Akashiwo sanguinea Blooms in Coastal Georgia: Insights from high-resolution monitoring efforts

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Overview

Luo et al. (2017)
Accomplishments

- Established monitoring program for HABs in the SRE
- Identified seasonal patterns of *Akashiwo* abundance; captured a bloom and subsequent larval oyster failure
- Began gene expression analysis of samples collected before, during, and after bloom
- Engaged with public, citizen scientists, and other stakeholders
- Presented findings at national conferences, received grant and travel support
Georgia Harmful Algal Blooms

SECOORA funds a project that incorporates high-resolution, quantitative Harmful Algal Bloom (HAB) monitoring in the Skidaway River Estuary to determine environmental conditions conducive to HAB formation in Georgia estuaries. This project builds upon NOAA’s existing citizen science-based initiative, the Phytoplankton Monitoring Network.

<table>
<thead>
<tr>
<th>Date</th>
<th>Cells</th>
<th>Cells/ml</th>
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<tr>
<td>2/16/24</td>
<td>1</td>
<td>0.26</td>
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Above is the recorded Akashiwo sanguinea cell densities shown in near real-time. The information provided includes the date of the data point, the total number of Akashiwo cells counted, and the concentration of cells per milliliter of water sampled. It is hypothesized that a count of 100 cells/ml could be an indication of poor water conditions, but more research is needed to define the exact levels that cause harm.
Looking Ahead

- Continue monitoring for another year, with daily sampling in summer
- Analyze data to further understand drivers of *Akashiwo* blooms
- Complete metatranscriptomic analysis to understand molecular mechanisms of bloom formation and decline
- Strengthen engagement with stakeholders, including connecting with commercial oyster growers in Georgia