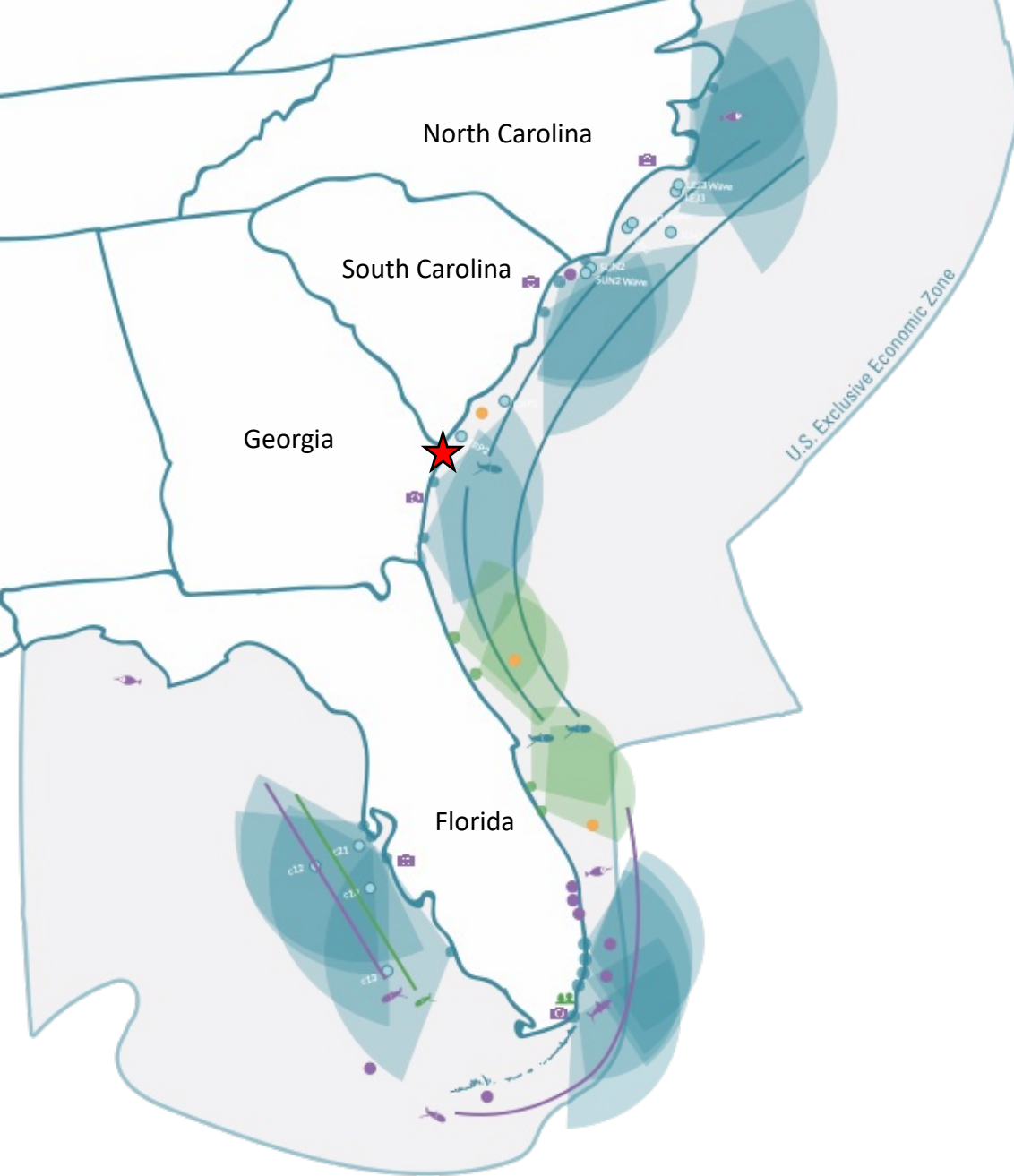


Establishing a monitoring program and identifying environmental drivers of HABs in a model estuary of coastal Georgia

*Natalie Cohen
University of Georgia
Skidaway Institute of Oceanography*

*Katie Higgins
University of Georgia
Marine Extension and Georgia Sea Grant*

SECOORA Annual Meeting
May 10th 2023



Overview

Why no HABs in GA?

- Tidal flushing
- Blooms are ephemeral
- Georgia has a NOAA Plankton Monitoring Network, but they are not measuring cell densities

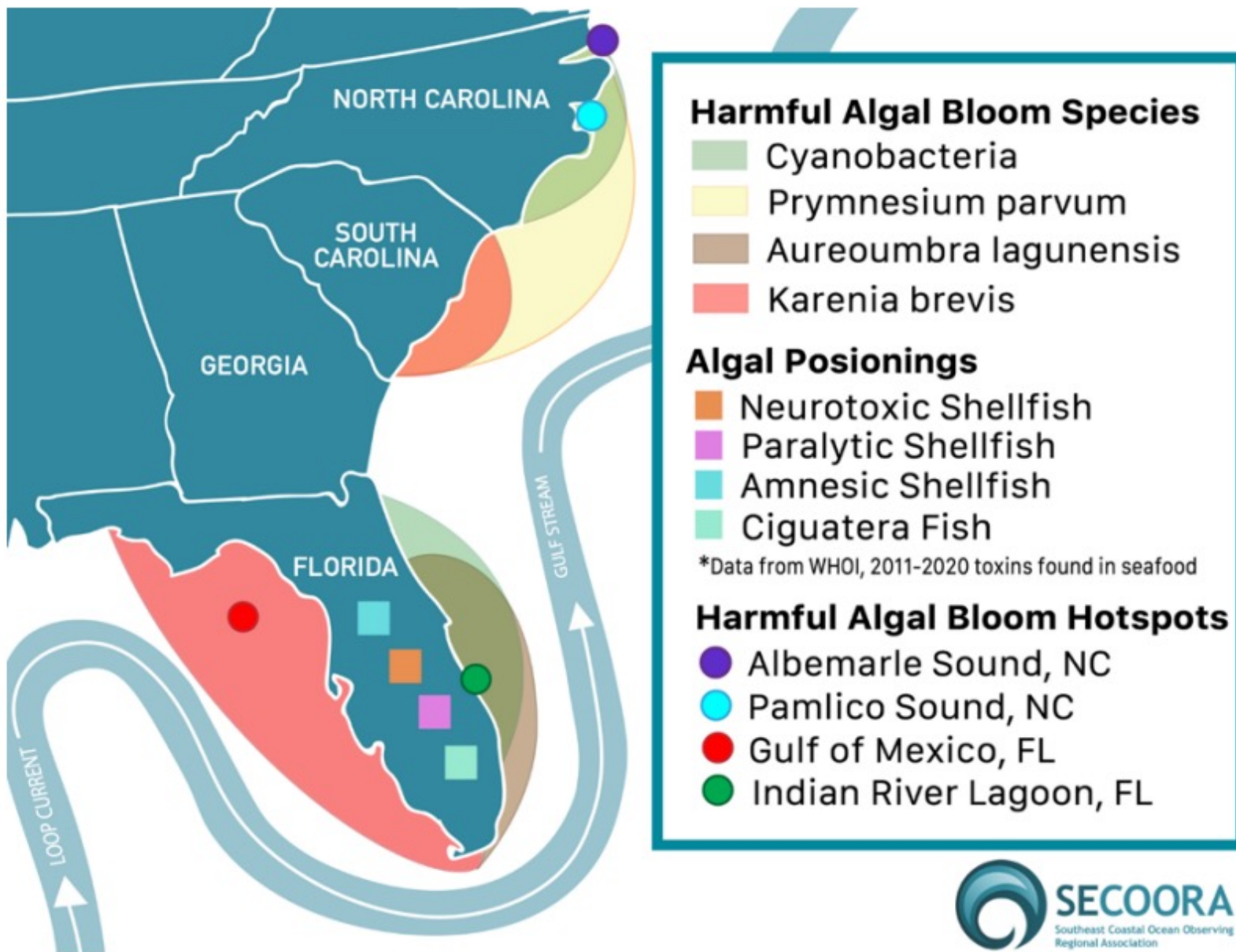


Figure 4 - Map of HABs, algal poisonings, and HAB hotspots in the SECOORA region.

Akashiwo is the suspected cause of an oyster mortality event in 2017

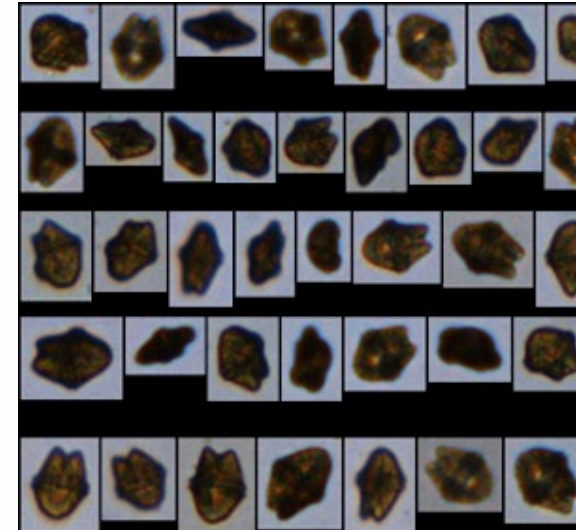
UGA scientists investigate marine murder mystery

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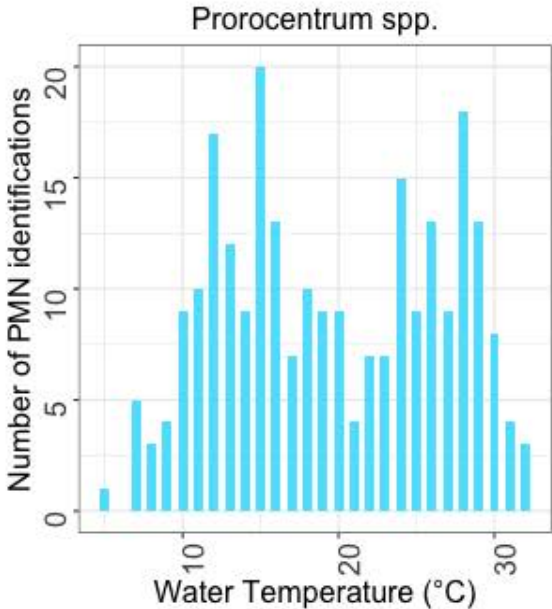
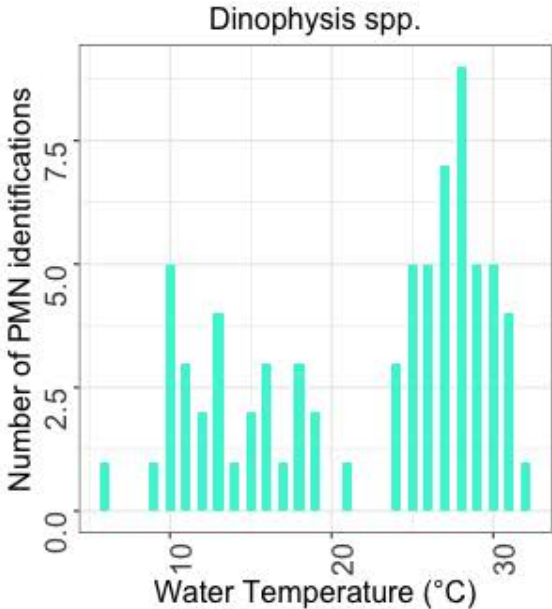
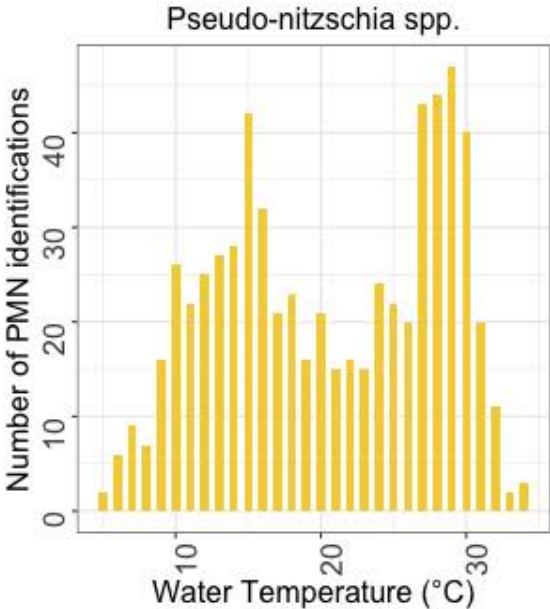
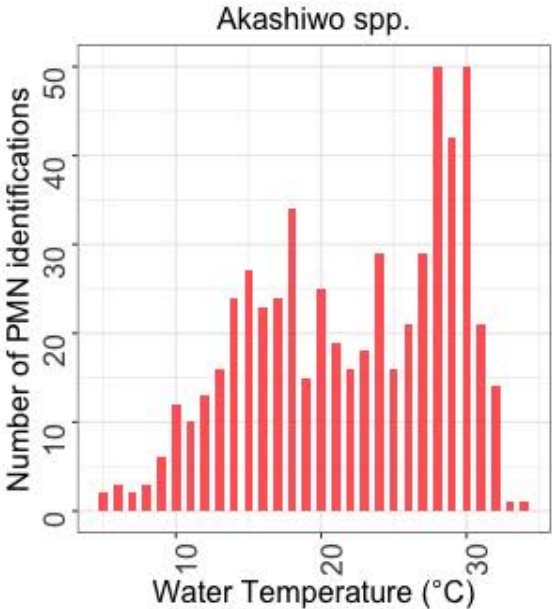
A team of University of Georgia investigators is working on a murder mystery, not your everyday who-done-it, but one in which the investigators are scientists, and the victims are thousands of tiny oyster larvae.

The mystery began in the summer of 2017 at the UGA Shellfish Research Laboratory, a unit of UGA Marine Extension and Georgia Sea Grant on Skidaway Island near Savannah. The shellfish lab is leading a movement to develop oyster aquaculture in Georgia and operates the state's only oyster hatchery.

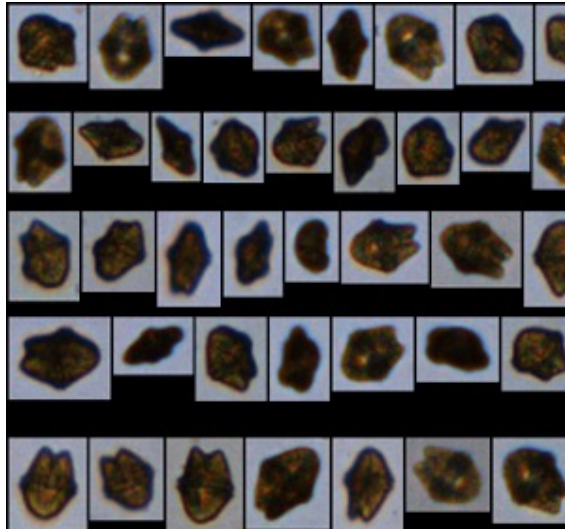
One day, as they frequently do, the oyster hatchery team changed the water in the tanks containing oyster larvae. The team pumped water from the Skidaway River behind the lab and ran it through filters before introducing it to the larvae tanks. At this stage in their life cycle the oysters are free swimmers — not having developed a shell or attached to any surface — and they are tiny, only a tenth



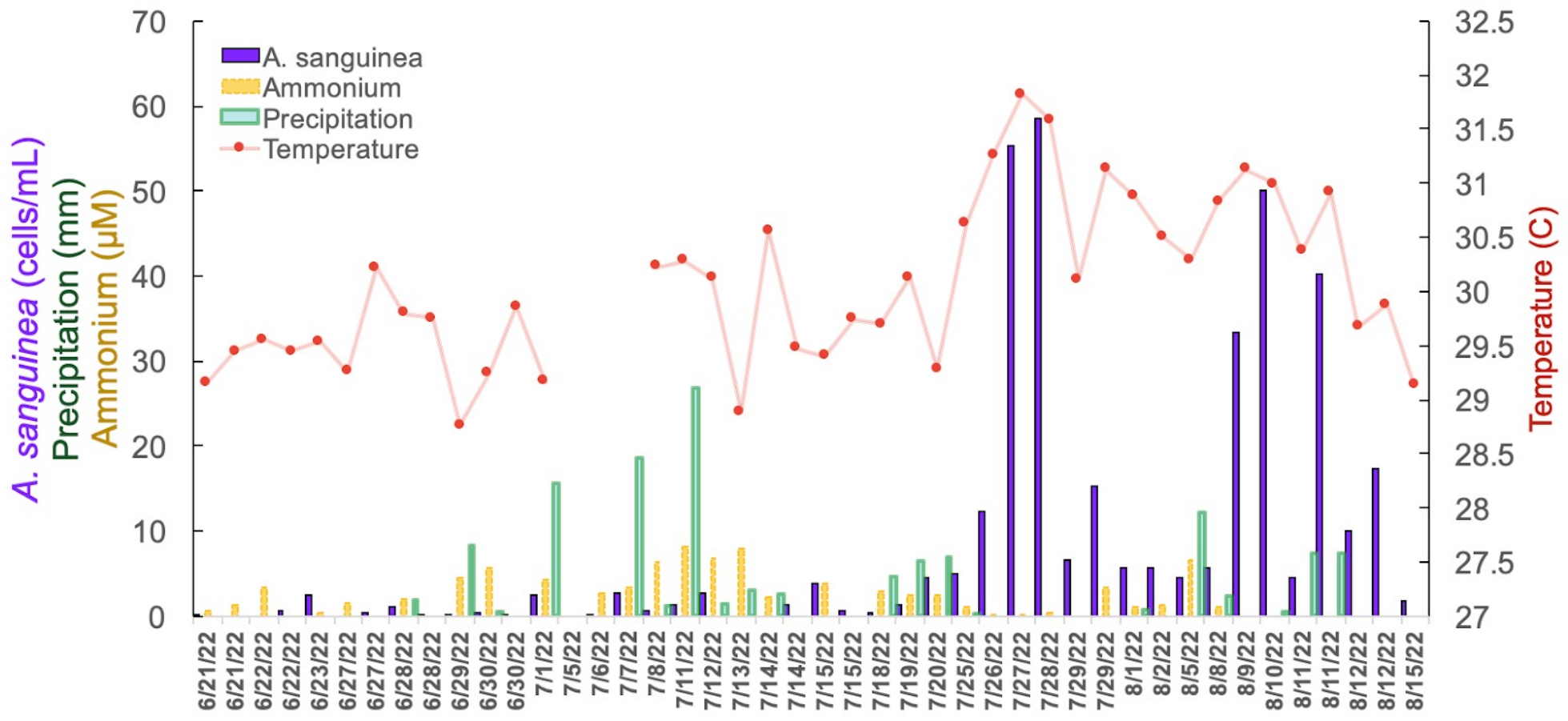
Citizen scientist data over 15 years: Some HABs like it warm



FlowCam cell quantification: *Akashiwo sanguinea*



Preliminary insights: *Akashiwo* cell densities increase in late summer



Looking ahead: A regional notification network



Alert local aquaculture groups and residents of concerning phytoplankton levels

