

Observing harmful algal blooms from satellite and there temporal changes

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The availability of ocean color satellites allows us to observe and monitor our ocean. The ability to monitoring these satellites within a short time windows can illustrate the temporal variability of our oceans, especially on the presence of a harmful algal blooms events. As there are many benign species of algae in the ocean, there are a number of toxic ones. Under the right conditions of temperature and nitrogenous nutrients, algae can reproduce rapidly resulting in localized blooms in the ocean and bays. When the algae are toxic, this can result in fish poisoning. At high concentrations, these algae blooms can also be harmful to humans, particularly affecting those with respiratory problems. The west coast of Florida, known as the West Florida Shelf (WFS), is particularly prone to harmful *Karenia Brevis* algal blooms. These regularly cause fish kills, and often result in beach closures, both with subsequent damages to the local economy. In this project we will investigate and compare the potential for satellite detection of *Karenia Brevis* algal blooms, using different techniques as well as taking the advantage of the available overlapped satellite imageries we can compare retrievals and their propensity of temporal change.