

Subscribe to NOAA Coral Reef News, the monthly e-newsletter of NOAA's Coral Reef Conservation program.

Coral Reef News



INSIDE THIS ISSUE:

Announcements:	1
Upcoming Events:	2
Updates:	
Headquarters	3
Atlantic/Caribbean	3
Pacific	5
International	6
New Data in CoRIS	8
Publications	9

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 5, No. 8

May 2008

Announcements

Coral to be Highlighted at CHOW. The U.S. Coral Reef Task Force will hold a decision makers forum as part of [Capitol Hill Ocean's Week](#) (CHOW) and in celebration of the [International Year of the Reef 2008](#) (IYOR 2008), on Wednesday, June 4 from 9:00 am to 11:00 am. This forum is one of the nine projects selected during the NOAA [Coral Reef Conservation Program's](#) call for IYOR 2008 proposals last year. The forum will be a panel discussion designed to broaden Congressional interest and specifically, policy and funding decisions to include consideration of coral reef conservation.

The panel goals are to educate congressional staff, illustrate innovative, collaborative approaches, and convene a dialog among hill staff on potential congressional avenues to impact decisions that affect coral reef ecosystems. The panel will begin with a focus on global issues facing coral reefs, including climate change, and then narrow to local issues and solutions including socio-economic aspects of coral reef conservation. Dr. Sylvia Earle will be the keynote speaker. In addition the Task Force, along with several NGO partners being led by the [World Wildlife Fund](#), will host a reception that evening from 6:00-8:00 pm. For more information, including a list of speakers and other sessions, visit the CHOW link above.



CRCP Presents at Belize Climate Camp. From May 28-30, the [World Wildlife Fund](#) (WWF) will be hosting a Central American [Climate Camp](#) in Belize City, Belize. The workshop will bring conservation practitioners, resource managers, decision makers and journalists together. The purpose is for the participants to learn climate change basics, interact with experts and peers to develop project plans, and ultimately, share projects and develop resource networks to support their future work in this field. The Belize camp will allow 30-40 attendees from Central America to come together and

focus on issues pertinent to their region. The [Coral Reef Conservation Program](#) will have a representative in attendance who will give a presentation on coral bleaching and the suite of [Coral Reef Watch](#) products and tools that reef managers can use to predict coral bleaching in their areas of interest based on satellite sea surface temperature data.

IYOR Side Event to be Held at COP 9. A side-event session, 'Biological Diversity and the International Year of the Reef' will be held on May 26 at the [9th Convention on Biological Diversity](#) (COP 9). This event is being organized jointly by the [Secretariat of the Convention on Biological Diversity](#) and the [International Coral Reef Initiative](#) (ICRI). The [International Year of the Reef 2008](#) (IYOR 2008) was designated by ICRI and designed to effectively communicate with various target audiences, the value and importance of the world's coral reefs and the threats to the reefs' sustainability, and to motivate target audiences to take action to protect coral reefs. This COP 9 side-event will be held during the lunch hour and will feature five sessions and a multitude of speakers



ONE NATURE · ONE WORLD · OUR FUTURE
COP 9 MOP 4 Bonn Germany 2008

who are experts in their respective fields. Further details, including full agenda, speakers and presentations, can be found [here](#).

House of Representatives Passes Two IYOR 2008 Resolutions. On the 38th annual celebration of Earth Day, the U.S. House of Representatives passed several bills introduced by House Science and Technology Committee Members () that recognize the contributions of scientific research and technological innovation in addressing environmental issues. [H.Res.1112](#), introduced by Research and Science Education Subcommittee Chairman Brian Baird (D-WA), recognizes the [International Year of the Reef 2008](#) (IYOR 2008) and the work of NOAA to preserve coral reefs around the world. Oceans, (continued on page 2)

UPCOMING EVENTS

May 2008

26: [Biological Diversity and the International Year of the Reef: Cop 9 Side Event](#). Bonn, Germany.

28-30: WWF Central American Climate Camp, Belize City, Belize.

June 2008

3-5: [Capitol Hill Ocean's Week](#), Washington, D.C.

4: Decision Makers Forum at CHOW, Washington, D.C.

8: [World Ocean Day](#).

July 2008

7-11: [11th International Coral Reef Symposium: Reefs For the Future](#), Ft. Lauderdale, FL.

August 2008

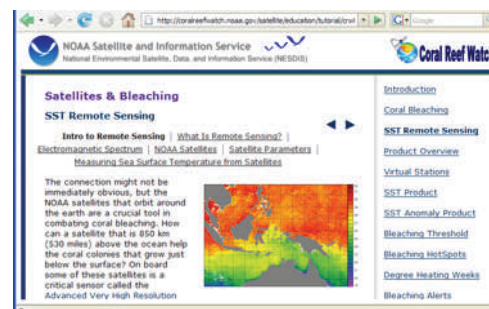
25-29: [20th U.S. Coral Reef Task Force Meeting](#), Kona, HI.

Announcements continued...

shorelines, and a diversity of marine life are all dependent upon the health and vitality of our coral reef systems, and this resolution encourages further research and development to continue preserving this critical natural resource. In another IYOR resolution, [H.Con.Res. 300](#) (pdf, 37.3 kb), the House urged the United States to 'maintain its significant leadership role' in coral reef conservation. It encourages the federal government to improve understanding of threats to coral reefs, develop practical and innovative solutions and implement effective management strategies. This Resolution, introduced by Chairwoman Madeleine Bordallo (D-Guam), of the House Committee on Natural Resources, Subcommittee on Fisheries, Wildlife, and Oceans, was passed on May 21.

NOAA Staff Member Serves as Lead Scientist on Global Coral Mission. A National Marine Fisheries Service employee, Dr. Andy Bruckner, has just begun a leave of absence and is en route to start his four-year tour as lead scientist for the [Khaled bin Sultan Living Oceans Foundation's](#) Global Expedition. The primary objectives of this cruise are to characterize coral reef ecosystem health across gradients of human and natural disturbance, determine global and local processes that control the functioning of these ecosystems, identify and predict impacts across gradients, and identify strategies to mitigate impacts. Look for more information about this expedition on the Foundation's Web site in the future. The expedition will be conducted aboard [The Golden Shadow](#).

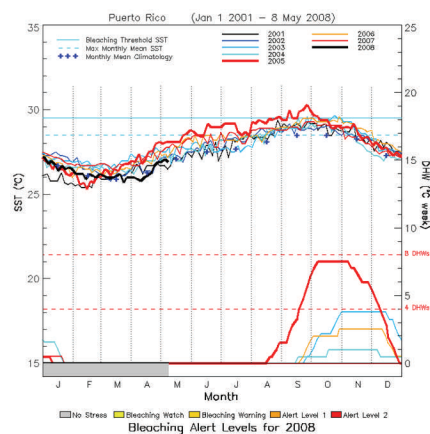
Coral Reef Watch Launches Online Coral Bleaching Tutorial. Coral reefs are some of the most valuable and spectacular places on earth. Abnormal sea surface temperatures, in conjunction with natural and anthropogenic stressors are causing the delicate balance of these magnificent ecosystems to be disrupted thus increasing the frequency of bleaching events. NOAA [Coral Reef Watch](#) (CRW) operational products provide help to resource managers to better manage resources in their jurisdictions. CRW is pleased to announce an online [tutorial](#) that takes the reader through coral bleaching, satellite technology, and how CRW uses satellite data to monitor for the conditions that cause bleaching. Readers will also find hands-on exercises to test themselves on what they've learned and show them where to find data on the CRW Web site. The tutorial was designed mainly for coral reef managers and scientists, who need to know when corals they manage or study are at risk for bleaching. How-



Screen capture of the CRW Bleaching Tutorial. Courtesy: NOAA Coral Reef Watch

ever, CRW has also tried to use non-technical language so the resource will be useful for students, teachers, or anyone else who wants to learn more about coral reefs and satellite technology. The lessons are tied to the U.S. National Science Education standards for use in the classroom.

Coral Reef Watch Produces Overlaying Time Series Thermal Stress Graphs. A set of new 2001-present multi-year time series graphs has just become available from NOAA [Coral Reef Watch](#) (CRW). Many of these virtual stations have experienced extreme thermal stress events leading to severe coral bleaching during the past several years. These multi-year time series graphs provide a convenient tool to monitor the interannual variation of thermal stress and provide early warnings by comparing current conditions with the development of the thermal stress during the prior extreme years. To access the graphs, visit the CRW [Satellite Bleaching Alerts page](#) and click on the 'Multi-year Graph' link for each virtual station of interest. (continued on page 8)



Sample multi-year thermal stress graph. Courtesy: NOAA Coral Reef Watch

Updates from Headquarters

CRCP Hosts NSTA Web Seminars. To follow up on its participation in the [National Science Teachers Association](#) (NSTA) national conference, the [Coral Reef Conservation Program](#) (CRCP) recently hosted two NOAA/NSTA Web Seminars on Coral Ecosystems. In late March, the CRCP coordinated a half-day symposium about coral ecosystems at the NSTA national conference. The symposium included a general introduction to coral reefs ecosystems, two activities, and an introduction to NOAA's

SciGuides and Science Objects. The latter are featured in the [NSTA Learning Center](#). The half-day symposium was attended by 80 teachers and was very well received; the recent online sessions are a continuation of the symposium. On April 10, presenter [Kelly Drinnen](#) discussed coral reef ecosystems and on May 8, presenter [Dr. Kathy Chaston](#) focused on how watersheds impact coral reefs. For more information and to access the Archives and Power Point slides for these web seminars, click [here](#).

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

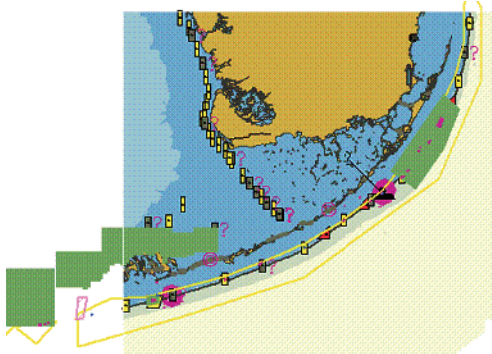
Updates from the Atlantic/Caribbean Region

Protecting Corals/Saving Ships Project Proposes International Standard for Marine Environmental Protection Data. An outgrowth of the "[Protecting Corals, Saving Ships](#)" project, action is being taken to develop a standard international format for marine environmental protection data to be used in conjunction with electronic navigational charts (ENCs). Supplemental environmental information layers can enhance voyage planning and the ability to navigate safely, thus avoiding damage to the marine environment. The standard will allow such data to be depicted in a consistent manner; for example, coral reefs and marine protected areas in Australia would be portrayed the same way to the mariner as those in the Florida Keys. NOAA initiated the effort through a working group established by the International Hydrographic Organization (IHO). The international working group will meet June 3-5 in San Francisco to refine the standard that

will be submitted for IHO approval this coming fall. *The project Web site must be viewed via Internet Explorer to render properly.

ICON/CREWS Stations Show Near Perfect Operational Record. As part of ongoing data quality control for [ICON/CREWS](#) data generated from the four stations, researchers retrieve local data from each station's memory module during each site visit. This practice allows recovery of any data that was not included in the ongoing satellite transmissions from each station. For example, during a recent visit to the St. Croix station, the team restored 132 missing records for the time frame from August 29, 2007 through March 11, 2008. Both raw data and quality control data are archived and transmitted to NOAA's [Coral Reef Information System](#) (CoRIS), along with relevant metadata. Station metrics relating to station 'up-times' are also incorporated into a spreadsheet. Up-times are calculated in two ways: one that considers if the station was operational and successfully transmitting, and the other that ignores the transmitter and considers only whether the station was operational and writing data to its memory module. The team is pleased to announce that lifetime value for that second metric is close to 100% for all four 'new-style' stations. Individual performances are depicted in the table on page 9. The metrics spreadsheet also shows a month-by-month graph of station uptimes where you can clearly see the most significant downtimes; these included impacts from Hurricane Dennis as well as failures not tied to any known event. Station CMRC3 is no longer operational, but plans are underway for stakeholder participation to help in a re-commissioning of the station.

(continued on page 4)



ENC showing areas of the Florida Keys National Marine Sanctuary coral reefs depicted by a layer of coral reef marine information objects (MIOs).

Courtesy: NOAA Protecting Corals/Saving Ships



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, and to motivate people to take action to protect them.

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.



The **11th ICRS**, with the theme of **Reefs for the Future**, will be held in Ft. Lauderdale, FL, July 7-11, 2008. The 11th ICRS is also a key-stone event within the **International Year of the Reef (IYOR) 2008**.

Atlantic/Caribbean continued...

Reef Fish Impacts Assessment Will Benefit FGBNMS. Experts in sonar assessments are assisting managers at [Flower Garden Banks National Marine Sanctuary](#) (FGBNMS) by recommending ways to monitor reef fish stocks within a proposed research area. To assess the impacts of fishing and diving on reef fish, NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) scientists have suggested using fisheries hydroacoustics combined with visual surveys, underwater video, and remotely operated vehicles (ROVs). Fisheries hydroacoustics is a non-destructive technique that uses high frequency sound to detect, count, and map fish community distributions over a wide range of depths and habitat types. As the northernmost coral reef system in the continental U.S., FGBNMS requires careful planning and continuous monitoring to protect its resources. NCCOS presented these ideas during an April 23-24 workshop focused on the proposed research area. NCCOS participation in the workshop is part of the ongoing partnership between NCCOS and the [Office of National Marine Sanctuaries](#).

Deep Coral Workshop Held for High School Teachers. NOAA [National Marine Fisheries Service](#), together with the [South Atlantic Fishery Management Council](#) (SAFMC), the [NOAA Undersea Research Program](#) (NURP) Center at the [University of North Carolina at Wilmington](#), and [Harbor Branch Oceanographic Institution](#), conducted a Deepwater Coral Teacher Workshop in Ft. Pierce, FL on April 19. The Deepwater Coral Teacher's Workshop was designed for teachers and educators of high-school students to better increase their students' knowledge and awareness of these important marine ecosystems. The workshop included presentations on deepwater coral reefs found off Florida, an overview of the *Oculina* Habitat Area of Particular Concern, and deepwater coral research, mapping, monitoring and management. Participating teachers received lesson plans, DVD copies of films about deepwater coral research, maps, posters and other classroom materials. The workshop also included a guided tour of the Smithsonian Marine Station in Ft. Pierce, FL.

Research Shows Little Genetic Connectivity Between Caribbean and Florida Reefs. Scientists at the [National Coral Reef Institute](#) (NCRI) at [Nova Southeastern University](#), which is funded by NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS), have found that conservation of important reef eco-

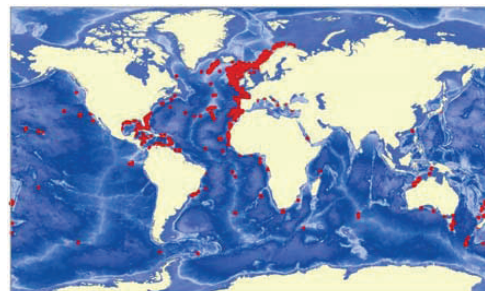


Example of larval fish.

Courtesy: NOAA Southeast Fisheries Science Center.

system components in Florida will require management on local scales. This finding is based upon larval recruitment patterns of key reef species. Sponges are important to nutrient cycles of coral reefs, and NCRI researchers have found that coral reefs recruit new sponges locally, making recovery of degraded reefs by recruiting long distance sponge larvae unlikely. The DNA results thus far indicate that reefs within 465 km of the Florida reef tract are generally well-connected due to sufficient gene flow. In contrast, the results show that connectivity between Florida and Caribbean reefs is largely non-existent, with reefs at each of the geographic locations examined representing a pool of unique genetic diversity. The lack of connectivity seen in these research results shows the need to develop multiple local marine protected area (MPA) networks to protect genetic diversity in this region. NCRI is administered by NCCOS as a core component of the CRCP.

Transatlantic Coral Ecosystem Study Science Plan Development Begins. The [Transatlantic Coral Ecosystem Study](#) (TRACES) is a scientific program being developed to investigate deep-sea corals found along the continental shelf break and slope, and in association with canyons and seamounts in the North Atlantic Ocean. The concept behind TRACES was first discussed at a collaborative planning (*continued on page 5*)



Global distribution of reef framework-forming cold-water corals showing concentration of records in the North Atlantic Ocean. Courtesy: Roberts et al. (2006) Science 312: 543

Atlantic/Caribbean continued...

workshop organized by NOAA in Galway, Ireland, in January 2003. With program development support from the European Commission's Marie Curie International Fellowship scheme, Dr. J. Murray Roberts, of the Scottish Association of Marine Science, has begun a major effort to develop a science plan for TRACES that outlines the program's vision, objectives, and sampling protocols. In early 2008, two workshops were held, one in North America (February 28-29 in Wilmington, NC) and one in Europe (March 29-30 in Faro, Portugal). These workshops brought together over 80 scientists from the U.S., Canada, and the European Union to identify preliminary basin-wide research questions, study sites, and methods for TRACES. NOAA was represented at both workshops by either one or both Deep-Sea Coral Working Group Co-Chairs. More information and copies of the workshop reports are available from the TRACES Web page.

Coral Reef Ecosystem Research in the USVI. Scientists from NOAA's [Southeast Fisheries Science Center](#) (SEFSC) and the [Atlantic Oceanographic and Meteorological Laboratory](#) (AOML), as well as those from the [University of the Virgin Islands at St. Thomas](#), conducted a coral reef fisheries oceanographic survey between March 11 through March 24 aboard the NOAA Ship *Nancy Foster*. Cruise objectives included sampling larval reef fish populations,

water properties, real time currents, and dispersal and transport of settlement-stage reef fish larvae in the U.S. Virgin Islands (USVI) and neighboring regions, including local marine protected areas (MPAs). Continuous measurements of sea surface temperature, salinity, and chlorophyll were collected over the course of the survey via the ship's flow-through system. Additionally, near-surface currents were continuously monitored using the vessel's hull-mounted acoustic doppler current profiler. In addition, 80 other measurements were taken during this research cruise, including a series of tests of water conductivity, temperature and depth; plankton sampling; and measurement of deep current flows around the Virgin Islands coral reefs and the Anagoda Passage to the west of the Virgin Islands. In addition, coral reef larval fish collections were made around the northern side of the Virgin Islands, an area that is historically poorly studied. By collecting larval coral reef fish along transects from deep to shallow reef areas, researchers can estimate the abundance and dispersal of reef fish larvae from spawning aggregation sites. These data provide vital information about the recruitment of reef fish to the coral reef ecosystems of the USVI. Identification and analysis of biological samples and shipboard data analysis commenced immediately following the conclusion of the cruise and should be completed by mid-2009.



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](#).

Updates from the Pacific Region

Meetings Held to Discuss Potential Network of MPAs in American Samoa. Scientists from NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS) and the [Office of National Marine Sanctuaries](#) (ONMS), in collaboration with the Territory of American Samoa, conducted several 'kickoff' meetings to determine how best to implement a biogeographic assessment to define a potential network of marine protected areas (MPAs) in the territory. As Samoans rely heavily on the marine environment for food, tourism, and trade, it is important that the ecosystems, including coral reefs, remain healthy and sustainable. This work is directly linked to the ONMS review of the [Faga-tele Bay National Marine Sanctuary](#) management plan and the Territory's efforts to develop a MPA network. The NOAA scientists met with the territory's Governor and resource managers during the week of April 27 and agreed to move forward on the proposed study. Next steps are

to develop a short project concept document and a comprehensive project implementation plan for the proposed two-year biogeographic assessment.

HCRI Collaborates with Community to Save Maunalua Bay Ecosystem. The [Hawaii Coral Reef Initiative](#) (HCRI), sponsored by NOAA's [National Centers for Coastal Ocean Science](#), and its local partners are helping clean up the polluted waters of Maunalua Bay, Hawaii using an innovative watershed approach. The approach examines the impacts of freshwater runoff and pollution on the Bay's coral reefs and marine life. Recognizing that all stakeholders should be involved in the research and management process, a coalition has been assembled composed of HCRI, [University of Hawaii](#), [U.S. Army Corp of Engineers](#), NOAA's [Pacific Islands Regional Office](#), [Hawaii's Nature Conservancy](#) office, and Malama (*continued on page 6*)

Every Act Counts

Don't drag the reef into this.

Use reef mooring buoys when available. Or, anchor in sandy areas away from coral and sea grasses so that anchor and chain do not drag on nearby corals or tear-up sea grass beds. Once broken, corals can take decades or longer to re-develop, and a damaged reef is less able to provide food, habitat and shoreline protection.

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.

Pacific continued...

Maunaloa, a community-based alliance. The project will focus on the benefits of reducing freshwater inflow to the Bay which will result in better water clarity and healthier coral reefs. The project recently was the focus of a [televi-sion news report](#) highlighting its progress.

Ocean Acidification Data Collected for Satellite Algorithm Development. A NOAA [Corel Reef Watch](#) (CRW) scientist joined 21 other researchers and crew as a participating scientist aboard the NOAA Ship *Hi'ialakai* on the Pacific Line Islands (Jarvis and Palmyra Islands and Kingman Atoll) leg of the 2008 Pacific Reef Assessment and Monitoring Program (RAMP) [cruise](#). Cruise scientists from the [Pa-cific Islands Fisheries Science Center](#) (PIFSC) [Coral Reef Ecosystem Division](#) (CRED), the [U.S. Fish and Wildlife Service](#) (USFWS), and the [University of Hawaii](#) conducted the fourth in a series of biennial cruises in support of on-going conservation and management needs in the region; this leg was conducted from late March through April 12. The CRW scientist served as a member of the oceanographic team directing and participating in carbonate chemistry sampling across the reef environments and in the surrounding oceanic surface waters. The effort is part of a NOAA [Coral Reef Conservation Program](#) investigation on the potential conse-



A Coral Reef Watch Scientist conducts water sampling at Jarvis Island.

Courtesy: NOAA Pacific Islands Fisheries Science Center Coral Reef Ecosystem Division

quences of ocean acidification for coral reef ecosystems. The data will be applied to satellite algorithm development for mapping changes in surface ocean chemistry in response to ocean acidification and better characterizing the natural variability in carbonate chemistry at remote coral reef ecosystems. CRW continues to play a crucial role in both strategic planning and product development related to ocean acidification. Other outcomes of this cruise were reported in the April issue of this publication.

International Updates

Coral Reef Watch Participates in Australian Observing System Workshop. The 2008 [Great Barrier Reef Ocean Observing System](#) (GBROOS) workshop at Townsville, Australia on May 22 was attended by two NOAA [Corel Reef Watch](#) (CRW) staff who are based in Australia. GBROOS is a node within the [Inte-grated Marine Observation System](#), which provides infrastructure support for the collection of data within Australian coastal and shelf waters. The workshop outlined the progress achieved within GBROOS and the proposed strategy for the next year of the project and communication with stakeholders. Special mention was made of NOAA involvement that has included ship-based ocean data collection around the Capricorn and Bunker groups; and the deployment of and applications from a high-frequency radar installation that monitors currents and waves in the southern Great Barrier Reef. During the workshop, CRW was requested to provide expertise and advice in the monitoring of light parameters, which are relevant in coral bleaching studies.

CRW staff also attended the official opening of the GBROOS program by the Federal Science Minister on May 9. Through partnerships with groups such as GBROOS, NOAA coral reef scientists can work with other experts to improve our understanding of the environmental conditions affecting coral reef resources and participate in knowledge transfer to improve our observing capabilities.

Coral Reef Watch Participates in Centenary of Parks in Australia. Dr. Scott Heron of NOAA [Corel Reef Watch](#) (CRW) contributed to the celebration of the [Centenary of Parks](#) by the [Queensland Environmental Protection Agency](#) at Green Island, Australia on May 17. Dr. Heron assisted collaborators from the Parks division in writing a play script and performed the lead role in a public outreach interactive play entitled "Dr. Scott Finds a Way". The play outlined the major issues that coral reefs are facing, including climate change, water quality, and overharvesting. The *(continued on page 7)*

International continued...

presentation provided the public audience with effective tools that can be implemented in their personal lives and was capped off by the audience joining the cast in an informative song, "Find a Way". The lyrics were modified from the original version that was written by the instructors group from the "Responding to Climate Change" workshop that CRW organized at Australia's Lady Elliot Island in 2007. Outreach events, such as this one, inform the public of the current state of reefs and actions they can take to make a difference.

Six-Month Trial For New Marine Conservation Tool. A five-day assessment training workshop concluded on May 9 in the Republic of Marshall Islands (RMI), initiating a six-month trial of a program that is a new approach to socio-economic monitoring in the Pacific islands. The introduction of this program required intensive training in all aspects of designing, conducting, and interpreting socio-economic surveys, including a two-day hands-on field trial. The Program is conducted by the NOAA [Coral Reef](#)



Participants at the SEM-Pasifika workshop in RMI. Courtesy: Christy Loper

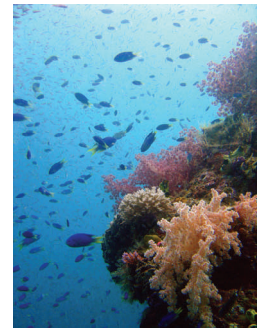
[Conservation Program](#) (CRCP) in partnership with the [U.S. Department of State](#), [The Nature Conservancy-Micronesia](#), the [Pacific Islands Marine Protected Areas Community](#), and the [South Pacific Regional Environment Programme](#) (SPREP). The workshop was attended by 17 marine conservationists from American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, Hawaii, and RMI; participants were trained in the use of the new SEM-Pasifika Guidelines for designing and conducting needs-specific socio-economic surveys, data analysis, and interpreting and using information. During the workshop, participants also used their new skills to develop a survey questionnaire that was then tested during an intensive field trial at a village on the

island of Arno. Using this experience, trainers from NOAA, Micronesia in Conservation, and SPREP guided participants in developing workplans to conduct socio-economic assessments at their own sites. Each participant will now receive NOAA funding through SPREP to put their new skills into practice at their chosen home sites over the next six months. Trainer assistance to participants will continue over the next six months during the survey implementation phase as the new guidelines were developed to complement existing ones currently in use in the Pacific region. The new guidelines were developed by Community Conservation Network of Hawaii and will serve as the Pacific version of socio-economic monitoring guidelines of the [Global Coral Reef Monitoring Network](#) and the CRCP.

CITES Animals Committee Discusses Coral Trade. A small contingent of NOAA [National Marine Fisheries Service](#) (NMFS) staff attended the [23rd meeting of the Animals Committee](#) (AC) of the [Convention on International Trade in Endangered Species](#) (CITES) from April 19-24 in Geneva, Switzerland. NMFS provides expertise about marine species to U.S. delegations to CITES meetings. During this meeting, concern was expressed about the high level of international trade in scleractinian, or hard, corals. The [International Union for Conservation of Nature](#) will shortly publish a review of these taxa in the Indo-Pacific. Stony corals will also be considered as a case study in a workshop to be held November 10-15 in Mexico; a goal of the workshop will be to come up with suggestions to create a standard for CITES no-detriment findings. The United States proposed inclusion of red corals (*Corallium*) in [Appendix II](#) at the last [14th CITES conference of the parties](#), but the proposal was not adopted. However, there are still significant concerns about *Corallium* trade and funding from the [Ocean Foundation Coral Reef Fund](#) has been obtained to convene two coral international trade workshops. One each will be held in the Mediterranean and the Pacific; they will focus on biology, management and trade enforcement of these species. While at the AC, NMFS staff convened side-meetings with potential partners for the workshop in the Mediterranean.

NOAA Co-hosts Climate Change Workshop for Caribbean Reef Managers. From April 18-21, NOAA co-hosted a climate change workshop in the Florida Keys to increase the ability of Caribbean coral reef managers to anticipate and respond to (*continued on page 8*)

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



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

International continued...



Two attendees conduct a bleaching survey at Sombrero Reef during the field portion of the recent climate change workshop. Courtesy: NOAA Coral Reef Watch

coral bleaching events, and to build resilience into their management plans. Partners included [The Nature Conservancy](#), [World Wildlife Fund](#), Australia's [Great Barrier Reef Marine Park Authority](#), and [Mote Marine Laboratory](#). Thirty reef managers from the region attended. Utilizing *A Reef Manager's Guide to Coral Bleaching*, the participants initiated coral bleaching response plans for their home sites and engaged in significant discussions on how to integrate and build both social and ecological resilience in the face of climate change. To date, over 100 coral reef experts and managers have been trained in a series of workshops; these individuals are able to apply what they learned to their local reefs in 16 nations around the world.

NOAA Chairs Working Group on Deepwater Ecology. Between March 10-14, a member of NOAA's Deep Coral Working Group completed his first workshop as Chair of the [International Council for the Exploration of the Sea \(ICES\)-Northwest Atlantic Fisheries Organization \(NAFO\) Joint Working Group on Deepwater Ecology \(WGDEC\)](#). The workshop was held at ICES Headquarters in Copenhagen, Denmark. Having NAFO as a new co-sponsor of the WGDEC made the working group even more relevant to NOAA interests, as many issues pertaining to the Northwest Atlantic were discussed, including coldwater coral and seamount mapping, an attempt to overlay vessel monitoring system (VMS) data with coldwater coral maps to ascertain the fishing pressure on these vulnerable deepwater habitats, and governance issues such as developing marine protected areas (MPAs) and habitats of particular concern (HAPCs). A final workshop [report](#) is available on the ICES website. In addition, at the invitation of the ICES Secretariat, the Chairs of the WGDEC, the Working Group on the Biology and Assessment of Deepwater Fisheries Resources, the Working Group on Elasmobranch Fishes, and invited external experts met at ICES Headquarters, April 7-10. The purpose of this meeting was to address requests for advice on issues relating to deepwater habitats, biological resources, and governance challenges.



Be a Reef-Hugger

As the Summer boating and diving season begins, please make a point to ALWAYS use a mooring buoy or anchor away from reefs and sea grass beds.

New Data in CoRIS

Product Name	Description
Coral Reef Ecosystem Division Gridded Backscatter for American Samoa 2004-2006 Link to sample metadata for this product	Multibeam backscatter imagery extracted from gridded bathymetry of American Samoa. The GeoTIFFs of backscatter imagery were created using data gathered from multibeam soundings for use as a planning and reference document
Coral Reef Ecosystem Division Optical Validation Data of CNMI, PRIA, Guam, NWHI, 2001,2002,2003, 2004, 2005 Link to sample metadata for this product	Metadata records were updated to reflect the most current data available. Optical validation data were collected using a Tethered Optical Assessment Device (TOAD), an underwater sled equipped with an underwater digital video camera and lights.

Update from CoRIS. The CoRIS web site continues to grow with 98,000 visits last month. The web site now has over 2000 metadata records providing access to over 20,000 coral data products from our [Discover NOAA's Data](#) section. The CoRIS [Library](#) now provides access to

1700 coral publications, reports, and other documents. Our [NOAA Coral Reef Activities](#) pages also continue to grow and provide direct access to Coral Program reports and documents.

Announcements continued...

Funding Received for Coral Education Projects in USVI. The principal investigator for the [Coral Reef Conservation Program](#)-funded project "Recovery of conch populations in the U.S. Virgin Islands (USVI)," was awarded funding by the NOAA Fisheries Education Program to develop educational collaborations with USVI schools. Partnering with a biology teacher at the Giff Hill School on St. John, NOAA scientists will develop educational materials and pro-

jects based upon on-going research for students in grades 1-4 and 7-10. Beginning in the 2008-2009 school year, educational materials for all ages, and participatory field trips with NOAA scientists for the older students, will be initiated. These collaborations will emphasize the importance of coral reef resources and effective management, focusing on conch life history, fishery importance, and need for conservation.

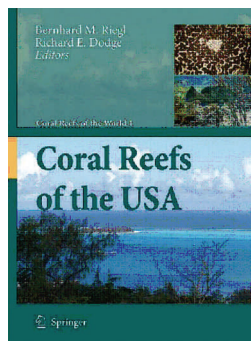
Atlantic/Caribbean continued...

Station Name	Location	Station Life Span	% 'up-time'
CMRC3	Lee Stocking Island, Bahamas	30+ months	95.7
LPPRI	La Parguera, Puerto Rico	29+ months	92.9
SRVI2	Salt River, St. Croix, USVI	21+ months	95.4
DBJMI	Discovery Bay, Jamaica	12+ months	98.3

Key: The transmission 'up-times' for each ICON/CREWS station over its entire lifetime (through May 20, 2008). Courtesy: NOAA Coral Health and Monitoring Program.

Publications

Coral Reefs of the USA. [Coral Reefs of the USA](#) provides a complete overview of the present status of knowledge regarding all coral reef areas within the USA and its territories. It is the first volume in the new series, Coral Reefs of the World. It is written by the most experienced authorities in their fields and geographic areas. Stretching from the Caribbean to the western Pacific, the coral reefs of the USA span extensive geographic and biotic diversity, occur in a wide variety of geomorphological settings, and provide a representative cross-section of Holocene reef-building. Complete scholarly reviews are given for the geology, geomorphology, and the biology of reefs encompassing a vast area stretching from the Mariana Islands in the west, Samoa in the south, Hawai'i in the north, and the Virgin Islands in



the east. This book is not a status report, yet provides up-to-date information about stressors and the biotic responses of the reefs, as well as the geological origins and explanations. The volume is a valuable baseline-reference for all those who are engaged in research, management, or conservations of these coral reefs or to those who simply enjoy being well-informed about one of the most iconic ecosystems of the USA. See below for citation; in addition, Springer will have the book available at the 11th International Coral Reef Symposium in July.

Coral Reefs of the USA. Riegl, Bernhard M., and Richard E. Dodge (Eds). 2008. 806 p. 470 illus., 450 in color. Hardcover. Series: Coral Reefs of the World, Volume I. ISBN: 978-1-4020-6846-1

We value your feedback. Feel free to email us comments .

Subscribe to NOAA Coral Reef News, the monthly e-newsletter of NOAA's Coral Reef Conservation program .

Attn: Outreach and Education
NOAA Coral Reef Conservation Program, N/OCRM
1305 East West Highway, 10th Floor
Silver Spring, MD 20910-3281

Phone: (301) 713-3155
Fax: (301) 713-4389
E-mail: coralreef@noaa.gov

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.

