



## EXPEDITION PROFILE

### October 9th, 2020 aboard DISCOVERY Vessel Phantom

The International SeaKeepers Society yet again assisted the Rosenstiel School of Marine and Atmospheric Sciences and Miami Water Keeper in conducting field research just in the waters of Biscayne Bay, FL aboard DISCOVERY Vessel Phantom, a classic 1984 25' Blackfin cuddy cabin. Students Charles Groppe and Bianca Routt collected data such as temperature, pH, salinity, nutrients, chlorophyll and dissolved oxygen for Dr. Chris Langdon's ongoing research. This is in response to the fish kill and algal blooms that have been plaguing Biscayne Bay. To do this, an electronic probe which can read and record all those data points in real time and simultaneously was placed in the water both at the surface, and at other depths in the water column, as it has been found in previous outings that readings can differ in the same spot, depending on depth. This process is repeated in twelve different sites throughout the Bay. The ultimate hope is that this data and trends seen from week to week will help predict another hypoxia event. If so, preventative measures can be taken to aerate the water so that we don't see yet another massive loss of life in the Bay.

The fish kill is the unfortunate result of years of poor infrastructure and perhaps even climate change. Storm drains that simply dump rain water from the city into the bay with no filter or treatment, sewage systems, and the over use of fertilizers all combine to create an overly nutrient rich environment where algae not only thrives, but also becomes way too abundant. This in turn creates an environment with almost no dissolved oxygen in the water, suffocating all the marine life. Warmer than-normal water temperatures exacerbate this problem, until there is an almost totally dead ecosystem. This is something that scientists have been warning about for years, and we are finally seeing the result of what happens when warnings are not heeded. All we can do now is hope nature bounces back, but first, we need to take action to correct the problems listed above, or at the very least begin to mitigate them, or else we may have destroyed one of the most important ecosystems in South Florida forever.

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