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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](#).

Volume 6, No. 3

December 2008

From the Desk of the Program Manager

For those who do not already know me, let me take a moment to introduce myself. In August 2008, I joined the Coral Reef Conservation Program as its new Program Manager. Previously, I have served as the Executive Director of the Coastal States Organization and as the Director of the Office of Coastal and Aquatic Managed Areas for the Florida Department of Environmental Protection. For the first half of 2008, I completed a six-month Ian Axford Fellowship working with the New Zealand government on ocean governance issues. I'm excited to be with the Coral Program now working on topics I am passionate about. The Program has accomplished a lot in the last seven years, but I feel confident the best days of the Program are still ahead of it. In this vein, I have initiated this forum as a direct conduit to you, our constituents, to discuss hot topics and issues on a monthly basis.

Two events happened over the last month that I would like to highlight: 1) the Pacific Coral Reef Ecosystem Integrated Observing System (CREIOS) Monitoring Workshop and 2) a trip I took to USVI to meet with partners and stakeholders. For more information about the workshop, please see page 2. As for the trip to USVI, other members of CRCP leadership and I travelled to the territory the first week of December to learn more about USVI priorities, to hear about their challenges for moving forward, and to inform them of the future direction of the CRCP under the Roadmap. I was struck by the strong relationships among the various partners, their willingness to think big, and the enormous need for pretty much everything.

These two events have made it clear to me that the CRCP has to increase capacity on the

ground in the jurisdictions and increase the Program's science "translation." The CRCP currently provides a significant amount of technical assistance and training in the jurisdictions, but it is not enough. I believe increased capacity will need to include NOAA staff temporarily detailed to the jurisdictions and putting more NOAA staff funded by CRCP in the jurisdictions. We will still need to have centralized hubs of scientists on a regional basis but that does not replace the need for on the ground staff. We at HQ will be giving this decentralization issue some thought in the very near future.



As to the increased translation, the CRCP needs to do a better job of "translating" science and data into formats that managers and policy makers can use more readily. Many of the products, assessments, and research results that currently exist are not being fully utilized in decision-making because the information is not in formats that are easily accessible or usable by managers or policy makers. The CRCP must close this gap. We must ensure that our end products intended for the management community are in fact usable by the management community, and I am committed to making this a reality.

I hope everyone has a safe and happy holiday season.

-Kacky

UPCOMING EVENTS

December 2008

31: End of International Year of the Reef 2008.

January 2009

15: Public comment deadline for Draft NOAA Deep-Sea Coral and Sponge Research and Management Strategic Plan [Federal Register Notice](#) (pdf, 45 kb).

15: Registration deadline for [Coral Genomics for the Non-Genomics Scientist Workshop](#)

February 2009

23—27: 21st U.S. Coral Reef Task Force Meeting, Washington, D.C.

Click [here](#) to find IYOR 2008 events in your area.

Announcements

NOAA Participates in the Launch of Two Global Coral Reef Reports.

Last week, NOAA participated in two events for the U.S. release of two NOAA-supported [Global Coral Reef Monitoring Network](#) (GCRMN) reports: the 'Status of Coral Reefs of the World: 2008' and '[Socioeconomic Conditions along the World's Tropical Coasts: 2008](#),' (pdf, 1.89 mb). NOAA leadership, Deputy Assistant Secretary for Oceans and Atmosphere, Timothy Keeney, and National Ocean Service Assistant Administrator, John Dunnigan, gave speeches during an evening reception at the Washington D.C. National Aquarium on December 9. On December 10, the [Coral Reef Conservation Program](#) Director, Kacky Andrews, and the report's editors, Drs. Clive Wilkinson and Christy Loper, attend a press event at the Australian Embassy. Congressman Baird (D-WA) spoke during this event. Reporters from seven news outlets attended either the press briefing or reception, generating over 50 news articles in newsoutlets around the world. NOAA coordinated with the Australian embassy to create a press release for each report; they are linked below. Additional partners for the launch events included the [U.S. State Department](#), GCRMN, [Conservation International](#), [Project Aware](#), the [International Union for Conservation of Nature](#), and [World Resources Institute](#).

'Status of Coral Reefs of the World: 2008,' a product of 370 contributors in 96 countries and states, is the most authoritative report on the world's coral reefs. The report documents how human activities continue to be the primary cause of the global coral reef crisis. It also discusses major stresses to coral reefs and new initiatives aimed at reversing reef degradation. Both NOAA and the State Department contributed funding to this quadrennial report and NOAA's national coral reef status makes up a portion of the data presented. You can find the [press release](#) online; the report will soon be available on the [GCRMN Web site](#).

Synthesizing data from close to 14,000 household interviews in 29 countries, the 'Socioeconomic Conditions Along the World's Tropical Coasts: 2008' report highlights dependence on coral reefs by local communities in developing countries, provides information on perceived threats to coastal resources, and points to the inability of coastal managers to effectively implement decades-old recommendations as a significant barrier to coral reef protection. It is the first-ever comprehensive analysis of data from the [Global Socioeconomic Moni-](#)

[toring Initiative](#) (SocMon) and was produced in partnership with Conservation International. You can find the press release [online](#).

Both reports will be extremely useful and in-demand tools for coral reef managers and scientists around the world.

NOS Discourages Giving Coral-derived Gifts. In time to influence holiday shopping, NOAA's [National Ocean Service](#) (NOS) discouraged giving coral-derived gifts on its home page and in a podcast. The story on the NOS home page is entitled '[Corals Are Already a Gift. Don't Give Them as Presents](#).' The article discusses popular uses of coral in jewelry, souvenirs, and home décor, and the negative effects this popularity has on coral populations. In October, NOS released its debut audio podcast in a new series, '[Making Waves](#).' [Episode 7](#) covered the topics of red tide toxins appearing in dolphin populations and why listeners should refrain from buying coral products for holiday presents. After highlighting the issues surrounding coral-derived products, the podcast featured information on the decline of *Corallium*, the coral species most often used in jewelry, art, and home décor.

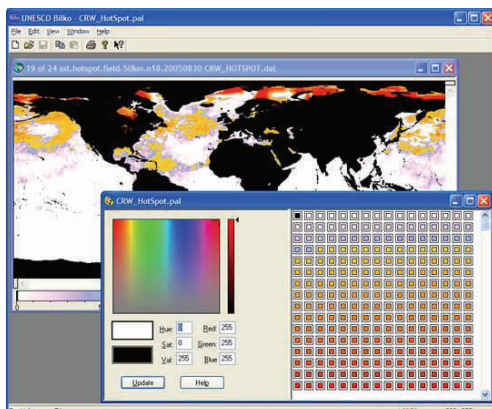
Pacific Mapping and Monitoring Workshop Identifies Priorities and Gaps. As a first step in a strategic planning effort to strengthen the link between science and management goals, the CRCP invited Pacific coral reef ecosystem managers and CRCP scientists to attend a three-day facilitated workshop during November 18-20 in Honolulu, Hawai'i. The workshop objectives were to 1) identify mapping and monitoring data needs for local and jurisdictional management efforts, 2) identify NOAA products and potential new solutions to meet management needs, and 3) gather input from the management and science community on NOAA's national program for coral reef ecosystem monitoring. More than 25 representatives from local agencies of Hawai'i, Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa, as well as the [Papahānaumokuākea Marine National Monument](#), the [Western Pacific Fisheries Management Council](#), and the [U.S. Department of the Interior](#), attended this workshop. NOAA scientists participated alongside the managers in order to discuss scientific capabilities and understand location-specific needs directly from the managers. The workshop was successful in determining priority information needs for managers, and highlighted important issues of concern for the jurisdictions, (continued on page 3)

Announcements continued...

including the need for increased technical capacity, improved information and data dissemination, and improved communication of scientific information to general audiences. The outcomes from the meeting will inform strategic long-term funding decisions with regard to the CRCP's monitoring and mapping activities, collectively termed the Coral Reef Ecosystem Integrated Observing System, to ensure they are cost-effective, aligned with management needs, and allow for the timely delivery of required products and services to all essential users, given funding constraints. The CRCP will host a complementary workshop in the Atlantic/Caribbean region in the Spring of 2009.

Coral Bleaching Prediction Lesson Added to UNESCO-Supported Training System. The [United Nations Educational, Scientific and Cultural Organization's](#) (UNESCO) [Bilko project](#) is a virtual system for learning and teaching remote sensing image analysis. Since 1987, it has produced several modules of computer-based lessons and distributed copies to over 500 marine science laboratories and educational establishments and more than 3000 individual users in over 90 countries. Bilko is available to registered users free of charge and is used by students of remote sensing around the world. Current lessons teach the application of remote sensing to oceanography and coastal management, but Bilko routines may also be applied to the analysis of any image in an appropriate format, and includes a wide range of standard image processing functions.

NOAA [Coral Reef Watch](#) (CRW), a component of the CRCP, has developed a new lesson for Bilko that teaches users how to predict coral



Screen capture of the Bilko software, showing a Hotspot image and its color palette. Courtesy: NOAA Coral Reef Watch

bleaching from satellite sea surface temperature data. The step-by-step lesson follows the operational CRW methodology, so users will gain in-depth knowledge of how CRW data are produced, as well as how to utilize the data to predict coral bleaching. This lesson will soon be added to Bilko; in the interim, this product is available on the [CRW Web site](#). The addition of this NOAA product to the Bilko system indicates the level of confidence scientists in this field have in the product and will increase use of this and other CRW satellite products by coral reef managers and scientists, as well as other interested parties.

Critical Habitat Designation for Threatened *Acropora* Species. NOAA's [National Marine Fisheries Service](#) published the final critical habitat designations for elkhorn (*Acropora palmata*) and staghorn (*A. cervicornis*) corals in the *Federal Register* (FR) on Wednesday, November 26. This rulemaking is mandatory under the U.S. Endangered Species Act. The four areas designated as critical habitat for threatened corals are: (1) Florida area; (2) Puerto Rico area; (3) St. Thomas/St. John area; and (4) St. Croix area. The critical habitat for threatened corals includes water depths up to 98 feet. Within these areas, the feature essential to the conservation of threatened corals is natural consolidated hard substrate or dead coral skeleton that is free from fleshy and turf macroalgae cover and sediment cover to maximize the potential for successful recruitment and population growth. The effective date for this rulemaking is December 26, 2008. To download a copy of the FR notice, the economic analysis, or Frequently Asked Questions, please click [here](#).

Lionfish Captured in St. Croix. In the November issue of *Coral Reef News*, NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) reported that scientists had not detected lionfish after responding to reports of a potential sighting on the north shore of St. Croix. On November 25, a lionfish was captured off the southwest coast of the island. Lionfish are indigenous to the Indo-Pacific and are considered a major threat to coral reef ecosystems and coastal communities in the Caribbean. The capture removes all doubt concerning the veracity of unconfirmed sightings in June 2008. NCCOS and the [National Park Service](#) will continue monitoring the area as this provides an ideal baseline to assess lionfish impacts in the U.S. Caribbean.



Be a Reef-
Hugger

Corals are
already a gift.
Don't give them
as presents this
holiday season.



The [International Year of the Reef \(IYOR\) 2008](#) is a worldwide campaign to raise awareness about the value and importance of coral reefs and threats to their sustainability, as well as to motivate people to take action to protect them.

While IYOR 2008 ends this month, it is important to continue the work and partnerships begun this year.

Updates from the Atlantic/Caribbean Region

Are you or your organization participating in events for IYOR 2008?

Want to learn more about what you can do to support the goals of IYOR 2008?

Download free educational ads [here](#).

Be an agent of change: Every act counts.



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

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

Partners Meet to Plan Restoration Strategy for Guanica Bay, Puerto Rico. Scientists from the NOAA [National Marine Fisheries Service](#) and [National Centers for Coastal Ocean Science](#) met in early December with local partners in Guanica, Puerto Rico to discuss possible restoration activities in the Guanica Bay/Rio Loco watershed. The proposed activities are aimed at reducing the impacts of land-based sources of pollution (LBSP) on the bay and on nearby coral reef, mangrove and seagrass ecosystems. The work would build upon the lessons learned from the ongoing [Conservation Effects Assessment Project](#) in Jobos Bay, Puerto Rico. The group discussed a need for baseline LBSP assessments, including nutrient, sedimentation and contaminant measurements, habitat assessments and strategies to develop predictive models to evaluate the feasibility of potential restoration projects.

CCRI IYOR 2008 Symposium Celebrates Advances in Coral Reef Research and Management. To celebrate the [International Year of the Reef 2008](#) (IYOR 2008) and disseminate the current status of reefs and reef research in Puerto Rico, the [Caribbean Coral Reef Institute](#) (CCRI) sponsored the "2008 End of the International Year of the Reef Symposium". The Symposium was held on December 3rd in San Juan, on the campus of the [University of Puerto Rico](#) (UPR) Central Administration. The symposium was comprised of 16 presentations covering a broad spectrum of topics, including land-based activities that ultimately impact coral ecosystems through sedimentation, turbidity, eutrophication and pesticides; the deteriorating status of coral reefs, especially following the continuing impacts of the 2005 bleaching/disease event; new techniques for mapping reefs and fish spawning aggregations; and basic reef ecology. A special session on mesophotic reefs, those from 30-100 meters depth, represented the first time studies on that depth range were presented in Puerto Rico. The five talks from the mesophotic session focused on geomorphology of mesophotic reefs and their fish and invertebrate communities. Presenters at the symposium included scientists from NOAA's [National Centers for Coastal Ocean Science](#) as well as representatives from other agencies and institutions such as the [Puerto Rico Department of Natural and Environmental Resources](#) (PR DNER), UPR, the [University of Miami](#), the [Island Resources Foundation](#), the [Natural Resources Conservation Service](#), and the [U.S. Environmental Protection Agency](#). Over 70 individuals attended the event; they included university researchers and stu-

dents, the PR DNER, and representatives from five federal agencies and five NGOs. Live radio interviews of some participants were conducted during the afternoon of December 3rd and a follow-up live radio interview on CCRI was conducted December 6th. Click here to download the symposium's [agenda](#) (pdf, 1.55 mb).

New Data Platform Added to SEAKEYS Network. The [Florida Institute of Oceanography](#), in cooperation with NOAA's [National Data Buoy Center](#), established six environmental monitoring stations in 1989. These stations are part of the [Sustained Ecological Research Related to the Management of the Florida Keys Seascape](#) (SEAKEYS) system in Florida. Data from the SEAKEYS stations are transmitted hourly via a Geo-stationary Orbiting Environmental Satellite providing near real-time environmental baseline data for researchers, resource managers, and the public. These stations record hourly wind speed, wind direction, air temperature, barometric pressure, sea temperature, salinity, and terrestrial solar irradiance. On November 28, a new instrumentation platform was added to the SEAKEYS network. MLRF2 is a secondary payload and transmitter co-located with [MLRF1](#), a station located at Molasses Reef lighthouse in the [Florida Keys National Marine Sanctuary](#). The MLRF2 platform has a surface and underwater 4 wavelength light sensor installed. In the near future, researchers hope to add a pH sensor. NOAA staff assisted with the installation and configuration of this new data collection platform and the data generated by MLRF2 will soon be added to NOAA's [Integrated Coral Observing Network](#) (ICON) and SEAKEYS networks' [Web site](#). Automatic Web reports for the new station are currently available [here](#).

Ongoing Data Collection Characterizes Agrochemical Pollution in Jobos Bay, Puerto Rico. NOAA's [National Centers for Coastal Ocean Science](#), in cooperation with the [Jobos Bay National Estuarine Research Reserve](#) (NERRS) and the [U.S. Department of Agriculture](#), are continuing monthly water quality monitoring in Jobos Bay, Puerto Rico. This monitoring is conducted as part of the multi-agency [Conservation Effects Assessment Project](#). Monthly water quality samples contribute to a multi-agency partnership to evaluate the effectiveness of agricultural best management practices on reducing the discharge of land-based sources of pollution into the Jobos Bay coral reef ecosystem. This effort augments existing nutrient data collection (continued on page 5)

Atlantic/Caribbean Continued...

through the [NERRS System Wide Monitoring Program](#) (SWMP) by including pesticide measurements at each SWMP monitoring location throughout the bay.

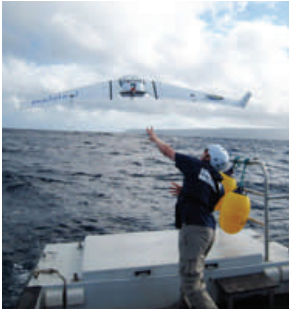
NCRI Researchers Open New Doors for Collaboration With DoD. From November 18-19, representatives of the [National Coral Reef Institute](#) (NCRI) attended a Coral Reef Monitoring and Assessment Workshop in Miami sponsored by the [Strategic Environmental Research and Development Program](#) (SERDP), the [Department of Defense's](#) (DoD) environmental technology program. NCRI personnel were

joined by individuals from other Federal agencies as well as public and private institutions. The focus for the workshop was to understand the DoD perspective on assessment and monitoring needs, and understand potential user perspectives from those outside the DoD on what constitutes and influences coral reef monitoring and assessment needs. SERDP seeks to fund the nation's best researchers and technology developers to assist DoD in addressing increasingly complex environmental challenges, and has supported the development of two technologies for assessing and monitoring coral reef health.

Updates from the Pacific Region

Marine Debris Workshop Spurs Development and Testing of New Technology.

Marine debris, an ongoing issue around the world, severely affects portions of Hawai'i's coasts, including the uninhabited Northwestern Hawaiian Islands. Scientists from the [Coral Reef Ecosystem Division](#) (CRED) attended a Marine Debris At-sea Detection and Removal Workshop on December 9 and 10 in Honolulu, Hawai'i. This workshop focused on identification and synthesis of existing information on the behavior and movement of marine debris in the North Pacific; appropriate sensor, unmanned aerial system (UAS), and anomaly-detection technologies; and activities that have been undertaken to date to detect and track derelict fishing gear. The workshop goals were to develop an action plan through government and private sector expertise to research, develop, and test technologies and protocols to assess the amount of derelict fishing gear in the North Pacific and ultimately detect and remove derelict fishing gear from the pelagic environment before it reaches sensitive nearshore environments. For two days following the workshop, ocean flights of the *Malolo I* UAS were conducted to test new detection software.



The *Malolo I* is deployed for a marine debris survey.

Courtesy: NOAA Papahānaumokuākea Marine National Monument

ARMS Show Potential as Biodiversity Monitoring Tool.

As part of the [Census of Coral Reef Ecosystems](#) (CReefs) project, the [Coral Reef Ecosystem Division](#) (CRED) hosted a successful Workshop on Analyses Protocols for Autonomous Reef Monitoring Structures (ARMS) in Honolulu, from December 1-5. ARMS were developed by CRED as a tool to systematically assess spatial patterns and monitor long-term trends of indices of reef biodiversity, with a focus on poorly known cryptic invertebrate and microbial species. Scientists from the [Smithsonian Institution](#), the [University of Florida](#), the [Australian Institute of Marine Science](#), [San Diego State University](#), [Moss Landing Marine Lab](#), the [Hawaii Institute of Marine Biology](#), and CRED discussed and field tested methods to recover, sort, process, and analyze ARMS samples using mass parallel molecular sequencing and barcoding. Preliminary analyses indicate that ARMS collect representative fauna with low intra-site variance, leaving CReefs partners optimistic that ARMS will serve as an efficient and effective tool for monitoring changes in reef diversity due to global climate change and other anthropogenic threats.

NWHI Submersible Collections Yield Six New Genera of Deep Corals.

Analysis of specimens collected at Twin Banks in the southern end of the [Papahānaumokuākea Marine National Monument](#) (Monument) in the Northwestern Hawaiian Islands (NWHI) has yielded a treasure trove of previously unknown biodiversity. Eight specimens of bamboo coral were collected on a Monument-sponsored submersible cruise last year at depths between 1100m and 1400m. Taxonomic analyses have (*continued on page 6*)

Every Act Counts

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

Corals are popular as souvenirs, for home decor and in costume jewelry, yet corals are living animals that eat, grow and reproduce. It takes corals decades or longer to create reef structures, so leave corals and other marine life on the reef.

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. As the natural guardians of our shores, reefs play a vital role in our global ecosystem. With climate change, pollution, and overfishing contributing to coral reef degradation, we can all play a role in protecting our land, sea and sky. And all it takes is a few simple changes to your daily routine.

Threat-based Working Groups

The primary objective of the CRCP is now to address strategic coral reef management needs; as such, the CRCP is narrowing its focus by emphasizing efforts on understanding and addressing the top three global and national threats to coral reef ecosystems:

- fishing impacts,
- land-based sources of pollution, and
- climate change.

In order to implement the proposed changes, the CRCP has put into place working groups to provide recommendations on the strategic goals and objectives the Program should work towards.

Click [here](#) to track the progress of the working groups.

Pacific continued...

just been completed and they indicate that seven of these specimens are new species. Even more amazing is that six of those species also represent new genera, not conforming to any of the currently recognized genera of bamboo coral. The number of genera now recognized as occurring in Hawai'i is thus increased from four to ten. The eighth specimen, while not a new species or genus, is a new record and had not been previously recorded in the North Pacific. Preliminary results were presented by staff from the [NOAA Undersea Research Center's Hawaii Undersea Research Laboratory](#) at the [Deepsea Coral Symposium 2008](#) in New Zealand during the first week of December.

HCRI Uses 'YouTube' to Educate Online about Hawaii's Coral Reefs. The [Hawaii Coral Reef Initiative](#) (HCRI), administered by NOAA's [National Centers for Coastal Ocean Science](#), is committed to educating all types of audiences about the value of coral reefs through a wide range of media. In order to reach a broader audience, HCRI is utilizing 'YouTube' and 'TeacherTube', popular web sites for sharing videos. HCRI's TeacherTube site currently features instructional videos for children on coral genetics and coral community connections. YouTube hosts a collection of 109 HCRI videos, including animations and presentations by HCRI researchers and managers. To view HCRI's content on TeacherTube, click [here](#); to view HCRI's YouTube site, click [here](#).

New Data in CoRIS

Product Name	Description
NOS/NCCOS Seafloor Characterization of the U. S. Caribbean USVI 2008 Multibeam Bathymetry, Rugosity and Slope products Link to sample metadata for this product	The multibeam data was collected as IOCM (Integrated Ocean and Coastal Mapping) project NF-08-04 during the fifth year of an ongoing NOAA scientific research mission in the US Caribbean to characterize nearshore to deep water coral reef habitats at depths down to 1,000 meters. The mission purpose is to better understand the resources within the surveyed reef habitats, and ultimately develop species utilization models linking physical habitats with biological information. The multibeam backscatter, multibeam bathymetry, and ground truth video footage collected during the 2008 mission will be used internally to characterize sea floor topography and to create benthic habitat maps, helping NOAA meet its mapping commitment to the US Coral Reef Task Force.
Shallow-water Benthic Habitats of the Main Hawaiian Islands - 2007 Link to sample metadata for this product	CCMA completed an investigation in 2007 to consistently and comprehensively map the distribution of coral reefs and other benthic habitats throughout the main Hawaiian Islands. Products include digital geographic information system (GIS) data, maps, and imagery depicting the location and distribution of shallow-water seafloor habitats in the main Hawaiian Islands.
2006 LiDAR Bathymetry and Reflectivity - Southwest Puerto Rico Link to sample metadata for this product	These data were collected in southwestern Puerto Rico between 4/7/2006 and 5/15/2006 using a LiDAR (Light Detection and Ranging) ADS Mk II Airborne System. In total, 265 square nautical miles of LiDAR were collected between -20 m (topographic) and up to 50 m (depth). The spatial resolution of the bathymetric surface is 4 meters.

(continued on page 7)

New Data in CoRIS Continued...

Product Name	Description
CRED Integrated Benthic Habitat Map for French Frigate Shoals, Northwestern Hawaiian Islands 2007 Link to sample metadata for this product	The French Frigate Shoals benthic habitat map system is an independent ArcGIS and ArcReader project that includes data layers covering a wide range of biologically important characteristics of the coral reef ecosystem around French Frigate Shoals in the Northwestern Hawaiian Islands. Map layers include: multibeam bathymetry, backscatter imagery, hyperlinked underwater photographs and/or video still frame grabs of the benthos, seafloor classification results of living cover and substrate from optical imagery, plus many more.
CRED REA Fish Team Stationary Point Count and Belt Transect Surveys for American Samoa and the PRIAs - 2008 Link to sample metadata for this product	Stationary Point Count and Belt Transect Surveys were conducted in conjunction by scuba diver observers as part of the biennial rapid ecological assessment performed in these regions. Fish were identified to the lowest possible taxon which in most cases was the species level.
CRED Optical Validation Data at French Frigate Shoals, Brooks Bank and Tutuila - 2008 Link to sample metadata for this product	Optical validation data were collected using a Tethered Optical Assessment Device (TOAD), an underwater sled equipped with an underwater digital video camera and lights. These data provide optical observations that will be correlated with bathymetry and acoustic backscatter imagery to develop a benthic habitat map of the regions.
CRED REA Benthic Parameter Assessment at American Samoa and the PRIAs - 2008 Link to sample metadata for this product	Point-count surveys at 50-cm intervals were conducted along 2 consecutively placed, 25m line transect lines, as part of a Rapid Ecological Assessment in the region. Raw survey data consisted of counts of benthic elements, including but not limited to live coral, dead coral, carbonate pavement, sand, coral rubble, fleshy macroalgae, crustose coralline algae, turfalgae, as well as other sessile invertebrates along the two transects. All live benthic elements were identified to the lowest taxonomic level possible.
CRED REA Coral Population Parameters at American Samoa and the PRIAs - 2008 Link to sample metadata for this product	Belt transects along 2 consecutively-placed, 25m transect lines were surveyed as part of Rapid Ecological Assessment. Raw survey data included species presence and relative abundance, colony counts and size classes by genus, and determination of benthic cover using the line-intercept method.
Marine Species Survey of Johnston Atoll, Central Pacific Ocean, June 2000 Link to sample metadata for this product	The marine biota of Johnston atoll was surveyed for non-indigenous species in June, 2000 with observations and collections made by investigators using Scuba. A total of 668 taxa were determined, with 462 of these identified to species.
Summer 2004 Coral Bleaching Event on Tutuila, American Samoa Link to sample metadata for this product	Bi-weekly surveys were made of the reefs at Airport Lagoon as part of an effort to understand the annual cycle and status in 2004 of coral bleaching at this location.

(continued on page 8)

“It is important that the efforts made and the communities that have committed to action during this past year do not fade away as the official IYOR 2008 draws to a close. This is a time to strengthen our resolve and increase our efforts. And, if necessary, change course in order to meet our goals for coral reef conservation.... We must each do our part as individuals and as a community for coral reef conservation.”

— NOAA Deputy Assistant Secretary for Oceans and Atmosphere, Timothy Keeney

TAKE ACTION!
 Sign the [International Declaration of Reef Rights](#) and the [pledge to Protect Ocean Life During International Year of the Reef](#).

While you're online, send your friends one of three free IYOR-themed [E-cards](#).

CoRIS Products continued...

Product Name	Description
Status of Coral Communities in American Samoa: A Re-survey of Long-term Monitoring Sites in 2002 Link to sample metadata for this product	A re-survey of coral communities in the American Samoa Archipelago covering the island of Tutuila and the Manu'a Group of islands (Ofu, Olosega, and Tau), was carried out during March 2002. All surveyed sites in 2002 were restricted to the 10m deep slope habitat only.

Publications

Ecological Characterization Supports Puerto Rico's Research and Management Efforts. NOAA's [National Centers for Coastal Ocean Science \(NCCOS\)](#) recently published the first of a two-part series characterizing the marine resources of Vieques, Puerto Rico to improve future monitoring, research, education and management activities. The report provides resource managers and island residents with a synthesis of historical data and information about the physical environment, habitat types and major groups of animals living in the waters off of Vieques. It also identifies gaps where future research is needed. This effort coincides with the recent transfer of a former Naval training range and munitions storage facility to the [U.S. Fish and Wildlife Service](#) and the local municipality, both of which expect potential changes in marine zoning and increased development and tourism. For more information on the study and partner organizations, click [here](#).

Caribbean Connectivity: Implications for Marine Protected Area Management. The Marine Sanctuaries Conservation Series recently compiled "[Caribbean Connectivity: Implications for Marine Protected Area Management](#)" for a special symposium at the 2006 annual meeting of the Gulf and Caribbean Fisheries Institute. The purpose of the symposium was to share cross-cutting research and management approaches for understanding biological connectivity in the Caribbean Sea and Gulf of Mexico. The symposium also provided a forum for resource managers and the academic community to discuss how to apply scientific information to better manage MPAs in the region. The volume includes nine peer-reviewed papers as well as summaries of oral presentations and panel discussions.

We value your feedback. Feel free to [email](#) us comments on the new format.

Subscribe to NOAA Coral Reef News, 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.

