Title: HAB research in South Central Alaska

Harmful Algal Blooms (HABs) are becoming a topic of increasing concern in coastal Alaskan ecosystems. These blooms can produce dangerous biotoxins, particularly, paralytic shellfish toxins (PSTs) and domoic acid, which accumulate primarily in shellfish. Saxitoxins and domoic acid are the causative agents for paralytic shellfish poisoning (PSP) and amnesic shellfish poisoning (ASP), respectively. Subsistence, recreational, and mariculture-based shellfish harvests are a significant source of both economic and food security across Southcentral Alaska and there are currently no state-operated HAB or biotoxin monitoring programs to ensure subsistence or recreational safety in Alaska.

To fill in the gap, NGOs, federal research facilities, and Alaska Native-owned organizations have set up labs and monitoring programs in the southcentral region. These programs focus on conducting phytoplankton tows and assay-based shellfish tissue testing. These programs' goals are to inform local subsistence and recreational harvesters when there are elevated levels of HAB species detected in phytoplankton tows and when there is high toxin concentration in shellfish samples. In addition to monitoring programs, organizations have also started to conduct small research projects to dive deeper into how toxins travel through the food web and how toxin congener profiles change over the seasons and per species.