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# Coral Reef News



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The Coral Reef Conservation Program (CRCP) is a partnership between the [NOAA](#) Line Offices working on coral reef issues, including the National Ocean Service ([NOS](#)), the National Marine Fisheries Service ([NMFS](#)), the Office of Oceanic and Atmospheric Research ([OAR](#)) and the National Environmental Satellites, Data and Information Service ([NESDIS](#)). From mapping and monitoring to managing reef resources and removing harmful debris, the CRCP addresses the priorities laid out in both the [National Action Plan to Conserve Coral Reefs](#) and the [National Coral Reef Action Strategy](#). In 2009, the CRCP realigned its priorities to primarily address the top three threats to global coral reef ecosystems: climate change impacts, fishing impacts, and impacts from land-based sources of pollution.

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## From the Desk of the Program Manager



First and foremost this month, our thoughts are with our colleagues, friends, and other victims of the tsunami that struck American Samoa, Samoa, and Tonga on the morning of September 30 as the result of an 8.3 magnitude earthquake that occurred southwest of American Samoa.

While our CRCP colleagues in American Samoa are physically safe, the wider NOAA family suffered a sad loss, and the natural disaster claimed over 100 other lives and caused property damage and property loss for residents in all three regions. There is much recovery work yet to be done in the regions. In addition, the effects of the

tsunami on the marine environment are still being determined, but it is certain that some reefs in these regions have been damaged by sediment, debris, and pollutants deposited by the receding waves.

On a more positive note, I am pleased to announce the launch of the redesigned CRCP Website, which we launched at the 22<sup>nd</sup> US Coral Reef Task Force Meeting in Puerto Rico on November 5. Development of the new site was a group endeavor and is the culmination of several months of hard work to ensure that the CRCP hosts information on coral ecosystems that our users are looking for. The new site features a complete redesign of how information is presented about the CRCP and incorporates a great deal of new information about the resource—coral. See ‘Announcements’ below for more details. I invite you to check out our new site and send us feedback.

-Kacky

## Announcements

**CRCP Launches Redesigned Website.** On November 5 at the 22<sup>nd</sup> US Coral Reef Task Force meeting, the CRCP launched a significantly redesigned version of their Website: <http://coralreef.noaa.gov>. In response to input from its External Program Review, a re-alignment of focus within the program, input from Website users, and direction from the Program Manager, the CRCP’s redesigned site focuses much more on the resource—coral ecosystems—in an effort to provide the information its users are searching for. With this in mind, new resources and products—such as expanded information on coral biology, values, threats, and conservation techniques; a deep-sea coral section; more current news about coral conservation; and new resources for students and teachers—have been added to the site. The redesign also maintains the programmatic content from the previous version of the site. These changes are anticipated

to make the site an even more useful tool for anyone looking to learn (continued on page 2)

A screenshot of the NOAA Coral Reef Conservation Program website. The header features the NOAA logo and the text "NOAA CORAL REEF CONSERVATION PROGRAM". Below the header, there are several sections: "Dive the Virtual Reef" (with a thumbnail of a coral reef scene), "Coral Reef Video" (with a thumbnail of a coral reef scene), "Corals In The News" (listing recent news items like "Reef Ecosystem Services Worth Up To \$1.2M Annually" and "Tons of fishing debris hauled in Honolulu Adverser"), "Coral Reef Facts" (with a thumbnail of two people standing near a coral reef), and "CoRIS" (with a thumbnail of a person holding a tablet). The footer includes links to "About Us", "Contact Us", "Disclaimer", "Privacy Policy", "Site Map", "Contact Webmaster", "NOAA", "Department of Commerce", "Web Site Owner", and "National Oceanic and Atmospheric Administration".

## UPCOMING EVENTS

### November

**20:** Pre-applications due for NOAA Coral Reef Monitoring Grant Program.

**30:** Pre-applications due for NOAA Coral Reef Management Grant Program.

## NAVIGATING OUR NEW WEBSITE

Having trouble finding some of the content from our old Website in the redesigned format?

Try using the search function or the [Site Map](#) to find the new location of pages and documents.

## Announcements continued...

more about coral, coral conservation, and the CRCP. This redesign helps present information which will help educate the public, as well as present the information Congress, reef managers, existing partners, and potential partners need to make management decisions related to coral ecosystems. Please take a moment to check out our new site and provide [feedback](#). Check back often for updated information and resources.

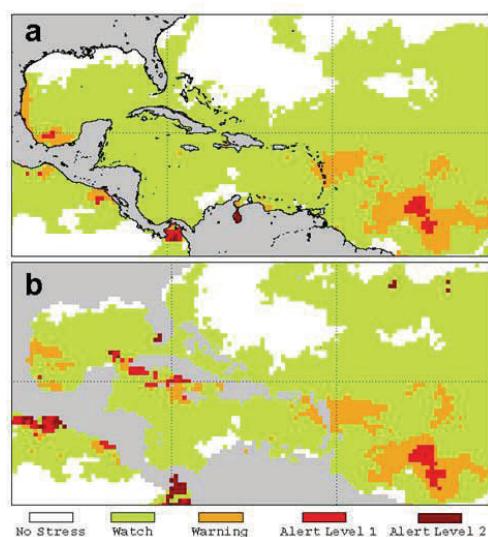
**22<sup>nd</sup> Meeting of the USCRTF.** The [US Coral Reef Task Force](#) (USCRTF) met in San Juan, Puerto Rico from October 30-November 5. The meeting, officially hosted by the NOAA, was co-chaired by Monica Medina, senior advisor to the NOAA Administrator, on behalf of NOAA. As the second meeting in the new administration, this meeting emphasized the importance of coral reef conservation, highlighted conservation strategies and successes in member jurisdictions—such as no-take reserves—and promote an enhanced vision for how the USCRTF and its members can work to meet the challenges facing coral reefs and local communities. Key topics of discussion included an evaluation of the [Local Action Strategies initiative](#), an update on and response to the Honolulu Declaration on Ocean Acidification and Reef Management, a Guanica Watershed panel, and special sessions highlighting Land-based sources of pollution and current issues in the Caribbean Region. There was also an opportunity for public comment during the business meeting. Prior to the two-day business meeting, there was a series of public workshops on socioeconomic assessments in the Caribbean, *Acropora* and *Montastrea* conservation, and watershed partnerships.

The USCRTF is co-chaired by the Departments of [Commerce](#) and of the [Interior](#), and includes leaders of 12 federal agencies, seven US states and territories, and three freely associated states. The mission is to lead, coordinate, and strengthen US government actions to better preserve and protect coral reef ecosystems.

**Nonprofit Petitions for ESA Protection of Coral Species.** On October 20, the [Center for Biological Diversity](#) filed a formal [petition](#) (pdf, 5.7 mb) seeking to protect 83 imperiled coral species under the [Endangered Species Act](#) (ESA). These corals, all of which occur in US waters ranging from Florida and Hawai'i to US territories in the Caribbean and Pacific, face a growing threat of extinction due to rising ocean temperatures caused by global warming, and the related threat of ocean acidification. NOAA

must respond to this petition within 90 days declaring whether listing "may be warranted" for each species based upon information available at the time of the petition. If the petition is found to be warranted, NOAA will have until October of 2010 to make listing determinations. Learn more by reading the Center's [press release](#).

**CRW Launches Enhanced Coral Bleaching Monitoring Product Suite.** NOAA [Coral Reef Watch](#) (CRW) has been monitoring and predicting mass coral bleaching events around the world since the late 1990s using NOAA satellite data on sea-surface temperature (SST). In early October, CRW launched an [enhanced product suite](#) (E50). The E50 provides two major improvements over the current operational product suite (both product suites are based upon pixels that are 50 km resolution). First, the new land mask allows CRW to provide SST and related products for many pixels that include both land and water, whereas these pixels are masked as solely containing land in the current operational product suite. Thus, the E-50 product suite provides monitoring for more than 99% of 50 km pixels that contain coral reefs around the world, compared to only 40% for the operational products. Secondly, the E-50 products use an improved set of climatologies that address known errors which cause overestimation of bleaching (*continued on page 3*)



**Comparison of (a) enhanced 50 km Coral Bleaching Alert Area image from September 28, 2009 with high resolution coastlines and (b) Coral Reef Watch operational 50 km Coral Bleaching Alert Area image from the same day. Courtesy: NOAA Coral Reef Watch**

## Atlantic/Caribbean continued...

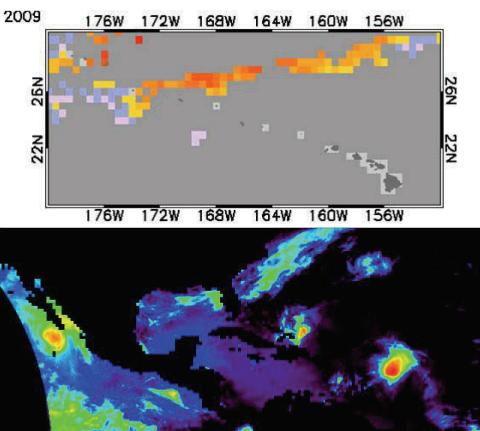
thermal stress in certain areas, such as the regions around Gulf of Panama and Gulf of Oman.

The enhanced product suite is expected to provide more accurate monitoring for coral bleaching. Currently it is available as an experimental product suite and is subject to change: once it is fully evaluated, it will replace the operational suite.

**CRW Launches Two New Satellite Products to Predict Coral Bleaching and Disease.** In early October, NOAA [Coral Reef Watch](#) (CRW) launched two new experimental data products that are being evaluated with collaborators in the coral reef community. The first product, [risk maps for coral disease outbreaks](#), is based on satellite sea surface temperature (SST) data, and will help managers and researchers pinpoint areas at high risk. The maps currently cover the Great Barrier Reef and the Hawaiian archipelago.

The second product measures the [Light Stress Damage](#) (LSD) that causes coral bleaching and mortality, combining satellite measurements of temperature and light. This product is currently available for the Caribbean, Gulf of Mexico, and Gulf of California regions.

CRW is currently restricting access to these experimental products to collaborators involved in product evaluation. If you would like to work with CRW on either of these projects, please e-mail [coralreefwatch@noaa.gov](mailto:coralreefwatch@noaa.gov) to request access.



**Top:** Example risk map showing areas in the Hawaiian Islands currently at risk for coral disease outbreaks. **Bottom:** Example of the Light Stress Damage product showing areas at risk for coral bleaching. Courtesy: NOAA Coral Reef Watch

## Updates from the Atlantic/Caribbean Region

**Wetland Field Training with DNER Rangers in Puerto Rico.** NOAA Fisheries' Caribbean Field Office and contractor, Marine Management Solutions, completed field training activities in the San Juan and Mayagüez areas with members of the Ranger Corps of the [Puerto Rico Department of Natural and Environmental Resources](#) (DNER). The training consisted of field work in herbaceous and forested wetlands as well as lectures regarding Commonwealth versus federal jurisdiction and laws protecting wetlands in Puerto Rico. The field work portion



**Wetland training in herbaceous wetland in Sabana Seca with soil and plant instructors and members of the Ranger Corps pictured.** Courtesy: NOAA Fisheries

taught rangers how to identify wetlands based upon soils, hydrology, and vegetation. The wetlands visited were along a continuum from herbaceous, to *Pterocarpus* forest, to mangroves to demonstrate the connection between coastal wetlands and the coral reef ecosystems, including overlap of vegetation in areas that are tidally influenced.

The wetland training is part of a multi-year project with enforcement officers in Puerto Rico and the US Virgin Islands (USVI) to create educational materials for law enforcement officers and conduct hands-on training with officers from the [US Coast Guard](#), the Puerto Rico Police Department, DNER, NOAA [Office of Law Enforcement](#), and the [USVI Department of Planning and Natural Resources](#) Division of Environmental Enforcement. DNER Rangers requested a wetland training in order to be able to identify wetlands (other than mangrove forests) and become familiar with laws and regulations protecting them; this knowledge will enable the Rangers to intervene in cases of illegal fill and clearing of coastal wetlands.

(continued on page 4)

## FUNDING OPPORTUNITY

Proposals are still being accepted for project funding via some components of the NOAA Coral Reef Conservation Grant Program through various dates in November 2009. Learn more by reading the [Federal Funding Opportunity](#).

From 2002 to 2009, NOAA has supported over \$50 million in matching grants through these grant programs.; each award also has a matching requirement to leverage additional funding.



## Be a Reef-Hugger

**Corals are already a gift.  
Don't give them as presents.**

### EQUIVALENTS:

More than 60 metric tons of marine debris were removed during both legs of the marine debris cruise.

That's the same as twenty-two 4x4 double-cab pickup trucks, each hauling a boat and trailer and holding an average American male and female adult and their Great Dane.

That's a lot of marine debris!

## Atlantic/Caribbean continued...

**Installation of Educational Signs at Public Beaches in Puerto Rico.** The [Puerto Rico National Parks Company](#), in collaboration with NOAA Fisheries' Caribbean Field Office, completed the installation of educational signs regarding the importance of seagrass beds, mangrove forests and other coastal wetlands, coral reefs, and other marine organisms at public beaches in Dorado, Humacao, and Vieques. The

installation of these signs marks the continuance of a multi-year effort to educate the beach-going public of Puerto Rico in partnership with the National Parks Company and the [Puerto Rico Tourism Company](#) using educational signs, pamphlets, beach cleanups and educational seminars, and education fairs at public beaches around Puerto Rico.

## Updates from the Pacific Region

**Marine Debris Removal in the Northwestern Hawaiian Islands.** The 2<sup>nd</sup> leg of a marine debris removal cruise in the [Papahānaumokuākea Marine National Monument](#) (PMNM; Northwestern Hawaiian Islands) departed Honolulu on October 6 aboard the [NOAA Ship Oscar Eton Sette](#). The cruise is a joint venture between the NOAA [Marine Debris Program](#), the CRCP, PMNM, and the [Pacific Islands Fisheries Science Center's Coral Reef Ecosystem Division](#), as well as other partners. The first leg in September collected over 39,394 kg of derelict fishing gear (mainly nets and rope) and is documented in an audio/video [YouTube presentation](#).



**The marine debris corral onboard the ship contained this much debris by October 21. By the end of the cruise, they had collected 20,074 kg! Courtesy: Kris McElwee, NOAA Marine Debris Program**

The October cruise traveled to Tern Island, Pearl and Hermes Atoll, Midway Atoll, and Laysan Island, collecting 20,074 kg of marine debris along the way. The total amount of marine debris collected during both legs of the cruise was over 60 metric tons! In addition, this leg of the cruise also skirted hurricane Neki and helped evacuate staff from Laysan island for the duration of the storm before returning to port on October 30. The collected debris was trans-

ported to Schnitzer Steel in Honolulu to be cut into manageable pieces for incineration by Covanta Energy as part of Hawai'i's [Nets to Energy Program](#).

Learn more about the mission, including removal methods, daily life aboard the ship, the rigors of becoming a marine debris removal technician, and more, by reading the missions' [blog](#). Click [here](#) for more information on this project.

**NWHI 2009 RAMP Cruise.** The [2009 Northwestern Hawaiian Islands Reef Assessment and Monitoring Program \(RAMP\)](#) cruise to the [Papahānaumokuākea Marine National Monument](#) (PMNM) departed Honolulu aboard the [NOAA Ship Hi'ialakai](#) on September 17 and returned to port on October 21. A team of nineteen scientists from PMNM, the [Pacific Islands Fisheries Science Center's Coral Reef Ecosystem Division](#), the [University of Miami](#), the [University of Hawai'i](#), [Reef Check Hawai'i](#), [Paepae o He'eia](#), and [Hawai'i's Department of Land and Natural Resources](#) participated in the cruise. The cruise studied fish, algae, corals, seaweeds, and invertebrates at Nihoa and Necker Islands, Gardner Pinnacles, Maro Reef, Lisianski Island, Kure and Midway Atolls and Laysan Island. On Kure Atoll a *Boodleia* algal bloom, (continued on page 5)



**Pennantfish following diver Jonatha Giddens during a survey. Courtesy: NOAA**

## Pacific continued...

which had first been reported by the marine debris team in September, was reported to be heavy in the lagoon, with some overgrowth of coral colonies, and lighter in backreef areas.

Learn more about the mission—including meeting the team; descriptions of life on the ship, wildlife observed, and survey methods utilized; along with features on several of the mission's subprojects—and view mission photos by reading the [blog](#).

**CRCP Mapping Data Used for Tsunami Modeling.** High-resolution multibeam bathymetric data from the Pacific are being used as inputs into combined land/seafloor topographic models used for tsunami modeling. The multi-beam data, which were originally collected for coral reef ecosystem benthic habitat mapping by the [Pacific Islands Fisheries Science Center's](#) (PIFSC) [Coral Reef Ecosystem Division](#) (CRED), have been made available on-line at the [Pacific Islands Benthic Habitat Mapping Center](#) (PIBHM) and archived at the [National Geo-physical Data Center](#) (NGDC). Scientists from CRED, [Oregon State University](#), and Gaia Geo-Analytical also provided [integrated multibeam, lidar, and estimated depths from IKONOS imagery products with complete error analysis](#) (pdf, 4.24 mb) for [Tutuila](#) as inputs for these models, and integrated depth models are available for 11 additional islands from PIBHM.

## International Updates

**Reef Restoration in RMI.** A joint mission to restore coral reef habitat was recently undertaken at Kwajalein Atoll in the Republic of the Marshall Islands in the Pacific. During recent installation of underwater fiber optic cable at Kwajalein, a 500-lb bomb and several five-inch shells from World War II were discovered. Despite efforts of the Navy explosive ordnance detonation unit tasked with detonation and disposal of the munitions to isolate the discharge, the detonation left some broken coral and debris on the ocean floor. This loose debris causes further damage to surrounding coral, so a restoration project was initiated. The US Army Kwajalein Atoll (USAKA) and [Kwajalein Range Services](#) (KRS) contacted NOAA and the [US Fish & Wildlife Service](#) (USFWS) for assistance.

The response team consisted of a multi-agency partnership between USAKA, KRS, the NOAA Habitat Conservation Division of the [Pacific Islands Regional Office](#), [NOAA Restoration Cen-](#)

Combining these data with other sources, tsunami modelers from NOAA's [Pacific Marine Environmental Laboratory](#), PIFSC, and NGDC have created continuous combined land/seafloor digital elevation models for Midway Atoll, Tutuila (American Samoa), Wake Island, and Guam. These models are available [on-line](#).

**SAFE Project Initiated in Hawai'i.** The Hawai'i Fisheries Extension Program, through collaboration with [Oregon State Sea Grant](#), recently initiated the "Scientists and Fishermen Exchange" (SAFE) project. The mission of SAFE is to provide a safe and comfortable environment where genuine exchange of information improves communication and collaboration, builds positive relationships, encourages understanding, and fosters respect and trust among scientists, managers and fishermen. The first Hawai'i meeting of SAFE convened 14 scientists, managers, and fishermen to discuss issues related to the Peacock Grouper (*Cephalopholis argus*), an introduced predatory fish. The Extension Program will host four meetings annually, in hopes that secure trustful relationships and productive collaboration can result in high quality agreements, likely to contribute to advancing the recovery of near shore fishery resources. There has also been interest expressed in implementing SAFE in Guam and the Commonwealth of the Northern Mariana Islands.



**Coral Reefs support more species per unit area than any other marine environment. Courtesy: Dave Burdick**



**Be a Reef-Hugger**

As you do your Fall yard work, please fertilize less and use eco-friendly fertilizer or alternatives to fertilizer. **ALWAYS** dispose of household, yard, and garage chemicals properly.



**Responders reattached coral heads with underwater cement. Courtesy: Matt Parry, NOAA Restoration Center**

## DID YOU KNOW...

One estimate places the total net benefit per year provided by the world's coral reefs at \$29.8 billion!

Worldwide, 30 million people are virtually totally dependent upon coral reefs for their livelihoods or the land they live on!

Coral reefs are the only living structures that can be seen from space!

**Even if you don't live near a reef, you can help protect coral reefs in the U.S.A. and around the world.**

## International continued...

sion. The team also re-attached over 100 large coral colonies using underwater cementing techniques designed to enhance recruitment and benthic topography in the injured area. The response was a complete success and highlights

the potential for the Army, private contract agencies, NOAA, and USFWS to work together in protecting and restoring coral reef resources in the Pacific. Read more about the restoration effort [here](#).

## New Data in CoRIS

Product Name	Description
4 km NODC/RSMAS AVHRR Pathfinder v.5.0 Sea Surface Temperature (SST) Climatologies (1985-2001)  <a href="#">Link to sample metadata for this product</a>	The SST climatologies are available as Hierarchical Data Format (.HDF) data files for 1985-2001 and include daily, 5-day, 7-day, 8-day, monthly, yearly, and seasonal time periods which are filed as separate NODC accessions. Four corresponding graphics (climatologies) in GeoTIFF format are provided for the seasonal climatologies. Although the data are represented using 16-bit in the .HDF files, 8-bit GeoTIFF files were developed to facilitate access and use of these data by the widest variety of users.
4 km NODC/RSMAS AVHRR Pathfinder v5.0 and Interim v5.0 Sea Surface Temperature (SST) Data and v5.1 SST Data for 1981-2008  <a href="#">Link to sample metadata for this product</a>	The 4 km Pathfinder effort at the National Oceanic and Atmospheric Administration (NOAA) National Oceanographic Data Center (NODC) and the University of Miami's Rosenstiel School of Marine and Atmospheric Science (RSMAS) is an extension of and improvement on the sea surface temperature (SST) fields from the NOAA/NASA AVHRR Oceans 9km Pathfinder dataset. In this 4 km Pathfinder project, some important shortcomings in the original 9 km data have been corrected, and the entire time series has been reprocessed at the 4 km Global Area Coverage (GAC) level, the highest resolution possible globally. Twice-daily SST and related parameters back to 1981 have been produced, as well as temporal averages for 5-day, 7-day, 8-day, monthly, and yearly periods.
Continuous bottom temperature measurements in strategic areas of the Florida Reef Tract  <a href="#">Link to sample metadata for this product</a>	The purpose of this project is to document bottom seawater temperature in strategic areas of the Florida Reef Tract on a continuing basis and make that information available to management and research user groups. This ongoing project began in 1988. A total of 38 subsurface recording thermographs have been deployed in the Florida Keys National Marine Sanctuary (FKNMS) and at other selected locations on the Florida Reef Tract and associated hydrologic ecosystems. These instruments have been programmed to record at 2 hour intervals and are placed in permanent housings attached to suitable substrate. Data retrieval, servicing and reprogramming for continuous deployment have occurred, on average, annually. An archival copy of these data is maintained and available from the U.S. NODC.

(continued on page 7)

## New Data in CoRIS continued...

Product Name	Description
CRED Subsurface Temperature Recorder (STR) data for the Northwestern Hawaiian Islands, Main Hawaiian Islands, American Samoa, Guam, Commonwealth of the Northern Marianas Islands and the PRIAs  <a href="#">Link to sample metadata for this product</a>	Data from Coral Reef Ecosystem Division (CRED), NOAA Pacific Islands Fisheries Science Center (PIFSC) Subsurface Temperature Recorders (STR) provide a time series of water temperature at coral reef sites. Data is typically collected at 1800 second intervals for a duration of 2 years using a SBE39 Temperature Recorder ( <a href="#">Sea-Bird Electronics, Inc.</a> ).
CRED Wave and Tide Recorder (WTR) data for the Northwestern Hawaiian Islands, Main Hawaiian Islands, American Samoa, Commonwealth of the Northern Marianas Islands and the PRIAs.  <a href="#">Link to sample metadata for this product</a>	Data from Coral Reef Ecosystem Division (CRED), NOAA Pacific Islands Fisheries Science Center (PIFSC) Wave and Tide Recorders (WTR) provide a time series of temperature, wave and tide data at coral reef sites. Data is typically collected for a duration of 2 years using a SBE26 or SBE26plus SEAGAUGE Wave and Tide Recorder (Sea-Bird Electronics, Inc., <a href="#">www.seabird.com</a> ). Sensors include: Real-time clock, thermistor, and Digiquartz temperature-compensated pressure sensor.
CRED Sea Surface Temperature (SST) Buoy data for the Northwestern Hawaiian Islands, American Samoa, Guam, Commonwealth of the Northern Marianas Islands and the PRIAs.  <a href="#">Link to sample metadata for this product</a>	Data from Coral Reef Ecosystem Division (CRED), NOAA Pacific Islands Fisheries Science Center (PIFSC) Sea Surface Temperature (SST) Buoys provide a time series of surface water temperature at coral reef sites. The SST buoy (Model SST-001, Sound Ocean Systems, Inc., <a href="#">www.soundocean.com/index.htm</a> ) with external temperature recorder (Sea-Bird Model SBE39, Sea-Bird Electronics, Inc., <a href="#">www.seabird.com</a> ) telemeters a subset of the daily data in Near Real Time (NRT) via a Telonics ST-13 or ST-20 ARGOS PPT transmitter and internally records higher resolution temperature data from the SBE39, typically at a 600 second sampling interval for a duration of 2 years. These records refer to the internally recorded (high resolution in situ) SBE39 temperature data.

## Publications

**Release of draft CRCP Social Science Strategy.** On October 27, the CRCP released an initial draft Social Science Strategy (Strategy), developed to identify and prioritize those social science projects that should be facilitated by the CRCP to further coral reef management in US coral reef jurisdictions.

This Strategy was developed by NOAA social scientists and partners in consultation with each of the seven US coral reef jurisdictions. The Strategy includes both national-level priorities and jurisdiction-specific recommendations. A final draft will be available by December 31, 2009, and the final Strategy will be complete in May 2010.

The Strategy follows on recommendations from the 2007 CRCP [external review](#), in which an expert panel provided an independent assessment of the CRCP's effectiveness in meeting its goals and to suggest recommendations for future improvement. One of the major recommendations of the external review was the need to increase the CRCP's social science portfolio and use social science strategically to improve coral reef management by engaging local communities and better assessing community impacts of management measures.

The CRCP Social Science Strategy will result in more strategic use of CRCP resources to consider the human dimension in coral reef conservation projects.

(continued on page 8)

### Every Act Counts

It stinks to send chemicals into our waterways.

Whether you live one mile or one thousand miles from a coral reef, the chemicals we use to clean our houses and beautify our lawns end up in our waterways and are carried to the oceans. Just one pound of phosphorus in water produces an estimated five hundred pounds of algae, blocking sunlight and starving coral reefs.

Do your part by using naturally-derived and biodegradable detergents and cleaning products. Outside the house, minimize the impacts of fertilizer by using zero-phosphorus products or no more than one pound per 1,000 square feet of turf area for nitrogen (you need just half that amount in shade).

Whether you live one mile or one thousand miles from a coral reef, your actions affect the reefs' future – and the reefs' future affects yours.

## Atlantic/Caribbean continued...

**Proceedings of the First International Workshop on Corallium Science, Management, and Trade Released.** NOAA has released a new technical memorandum, *Proceedings of the First International Workshop on Corallium Science, Management, and Trade*. The workshop proceedings, funded by the CRCP, summarize the outcomes of a workshop held March 16-20, 2009, in Hong Kong, to address a number of questions regarding the status and trends of known *Corallium* beds, as well as implementation issues that were identified as factors that would hinder the effectiveness of potential Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II listing for all species in the family Coralliidae. This workshop 1) reviewed biological, fisheries and trade data, 2) addressed issues regarding taxonomy, identification of parts and derivatives in trade, pre-convention stockpiles and fossils, and 3) identified measures to improve management and reporting. Workshop participants included representatives from governments, academia, NGOs, the CITES Secretariat, and industry.

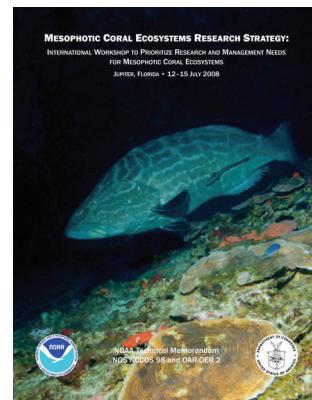
Seven *Corallium* species are traded worldwide as jewelry and other decorative products. Of all the deep-sea coral species, the *Corallium* trade is the largest in volume, estimated at 30 to 50 metric tons harvested per year. From 2001-2006, 26 million pieces were imported by the United States. *Corallium*, also called red and pink coral, is extremely vulnerable to pressure from overfishing. Commercial harvest to satisfy international trade has reduced *Corallium* colony densities, shifted size structure to small, immature colonies that are worthless to the *Corallium* trade, and lowered reproductive output. Trade

has also decreased the genetic diversity within and among populations. Despite the vulnerability of and the global market pressure on *Corallium*, there are no binding international instruments for ensuring its sustainable trade. For a hard copy of this report, please contact [Glynnis Roberts](#).

### Mesophotic Coral Ecosystems Research

**Strategy Released.** On October 1, NOAA's [National Centers for Coastal Ocean Science](#) and [Office of Ocean Exploration and Research](#) released the [Mesophotic Coral Ecosystems Research Strategy](#). It is the first report to identify critical research needs for mesophotic coral ecosystems, which are found in tropical and subtropical regions at intermediate depths ranging from 30 to 150 meters. Little is known or understood about these ecosystems, but scientists think that they may serve as potential sources to reseed or replenish degraded shallow-water coral populations and as critical habitats for commercially and ecologically important species.

NOAA collaborated on the report with experts from state, federal, and international agencies, academia, and nongovernmental organizations.



[Subscribe to this publication](#), the monthly e-newsletter of NOAA's Coral Reef Conservation Program .

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We're on the Web!  
<http://coralreef.noaa.gov>

The CRCP supports effective management and sound science to preserve, sustain and restore valuable coral reef ecosystems.

We value your feedback. Feel free to [email](#) us comments or suggestions.

