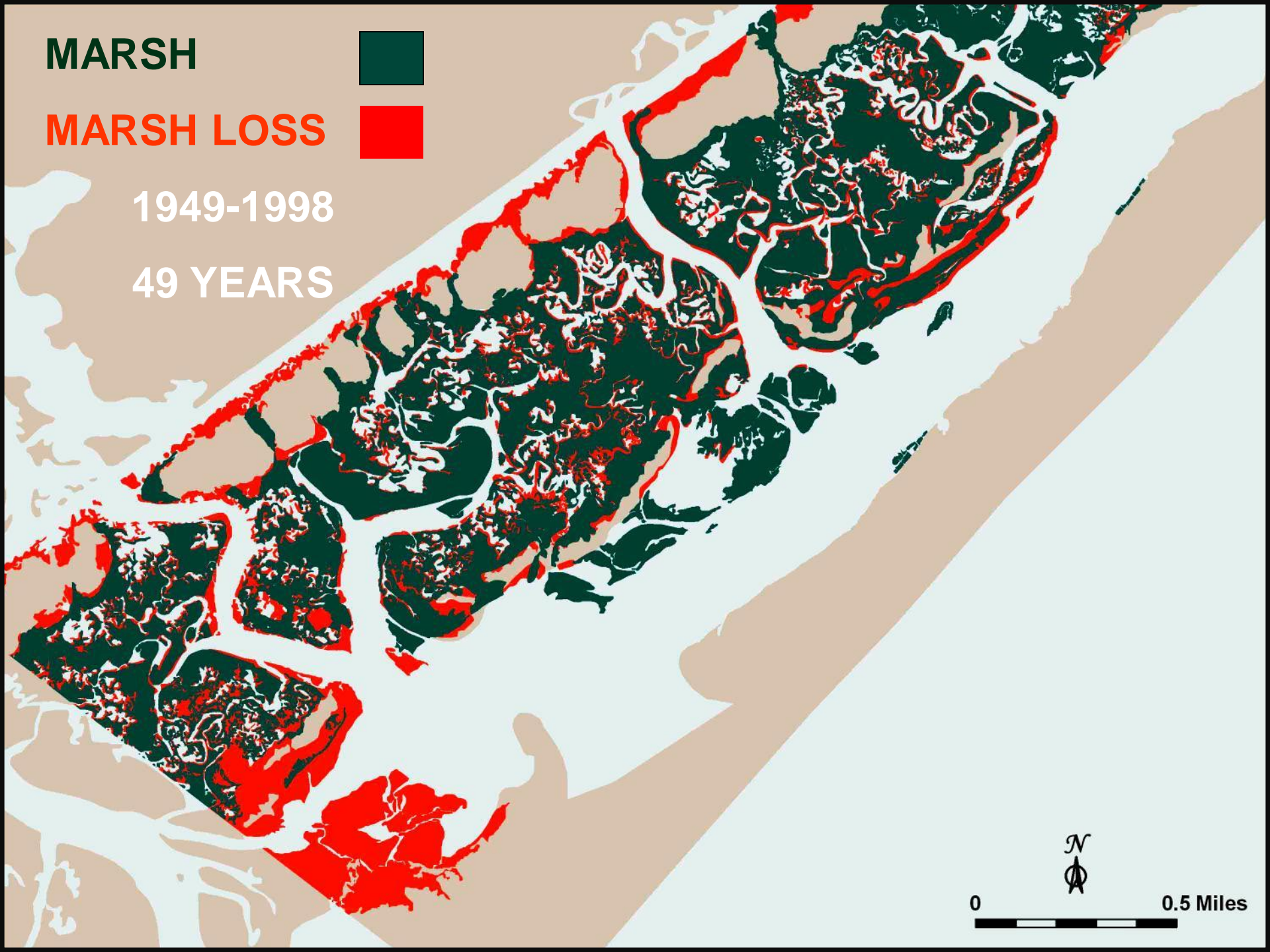


MARSH LOSS



1949-1998

49 YEARS



0



0.5 Miles

MARSH

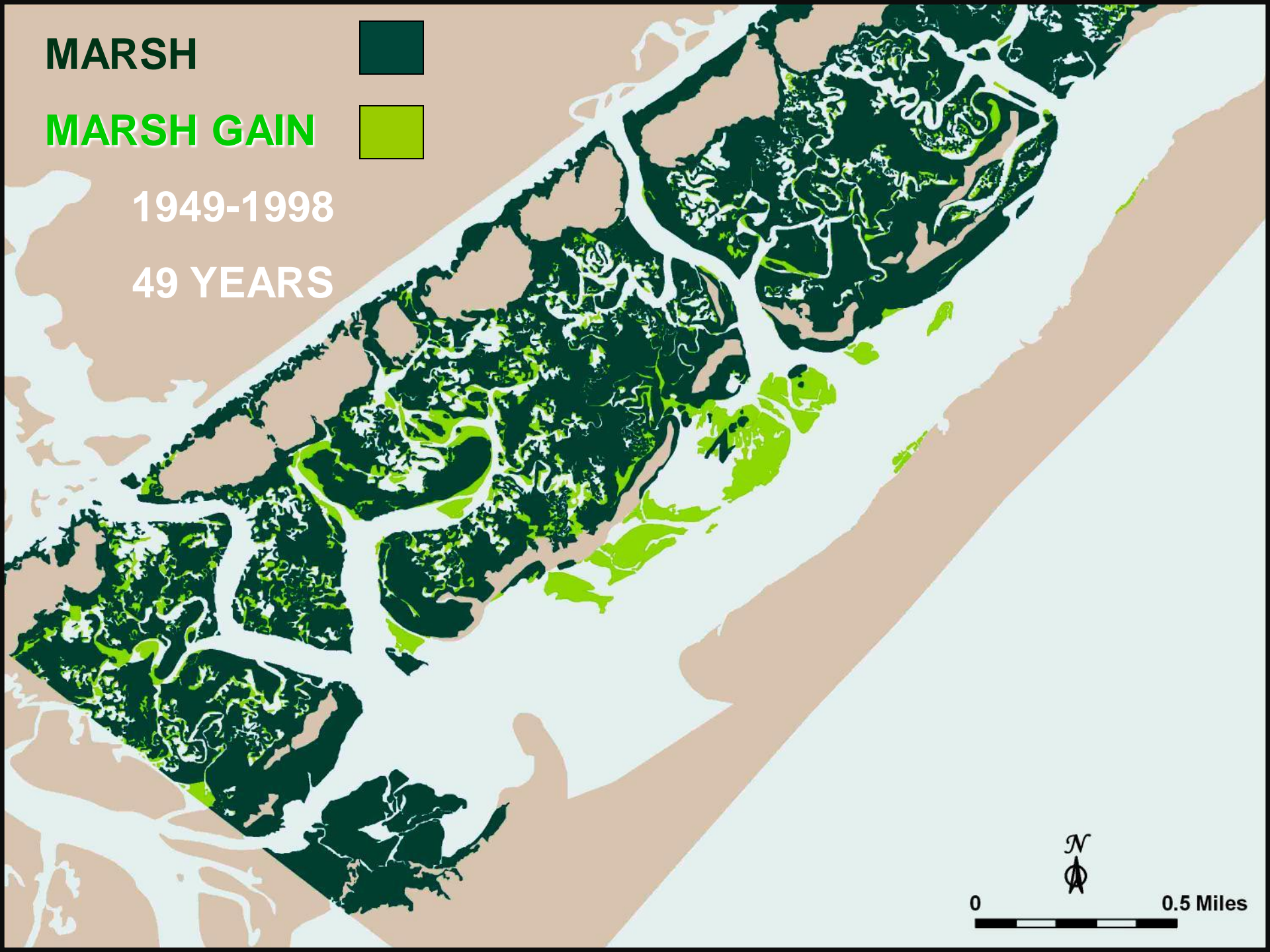


MARSH GAIN



1949-1998

49 YEARS

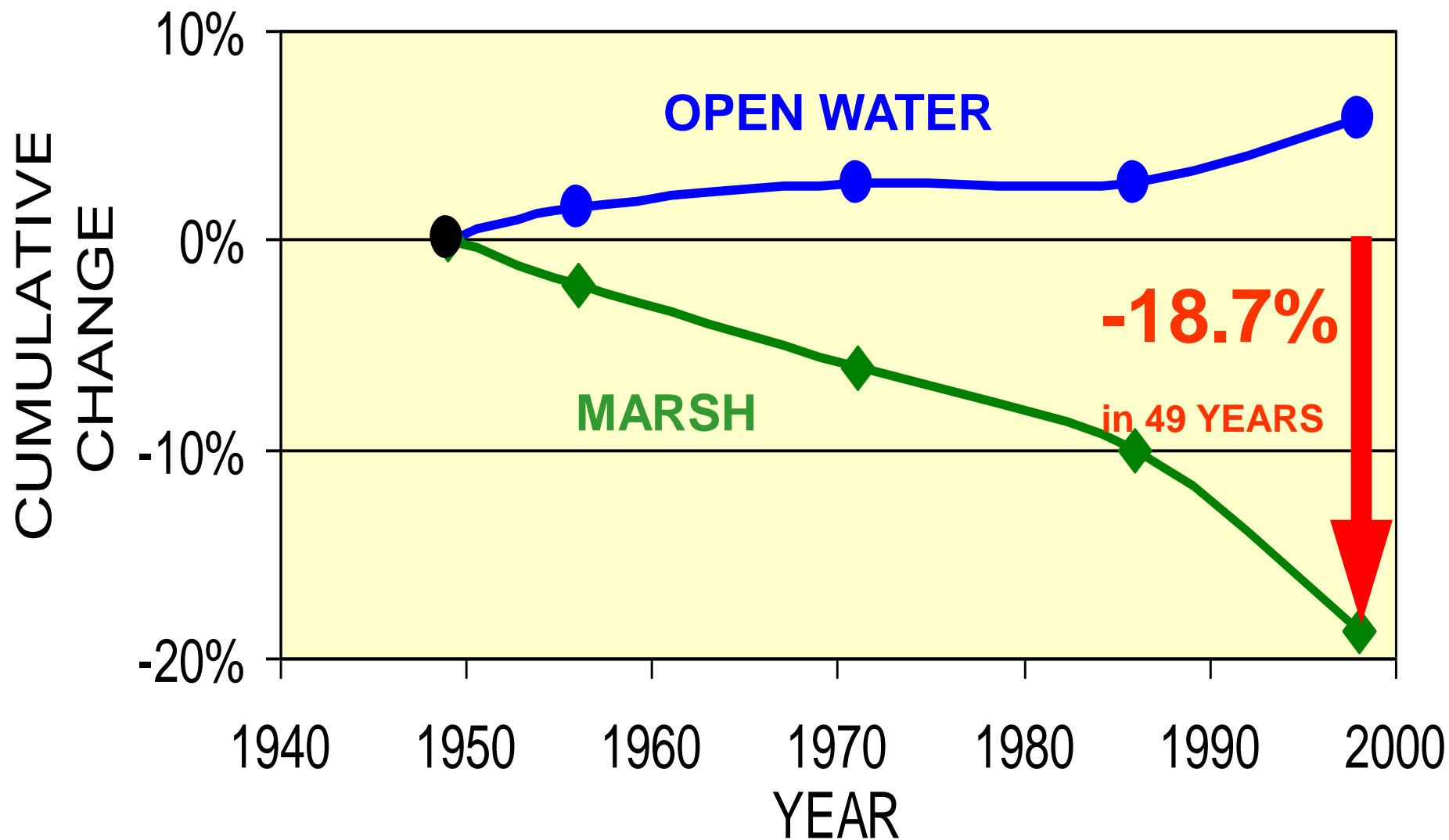


0



0.5 Miles

CHANGES IN TOPSAIL SOUND MARSH & OPEN WATER ACERAGE

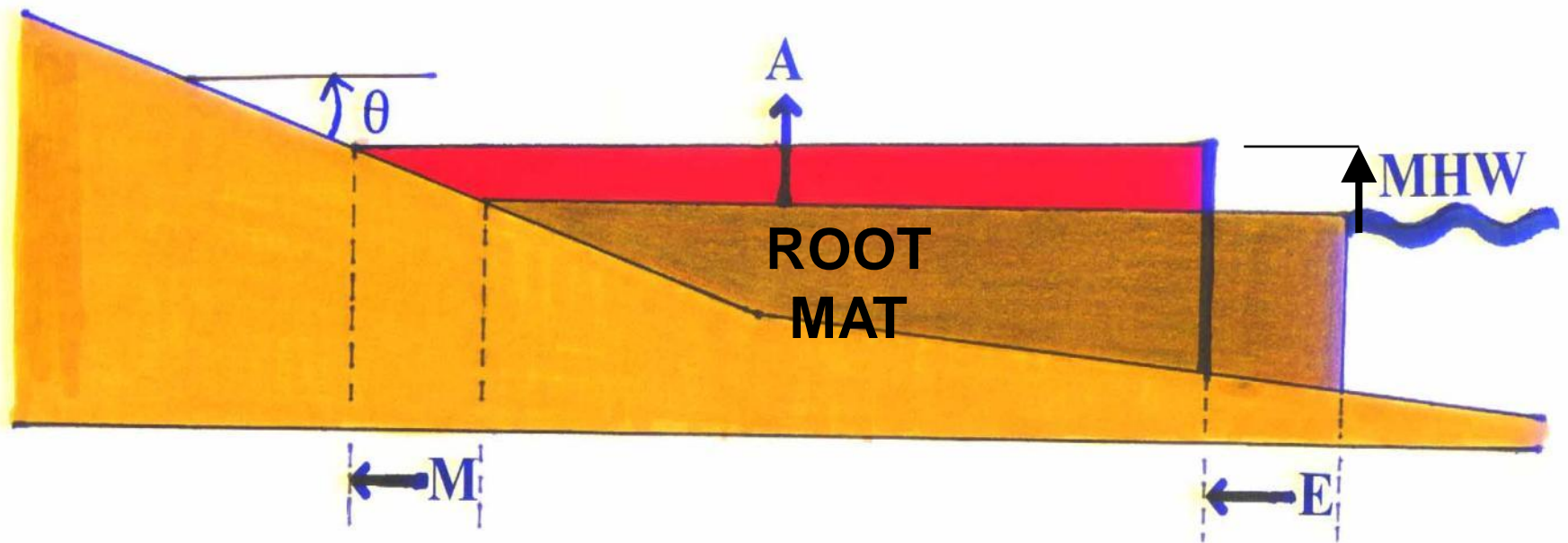








*Aerial of NCCAT Shoreline
August 31, 2010*



MARSH MIGRATION

with rising sea level (from Phillips,
1986)

$\theta = 1^\circ$

for $M = E = 1 \text{ ft/yr}$ $A > 1.5$
ft/century



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QUESTIONS?