

Project Members



HIROSHIMA UNIVERSITY



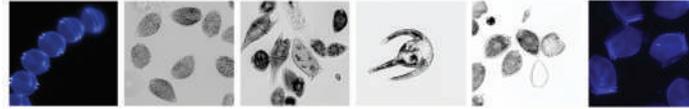
Collaborators



Funding



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Monitoring of Algae in Chile (MACH)

Development of harmful algal bloom monitoring methods and a forecast system for sustainable aquaculture and coastal fisheries in Chile

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SATREPS

Science and Technology Research
Partnership for Sustainable Development
(SATREPS) - Japan

What are HABs?

HAB, commonly called Red Tides, is caused by an overgrowth of phytoplankton, many of which produce toxins. Increased phytoplankton mass can trigger fish kills and toxin accumulation in shellfish, which may result in threatening marine life, human health, and the local economy.



Our objectives

- Monitor local marine environments to obtain information about water conditions at each station.
- Detect harmful algae species from regional water and understand their diversity.
- Identify other microorganisms that are related to HABs.
- Based on the information, establish a HAB prediction system for Chile from the phytoplankton and bacterial monitoring.

What are we doing

- Monitoring 14 stations along the Chilean coast from Antofagasta to Punta Arenas every week.
- Collecting information on phytoplankton and bacterial diversity at each station.
 - Collecting information on water conditions such as temperature, salt concentration, oxygen content, and clarity.
 - Collecting information on nutrient concentrations (nitrogen, phosphate, silicate) in ocean water at each station.
- Building a database from the information we are gathering to predict upcoming HABs in Chile.
 - We have developed a "Suitcase Lab," a portable laboratory system. We can carry it to the monitoring sites to perform HAB species detection using cutting-edge technologies.
 - We have also developed a "Lab bus," a mobile laboratory, to conduct research and education on-site in many different cities in Chile.



Contribution to communities

- We all can learn a lot about HABs on the Chilean coast.
- The information is very useful to improve the current monitoring and prediction systems in Chile.
- The study will be beneficial in protecting local marine life, human health, and the economy from HAB.

This project provides knowledge of HABs to the communities

We hope to build a strong scientific research relationship between Chile and Japan

