

**CORAL REEF NEWS**  
Coral Reef Conservation Program  
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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>.

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## OF SPECIAL NOTE

### **President Bush Establishes Northwestern Hawaiian Islands Marine National Monument.**

On June 15th, President Bush signed a proclamation that designated the Northwestern Hawaiian Islands (NWHI) and surrounding waters as a marine national monument. The majority of the nearly 140,000 square miles encompassed by the new monument were previously managed by NOAA as the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (NWHICRER) since its designation in 2000. The NWHICRER and all of its operations have been funded by, and been part of, NOAA's Coral Reef Conservation Program since that time. NOAA will continue to have primary federal management responsibility for the marine waters of the monument. The new monument encompasses the NWHICRER, State of Hawai'i NWHI Marine Refuge, and two National Wildlife Refuges in the region; it is the largest individual conservation area in the US and the largest protected marine area in the world. As a national monument, the NWHI will receive the highest level of environmental marine protection. Protection is effective immediately and includes requiring permits for activities related to research, education, conservation and management, native Hawaiian practices and non-extractive special ocean uses; the prohibition of commercial and recreational harvest of precious coral, crustaceans and coral reef species in monument waters; the prohibition of oil, gas and mineral exploration and extraction anywhere in the monument; and the phase-out of commercial fishing in monument waters over a five-year period. The monument will be jointly managed by NOAA and the U.S. Fish and Wildlife Service (FWS), in consultation with the State of Hawai'i. NOAA will have primary management responsibility in the marine waters, while the FWS will have sole management

responsibility over the Refuges. To learn more, visit the Monument's Web site

<http://www.hawaiiireef.noaa.gov/management/welcome.html>) or read the *NOAA Magazine* highlight (<http://www.noaanews.noaa.gov/stories2006/s2644.htm>).

### **New Version of CRCA Reauthorization Bill Introduced into the House of Representatives.**

The Chairman of the House Resources Committee, Richard Pombo (R-Calif.), introduced legislation (H.R. 5622) on June 15<sup>th</sup> to reauthorize the Coral Reef Conservation Act (CRCA); Congress first passed the CRCA five years ago. The CRCA is the legislation that authorizes the funding and activities of NOAA's CRCP. Last December, the Senate unanimously passed its version of the reauthorization, S. 1390 introduced by Sen. Daniel Inouye (D-Hawai'i). In February, Del. Eni Faleomavaega (D-American Samoa) introduced a companion bill, H.R. 4788, which was identical to S. 1390. The version introduced by Chairman Pombo is similar to S. 1390 and H.R. 4788, but includes additional authorization for the Interior Department and the U.S. Coral Reef Task Force. It also would authorize matching conservation grants for local governments and create a system for multi-year cooperative agreements between various agencies and organizations on coral reef conservation. If passed, the bill would extend the Program until 2012. To download a copy of H.R. 5622, see the article on the CRCA reauthorization at <http://www.coralreef.noaa.gov>.

## ANNOUNCEMENTS

**Coral Program Project Featured on Restore America's Estuaries Web Site.** The CRCP-funded project, 'Ecological Approach to Coral Reef Restoration', was the June feature on the Restore America's Estuaries site, Restoration Marketplace. Read the feature at <http://www.restorationmarketplace.com/?id=118>.

**Updated Habitat Digitizer Extension Improves ArcGIS 9 Mapping Software Applications.** At the request of many users of the latest version of ESRI ArcGIS 9 mapping software, the National Centers for Coastal Ocean Science (NCCOS) recently completed an update of the Habitat Digitizer Extension for this software, and has made it available online to all users on the ESRI and Center for Coastal Monitoring and Assessment (CCMA) websites. The extension was originally developed by NCCOS in 2001 for ArcView 3, and is designed to use a hierarchical classification scheme to delineate habitats by visually interpreting georeferenced images such as aerial photographs, satellite images and side scan sonar. The extension was designed to allow users to create, modify, and save custom habitat classification schemes and rapidly delineate and attribute polygons, lines, and points using simple menus; the new version enables compatibility with the latest software and enables testing of shapefile compatibility and performance of attribution quality assurance and quality control. Since 2001, the extension has been downloaded over 2500 times from the internet for use in many different marine, terrestrial, and educational applications. It was also incorporated into the Coastal Services Center's "Remote Sensing for Spatial Analysts" course. For more information, see <http://ccma.nos.noaa.gov/products/biogeography/digitizer/index.html>.

**NRDA Workshop in Hawai'i July 18-19.** Staff from NOAA's Pacific Services Center, Office of Response and Restoration, Restoration Center, and Office of General Counsel have organized a Natural Resource Damage Assessment (NRDA) workshop to be held in Honolulu next month. This workshop will focus on case studies of acute and chronic damage events specific to the Pacific Islands. Participants will be encouraged to draw on their experiences and the workshop presentations to develop NRDA plans and processes while considering a variety of issues. Participants have two options: a half-day introduction to NRDA for managers, and the full two-day workshop for practitioners. Please contact [Kris.McElwee@noaa.gov](mailto:Kris.McElwee@noaa.gov) for more information.

**ITMEMS3 Registration Reminder.** The International Coral Reef Initiative (ICRI) General Meeting and the Third International Tropical Marine Ecosystems Management Symposium (ITMEMS) will take place in Cozumel, Mexico. ITMEMS3 will be held October 16-20; the ICRI General Meeting will occur October 22-23. The goal of ITMEMS3 is to develop the capacities of coastal and marine managers to implement programs and projects that support the conservation and sustainable use of coral reefs and related ecosystems at the local, national, regional and global levels. Registration for these events is available on-line at <http://www.itmems.org> and <http://www.icriforum.org>. Registration for ITMEMS3 is limited to 300 people and fees will increase after August 1. To learn more about ITMEMS3, visit the ITMEMS Website or read the June issue of *ICRI News* (<http://www.icriforum.org/newsletter.html>).

## UPDATES

### *Atlantic*

**Maritime Industry and Coastal Construction Impacts Workshop (MICCI).** The Southeast Florida Coral Reef Initiative (SEFCRI) held the MICCI workshop on May 23-24 to identify innovative technologies, construction practices and procedures that minimize or eliminate coral reef impacts. The workshop brought together nearly 100 representatives from local and national construction and engineering firms, academic institutions and numerous local, state and federal agencies. Workshop participants identified and recommended advanced and/or emerging technologies for incorporation into regional beach nourishment, inlet management and infrastructure placement programs, and study designs to monitor projects and mitigation associated with coastal construction activities. Criteria was proposed for coral reef mitigation associated with coastal construction activities, beach renourishment, dredging, and groundings, and recommendations were made for potential rule changes and 'standard' permit conditions that could advance utilization of these emerging technologies while maintaining protection of coral reef ecosystems and associated reef resources. The workshop agenda is available at [http://www.dep.state.fl.us/coastal/programs/coral/documents/MICCI/Agenda\\_Innovative%20Technologies%20Workshop.pdf](http://www.dep.state.fl.us/coastal/programs/coral/documents/MICCI/Agenda_Innovative%20Technologies%20Workshop.pdf).

**Atlantic/Caribbean Regional Monitoring Meeting Helps National Coral Reef Ecosystem Monitoring Program Refine Management Efforts.** Recipients of NOAA's National Coral Reef Ecosystem Monitoring Program grants from Florida and the U.S. Caribbean met May 18-19 with National Centers for Coastal Ocean Science (NCCOS) scientists and NOAA's Coral Reef Conservation Program staff. The purpose of the meeting was to improve coordination of grants management, present information about the direction and progress of monitoring activities, and plan for production of the next 'State of the

Reefs' report in 2008. The meeting successfully accomplished these objectives, and grant recipients gained a much greater understanding of the overall grant process. Since inception of the program in 2000, grant recipients have focused their efforts on monitoring coral reef ecosystem health, including water quality, seafloor habitats, and fish and other reef inhabitants. The regional meetings are held every two to three years, and include representatives from the U.S. Virgin Islands, Puerto Rico, Florida, and other NOAA partners. The Atlantic/Caribbean regional meeting in May complements a Pacific regional meeting held in April in Honolulu, Hawai'i. To learn more about the Coral Reef Monitoring Grant Program, visit

[http://ccmaserver.nos.noaa.gov/ecosystems/coralreef/coral\\_grant.html](http://ccmaserver.nos.noaa.gov/ecosystems/coralreef/coral_grant.html).

**SEFSC to Utilize EcoReefs® Structures in Restoration Project.** The Southeast Fisheries Science Center (SEFSC) has received, and will be deploying, novel reef restoration structures for a pilot experiment. These ceramic structures, produced by EcoReefs® ([www.ecoreefs.com](http://www.ecoreefs.com)), resemble one-meter snowflakes. It is hoped that the complex structure may provide enhanced settlement substrate for cultured coral larvae. The units will be deployed near the Wellwood reef restoration site in the Florida Keys National Marine Sanctuary; SEFSC and collaborators will attempt to seed the structures with cultured elkhorn coral larvae in August 2006.

**Meso-American Reef Fish Monitoring Update.** As part of the 'Monitoring Coral Reef Fish Utilization of MPAs and Recruitment Connectivity Between the Florida Keys and Meso-American Reefs' project, researchers from NOAA National Marine Fisheries Service's (NOAA Fisheries Service) Southeast Fisheries Science Center (SEFSC) deployed four light traps during a March 2006 research cruise. These traps were located on the reef surrounding the Atoll off the Yucatan peninsula known as Banco Chinchorro.

While the team was unable to sample more than three days, they were pleasantly surprised at the diversity of larval fishes and the number of important findings resulting from these samples. A number of grouper, always very rare in larval fish collections, were collected. Samples included a number of Tiger grouper, a Mutton hamlet, and most significantly, a Goliath grouper. Seven fish species collected are not endemic to Banco Chinchorro and this marks the first documentation of those species in the area. In recently sorted light trap samples from August 2005 (collected in Xcalak -Yucatan coast directly across from the Atoll), tuna larvae were identified; one sample contained 43 larvae identified as Blackfin tuna. Few prior sampling efforts have yielded larvae of groupers or tuna in any number. To learn more about the research, visit <http://www.sefsc.noaa.gov/earlylifehistory.jsp> or <http://cimas.rsmas.miami.edu/>.

**Dry Tortugas Biennial Census.** Dr. Jim Bohnsack, of the NOAA National Marine Fisheries Service (NOAA Fisheries Service) Southeast Fisheries Science Center (SEFSC), and Dr. Jerry Ault, of the University of Miami Rosenstiel School of Marine and Atmospheric Science (UM-RSMAS), led a team of 41 research divers on their biennial census June 5-26 to measure how well the Dry Tortugas Ecosystems are rebounding from decades of overfishing. Team members hail from NOAA's Fisheries Service and National Undersea Research Center, the UM-RSMAS, the State of Florida, and the National Park Service. The team employed deep mixed-gas dives and work from a new high-tech, high-resolution Light Detection And Ranging (LIDAR) topographic map to assess the Reserve's effectiveness. The team monitored ongoing population changes and observed the effects of hurricanes on the coral reef habitat in the Reserve and conducted biennial fish abundance surveys on the more than 250 species that comprise the Tortugas' reef fish community in the Florida Keys. This year, the team also documented

changes in fish abundance and habitat quality in a region that was hit by six major hurricanes since the last survey occurred in June 2004. Read the full RSMAS press release at <http://www.rsmas.miami.edu/pressreleases/20060530-drytortugas.html>.

**NCCOS Identifies Potential MPA Locations in Vieques, Puerto Rico.** National Centers for Coastal Ocean Science (NCCOS) scientists completed preliminary analysis of field data in habitats around the former US Navy bombing range on Vieques, Puerto Rico, to identify potential Marine Protected Areas (MPA). The work supports habitat managers' efforts to prevent environmental degradation from inappropriate development and over exploitation of marine resources in the area being opened to public access. The surveys of reef, seagrass and mangrove habitats identified several promising potential MPA locations.

**Manatees May Affect Plant Species in Seagrass Meadows in Southeast Puerto Rico.** Preliminary analysis by National Centers for Coastal Ocean Science (NCCOS) scientists of field data collected April 5-15 in Puerto Rican seagrass beds indicates that seagrass species composition and abundance may be affected by grazing of West Indian manatees. Maps of heavily grazed near-shore seagrass meadows observed along the southeastern coast of the island are being prepared for coastal managers for their use in conservation planning for coastal marine resources. Heavily grazed areas were dominated by highly fecund, fast growing opportunistic seagrasses like *Halodule wrightii*, *Halophila decipiens*, and *Syringodium filiforme*, but other areas were dominated by *Thalassia*, a tropical climax species. Grazing level was determined from manatee tracking data collected by the US Geological Survey Sirenia Project (<http://cars.er.usgs.gov/Manatees/manatees.html>)

in collaboration with NCCOS. For more information see <http://www.ccfhr.noaa.gov/stressors/resources/puerto-rico-cruise-2006/mission>.

**NCCOS Develops Analytical Tool to Improve Designation of Research Areas by Sanctuary Managers.** Scientists from the National Centers for Coastal Ocean Science (NCCOS) have developed a spatial analysis tool that balances scientific and societal factors and identifies best potential areas within Gray's Reef National Marine Sanctuary (Sanctuary) to be used exclusively for scientific research. Designation of a research-only area within the sanctuary, which is located off Georgia, is currently under consideration by the National Marine Sanctuary Program. The results of this analysis will be used by the Sanctuary staff to communicate research area placement options to constituents. The tool, which is transferable to other regions, systematically considers locations throughout the Sanctuary and identifies areas with the following characteristics: 1) a large number and diversity of bottom types to fulfill research needs; 2) a large number of prior research sites, to serve as a baseline for comparison with future studies; and 3) as few preferred bottom fishing sites as possible, to minimize displacement of users. The analysis balanced the characteristics for several boundary shapes and sizes, and resulted in identification of many options for research-only areas. For more information, see [http://ccma.nos.noaa.gov/ecosystems/sanctuaries/grays\\_boundary.html](http://ccma.nos.noaa.gov/ecosystems/sanctuaries/grays_boundary.html).

**Enforcement Workshop Held at Ponce Airport, Puerto Rico.** NOAA National Marine Fisheries Service's (NOAA Fisheries Service) Caribbean Field Office recently completed a workshop with personnel from the Transportation Safety Administration, the U.S. Department of Agriculture, U.S. Customs and Border Protection, Rangers from the Puerto Rico Department of Natural and Environmental Resources, and NOAA

Office of Law Enforcement ([http://www.nmfs.noaa.gov/ole/se\\_southeast.html](http://www.nmfs.noaa.gov/ole/se_southeast.html)). The purpose of the workshop was to educate agency personnel regarding how to identify corals and undersized conch shells using presentations and hands-on examples of corals, rocks, and shells. The possession of corals and undersized conch, dead or alive, is prohibited under various Puerto Rican laws. The workshop aimed to alleviate the growing problem with tourists who want to take home such souvenirs of their visit to Puerto Rico. The workshop also served as initial step in networking among agencies to discuss the manner in which they can cooperate in identifying tourists attempting to leave the country with illegal items and confiscate the materials. Additional workshops will be held for personnel from each agency currently working at the Aguadilla Airport and at the ferry dock in Mayaguez. Mayaguez is a point of entry for traffic of coral, conch, and sea turtle souvenirs from the Dominican Republic. Some of these species have additional protections; see <http://www.nmfs.noaa.gov/ia/intlagree/cites.htm> and <http://www.nmfs.noaa.gov/ia/intlagree/cites.htm> for more information.

#### *International*

**New ICON/CREWS Site Identified.** Scientists from the Atlantic Oceanographic and Meteorological Laboratory (AOML) have identified a site for their new Integrated Coral Observing Network (ICON) station near Little Cayman Island at 19° 41.929'N, 80° 03.621'W. ICON stations were formerly called Coral Reef Early Warning System (CREWS) stations. The proposed site is just 0.2 miles north of the new Little Cayman Research Center (Central Caribbean Marine Institute), and a short distance east of a famous dive site, Bloody Bay Wall. A high diversity of corals, sponges and fishes were identified at a beautiful reef just 225 feet north of the new site at a depth of 40 feet. The laboratory is still in a construction phase, but operational, and

is looking for research partners. They are extremely keen to work with NOAA in developing their research program. Visit <http://www.coral.noaa.gov/crews/index.shtml> to learn more about ICON stations and <http://www.reefresearch.org/index.cfm?fuseaction=pages.lcrc> to learn more about the Little Cayman Research Center.

### National/Headquarters

**CRW Scientist Presents During Second NSTA Web Seminar and at CI.** On 7 June, Dr. C. Mark Eakin, NOAA Coral Reef Watch (CRW) Coordinator, taught an online web seminar on coral bleaching as part of a partnership between NOAA and the National Science Teachers Association (NSTA). This was a follow-up to lectures that Dr. Eakin gave in April at the NSTA annual meeting in Anaheim, CA. More than 40 teachers participated. Additionally, Dr. Eakin gave a seminar on the 2005 Caribbean coral bleaching event at the Washington, DC headquarters of Conservation International (CI) on June 8<sup>th</sup>. For more information on the entire suite of NOAA Coral Reef Watch satellite products, see <http://coralreefwatch.noaa.gov/>.

**New Products in CoRIS.** See table on Page 15.

## **CORAL REEFS IN THE NEWS**

### Articles mentioning NOAA

**“Deep-Water Discovery” – May 22, 2006 (Rosenstiel School of Marine and Atmospheric Science press release on [www.rsmas.miami.edu](http://www.rsmas.miami.edu))** “Scientists explore newly discovered reefs for pharmaceutical potential, ecological impacts.” <http://www.rsmas.miami.edu/pressreleases/20060522-deepwater.html>

**“2 Coral Species Added to Endangered List” – May 25, 2006 (Saipan Tribune, Commonwealth of Northern Mariana Islands).** “On May 4, at the biannual meeting of the United States Coral

Reef Task Force, the National Oceanic and Atmospheric Administration's Fisheries Service announced that two species of hard coral, *Acropora palmata* (elkhorn) and *Acropora cervicornis* (staghorn), will be officially listed as threatened under the Endangered Species Act.” <http://www.saipantribune.com/archives/newsstorysearch.aspx?cat=16&newsID=57823&issID=2351&archdte=5/25/2006%2012:00:00%20AM>

**“Coral Reef TF Unveils New Enforcement Initiative” – May 25, 2006 (Saipan Tribune, Commonwealth of Northern Mariana Islands).** “At its semiannual meeting in March, the U.S. Coral Reef Task Force announced a new coral reef conservation initiative aimed at stronger enforcement of aquarium reef fish trade harvesting regulations, and declared 2008 as ‘International Year of the Coral Reef.’” <http://www.saipantribune.com/archives/newsstoryarch.aspx?newsID=57822&cat=16&archdte=5/25/2006%2012:00:00%20AM>

**“Little Cayman Centre Partners With NOAA” – June 9, 2006 (Cayman Net News, Cayman Islands).** “Central Caribbean Marine Institute (CCMI) and its research centre on Little Cayman are entering into a partnership with the US National Oceanic and Atmospheric Administration (NOAA) through an international project to monitor coral reefs globally.” <http://www.caymannetnews.com/cgi-script/csArticles/articles/000028/002805.htm>

**“Key Senators Agree to take Action as Ocean Crisis Worsens: Joint Ocean Commission Responds to Senate Request to Develop Congressional Priority Plan” – June 13, 2006 (Joint Ocean Commission Initiative press release on [www.jointoceancommission.org](http://www.jointoceancommission.org)).** “A bipartisan group of ten influential Senators have agreed to take action on comprehensive reform of the nation’s ocean policy as the problems with our troubled seas continue to grow worse. A national ocean policy action plan for Congress, From Sea

to Shining Sea: Priorities for Ocean Policy Reform, developed at the Senators' request, was delivered to Capitol Hill today by the Joint Ocean Commission Initiative and will serve as a guide for developing legislation and funding high-priority programs."

<http://www.jointoceancommission.org/press/press/release0613.html>

**"Committee Reports NOAA Organization Bill – Again: Dems Strengthen Reporting Requirements, Emergency Management Provisions" – June 14, 2006 (U.S. House of Representatives Committee on Science Democratic Caucus press release on**

<http://sciencedems.house.gov>). "The U.S. House Committee on Science resumed work today that began more than one year ago. In the Committee's second consideration of an act to formalize the National Oceanic and Atmospheric Administration (NOAA) as a recognized federal agency, Democrats again attempted to strengthen the much-needed legislation."

<http://sciencedems.house.gov/press/PRArticle.aspx?NewsID=1141>

**"President Bush Establishes Northwestern Hawaiian Islands National Monument" – June 15, 2006 (Presidential press release on**

[www.whitehouse.gov](http://www.whitehouse.gov)). "...In a few moments, I will sign a proclamation to designate the waters in this region a national monument. This action will create the Northwestern Hawaiian Islands Marine National Monument, the largest single conservation area in the history of our country, and the largest protected marine area in the world."

<http://www.whitehouse.gov/news/releases/2006/06/20060615-6.html>

**"Northwestern Islands to Become Monument" – June 15, 2006 (Honolulu Advertiser, HI).**

"President Bush this morning is expected to establish the Northwestern Hawaiian Islands National Monument — by far the largest protected

area of any kind in the country and the world's largest marine refuge."

<http://the.honoluluadvertiser.com/article/2006/Jun/15/ln/FP606150341.html>

**"Hawaiian Marine Reserve To Be World's Largest" – June 15, 2006 (Washington Post, US).** "President Bush plans to designate an island chain spanning nearly 1,400 miles of the Pacific northwest of Hawaii as a national monument today, creating the largest protected marine reserve in the world, according to sources familiar with the plan."

<http://www.washingtonpost.com/wp-dyn/content/article/2006/06/14/AR2006061402455.html>

**"Bush to Create Largest Marine Sanctuary" – June 15, 2006 (Associated Press on**

[www.forbes.com](http://www.forbes.com), US and approx. 37 other sources. ). "President Bush is creating a vast new marine sanctuary Thursday, extending stronger federal protections to the Northwestern Hawaiian Islands and its endangered monk seals, nesting green sea turtles and other rare species."

<http://www.forbes.com/home/feeds/ap/2006/06/15/ap2817125.html>

**"NOAA is Committed to Preserving the Northwestern Hawaiian Islands" – June 16, 2006 (NOAA Magazine, US).** "In 2004, the President named the protection of the Northwestern Hawaiian Islands as a national ocean policy priority in the U.S. Ocean Action Plan. Now the nation is seeing the culmination of what Teddy Roosevelt started nearly a century ago by designating this area a national monument and giving it one of the highest levels of protection."

<http://www.magazine.noaa.gov/stories/mag203.htm>



Other articles

**“Reef at Forefront of CO2 Battle” – June 12, 2006 (BBC News, Belize).** “...Dr Melanie McField, from the Smithsonian Institution in Washington DC, US, has been studying the reefs for more than a decade. She is confident that climate change is a key factor: ‘On an annual basis, the sea temperatures in the Caribbean haven't changed much, but we are now registering prolonged periods of severe heating that we didn't see before.’”

<http://news.bbc.co.uk/2/hi/science/nature/5064870.stm>

**“Coral Reefs and Marine Life May be Wiped Out by Global Warming” – May 16, 2006 (The Scotsman, United Kingdom and approx. 6 other sources).** “Global warming has had a more devastating effect on some of the world's finest coral reefs than previously assumed, scientists said last night....The international team of researchers surveyed 21 sites and more than 50,000 square metres of coral reefs in the inner islands of the Seychelles in 1994 and 2005.”

<http://news.scotsman.com/scitech.cfm?id=726292006>

**“Chong Considering Closing Sipadan” – May 18, 2006 (www.wildsingapore.com, Singapore).** “Deputy Chief Minister of Sabah Tan Sri Chong Kah Kiat Thursday said that he was seriously considering closing Sipadan Island if people were so concerned about the environmental damage to the island and its surrounding areas of late. It was reported that a barge carrying sand, stones, steel pipes, and heavy equipment to build RM5 million worth of tourist facilities like toilets and restaurants on the island had scrapped off hundred square metres of corals near the divers' drop-off points.”

<http://www.wildsingapore.com/news/20060506/060518-5.htm>

**“Scientists to Dive for Answers at Sea” – May 19, 2006 (The Honolulu Advertiser, HI).**

“Sleepy-eyed scientists hauled computers, dive gear, instruments and other equipment just after dawn yesterday across the dusty dock at Snug Harbor, where the NOAA research ship Hi'ialakai ties up. The ship, with 20 marine scientists aboard, sailed to Pearl Harbor to fuel, and left at sunset for a 25-day expedition into the Northwestern Hawaiian Islands and south to Johnston Atoll.”

<http://the.honoluluadvertiser.com/article/2006/May/19/In/FP605190337.html/?print=on>

**“Tomorrow is World Oceans Day” – June 7, 2006 (Jamaica Gleaner, Jamaica).**

“...According to the last Status of the Reefs of the World Report in 2004, Jamaica has coral cover of up to 34 per cent in certain areas, an unhealthy figure for Jamaica's coral reefs. In Jamaican, coral reefs are protected under the Natural Resources Conservation Authority Act, and the Beach Control Act.” <http://www.jamaica-gleaner.com/gleaner/20060607/news/news7.html>

**“‘Hope for coral’ as Oceans Warm” – June 7, 2006 (BBC News, United Kingdom and approx. 62 other sources).** “Some coral reefs may be able to adapt to rising ocean temperatures, a consequence of global climate change.”

<http://news.bbc.co.uk/2/hi/science/nature/5053812.stm>

**“Scientists Go Deep to Learn About Coral Reefs” – June 7, 2006 (TC Palm, FL).** “As a speckling rain of plankton continuously washed through the cold, royal-blue waters 15 miles from Dania Beach, researchers with Harbor Branch Oceanographic Institution on Tuesday explored a previously undocumented northern section of the Miami Terrace.”

[http://www1.tcpalm.com/tcp/local\\_news/article/0,2545,TCP\\_16736\\_4755794,00.html](http://www1.tcpalm.com/tcp/local_news/article/0,2545,TCP_16736_4755794,00.html)

**“Algae Aids and Abets Coral Killers” – June 7, 2006** (*ScienceNOW Daily News, DC*). “...Algae are often found growing where corals once lived. Most researchers supposed that the algae simply moved in once corals were already dead or dying. But a recent study (*Science*, 24 February 2006) revealed that organic carbon--which often leaks out of some plants and algae--promotes microbial activity that kills coral.”

<http://sciencenow.sciencemag.org/cgi/content/full/2006/607/2?rss=1>

**“World Ocean Day: RP is Center of Marine Biodiversity in the World” – June 8, 2006** (*Philippine Daily Inquirer, Philippines*).

“...The Philippines is the center of marine fish biodiversity and the home of the most diverse marine ecosystem in the world, a recent study by American biologists Kent Carpenter and Victor Springer revealed.”

[http://news.inq7.net/nation/index.php?index=1&story\\_id=78451](http://news.inq7.net/nation/index.php?index=1&story_id=78451)

**“Scientists Call for Ban on Sale of Protected Corals” – June 8, 2006** ([www.newswise.com](http://www.newswise.com), VA). “Conservationists are calling for a ban on the sale of Caribbean elkhorn and staghorn corals, newly protected today under the Endangered Species Act, though still legally sold in shell shops and souvenir stores of South Florida.”

<http://www.newswise.com/articles/view/521145/#imagetop>

**“Harbor Branch Finds Net Worth in Coral Reefs” – June 8, 2006** (*TC Palm, FL*).

“...Unlike shallow corals, deep-water coral don't have algae living on it and providing it with a food source. Researchers believe the deep corals 15 miles off Florida's coast in 1,000 feet of water might feed on the plankton.”

[http://www.tcpalm.com/tcp/local\\_news/article/0,,TCP\\_16736\\_4758065,00.html](http://www.tcpalm.com/tcp/local_news/article/0,,TCP_16736_4758065,00.html)

**“On World Oceans Day: Florida's Chief Reef-builders Merit Focus” – June 8, 2006** (*Daytona Beach News Journal, FL*). “Of the 48 continental states, only Florida boasts tropical coral reefs. And as we observe World Oceans Day today, it should not go unmentioned that they are in danger, deserving much greater protection than governments at all levels afford them.”

<http://www.news-journalonline.com/NewsJournalOnline/Opinion/Editorials/opnOPN21060806.htm>

**“Coral Algae Could Adapt to Warming” – June 9, 2006** (*New Scientist, Great Britain*).

“Some of the world's coral reefs may be able to adapt to global warming - up to a point.”

<http://www.newscientist.com/channel/life/mg19025553.100-coral-algae-could-adapt-to-warming.html>  
(subscription required to view full article)

**“Living Rainforests of the Sea” – June 9, 2006** (*The Epoch Times, United States*). “The tropical coral reefs, one of the most diverse and largest ecosystems in the world, may not be around for long as a result of global warming, collecting, and dredging, but now the California Academy of Sciences in San Francisco is putting a great effort into recreating these unique living coral reefs.”

<http://www.theepochtimes.com/news/6-6-9/42506.html>

**“Cayman Reefs in Trouble” – June 9, 2006** (*Caymanian Compass, Cayman Islands*).

“...our reef fisheries now exist at a fragile balance, which can be irreversibly compromised if not carefully managed. The diversity, adaptations, and complex interactions of coral reef species means that coral reef ecosystems are inherently more vulnerable to overuse than are other marine ecosystems.” <http://www.caycompass.com/cgi-bin/CFPnews.cgi?ID=1013949>

**“Vandalising the Future” – June 11, 2006** (*The Jamaica Observer, Jamaica*). “The reefs at Pear Tree Bottom had the most spectacular vertical coral covered canyons, nearly a hundred feet

deep...The northcoast reefs from Mammee Bay, outside of Ocho Rios to Pear Tree Bottom, a few miles to the west, are now threatened as never before by two hotel developments and a golf course due to be developed....”

[http://www.jamaicaobserver.com/columns/html/20060610T220000-0500\\_106711\\_OBS\\_VANDALISING\\_THE\\_FUTURE\\_.asp](http://www.jamaicaobserver.com/columns/html/20060610T220000-0500_106711_OBS_VANDALISING_THE_FUTURE_.asp)

**“Biologists, Criminalists are Developing 'CSI'-Type Standards to Catch Underwater Perps” – June 13, 2006 (Associated Press on Environmental News Network, United States and approx. 20 other sources).** “When death strikes a coral reef, whether from an oil spill off Mexico or sediment unleashed by a dam bursting in Hawaii, marine biologists know what to look for, but not how to document and preserve their findings so they will hold up in court. Now biologists and criminalists from around the world are joining forces to develop crime-scene investigation techniques that work under water.”  
<http://www.enn.com/today.html?id=10662>

**“Coral Gathering Unabated in Zambo Despite Ban” – June 14, 2006 (Sun Star, Philippines).** “Fishermen continue to gather and sell sea corals to local collectors and tourists in the southern Philippine port city of Zamboanga despite a government ban and efforts to stop the illegal activities.”  
[http://www.sunstar.com.ph/static/zam/2006/06/14/news/coral\\_gathering\\_unabated\\_in\\_zambo\\_despite\\_ban.html](http://www.sunstar.com.ph/static/zam/2006/06/14/news/coral_gathering_unabated_in_zambo_despite_ban.html)

**“Hawaiian Marine Reserve to be World’s Largest” – June 15, 2006 (Washington Post, DC).** President Bush plans to designate an island chain spanning nearly 1,400 miles of the Pacific northwest of Hawaii as a national monument today, creating the largest protected marine

reserve in the world, according to sources familiar with the plan.

<http://www.washingtonpost.com/wp-dyn/content/article/2006/06/14/AR2006061402455.html?sub=new>

**“Mitsubishi Corporation Launches the Global Coral Reef Conservation Project Study in the Northwestern Hawaiian Islands and Seychelles” – June 15, 2006 (Mitsubishi Corporation press release on [www.csrwire.com](http://www.csrwire.com)).** “Mitsubishi Corporation (MC) has launched two further components of its Global Coral Reef Conservation Project. This project now consists of three scientific research studies, in Japan, the United States and Seychelles, on the ecology of coral reefs and methods for their conservation.”  
<http://www.csrwire.com/PressRelease.php?id=5785>

**“Dredging Planned in Reef-Rich Area: Boca Raton Asks for Turbidity Variance That Would Allow a 3050-meter Plume” – June 16, 2006 (Florida Sportsman, FL).** “A gorgeous, highly productive, two-mile stretch of beach and adjacent reefs could get smothered by a dredge-and-fill operation if the City of Boca Raton gets their way.”  
<http://www.floridasportsman.com/casts/060616/>

**“Conserving One of the World’s Largest Reef Fish” – June 16, 2006 (World Wildlife Federation press release on [www.panda.org](http://www.panda.org)).** “A leap forward on effective control of the international trade in humphead wrasse, one of the world's largest coral reef fish, was taken last week when representatives from key countries involved in the trade met to discuss practical methods of making the trade both legal and sustainable.”  
[http://www.panda.org/news\\_facts/newsroom/index.cfm?uNewsID=72740](http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=72740)

**“New Reefs Discovered off Florida’s Coast”**—  
**June 17, 2006** (*The Miami Herald*, FL and  
approx. 1 other source). “...After two months  
of dives aboard a specially equipped sub, scientists  
have emerged enthralled by the strange and  
beautiful seascapes they’re discovering in the  
largely unexplored deep waters between South  
Florida and the Bahamas. These are reefs of  
stunning variety long secreted by crushing depths,  
1,000 to nearly 3,000 feet down.”  
[http://www.miami.com/mld/miamiherald/1483947  
7.htm](http://www.miami.com/mld/miamiherald/14839477.htm)

**“Avoiding Deep Trouble in the Deep Seas”** –  
**June 16, 2006** (*peopleandplanet.net*, United  
Kingdom). “Swift and wide-ranging actions are  
needed to conserve the world’s entire marine  
environment amid fears that humankind’s  
exploitation of the deep seas and open oceans is  
rapidly passing the point of no return, according to  
a new joint report by the United Nations  
Environment Programme (UNEP) and the World  
Conservation Union (IUCN).”  
<http://www.peopleandplanet.net/doc.php?id=2781>

**“Council Wants to Maintain Fishery in New  
Monument Waters”** – **June 17, 2006** (*Associated  
Press* on [www.kpua.net](http://www.kpua.net), HI). “A member of the  
Western Pacific Regional Fishery Management  
Council says the body wants to maintain  
commercial fishing in the Northwestern Hawaiian  
Islands.” <http://www.kpua.net/news.php?id=8594>

**“New Designation of Hawaiian Waters Stirs  
Controversy: Fishing Will be Limited in Huge  
National Monument”** – **June 17, 2006** (*CNN*,  
US). “...The monument designation is not being  
welcomed by everyone in Hawaii. One  
consequence of the president's declaration is that  
within five years fishing in the area must cease.  
'For us, we would like to see the small bottomfish  
fisheries continue there; it's been going on for 30  
years or more,' said Kitty Simonds, executive

director of the Western Pacific Regional Fishery  
Management Council.”  
[http://www.cnn.com/2006/TECH/science/06/16/ha  
waii.monument/](http://www.cnn.com/2006/TECH/science/06/16/hawaii.monument/)

**“WWF Maps Coral Reefs in Arabian Gulf”** –  
**June 18, 2006** (*World Wildlife Federation press  
release* on [www.panda.org](http://www.panda.org)). “WWF has helped  
prepare the first map of coral habitats in the  
southeastern Arabian Gulf, highlighting some of  
the most extensive and biologically important  
coral reefs around the offshore islands and banks  
of the United Arab Emirate of Abu Dhabi and  
Qatar's harbour.”  
[http://www.panda.org/news\\_facts/newsroom/inde  
x.cfm?uNewsID=72660](http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=72660)

**“Al Yasat: A Multi-faceted Marine Protected  
Area”** – **June 18, 2006** (*AME Info*, United Arab  
Emirates). “As nations around the world  
establish Marine Protected Areas (MPAs) to  
protect their most important marine habitats and  
species, the United Arab Emirates is setting up  
MPAs not just for natural resources protection but  
also to conserve its historical and cultural  
heritage.” <http://www.ameinfo.com/89137.html>

**“Corals Facing ‘Biggest Impact in History’”** –  
**June 19, 2006** (*University of Queensland press  
release* on [www.uq.edu.au](http://www.uq.edu.au), Australia) “A new  
study has found that the damage caused by human  
activity to some of the world's iconic coral reefs in  
the past 30 years is greater than at any time in the  
last 220,000 years.”  
<http://www.uq.edu.au/news/?article=9888>

**“Abu Dhabi Issues Decree to Protect Coral  
Islands”** – **June 19, 2006** (*Gulf News*, United  
Arab Emirates and approx. 1 other source).  
“President His Highness Shaikh Khalifa Bin  
Zayed Al Nahyan, in his capacity as the Ruler of  
Abu Dhabi, has issued an Emiri Decree declaring  
a group of islands off the Western Region as a  
Marine Protected Area.”  
[http://archive.gulfnews.com/articles/06/06/19/1004799  
6.html](http://archive.gulfnews.com/articles/06/06/19/10047996.html)

**“Biscayne National Park Fights to Protect Resources” – June 19, 2006** (*Associated Press in Bradenton Herald, FL*). “Stand on a walkway looking out toward the calm, crystalline waters of Biscayne Bay, and you can see many of the threats to this unique national park on Florida's southeastern tip....Park scientist Richard Curry lists the potential dangers: development in the growing city of Homestead to the west; five waste drainage canals that spill into the bay; a landfill that has leached ammonia into the park's waters; a water treatment plant; and a self-contained nuclear power plant.”

<http://www.bradenton.com/mld/bradenton/news/14855383.htm>

**“Pacific's ‘Nurseries’: New Marine Sanctuary is Raising Questions” – June 19, 2006** (*Associated Press in the Star-Telegram, TX and approx. 55 other sources*). “...unlike Mount Rushmore or the Statue of Liberty, the Northwestern Hawaiian Islands will never be a place visitors can see by just packing the kids into the car for a week. And Hawaiians themselves are unsure how much access they will have.”

<http://www.dfw.com/mld/dfw/news/nation/14852777.htm>

**“A Major Step Forward for Marine Protection in Indonesia” – June 19, 2006** (*World Wildlife Federation press release on [www.panda.org](http://www.panda.org)*).

“Following a growing trend to protect sensitive marine ecosystems, Indonesia has announced plans to create a marine protected area (MPA) over 1.2 million hectares off the eastern coast of the Derawan Archipelago in the Sulawesi Sea.”

[http://www.panda.org/about\\_wwf/what\\_we\\_do/marine/news/index.cfm?uNewsID=72880](http://www.panda.org/about_wwf/what_we_do/marine/news/index.cfm?uNewsID=72880)

**“Seaweed, Algae Could Kill Reef” – June 19, 2006** (*The Sunday Mail, Australia and approx. 6 other sources*). “Beautiful corals dotted throughout the Great Barrier Reef could be killed by seaweed and algae within decades, an expert has warned.”

[http://www.thesundaymail.news.com.au/common/story\\_page/0,5936,19517662%255E1248,00.html](http://www.thesundaymail.news.com.au/common/story_page/0,5936,19517662%255E1248,00.html)

**“Coral Reefs Under Attack From Over-Fishing” – June 20, 2006** (*Gulf Times, Qatar*).

“Coral reefs have suffered more damage since the 1970s than any time in the last 220,000 years, according to a study published yesterday that warned of the threats of over-fishing and coastal development.” [http://www.gulf-times.com/site/topics/article.asp?cu\\_no=2&item\\_no=92932&version=1&template\\_id=39&parent\\_id=21](http://www.gulf-times.com/site/topics/article.asp?cu_no=2&item_no=92932&version=1&template_id=39&parent_id=21)

**“How Fish Hire a Cleaning Service” – June 21, 2006** (*LiveScience, CA*).

“...Fish living in coral reefs often pick up skin parasites or experience buildup of dead skin cells. To keep healthy and tidy, the fish rely on small ‘cleaner’ fish to nibble away the parasites and detritus. A new study, detailed in the June 22 issue of Nature, reveals that ‘client’ fish choose their cleaners by watching them go to work on other fish.”

[http://www.livescience.com/animalworld/060621\\_rude\\_fish.html](http://www.livescience.com/animalworld/060621_rude_fish.html)

**“Coral Reefs in Peril” – June 21, 2006** (*Centre Daily Times, PA*).

“...Although the threat to corals from bleaching, disease and pollution may have attracted the most headlines, marine researchers have recently discovered that Florida's reef system is under siege from another threat -- ocean acidification.”

<http://www.centredaily.com/mld/centredaily/news/opinion/14865978.htm>

**“Experts Hope New Safeguards Aren't Too Little, Too Late for Dying Reefs in S. Florida” – June 22, 2006 (South Florida Sun-Sentinel, FL).** “...as the NOAA's Fisheries Service draws up a detailed conservation plan to protect and encourage the spread of the threatened South Florida corals, pollution and rising sea temperatures continue to take a toll....”

[http://www.sun-sentinel.com/news/local/southflorida/sfl-  
pcoral22jun22,0,7542742.story?coll=sfla-news-  
sfla](http://www.sun-sentinel.com/news/local/southflorida/sfl-pcoral22jun22,0,7542742.story?coll=sfla-news-sfla)

**“House Resources Committee Approves Faleomavaega’s Request for \$1 Million Authorization for Marine Sciences Lab at ASCC” – June 22, 2006 (U.S. House of Representatives press release on**

[www.house.gov](http://www.house.gov)). “Congressman Faleomavaega announced today that his amendment to H.R. 5622, the Coral Reef Conservation Legacy Act of 2006, passed by unanimous consent in the House Resources Committee Markup session held on Wednesday, June 21, 2006. The Faleomavaega amendment authorizes \$1,000,000 to be appropriated to the University of Hawaii Sea Grant Program to administer a Marine Science Laboratory for coral reef research and protection, coastal ecology and development, at the American Samoa Community College.”

[http://www.house.gov/list/press/as00\\_faleomavae  
ga/marinelabascc.html](http://www.house.gov/list/press/as00_faleomavaega/marinelabascc.html)

**“Healthy Coral Reefs Of Madagascar Resisting Damage From Climate Change: Expedition Finds Some Of Indian Ocean's Most Abundant Marine Life” – June 22, 2006**

**(Conservation International press release on** [www.conservation.org](http://www.conservation.org)). “Healthy coral reefs of Madagascar's northeast coast have so far resisted the damaging effects of warmer ocean temperatures attributed to global climate change, say scientists who recently studied the region.”

[http://www.conservation.org/xp/news/press\\_releas  
es/2006/062206.xml](http://www.conservation.org/xp/news/press_releases/2006/062206.xml)

**“Coral Reefs and the Global Network of Marine Protected Areas” – June 2006**

**(Science).** “Coral reefs worldwide are suffering massive declines in their diversity in response to human activities. The accelerating decay of this and other marine and terrestrial ecosystems has motivated multinational efforts to reduce biodiversity loss such as the 2002 World Summit on Sustainable Development and the 2003 World Parks Congress. The latter recommends that 20 to 30% of all major ecosystems should lie within strictly protected reserves by 2012.”

[http://www.sciencemag.org/cgi/content/full/312/5  
781/1750](http://www.sciencemag.org/cgi/content/full/312/5781/1750)

## New Products in CoRIS.

Product Name	Description
Metadata for 64 Rapid Ecological Assessment Fish Belt Transect surveys, part of a long-term monitoring program conducted at biennial intervals, in the Northwest and Hawaiian Islands, American Samoa, Guam, CNMI and other Pacific islands, have been added to CoRIS. These surveys took place 2002, 2003 and 2004.	Data were collected by two divers swimming in tandem along the length of a 25m transect line. The team swam each transect two times. During the initial swim-out, each diver recorded the abundance and size of all fish observed over 20cm TL within 4m of their side of the transect line. On the return swim, each diver recorded the abundance and size of all fish less than 20cm TL within 2m of their side of the transect line. Fish were identified to the lowest possible taxon which in most cases was the species level. Following the completion of three transect replicates at each site, the divers spent their remaining bottom time roving the general area near the site recording the presence of all fish species observed at the site.
<i>Link: <a href="http://www.nmfs.hawaii.edu/cred/eco_assess.php">http://www.nmfs.hawaii.edu/cred/eco_assess.php</a></i>	
CoRIS recently received the first shallow CTD data from PIFSC, Coral Reef Ecosystems Division (CRED).	The 135 shallow CTD casts were taken at Jarvis Island, Kingman Reef and Palmyra Atoll during 2004. These data are available from the CoRIS server
<i>Link: <a href="ftp://data.nodc.noaa.gov/pub/outgoing/CoRIS/data/nmfs/cred/CTD/OES0404/">ftp://data.nodc.noaa.gov/pub/outgoing/CoRIS/data/nmfs/cred/CTD/OES0404/</a></i>	
CRED shallow CTD casts.	Metadata for the 932 shallow CTD casts were taken around American Samoa islands in 2002, 2004 and 2006; Northwest Hawaiian Islands in 2003; Howland, Johnson and Baker in 2004; and Maui and Hawaii islands in 2005 have been added to CoRIS.
<i>Link: <a href="http://www.coris.noaa.gov/metadata/records/html/">http://www.coris.noaa.gov/metadata/records/html/</a> (search by title)</i>	
CRED Rapid Ecological Assessment coral disease	Metadata for coral disease observations at Jarvis Island, Kingman Reef and Palmyra Atoll, primary American Samoa islands, and Howland, Johnson and Baker in 2006 are now included CoRIS.
<i>Link: <a href="http://www.coris.noaa.gov/metadata/records/html/">http://www.coris.noaa.gov/metadata/records/html/</a> (search by title)</i>	
CRED Optical Validation data	Metadata for optical validation data observed at Guam, the Commonwealth of Northern Marianas Islands, Kauai, Oahu and Nihau, and Tutuila have been added to CoRIS.
<i>Link: <a href="http://www.coris.noaa.gov/metadata/records/html/">http://www.coris.noaa.gov/metadata/records/html/</a> (search by title)</i>	
CoRIS has 1371 metadata that direct users to 16296 data products.	

## UPCOMING EVENTS

If you have events you would like listed in future newsletters, please contact [coralreef@noaa.gov](mailto:coralreef@noaa.gov).

### July 2006

17 – 21: **National Marine Educators Association (NMEA) Conference 2006.** New York, NY.

<http://nysmea.org/con06/>

18 – 19: **Natural Resource Damage Assessment Workshop.** Honolulu, HI. Contact

[Kris.McElwee@noaa.gov](mailto:Kris.McElwee@noaa.gov) for more information.

### August 2006

29-31: **Third Coastal Zone Asia Pacific Conference.** Batam Island, Indonesia.

[http://cdc.fish.ku.ac.th/czap\\_06/index.htm](http://cdc.fish.ku.ac.th/czap_06/index.htm)

### September 2006

1-2: **Third Coastal Zone Asia Pacific Conference.** Batam Island, Indonesia.

[http://cdc.fish.ku.ac.th/czap\\_06/index.htm](http://cdc.fish.ku.ac.th/czap_06/index.htm)

10 – 14: **American Fisheries Society 136<sup>th</sup> Annual Meeting.** Lake Placid, NY.

<http://www.afslakeplacid.org/>

17 – 20: **California and World Oceans Conference.** Long Beach, CA.

<http://resources.ca.gov/ocean/cwo06/>

18 – 22: **Marine Technology Society and IEEE Oceanic Engineering Society Oceans Conference 2006.** Boston, MA. <http://www.oceans2006americas.org/>

19 – 22: **European Coral Reef Conference 2006.** Bremen, Germany. Abstracts and early registration due by May 15<sup>th</sup>. <http://isrs2006.zmt-bremen.de>

22 – 24: **MACNA XVIII: Futures in Reefkeeping.** Houston, TX. <http://www.macnaxviii.com/>

### October 2006

15 – 20: **ITMEMS 3: Global Problems, Local Solutions.** Cozumel, Mexico. <http://www.itmems.org>

30 – 31: **Coral Reef Ecosystems Biodiversity Forum.** Noumea, New Caledonia.

[http://www.ird.nc/biodec/english/home\\_page.html](http://www.ird.nc/biodec/english/home_page.html)

### November 2006

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

[http://www.ird.nc/biodec/english/home\\_page.html](http://www.ird.nc/biodec/english/home_page.html)

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

[www.gcfi.org](http://www.gcfi.org)

### 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](mailto: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 at <http://www.coris.noaa.gov>. Current news on NOAA's coral reef activities can be found on the NOAA Coral Reef Conservation Program Web site, <http://www.coralreef.noaa.gov>.

