# Nitrogen pollution, health, and the Blue Economy

Maya Trotz, PhD Professor, Civil and Environmental Engineering University of South Florida

University of Miami Climate & Health Symposium 5/6/2022





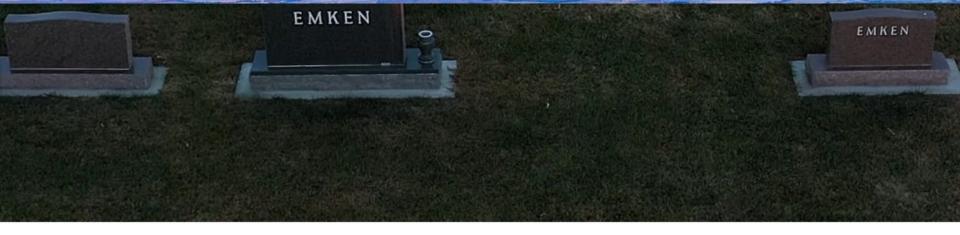






Dead fish and eels killed by a red tide in the Tampa Bay area collect in St. Petersburg, Florida, 2021. *Eric Higgs/Tampa Bay Estuary Program* 

### ALGAE BLOOM AFFECTS RECREATION/EXERCISE



#### Is Agrochemical Contamination Killing Nebraska's Children? The harrowing trail of toxic nutrients in farm country water.





# **Blue-Green Action Platform**

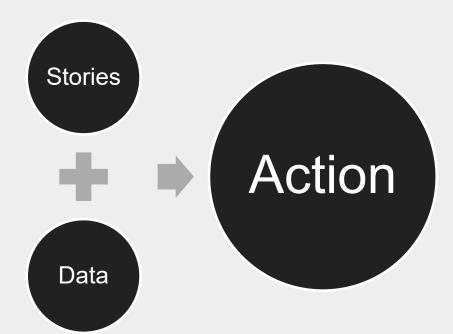
...bridging communities upstream and downstream to improve nitrogen management

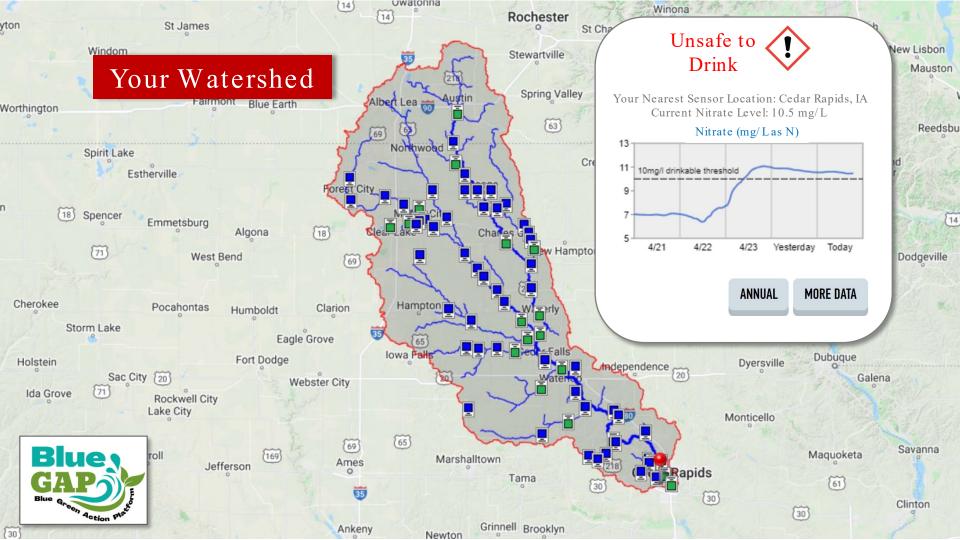
















"

I spend more on treating my drinking water Nobody swims in the rivers here Agricultural runoff We need more conservation practices The Farm Bill needs to be streamlined so conservation practices are easier Save on fertilizer

> Fish kills smell Harmful Algal Blooms make me sick Tourists avoid my business Manatee deaths increase Residential fertilizer Stormwater runoff Car emissions Wastewater discharge

lowa

Improved wastewater treatment Marine life suffers Need to collect data Important to educate youth

"

Florida

Virgin Islands

#### Bridging communities upstream & downstream.

# HOME ABOUT TAKE ACTION



Blue

Green Action PN

#### MAYA BURKE TAMPA BAY ESTUARY PROGRAM

TAMPA BAY ESTUARY PROGRAM

"We need to humanize nitrogen management."

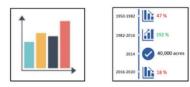


#### **Community Summary**

#### Tampa, FL

Tampa Bay was designated an "estuary of national significance" by Congress in 1990, laying the foundation for the creation of the Tampa Bay Estuary Program (TBEP) in 1991. Partnerships exist to restore and protect Tampa Bay through implementation of a scientifically sound, community-based management plan.

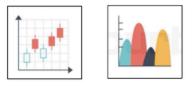
#### Historical Trends & Practices



35,000 acres of seagrass restored.

Learn more about water quality, scallops, benthic data.

#### **Future Projections & Action Guideline**



Grants to address nutrient management on residential and community gardens.

# **BlueGAP** Alliance Institute

N Champion context

Broaden Participation

Action Item

Iowa – Seth Watkins Iowa Farmer	Tampa – Walter Smith Environmental Justice Leader	USVI – Kelcie Troutman Environmental Educator
Connect people to farm bill & policy needed for crop diversity & soil health	Connect local library to FAMU + nutrition & urban gardening	Create educational material linked to outdoors
Snowbirds, veterans (Force Blue), orgs working on sustainable Ag	Land Grant univ, established orgs like NAACP	Informal learning environments, BIMS bites

# Accelerating Nutrient Pollution Reductions in the Nation's Waters

Environmental Protection Agency (EPA) will work to ensure that rural, environmental justice, low income, and tribal communities benefit from efforts to address sources of nutrient pollution.

- Bipartisan Infrastructure Law will deliver \$132 million to support the National Estuary Program and more than \$1.7 billion for Geographic Programs.
- \$60 million in new resources to implement the Gulf Hypoxia Action Plan.

# **End Users**

Nitrogen champions, community organizations, boundary spanning organizations, estuary programs, hypoxia task forces

# **Stakeholders**

Cities, utilities, developers, industry, academia, educators, everyone





# Thank You! Maya Trotz, <u>matrotz@usf.edu</u>



## 510 593 3647

This work has been supported by grants from the National Science Foundation Numbers 1735320 and 2137891. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the funders.