

CORAL REEF NEWS
Coral Reef Conservation Program
National Oceanic and Atmospheric Administration
October 2006 Volume 4 No. 1



NOAA Coral Reef News is a monthly e-newsletter established to provide current information on the activities of the National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program (CRCP) and other relevant NOAA programs. The CRCP supports effective management and sound science to preserve, sustain and restore valuable coral reef ecosystems. Back issues are available at <http://coralreef.noaa.gov/news/welcome.html>.

IN THIS ISSUE:

ANNOUNCEMENTS (PAGE 2)

- **Coral Reef Management Fellowship Program Places Two New Fellows.**
- **Flower Garden Banks National Marine Sanctuary Management Plan Review.**
- **Deep-sea Coral Collection Protocols Available.**
- **MPA Center Launches Redesigned Web Site.**
- **CCMA Biogeography Team Launches Redesigned Photo Browser.**

UPDATES (PAGE 3)

Atlantic

- ***M/V Wave Walker Coral Reef Report Released.***
- ***Biogeographic Data to Support Sanctuary Management Plan Revision.***
- ***Installation of Educational Signs Completed within Boquerón Public Beach Facilities.***
- ***Oculina Survey to Utilize AUV Technology.***
- ***Ranches to Reefs Exhibit Features Sanctuary Virtual Dive.***

Pacific

- ***FBNMS Participates in Coral Reef Awareness Month.***
- ***NOAA Scientists Conduct Benthic Habitat Mapping in the Northwestern Hawaiian Islands Marine National Monument.***
- ***Census of Marine Life Cruise Underway to Study Biodiversity at French Frigate Shoals.***
- ***NOAA Provides PIMPAC Training in Chuuk.***

International

- ***NOS Receives Over \$100,000 for Coral Reef Conservation and Socioeconomic Monitoring.***

National/Headquarters

- ***NOAA and the University of Queensland Sign MOA.***
- ***Successful Oceanographic Instrumentation Expedition to Great Barrier Reef, Australia.***
- ***Caribbean Coral Bleaching and Disease Workshop held in Cozumel, Mexico.***
- ***NOAA Issues Press Release on Experimental Doldrums Product.***
- ***CRW Collaborates With Silliman University in the Philippines.***
- ***CRW Scientist Invited as Panelist at National Academy Workshop on Ecosystems Vulnerabilities to Climate Change***
- ***New Products in CoRIS.***

CORAL REEFS IN THE NEWS (PAGE 7)

UPCOMING EVENTS (PAGE 9)



ANNOUNCEMENTS

Coral Reef Management Fellowship Program Places Two New Fellows. The Coral Reef Management Fellowship Program has placed new fellows in two jurisdictions to support island coral reef management efforts.

- Petra MacGowan will be working at the Hawai'i Department of Land and Natural Resources' Division of Aquatic Resources; and
- Karlyn Langjahr will be working for the Virgin Islands Coastal Zone Management Program

These fellows started their three-year fellowships after attending the U.S. Coral Reef Task Force Meeting and the Coral Reef Management Fellowship Program Meeting in the U.S. Virgin Islands in late October.

Flower Garden Banks National Marine Sanctuary Management Plan Review. The Flower Garden Banks National Marine Sanctuary (FGBNMS) is beginning its Management Plan Review (MPR). A sanctuary management plan is a site-specific planning and management document, which is periodically reviewed, that describes the objectives, policies and activities for a sanctuary and guides future management. In conjunction with the MPR process, the sanctuary has just released the "State of the Sanctuary Report". An electronic copy of the report is available on the FGBNMS [Web site](#). As part of the MPR process, the FGBNMS will hold public meetings to obtain input from resources users, interest groups, government agencies, and other members of the public on resource management issues. This input will help define the range of issues that the program will address during the management plan review. FGBNMS encourages interested members of the public to attend and provide comments at a scoping meeting. Those unable to attend can mail, fax or email written

comments directly to the sanctuary. The sanctuary will work with its Advisory Council and other members of the public to help prioritize issues that will be addressed during this management plan review, and later to develop a draft management plan. Visit Management Plan Review [Web page](#) for more information, meeting dates, and instructions for submitting public comments.

Deep-sea Coral Collection Protocols Available. The publication, *Deep-sea coral collection protocols, a synthesis of field experience from deep-sea coral researchers*, is now available. This document provides information on technical aspects of coral collection including 1) techniques to document specimens *in situ*, 2) collecting specimens for species identification, ecology and biology, including reproduction, population genetics and other molecular studies, 3) shipboard preservation methods, and 4) shipping protocols. The document was designed to provide useful background information for specialists and non-biologists, including fishermen, archeologists, geologists and divers to increase our national capacity to document deep-coral diversity in U.S. and international waters. Copies are available upon [request](#).

MPA Center Launches Redesigned Web Site. On October 11, the MPA Center launched a revised version of its [Web site](#). It was redesigned to feature up to the minute happenings of two major projects, the draft Framework for the Development of the National System of MPAs and the West Coast Pilot Project. The new site maintains the news section that was previously available to highlight other ongoing activities. Comments are welcome to the [Webmaster](#).

CCMA Biogeography Team Launches Redesigned Photo Browser. The Center for Monitoring and Coastal Assessment (CCMA) Biogeography Team launched a new-and-improved photo browser during the first week of October. The new browser boasts more search

categories, more species, more dates, as well as new photos. Work is ongoing to add shots of divers, invertebrates, and other creatures. This is now the easiest way to get photos from this team. Visit the new browser at:

http://www8.nos.noaa.gov/biogeo_public/reef_photos.aspx.

UPDATES

Atlantic

M/V Wave Walker Coral Reef Report Released.

The National Marine Sanctuary Program is pleased to announce another addition to the Conservation Series. Erik C. Franklin, J. Harold Hudson, and Jeff Anderson co-authored the report, “*M/V Wave Walker Coral Reef Restoration Baseline Monitoring Report - 2004 FKNMS*”. Please visit the Conservation Series [Website](#) to download a pdf of the document. This document presents the results of baseline monitoring of a repaired coral reef injured by the *M/V Wave Walker* vessel grounding incident of January 19, 2001. This grounding occurred in Florida State waters within the boundaries of the Florida Keys National Marine Sanctuary (FKNMS). NOAA and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, are the co-trustees for the natural resources within the FKNMS. This report documents the efficacy of the restoration effort, the condition of the restored reef area two years and four months post-effort, and provides a picture of surrounding reference areas. These reference areas will provide a basis for future comparisons by which to evaluate the long-term success of the restoration.

Biogeographic Data to Support Sanctuary Management Plan Revision. From September 26 – October 2, the Flower Garden Banks National Marine Sanctuary (FGBNMS) research team partnered with five National Centers for Coastal Ocean Science (NCCOS) Biogeography Team scientists aboard the NOAA ship, *Nancy Foster*, to initiate the first component of a

comprehensive biogeographic assessment of the sanctuary. The majority of the dives were conducted in areas of the coral cap that had not been previously surveyed. Due to inclement weather, the ship-time on the *Nancy Foster* was reduced from a nine-day cruise to five days. This work will provide information to sanctuary management in the form of spatially quantified data on the abundance and distribution of a number of resident taxa, including fish and coral species. The information will find immediate use in supporting the management plan review (MPV) process the sanctuary is currently undergoing. The information will enable the evaluation of target species status, such as abundance of marbled grouper and extent of coral bleaching. The data will also assist with the design of relevant management strategies to be implemented in response to public scoping comments. Additionally, NCCOS will provide a sampling protocol for sanctuary-wide monitoring, a GIS based tool that will facilitate the protocol, and a database for data entry and access. Ten divers conducted a total of 148 dives throughout the coral reef cap area of the East and West Flower Garden Banks. Additional data will be collected during the 2007 field season. The project can be followed [here](#).

Installation of Educational Signs Completed within Boquerón Public Beach Facilities.

Educational signs regarding the importance of seagrass beds, coral reefs, mangrove forests, salt flats, recreational fishing regulations and the Boquerón area, which includes the Boquerón State Forest and Boquerón Bird Refuge, were recently installed in Boquerón. Signs were installed in the villas and cabins, at the entrance to the public beach, at two points along the beach and in a portion of the State Forest in front of a visitor parking area. The signs were installed by the Puerto Rico National Parks Company, who manages the public beach, in cooperation with NOAA Fisheries (NMFS) and the Puerto Rico Department of Natural and Environmental

Resources (DNER), who manages the State Forest and Bird Refuge. The installation of signs is part of the NMFS Caribbean Field Office's CRCP-funded project entitled, "From the Beach to the Reef: More than just Sand," aimed at educating the public regarding the connection between beaches and marine systems such as coral reefs.

Oculina Survey to Utilize AUV Technology.

From October 9-16, scientists and technologists will deploy the Eagle Ray, a high-tech autonomous underwater vehicles (AUV), to map deep portions of the Oculina Bank. The expedition has two main goals. The first is to relocate and map a series of coral restoration experiments, in the form of concrete structures, deployed by NOAA and academic partners over the past 10 years. Scientists hope to see new recruitment of corals and reef fish to the concrete structures in areas where coral was extensively damaged. The second project goal is to map deep portions of the Experimental Closed Area in waters that have not been mapped before using multi-beam sonar. These unmapped areas may contain undiscovered coral patches and tilefish burrow communities, which the AUV can detect and map for the first time. The new AUV, which is 15 foot-long (4.6 m), weighs just under a ton in air, can dive to almost 7,000 feet (2200 m), and travel at survey speeds of over 3 knots. On-board navigation systems allow it to accurately conduct "lawn-mower" survey patterns for up to 30 hours per dive. The multi-beam sonar system is capable of mapping features of less than a half-meter in size when flown about 160 feet (50 m) above the bottom. During the mission, a Web site, <http://www.uncw.edu/nurc/auv/oculina2006/>, will provide daily updates on mission progress, including journals, imagery, and opportunities to interact with the science team.

Ranches to Reefs Exhibit Features Sanctuary Virtual Dive. The Flower Garden Banks National Marine Sanctuary (FGBNMS) education and outreach team will once again host a virtual dive

at the annual Texas Wildlife Expo in Austin. The Expo is free to the public and attracts between 30 to 40 thousand visitors over the two-day period. The *Ranches to Reefs* exhibit focuses on watershed issues from the land, rivers, and the Gulf of Mexico. The virtual dive comprises 400 square feet of the exhibit and is hosted by FGBNMS in partnership with the sponsor, Texas Parks & Wildlife Department, and SeaSpace, a non-profit organization that promotes ocean stewardship. Approximately 2,500 visitors of all ages took the virtual dive last year, learning about the marine life in the sanctuary and trying their hand at conducting a virtual fish survey to get a feel for how scientists collect fish population data.

Pacific

FBNMS Participates in Coral Reef Awareness Month. October is Coral Reef Awareness Month in American Samoa, and Fagatele Bay National Marine Sanctuary (FBNMS) is playing a major role in coordinating events for the month. Events include the Sustainable Reefs program launch, media events, and a theater showing of Jean-Michel Cousteau's PBS special "America's Underwater Treasures." Featured in the sanctuary portion of "America's Underwater Treasures," the Sustainable Reefs program is being given to American Samoa through a generous gift from Jean-Michel Cousteau's Ocean Futures Society and Rock and Waterscape International. The design, launch and distribution of the educational resources to schools throughout American Samoa is being coordinated by the sanctuary with the assistance of the Coastal Management Program, the Coral Reef Advisory Group (CRAG) and the American Samoa Department of Education. The education package includes a DVD, cartoon book story, CD-Rom and ocean science curricula and activities guide; all components are designed to build understanding of, and stewardship for, coral reefs. The education package was provided at no cost to schools, educators and other groups dedicated to coral reef protection in American

Samoa. The October 16-20 launch of the program in American Samoa was the first introduction of the education initiative in the Pacific by Ocean Future's Society.

NOAA Scientists Conduct Benthic Habitat Mapping in the Northwestern Hawaiian Islands Marine National Monument. Scientists from the Coral Reef Ecosystem Division (CRED) of NOAA's Pacific Islands Fisheries Science Center (PIFSC) are engaged in a multibeam mapping cruise in the newly designated Northwestern Hawaiian Islands Marine National Monument aboard the NOAA Ship *Hi'ialakai* from October 10 – 29. Survey operations will be conducted at Brooks Bank, St. Rogatien Bank, and Nihoa Island. The research expedition is funded by the CRCP and the project's goals are to produce comprehensive digital maps of shallow (< 30 m deep) coral reef ecosystems and to characterize priority moderate-depth reef systems. Deployments of a baited bottom camera platform (BotCam) will also be made in depths of 50-300 meters. The BotCam is designed to remotely collect video images of benthic marine life in deep water. The mapping cruise is being led by Chief Scientist Joyce Miller, a Joint Institute for Marine and Atmospheric Research (JIMAR) researcher in CRED.

Census of Marine Life Cruise Underway to Study Biodiversity at French Frigate Shoals.

The NOAA Ship *Oscar Elton Sette* departed Honolulu on October 8 on a 21-day Census of Marine Life (CoML) expedition to the Northwestern Hawaiian Islands (NWHI) Marine National Monument. World renowned taxonomists and marine scientists will take part in this cruise. Their mission is to identify many of the smaller and understudied invertebrate, algal, and microbial species that live in and around the coral reef environment of one of the healthiest and least disturbed coral atolls in the world, French Frigate Shoals in the NWHI. The expedition is being coordinated by NOAA's Pacific Islands

Fisheries Science Center (PIFSC) [Coral Reef Ecosystem Division](#) (CRED). It is also part of the Census of Coral Reefs (CReefs), one of 17 projects under the larger CoML. This CReefs project is jointly led by NOAA's CRED, Scripps Institute of Oceanography, and the Australian Institute of Marine Science (AIMS). To follow the cruise in progress, visit www.creefs.org.

NOAA Provides PIMPAC Training in Chuuk.

Staff from the Office of Coastal and Ocean Resource Management (OCRM) held a training for the Pacific Islands Marine Protected Area Community (PIMPAC) on the Micronesian island of Chuuk from October 2-5. PIMPAC is a network of marine protected area (MPA) practitioners across the Pacific Islands and includes representatives from various NOAA offices, including the Coastal Programs Division and National MPA Center of OCRM, the National Marine Sanctuaries Program, NOAA Fisheries, and the Pacific Services Center. The main objective of the Chuuk training was to increase the capacity of Pacific Island MPA managers to develop effective MPA management plans and to facilitate management plan development processes with local stakeholders in their island jurisdictions. Attendees included 27 representatives from American Samoa, Hawaii, Guam, the Commonwealth of the Northern Mariana Islands, Palau, the Federated States of Micronesia (including the island States of Yap, Chuuk, Pohnpei and Kosrae), and the Republic of the Marshall Islands. The workshop also identified priority follow-up management planning activities for each of the islands to be carried out with support from PIMPAC members. Funding for PIMPAC, including this meeting, is provided by the CRCP.

International

NOS Receives Over \$100,000 for Coral Reef Conservation and Socioeconomic Monitoring.

The NOS International Program Office (IPO) successfully competed for a State Department grant for FY07. Funds will expand the CRCP's [Socioeconomic Monitoring Program](#) into island states of the Pacific. Funds will be used to educate local political leaders on the importance of conserving coral reef resources and to support a coastal leadership workshop for Pacific decision makers. IPO and the National Marine Sanctuary Program will also continue an integrated coastal management program with Vietnam.

National/Headquarters

NOAA and the University of Queensland Sign MOA. NOAA has just signed a five-year Memorandum of Agreement (MOA) with the University of Queensland in Australia to cooperate in research that will develop a better understanding of the responses of corals to thermal and light stress. Coral Reef Watch (CRW) will use the research results to derive better satellite-based algorithms for predicting the onset and eventual mortality rate for a bleaching event. NOAA is contributing funding and in-kind support in order to leverage over \$1.5 million Australian dollars of research funding from the University of Queensland and the Australian Research Council.

Successful Oceanographic Instrumentation Expedition to Great Barrier Reef, Australia.

Coral Reef Watch (CRW) scientist, Dr. Scott Heron, has recently returned from a research expedition to the southern Great Barrier Reef as part of NOAA's collaborative work with the Australian Institute of Marine Science (AIMS). Several ocean moorings, with instruments to measure temperature, salinity, pressure and ocean currents at various depths through the water column, were recovered and/or deployed in the Heron Island region. Additionally, some sensors

were deployed on the reefs at Heron Island and One Tree Island. The data collected continue to expand the existing dataset from this region that is being used to examine physical aspects which influence the incidence of coral bleaching. The data will also be utilized in calibrating and validating fluid dynamic models of the region. These models are being developed with the specific aim of linking the spatial distribution of bleaching events with physical conditions. This project is an extension of the coral bleaching prediction model, developed for Palau by NOAA and AIMS, that was presented to the U.S. Coral Reef Task Force (USCRTF) in Palau at the November, 2005 USCRTF meeting. This work will also contribute to CRW's development of regional satellite products. For more information on the entire suite of CRW satellite products, see <http://coralreefwatch.noaa.gov/>.

Caribbean Coral Bleaching and Disease Workshop held in Cozumel, Mexico. As part of the 3rd International Tropical Marine Ecosystems Management Symposium (ITMEMS3), NOAA's CRCP, Coral Reef Watch (CRW) and the Global Coral Reef Monitoring Network (GCRMN) co-hosted a half-day coral bleaching and disease workshop in Cozumel, Mexico on October 15. The audience included more than 60 coral reef managers and scientists from over 15 Caribbean nations. The workshop was part of the ongoing coordination of the regional response to the unprecedented 2005 coral bleaching event in the Caribbean. Participants presented reports on coral bleaching and diseases in the Caribbean and engaged in discussions on next steps in the event response. NOAA, in partnership with GCRMN, is leading a collaborative response that will result in the best documentation of a mass bleaching event to date; a "Special Report" on the event is now in preparation based on the data collected from over 100 researchers in the region. NOAA data will play a major role in the upcoming 2007 reef status report issued by the GCRMN. Also during the ITMEMS meeting, Dr. Mark Eakin presented a

talk entitled “Coral Bleaching: Global Drivers, Local Responses, and the Record Breaking 2005 Caribbean Bleaching Event” during the session on “Management during mass coral bleaching events.” For more information on the 2005 Caribbean Bleaching Event, see:

<http://coralreefwatch.noaa.gov/caribbean2005/>.

NOAA Issues Press Release on Experimental Doldrums Product. The NOAA Press Release NOAA 2006-R496, entitled “[NOAA Adds Wind Component to Coral Bleaching Warning System](#),” focused on the launch of a new satellite-based experimental low winds product that identifies and tracks regions of sustained low wind speed to help coral reef managers and scientists better assess conditions that may lead to coral bleaching. NOAA Coral Reef Watch (CRW), in collaboration with NOAA CoastWatch and the Southwest Fisheries Science Center, has identified persistent regions of low wind conditions using 4-day mean surface winds derived from QuikSCAT scatterometry. These persistent low wind regions are imaged and made available daily in a series of formats, including Google Earth, at <http://coralreefwatch.noaa.gov/satellite/doldrums/>.

CRW Collaborates With Silliman University in the Philippines. Coral Reef Watch (CRW) scientist Dr. William Skirving recently visited Silliman University in the Philippines. Dr. Skirving gave a seminar and attended a series of meetings with high level officials of the University regarding their Marine Science program and potential links between Silliman and the CRW effort within the World Bank/Global Environment Facility (GEF) Coral Reef Targeted Research (CRTR) program, of which CRW is a member of the Remote Sensing Working Group. Great interest was shown in the CRW satellite products and their role in the World Bank/GEF project. The University is instrumental in the setting up of more than 50 Marine Protected Areas (MPAs) within their region of the central Philippines, including one of the World’s most

well known coral reef MPAs, Apo Island. The University expressed an interest in partnering CRW to conduct workshops to teach the managers of these reefs how to utilize the valuable resources provided by NOAA through the World Bank project. Dr. Skirving delivered an invited seminar entitled “NOAA Coral Reef Watch: A program for developing and delivering operational satellite products tailored to coral reefs.”

CRW Scientist Invited as Panelist at National Academy Workshop on Ecosystems Vulnerabilities to Climate Change. Dr. Mark Eakin, coordinator of Coral Reef Watch (CRW), has been invited to serve as member of a National Academy of Science (NAS) Expert Panel on Ecosystems Vulnerabilities to Climate Change. The NAS is convening the panel under contract from the U.S. Government Accountability Office as a result of a request from Senators McCain and Kerry. Dr. Eakin has been asked to serve as an expert on climate impacts on corals and other marine ecosystems. The two-day workshop will convene November 2-3, 2006, in Washington, D.C., and focus on the vulnerability of ecosystems and associated economies to climate change, and implications for federal land management policies and practices. More than 25 scientists from government, academia, and think tanks have been selected to serve on the panel and produce a report on the workshop’s results.

New Products in CoRIS. See table on Page 8.

CORAL REEFS IN THE NEWS

This section will resume starting in November.

”

New Products in CoRIS.

CoRIS now has 1548 metadata records that refer to over 18,000 products.	
Product Name	Description
CRED Gridded Bathymetry of the Northwest Hawaiian Islands 2005	Gridded bathymetry of the shelf and slope environments of Northwest Hawaiian Islands, USA. Bottom coverage was achieved in depths between 20 and 250 meters. The bathymetry dataset includes Simrad EM300 and EM3002d multibeam data collected as of December 2005.
<i>Link:</i> http://www.soest.hawaii.edu/pibhmc	
<i>Sample Metadata Link:</i> http://coris.noaa.gov/metadata/records/html/cred_gridded_bathy_10m_brooks_banks_2005.html	
CRED REA Coral Health and Disease Assessment at Main Hawaiian Islands 2004 and Northwest Hawaiian Islands, 2005	Belt transects along 2 consecutively-placed, 25m transect lines were surveyed at 50-cm intervals as part of Rapid Ecological Assessments. Raw survey data included percent cover of benthic parameters, including live coral, carbonate pavement, sand, coral rubble, fleshy macroalgae, and crustose coralline algae. In addition, an area of 6x25 m along each transect was surveyed for prevalence of coral disease.
<i>Link:</i> http://www.pifsc.noaa.gov/cred/coral.php	
<i>Sample Metadata Link:</i> http://coris.noaa.gov/metadata/records/html/cred_rea_coral_disease_lehua_2005.html	
CRED Shallow Water CTDs: Marianas Archipelago and Guam 2003 and 2005 , Northwest Hawaii Islands 2002 and 2004, Main Hawaiian Islands 2005 and PRIA 2002 and 2006. Reef Assessment and Monitoring Program Cruises	Shallow Water CTDs sample vertical profiles of temperature, salinity, and turbidity providing indications for water masses and local sea water chemistry changes. They are collected at regularly spaced intervals around all study sites, both around islands or banks and within lagoons. The CTD profiles are part of a suite of oceanographic assessments made concurrently with a large number of biological coral reef assessments.
<i>Link:</i> http://www.pifsc.noaa.gov/cred/oceanography.php	
<i>Sample Metadata Link:</i> http://coris.noaa.gov/metadata/records/html/cred_shallow_ctd_agrihan_2003.html	

UPCOMING EVENTS

If you have events you would like listed in future newsletters, please contact coralreef@noaa.gov.

November 2006

1 – 3: PIRATA 12 Meeting. Miami, FL. <http://www.aoml.noaa.gov/phod/pirata12.html>

1 – 4: **Coral Reef Ecosystems Biodiversity Forum**. Noumea, New Caledonia.

http://www.ird.nc/biodec/english/home_page.html

6 – 10: **59th Meeting of the Gulf and Caribbean Fisheries Institute (CGFI)**. Belize City, Belize.

www.gcfi.org

8 – 9: **Second Annual Coral Reef Conservation and Management Conference**. Miami, FL.

<http://www.informalearning.com/CoralReefs>

10 – 11: **CGFI Caribbean Connectivity Symposium (featuring Caribbean MPA Managers' Meeting events)**. Belize City, Belize. <http://www.gcfi.org/Conferences/59th/CaribbeanConnectivity.html>

28 – 30: **Meso-scale Effects of Coral Bleaching Workshop**. Zanzibar, Tanzania. Abstracts due August 31.

Contact the workshop leaders, Dr. Tim McClanahan (Wildlife Conservation Society) tmccclanahan@wcs.org

and Dr. Mebrahtu Ateweberhan (Wildlife Conservation Society) mateweberhan@wcs.org, for registration details.

December 2006

9 – 13: **Restoring America's Estuaries (RAE) – Forging the National Imperative**. New Orleans, LA.

<http://www.estuaries.org/?id=4>

Questions, comments?

Contact coralreef@noaa.gov, NOAA Coral Reef Conservation Program.

Access to NOAA's coral reef data and information is provided through NOAA's [Coral Reef Information System](#). Current news on NOAA's coral reef activities can be found on the NOAA [Coral Reef Conservation Program Website](#).

