

What color is YOUR water? Monitoring the Coastal Ocean Through Color

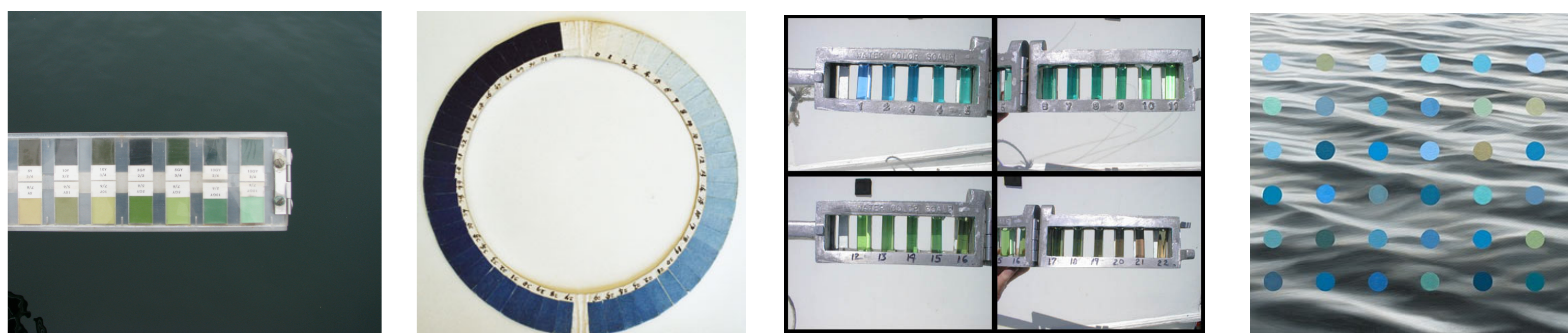
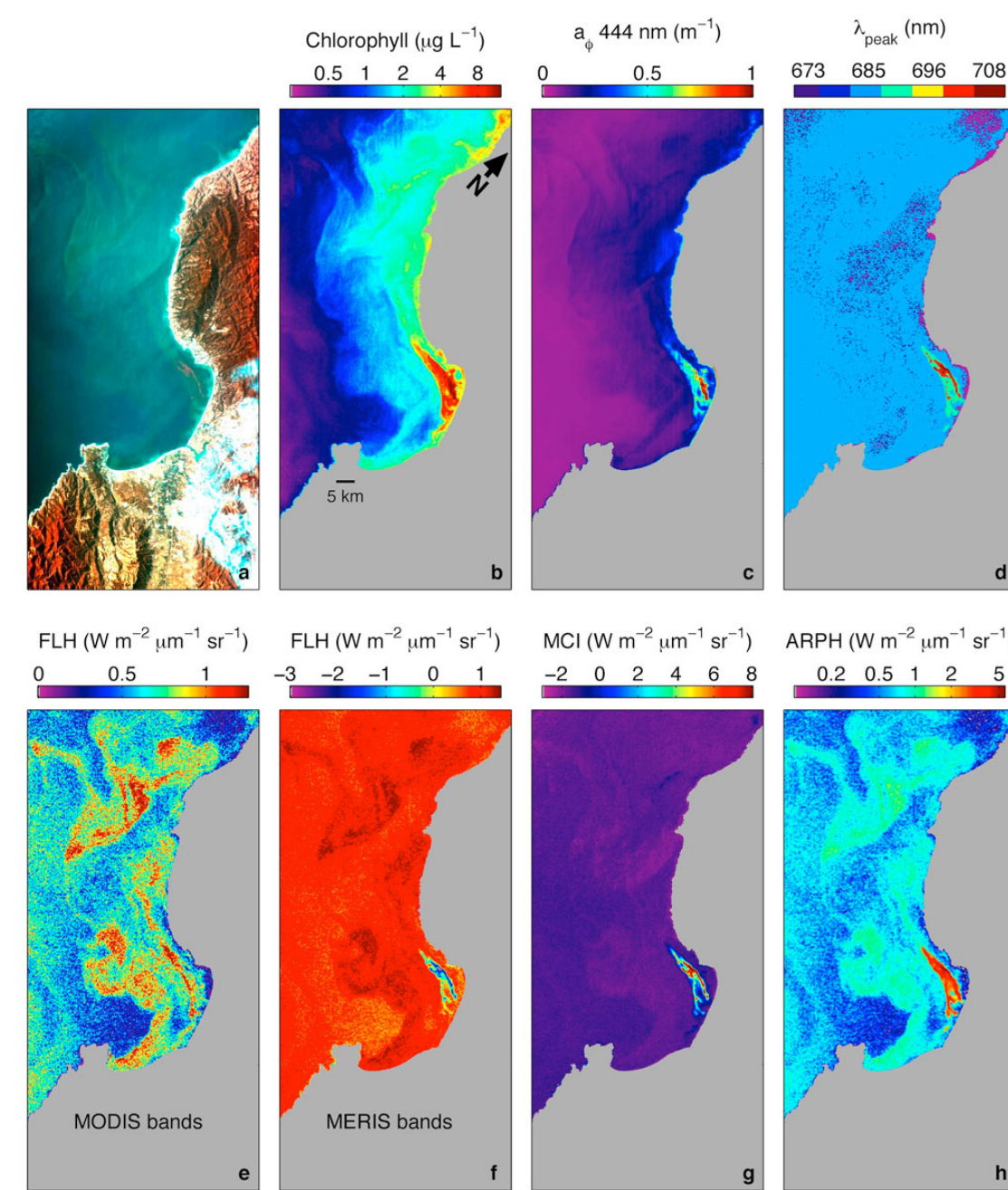
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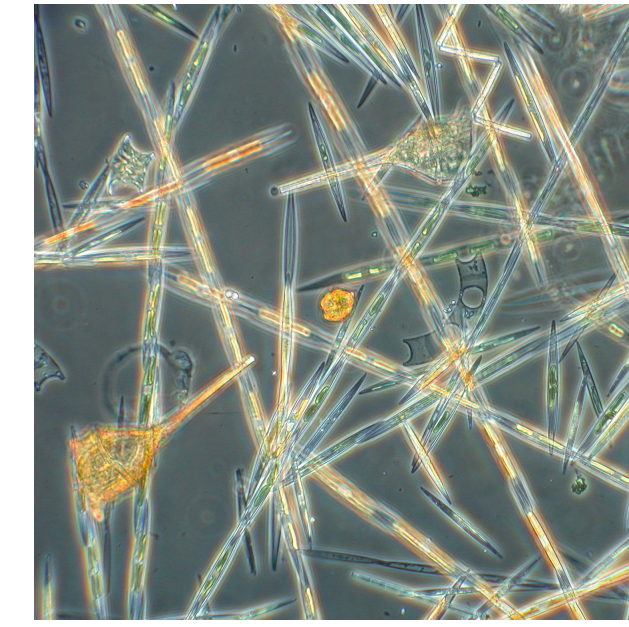
What is Ocean Color?

Ocean color as measured from satellite is a prominent tool in modern oceanography. Satellite sensors record reflected light from the surface of the water. Different colors represent how light interacts with different particles in the water.

Our eyes can do the same thing! People have been observing and recording the color of the water from the shore for centuries. Changing colors reflect the changing particles in the water.



What do the colors mean?



When the water looks especially green, it means there are a lot of microscopic algae (phytoplankton) growing near the surface.

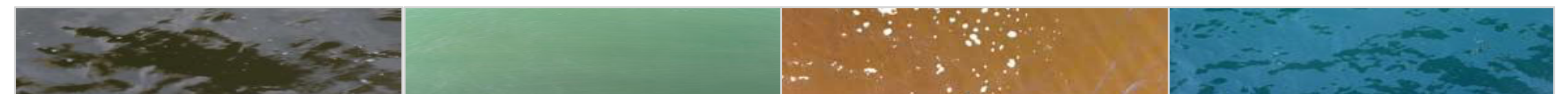


When the water looks murky and brown it means there is sediment, or mud, suspended in the water.



Phytoplankton blooms often turn the water green, but a dense bloom of certain species can be orange, brown or red.

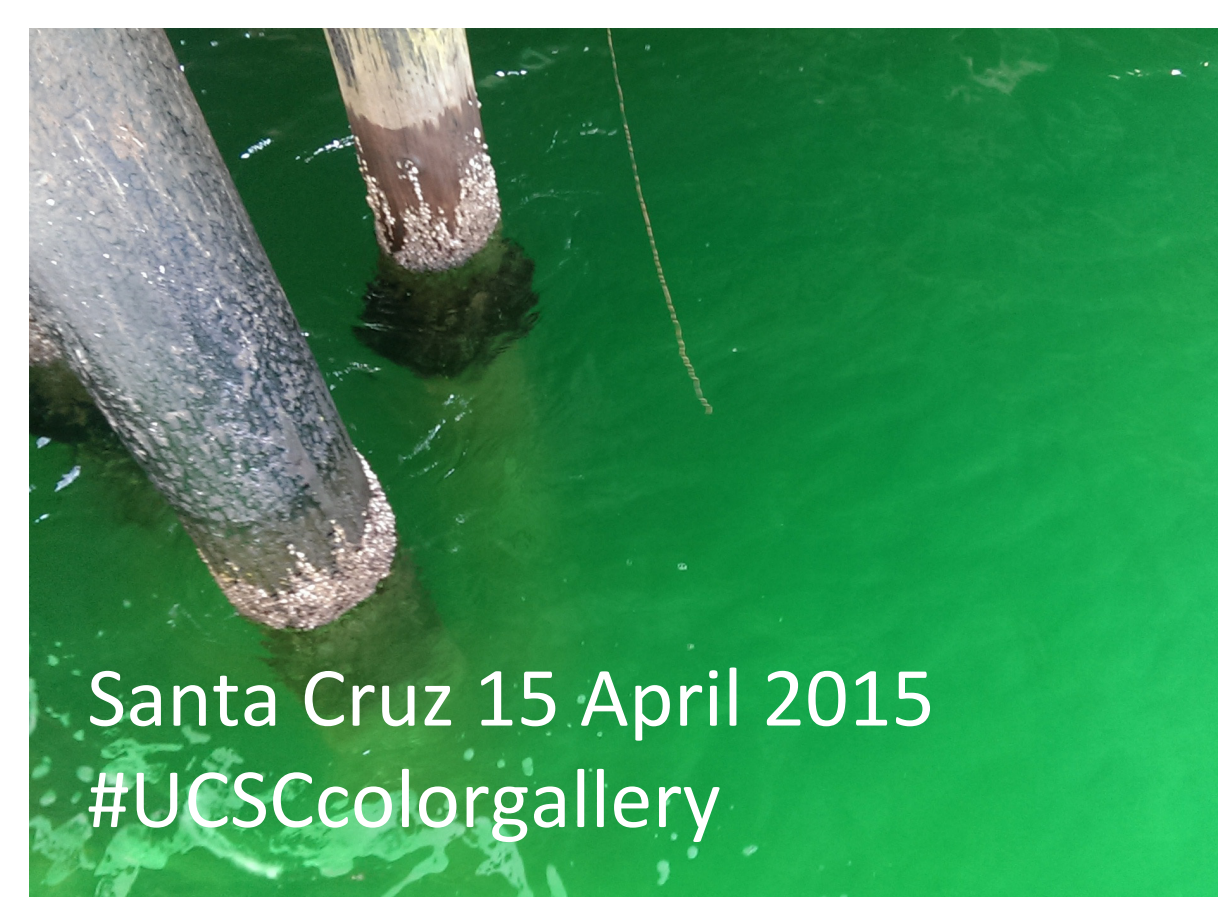
Colors below all from Monterey Bay!



How is ocean color measured here?

In Monterey Bay, the water color is recorded each week in Monterey and Santa Cruz while researchers are collecting phytoplankton samples.

This color chart is used, and the color is recorded along with several other water quality measurements.



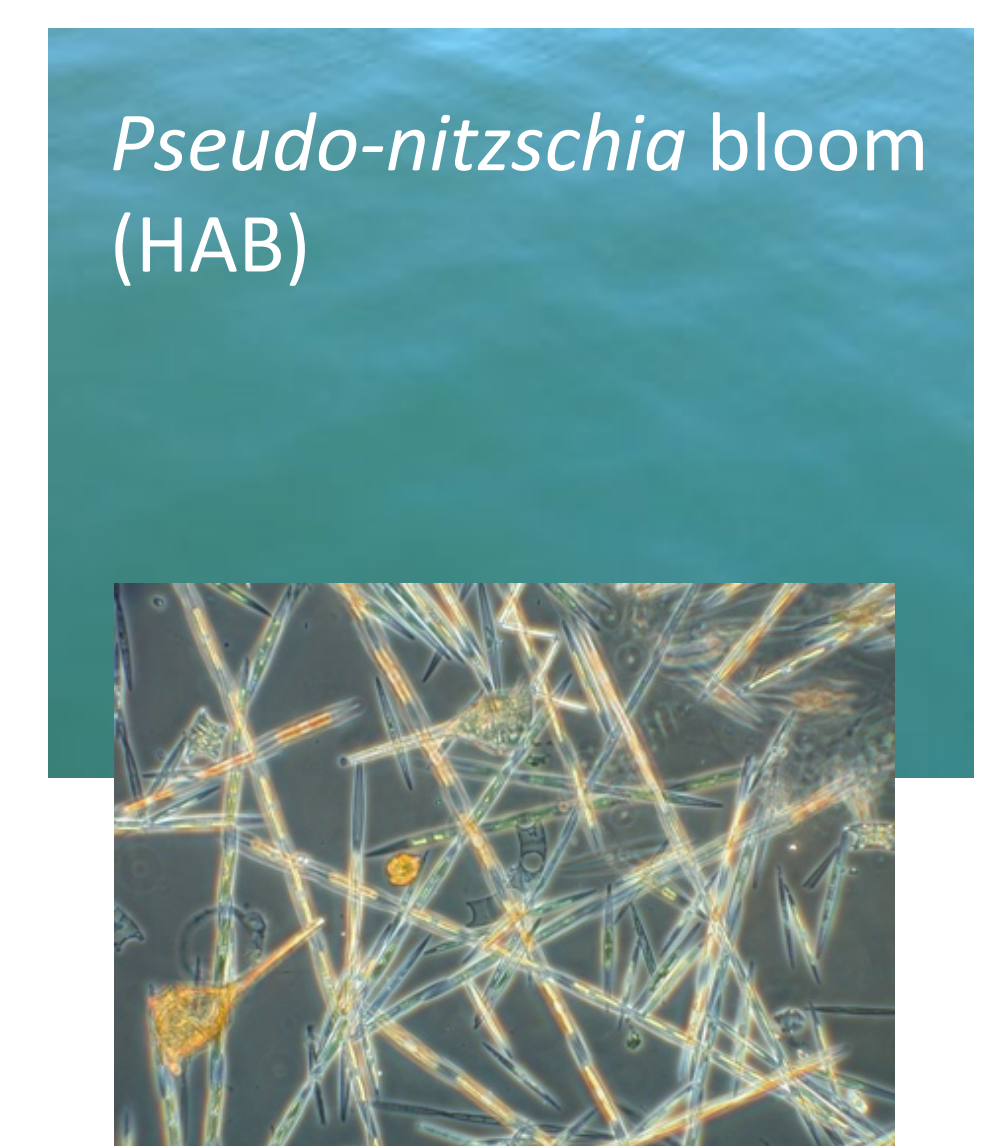
Why does it matter?

Monitoring the changing color of water can help researchers recognize patterns in the state of the ocean. Patterns can hold the keys to understanding phenomena like red tides and harmful algal blooms, weather events, and climate change.

Red tides, often harmless, are easy to see. (Can you spot the whale?)



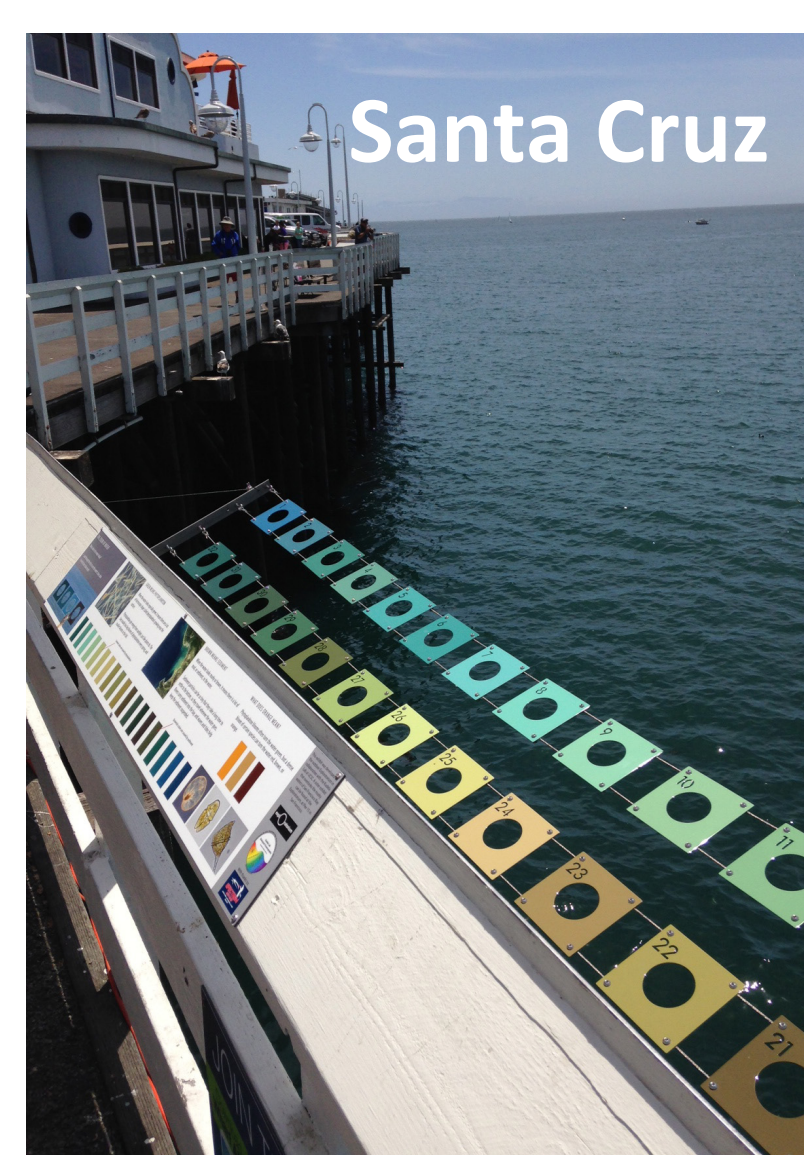
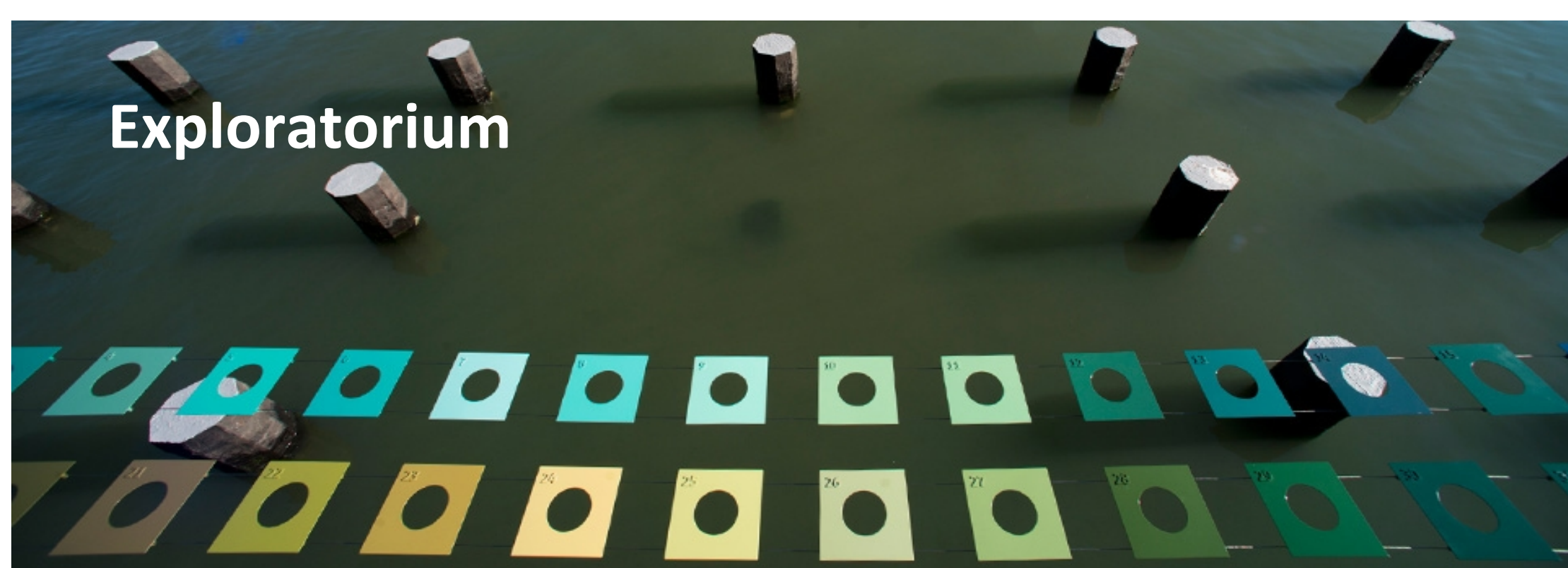
Harmful Algal Blooms are not. They are often colorless – but subtle changes in color can reveal changes in the phytoplankton community.



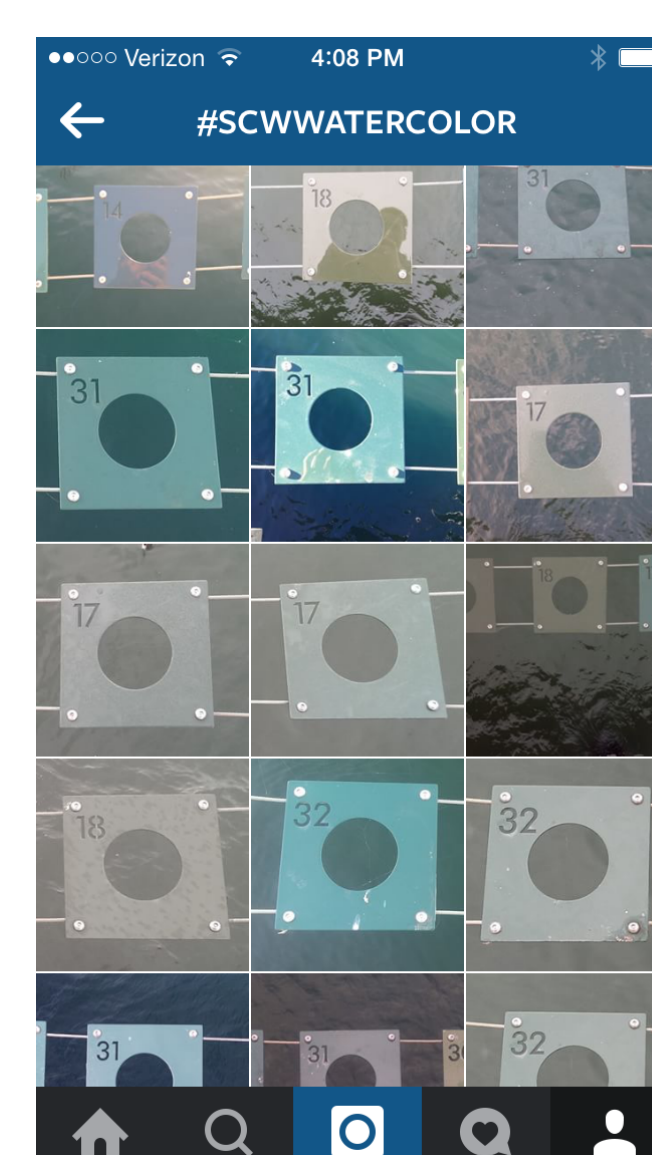
Join us!

Low Tech:

Water color exhibits can be found at the Santa Cruz Wharf and the Exploratorium in San Francisco. Take a photo and contribute to our Instagram gallery!



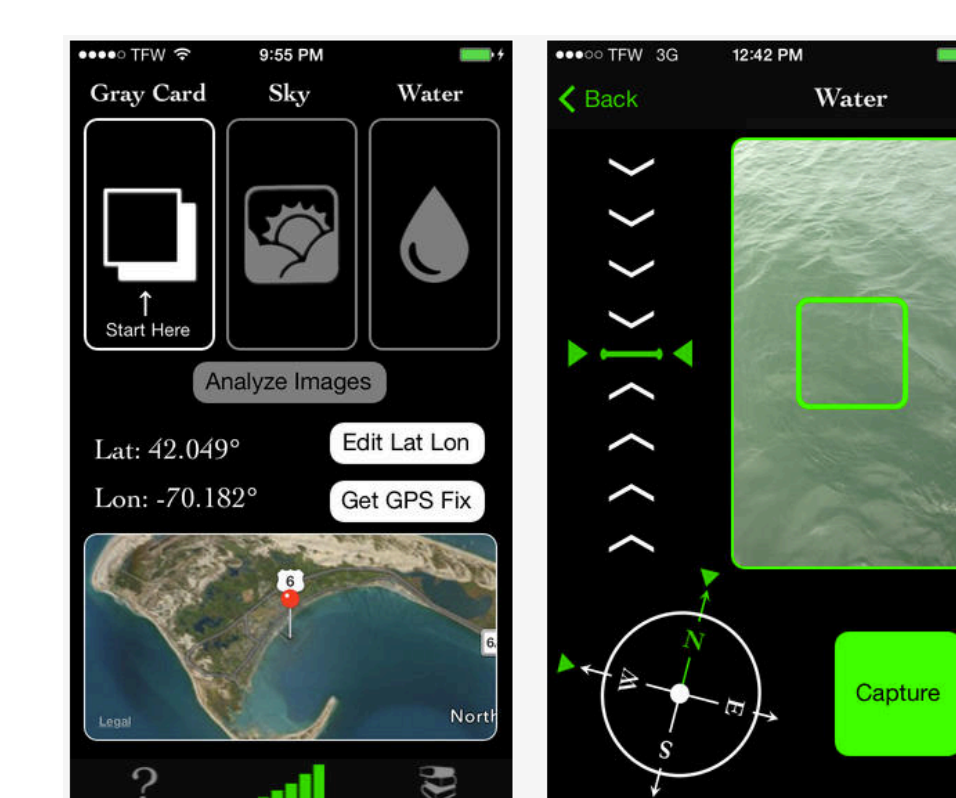
Photos posted to the gallery allow us to compare Monterey Bay and San Francisco Bay, and observe how the colors change through time.



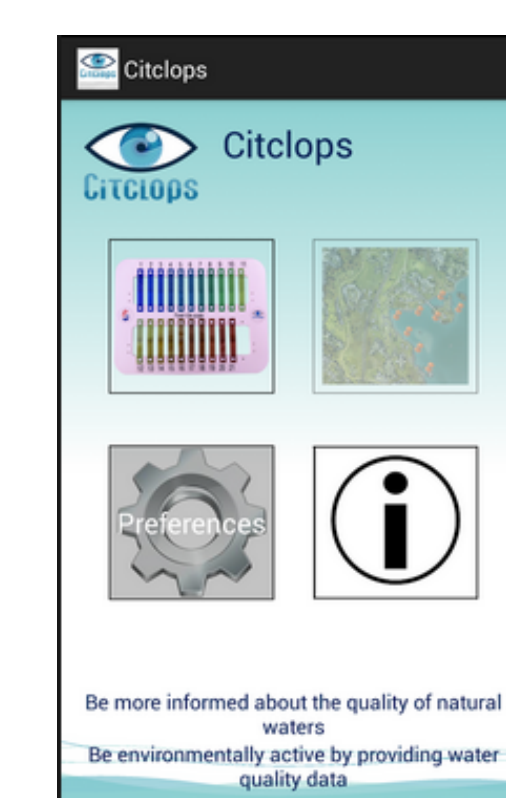
High Tech:

Two smartphone apps are available that gather water color information from all over the world.

HydroColor



Citclops



Download either app and submit water color photos from anywhere!

Scan code at right for color chart and more info, or visit <http://oceandatacenter.ucsc.edu/PhytoBlog/color.html>

