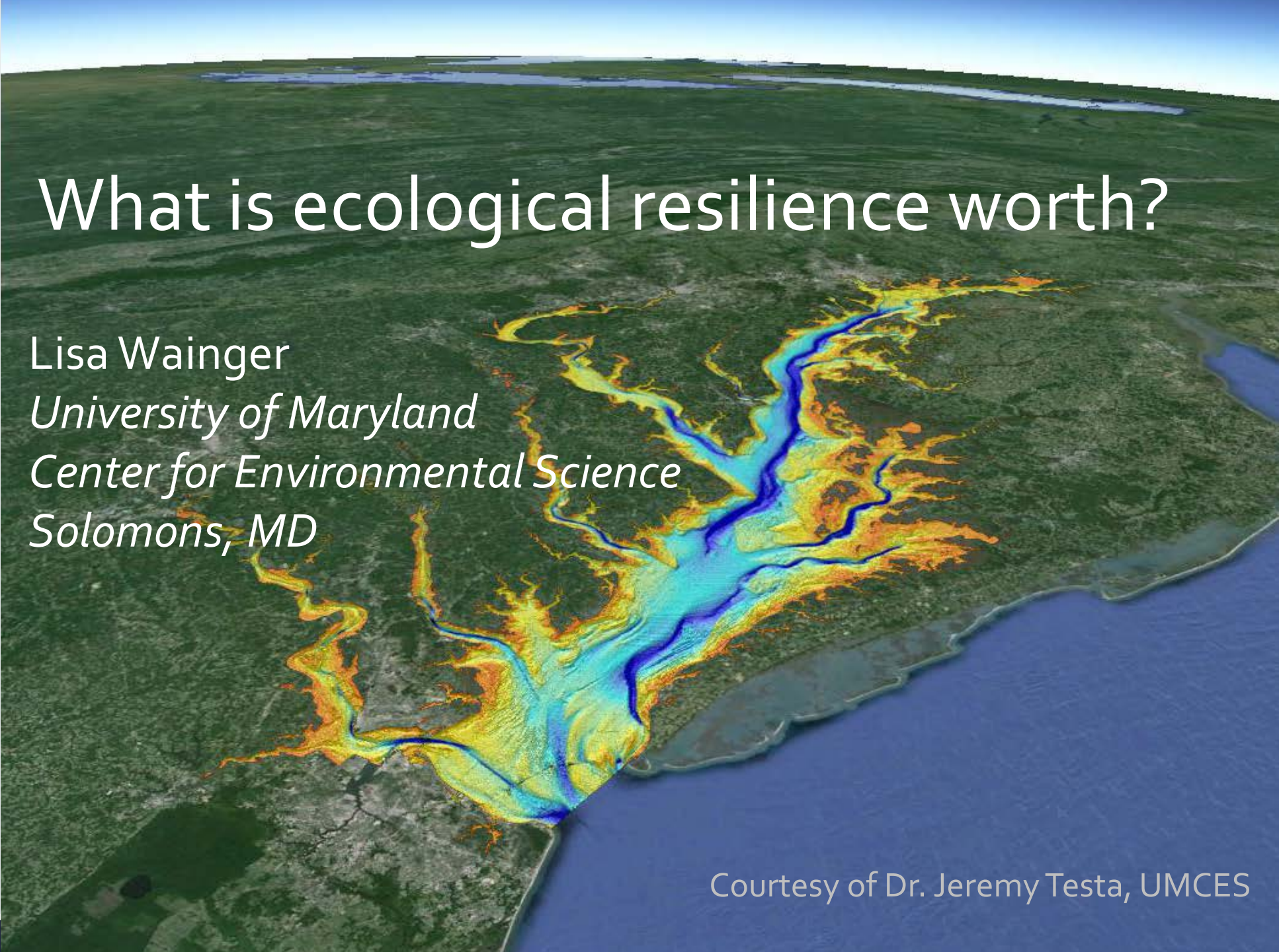


# What is ecological resilience worth?

Lisa Wainger  
*University of Maryland*  
*Center for Environmental Science*  
*Solomons, MD*

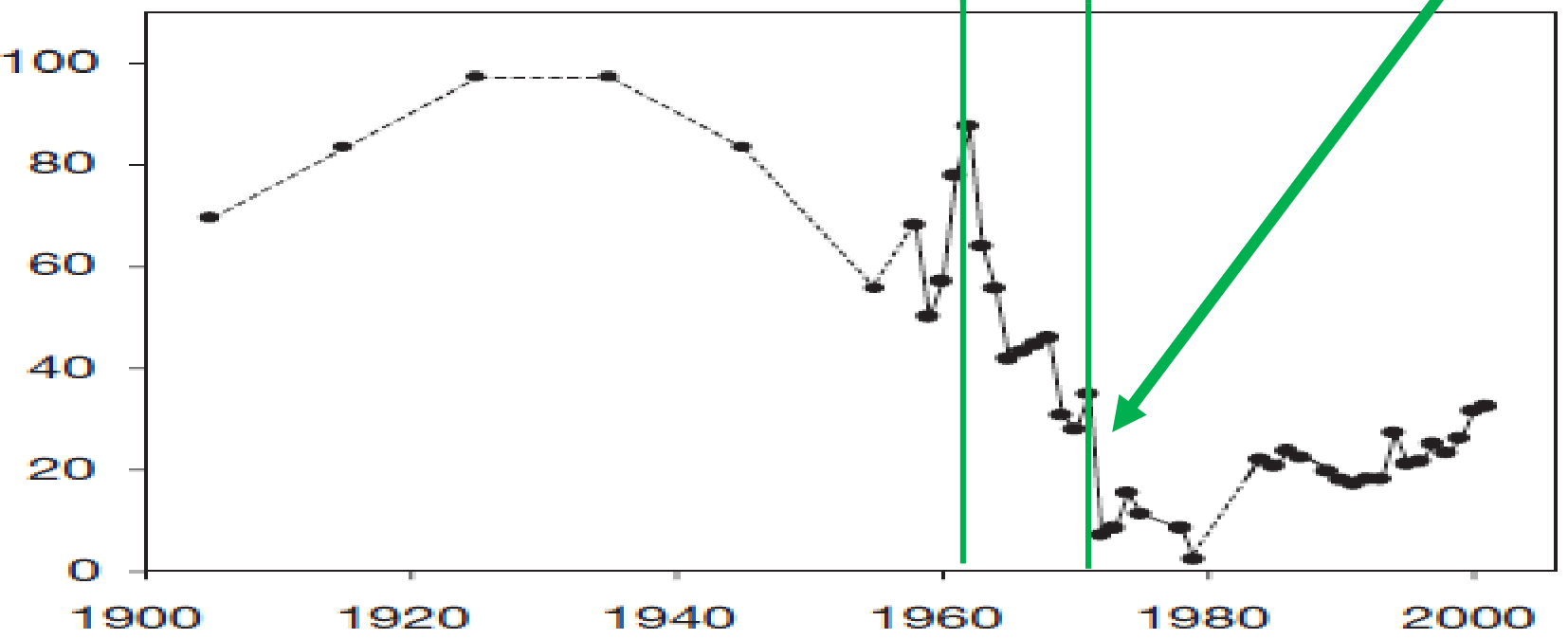
Courtesy of Dr. Jeremy Testa, UMCES



# Resilience Lost

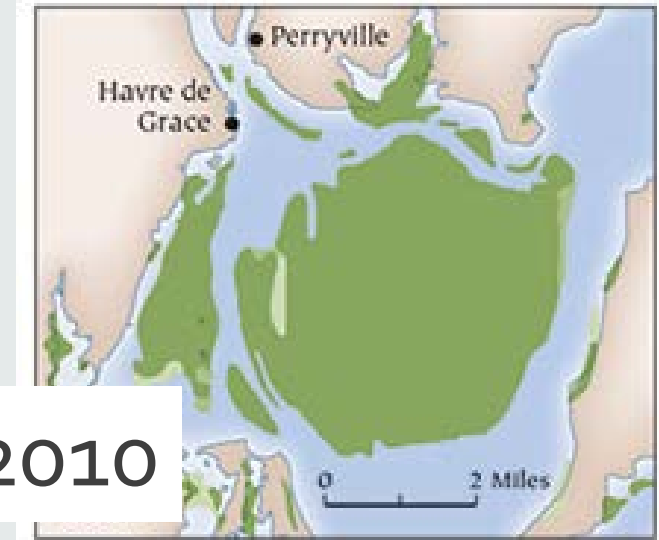
Seagrass dieback    Tipping Point:  
Hurricane Agnes

% Cover



Kemp et al. 2005

# Resilience Regained (2 hurricanes & counting)



Cassie Gurbisz (UMCES) in the Susquehanna Flats (Credit: Debbie Hinkle)

# Can we use ecosystem services to value SAV resilience?



# Which carbon credits would you buy?



	Option 1	Option 2
Planting status	Not planted	Trees 2 years old
Location within species range	Southern edge	Northern edge
Fire Probability	1 in 10	1 in 50
Market Cost	\$ 10 / credit	\$ 20 / credit
Expected Cost (CO <sub>2</sub> sequestered)	<b>\$30/ton</b>	<b>\$23/ton</b>

# Perhaps the value of SAV is what it represents

Reduced probability of regime shifts



VS

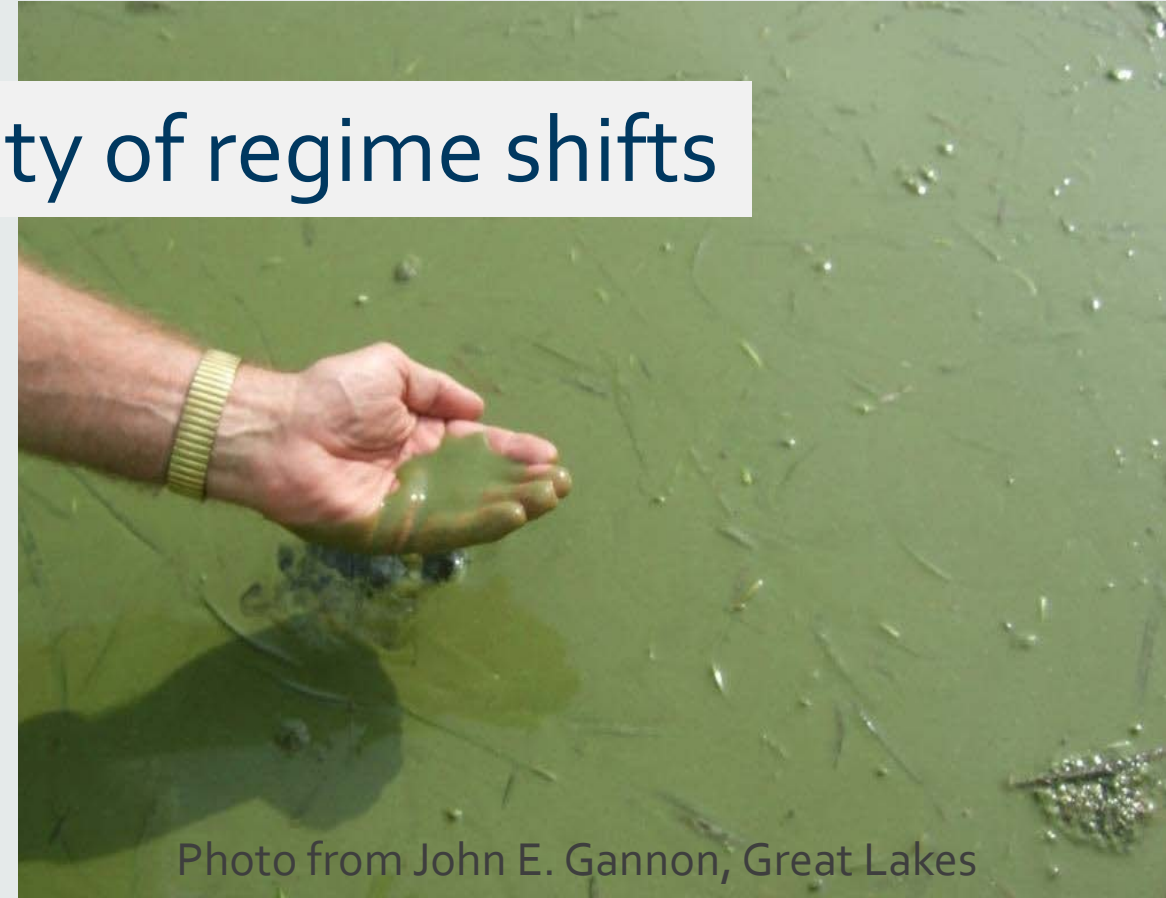


Photo from John E. Gannon, Great Lakes

# Valuing Resilience

1. **Reliability** makes any ecosystem service more valuable
2. **Resilience** is an end in itself – if we are investors in the future
  - Reduce controllable stressors to create capacity to absorb uncontrollable or novel stressors

