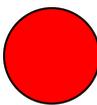
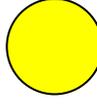
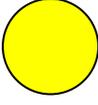
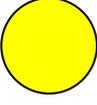
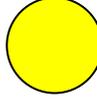
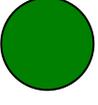
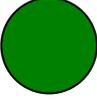
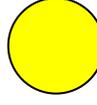
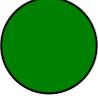
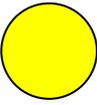
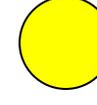
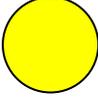
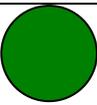
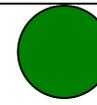
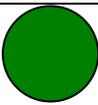
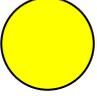
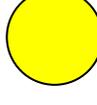
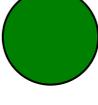
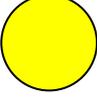
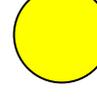
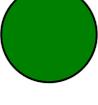
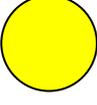
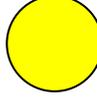
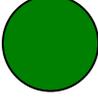
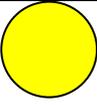
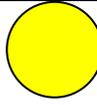
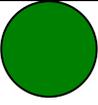
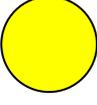
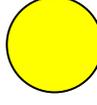
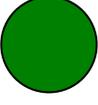


# ALGAL BLOOMS – SOUTHERN ESTUARIES

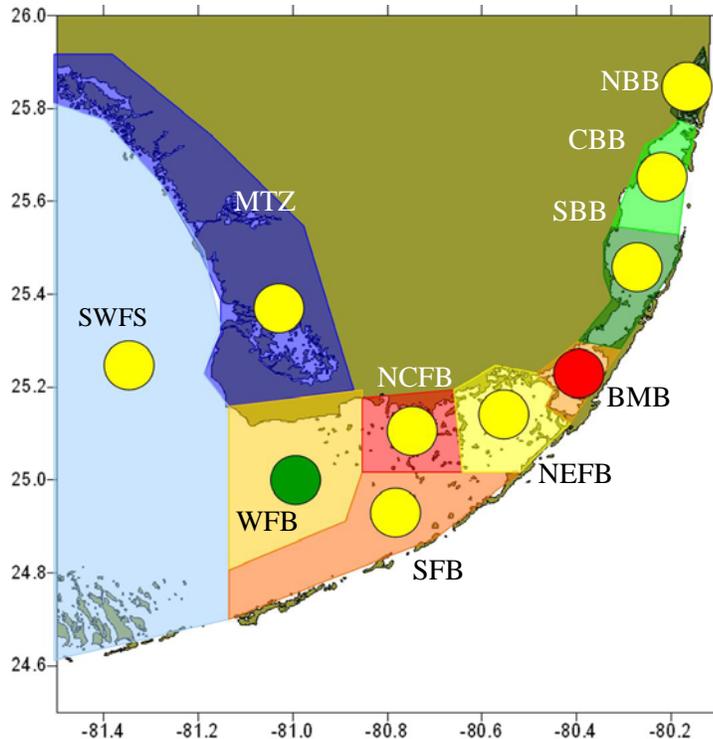
LOCATION	LAST STATUS <sup>1</sup>	CURRENT STATUS <sup>2</sup>	PROGNOSIS <sup>3</sup>	CURRENT STATUS	PROGNOSIS
<b>BARNES, MANATEE &amp; BLACKWATER SOUNDS (BMB)</b>				This region of the bay experienced an unusual cyanobacterial bloom in 2006. The bloom was initiated by a large spike in phosphorus from a combination of highway construction and canal releases in response to the active hurricane season. The bloom has abated somewhat but chlorophyll concentrations have not returned to previous levels.	When road construction is completed, we expect that this area will return to its green condition that existed from 1995 until 2006.
<b>NORTHEAST FLORIDA BAY (NEFB)</b>				The current status is due to the periodic expansion of the cyanobacterial bloom from Barnes, Manatee and Blackwater Sounds into this region.	The return to a green condition for this region of the bay depends on water management activities in the C-111 basin and Taylor Slough.
<b>NORTH-CENTRAL FLORIDA BAY (NCFB)</b>				The current status is due to the presence of a seasonal cyanobacterial bloom in both early and late 2006. These blooms do not appear every year, but have occurred intermittently over the past 15 years. It is unlikely that this signifies a long-term negative trend.	If water management improves flows of water to Florida Bay via McCormick Creek it is expected that this cyanobacterial bloom may become less frequent and pronounced.
<b>SOUTH FLORIDA BAY (SFB)</b>				The current status is due to the extension of the cyanobacterial bloom from the north-central region of the bay during both years. This has occurred intermittently over the past 15 years and it is unlikely that this signifies a long-term negative trend.	Since blooms in this area are driven by external forces, it is expected that such periodic events may occur.
<b>WEST FLORIDA BAY (WFB)</b>				The seasonal diatom blooms in this region for both 2006 and current were not as dense or widespread as in the past.	This region is influenced primarily by Shark Slough outputs and southerly transport of Gulf of Mexico water along the SW Florida Shelf. Conditions are therefore dependent on external forcing, as well as water management along the southwest coast.
<b>MANGROVE TRANSITION ZONE (MTZ)</b>				The chlorophyll concentrations were slightly higher in this region for both 2006 & 2007. This may have been due to the active 2005 hurricane season and is unlikely to indicate a negative long-term trend.	Without any major hurricanes and as water management continues to improve the flow of water to Florida Bay it is expected that this region will return to a green status.
<b>SOUTHWEST FLORIDA SHELF (SWFS)</b>				The chlorophyll concentrations were slightly higher in this region for both 2006 & 2007. This may have been due to the active 2005 hurricane season and is unlikely to indicate a negative long-term trend.	This region is influenced primarily by Shark Slough outputs and southerly transport of Gulf of Mexico water. Conditions are therefore dependent on external forcing.
<b>NORTH BISCAYNE BAY (NBB)</b>				The chlorophyll concentrations were slightly higher in this region for both 2006 & 2007. Neither year had concentrations that were significantly higher than baseline.	Without any major hurricanes and as water management continues to improve the flow of water to Biscayne Bay, it is expected that this region will return to a green status.
<b>CENTRAL BISCAYNE BAY (CBB)</b>				The chlorophyll concentrations were slightly higher in this region for both 2006 & 2007. Neither year had concentrations that were significantly higher than baseline.	Without any major hurricanes and as water management continues to improve the flow of water to Biscayne Bay, it is expected that this region will return to a green status.
<b>SOUTH BISCAYNE BAY (SBB)</b>				The chlorophyll concentrations were slightly higher in this region for both 2006 & 2007. This area was also influenced by periodic expansion of the cyanobacterial bloom from Barnes, Manatee and Blackwater Sounds into this region.	Without any major hurricanes and as water management continues to improve the flow of water to Biscayne Bay, it is expected that this region will return to a green status.

<sup>1, 2, 3</sup> Footnotes for LAST STATUS, CURRENT STATUS & PROGNOSIS stoplight columns should explain and include information about the data and time periods. For example: <sup>1</sup> Five year running mean 2001 – 2006. <sup>2</sup> Five year running mean 2002 – 2007. <sup>3</sup> Based on model data 1990 – 2005.

## KEY FINDINGS – SOUTHERN ESTUARIES

**SUMMARY FINDING:** Elevated nutrients from the 2005 hurricane season resulted in algal blooms in many regions of the southern estuaries and may cause continued algal blooms in the bay for some time. However, this is expected to subside within a few years barring further significant hurricane activity and should return to predominantly green for all regions with the possible exception of BMB.

### KEY FINDINGS:



**Figure 1.** Map of Florida Bay regions with stoplight ratings by region

1. The majority of regions assessed had significant algal bloom activity that appears to have been predominantly influenced by the active 2005 hurricane season aggravated for eastern Florida Bay by road construction on US 1.
2. The majority of regions assessed had chlorophyll-*a* and algal blooms rated as moderate (yellow).
3. The majority of regions assessed where the chlorophyll-*a* was higher than the median do not appear to be indicative of long-term negative trends.
4. The most commonly occurring condition was large spatial coverage of algal blooms and elevated chlorophyll-*a* concentrations.
5. Overall eutrophic symptom expressions were geographically variable and appear to be explainable from existing phenomenological conditions of hurricane activity exacerbated by road construction along US 1 in the eastern areas of Florida Bay.

### KEY RECOMMENDATIONS:

1. Continue monitoring water quality throughout the bay and the SW coastal shelf particularly as a result of the post 2005 hurricane season.
2. Monitoring of Barnes, Manatee and Blackwater Sounds is critical while road construction along US 1 continues.
3. Monitoring long term consequences of nutrient releases into the bay from both natural (e.g. hurricanes) and human causes (e.g. road construction) and the interactions of hydrological restoration (e.g. more fresh water flow into Florida Bay) is critical to evaluating Florida Bay restoration.