Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #201200601

Updated June 1, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS remains **LOW.**

NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook
June – September 2012 (experimental)

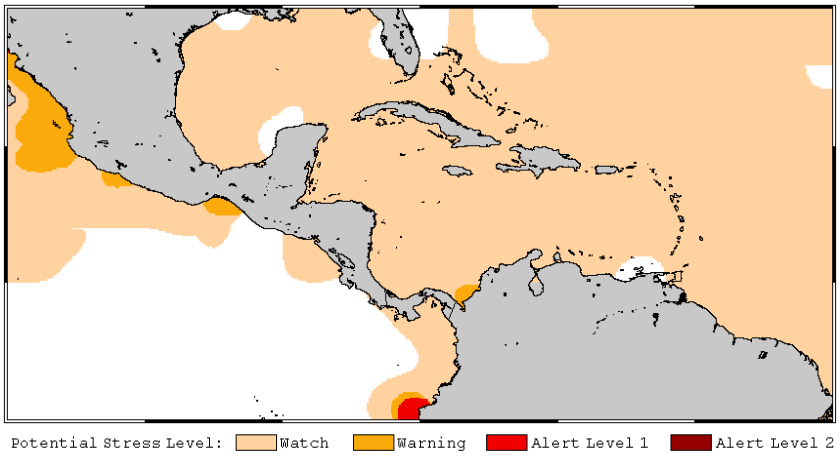

Figure 1. NOAA's Experimental Coral Bleaching Thermal Stress Outlook for June – September, 2012.
http://coralreefwatch.noaa.gov/satellite/bleachingoutlook/index.html

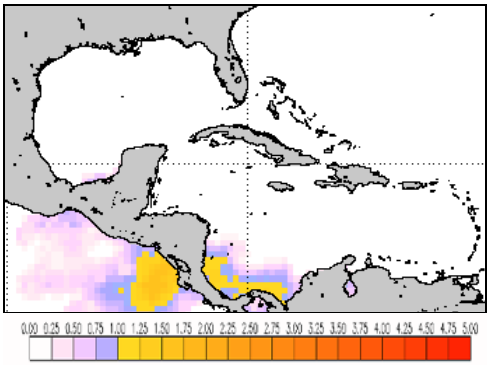

Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for May 31, 2012.
http://coralreefwatch.noaa.gov/satellite/e50/

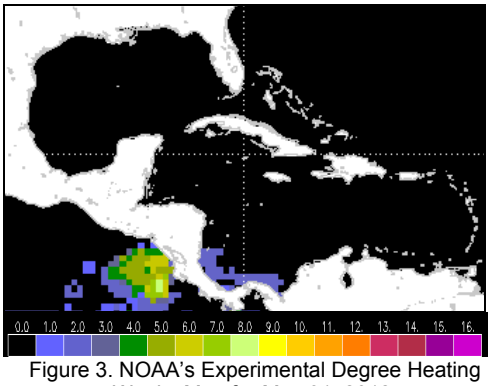

Figure 3. NOAA's Experimental Degree Heating Weeks Map for May 31, 2012.
http://coralreefwatch.noaa.gov/satellite/e50/

Weather and Sea Temperatures

According to the latest NOAA Coral Reef Watch (CRW) experimental Coral Bleaching Thermal Stress Outlook, there is potential for coral bleaching throughout the Florida Keys region in the coming months, as well as the rest of the Caribbean for the remainder of the summer of 2012. (Fig. 1).

Current remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is currently experiencing minimal thermal stress. NOAA's recent experimental Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows no elevated temperatures for the Florida Keys. Similarly, NOAA's latest experimental Degree Heating Weeks (DHW) map, which indicates how much heat stress has built up over the past 12 weeks (Fig.3), indicates no accumulated temperature stress in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations confirms that sea temperatures throughout the Florida Keys, at least along the outer reef tract, are still currently below 30°C (Fig.4); however, temperatures appear to be increasing rapidly, likely due to the decreased wind speeds over the past two weeks (Fig 5). *In-situ* sea temperature data is not currently available for Sand Key or Sombrero Reef. Similarly, the Dry Tortugas station is not recording any data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from NOAA monitoring stations on a weekly basis for the remainder of the bleaching season.

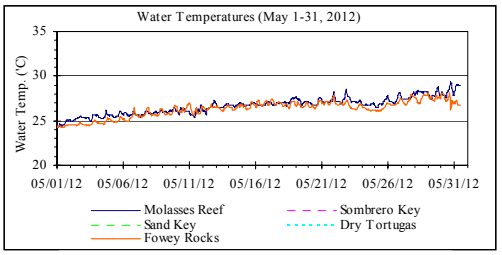

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (May 1-31, 2012).

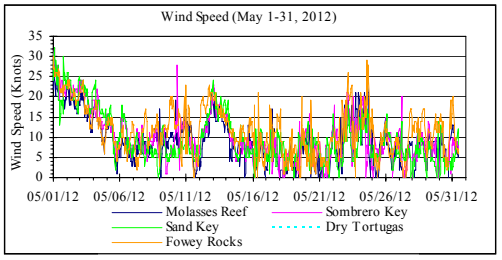

Figure 5. Wind speed data from NOAA/ICON monitoring stations (May 1-31, 2012).

Observer Network Training

NOAA's CRW experimental Coral Bleaching Alert Area (Fig. 6) currently indicates no alert levels for the Florida Keys area. However, BleachWatch observers are encouraged to start submitting your observations after every visit to the reef, **even if no bleaching was observed**. Frequent coral condition observations from throughout the Florida Keys are needed for the remainder of the summer season. To submit an observation on coral condition, or for more information on the Florida Keys BleachWatch program, please go to www.mote.org/bleachwatch

For information on joining the BleachWatch program, or to organize a training session for your group or organization, please contact the number below.

NOAA Coral Reef Watch Satellite Coral Bleaching Alert Area
May 31, 2012

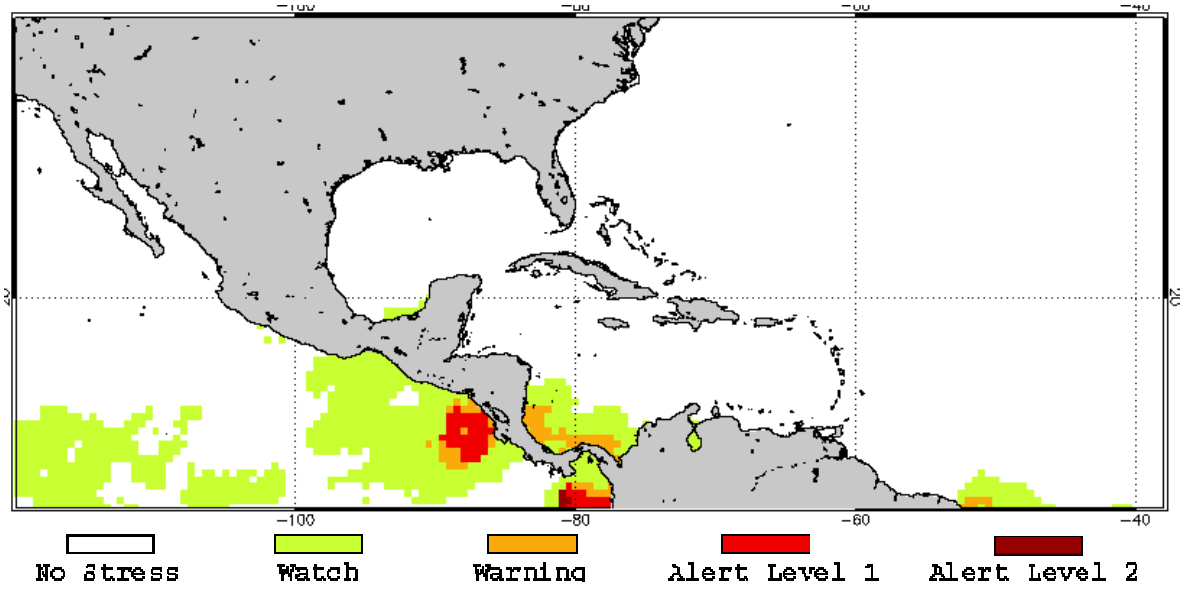

Figure 5. NOAA's Experimental Coral Bleaching Alert Area for May 31, 2012.
http://coralreefwatch.noaa.gov/satellite/e50/index.html

For more information about the BleachWatch program, or to submit a bleaching observation, contact:

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24244 Overseas Highway
Summerland Key, FL 33042
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www.mote.org/bleachwatch

FUNDING THANKS TO….

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #201210702

Updated July 2, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS remains **LOW.**

NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook
July – October 2012 (experimental)

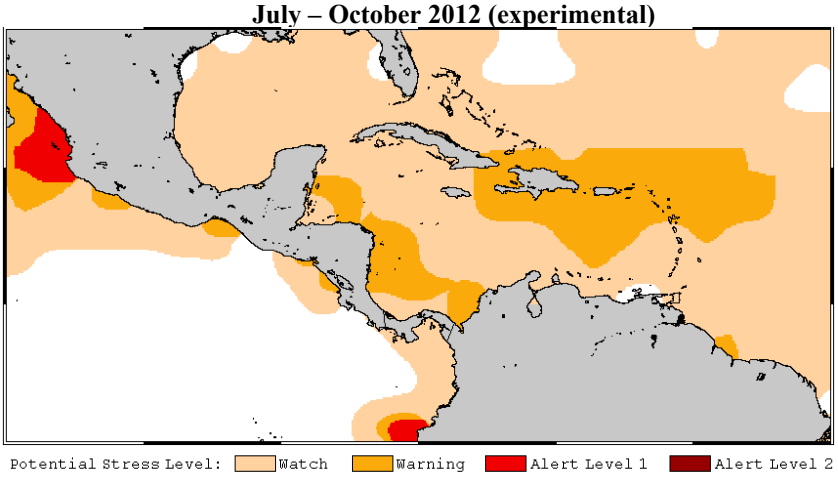

Figure 1. NOAA's Experimental Coral Bleaching Thermal Stress Outlook for July – October, 2012.
http://coralreefwatch.noaa.gov/satellite/bleachingoutlook/index.html

Weather and Sea Temperatures

According to the latest NOAA Coral Reef Watch (CRW) experimental Coral Bleaching Thermal Stress Outlook, there is the potential for coral bleaching throughout the Florida Keys region in the coming months, as well as potential bleaching for some parts of the Caribbean for the remainder of the summer of 2012. (Fig. 1).

Current remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing no thermal stress. NOAA's recent experimental Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows no current stressful temperatures for the Florida Keys. Similarly, NOAA's latest experimental Degree Heating Weeks (DHW) map, which indicates how much heat stress has built up over the past 12 weeks (Fig.3), illistrates no accumulated temperature stress in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, confirm that temperatures appeared to be below 30°C for the month of June (Fig.4), likely due in part to elevated wind speeds observed over the past two weeks (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key, or Sombrero. Dry Tortugas station is not recording any data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from monitoring stations on a weekly basis for the remainder of the bleaching season.

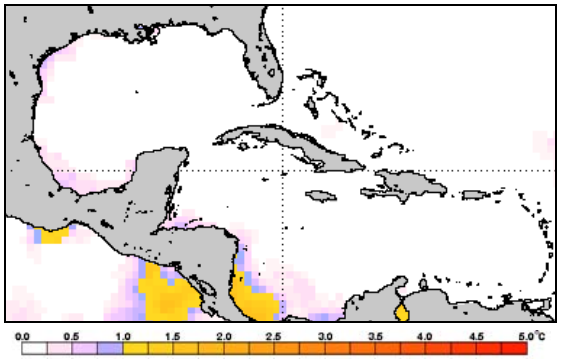

Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for July 2, 2012.
http://coralreefwatch.noaa.gov/satellite/e50/

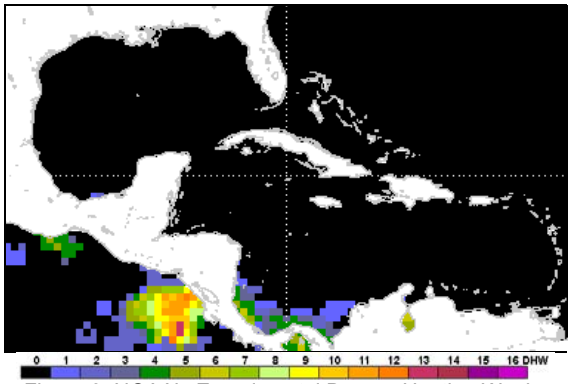

Figure 3. NOAA's Experimental Degree Heating Weeks Map for July 2, 2012.
http://coralreefwatch.noaa.gov/satellite/e50/

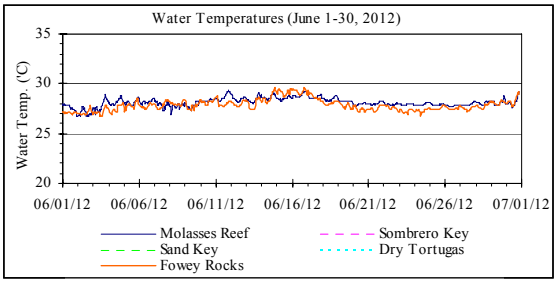

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (June 1-30, 2012).

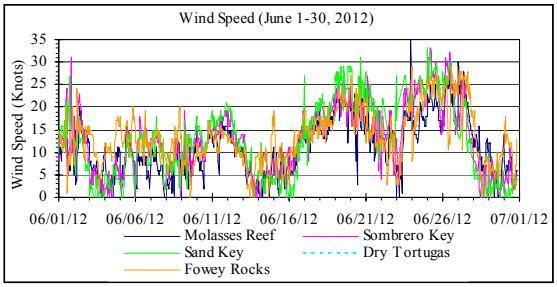

Figure 5. Wind speed data from NOAA/ICON monitoring stations (June 1-30, 2012).

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #201210702

Conditions of Corals

A total of 29 BleachWatch Observer reports were received during the month of June, with only 2 reports indicating isolated colonies exhibiting signs of paling. The remaining 27 reports indicated that no significant signs of coral bleaching were observed. At those sites where partial bleaching or paling was noted (Fig.6), the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site.

Figure 7. Healthy *Siderastrea siderea*, *Diploria labyrinthiformis* and Fire Coral next to paling *Palythoa sp.* at a patch reef offshore of Cudjoe Key on June 30, 2012.

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals. Other observations included paling of *Palythoa spp.* (Fig. 7) and Fire Coral..

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for June 1-30, 2012

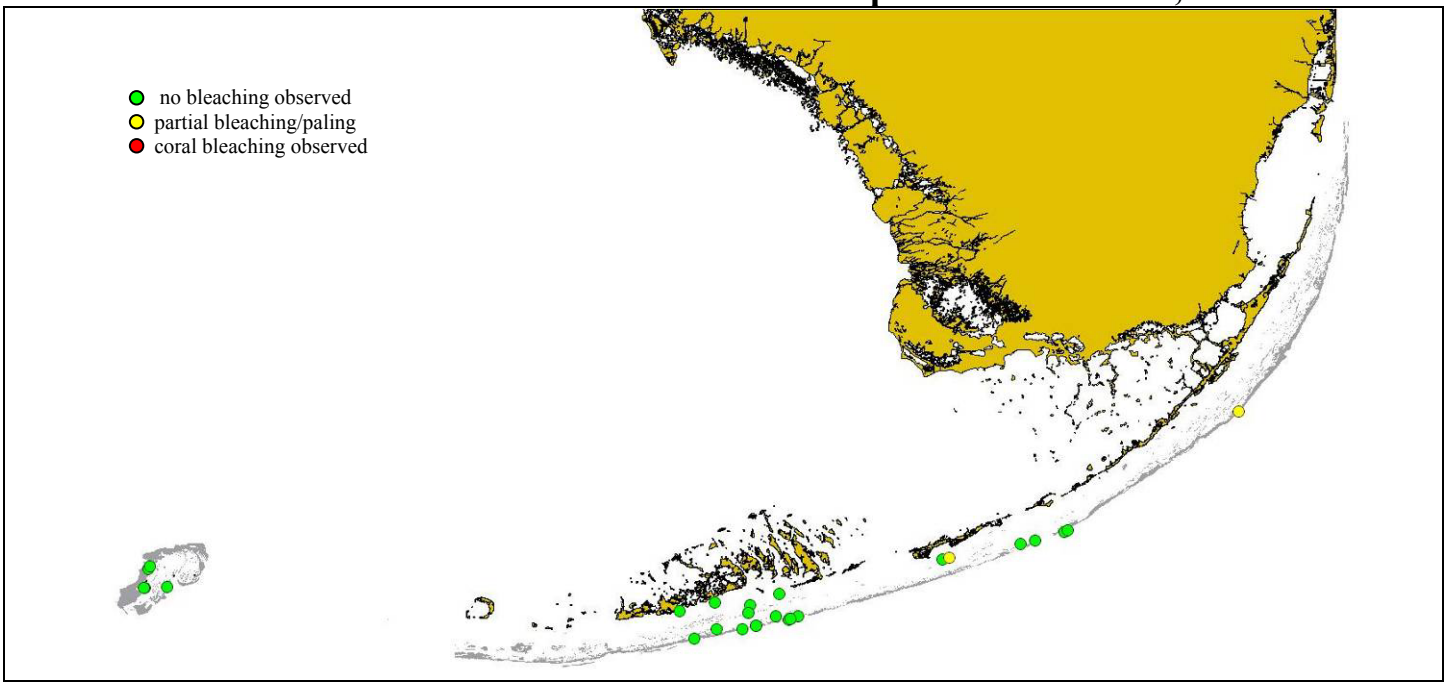

Figure 6. Overview of BleachWatch observer reports submitted from June 1-30, 2012.

For more information about the BleachWatch program, or to submit a bleaching observation, contact:

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http://www.mote.org/Keys/research/bleaching.phtml

Funding Provided By:

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20120802

Updated August 2, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS is currently **MODERATE.**

NOAA Coral Reef Watch Coral Bleaching Alert Area
August 2, 2012 (experimental)

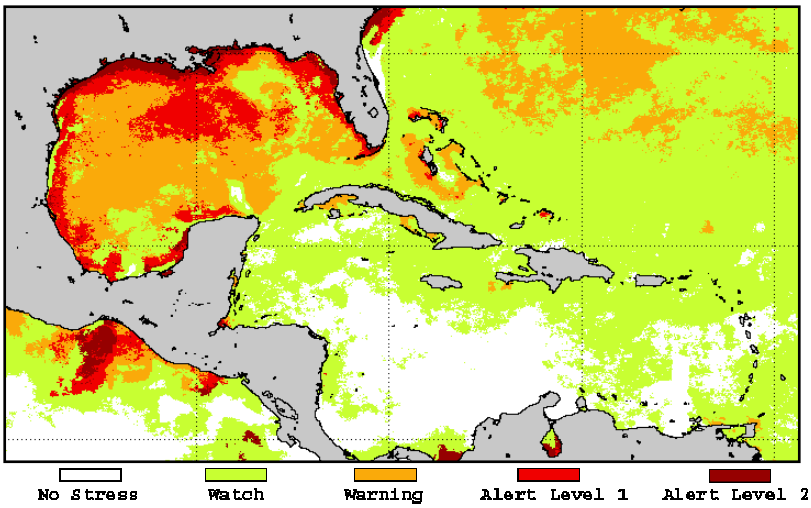

Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for August 1, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is a moderate level of thermal stress throughout the Florida Keys and there is potential for coral bleaching if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing increasing thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows that sea surface temperatures are elevated for this time of year in the Florida Keys. Similarly, NOAA's new experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates that a low level of temperature stress has accumulated in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, confirm that temperatures have increased to near 30°C over the month of July (Fig.4), likely due in part to decreased wind speeds observed over the past two weeks (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key, or Sombrero. Dry Tortugas station is also recording intermittent data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from monitoring stations on a weekly basis for the remainder of the bleaching season.

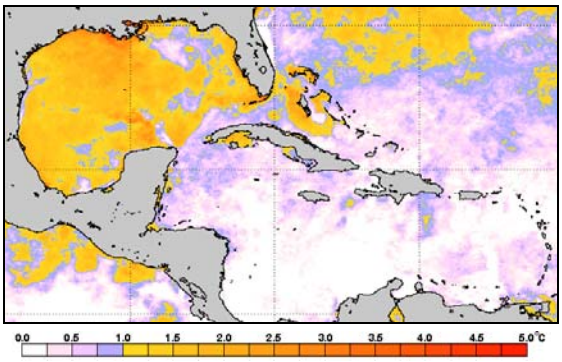

Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for August 1, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

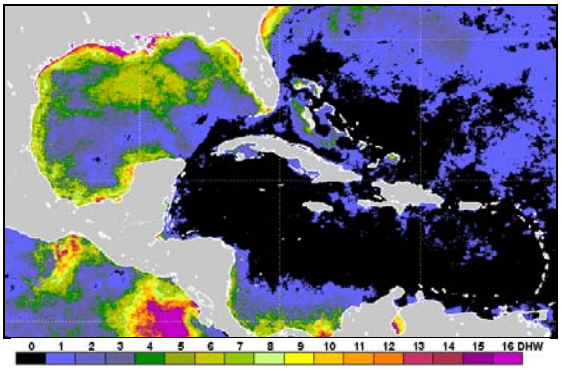

Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for August 1, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

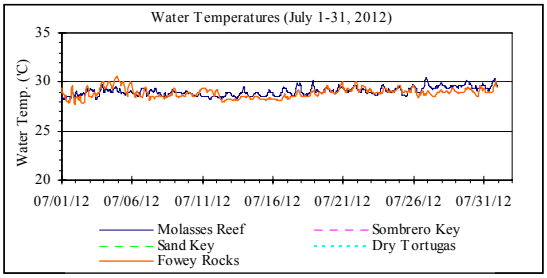

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 1-31, 2012).

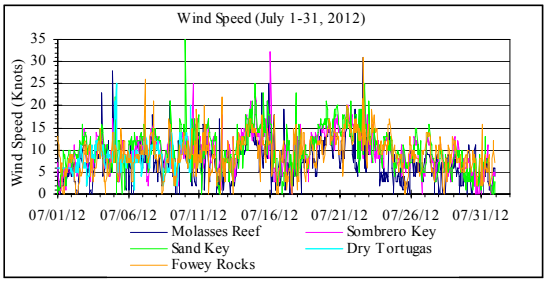

Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 1-31, 2012).

Conditions of Corals

A total of 74 BleachWatch Observer reports were received during the month of July (Fig. 6), with 40 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 39 reports indicated that no significant signs of coral bleaching were observed (Fig. 8). At those sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site.

Figure 7. Paling *Colpophyllia natans* at a patch reef offshore of Big Pine Key on July 2, 2012.

Figure 8. Healthy *Diploria labyrinthiformis* off Upper Keys on July 25, 2012.

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (*Montastraea spp. and Siderastrea spp*.) and Brain Corals (*Diploria spp, Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* and Fire Coral, as well as several reports of Black Band disease throughout Upper, Middle, and Lower Keys and the Dry Tortugas National Park.

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for July 1-31, 2012

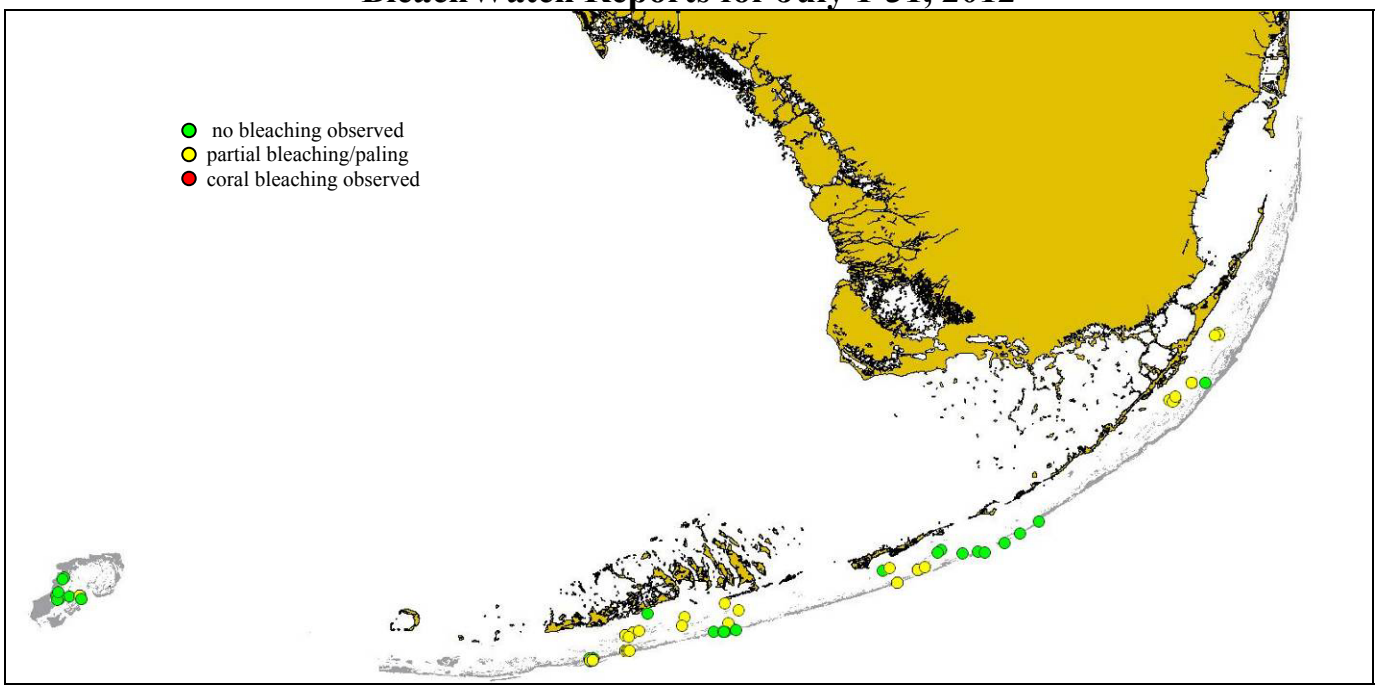

Figure 6. Overview of BleachWatch observer reports submitted from July 1-31, 2012.

For more information about the BleachWatch program, or to submit a bleaching observation, contact:

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Funding Provided By:

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20120817

Updated August 17, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS is currently **MODERATE.**

NOAA Coral Reef Watch Coral Bleaching Alert Area
August 15, 2012 (experimental)

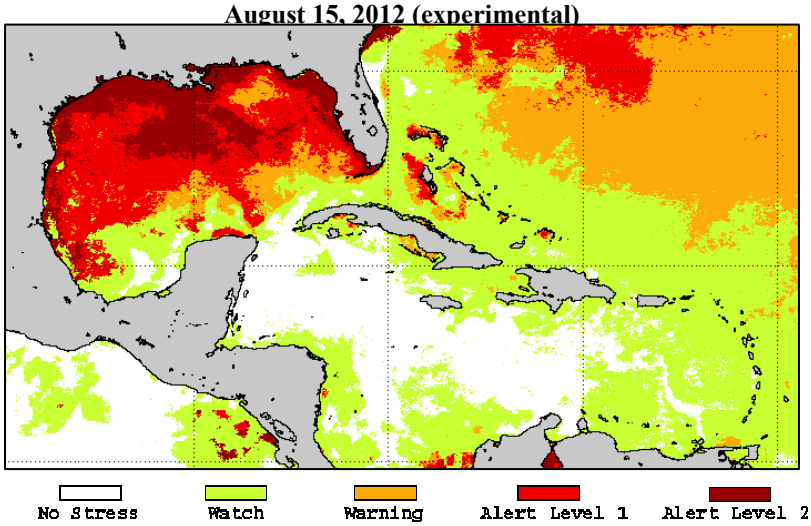

Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for August 15, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

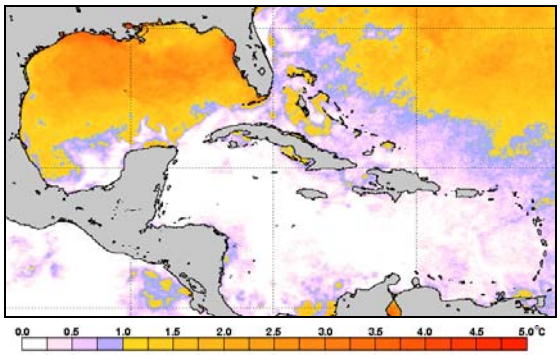

Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for August 15, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

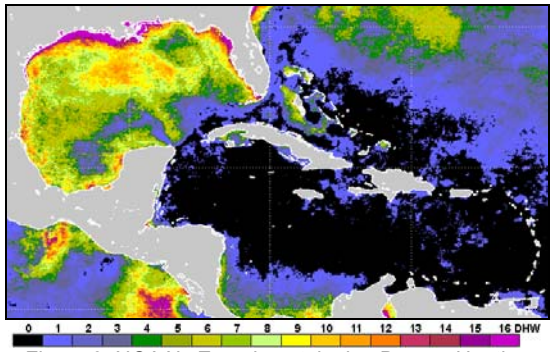

Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for August 15, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is a moderate level of thermal stress throughout the Florida Keys and the potential for coral bleaching if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing increasing thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows that sea surface temperatures are elevated for this time of year in the Florida Keys. Similarly, NOAA's new experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates that a low level of temperature stress has accumulated in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, confirm that temperatures have continued to be near or above 30°C over the past two weeks (Fig.4), likely due in part to decreased wind speeds observed over the past week (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from monitoring stations on a weekly basis for the remainder of the bleaching season.

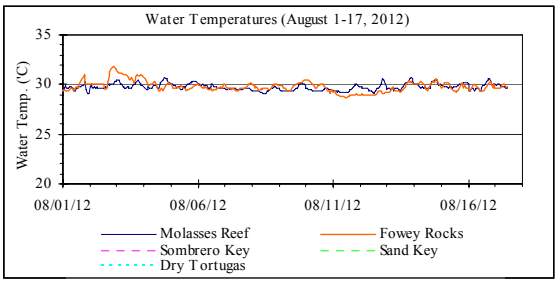

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 1-17, 2012).

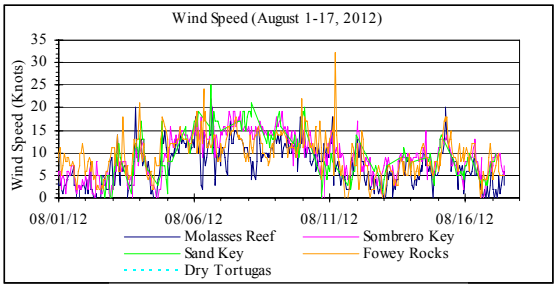

Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 1-17, 2012).

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20120817

Conditions of Corals

A total of 14 BleachWatch Observer reports were received during the last two weeks (Fig. 6), with 6 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 8 reports indicated that no significant signs of coral bleaching were observed. At those sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site.

Figure 7. Paling *Siderastrea siderea* at a reef offshore of Duck Key on August 10, 2012.

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (*Montastraea spp. and Siderastrea spp.*) and Brain Corals (*Diploria spp, Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* and Fire Coral, as well as several reports of coral diseases (Fig. 8) throughout Upper, Middle, and Lower Keys and the Dry Tortugas National Park.

Figure 8. Diseased *Siderastrea siderea* at Little Africa in Dry Tortugas on August 11, 2012

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for August 1-16, 2012

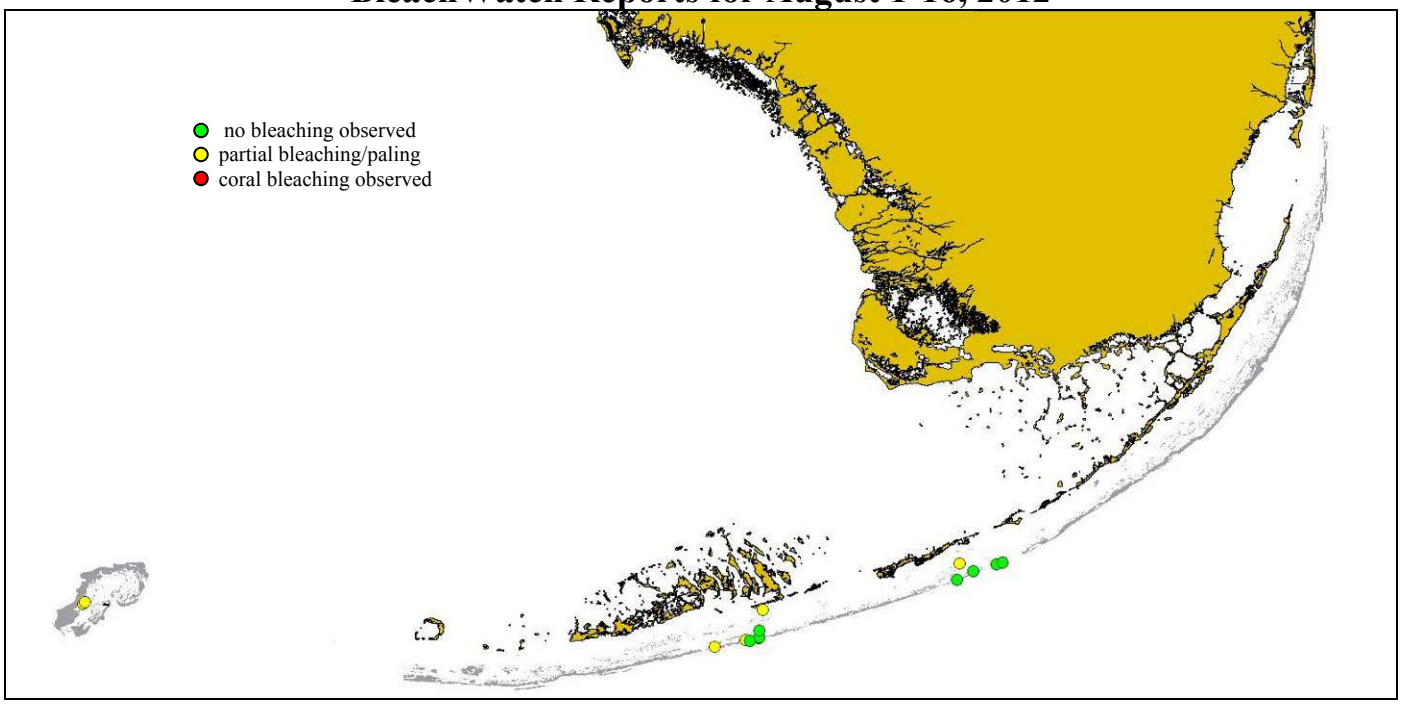

Figure 6. Overview of BleachWatch observer reports submitted from August 1-16, 2012.

For more information about the BleachWatch program, or to submit a bleaching observation, contact:

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http://www.mote.org/Keys/research/bleaching.phtml

Funding Provided By:

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20120906

Updated September 6, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS is currently **MODERATE.**

NOAA Coral Reef Watch Coral Bleaching Alert Area
September 4, 2012 (experimental)

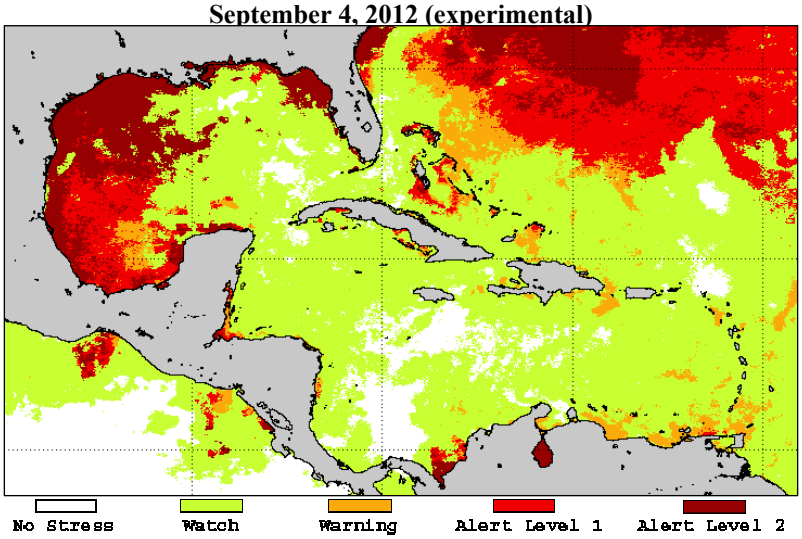

Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for September 4, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is a moderate level of thermal stress throughout the Florida Keys and the potential for coral bleaching if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows that sea surface temperatures are elevated for this time of year in the Florida Keys. Similarly, NOAA's new experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates that a low level of temperature stress has accumulated in the Florida Keys region. However, NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, suggests that temperatures have decreased to below 30°C over the past two weeks (Fig.4), likely due in part to increased wind speeds observed during Tropical Storm Isaac (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from monitoring stations on a weekly basis for the remainder of the bleaching season.

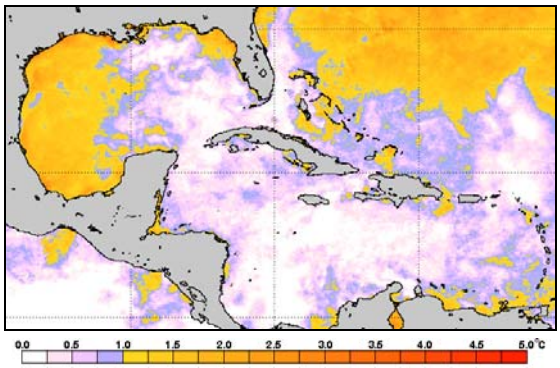

Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for September 4, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

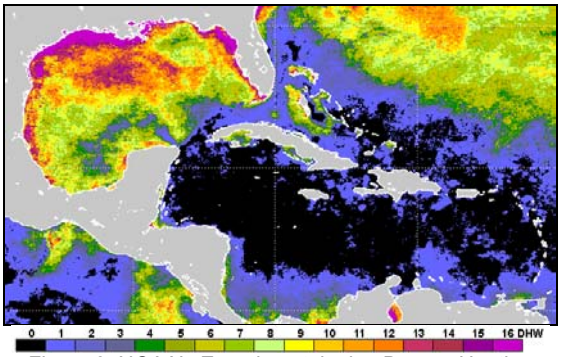

Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for September 4, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

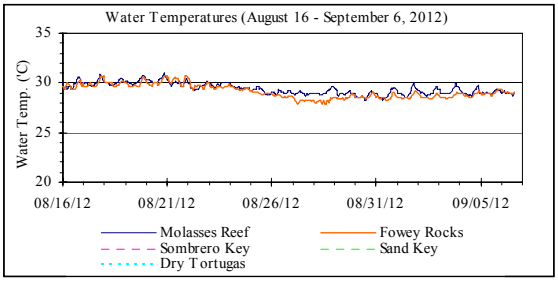

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 16-September 6, 2012).

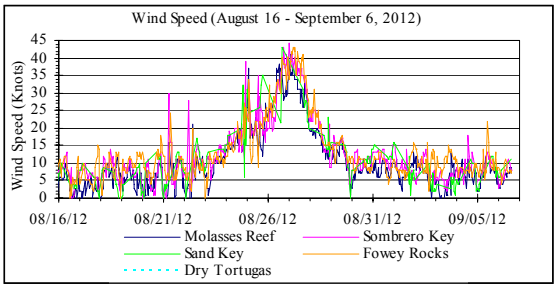

Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 16 – September 6, 2012).

Conditions of Corals

A total of 23 BleachWatch Observer reports were received during the last three weeks (Fig. 6), with 12 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 8 reports indicated that no significant signs of coral bleaching were observed. At most sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site except one Lower Key inshore reef where 11-30% of corals were affected.

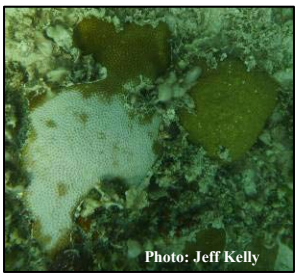

Figure 7. Partially bleached *Siderastrea siderea* off Cook's Island on August 20, 2012.

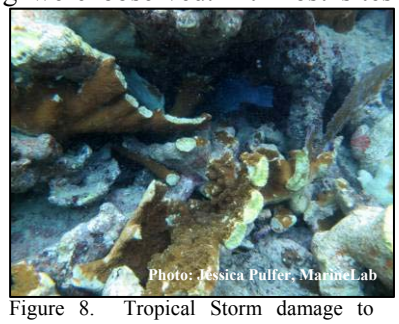

Figure 8. Tropical Storm damage to *Acropora palmata* at Horseshoe Reef off Key Largo on September 4, 2012

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (*Montastraea spp. and Siderastrea spp.*) and Brain Corals (*Diploria spp, Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* and Fire Coral, as well as several reports of coral diseases and some minor damage from Tropical Storm Isaac (Fig. 8) throughout Upper, Middle, and Lower Keys as well as the Dry Tortugas National Park.

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for August 16 – September 6, 2012

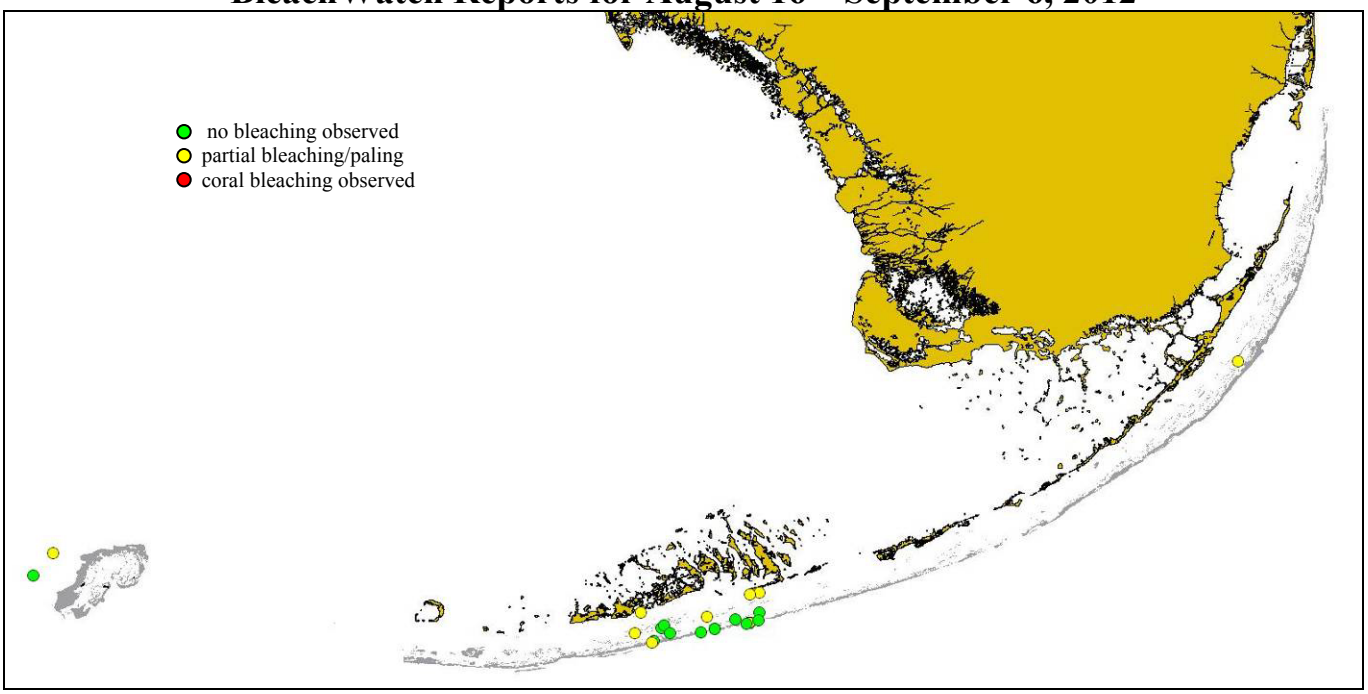

Figure 6. Overview of BleachWatch observer reports submitted from August 16 – September 6, 2012.

For more information about the BleachWatch program, or to submit a bleaching observation, contact:
Cory Walter
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Summerland Key, FL 33042
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http://www.mote.org/Keys/research/bleaching.phtml

Funding Provided By:

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20120927

Updated September 27, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS is now **LOW.**

NOAA Coral Reef Watch Satellite Coral Bleaching Alert Area
September 26, 2012 (experimental)

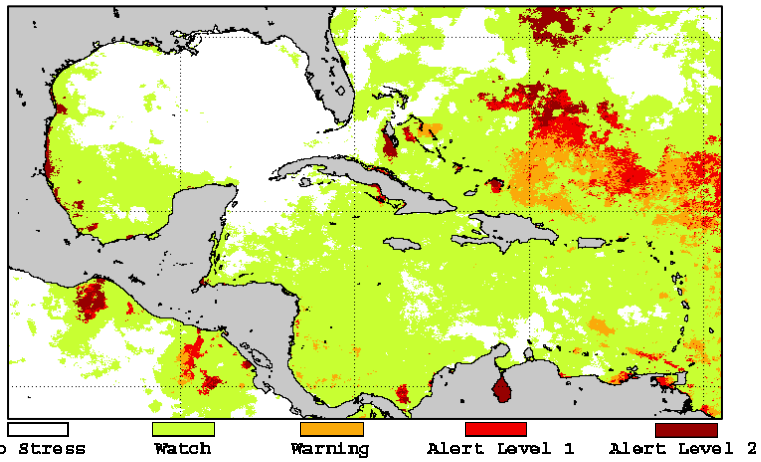

Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for September 26, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is only a low level of thermal stress throughout the Florida Keys and the potential for coral bleaching is minimal if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing limited thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows that sea surface temperatures are not elevated above normal for this time of year in the Florida Keys. However, NOAA's new experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates that a low level of accumulated temperature stress is still evident in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, suggests that temperatures have decreased to below 30°C over the past three weeks (Fig.4), perhaps due in part to breezy conditions observed during this time frame(Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from monitoring stations on a weekly basis for the remainder of the bleaching season.

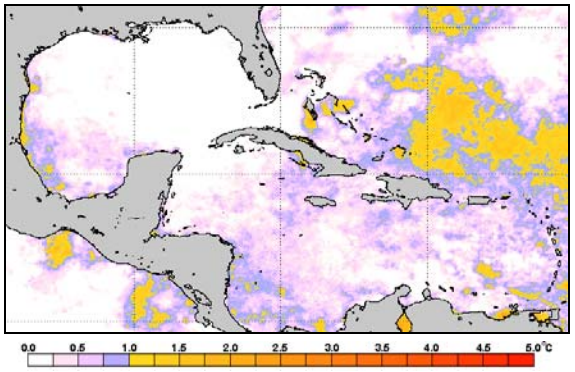

Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for September 26, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

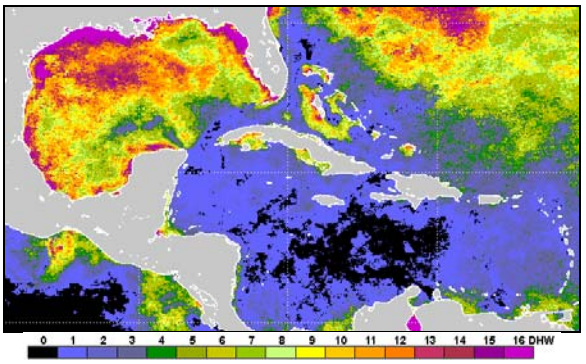

Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for September 26, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

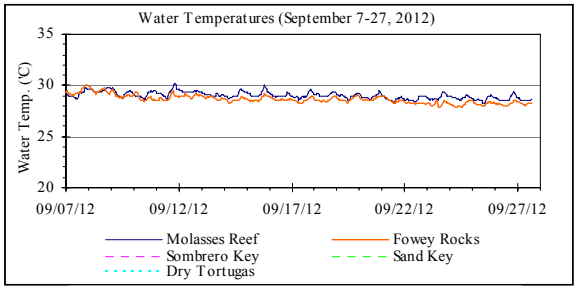

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (September 7-27, 2012).

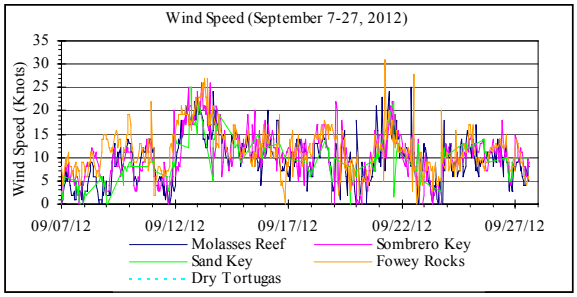

Figure 5. Wind speed data from NOAA/ICON monitoring stations (September 7-27, 2012).

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20120927

Conditions of Corals

A total of 57 BleachWatch Observer reports were received during the last three weeks (Fig. 6), with only 19 reports indicating isolated colonies exhibiting signs of paling or surface bleaching. The remaining reports indicated that no significant signs of coral bleaching were observed (Fig. 7). At all sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site.

Figure 7. Healthy Acropora palmata at Looe Key on September 7, 2012.

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (*Montastraea spp. and Siderastrea spp*.) and Brain Corals (*Diploria spp, Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* Fire Coral, and Gorgonians as well as several reports of coral diseases throughout Upper, Middle, and Lower Keys as well as the Dry Tortugas National Park (Fig. 8).

Figure 8. *Siderastrea siderea* in the Dry Tortugas with Black Band Disease on September 14, 2012

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions become more favorable.

BleachWatch Reports for September 7-27, 2012

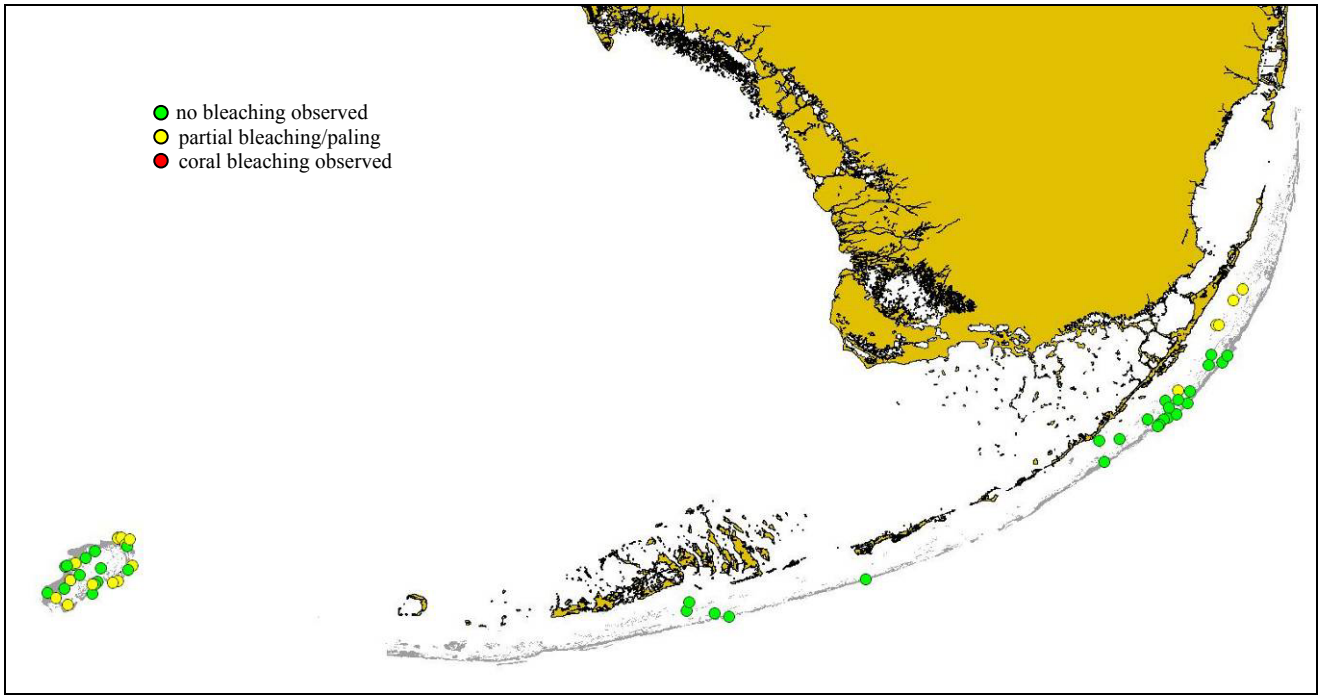

Figure 6. Overview of BleachWatch observer reports submitted from September 7-27, 2012.

For more information about the BleachWatch program, or to submit a bleaching observation, contact:

Cory Walter
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http://www.mote.org/Keys/research/bleaching.phtml

Funding Provided By:

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20121025

Updated October 25, 2012

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS remains **LOW.**

NOAA Coral Reef Watch 60% Probability Coral Bleaching Thermal Stress Outlook Nov. 2012-Feb. 2013 (experimental)

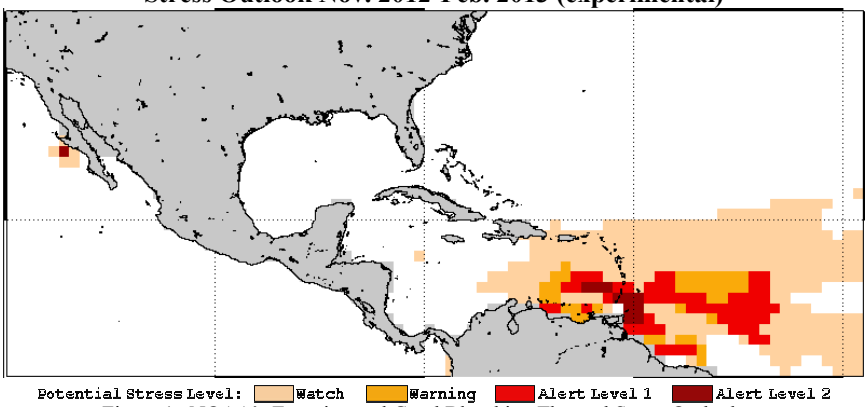

Figure 1. NOAA's Experimental Coral Bleaching Thermal Stress Outlook for November 2012– February 2013
http://coralreefwatch.noaa.gov/satellite/bleachingoutlook_cfs/outlook_cfs.html

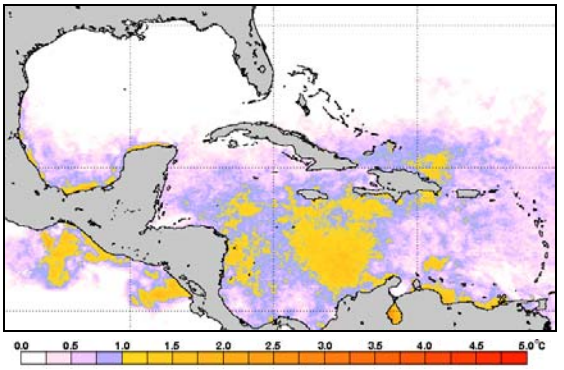

Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for October 23, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

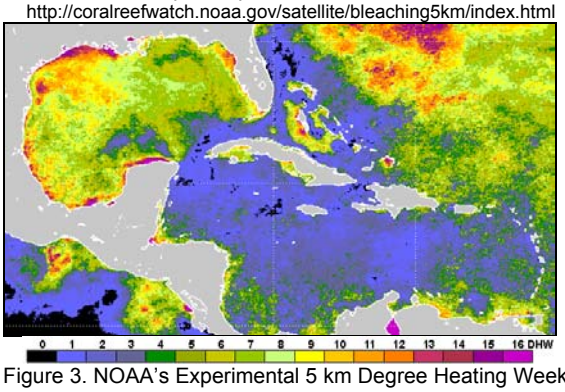

Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for October 23, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental Coral Bleaching Thermal Stress Outlook, there is a low possibility for thermal stress capable of causing coral bleaching throughout the southern Caribbean including the Florida Keys region for the remainder of 2012. (Fig.1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing limited thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig.2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows that sea surface temperatures are not elevated above normal for this time of year in the Florida Keys. However, NOAA's new experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates that only a low level of accumulated temperature stress is still evident in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, confirm that temperatures have decreased to below 30°C over the past four weeks (Fig.4), likely due in part to breezy conditions observed during this time frame (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

Finally, NOAA's Coral Reef Watch program continues to maintain a coral bleaching alert status of "No Stress", indicating that significant coral bleaching is not likely to occur in the Florida Keys for the remainder of 2012. As a result, this will be the final current conditions report for 2012.

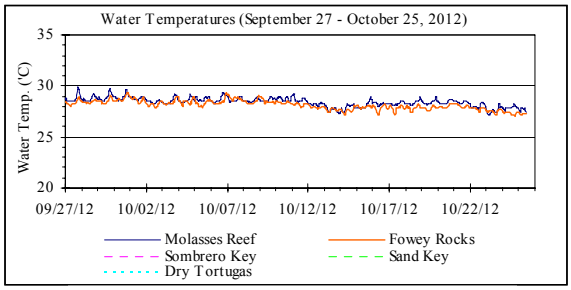

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (September 27- October 25, 2012).

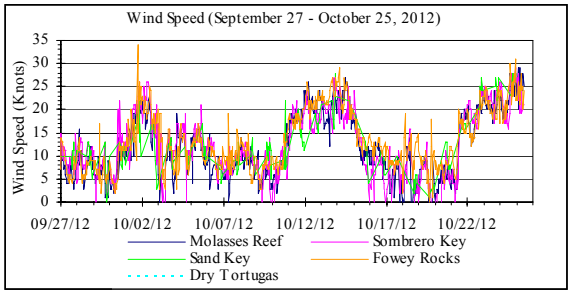

Figure 5. Wind speed data from NOAA/ICON monitoring stations (September 27 – October 25, 2012).

Conditions of Corals

A total of 40 BleachWatch Observer reports were received during the last four weeks, with only 9 reports indicating isolated colonies exhibiting signs of paling. Commonly affected corals included Mound/Boulder and Brain corals. The remaining reports indicated that no significant signs of coral bleaching were observed. At sites where paling was noted (Fig.6), the overall percentage of corals exhibiting signs of thermal stress ranged from only 1-10%.

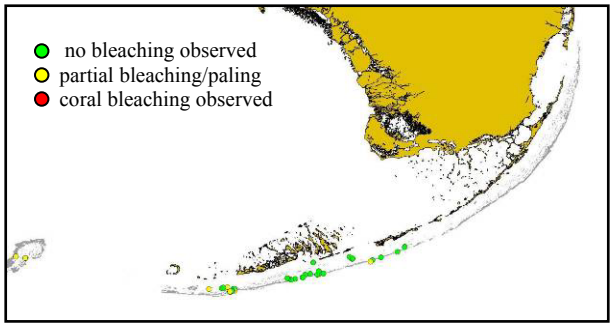

Figure 6. Overview of BleachWatch observer reports submitted September 27 – October 25, 2012.

The 2012 BleachWatch season has come to an end with a total of 247 reports submitted by BleachWatch observers (Fig. 7). Observer reports verified that only minimal signs of coral bleaching were observed in the Florida Keys region in 2012, with most reports noting only paling or partial bleaching and with only 1-10% of corals affected at those sites. Based on current environmental conditions and the limited number of isolated paling or partially bleached corals noted by BleachWatch observers, significant coral bleaching in the Florida Keys National Marine Sanctuary and surrounding waters seems highly unlikely at this time. As a result, this will be the final current conditions report for 2012.

BleachWatch Reports for June-October, 2012

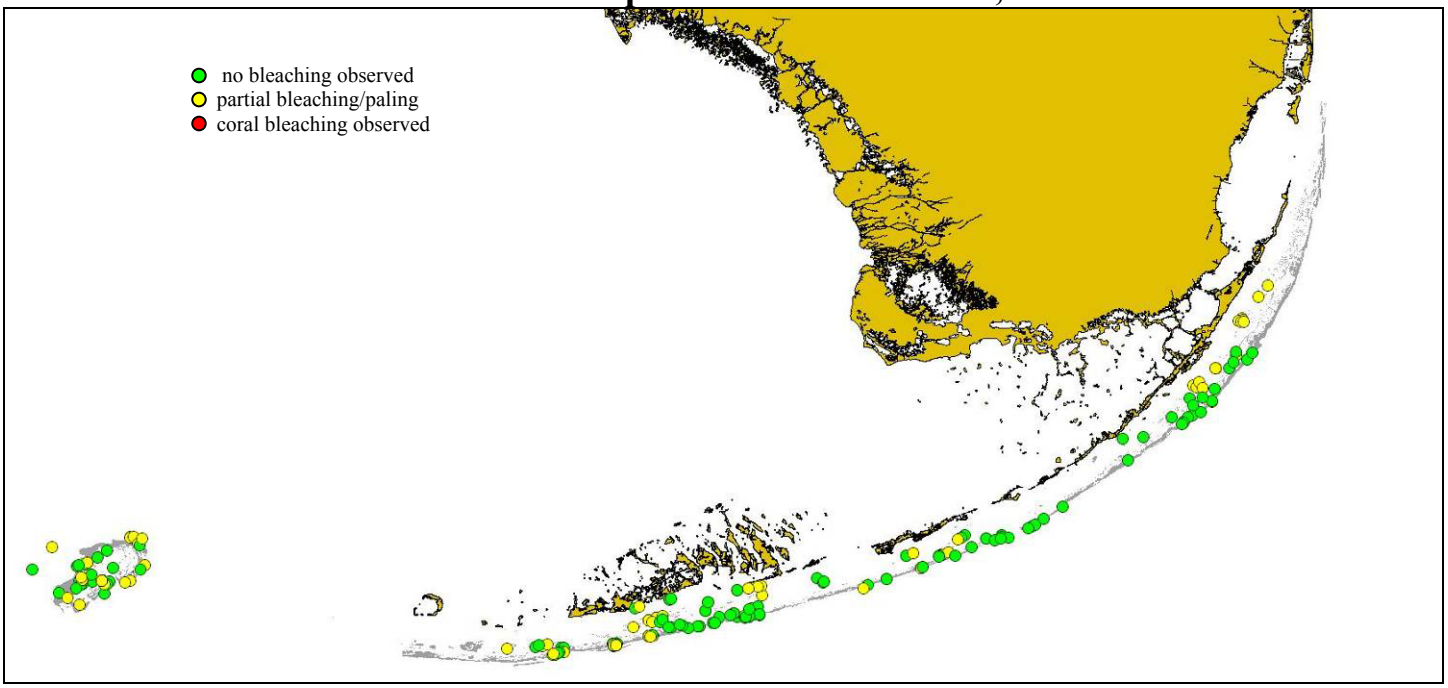

Figure 7. Summary map of all Florida Keys BleachWatch Observer reports submitted during the 2012 coral bleaching season.

THANK YOU OBSERVERS FOR YOUR HARD WORK!

For more information about the BleachWatch program, or to submit a bleaching observation, contact:
Cory Walter
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(305) 745-2729 x301
http://www.mote.org/Keys/research/bleaching.phtml

Funding Provided By: