

**A PROTOTYPE SYSTEM FOR MONITORING AND FORECASTING OF HARMFUL
ALGAL BLOOMS IN
THE GULF OF MEXICO**

Richard P. Stumpf*, Mary Culver, Earnest Truby, and Michael Soracco
National Oceanic and Atmospheric Administration, NOS, MD, USA

The management response to harmful algal blooms (HABs) in the Gulf of Mexico requires four types of forecasts: 1) monitoring the extent of identified HABs, 2) distinguishing new blooms as HAB or non-HAB, 3) forecasting the location of a HAB since the last known position; and 4) predicting conditions favorable for initiation of a new HAB. Beginning in 1999, we have provided the Gulf states with bulletins on this information. The bulletins started with satellite ocean color imagery from SeaWiFS/OrbView-II showing chlorophyll in response to HAB reports from the states (type 1). In 2000, wind data from coastal meteorology and forecasts from the National Weather Service were added (type 3). HAB detection algorithms (type 2) have been incorporated into the analysis in 2001, and added to the bulletins in 2002. The next addition involves models to aid in predicting the events (type 4). The bulletins have provided early warning of some events and provided guidance to sampling of blooms when they have spread. The results are improving our understanding of the distribution of the blooms, particularly along the Florida coast.